EUROPEAN COMMISSION
Directorate-General for Communications Networks, Content a Technology

Digital Society, Trust and Cybersecurity
eHealth, Well-Being and Ageing

GRANT AGREEMENT

NUMBER 856960 — eCARE

This **Agreement** ('the Agreement') is **between** the following parties:

on the one part,

the **European Union** ('the EU'), represented by the European Commission ('the Commission'),

represented for the purposes of signature of this Agreement by Head of Unit, Directorate-General for Communications Networks, Content and Technology, Resources and Support, Administration and Finance, Griet VAN CAENEGEM,

and

on the other part,

1. 'the coordinator':

BRAVOSOLUTION ESPANA SAU (BRAVOSOLUTION), established in AV MANOTERAS EDIF ESINDUS 42, MADRID 28050, Spain, VAT number: ESA82880949, represented for the purposes of signing the Agreement by COUNTRY MANAGER, Carlos Tur Salamanca

and the following other beneficiaries, if they sign their 'Accession Form' (see Annex 3 and Article 56):

2. **TICBIOMED TECNOLOGIAS DE LA INFORMACION PARA LA SALUD EN LA REGION DE MURCIA ASOCIACION (TICBIOMED)**, established in CAMPUS UNIVERSITARIO ESPINARDO 7 EDIFICIO CEEIM, MURCIA 30100, Spain, VAT number: ESG73669426,

3. **IRMANDADE DA SANTA CASA DA MISERICORDIA DA AMADORA IPSS (SCMA)**, established in ESTRADA DA PORTELA QUINTA DAS TORRES BURACA CONCELHO DE AMADORA, AMADORA LISBOA 2610 143, Portugal, VAT number: PT501938206,

4. **AZIENDA SANITARIA LOCALE BENEVENTO (ASL BN)**, established in VIA ODERISIO 1, BENEVENTO 82100, Italy, VAT number: IT01009680628,

5. **SZPITAL SPECJALISTYCZNY IM A FALKIEWICZA WE WROCLAWIU (FALKIEWICZ)**, established in UL. WARSZAWSKA 2, WROCLAW 52 114, Poland, VAT number: PL8992227939,

6. **CONSORCI SANITARI INTEGRAL (CSI)**, established in AV. JOSEP MOLINS 29-41, L'HOSPITALET DE LLOBREGAT 08906, Spain, VAT number: ESQ5856254G,

7. **AYUNTAMIENTO DE SANTANDER (AYTO SANTANDER)**, established in PLAZA DEL AYUNTAMIENTO 1, SANTANDER 39001, Spain, VAT number: ESP3907500G,

Unless otherwise specified, references to 'beneficiary' or 'beneficiaries' include the coordinator.

The parties referred to above have agreed to enter into the Agreement under the terms and conditions below.

By signing the Agreement or the Accession Form, the beneficiaries accept the grant and agree to implement it under their own responsibility and in accordance with the Agreement, with all the obligations and conditions it sets out.

The Agreement is composed of:

Terms and Conditions

Annex 1 Description of the action

Annex 2 Estimated budget for the action

2a Additional information on the estimated budget

Annex 3 Accession Forms

Annex 4 Model for the financial statements

Annex 5 Model for the certificate on the financial statements

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Annex 7 Model for the commitment on availability of resources

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TERMS AND CONDITIONS

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This Agreement sets out the rights and obligations and the terms and conditions applicable to the grant awarded to the beneficiaries for implementing the action set out in Chapter 2.

CHAPTER 2 ACTION

ARTICLE 2 — ACTION TO BE IMPLEMENTED

The grant is awarded for the action entitled '**Digital solutions supporting continuum of care for frailty prevention in old adults**' — '**eCARE**' **('action')**, as described in Annex 1.

ARTICLE 3 — DURATION AND STARTING DATE OF THE ACTION

The duration of the action will be **48 months** as of 2 September 2019 ('**starting date of the action**').

ARTICLE 4 — ESTIMATED BUDGET AND BUDGET TRANSFERS

4.1 Estimated budget

The '**estimated budget**' for the action is set out in Annex 2.

It contains the estimated eligible costs and the forms of costs, broken down by beneficiary and budget category (see Articles 5, 6).

4.2 Budget transfers

The estimated budget breakdown indicated in Annex 2 may be adjusted — without an amendment (see Article 55) — by transfers of amounts between beneficiaries, budget categories and/or forms of costs set out in Annex 2, if the action is implemented as described in Annex 1.

However, the beneficiaries may not add costs relating to subcontracts not provided for in Annex 1, unless such additional subcontracts are approved by an amendment or in accordance with Article 13.

CHAPTER 3 GRANT

ARTICLE 5 — GRANT AMOUNT, FORM OF GRANT, REIMBURSEMENT RATES AND FORMS OF COSTS

5.1 Maximum grant amount

The '**maximum grant amount**' is **EUR 5 040 000.00** (five million forty thousand EURO).

5.2 Form of grant, reimbursement rate and forms of costs

The grant reimburses **90%** of the action's eligible costs (see Article 6) ('**reimbursement of eligible costs grant**') (see Annex 2).

The estimated eligible costs of the action are EUR **5 600 000.00** (five million six hundred thousand EURO).

Eligible costs (see Article 6) must be declared under the following forms ('**forms of costs**'):

(a) for **direct costs of PCP subcontracting**: as actually incurred costs (**actual costs**);

(b) for **direct personnel costs for related additional coordination and networking activities**:

- as actually incurred costs (**actual costs**) or
- on the basis of an amount per unit calculated by the beneficiary in accordance with its usual cost accounting practices ('**unit costs**').

Personnel **costs for SME owners** or **beneficiaries that are natural persons** not receiving a salary (see Article 6.2, Points B.1.4 and B.1.5) must be declared on the basis of the amount per unit set out in Annex 2a (**unit costs**);

(c) for **direct costs for subcontracting of related additional coordination and networking activities**: as actually incurred costs (**actual costs**);

(d) for **other direct costs for related additional coordination and networking activities**:

- for costs of internally invoiced goods and services: on the basis of an amount per unit calculated by the beneficiary in accordance with its usual cost accounting practices ('**unit costs**');
- for all other costs: as actually incurred costs (**actual costs**);

(e) for **indirect costs for related additional coordination and networking activities**: on the basis of a flat-rate applied as set out in Point B.4(a),(b) and (c) of Article 6.2 ('**flat-rate costs**');

(f) **specific cost category(ies):** not applicable.

5.3 Final grant amount — Calculation

The '**final grant amount**' depends on the actual extent to which the action is implemented in accordance with the Agreement's terms and conditions.

This amount is calculated by the Commission — when the payment of the balance is made (see Article 21.4) — in the following steps:

Step 1 — Application of the reimbursement rates to the eligible costs

Step 2 — Limit to the maximum grant amount

Step 3 — Reduction due to the no-profit rule

Step 4 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations

5.3.1 Step 1 — Application of the reimbursement rates to the eligible costs

The reimbursement rate(s) (see Article 5.2) are applied to the eligible costs (actual costs, unit costs and flat-rate costs; see Article 6) declared by the beneficiaries (see Article 20) and approved by the Commission (see Article 21).

5.3.2 Step 2 — Limit to the maximum grant amount

If the amount obtained following Step 1 is higher than the maximum grant amount set out in Article 5.1, it will be limited to the latter.

5.3.3 Step 3 — Reduction due to the no-profit rule

The grant must not produce a profit.

'**Profit**' means the surplus of the amount obtained following Steps 1 and 2 plus the action's total receipts, over the action's total eligible costs.

The '**action's total eligible costs**' are the consolidated total eligible costs approved by the Commission.

The '**action's total receipts**' are the consolidated total receipts generated during its duration (see Article 3).

The following are considered **receipts**:

(a) income generated by the action; if the income is generated from selling equipment or other assets purchased under the Agreement, the receipt is up to the amount declared as eligible under the Agreement;

(b) financial contributions given by third parties to the beneficiary specifically to be used for the action, and

(c) in-kind contributions provided by third parties free of charge and specifically to be used for the action, if they have been declared as eligible costs.

The following are however not considered receipts:

(a) income generated by exploiting the action's results (see Article 28);

(b) financial contributions by third parties, if they may be used to cover costs other than the eligible costs (see Article 6);

(c) financial contributions by third parties with no obligation to repay any amount unused at the end of the period set out in Article 3.

If there is a profit, it will be deducted from the amount obtained following Steps 1 and 2.

5.3.4 Step 4 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations — Reduced grant amount — Calculation

If the grant is reduced (see Article 43), the Commission will calculate the reduced grant amount by deducting the amount of the reduction (calculated in proportion to the seriousness of the errors,

irregularities or fraud or breach of obligations, in accordance with Article 43.2) from the maximum grant amount set out in Article 5.1.

The final grant amount will be the lower of the following two:

- the amount obtained following Steps 1 to 3 or
- the reduced grant amount following Step 4.

5.4 Revised final grant amount — Calculation

If — after the payment of the balance (in particular, after checks, reviews, audits or investigations; see Article 22) — the Commission rejects costs (see Article 42) or reduces the grant (see Article 43), it will calculate the '**revised final grant amount**' for the beneficiary concerned by the findings.

This amount is calculated by the Commission on the basis of the findings, as follows:

- in case of **rejection of costs**: by applying the reimbursement rate to the revised eligible costs approved by the Commission for the beneficiary concerned;
- in case of **reduction of the grant**: by calculating the concerned beneficiary's share in the grant amount reduced in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations (see Article 43.2).

In case of **rejection of costs and reduction of the grant**, the revised final grant amount for the beneficiary concerned will be the lower of the two amounts above.

ARTICLE 6 — ELIGIBLE AND INELIGIBLE COSTS

6.1 General conditions for costs to be eligible

'**Eligible costs**' are costs that meet the following criteria:

(a) for **actual costs**:

(i) they must be actually incurred by the beneficiary;

(ii) they must be incurred in the period set out in Article 3, with the exception of costs relating to the submission of the final report (see Article 20);

(iii) they must be indicated in the estimated budget set out in Annex 2;

(iv) they must be incurred in connection with the action as described in Annex 1 and necessary for its implementation;

(v) they must be identifiable and verifiable, in particular recorded in the beneficiary's accounts in accordance with the accounting standards applicable in the country where the beneficiary is established and with the beneficiary's usual cost accounting practices;

(vi) they must comply with the applicable national law on taxes, labour and social security, and

(vii) they must be reasonable, justified and must comply with the principle of sound financial management, in particular regarding economy and efficiency;

(b) for **unit costs**:

(i) they must be calculated as follows:

{amounts per unit set out in Annex 2a or calculated by the beneficiary in accordance with its usual cost accounting practices (see Article 6.2, PointA and Article 6.2.B.3.5)}

multiplied by

{the number of actual units};

(ii) the number of actual units must comply with the following conditions:

- the units must be actually used or produced in the period set out in Article 3;
- the units must be necessary for implementing the action or produced by it, and
- the number of units must be identifiable and verifiable, in particular supported by records and documentation (see Article 18);

(c) for **flat-rate costs**:

(i) they must be calculated by applying the flat-rate set out in Annex 2, and

(ii) the costs (actual costs or unit costs) to which the flat-rate is applied must comply with the conditions for eligibility set out in this Article.

6.2 Specific conditions for costs to be eligible

Costs are eligible if they comply with the general conditions (see above) and the specific conditions set out below for each of the following budget categories:

A. Direct costs of PCP subcontracting
B. Costs for related additional coordination and networking activities

'Direct costs' are costs that are directly linked to the action implementation and can therefore be attributed to it directly. They must not include any indirect costs (see Point B.4 below).

'Indirect costs' are costs that are not directly linked to the action implementation and therefore cannot be attributed directly to it.

A. Direct costs of PCP subcontracting (including related duties, taxes and charges such as non-deductible value added tax (VAT) paid by the beneficiary) are eligible if the conditions in Article 13.1 are met.

B. Costs for related additional coordination and networking activities are eligible up to EUR 1 680 000.00 (one million six hundred and eighty thousand EURO), if they comply with the following:

B.1 **Direct personnel costs for related additional coordination and networking activities**

Types of eligible personnel costs

B.1.1 Personnel costs are eligible, if they are related to personnel working for the beneficiary under an

employment contract (or equivalent appointing act) and assigned to the related additional coordination and networking activities (‘**costs for employees (or equivalent)**’). They must be limited to salaries (including during parental leave), social security contributions, taxes and other costs included in the **remuneration**, if they arise from national law or the employment contract (or equivalent appointing act).

Beneficiaries that are non-profit legal entities[1] may also declare as personnel costs **additional remuneration** for personnel assigned to the related additional coordination and networking activities (including payments on the basis of supplementary contracts regardless of their nature), if:

(a) it is part of the beneficiary’s usual remuneration practices and is paid in a consistent manner whenever the same kind of work or expertise is required;

(b) the criteria used to calculate the supplementary payments are objective and generally applied by the beneficiary, regardless of the source of funding used.

‘Additional remuneration’ means any part of the remuneration which exceeds what the person would be paid for time worked in projects funded by national schemes.

Additional remuneration for personnel assigned to the related additional coordination and networking activities is eligible up to the following amount:

(a) if the person works full time and exclusively on the related additional coordination and networking activities during the full year: up to EUR 8 000;

(b) if the person works exclusively on the related additional coordination and networking activities but not full-time or not for the full year: up to the corresponding pro-rata amount of EUR 8 000, or

(c) if the person does not work exclusively on the related additional coordination and networking activities up to a pro-rata amount calculated as follows:

{{EUR 8 000

divided by

the number of annual productive hours (see below)},

multiplied by

the number of hours that the person has worked on the action during the year}.

B.1.2 The **costs for natural persons working under a direct contract** with the beneficiary other than an employment contract are eligible personnel cost, if:

(a) the person works under conditions similar to those of an employee (in particular regarding the way the work is organised, the tasks that are performed and the premises where they are performed);

[1] For the definition, see Article 2.1(14) of the Rules for Participation Regulation No 1290/2013: ‘**non-profit legal entity**’ means a legal entity which by its legal form is non-profit-making or which has a legal or statutory obligation not to distribute profits to its shareholders or individual members.

(b) the result of the work carried out belongs to the beneficiary (unles exceptionally agreed otherwise), and

(c) the costs are not significantly different from those for personnel performing similar tasks under an employment contract with the beneficiary.

B.1.3 The **costs of personnel seconded by a third party against payment** are eligible personnel costs, if the conditions in Article 11.1 are met.

B.1.4 **Costs of owners** of beneficiaries that are small and medium-sized enterprises (‘**SME owners**’) who are working on the related additional coordination and networking activities and who do not receive a salary are eligible personnel costs, if they correspond to the amount per unit set out in Annex 2a multiplied by the number of actual hours worked on the related additional coordination and networking activities.

B.1.5 **Costs of ‘beneficiaries that are natural persons’** not receiving a salary are eligible personnel costs, if they correspond to the amount per unit set out in Annex 2a multiplied by the number of actual hours worked on the related additional coordination and networking activities.

Calculation

Personnel costs must be calculated by the beneficiaries as follows:

{{hourly rate

multiplied by

number of actual hours worked on the related additional coordination and networking activities},

plus

for non-profit legal entities: additional remuneration to personnel assigned to the related additional coordination and networking activities under the conditions set out above (Point B.1.1)}.

The number of actual hours declared for a person must be identifiable and verifiable (see Article 18).

The total number of hours declared in EU or Euratom grants, for a person for a year, cannot be higher than the annual productive hours used for the calculations of the hourly rate. Therefore, the maximum number of hours that can be declared for the grant are:

{the number of annual productive hours for the year (see below)

minus

total number of hours declared by the beneficiary for that person in that year for other EU or Euratom grants}.

The ‘**hourly rate**’ is one of the following:

(a) for personnel costs declared as **actual costs:** (i.e. budget categorie B.1.1, B.1.2, B.1.3): the hourly rate is the calculated per full financial year as follows:

{actual annual personnel costs (excluding additional remuneration) for the person

divided by

number of annual productive hours}.

using the personnel costs and the number of annual productive hours for each full financial year covered by the reporting period concerned. If a financial year is not closed at the end of the reporting period, the beneficiaries must use the hourly rate of the last closed financial year available.

For the 'number of annual productive hours', the beneficiaries may choose one of the following:

(i) 'fixed number of hours': 1 720 hours for persons working full time (or corresponding pro-rata for persons not working full time);

(ii) 'individual annual productive hours': the total number of hours worked by the person in the year for the beneficiary, calculated as follows:

{annual workable hours of the person (according to the employment contract, applicable collective labour agreement or national law)

plus

overtime worked

minus

absences (such as sick leave and special leave)}.

'Annual workable hours' means the period during which the personnel must be working, at the employer's disposal and carrying out his/her activity or duties under the employment contract, applicable collective labour agreement or national working time legislation.

If the contract (or applicable collective labour agreement or national working time legislation) does not allow to determine the annual workable hours, this option cannot be used;

(iii) 'standard annual productive hours': the standard number of annual hours generally applied by the beneficiary for its personnel in accordance with its usual cost accounting practices. This number must be at least 90% of the 'standard annual workable hours'.

If there is no applicable reference for the standard annual workable hours, this option cannot be used.

For all options, the actual time spent on **parental leave** by a person assigned to the related additional coordination and networking activities may be deducted from the number of annual productive hours.

As an alternative, beneficiaries may calculate the hourly rate *per month*, as follows:

{actual monthly personnel cost (excluding additional remuneration) for the person

divided by

{number of annual productive hours / 12}}

using the personnel costs for each month and (one twelfth of) the annual productive hours calculated according to either option (i) or option (iii) above, i.e.:

- fixed number of hours;
- standard annual productive hours.

Time spent on **parental leave** may not be deducted when calculating the hourly rate per month. However, beneficiaries may declare personnel costs incurred in periods of parental leave in proportion to the time the person worked on the action in that financial year.

If parts of a basic remuneration are generated over a period longer than a month, the beneficiaries may include only the share which is generated in the month (irrespective of the amount actually paid for that month).

Each beneficiary must use only one option (per full financial year or per month) for during each full financial year;

(b) for personnel costs declared on the basis of **unit costs** (i.e. budget categorie B.1.1, B.1.2, B.1.4, B.1.5): the hourly rate is one of the following:

(i) for SME owners or beneficiaries that are natural persons: the hourly rate set out in Annex 2a (see Points B.1.4 and B.1.5 above), or

(ii) for personnel costs declared on the basis of the beneficiary's usual cost accounting practices: the hourly rate calculated by the beneficiary in accordance with its usual cost accounting practices, if:

- the cost accounting practices used are applied in a consistent manner, based on objective criteria, regardless of the source of funding;
- the hourly rate is calculated using the actual personnel costs recorded in the beneficiary's accounts, excluding any ineligible cost or costs included in other budget categories.

  The actual personnel costs may be adjusted by the beneficiary on the basis of budgeted or estimated elements. Those elements must be relevant for calculating the personnel costs, reasonable and correspond to objective and verifiable information;

and

- the hourly rate is calculated using the number of annual productive hours (see above).

B.2 **Direct costs of subcontracting for related additional coordination and networking activities** (including related duties, taxes and charges such as non-deductible value added tax (VAT) paid by the beneficiary) are eligible if the conditions in Article 13.2.1 are met.

B.3 **Other direct costs for related additional coordination and networking activities**

B.3.1 **Travel costs and related subsistence allowances** (including related duties, taxes and charges such as non-deductible value added tax (VAT) paid by the beneficiary) are eligible if they are in line with the beneficiary's usual practices on travel.

B.3.2 The **depreciation costs of equipment, infrastructure or other assets** (new or second-hand) as recorded in the beneficiary's accounts are eligible, if they were purchased in accordance

with Article 10.1.1 and written off in accordance with international accounting standards and the beneficiary's usual accounting practices.

The **costs of renting or leasing** equipment, infrastructure or other assets (including related duties, taxes and charges such as non-deductible value added tax (VAT) paid by the beneficiary) are also eligible, if they do not exceed the depreciation costs of similar equipment, infrastructure or assets and do not include any financing fees.

The costs of equipment, infrastructure or other assets **contributed in-kind against payment** are eligible, if they do not exceed the depreciation costs of similar equipment, infrastructure or assets, do not include any financing fees and if the conditions in Article 11.1 are met.

The only portion of the costs that will be taken into account is that which corresponds to the duration of the related additional coordination and networking activities and rate of actual use for the purposes of the related additional coordination and networking activities.

B.3.3 **Costs of other goods and services** (including related duties, taxes and charges such as non-deductible value added tax (VAT) paid by the beneficiary) are eligible, if they are:

(a) purchased specifically for the related additional coordination and networking activities and in accordance with Article 10.1.1 or

(b) contributed in kind against payment and in accordance with Article 11.1.

Such goods and services include, for instance, consumables and supplies, dissemination (including open access), protection of results, certificates on the financial statements (if they are required by the Agreement), certificates on the methodology, translations and publications.

B.3.4 **Capitalised and operating costs of 'large research infrastructure'**[2] directly used for the related additional coordination and networking activities are eligible, if:

(a) the value of the large research infrastructure represents at least 75% of the total fixed assets (at historical value in its last closed balance sheet before the date of the signature of the Agreement or as determined on the basis of the rental and leasing costs of the research infrastructure[3]);

(b) the beneficiary's methodology for declaring the costs for large research infrastructure has been positively assessed by the Commission ('**ex-ante assessment**');

(c) the beneficiary declares as direct eligible costs only the portion which corresponds to the duration of the related additional coordination and networking activities and the rate of actual use for the purposes of the additional coordination and networking activities, and

[2] '**Large research infrastructure**' means research infrastructure of a total value of at least EUR 20 million, for a beneficiary, calculated as the sum of historical asset values of each individual research infrastructure of that beneficiary, as they appear in its last closed balance sheet before the date of the signature of the Agreement or as determined on the basis of the rental and leasing costs of the research infrastructure.

[3] For the definition see Article 2(6) of the H2020 Framework Programme Regulation No 1291/2013: '**Research infrastructure**' are facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. Where relevant, they may be used beyond research, e.g. for education or public services. They include: major scientific equipment (or sets of instruments); knowledge-based resources such as collections, archives or scientific data; e-infrastructures such as data and computing systems and communication networks; and any other infrastructure of a unique nature essential to achieve excellence in research and innovation. Such infrastructures may be 'single-sited', 'virtual' or 'distributed'.

(d) they comply with the conditions as further detailed in the annotations to the H2020 Grant Agreements.

B.3.5 **Costs of internally invoiced goods and services** directly used for the action are eligible, if:

(a) they are declared on the basis of a unit cost calculated in accordance with the beneficiary's usual cost accounting practices;

(b) the cost accounting practices used are applied in a consistent manner, based on objective criteria, regardless of the source of funding;

(c) the unit cost is calculated using the actual costs for the good or service recorded in the beneficiary's accounts, excluding any ineligible cost or costs included in other budget categories.

The actual costs may be adjusted by the beneficiary on the basis of budgeted or estimated elements. Those elements must be relevant for calculating the costs, reasonable and correspond to objective and verifiable information;

(d) the unit cost excludes any costs of items which are not directly linked to the production of the invoiced goods or service.

'Internally invoiced goods and services' means goods or services which are provided by the beneficiary directly for the action and which the beneficiary values on the basis of its usual cost accounting practices.

B.4 **Indirect costs for related additional coordination and networking activities**

Indirect costs are eligible if they are declared on the basis of the flat-rate of 25% of the eligible direct costs (see Article 5.2 and Points B.1 to B.3), from which are excluded:

(a) costs of subcontracting and

(b) costs of in-kind contributions provided by third parties which are not used on the beneficiary's premises;

(c) not applicable.

Beneficiaries receiving an operating grant[4] financed by the EU or Euratom budget cannot declare indirect costs for the period covered by the operating grant, unless they can demonstrate that the operating grant does not cover any costs of the action.

B.5 **Specific cost category(ies)**

Not applicable

[4] For the definition, see Article 121(1)(b) of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 ('**Financial Regulation No 966/2012**') (OJ L 218, 26.10.2012, p.1): '**operating grant**' means direct financial contribution, by way of donation, from the budget in order to finance the functioning of a body which pursues an aim of general EU interest or has an objective forming part of and supporting an EU policy.

6.3 Conditions for costs of linked third parties to be eligible

Not applicable

6.4 Conditions for in-kind contributions provided by third parties free of charge to be eligible

In-kind contributions provided free of charge are eligible direct costs (for the beneficiary), if the costs incurred by the third party fulfil — *mutatis mutandis* — the general and specific conditions for eligibility set out in this Article (Article 6.1 and 6.2) and Article 12.1.

6.5 Ineligible costs

'**Ineligible costs**' are:

(a) costs that do not comply with the conditions set out above (Article 6.1 to 6.4), in particular:

(i) costs related to return on capital;

(ii) debt and debt service charges;

(iii) provisions for future losses or debts;

(iv) interest owed;

(v) doubtful debts;

(vi) currency exchange losses;

(vii) bank costs charged by the beneficiary's bank for transfers from the Commission;

(viii) excessive or reckless expenditure;

(ix) deductible VAT;

(x) costs incurred during suspension of the implementation of the action (see Article 49);

(b) costs reimbursed under another EU or Euratom grant (including grants awarded by a Member State and financed by the EU or Euratom budget and grants awarded by bodies other than the Commission for the purpose of implementing the EU or Euratom budget); in particular, indirect costs if the beneficiary is already receiving an operating grant financed by the EU or Euratom budget in the same period, unless it can demonstrate that the operating grant does not cover any costs of the action.

6.6 Consequences of declaration of ineligible costs

Declared costs that are ineligible will be rejected (see Article 42).

This may also lead to any of the other measures described in Chapter 6.

CHAPTER 4 RIGHTS AND OBLIGATIONS OF THE PARTIES

SECTION 1 RIGHTS AND OBLIGATIONS RELATED TO IMPLEMENTING THE ACTION

ARTICLE 7 — GENERAL OBLIGATION TO PROPERLY IMPLEMENT THE ACTION

7.1 General obligation to properly implement the action

The beneficiaries must implement the action as described in Annex 1 and in compliance with the provisions of the Agreement and all legal obligations under applicable EU, international and national law.

7.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 8 — RESOURCES TO IMPLEMENT THE ACTION — THIRD PARTIES INVOLVED IN THE ACTION

The beneficiaries must have the appropriate resources to implement the action.

If it is necessary to implement the action, the beneficiaries may:

- purchase goods, works and services (see Article 10);
- use in-kind contributions provided by third parties against payment (see Article 11);
- use in-kind contributions provided by third parties free of charge (see Article 12);
- call upon subcontractors to implement action tasks described in Annex 1 (see Article 13);
- call upon linked third parties to implement action tasks described in Annex 1 (see Article 14);
- call upon international partners to implement action tasks described in Annex 1 (see Article 14a).

In these cases, the beneficiaries retain sole responsibility towards the Commission and the other beneficiaries for implementing the action.

ARTICLE 9 — IMPLEMENTATION OF ACTION TASKS BY BENEFICIARIES NOT RECEIVING EU FUNDING

Not applicable

ARTICLE 10 — PURCHASE OF GOODS, WORKS OR SERVICES

10.1 Rules for purchasing goods, works or services

10.1.1 If necessary to implement the action, the beneficiaries may purchase goods, works or services.

The beneficiaries must make such purchases ensuring the best value for money or, if appropriate, the lowest price. In doing so, they must avoid any conflict of interests (see Article 35).

The beneficiaries must ensure that the Commission, the European Court of Auditors (ECA) and the European Anti-Fraud Office (OLAF) can exercise their rights under Articles 22 and 23 also towards their contractors.

10.1.2 Beneficiaries that are 'contracting authorities' within the meaning of Directive 2004/18/EC[5] (or 2014/24/EU[6]) or 'contracting entities' within the meaning of Directive 2004/17/EC[7] (or 2014/25/EU[8]) must comply with the applicable national law on public procurement.

10.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under Article 10.1.1, the costs related to the contract concerned will be ineligible (see Article 6) and will be rejected (see Article 42).

If a beneficiary breaches any of its obligations under Article 10.1.2, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 11 — USE OF IN-KIND CONTRIBUTIONS PROVIDED BY THIRD PARTIES AGAINST PAYMENT

11.1 Rules for the use of in-kind contributions against payment

If necessary to implement the action, the beneficiaries may use in-kind contributions provided by third parties against payment.

The beneficiaries may declare costs related to the payment of in-kind contributions as eligible (see Article 6.1 and 6.2), up to the third parties' costs for the seconded persons, contributed equipment, infrastructure or other assets or other contributed goods and services.

The third parties and their contributions must be set out in Annex 1. The Commission may however approve in-kind contributions not set out in Annex 1 without amendment (see Article 55), if:

- they are specifically justified in the periodic or final technical report and
- their use does not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

The beneficiaries must ensure that the Commission, the European Court of Auditors (ECA) and the

[5] Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public work contracts, public supply contracts and public service contracts (OJ L 134, 30.04.2004, p. 114).

[6] Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC. (OJ L 94, 28.03.2014, p. 65).

[7] Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors (OJ L 134, 30.04.2004, p. 1)

[8] Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (OJ L 94, 28.03.2014, p. 243).

European Anti-Fraud Office (OLAF) can exercise their rights under Articles 22 and 23 also towards the third parties.

11.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the costs related to the payment of the in-kind contribution will be ineligible (see Article 6) and will be rejected (see Article 42).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 12 — USE OF IN-KIND CONTRIBUTIONS PROVIDED BY THIRD PARTIES FREE OF CHARGE

12.1 Rules for the use of in-kind contributions free of charge

If necessary to implement the action, the beneficiaries may use in-kind contributions provided by third parties free of charge.

The beneficiaries may declare costs incurred by the third parties for the seconded persons, contributed equipment, infrastructure or other assets or other contributed goods and services as eligible in accordance with Article 6.4.

The third parties and their contributions must be set out in Annex 1. The Commission may however approve in-kind contributions not set out in Annex 1 without amendment (see Article 55), if:

- they are specifically justified in the periodic or final technical report and
- their use does not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

The beneficiaries must ensure that the Commission, the European Court of Auditors (ECA) and the European Anti-Fraud Office (OLAF) can exercise their rights under Articles 22 and 23 also towards the third parties.

12.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the costs incurred by the third parties related to the in-kind contribution will be ineligible (see Article 6) and will be rejected (see Article 42).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 13 — IMPLEMENTATION OF ACTION TASKS BY SUBCONTRACTORS

13.1 Rules for the pre-commercial procurement of research and development services

13.1.1 The beneficiaries will award subcontracts for the PCP research and development services (‘**PCP R&D services**’) that are necessary to address the ‘**common challenge**’ set out in Annex 1.

The subcontracts must be awarded in one single joint (or several coordinated) procurement procedure(s) by the beneficiaries concerned (i.e. the ‘buyers group’ and the ‘lead procurer’).

The lead procurer must be a 'contracting authority' or 'contracting entity' as defined in Directives 2004/18/EC (or 2014/24/EU) and 2004/17/EC (or 2014/25/EU).

The buyers group must constitute a 'total jointly committed budget' for payment of the subcontracts.

The 'buyers group', the 'lead procurer', the services to be subcontracted (for each implementation phase ('PCP phase')), their estimated costs and the estimated financial contribution per beneficiary to the 'total jointly committed budget' must be set out in Annex 1. The estimated costs of PCP subcontracting per beneficiary must be set out in Annex 2.

The beneficiaries concerned must — throughout the action —:

- guarantee equal treatment of tenderers and subcontractors and avoid any restrictions or distortions of competition;
- avoid any conflict of interest (see Article 35);
- allow for all communications to be made in English (and any additional language(s) they may have chosen).

The subcontracts for pre-commercial procurement must provide for the following:

- the ownership, by the subcontractors, of the intellectual property rights on the results that they generate;
- the right of the buyers to access results — on a royalty-free basis — for their own use;
- the right of the buyers to grant (or to require the subcontractors to grant) non-exclusive licences to third parties to exploit the results — under fair and reasonable conditions — (without the right to sub-licence);
- the obligation of the subcontractors to transfer back to the buyers the ownership of intellectual property generated by subcontractors during the PCP, if subcontractors fail to commercially exploit the results within the period set out in the subcontract;
- the right of the buyers to publish — at the time of the contract award notice — the identity of the winning tenderers and a project summary provided by the winning tenderers, and to publish — after R&D has finished and after consulting the subcontractors — summaries of the results as well as the identities of the subcontractors that successfully completed the last phase of the PCP.

The beneficiaries concerned must ensure that the majority of the research and development work done by the subcontractor(s) (including the work of the main researchers) is located in the EU Member States or associated countries ('place of performance obligation').

The beneficiaries concerned must **prepare**, **procure** and **implement** the subcontracts in accordance with the following requirements:

(a) For the '**preparation stage**':

(i) agree (in writing) on their internal procedures for carrying out the joint PCP procurement ('**joint procurement agreement**');

(ii) make an '**open market consultation**', which:

- is published — two months in advance — in the Official Journal of the European Union (via a '**prior information notice (PIN)**', drawn up in English and any additional language(s) chosen by the buyers group);

- is promoted and advertised widely;

- is summarised on the project website and other web-sites requested by the Commission, together with a list of Q&As raised during the open market consultation;

(iii) prepare '**common tender specifications**'

(b) For the '**procurement/tendering stage**':

(i) **Step 1**: make a '**contract notice**', which

- is published by the lead procurer in the Official Journal of the European Union (in English and any additional language(s) chosen by the buyers group);

- specifies that the procurement concerns a pre-commercial procurement that is exempted from Directives 2004/18/EC (or 2014/24/EU) and 2004/17/EC (or 2014/25/EU)[9];

- specifies a time-limit for receipt of tenders of at least two months;

- allows for the submission of tenders in English (and any additional language(s) chosen by the buyers group);

- is promoted and advertised widely;

- indicates how potential tenderers can obtain the 'request for tenders';

and the **request for tenders** inviting all interested economic operators to tender, which:

- identifies the lead procurer, the buyers group and, if applicable, third parties involved in the PCP ;

- informs potential tenderers about the outcome and list of Q&As of the market consultation (see above);

- describes the common challenge (using functional or performance based specifications and taking into account the outcome of the open market consultation);

- describes the process for the evaluation and selection of the tenders for the first PCP phase and the intermediate evaluations after each following PCP phase;

- describes the practical set-up for the implementation of the subcontracts;

[9] See Article 16(f) of Directive 2004/18/EC replaced by Article 14 of Directive 2014/24/EU and Article 24(e) of Directive 2004/17/EC replaced by Article 32 of Directive 2014/25/EU.

- describes the minimum requirements that subcontractors must comply with during the PCP;

- describes the arrangements for intellectual property rights, confidentiality, publicity (information about contract award and publication of summaries of R&D results) and rules on applicable law and dispute settlement;

(ii) **Step 2**: make an **evaluation of the tenders**, ranking them, on the basis of the common tender specifications (see above), according to best value for money criteria and ensuring that the price corresponds to market conditions;

(iii) **Step 3**: **award the subcontracts** to a minimum of three tenderers offering best value for money and a price corresponding to market conditions.

The **framework agreements** (one agreement per selected tenderer) must be signed by the lead procurer and set out the terms and conditions that govern the specific contracts.

The **specific contracts** (one agreement per selected tenderer and PCP phase) must be signed by the lead procurer and set out the details of the PCP R&D services purchased by each buyer (in particular, their quantity and price);

(iv) **Step 4**: make a '**contract award notice**' which is published — within 48 days after conclusion of the framework agreements — by the lead procurer in the Official Journal of the European Union (in English and any additional language(s) chosen by the buyers group);

(c) For the '**contract implementation stage**':

(i) monitor that the PCP R&D services are implemented in compliance with the objectives of the action set out in Annex 1;

(ii) ensure compliance with the planning of resources set out in Annex 1 and the estimated budget indicated in Annex 2;

(iii) ensure payment of the subcontractors.

The beneficiaries concerned must ensure that the right of the Commission, the European Court of Auditors (ECA) and the European Anti-fraud Office (OLAF) to exercise their rights under Articles 22 and 23 also towards the subcontractors.

13.1.2 In addition, the beneficiaries concerned must ensure that their obligations under Articles 17.1, 18, 34, 35, 37, 36, 38, 39 and 46 also apply to the subcontractors.

The beneficiaries concerned must also ensure that every prior information notice, contract notice or contract award notice published in relation to the subcontracting includes the following disclaimer:

> "This procurement receives funding under the European Union's Horizon 2020 research and innovation programme under the grant agreement No 856960. The EU is however not participating as a contracting authority in this procurement."

13.2 Rules for subcontracting of related additional coordination and networking activities

13.2.1 If necessary to implement the action, the beneficiaries may award subcontracts for the 'related additional coordination and networking activities' described in Annex 1.

The beneficiaries must award the subcontracts ensuring the best value for money or, if appropriate, the lowest price. In doing so, they must avoid any conflict of interests (see Article 35).

The tasks to be implemented and the estimated cost for each subcontract must be set out in Annex 1 and the total estimated costs of subcontracting per beneficiary must be set out in Annex 2. The Commission may however approve subcontracts not set out in Annex 1 and 2 without amendment according to Article 55, if:

- they are specifically justified in the periodic or final technical report, and
- they do not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

The beneficiaries must ensure that the Commission, the European Court of Auditors (ECA) and the European Anti-Fraud Office (OLAF) can exercise their rights under Articles 22 and 23 also towards their subcontractors.

13.2.2 In addition, the beneficiaries must ensure that their obligations under Articles 35, 36, 38, and 46 also apply to the subcontractors.

Beneficiaries acting as contracting authorities within the meaning of Directive 2004/18/EC (or 2014/24/EU) or as contracting entities within the meaning of Directive 2004/17/EC (or 2014/25/EU) must comply with the applicable national law on public procurement.

13.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under Article 13.1.1 or 13.2.1, the costs related to the subcontract concerned will be ineligible (see Article 6) and will be rejected (see Article 42).

If a beneficiary breaches any of its obligations under Article 13.1.2 or 13.2.2, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 14 — IMPLEMENTATION OF ACTION TASKS BY LINKED THIRD PARTIES

Not applicable

ARTICLE 14a — IMPLEMENTATION OF ACTION TASKS BY INTERNATIONAL PARTNERS

Not applicable

ARTICLE 15 — FINANCIAL SUPPORT TO THIRD PARTIES

Not applicable

ARTICLE 16 — PROVISION OF TRANS-NATIONAL OR VIRTUAL ACCESS TO RESEARCH INFRASTRUCTURE

16.1 Rules for providing trans-national access to research infrastructure

Not applicable

16.2 Rules for providing virtual access to research infrastructure

Not applicable

16.3 Consequences of non-compliance

Not applicable

SECTION 2 RIGHTS AND OBLIGATIONS RELATED TO THE GRANT ADMINISTRATION

ARTICLE 17 — GENERAL OBLIGATION TO INFORM

17.1 General obligation to provide information upon request

The beneficiaries must provide — during implementation of the action or afterwards and in accordance with Article 41.2 — any information requested in order to verify eligibility of the costs, proper implementation of the action and compliance with any other obligation under the Agreement.

17.2 Obligation to keep information up to date and to inform about events and circumstances likely to affect the Agreement

Each beneficiary must keep information stored in the Participant Portal Beneficiary Register (via the electronic exchange system; see Article 52) up to date, in particular, its name, address, legal representatives, legal form and organisation type.

Each beneficiary must immediately inform the coordinator — which must immediately inform the Commission and the other beneficiaries — of any of the following:

(a) **events** which are likely to affect significantly or delay the implementation of the action or the EU's financial interests, in particular:

  (i) changes in its legal, financial, technical, organisational or ownership situation

(b) **circumstances** affecting:

  (i) the decision to award the grant or

  (ii) compliance with requirements under the Agreement.

17.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 18 — KEEPING RECORDS — SUPPORTING DOCUMENTATION

18.1 Obligation to keep records and other supporting documentation

The beneficiaries must — for a period of five years after the payment of the balance — keep records and other supporting documentation in order to prove the proper implementation of the action and the costs they declare as eligible.

They must make them available upon request (see Article 17) or in the context of checks, reviews, audits or investigations (see Article 22).

If there are on-going checks, reviews, audits, investigations, litigation or other pursuits of claims under the Agreement (including the extension of findings; see Article 22), the beneficiaries must keep the records and other supporting documentation until the end of these procedures.

The beneficiaries must keep the original documents. Digital and digitalised documents are considered originals if they are authorised by the applicable national law. The Commission may accept non-original documents if it considers that they offer a comparable level of assurance.

18.1.1 Records and other supporting documentation on the scientific and technical implementation

The beneficiaries must keep records and other supporting documentation on scientific and technical implementation of the action in line with the accepted standards in the respective field.

18.1.2 Records and other documentation to support the costs declared

The beneficiaries must keep the records and documentation supporting the costs declared, in particular the following:

(a) for **actual costs**: adequate records and other supporting documentation to prove the costs declared, such as contracts, subcontracts, invoices and accounting records. In addition, the beneficiaries' usual cost accounting practices and internal control procedures must enable direct reconciliation between the amounts declared, the amounts recorded in their accounts and the amounts stated in the supporting documentation;

(b) for **unit costs**: adequate records and other supporting documentation to prove the number of units declared. Beneficiaries do not need to identify the actual eligible costs covered or to keep or provide supporting documentation (such as accounting statements) to prove the amount per unit.

In addition, **for unit costs calculated in accordance with the beneficiary's usual cost accounting practices**, the beneficiaries must keep adequate records and documentation to prove that the cost accounting practices used comply with the conditions set out in Article 6.2.

The beneficiaries may submit to the Commission, for approval, a certificate (drawn up in accordance with Annex 6) stating that their usual cost accounting practices comply with these conditions (‘**certificate on the methodology**’). If the certificate is approved, costs declared in

line with this methodology will not be challenged subsequently, unless the beneficiaries have concealed information for the purpose of the approval.

(c) for **flat-rate costs**: adequate records and other supporting documentation to prove the eligibility of the costs to which the flat-rate is applied. The beneficiaries do not need to identify the costs covered or provide supporting documentation (such as accounting statements) to prove the amount declared at a flat-rate.

In addition, for **personnel costs** (declared as actual costs or on the basis of unit costs), the beneficiaries must keep **time records** for the number of hours declared. The time records must be in writing and approved by the persons working on the action and their supervisors, at least monthly. In the absence of reliable time records of the hours worked on the action, the Commission may accept alternative evidence supporting the number of hours declared, if it considers that it offers an adequate level of assurance.

As an exception, for **persons working exclusively on the action**, there is no need to keep time records, if the beneficiary signs a **declaration** confirming that the persons concerned have worked exclusively on the action.

18.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 42), and the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 19 — SUBMISSION OF DELIVERABLES

19.1 Obligation to submit deliverables

The coordinator must submit:

- 5 days before its publication: a copy of the prior information notice (PIN) (see Article 13);
- 30 days before its publication: a copy of the contract notice (see Article 13);
- at the end of the tender evaluation (and after the intermediate evaluations that precede the start of each new PCP phase (see Article 13)):
    - **information on the total number of bids received**, in particular the data on the winning tenderer(s) and abstracts of the winning tenders for publication and evaluation purposes;
    - **information on the evaluation of tenders**: the final ranking list of the selected projects, final scores and qualitative assessment per evaluation criterion for each received bid, minutes of the evaluation meeting;
    - an **assessment by the buyers group of the results achieved** by each participating tenderer in the previous PCP phase (except for the initial evaluation of tenders at the start of the PCP);
- the coordinator must submit in month 2020.00 a progress report containing:

- a '**periodic summary technical report**' for publication by the Commission;

- an **overview of the progress** towards the objectives of the action, including milestones and deliverables identified in Annex 1. This report must include explanations justifying the differences between work expected to be carried out in accordance with Annex 1 and that actually carried out;

- at the end of the action: **information on each subcontract** financed by the procurement, including data on each contractor that participated in the procurement and overview of the results, for publication and evaluation purposes.

  This must include an assessment by the buyers group, based on the validation of solutions, of the final results of each participating tenderer in terms of achieving the performance and functionality requirements of the common tender specifications;

- any **other deliverables** identified in Annex 1, in accordance with the timing and conditions set out in it.

19.2 Consequences of non-compliance

If the coordinator breaches any of its obligations under this Article, the Commission may apply any of the measures described in Chapter 6.

ARTICLE 20 — REPORTING — PAYMENT REQUESTS

20.1 Obligation to submit reports

The coordinator must submit to the Commission (see Article 52) the reports set out in this Article. These reports include the requests for payments and must be drawn up using the forms and templates provided in the electronic exchange system (see Article 52).

20.2 Reporting periods

The action is divided into the following '**reporting periods**':

- RP1: from month 1 to month 12
- RP2: from month 13 to month 48

20.2a Periodic reports — Requests for second pre-financing payment

The coordinator must submit a periodic report within 60 days following the end of the reporting period.

The periodic report must include the following:

(a) a **periodic technical report** containing:

(i) an **explanation of the work carried out** by the beneficiaries;

(ii) an **overview of the progress** towards the objectives of the action, including milestones and other deliverables identified in Annex 1.

This report must include explanations justifying the differences between work expected to be carried out in accordance with Annex 1 and that actually carried out.

The report must detail the exploitation and dissemination of the results and — if required in Annex 1 — an updated '**plan for the exploitation and dissemination of the results**'.

The report must indicate the communication activities.

(iii) a **summary** for publication by the Commission;

(iv) the answers to the '**questionnaire**' covering issues related to the action implementation and the economic and societal impact, notably in the context of the Horizon 2020 key performance indicators and the Horizon 2020 monitoring requirements.

(b) **call for tender documents**, including the contract notice, invitation to tender, procurement contracts;

(c) a **report on** the outcome of the **preparation phase** of the procurement (e.g. the open market consultation) and their impact on the call for tender;

(d) from each beneficiary participating in the joint procurement, a formal and duly signed '**commitment on availability of resources**' (see Annex 7), and

(e) a '**statement on the use of the first pre-financing payment**' (see Annex 8), including the **request for a second pre-financing payment**.

The coordinator must certify that the information provided is full, reliable and true; and it can be substantiated by adequate supporting documentation (see Article 18) that will be produced upon request (see Article 17) or in the context of checks, reviews, audits and investigations (see Article 22).

20.3 Requests for interim payments

Not applicable

20.4 Final report — Request for payment of the balance

The coordinator must submit the final report within 60 days following the end of the last reporting period.

The **final report** must include the following:

(a) a '**final technical report**' with a **summary** for publication containing:

(i) an overview of the results and their exploitation and dissemination;

(ii) the conclusions on the action, and

(iii) the socio-economic impact of the action;

(b) a '**final financial report**' containing:

(i) an '**individual financial statement**' (see Annex 4) from each beneficiary, for all reporting periods.

The individual financial statement must detail the eligible costs (actual costs, unit costs and flat-rate costs; see Article 6) for each budget category (see Annex 2).

The beneficiaries must declare all eligible costs, even if — for actual costs, unit costs and flat-rate costs — they exceed the amounts indicated in the estimated budget (see Annex 2). Amounts which are not declared in the individual financial statement will not be taken into account by the Commission.

The individual financial statements must also detail the **receipts of the action** (see Article 5.3.3).

Each beneficiary must **certify** that:

- the information provided is full, reliable and true;
- the costs declared are eligible (in particular, that the costs for subcontracts comply with the conditions in Article 13);
- the costs can be substantiated by adequate records and supporting documentation (see Article 18) that will be produced upon request (see Article 17) or in the context of checks, reviews, audits and investigations (see Article 22), and
- all the receipts have been declared (see Article 5.3.3);

(ii) an **explanation of the use of resources** and the information on subcontracting (see Article 13) and in-kind contributions provided by third parties (see Articles 11 and 12) from each beneficiary;

(iii) not applicable;

(iv) a '**summary financial statement**', created automatically by the electronic exchange system, consolidating the individual financial statements and including the **request for payment of the balance**;

(v) a '**certificate on the financial statements**' (drawn up in accordance with Annex 5) for each beneficiary, if it requests a total contribution of EUR 325 000 or more, as reimbursement of actual costs and unit costs calculated on the basis of its usual cost accounting practices (see Article 5.2 and Article 6.2)

20.5 Information on cumulative expenditure incurred

In addition to the reporting requirements set out above (Article 20.1 to 20.3), the coordinator must inform the Commission by 31 December each year of the cumulative expenditure incurred by the beneficiaries from the starting date of the action.

This information is required for the Commission's accounting purposes and will not be used to calculate the final grant amount.

20.6 Currency for financial statements and conversion into euro

Financial statements must be drafted in euro.

Beneficiaries with accounting established in a currency other than the euro must convert the costs recorded in their accounts into euro, at the average of the daily exchange rates published in the C series of the *Official Journal of the European Union*, calculated over the corresponding reporting period.

If no daily euro exchange rate is published in the *Official Journal of the European Union* for the currency in question, they must be converted at the average of the monthly accounting rates published on the Commission's website, calculated over the corresponding reporting period.

Beneficiaries with accounting established in euro must convert costs incurred in another currency into euro according to their usual accounting practices.

20.7 Language of reports

All reports (technical and financial reports, including financial statements) must be submitted in the language of the Agreement.

20.8 Consequences of non-compliance

If the reports submitted do not comply with this Article, the Commission may suspend the payment deadline (see Article 47) and apply any of the other measures described in Chapter 6.

If the coordinator breaches its obligation to submit the reports and if it fails to comply with this obligation within 30 days following a written reminder, the Commission may terminate the Agreement (see Article 50) or apply any of the other measures described in Chapter 6.

ARTICLE 21 — PAYMENTS AND PAYMENT ARRANGEMENTS

21.1 Payments to be made

The following payments will be made to the coordinator:

- a **first pre-financing** payment;
- a **second pre-financing** payment, on the basis of the request for a second pre-financing payment (see Article 20);
- one **payment of the balance**, on the basis of the request for payment of the balance (see Article 20).

21.2 Pre-financing payment — Amount — Amount retained for the Guarantee Fund

The aim of the pre-financing is to provide the beneficiaries with a float.

It remains the property of the EU until the payment of the balance.

The Commission will — within 30 days, either from the entry into force of the Agreement (see Article 58) or from 10 days before the starting date of the action (see Article 3), whichever is the latest —

make a first pre-financing payment to the coordinator of EUR **790 890.00** (seven hundred and ninety thousand eight hundred and ninety EURO), except if Article 48 applies.

From this amount, an amount of EUR **252 000.00** (two hundred and fifty two thousand EURO), corresponding to 5% of the maximum grant amount (see Article 5.1), is retained by the Commission and transferred into the '**Guarantee Fund**'.

The Commission will — within 60 days after receiving the request (see Article 20) — make a second pre-financing payment to the coordinator of EUR **3 745 110.00** (three million seven hundred and forty five thousand one hundred and ten EURO), except if Articles 47 or 48 apply.

If the statement on the use of the previous pre-financing payment shows that less than 70 % of the previous payment has been used to cover the costs of the action, the amount of the new pre-financing to be paid will be reduced by the difference between the 70 % threshold and the amount used.

21.3 Interim payments — Amount — Calculation

Not applicable

21.4 Payment of the balance — Amount — Calculation — Release of the amount retained for the Guarantee Fund

The payment of the balance reimburses the remaining part of the eligible costs incurred by the beneficiaries for the implementation of the action.

If the total amount of earlier payments is greater than the final grant amount (see Article 5.3), the payment of the balance takes the form of a recovery (see Article 44).

If the total amount of earlier payments is lower than the final grant amount, the Commission will pay the balance within 90 days from receiving the final report (see Article 20.4), except if Articles 47 or 48 apply.

Payment is subject to the approval of the final report. Its approval does not imply recognition of the compliance, authenticity, completeness or correctness of its content.

The **amount due as the balance** is calculated by the Commission by deducting the total amount of pre-financing already made, from the final grant amount determined in accordance with Article 5.3:

{final grant amount (see Article 5.3)

minus

pre-financing made}.

At the payment of the balance, the amount retained for the Guarantee Fund (see above) will be released and:

- if the balance is positive: the amount released will be paid in full to the coordinator together with the amount due as the balance;
- if the balance is negative (payment of the balance taking the form of recovery): it will be deducted from the amount released (see Article 44.1.2). If the resulting amount:
    - is positive, it will be paid to the coordinator

- is negative, it will be recovered.

The amount to be paid may however be offset — without the beneficiaries' consent — against any other amount owed by a beneficiary to the Commission or an executive agency (under the EU or Euratom budget), up to the maximum EU contribution indicated, for that beneficiary, in the estimated budget (see Annex 2).

21.5 Notification of amounts due

When making payments, the Commission will formally notify to the coordinator the amount due, specifying whether it concerns the second pre-financing payment or the payment of the balance.

For the payment of the balance, the notification will also specify the final grant amount.

In the case of reduction of the grant or recovery of undue amounts, the notification will be preceded by the contradictory procedure set out in Articles 43 and 45.

21.6 Currency for payments

The Commission will make all payments in euro.

21.7 Payments to the coordinator — Distribution to the beneficiaries

Payments will be made to the coordinator.

Payments to the coordinator will discharge the Commission from its payment obligation.

The coordinator must distribute the payments between the beneficiaries without unjustified delay.

Pre-financing may however be distributed only:

(a) if the minimum number of beneficiaries set out in the call for proposals has acceded to the Agreement (see Article 56) and

(b) to beneficiaries that have acceded to the Agreement (see Article 56).

21.8 Bank account for payments

All payments will be made to the following bank account:

21.9 Costs of payment transfers

The cost of the payment transfers is borne as follows:

- the Commission bears the cost of transfers charged by its bank;
- the beneficiary bears the cost of transfers charged by its bank;

- the party causing a repetition of a transfer bears all costs of the repeated transfer.

21.10 Date of payment

Payments by the Commission are considered to have been carried out on the date when they are debited to its account.

21.11 Consequences of non-compliance

21.11.1 If the Commission does not pay within the payment deadlines (see above), the beneficiaries are entitled to **late-payment interest** at the rate applied by the European Central Bank (ECB) for its main refinancing operations in euros ('reference rate'), plus three and a half points. The reference rate is the rate in force on the first day of the month in which the payment deadline expires, as published in the C series of the *Official Journal of the European Union*.

If the late-payment interest is lower than or equal to EUR 200, it will be paid to the coordinator only upon request submitted within two months of receiving the late payment.

Late-payment interest is not due if all beneficiaries are EU Member States (including regional and local government authorities or other public bodies acting on behalf of a Member State for the purpose of this Agreement).

Suspension of the payment deadline or payments (see Articles 47 and 48) will not be considered as late payment.

Late-payment interest covers the period running from the day following the due date for payment (see above), up to and including the date of payment.

Late-payment interest is not considered for the purposes of calculating the final grant amount.

21.11.2 If the coordinator breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or the participation of the coordinator may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 22 — CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS

22.1 Checks, reviews and audits by the Commission

22.1.1 Right to carry out checks

The Commission will — during the implementation of the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing deliverables and reports.

For this purpose the Commission may be assisted by external persons or bodies.

The Commission may also request additional information in accordance with Article 17. The Commission may request beneficiaries to provide such information to it directly.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

22.1.2 Right to carry out reviews

The Commission may — during the implementation of the action or afterwards — carry out reviews on the proper implementation of the action (including assessment of deliverables and reports), compliance with the obligations under the Agreement and continued scientific or technological relevance of the action.

Reviews may be started up to two years after the payment of the balance. They will be formally notified to the coordinator or beneficiary concerned and will be considered to have started on the date of the formal notification.

If the review is carried out on a third party (see Articles 10 to 16), the beneficiary concerned must inform the third party.

The Commission may carry out reviews directly (using its own staff) or indirectly (using external persons or bodies appointed to do so). It will inform the coordinator or beneficiary concerned of the identity of the external persons or bodies. They have the right to object to the appointment on grounds of commercial confidentiality.

The coordinator or beneficiary concerned must provide — within the deadline requested — any information and data in addition to deliverables and reports already submitted (including information on the use of resources). The Commission may request beneficiaries to provide such information to it directly.

The coordinator or beneficiary concerned may be requested to participate in meetings, including with external experts.

For **on-the-spot** reviews, the beneficiaries must allow access to their sites and premises, including to external persons or bodies, and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the review findings, a '**review report**' will be drawn up.

The Commission will formally notify the review report to the coordinator or beneficiary concerned, which has 30 days to formally notify observations ('**contradictory review procedure**').

Reviews (including review reports) are in the language of the Agreement.

22.1.3 Right to carry out audits

The Commission may — during the implementation of the action or afterwards — carry out audits on the proper implementation of the action and compliance with the obligations under the Agreement.

Audits may be started up to two years after the payment of the balance. They will be formally notified to the coordinator or beneficiary concerned and will be considered to have started on the date of the formal notification.

If the audit is carried out on a third party (see Articles 10 to 16), the beneficiary concerned must inform the third party.

The Commission may carry out audits directly (using its own staff) or indirectly (using external persons or bodies appointed to do so). It will inform the coordinator or beneficiary concerned of the identity of the external persons or bodies. They have the right to object to the appointment on grounds of commercial confidentiality.

The coordinator or beneficiary concerned must provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement. The Commission may request beneficiaries to provide such information to it directly.

For **on-the-spot** audits, the beneficiaries must allow access to their sites and premises, including to external persons or bodies, and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the audit findings, a '**draft audit report**' will be drawn up.

The Commission will formally notify the draft audit report to the coordinator or beneficiary concerned, which has 30 days to formally notify observations ('**contradictory audit procedure**'). This period may be extended by the Commission in justified cases.

The '**final audit report**' will take into account observations by the coordinator or beneficiary concerned. The report will be formally notified to it.

Audits (including audit reports) are in the language of the Agreement.

The Commission may also access the beneficiaries' statutory records for the periodical assessment of unit costs or flat-rate amounts.

22.2 Investigations by the European Anti-Fraud Office (OLAF)

Under Regulations No 883/2013[15] and No 2185/96[16] (and in accordance with their provisions and procedures), the European Anti-Fraud Office (OLAF) may — at any moment during implementation of the action or afterwards — carry out investigations, including on-the-spot checks and inspections, to establish whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the EU.

22.3 Checks and audits by the European Court of Auditors (ECA)

Under Article 287 of the Treaty on the Functioning of the European Union (TFEU) and Article 161

[15] Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18.09.2013, p. 1).

[16] Council Regulation (Euratom, EC) No 2185/1996 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15.11.1996, p. 2).

of the Financial Regulation No 966/2012[17], the European Court of Auditors (ECA) may — at any moment during implementation of the action or afterwards — carry out audits.

The ECA has the right of access for the purpose of checks and audits.

22.4 Checks, reviews, audits and investigations for international organisations

Not applicable

22.5 Consequences of findings in checks, reviews, audits and investigations — Extension of findings

22.5.1 Findings in this grant

Findings in checks, reviews, audits or investigations carried out in the context of this grant may lead to the rejection of ineligible costs (see Article 42), reduction of the grant (see Article 43), recovery of undue amounts (see Article 44) or to any of the other measures described in Chapter 6.

Rejection of costs or reduction of the grant after the payment of the balance will lead to a revised final grant amount (see Article 5.4).

Findings in checks, reviews, audits or investigations may lead to a request for amendment for the modification of Annex 1 (see Article 55).

Checks, reviews, audits or investigations that find systemic or recurrent errors, irregularities, fraud or breach of obligations may also lead to consequences in other EU or Euratom grants awarded under similar conditions (‘**extension of findings from this grant to other grants**’).

Moreover, findings arising from an OLAF investigation may lead to criminal prosecution under national law.

22.5.2 Findings in other grants

The Commission may extend findings from other grants to this grant (‘**extension of findings from other grants to this grant**’), if:

(a) the beneficiary concerned is found, in other EU or Euratom grants awarded under similar conditions, to have committed systemic or recurrent errors, irregularities, fraud or breach of obligations that have a material impact on this grant and

(b) those findings are formally notified to the beneficiary concerned — together with the list of grants affected by the findings — no later than two years after the payment of the balance of this grant.

The extension of findings may lead to the rejection of costs (see Article 42), reduction of the grant (see Article 43), recovery of undue amounts (see Article 44), suspension of payments (see Article 48), suspension of the action implementation (see Article 49) or termination (see Article 50).

[17] Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 (OJ L 298, 26.10.2012, p. 1).

22.5.3 Procedure

The Commission will formally notify the beneficiary concerned the systemic or recurrent errors and its intention to extend these audit findings, together with the list of grants affected.

22.5.3.1 If the findings concern **eligibility of costs**: the formal notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings;

(b) the request to submit **revised financial statements** for all grants affected;

(c) the **correction rate for extrapolation** established by the Commission on the basis of the systemic or recurrent errors, to calculate the amounts to be rejected if the beneficiary concerned:

(i) considers that the submission of revised financial statements is not possible or practicable or

(ii) does not submit revised financial statements.

The beneficiary concerned has 90 days from receiving notification to submit observations, revised financial statements or to propose a duly substantiated **alternative correction method**. This period may be extended by the Commission in justified cases.

The Commission may then start a rejection procedure in accordance with Article 42, on the basis of:

- the revised financial statements, if approved;
- the proposed alternative correction method, if accepted

or

- the initially notified correction rate for extrapolation, if it does not receive any observations or revised financial statements, does not accept the observations or the proposed alternative correction method or does not approve the revised financial statements.

22.5.3.2 If the findings concern **substantial errors**, **irregularities or fraud** or **serious breach of obligations**: the formal notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings and

(b) the flat-rate the Commission intends to apply according to the principle of proportionality.

The beneficiary concerned has 90 days from receiving notification to submit observations or to propose a duly substantiated alternative flat-rate.

The Commission may then start a reduction procedure in accordance with Article 43, on the basis of:

- the proposed alternative flat-rate, if accepted

or

- the initially notified flat-rate, if it does not receive any observations or does not accept the observations or the proposed alternative flat-rate.

22.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, any insufficiently substantiated costs will be ineligible (see Article 6) and will be rejected (see Article 42).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 23 — EVALUATION OF THE IMPACT OF THE ACTION

23.1 Right to evaluate the impact of the action

The Commission may carry out interim and final evaluations of the impact of the action measured against the objective of the EU programme.

Evaluations may be started during implementation of the action and up to seven years after the payment of the balance. The evaluation is considered to start on the date of the formal notification to the coordinator or beneficiaries.

The Commission may make these evaluations directly (using its own staff) or indirectly (using external bodies or persons it has authorised to do so).

The coordinator or beneficiaries must provide any information relevant to evaluate the impact of the action, including information in electronic format.

23.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the Commission may apply the measures described in Chapter 6.

SECTION 3 RIGHTS AND OBLIGATIONS RELATED TO BACKGROUND AND RESULTS

SUBSECTION 1 GENERAL

ARTICLE 23a — MANAGEMENT OF INTELLECTUAL PROPERTY

23a.1 Obligation to take measures to implement the Commission Recommendation on the management of intellectual property in knowledge transfer activities

Beneficiaries that are universities or other public research organisations must take measures to implement the principles set out in Points 1 and 2 of the Code of Practice annexed to the Commission Recommendation on the management of intellectual property in knowledge transfer activities[18].

This does not change the obligations set out in Subsections 2 and 3 of this Section.

[18] Commission Recommendation C(2008) 1329 of 10.4.2008 on the management of intellectual property in knowledge transfer activities and the Code of Practice for universities and other public research institutions attached to this recommendation.

The beneficiaries must ensure that researchers and third parties involved in the action are aware of them.

23a.2 Consequences of non-compliance

If a beneficiary breaches its obligations under this Article, the Commission may apply any of the measures described in Chapter 6.

SUBSECTION 2 RIGHTS AND OBLIGATIONS RELATED TO BACKGROUND

ARTICLE 24 — AGREEMENT ON BACKGROUND

24.1 Agreement on background

The beneficiaries must identify and agree (in writing) on the background for the action ('**agreement on background**').

'**Background**' means any data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that:

(a) is held by the beneficiaries before they acceded to the Agreement, and

(b) is needed to implement the action or exploit the results.

24.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 25 — ACCESS RIGHTS TO BACKGROUND

25.1 Exercise of access rights — Waiving of access rights — No sub-licensing

To exercise access rights, this must first be requested in writing ('**request for access**').

'**Access rights**' means rights to use results or background under the terms and conditions laid down in this Agreement.

Waivers of access rights are not valid unless in writing.

Unless agreed otherwise, access rights do not include the right to sub-license.

25.2 Access rights for other beneficiaries, for implementing their own tasks under the action

The beneficiaries must give each other access — on a royalty-free basis — to background needed to implement their own tasks under the action, unless the beneficiary that holds the background has — before acceding to the Agreement —:

(a) informed the other beneficiaries that access to its background is subject to legal restrictions or limits, including those imposed by the rights of third parties (including personnel), or

(b) agreed with the other beneficiaries that access would not be on a royalty-free basis.

25.3 Access rights for other beneficiaries, for exploiting their own results

The beneficiaries must give each other access — under fair and reasonable conditions — to background needed for exploiting their own results, unless the beneficiary that holds the background has — before acceding to the Agreement — informed the other beneficiaries that access to its background is subject to legal restrictions or limits, including those imposed by the rights of third parties (including personnel).

'**Fair and reasonable conditions**' means appropriate conditions, including possible financial terms or royalty-free conditions, taking into account the specific circumstances of the request for access, for example the actual or potential value of the results or background to which access is requested and/or the scope, duration or other characteristics of the exploitation envisaged.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

25.4 Access rights for affiliated entities

Unless otherwise agreed in the consortium agreement, access to background must also be given — under fair and reasonable conditions (see above; Article 25.3) and unless it is subject to legal restrictions or limits, including those imposed by the rights of third parties (including personnel) — to affiliated entities[19] established in an EU Member State or '**associated country**'[20], if this is needed to exploit the results generated by the beneficiaries to which they are affiliated.

Unless agreed otherwise (see above; Article 25.1), the affiliated entity concerned must make the request directly to the beneficiary that holds the background.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

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[19] For the definition see Article 2.1(2) Rules for Participation Regulation No 1290/2013: '**affiliated entity**' means any legal entity that is:
- under the direct or indirect control of a participant, or
- under the same direct or indirect control as the participant, or
- directly or indirectly controlling a participant.

'Control' may take any of the following forms:
(a) the direct or indirect holding of more than 50% of the nominal value of the issued share capital in the legal entity concerned, or of a majority of the voting rights of the shareholders or associates of that entity;
(b) the direct or indirect holding, in fact or in law, of decision-making powers in the legal entity concerned.

However the following relationships between legal entities shall not in themselves be deemed to constitute controlling relationships:
(a) the same public investment corporation, institutional investor or venture-capital company has a direct or indirect holding of more than 50% of the nominal value of the issued share capital or a majority of voting rights of the shareholders or associates;
(b) the legal entities concerned are owned or supervised by the same public body.

[20] For the definition, see Article 2.1(3) of the Rules for Participation Regulation No 1290/2013: '**associated country**' means a third country which is party to an international agreement with the Union, as identified in Article 7 of Horizon 2020 Framework Programme Regulation No 1291/2013. Article 7 sets out the conditions for association of non-EU countries to Horizon 2020.

25.5 Access rights for third parties

Not applicable

25.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

SUBSECTION 3 RIGHTS AND OBLIGATIONS RELATED TO RESULTS

ARTICLE 26 — OWNERSHIP OF RESULTS

26.1 Ownership by the beneficiary that generates the results

Results are owned by the beneficiary that generates them.

'**Results**' means any (tangible or intangible) output of the action such as data, knowledge or information — whatever its form or nature, whether it can be protected or not — that is generated in the action, as well as any rights attached to it, including intellectual property rights.

26.2 Joint ownership by several beneficiaries

Two or more beneficiaries own results jointly if:

(a) they have jointly generated them and

(b) it is not possible to:

(i) establish the respective contribution of each beneficiary, or

(ii) separate them for the purpose of applying for, obtaining or maintaining their protection (see Article 27).

The joint owners must agree (in writing) on the allocation and terms of exercise of their joint ownership ('**joint ownership agreement**'), to ensure compliance with their obligations under this Agreement.

Unless otherwise agreed in the joint ownership agreement, each joint owner may grant non-exclusive licences to third parties to exploit jointly-owned results (without any right to sub-license), if the other joint owners are given:

(a) at least 45 days advance notice and

(b) fair and reasonable compensation.

Once the results have been generated, joint owners may agree (in writing) to apply another regime than joint ownership (such as, for instance, transfer to a single owner (see Article 30) with access rights for the others).

26.3 Rights of third parties (including personnel)

If third parties (including personnel) may claim rights to the results, the beneficiary concerned must ensure that it complies with its obligations under the Agreement.

If a third party generates results, the beneficiary concerned must obtain all necessary rights (transfer, licences or other) from the third party, in order to be able to respect its obligations as if those results were generated by the beneficiary itself.

If obtaining the rights is impossible, the beneficiary must refrain from using the third party to generate the results.

26.4 EU ownership, to protect results

26.4.1 The EU may — with the consent of the beneficiary concerned — assume ownership of results to protect them, if a beneficiary intends — up to four years after the period set out in Article 3 — to disseminate its results without protecting them, except in any of the following cases:

(a) the lack of protection is because protecting the results is not possible, reasonable or justified (given the circumstances);

(b) the lack of protection is because there is a lack of potential for commercial or industrial exploitation, or

(c) the beneficiary intends to transfer the results to another beneficiary or third party established in an EU Member State or associated country, which will protect them.

Before the results are disseminated and unless any of the cases above under Points (a), (b) or (c) applies, the beneficiary must formally notify the Commission and at the same time inform it of any reasons for refusing consent. The beneficiary may refuse consent only if it can show that its legitimate interests would suffer significant harm.

If the Commission decides to assume ownership, it will formally notify the beneficiary concerned within 45 days of receiving notification.

No dissemination relating to these results may take place before the end of this period or, if the Commission takes a positive decision, until it has taken the necessary steps to protect the results.

26.4.2 The EU may — with the consent of the beneficiary concerned — assume ownership of results to protect them, if a beneficiary intends — up to four years after the period set out in Article 3 — to stop protecting them or not to seek an extension of protection, except in any of the following cases:

(a) the protection is stopped because of a lack of potential for commercial or industrial exploitation;

(b) an extension would not be justified given the circumstances.

A beneficiary that intends to stop protecting results or not seek an extension must — unless any of the cases above under Points (a) or (b) applies — formally notify the Commission at least 60 days before the protection lapses or its extension is no longer possible and at the same time inform it of any reasons for refusing consent. The beneficiary may refuse consent only if it can show that its legitimate interests would suffer significant harm.

If the Commission decides to assume ownership, it will formally notify the beneficiary concerned within 45 days of receiving notification.

26.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to the any of the other measures described in Chapter 6.

ARTICLE 27 — PROTECTION OF RESULTS — VISIBILITY OF EU FUNDING

27.1 Obligation to protect the results

Each beneficiary must examine the possibility of protecting its results and must adequately protect them — for an appropriate period and with appropriate territorial coverage — if:

(a) the results can reasonably be expected to be commercially or industrially exploited and

(b) protecting them is possible, reasonable and justified (given the circumstances).

When deciding on protection, the beneficiary must consider its own legitimate interests and the legitimate interests (especially commercial) of the other beneficiaries.

27.2 EU ownership, to protect the results

If a beneficiary intends not to protect its results, to stop protecting them or not seek an extension of protection, the EU may — under certain conditions (see Article 26.4) — assume ownership to ensure their (continued) protection.

27.3 Information on EU funding

Applications for protection of results (including patent applications) filed by or on behalf of a beneficiary must — unless the Commission requests or agrees otherwise or unless it is impossible — include the following:

"The project leading to this application has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 856960".

27.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 28 — EXPLOITATION OF RESULTS

28.1 Obligation to exploit the results

Each beneficiary must — up to four years after the period set out in Article 3 — take measures aiming to ensure '**exploitation**' of its results (either directly or indirectly, in particular through transfer or licensing; see Article 30) by:

(a) using them in further research activities (outside the action);

(b) developing, creating or marketing a product or process;

(c) creating and providing a service, or

(d) using them in standardisation activities.

This does not change the security obligations in Article 37, which still apply.

28.2 Results that could contribute to European or international standards — Information on EU funding

If results are incorporated in a standard, the beneficiary concerned must — unless the Commission requests or agrees otherwise or unless it is impossible — ask the standardisation body to include the following statement in (information related to) the standard:

> "Results incorporated in this standard received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 856960".

28.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced in accordance with Article 43.

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 29 — DISSEMINATION OF RESULTS — OPEN ACCESS — VISIBILITY OF EU FUNDING

29.1 Obligation to disseminate results

Unless it goes against their legitimate interests, each beneficiary must — as soon as possible — '**disseminate**' its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).

This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply.

A beneficiary that intends to disseminate its results must give advance notice to the other beneficiaries of — unless agreed otherwise — at least 45 days, together with sufficient information on the results it will disseminate.

Any other beneficiary may object within — unless agreed otherwise — 30 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests.

If a beneficiary intends not to protect its results, it may — under certain conditions (see Article 26.4.1) — need to formally notify the Commission before dissemination takes place.

29.2 Open access to scientific publications

Each beneficiary must ensure open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results.

In particular, it must:

(a) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications;

Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

(b) ensure open access to the deposited publication — via the repository — at the latest:

(i) on publication, if an electronic version is available for free via the publisher, or

(ii) within six months of publication (twelve months for publications in the social sciences and humanities) in any other case.

(c) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

- the terms “European Union (EU)” and “Horizon 2020”;
- the name of the action, acronym and grant number;
- the publication date, and length of embargo period if applicable, and
- a persistent identifier.

29.3 Open access to research data

Regarding the digital research data generated in the action (‘**data**’), the beneficiaries must:

(a) deposit in a research data repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the following:

(i) the data, including associated metadata, needed to validate the results presented in scientific publications, as soon as possible;

(ii) other data, including associated metadata, as specified and within the deadlines laid down in the ‘data management plan’ (see Annex 1);

(b) provide information — via the repository — about tools and instruments at the disposal of the beneficiaries and necessary for validating the results (and — where possible — provide the tools and instruments themselves).

This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply.

As an exception, the beneficiaries do not have to ensure open access to specific parts of their research data under Point (a)(i) and (iii), if the achievement of the action's main objective (as described in Annex 1) would be jeopardised by making those specific parts of the research data openly accessible. In this case, the data management plan must contain the reasons for not giving access.

29.4 Information on EU funding — Obligation and right to use the EU emblem

Unless the Commission requests or agrees otherwise or unless it is impossible, any dissemination of results (in any form, including electronic) must:

(a) display the EU emblem and

(b) include the following text:

> "This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 856960".

When displayed together with another logo, the EU emblem must have appropriate prominence.

For the purposes of their obligations under this Article, the beneficiaries may use the EU emblem without first obtaining approval from the Commission.

This does not however give them the right to exclusive use.

Moreover, they may not appropriate the EU emblem or any similar trademark or logo, either by registration or by any other means.

29.5 Disclaimer excluding Commission responsibility

Any dissemination of results must indicate that it reflects only the author's view and that the Commission is not responsible for any use that may be made of the information it contains.

29.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 30 — TRANSFER AND LICENSING OF RESULTS

30.1 Transfer of ownership

Each beneficiary may transfer ownership of its results.

It must however ensure that its obligations under Articles 26.2, 26.4, 27, 28, 29, 30 and 31 also apply to the new owner and that this owner has the obligation to pass them on in any subsequent transfer.

This does not change the security obligations in Article 37, which still apply.

Unless agreed otherwise (in writing) for specifically-identified third parties or unless impossible under applicable EU and national laws on mergers and acquisitions, a beneficiary that intends to transfer ownership of results must give at least 45 days advance notice (or less if agreed in writing) to the

other beneficiaries that still have (or still may request) access rights to the results. This notification must include sufficient information on the new owner to enable any beneficiary concerned to assess the effects on its access rights.

Unless agreed otherwise (in writing) for specifically-identified third parties, any other beneficiary may object within 30 days of receiving notification (or less if agreed in writing), if it can show that the transfer would adversely affect its access rights. In this case, the transfer may not take place until agreement has been reached between the beneficiaries concerned.

30.2 Granting licenses

Each beneficiary may grant licences to its results (or otherwise give the right to exploit them), if:

(a) this does not impede the access rights under Article 31 and

(b) not applicable.

In addition to Points (a) and (b), exclusive licences for results may be granted only if all the other beneficiaries concerned have waived their access rights (see Article 31.1).

This does not change the dissemination obligations in Article 29 or security obligations in Article 37, which still apply.

30.3 Commission right to object to transfers or licensing

Not applicable

30.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 31 — ACCESS RIGHTS TO RESULTS

31.1 Exercise of access rights — Waiving of access rights — No sub-licensing

The conditions set out in Article 25.1 apply.

The obligations set out in this Article do not change the security obligations in Article 37, which still apply.

31.2 Access rights for other beneficiaries, for implementing their own tasks under the action

The beneficiaries must give each other access — on a royalty-free basis — to results needed for implementing their own tasks under the action.

31.3 Access rights for other beneficiaries, for exploiting their own results

The beneficiaries must give each other — under fair and reasonable conditions (see Article 25.3) — access to results needed for exploiting their own results.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

31.4 Access rights of affiliated entities

Unless agreed otherwise in the consortium agreement, access to results must also be given — under fair and reasonable conditions (Article 25.3) — to affiliated entities established in an EU Member State or associated country, if this is needed for those entities to exploit the results generated by the beneficiaries to which they are affiliated.

Unless agreed otherwise (see above; Article 31.1), the affiliated entity concerned must make any such request directly to the beneficiary that owns the results.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

31.5 Access rights for the EU institutions, bodies, offices or agencies and EU Member States

The beneficiaries must give access to their results — on a royalty-free basis — to EU institutions, bodies, offices or agencies, for developing, implementing or monitoring EU policies or programmes.

Such access rights are limited to non-commercial and non-competitive use.

This does not change the right to use any material, document or information received from the beneficiaries for communication and publicising activities (see Article 38.2).

31.6 Access rights for third parties

Not applicable

31.7 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

SECTION 4 OTHER RIGHTS AND OBLIGATIONS

ARTICLE 32 — RECRUITMENT AND WORKING CONDITIONS FOR RESEARCHERS

32.1 Obligation to take measures to implement the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers

The beneficiaries must take all measures to implement the principles set out in the Commission Recommendation on the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers[22], in particular regarding:

[22] Commission Recommendation 2005/251/EC of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers (OJ L 75, 22.3.2005, p. 67).

- working conditions;
- transparent recruitment processes based on merit, and
- career development.

The beneficiaries must ensure that researchers and third parties involved in the action are aware of them.

32.2 Consequences of non-compliance

If a beneficiary breaches its obligations under this Article, the Commission may apply any of the measures described in Chapter 6.

ARTICLE 33 — GENDER EQUALITY

33.1 Obligation to aim for gender equality

The beneficiaries must take all measures to promote equal opportunities between men and women in the implementation of the action. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

33.2 Consequences of non-compliance

If a beneficiary breaches its obligations under this Article, the Commission may apply any of the measures described in Chapter 6.

ARTICLE 34 — ETHICS AND RESEARCH INTEGRITY

34.1 Obligation to comply with ethical and research integrity principles

The beneficiaries must carry out the action in compliance with:

(a) ethical principles (including the highest standards of research integrity)

and

(b) applicable international, EU and national law.

Funding will not be granted for activities carried out outside the EU if they are prohibited in all Member States or for activities which destroy human embryos (for example, for obtaining stem cells).

The beneficiaries must ensure that the activities under the action have an exclusive focus on civil applications.

The beneficiaries must ensure that the activities under the action do not:

(a) aim at human cloning for reproductive purposes;

(b) intend to modify the genetic heritage of human beings which could make such changes heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed), or

(c) intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.

In addition, the beneficiaries must respect the fundamental principle of research integrity — as set out, for instance, in the European Code of Conduct for Research Integrity[23].

This implies compliance with the following fundamental principles:

- **reliability** in ensuring the quality of research reflected in the design, the methodology, the analysis and the use of resources;
- **honesty** in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair and unbiased way;
- **respect** for colleagues, research participants, society, ecosystems, cultural heritage and the environment;
- **accountability** for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts

and means that beneficiaries must ensure that persons carrying out research tasks follow the good research practices and refrain from the research integrity violations described in this Code.

This does not change the other obligations under this Agreement or obligations under applicable international, EU or national law, all of which still apply.

34.2 Activities raising ethical issues

Activities raising ethical issues must comply with the '**ethics requirements**' set out as deliverables in Annex 1.

Before the beginning of an activity raising an ethical issue, each beneficiary must have obtained:

(a) any ethics committee opinion required under national law and

(b) any notification or authorisation for activities raising ethical issues required under national and/or European law

needed for implementing the action tasks in question.

The documents must be kept on file and be submitted upon request by the coordinator to the Commission (see Article 52). If they are not in English, they must be submitted together with an English summary, which shows that the action tasks in question are covered and includes the conclusions of the committee or authority concerned (if available).

34.3 Activities involving human embryos or human embryonic stem cells

Activities involving research on human embryos or human embryonic stem cells may be carried out, in addition to Article 34.1, only if:

[23] European Code of Conduct for Research Integrity of ALLEA (All European Academies) http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf

- they are set out in Annex 1 or
- the coordinator has obtained explicit approval (in writing) from the Commission (see Article 52).

34.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or participation of the beneficiary may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 35 — CONFLICT OF INTERESTS

35.1 Obligation to avoid a conflict of interests

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the action is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest (‘**conflict of interests**’).

They must formally notify to the Commission without delay any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The Commission may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

35.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or participation of the beneficiary may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 36 — CONFIDENTIALITY

36.1 General obligation to maintain confidentiality

During implementation of the action and for four years after the period set out in Article 3, the parties must keep confidential any data, documents or other material (in any form) that is identified as confidential at the time it is disclosed (‘**confidential information**’).

If a beneficiary requests, the Commission may agree to keep such information confidential for an additional period beyond the initial four years.

If information has been identified as confidential only orally, it will be considered to be confidential only if this is confirmed in writing within 15 days of the oral disclosure.

Unless otherwise agreed between the parties, they may use confidential information only to implement the Agreement.

The beneficiaries may disclose confidential information to their personnel or third parties involved in the action only if they:

(a) need to know to implement the Agreement and

(b) are bound by an obligation of confidentiality.

This does not change the security obligations in Article 37, which still apply.

The Commission may disclose confidential information to its staff, other EU institutions and bodies. It may disclose confidential information to third parties, if:

(a) this is necessary to implement the Agreement or safeguard the EU's financial interests and

(b) the recipients of the information are bound by an obligation of confidentiality.

Under the conditions set out in Article 4 of the Rules for Participation Regulation No 1290/2013[24], the Commission must moreover make available information on the results to other EU institutions, bodies, offices or agencies as well as Member States or associated countries.

The confidentiality obligations no longer apply if:

(a) the disclosing party agrees to release the other party;

(b) the information was already known by the recipient or is given to him without obligation of confidentiality by a third party that was not bound by any obligation of confidentiality;

(c) the recipient proves that the information was developed without the use of confidential information;

(d) the information becomes generally and publicly available, without breaching any confidentiality obligation, or

(e) the disclosure of the information is required by EU or national law.

36.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 37 — SECURITY-RELATED OBLIGATIONS

37.1 Results with a security recommendation

Not applicable

37.2 Classified information

Not applicable

[24] Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)" (OJ L 347, 20.12.2013 p.81).

37.3 Activities involving dual-use goods or dangerous materials and substances

Not applicable

37.4 Consequences of non-compliance

Not applicable

ARTICLE 38 — PROMOTING THE ACTION — VISIBILITY OF EU FUNDING

38.1 Communication activities by beneficiaries

38.1.1 Obligation to promote the action and its results

The beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.

This does not change the dissemination obligations in Article 29, the confidentiality obligations in Article 36 or the security obligations in Article 37, all of which still apply.

Before engaging in a communication activity expected to have a major media impact, the beneficiaries must inform the Commission (see Article 52).

38.1.2 Information on EU funding — Obligation and right to use the EU emblem

Unless the Commission requests or agrees otherwise or unless it is impossible, any communication activity related to the action (including in electronic form, via social media, etc.) and any infrastructure, equipment and major results funded by the grant must:

(a) display the EU emblem and

(b) include the following text:

For communication activities:

"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 856960".

For infrastructure, equipment and major results:

"This *[infrastructure][equipment][insert type of result]* is part of a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 856960".

When displayed together with another logo, the EU emblem must have appropriate prominence.

For the purposes of their obligations under this Article, the beneficiaries may use the EU emblem without first obtaining approval from the Commission.

This does not, however, give them the right to exclusive use.

Moreover, they may not appropriate the EU emblem or any similar trademark or logo, either by registration or by any other means.

38.1.3 Disclaimer excluding Commission responsibility

Any communication activity related to the action must indicate that it reflects only the author's view and that the Commission is not responsible for any use that may be made of the information it contains.

38.2 Communication activities by the Commission

38.2.1 Right to use beneficiaries' materials, documents or information

The Commission may use, for its communication and publicising activities, information relating to the action, documents notably summaries for publication and public deliverables as well as any other material, such as pictures or audio-visual material received from any beneficiary (including in electronic form).

This does not change the confidentiality obligations in Article 36 and the security obligations in Article 37, all of which still apply.

If the Commission's use of these materials, documents or information would risk compromising legitimate interests, the beneficiary concerned may request the Commission not to use it (see Article 52).

The right to use a beneficiary's materials, documents and information includes:

(a) **use for its own purposes** (in particular, making them available to persons working for the Commission or any other EU institution, body, office or agency or body or institutions in EU Member States; and copying or reproducing them in whole or in part, in unlimited numbers);

(b) **distribution to the public** (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes);

(c) **editing or redrafting** for communication and publicising activities (including shortening, summarising, inserting other elements (such as meta-data, legends, other graphic, visual, audio or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation);

(d) translation;

(e) giving **access in response to individual requests** under Regulation No 1049/2001[26], without the right to reproduce or exploit;

(f) **storage** in paper, electronic or other form;

(g) **archiving**, in line with applicable document-management rules, and

(h) the right to authorise **third parties** to act on its behalf or sub-license the modes of use set out in Points (b), (c), (d) and (f) to third parties if needed for the communication and publicising activities of the Commission.

If the right of use is subject to rights of a third party (including personnel of the beneficiary), the

[26] Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents, OJ L 145, 31.5.2001, p. 43.

beneficiary must ensure that it complies with its obligations under this Agreement (in particular, by obtaining the necessary approval from the third parties concerned).

Where applicable (and if provided by the beneficiaries), the Commission will insert the following information:

> "© – [year] – [name of the copyright owner]. All rights reserved. Licensed to the European Union (EU) under conditions."

38.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 39 — PROCESSING OF PERSONAL DATA

39.1 Processing of personal data by the Commission

Any personal data under the Agreement will be processed by the Commission under Regulation No 45/2001[27] and according to the 'notifications of the processing operations' to the Data Protection Officer (DPO) of the Commission (publicly accessible in the DPO register).

Such data will be processed by the '**data controller**' of the Commission for the purposes of implementing, managing and monitoring the Agreement or protecting the financial interests of the EU or Euratom (including checks, reviews, audits and investigations; see Article 22).

The persons whose personal data are processed have the right to access and correct their own personal data. For this purpose, they must send any queries about the processing of their personal data to the data controller, via the contact point indicated in the privacy statement(s) that are published on the Commission websites.

They also have the right to have recourse at any time to the European Data Protection Supervisor (EDPS).

39.2 Processing of personal data by the beneficiaries

The beneficiaries must process personal data under the Agreement in compliance with applicable EU and national law on data protection (including authorisations or notification requirements).

The beneficiaries may grant their personnel access only to data that is strictly necessary for implementing, managing and monitoring the Agreement.

The beneficiaries must inform the personnel whose personal data are collected and processed by the Commission. For this purpose, they must provide them with the privacy statement(s) (see above), before transmitting their data to the Commission.

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[27] Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data (OJ L 8, 12.01.2001, p. 1).

39.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under Article 39.2, the Commission may apply any of the measures described in Chapter 6.

ARTICLE 40 — ASSIGNMENTS OF CLAIMS FOR PAYMENT AGAINST THE COMMISSION

The beneficiaries may not assign any of their claims for payment against the Commission to any third party, except if approved by the Commission on the basis of a reasoned, written request by the coordinator (on behalf of the beneficiary concerned).

If the Commission has not accepted the assignment or the terms of it are not observed, the assignment will have no effect on it.

In no circumstances will an assignment release the beneficiaries from their obligations towards the Commission.

CHAPTER 5 DIVISION OF BENEFICIARIES' ROLES AND RESPONSIBILITIES — RELATIONSHIP WITH COMPLEMENTARY BENEFICIARIES — RELATIONSHIP WITH PARTNERS OF A JOINT ACTION

ARTICLE 41 — DIVISION OF BENEFICIARIES' ROLES AND RESPONSIBILITIES — RELATIONSHIP WITH COMPLEMENTARY BENEFICIARIES — RELATIONSHIP WITH PARTNERS OF A JOINT ACTION

41.1 Roles and responsibility towards the Commission

The beneficiaries have full responsibility for implementing the action and complying with the Agreement.

The beneficiaries are jointly and severally liable for the **technical implementation** of the action as described in Annex 1. If a beneficiary fails to implement its part of the action, the other beneficiaries become responsible for implementing this part (without being entitled to any additional EU funding for doing so), unless the Commission expressly relieves them of this obligation.

The **financial responsibility** of each beneficiary is governed by Article 44.

41.2 Internal division of roles and responsibilities

The internal roles and responsibilities of the beneficiaries are divided as follows:

(a) Each **beneficiary** must:

(i) keep information stored in the Participant Portal Beneficiary Register (via the electronic exchange system) up to date (see Article 17);

(ii) inform the coordinator immediately of any events or circumstances likely to affect significantly or delay the implementation of the action (see Article 17);

(iii) submit to the coordinator in good time:

- individual financial statements for itself and, if required, certificates on the financial statements (see Article 20);
- the data needed to draw up the technical reports (see Article 20);
- ethics committee opinions and notifications or authorisations for activities raising ethical issues (see Article 34);
- any other documents or information required by the Commission under the Agreement, unless the Agreement requires the beneficiary to submit this information directly to the Commission.

(b) The **coordinator** must:

(i) monitor that the action is implemented properly (see Article 7);

(ii) act as the intermediary for all communications between the beneficiaries and the Commission (in particular, providing the Commission with the information described in Article 17), unless the Agreement specifies otherwise;

(iii) request and review any documents or information required by the Commission and verify their completeness and correctness before passing them on to the Commission;

(iv) submit the deliverables and reports to the Commission (see Articles 19 and 20);

(v) ensure that all payments are made to the other beneficiaries without unjustified delay (see Article 21);

(vi) inform the Commission of the amounts paid to each beneficiary, when required under the Agreement (see Articles 44 and 50) or requested by the Commission.

The coordinator may not delegate or subcontract the above-mentioned tasks to any other beneficiary or third party (including linked third parties).

41.3 Internal arrangements between beneficiaries — Consortium agreement

The beneficiaries must have internal arrangements regarding their operation and co-ordination to ensure that the action is implemented properly. These internal arrangements must be set out in a written '**consortium agreement**' between the beneficiaries, which may cover:

- internal organisation of the consortium;
- management of access to the electronic exchange system;
- distribution of EU funding;
- additional rules on rights and obligations related to background and results (including whether access rights remain or not, if a beneficiary is in breach of its obligations) (see Section 3 of Chapter 4);

- settlement of internal disputes;
- liability, indemnification and confidentiality arrangements between the beneficiaries.

The consortium agreement must not contain any provision contrary to the Agreement.

41.4 Relationship with complementary beneficiaries — Collaboration agreement

Not applicable

41.5 Relationship with partners of a joint action — Coordination agreement

Not applicable

CHAPTER 6 REJECTION OF COSTS — REDUCTION OF THE GRANT — RECOVERY — SANCTIONS — DAMAGES — SUSPENSION — TERMINATION — FORCE MAJEURE

SECTION 1 REJECTION OF COSTS — REDUCTION OF THE GRANT — RECOVERY — SANCTIONS

ARTICLE 42 — REJECTION OF INELIGIBLE COSTS

42.1 Conditions

The Commission will — after **termination of the participation of a beneficiary**, **at the payment of the balance** or **afterwards** — reject any costs which are ineligible (see Article 6), in particular following checks, reviews, audits or investigations (see Article 22).

The rejection may also be based on the **extension of findings from other grants to this grant** (see Article 22.5.2).

42.2 Ineligible costs to be rejected — Calculation — Procedure

Ineligible costs will be rejected in full.

If the rejection of costs does not lead to a recovery (see Article 44), the Commission will formally notify the coordinator or beneficiary concerned of the rejection of costs, the amounts and the reasons why (if applicable, together with the notification of amounts due; see Article 21.5). The coordinator or beneficiary concerned may — within 30 days of receiving notification — formally notify the Commission of its disagreement and the reasons why.

If the rejection of costs leads to a recovery, the Commission will follow the contradictory procedure with pre-information letter set out in Article 44.

42.3 Effects

If the Commission rejects costs **after termination of the participation of a beneficiary**, it will deduct them from the costs declared by the beneficiary in the termination report and include the rejection in the calculation after termination (see Article 50.2 and 50.3).

If the Commission rejects costs **at the payment of the balance**, it will deduct them from the total eligible costs declared, for the action, in the summary financial statement (see Article 20.4). It will then calculate the payment of the balance as set out in Article 21.4.

If the Commission rejects costs **after the payment of the balance**, it will deduct the amount rejected from the total eligible costs declared, by the beneficiary, in the final summary financial statement. It will then calculate the revised final grant amount as set out in Article 5.4.

ARTICLE 43 — REDUCTION OF THE GRANT

43.1 Conditions

The Commission may — **after termination of the participation of a beneficiary**, **at the payment of the balance** or **afterwards** — reduce the grant, if :

(a) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed:

  (i) substantial errors, irregularities or fraud or

  (ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles) or

(b) a beneficiary (or a natural person who has the power to represent or take decision on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**extension of findings from other grants to this grant**; see Article 22.5.2).

43.2 Amount to be reduced — Calculation — Procedure

The amount of the reduction will be proportionate to the seriousness of the errors, irregularities or fraud or breach of obligations.

Before reduction of the grant, the Commission will formally notify a '**pre-information letter**' to the coordinator or beneficiary concerned:

- informing it of its intention to reduce the grant, the amount it intends to reduce and the reasons why and

- inviting it to submit observations within 30 days of receiving notification.

If the Commission does not receive any observations or decides to pursue reduction despite the observations it has received, it will formally notify **confirmation** of the reduction (if applicable, together with the notification of amounts due; see Article 21).

43.3 Effects

If the Commission reduces the grant **after termination of the participation of a beneficiary**, it will calculate the reduced grant amount for that beneficiary and then determine the amount due to that beneficiary (see Article 50.2 and 50.3).

If the Commission reduces the grant **at the payment of the balance**, it will calculate the reduced grant amount for the action and then determine the amount due as payment of the balance (see Articles 5.3.4 and 21.4).

If the Commission reduces the grant **after the payment of the balance**, it will calculate the revised final grant amount for the beneficiary concerned (see Article 5.4). If the revised final grant amount for the beneficiary concerned is lower than its share of the final grant amount, the Commission will recover the difference (see Article 44).

ARTICLE 44 — RECOVERY OF UNDUE AMOUNTS

44.1 Amount to be recovered — Calculation — Procedure

The Commission will — after **termination of the participation of a beneficiary, at the payment of the balance** or **afterwards** — claim back any amount that was paid, but is not due under the Agreement.

Each beneficiary's financial responsibility in case of recovery is limited to its own debt, except for the amount retained for the Guarantee Fund (see Article 21.4).

44.1.1 Recovery after termination of a beneficiary's participation

If recovery takes place after termination of a beneficiary's participation (including the coordinator), the Commission will claim back the undue amount from the beneficiary concerned, by formally notifying it a debit note (see Article 50.2 and 50.3). This note will specify the amount to be recovered, the terms and the date for payment.

If payment is not made by the date specified in the debit note, the Commission will **recover** the amount:

(a) by '**offsetting**' it — without the beneficiary's consent — against any amounts owed to the beneficiary concerned by the Commission or an executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU's financial interests, the Commission may offset before the payment date specified in the debit note;

(b) not applicable;

(c) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial regulation No 966/2012.

If payment is not made by the date specified in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the Commission receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC[28] applies.

44.1.2 Recovery at payment of the balance

If the payment of the balance takes the form of a recovery (see Article 21.4), the Commission will formally notify a '**pre-information letter**' to the coordinator:

- informing it of its intention to recover, the amount due as the balance and the reasons why;
- specifying that it intends to deduct the amount to be recovered from the amount retained for the Guarantee Fund;
- requesting the coordinator to submit a report on the distribution of payments to the beneficiaries within 30 days of receiving notification, and
- inviting the coordinator to submit observations within 30 days of receiving notification.

If no observations are submitted or the Commission decides to pursue recovery despite the observations it has received, it will **confirm recovery** (together with the notification of amounts due; see Article 21.5) and:

- pay the difference between the amount to be recovered and the amount retained for the Guarantee Fund, **if the difference is positive** or
- formally notify to the coordinator a **debit note** for the difference between the amount to be recovered and the amount retained for the Guarantee Fund, **if the difference is negative**. This note will also specify the terms and the date for payment.

If the coordinator does not repay the Commission by the date in the debit note and has not submitted the report on the distribution of payments: the Commission will **recover** the amount set out in the debit note from the coordinator (see below).

If the coordinator does not repay the Commission by the date in the debit note, but has submitted the report on the distribution of payments: the Commission will:

(a) identify the beneficiaries for which the amount calculated as follows is negative:

{{{{beneficiary's costs declared in the final summary financial statement and approved by the Commission multiplied by the reimbursement rate set out in Article 5.2 for the beneficiary concerned}

divided by

the EU contribution for the action calculated according to Article 5.3.1}

multiplied by

the final grant amount (see Article 5.3)},

minus

[28] Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC (OJ L 319, 05.12.2007, p. 1).

{pre-financing received by the beneficiary}}.

(b) formally notify to each beneficiary identified according to point (a) a **debit note** specifying the terms and date for payment. The amount of the debit note is calculated as follows:

{{amount calculated according to point (a) for the beneficiary concerned

divided by

the sum of the amounts calculated according to point (a) for all the beneficiaries identified according to point (a)}

multiplied by

the amount set out in the debit note formally notified to the coordinator}.

If payment is not made by the date specified in the debit note, the Commission will **recover** the amount:

(a) by **offsetting** it — without the beneficiary's consent — against any amounts owed to the beneficiary concerned by the Commission or an executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU's financial interests, the Commission may offset before the payment date specified in the debit note;

(b) by **drawing on the Guarantee Fund**. The Commission will formally notify the beneficiary concerned the debit note on behalf of the Guarantee Fund and recover the amount:

(i) not applicable;

(ii) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the Commission receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

44.1.3 Recovery of amounts after payment of the balance

If, for a beneficiary, the revised final grant amount (see Article 5.4) is lower than its share of the final grant amount, it must repay the difference to the Commission.

The beneficiary's share of the final grant amount is calculated as follows:

{{{beneficiary's costs declared in the final summary financial statement and approved by the Commission multiplied by the reimbursement rate set out in Article 5.2 for the beneficiary concerned}

divided by

the EU contribution for the action calculated according to Article 5.3.1}

multiplied by

the final grant amount (see Article 5.3)}.

If the coordinator has not distributed amounts received (see Article 21.7), the Commission will also recover these amounts.

The Commission will formally notify a **pre-information letter** to the beneficiary concerned:

- informing it of its intention to recover, the due amount and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If no observations are submitted or the Commission decides to pursue recovery despite the observations it has received, it will **confirm** the amount to be recovered and formally notify to the beneficiary concerned a **debit note**. This note will also specify the terms and the date for payment.

If payment is not made by the date specified in the debit note, the Commission will **recover** the amount:

(a) by **offsetting** it — without the beneficiary's consent — against any amounts owed to the beneficiary concerned by the Commission or an executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU's financial interests, the Commission may offset before the payment date specified in the debit note;

(b) by **drawing on the Guarantee Fund**. The Commission will formally notify the beneficiary concerned the debit note on behalf of the Guarantee Fund and recover the amount:

(i) not applicable;

(ii) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the date for payment in the debit note, up to and including the date the Commission receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

ARTICLE 45 — ADMINISTRATIVE SANCTIONS

In addition to contractual measures, the Commission may also adopt administrative sanctions under Articles 106 and 131(4) of the Financial Regulation No 966/2012 (i.e. exclusion from future procurement contracts, grants, prizes and expert contracts and/or financial penalties).

SECTION 2 LIABILITY FOR DAMAGES

ARTICLE 46 — LIABILITY FOR DAMAGES

46.1 Liability of the Commission

The Commission cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of implementing the Agreement, including for gross negligence.

The Commission cannot be held liable for any damage caused by any of the beneficiaries or third parties involved in the action, as a consequence of implementing the Agreement.

46.2 Liability of the beneficiaries

Except in case of force majeure (see Article 51), the beneficiaries must compensate the Commission for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement.

SECTION 3 SUSPENSION AND TERMINATION

ARTICLE 47 — SUSPENSION OF PAYMENT DEADLINE

47.1 Conditions

The Commission may — at any moment — suspend the payment deadline (see Article 21.2 to 21.4) if a request for payment (see Article 20) cannot be approved because:

(a) it does not comply with the provisions of the Agreement (see Article 20);

(b) the technical or financial reports have not been submitted or are not complete or additional information is needed, or

(c) there is doubt about the eligibility of the costs declared in the financial statements and additional checks, reviews, audits or investigations are necessary.

47.2 Procedure

The Commission will formally notify the coordinator of the suspension and the reasons why.

The suspension will **take effect** the day notification is sent by the Commission (see Article 52).

If the conditions for suspending the payment deadline are no longer met, the suspension will be **lifted** — and the remaining period will resume.

If the suspension exceeds two months, the coordinator may request the Commission if the suspension will continue.

If the payment deadline has been suspended due to the non-compliance of the technical or financial reports (see Article 20) and the revised report or statement is not submitted or was submitted but is also rejected, the Commission may also terminate the Agreement or the participation of the beneficiary (see Article 50.3.1(l)).

ARTICLE 48 — SUSPENSION OF PAYMENTS

48.1 Conditions

The Commission may — at any moment — suspend payments, in whole or in part and for one or more beneficiaries, if:

(a) a beneficiary (or a natural person who has the power to represent or take decision on its behalf) has committed or is suspected of having committed:

  (i) substantial errors, irregularities or fraud or

  (ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles) or

(b) a beneficiary (or a natural person who has the power to represent or take decision on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**extension of findings from other grants to this grant**; see Article 22.5.2).

If payments are suspended for one or more beneficiaries, the Commission will make partial payment(s) for the part(s) not suspended. If suspension concerns the payment of the balance, — once suspension is lifted — the payment or the recovery of the amount(s) concerned will be considered the payment of the balance that closes the action.

48.2 Procedure

Before suspending payments, the Commission will formally notify the coordinator or beneficiary concerned:

- informing it of its intention to suspend payments and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If the Commission does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify **confirmation** of the suspension. Otherwise, it will formally notify that the suspension procedure is not continued.

The suspension will **take effect** the day the confirmation notification is sent by the Commission.

If the conditions for resuming payments are met, the suspension will be **lifted**. The Commission will formally notify the coordinator or beneficiary concerned.

The beneficiaries may suspend implementation of the action (see Article 49.1) or terminate the Agreement or the participation of the beneficiary concerned (see Article 50.1 and 50.2).

ARTICLE 49 — SUSPENSION OF THE ACTION IMPLEMENTATION

49.1 Suspension of the action implementation, by the beneficiaries

49.1.1 Conditions

The beneficiaries may suspend implementation of the action or any part of it, if exceptional circumstances — in particular *force majeure* (see Article 51) — make implementation impossible or excessively difficult.

49.1.2 Procedure

The coordinator must immediately formally notify to the Commission the suspension (see Article 52), stating:

- the reasons why and
- the expected date of resumption.

The suspension will **take effect** the day this notification is received by the Commission.

Once circumstances allow for implementation to resume, the coordinator must immediately formally notify the Commission and request an **amendment** of the Agreement to set the date on which the action will be resumed, extend the duration of the action and make other changes necessary to adapt the action to the new situation (see Article 55) — unless the Agreement or the participation of a beneficiary has been terminated (see Article 50).

The suspension will be **lifted** with effect from the resumption date set out in the amendment. This date may be before the date on which the amendment enters into force.

Costs incurred during suspension of the action implementation are not eligible (see Article 6).

49.2 Suspension of the action implementation, by the Commission

49.2.1 Conditions

The Commission may suspend implementation of the action or any part of it, if:

(a) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed or is suspected of having committed:

  (i) substantial errors, irregularities or fraud or

  (ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles);

(b) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions —

systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**extension of findings from other grants to this grant**; see Article 22.5.2), or

(c) the action is suspected of having lost its scientific or technological relevance.

49.2.2 Procedure

Before suspending implementation of the action, the Commission will formally notify the coordinator or beneficiary concerned:

- informing it of its intention to suspend the implementation and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If the Commission does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify **confirmation** of the suspension. Otherwise, it will formally notify that the procedure is not continued.

The suspension will **take effect** five days after confirmation notification is received (or on a later date specified in the notification).

It will be **lifted** if the conditions for resuming implementation of the action are met.

The coordinator or beneficiary concerned will be formally notified of the lifting and the Agreement will be **amended** to set the date on which the action will be resumed, extend the duration of the action and make other changes necessary to adapt the action to the new situation (see Article 55) — unless the Agreement has already been terminated (see Article 50).

The suspension will be lifted with effect from the resumption date set out in the amendment. This date may be before the date on which the amendment enters into force.

Costs incurred during suspension are not eligible (see Article 6).

The beneficiaries may not claim damages due to suspension by the Commission (see Article 46).

Suspension of the action implementation does not affect the Commission's right to terminate the Agreement or participation of a beneficiary (see Article 50), reduce the grant or recover amounts unduly paid (see Articles 43 and 44).

ARTICLE 50 — TERMINATION OF THE AGREEMENT OR OF THE PARTICIPATION OF ONE OR MORE BENEFICIARIES

50.1 Termination of the Agreement by the beneficiaries

50.1.1 Conditions and procedure

The beneficiaries may terminate the Agreement.

The coordinator must formally notify termination to the Commission (see Article 52), stating:

- the reasons why and

- the date the termination will take effect. This date must be after the notification.

If no reasons are given or if the Commission considers the reasons do not justify termination, the Agreement will be considered to have been '**terminated improperly**'.

The termination will **take effect** on the day specified in the notification.

50.1.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit: the final report (see Article 20.4).

If the Commission does not receive the report within the deadline (see above), no costs will be taken into account.

The Commission will **calculate** the final grant amount (see Article 5.3) and the balance (see Article 21.4) on the basis of the report submitted. Only costs incurred until termination are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

Improper termination may lead to a reduction of the grant (see Article 43).

After termination, the beneficiaries' obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

50.2 Termination of the participation of one or more beneficiaries, by the beneficiaries

50.2.1 Conditions and procedure

The participation of one or more beneficiaries may be terminated by the coordinator, on request of the beneficiary concerned or on behalf of the other beneficiaries.

The coordinator must formally notify termination to the Commission (see Article 52) and inform the beneficiary concerned.

If the coordinator's participation is terminated without its agreement, the formal notification must be done by another beneficiary (acting on behalf of the other beneficiaries).

The notification must include:

- the reasons why;
- the opinion of the beneficiary concerned (or proof that this opinion has been requested in writing);
- the date the termination takes effect. This date must be after the notification, and
- a request for amendment (see Article 55), with a proposal for reallocation of the tasks and the estimated budget of the beneficiary concerned (see Annexes 1 and 2) and, if necessary, the addition of one or more new beneficiaries (see Article 56). If termination takes effect after the period set out in Article 3, no request for amendment must be included unless the beneficiary concerned is the coordinator. In this case, the request for amendment must propose a new coordinator.

If this information is not given or if the Commission considers that the reasons do not justify termination, the participation will be considered to have been **terminated improperly**.

The termination will **take effect** on the day specified in the notification.

50.2.2 Effects

The coordinator must — within 30 days from when termination takes effect — submit:

(i) a report on the distribution of payments to the beneficiary concerned and

(ii) if termination takes effect during the period set out in Article 3, a '**termination report**' from the beneficiary concerned, for all the reporting periods until termination, containing an overview of the progress of the work, an overview of the use of resources, the individual financial statement and, if applicable, the certificate on the financial statement (see Article 20.3 and 20.4).

The information in the termination report must also be included in the final report (see Article 20.4).

If the request for amendment is rejected by the Commission, (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the Agreement may be terminated according to Article 50.3.1(c).

If the request for amendment is accepted by the Commission, the Agreement is **amended** to introduce the necessary changes (see Article 55).

The Commission will — on the basis of the termination report and the report on the distribution of payments — **calculate** the amount which is due to the beneficiary and if the pre-financing payments received by the beneficiary exceed this amount.

The **amount which is due** is calculated in the following steps:

Step 1 — Application of the reimbursement rate to the eligible costs

The grant amount for the beneficiary is calculated by applying the reimbursement rate(s) to the total eligible costs declared by the beneficiary in the termination report and approved by the Commission.

Only costs incurred by the beneficiary concerned until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

Step 2 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations

In case of a reduction (see Article 43), the Commission will calculate the reduced grant amount for the beneficiary by deducting the amount of the reduction (calculated in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations, in accordance with Article 43.2) from the grant amount for the beneficiary.

If the payments received **exceed the amounts due**:

- if termination takes effect during the period set out in Article 3 and the request for

amendment is accepted, the beneficiary concerned must repay to the coordinator the amount unduly received. The Commission will formally notify the amount unduly received and request the beneficiary concerned to repay it to the coordinator within 30 days of receiving notification. If it does not repay the coordinator, the Commission will draw upon the Guarantee Fund to pay the coordinator and then notify a **debit note** on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);

- in all other cases (in particular if termination takes effect after the period set out in Article 3), the Commission will formally notify a **debit note** to the beneficiary concerned. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the Commission the amount due and the Commission will notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44).

If the payments received **do not exceed the amounts due**: amounts owed to the beneficiary concerned will be included in the final payment.

If the Commission does not receive the termination report within the deadline (see above), no costs will be taken into account.

If the Commission does not receive the report on the distribution of payments within the deadline (see above), it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

Improper termination may lead to a reduction of the grant (see Article 43) or termination of the Agreement (see Article 50).

After termination, the concerned beneficiary's obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

50.3 Termination of the Agreement or of the participation of one or more beneficiaries, by the Commission

50.3.1 Conditions

The Commission may terminate the Agreement or the participation of one or more beneficiaries, if:

(a) one or more beneficiaries do not accede to the Agreement (see Article 56);

(b) a change to their legal, financial, technical, organisational or ownership situation is likely to substantially affect or delay the implementation of the action or calls into question the decision to award the grant;

(c) following termination of participation for one or more beneficiaries (see above), the necessary changes to the Agreement would call into question the decision awarding the grant or breach the principle of equal treatment of applicants (see Article 55);

(d) implementation of the action is prevented by force majeure (see Article 51) or suspended by the coordinator (see Article 49.1) and either:

(i) resumption is impossible, or

(ii) the necessary changes to the Agreement would call into question the decision awarding the grant or breach the principle of equal treatment of applicants;

(e) a beneficiary is declared bankrupt, being wound up, having its affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, or is subject to any other similar proceedings or procedures under national law;

(f) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has been found guilty of professional misconduct, proven by any means;

(g) a beneficiary does not comply with the applicable national law on taxes and social security;

(h) the action has lost scientific or technological relevance;

(i) not applicable;

(j) not applicable;

(k) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed fraud, corruption, or is involved in a criminal organisation, money laundering or any other illegal activity;

(l) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles);

(m) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (**extension of findings from other grants to this grant**; see Article 22.5.2);

(n) not applicable.

50.3.2 Procedure

Before terminating the Agreement or participation of one or more beneficiaries, the Commission will formally notify the coordinator or beneficiary concerned:

- informing it of its intention to terminate and the reasons why and

- inviting it, within 30 days of receiving notification, to submit observations and — in case of Point (l.ii) above — to inform the Commission of the measures to ensure compliance with the obligations under the Agreement.

If the Commission does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify to the coordinator or beneficiary concerned **confirmation** of the termination and the date it will take effect. Otherwise, it will formally notify that the procedure is not continued.

The termination will **take effect**:

- for terminations under Points (b), (c), (e), (g), (h), (j), (l.ii) and (n) above: on the day specified in the notification of the confirmation (see above);

- for terminations under Points (a), (d), (f), (i), (k), (l.i) and (m) above: on the day after the notification of the confirmation is received.

50.3.3 Effects

(a) for **termination of the Agreement**:

The coordinator must — within 60 days from when termination takes effect — submit a final report (see Article 20.4).

If the Agreement is terminated for breach of the obligation to submit reports (see Articles 20.8 and 50.3.1(l)), the coordinator may not submit any reports after termination.

If the Commission does not receive the report within the deadline (see above), no costs will be taken into account.

The Commission will **calculate** the final grant amount (see Article 5.3) and the balance (see Article 21.4) on the basis of the report submitted. Only costs incurred until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

This does not affect the Commission's right to reduce the grant (see Article 43) or to impose administrative sanctions (Article 45).

The beneficiaries may not claim damages due to termination by the Commission (see Article 46).

After termination, the beneficiaries' obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

(b) for **termination of the participation of one or more beneficiaries**:

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a report on the distribution of payments to the beneficiary concerned;

(ii) a request for amendment (see Article 55), with a proposal for reallocation of the tasks and estimated budget of the beneficiary concerned (see Annexes 1 and 2) and, if necessary, the addition of one or more new beneficiaries (see Article 56). If termination is notified after the period set out in Article 3, no request for amendment must be submitted unless the beneficiary concerned is the coordinator. In this case the request for amendment must propose a new coordinator, and

(iii) if termination takes effect during the period set out in Article 3, a **termination report**

from the beneficiary concerned, for all the reporting periods until termination, containing an overview of the progress of the work, an overview of the use of resources, the individual financial statement and, if applicable, the certificate on the financial statement (see Article 20).

The information in the termination report must also be included in the final report (see Article 20.4).

If the request for amendment is rejected by the Commission (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the Agreement may be terminated according to Article 50.3.1(c).

If the request for amendment is accepted by the Commission, the Agreement is **amended** to introduce the necessary changes (see Article 55).

The Commission will — on the basis of the termination report and the report on the distribution of payments — **calculate** the amount which is due to the beneficiary and if the pre-financing payments received by the beneficiary exceed this amount.

The **amount which is due** is calculated in the following steps:

Step 1 — Application of the reimbursement rate to the eligible costs

The grant amount for the beneficiary is calculated by applying the reimbursement rate(s) to the total eligible costs declared by the beneficiary in the termination report and approved by the Commission.

Only costs incurred by the beneficiary concerned until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

Step 2 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations

In case of a reduction (see Article 43), the Commission will calculate the reduced grant amount for the beneficiary by deducting the amount of the reduction (calculated in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations, in accordance with Article 43.2) from the grant amount for the beneficiary.

If the payments **received exceed the amounts due**:

- if termination takes effect during the period set out in Article 3 and the request for amendment is accepted, the beneficiary concerned must repay to the coordinator the amount unduly received. The Commission will formally notify the amount unduly received and request the beneficiary concerned to repay it to the coordinator within 30 days of receiving notification. If it does not repay the coordinator, the Commission will draw upon the Guarantee Fund to pay the coordinator and then notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);

- in all other cases, in particular if termination takes effect after the period set out in Article 3, the Commission will formally notify a debit note to the beneficiary concerned.

If payment is not made by the date in the debit note, the Guarantee Fund will pay to the Commission the amount due and the Commission will notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44).

If the payments received **do not exceed the amounts due**: amounts owed to the beneficiary concerned will be included in the final payment.

If the Commission does not receive the termination report within the deadline (see above), no costs will be taken into account.

If the Commission does not receive the report on the distribution of payments within the deadline (see above), it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned, and that
- the beneficiary concerned must not repay any amount to the coordinator.

After termination, the concerned beneficiary's obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

SECTION 4 FORCE MAJEURE

ARTICLE 51 — FORCE MAJEURE

'Force majeure' means any situation or event that:

- prevents either party from fulfilling their obligations under the Agreement,
- was unforeseeable, exceptional situation and beyond the parties' control,
- was not due to error or negligence on their part (or on the part of third parties involved in the action), and
- proves to be inevitable in spite of exercising all due diligence.

The following cannot be invoked as force majeure:

- any default of a service, defect in equipment or material or delays in making them available, unless they stem directly from a relevant case of force majeure,
- labour disputes or strikes, or
- financial difficulties.

Any situation constituting force majeure must be formally notified to the other party without delay, stating the nature, likely duration and foreseeable effects.

The parties must immediately take all the necessary steps to limit any damage due to force majeure and do their best to resume implementation of the action as soon as possible.

The party prevented by force majeure from fulfilling its obligations under the Agreement cannot be considered in breach of them.

CHAPTER 7 FINAL PROVISIONS

ARTICLE 52 — COMMUNICATION BETWEEN THE PARTIES

52.1 Form and means of communication

Communication under the Agreement (information, requests, submissions, 'formal notifications', etc.) must:

- be made in writing and
- bear the number of the Agreement.

All communication must be made through the Participant Portal **electronic** exchange system and using the forms and templates provided there.

If — after the payment of the balance — the Commission finds that a formal notification was not accessed, a second formal notification will be made by registered post with proof of delivery ('formal notification on **paper**'). Deadlines will be calculated from the moment of the second notification.

Communications in the electronic exchange system must be made by persons authorised according to the Participant Portal Terms & Conditions. For naming the authorised persons, each beneficiary must have designated — before the signature of this Agreement — a 'legal entity appointed representative (LEAR)'. The role and tasks of the LEAR are stipulated in his/her appointment letter (see Participant Portal Terms & Conditions).

If the electronic exchange system is temporarily unavailable, instructions will be given on the Commission website.

52.2 Date of communication

Communications are considered to have been made when they are sent by the sending party (i.e. on the date and time they are sent through the electronic exchange system).

Formal notifications through the **electronic** exchange system are considered to have been made when they are received by the receiving party (i.e. on the date and time of acceptance by the receiving party, as indicated by the time stamp). A formal notification that has not been accepted within 10 days after sending is considered to have been accepted.

Formal notifications **on paper** sent by **registered post** with proof of delivery (only after the payment of the balance) are considered to have been made on either:

- the delivery date registered by the postal service or
- the deadline for collection at the post office.

If the electronic exchange system is temporarily unavailable, the sending party cannot be considered in breach of its obligation to send a communication within a specified deadline.

52.3 Addresses for communication

The **electronic** exchange system must be accessed via the following URL:

https://ec.europa.eu/research/participants/portal/desktop/en/projects/

The Commission will formally notify the coordinator and beneficiaries in advance any changes to this URL.

Formal notifications on paper (only after the payment of the balance) addressed **to the Commission** must be sent to the official mailing address indicated on the Commission's website.

Formal notifications on paper (only after the payment of the balance) addressed **to the beneficiaries** must be sent to their legal address as specified in the Participant Portal Beneficiary Register.

ARTICLE 53 — INTERPRETATION OF THE AGREEMENT

53.1 Precedence of the Terms and Conditions over the Annexes

The provisions in the Terms and Conditions of the Agreement take precedence over its Annexes.

Annex 2 takes precedence over Annex 1.

53.2 Privileges and immunities

Not applicable

ARTICLE 54 — CALCULATION OF PERIODS, DATES AND DEADLINES

In accordance with Regulation No 1182/71[29], periods expressed in days, months or years are calculated from the moment the triggering event occurs.

The day during which that event occurs is not considered as falling within the period.

ARTICLE 55 — AMENDMENTS TO THE AGREEMENT

55.1 Conditions

The Agreement may be amended, unless the amendment entails changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

Amendments may be requested by any of the parties.

55.2 Procedure

The party requesting an amendment must submit a request for amendment signed in the electronic exchange system (see Article 52).

The coordinator submits and receives requests for amendment on behalf of the beneficiaries (see Annex 3).

[29] Regulation (EEC, Euratom) No 1182/71 of the Council of 3 June 1971 determining the rules applicable to periods, dates and time-limits (OJ L 124, 8.6.1971, p. 1).

If a change of coordinator is requested without its agreement, the submission must be done by another beneficiary (acting on behalf of the other beneficiaries).

The request for amendment must include:

- the reasons why;
- the appropriate supporting documents, and
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

The Commission may request additional information.

If the party receiving the request agrees, it must sign the amendment in the electronic exchange system within 45 days of receiving notification (or any additional information the Commission has requested). If it does not agree, it must formally notify its disagreement within the same deadline. The deadline may be extended, if necessary for the assessment of the request. If no notification is received within the deadline, the request is considered to have been rejected

An amendment **enters into force** on the day of the signature of the receiving party.

An amendment **takes effect** on the date agreed by the parties or, in the absence of such an agreement, on the date on which the amendment enters into force.

ARTICLE 56 — ACCESSION TO THE AGREEMENT

56.1 Accession of the beneficiaries mentioned in the Preamble

The other beneficiaries must accede to the Agreement by signing the Accession Form (see Annex 3) in the electronic exchange system (see Article 52) within 30 days after its entry into force (see Article 58).

They will assume the rights and obligations under the Agreement with effect from the date of its entry into force (see Article 58).

If a beneficiary does not accede to the Agreement within the above deadline, the coordinator must — within 30 days — request an amendment to make any changes necessary to ensure proper implementation of the action. This does not affect the Commission's right to terminate the Agreement (see Article 50).

56.2 Addition of new beneficiaries

In justified cases, the beneficiaries may request the addition of a new beneficiary.

For this purpose, the coordinator must submit a request for amendment in accordance with Article 55. It must include an Accession Form (see Annex 3) signed by the new beneficiary in the electronic exchange system (see Article 52).

New beneficiaries must assume the rights and obligations under the Agreement with effect from the date of their accession specified in the Accession Form (see Annex 3).

ARTICLE 57 — APPLICABLE LAW AND SETTLEMENT OF DISPUTES

57.1 Applicable law

The Agreement is governed by the applicable EU law, supplemented if necessary by the law of Belgium.

57.2 Dispute settlement

If a dispute concerning the interpretation, application or validity of the Agreement cannot be settled amicably, the General Court — or, on appeal, the Court of Justice of the European Union — has sole jurisdiction. Such actions must be brought under Article 272 of the Treaty on the Functioning of the EU (TFEU).

If a dispute concerns administrative sanctions, offsetting or an enforceable decision under Article 299 TFEU (see Articles 44, 45 and 46), the beneficiaries must bring action before the General Court — or, on appeal, the Court of Justice of the European Union — under Article 263 TFEU.

ARTICLE 58 — ENTRY INTO FORCE OF THE AGREEMENT

The Agreement will enter into force on the day of signature by the Commission or the coordinator, depending on which is later.

SIGNATURES

For the coordinator

For the Commission

EUROPEAN COMMISSION
Directorate-General for Communications Networks, Content a Technology
eHealth, Well-Being and Ageing

ANNEX 1 (part A)

Pre-Commercial Procurement

NUMBER — 856960 — eCARE

Table of Contents

1.1. The project summary

Project Number [1]	856960	Project Acronym [2]	eCARE

One form per project

General information

Project title [3]	Digital solutions supporting continuum of care for frailty prevention in old adults
Starting date [4]	02/09/2019
Duration in months [5]	48
Call (part) identifier [6]	H2020-SC1-DTH-2018-2
Topic	SC1-DTH-10-2019-2020 Digital health and care services
Fixed EC Keywords	eHealth, Integrated care, Empowerment
Free keywords	frailty prevention, loneliness, elderly adults, wellbeing, continuum of care, digital solutions, management of frailty, PCP, patient-centric intervention strategies, independent living

Abstract [7]

Longevity is one of the biggest achievements of modern societies. By 2020, a quarter of Europeans will be over 60 years of age. Combined with low birth rates, this will bring about significant changes to the structure of European society, which will impact on our economy, social security and health care systems.
The most problematic expression of population ageing is the clinical condition of frailty. Frailty develops because of age-related decline in multiple physiological systems. It is estimated that a quarter to a half of people over 85 years are frail , and this is set to reach epidemic proportions over the next few decades. While frailty increases, the average amount of health spending increases as well with the frailty level in a range from 1,500 to 5,000 €/person year, depending upon the frailty status and the setting of care. Frailty usually comes along associated with another risk facto; loneliness.
Then, ageing, frailty and loneliness constitute overlapping conditions submitted to multiple health and care interventions.
eCARE project aims to deliver disruptive digital solutions for the prevention and comprehensive management of frailty to encourage independent living, wellbeing and to relieve health and care services budget pressure, throughout the implementation of a Pre-Commercial Procurement scheme.
Solutions should improve outcomes for frailty in old adults entailing the physical and the psychosocial factors. The target group are the pre-frail/frail old adults with emphasis on those that feel lonely and/or isolated.
The project will procure the development, testing and implementation of digital tools/services and communication concepts to facilitate the transition to integrated care models across health and social services and country-specific cross-institutional set-ups, including decentralised procurement environments and collaboration across institutions.

1.2. List of Beneficiaries

Project Number [1]	856960	Project Acronym [2]	eCARE

List of Beneficiaries

No	Name	Short name	Country	Project entry month[8]	Project exit month
1	BRAVOSOLUTION ESPANA SAU	BRAVOSOLUTION	Spain	1	48
2	TICBIOMED TECNOLOGIAS DE LA INFORMACION PARA LA SALUD EN LA REGION DE MURCIA ASOCIACION	TICBIOMED	Spain	1	48
3	IRMANDADE DA SANTA CASA DA MISERICORDIA DA AMADORA IPSS	SCMA	Portugal	1	48
4	AZIENDA SANITARIA LOCALE BENEVENTO	ASL BN	Italy	1	48
5	SZPITAL SPECJALISTYCZNY IM A FALKIEWICZA WE WROCLAWIU	FALKIEWICZ	Poland	1	48
6	CONSORCI SANITARI INTEGRAL	CSI	Spain	1	48
7	AYUNTAMIENTO DE SANTANDER	AYTO SANTANDER	Spain	1	48

1.3. Workplan Tables - Detailed implementation

1.3.1. WT1 List of work packages

WP Number[9]	WP Title	Lead beneficiary[10]	Person-months[11]	Start month[12]	End month[13]
WP1	Ethics requirements	1 - BRAVOSOLUTION	N/A	1	48
WP2	Consortium management	1 - BRAVOSOLUTION	17.00	1	48
WP3	Preparation of the procurement	7 - AYTO SANTANDER	49.00	1	12
WP4	Procurement publication and offers evaluation process	4 - ASL BN	25.00	11	16
WP5	PCP Contract implementation	4 - ASL BN	78.00	17	48
WP6	Communication, Exploitation and Dissemination of the results	2 - TICBIOMED	31.00	1	48
WP7	Field Testing final evaluation, lessons learnt and main conclusions	3 - SCMA	24.00	35	48
		Total	224.00		

1.3.2. WT2 list of deliverables

Deliverable Number[14]	Deliverable Title	WP number[9]	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D1.1	H - Requirement No. 1	WP1	1 - BRAVOSOLUTION	Ethics	Confidential, only for members of the consortium (including the Commission Services)	6
D1.2	POPD - Requirement No. 3	WP1	1 - BRAVOSOLUTION	Ethics	Confidential, only for members of the consortium (including the Commission Services)	34
D2.1	Governance structure, communication flow and methods. Quality Plan	WP2	1 - BRAVOSOLUTION	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D2.2	1st Period report (technical & financial) including monitoring and networking activities	WP2	1 - BRAVOSOLUTION	Report	Public	12
D2.3	2nd Period report (technical & financial) including monitoring and networking activities	WP2	1 - BRAVOSOLUTION	Report	Public	36
D2.4	Final report (technical & financial) including monitoring and networking activities	WP2	1 - BRAVOSOLUTION	Report	Public	48
D2.5	Data management plan	WP2	1 - BRAVOSOLUTION	ORDP: Open Research Data Pilot	Confidential, only for members of the consortium (including the Commission Services)	6
D3.1	Prior art analysis and needs validation Report	WP3	3 - SCMA	Report	Public	6
D3.2	Open Market Consultation activities	WP3	2 - TICBIOMED	Report	Public	9
D3.3	PCP tender documents compilation; including functional specifications.	WP3	7 - AYTO SANTANDER	Report	Public	12

Deliverable Number[14]	Deliverable Title	WP number[9]	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D4.1	PCP Tender process and evaluation Report	WP4	4 - ASL BN	Report	Confidential, only for members of the consortium (including the Commission Services)	16
D5.1	Feasibility study monitoring and evaluation Report	WP5	5 - FALKIEWICZ	Report	Confidential, only for members of the consortium (including the Commission Services)	22
D5.2	Phase A – Results and benefits achieved report	WP5	5 - FALKIEWICZ	Report	Confidential, only for members of the consortium (including the Commission Services)	22
D5.3	Prototypes development monitoring and evaluation Report	WP5	6 - CSI	Report	Confidential, only for members of the consortium (including the Commission Services)	34
D5.4	Phase B – Results and benefits achieved report	WP5	6 - CSI	Report	Confidential, only for members of the consortium (including the Commission Services)	34
D5.5	Field testing monitoring and evaluation Report	WP5	4 - ASL BN	Report	Confidential, only for members of the consortium (including the Commission Services)	48
D5.6	Phase C – Results and benefits achieved report	WP5	4 - ASL BN	Report	Confidential, only for members of the consortium (including the Commission Services)	48
D6.1	First version of the exploitation and dissemination plan	WP6	2 - TICBIOMED	Report	Public	6
D6.2	Second version of the exploitation and dissemination plan including communication and	WP6	2 - TICBIOMED	Report	Public	12

Deliverable Number[14]	Deliverable Title	WP number[9]	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
	dissemination activities results					
D6.3	Third version of the exploitation and dissemination plan including communication and dissemination activities results	WP6	2 - TICBIOMED	Report	Public	36
D6.4	Final version of the exploitation and dissemination plan including communication and dissemination activities results	WP6	2 - TICBIOMED	Report	Public	48
D6.5	Project website	WP6	2 - TICBIOMED	Websites, patents filling, etc.	Public	3
D7.1	Assessment and validation of the innovative solutions resulting from the PCP Report	WP7	5 - FALKIEWICZ	Report	Public	48
D7.2	ECARE guidelines on project learnings and recommendations	WP7	3 - SCMA	Report	Public	48

1.3.3. WT3 Work package descriptions

Work package number [9]	WP1	**Lead beneficiary** [10]	1 - BRAVOSOLUTION
Work package title	Ethics requirements		
Start month	1	**End month**	48

Objectives

The objective is to ensure compliance with the 'ethics requirements' set out in this work package.

Description of work and role of partners

WP1 - Ethics requirements [Months: 1-48]
BRAVOSOLUTION
This work package sets out the 'ethics requirements' that the project must comply with.

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D1.1	H - Requirement No. 1	1 - BRAVOSOLUTION	Ethics	Confidential, only for members of the consortium (including the Commission Services)	6
D1.2	POPD - Requirement No. 3	1 - BRAVOSOLUTION	Ethics	Confidential, only for members of the consortium (including the Commission Services)	34

Description of deliverables

The 'ethics requirements' that the project must comply with are included as deliverables in this work package.

D1.1 : H - Requirement No. 1 [6]

2.1. The procedures and criteria that will be used to identify/recruit research participants must be submitted as a deliverable. 2.6. The applicant must clarify whether vulnerable individuals/groups will be involved, and the measures to protect them and minimise the risk of their stigmatisation must be submitted as a deliverable.

D1.2 : POPD - Requirement No. 3 [34]

4.1 The beneficiary must check if special derogations pertaining to the rights of data subjects or the processing of genetic, biometric and/or health data have been established under the national legislation of the country where the research takes place and submit a declaration of compliance with respective national legal framework(s). 4.2 The host institution must confirm that it has appointed a Data Protection Officer (DPO) and the contact details of the DPO are made available to all data subjects involved in the research. For host institutions not required to appoint a DPO under the GDPR a detailed data protection policy for the project must be submitted as a deliverable. 4.4 The beneficiary must explain how all of the data they intend to process is relevant and limited to the purposes of the research project (in accordance with the ‘data minimisation ‘principle). This must be submitted as a deliverable. 4.7 A description of the security measures that will be implemented to prevent unauthorised access to personal data or the equipment used for processing must be submitted as a deliverable. 4.8 Description of the anonymysation/pseudonymisation techniques that will be implemented must be submitted as a deliverable.

Schedule of relevant Milestones

Milestone number[18]	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification

Work package number [9]	WP2	Lead beneficiary [10]	1 - BRAVOSOLUTION
Work package title	Consortium management		
Start month	1	End month	48

Objectives

The objective of WP1 is to ensure a sound coordination and management of the project covering technical, administrative, legal and financial issues, and the relation with the EC by:
•Creating and operating the necessary governance structure for an effective project direction and management to achieve the expected project results
•Establishing the communication flow and methods and the quality plan.

Description of work and role of partners

WP2 - Consortium management [Months: 1-48]
BRAVOSOLUTION, TICBIOMED, SCMA, ASL BN, FALKIEWICZ , CSI, AYTO SANTANDER
Task 2.1 Governance structure, communication flow and methods (M1-M48)
Task Leader: BRAVOSOLUTION
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
The necessary governance structure for an effective project direction and management will be created within this task. This structure will define roles, responsibilities and activities of the different committees, organisations and people as well as decision rules.

Communication flow and methods will be established. The communication flow will be bottom-up and top-down through the typical communication methods such as: meetings, video-conferences, e-mail, phone, fax, etc. In particular a co-operative working method using the web site will be established and maintained through the course of the project. Partners will be able to exchange information from the different WPs and tasks according to their role and responsibilities. Another section will be for meetings, events, seminar, etc. Passwords will be facilitated to all partners and to the EC.

An advisory board will be created to support the consortium in the evaluation of the offers and during the different evaluation processes at PCP phases. This advisory board will sign a ‘declaration of interest’ form and confirm if there is any conflict of interest with any of the tenderers previously to start the evaluation If an assessor declares a conflict of interest for a tenderer they will be excluded from the assessment of that tenderer.

Task 2.2 Overall coordination and management (M1-M48)
Task Leader: BRAVOSOLUTION
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
The objective of this task is to perform the financial, legal and administrative coordination within the consortium and with the EC. Project Progress Monitoring is one of the main aspects that will be done in this task. The Project Coordinator, responsible of the whole operation of the project will monitor the overall project progress according to the project work plan established. Targets, indicators and checkpoints will be established along the project in order to avoid delays and ensure financial coherence of the project results, maintaining budgetary control. Corrective dynamic measures through contingency plans actions will be implemented along the project life if necessary.

The overall coordination will establish specific actions and/or plans for:
• Reporting: Internal summary management reports (every 6months), deliverables delivery and partners audit certificates when necessary. There will be 3 financial and technical reporting periods at: 12, 36, 48 months.
• Risk Analysis and Contingency Plans: In point 3.2 of the Technical Annex a risk analysis and contingency plan is showed. Identify the risk and lunch appropriated contingency plans are important task that will be managed in WP2
• Quality Assurance: To ensure the quality of deliverables and the smooth running of the project, there will be a Project Quality Plan. This plan will contain (among others) all the procedures with regard to the communication between the partners and the documentation standard of all the deliverables, the full detailed Work plan, and any other relevant standards to conform to.
• Management of knowledge and IPR: The basis for management of the knowledge (use and dissemination) and intellectual property and its protection is showed in point 3.2 and will be further developed in the consortium agreement.
• Networking: Active links with other related projects will be established.

Participation per Partner

Partner number and short name	WP2 effort
1 - BRAVOSOLUTION	10.00
2 - TICBIOMED	1.00
3 - SCMA	1.00
4 - ASL BN	2.00
5 - FALKIEWICZ	1.00
6 - CSI	1.00
7 - AYTO SANTANDER	1.00
Total	17.00

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D2.1	Governance structure, communication flow and methods. Quality Plan	1 - BRAVOSOLUTION	Report	Confidential, only for members of the consortium (including the Commission Services)	3
D2.2	1st Period report (technical & financial) including monitoring and networking activities	1 - BRAVOSOLUTION	Report	Public	12
D2.3	2nd Period report (technical & financial) including monitoring and networking activities	1 - BRAVOSOLUTION	Report	Public	36
D2.4	Final report (technical & financial) including monitoring and networking activities	1 - BRAVOSOLUTION	Report	Public	48
D2.5	Data management plan	1 - BRAVOSOLUTION	ORDP: Open Research Data Pilot	Confidential, only for members of the consortium (including the Commission Services)	6

Description of deliverables

D2.1 Governance structure, communication flow and methods. Quality Plan (Month 3).
D2.2 1st Period report (technical& financial) including monitoring and networking activities (Month 12).
D2.3 2nd Period report (technical & financial) including monitoring and networking activities (Month 36)
D2.4 Final report (technical & financial) including monitoring and networking activities (Month 48).

D2.1 : Governance structure, communication flow and methods. Quality Plan [3]

This deliverable will contain the rules and protocols that will govern the project efficient managment; communication rules, management procedures, financial reportings, quality assessment procedures, etc.

D2.2 : 1st Period report (technical & financial) including monitoring and networking activities [12]

This deliverable will contain the financial expenditure and the technical progresses made by the project during the first year, detailed per WP and Task.

D2.3 : 2nd Period report (technical & financial) including monitoring and networking activities [36]

This deliverable will contain the financial expenditure and the technical progress achieved by the project up to the end of the first period, per WP and Task.

D2.4 : Final report (technical & financial) including monitoring and networking activities [48]

This report will describe the financial expenditure and the technical progress achieved by the project during the 2nd period, on WP and Tasks basis

D2.5 : Data management plan [6]

This deliverable will address the relevant aspects of making data FAIR – findable, accessible, interoperable and re-usable, including what data the project will generate, whether and how it will be made accessible for verification and re-use, and how it will be curated and preserved

Schedule of relevant Milestones

Milestone number[18]	**Milestone title**	**Lead beneficiary**	**Due Date (in months)**	**Means of verification**
MS1	Governance structure, communication flow and methods. Quality Plan running	1 - BRAVOSOLUTION	3	
MS2	1st Period report (technical & financial) including monitoring and networking activities submitted to the EC	1 - BRAVOSOLUTION	12	
MS3	2nd Periodic Report (technical & financial) including monitoring and networking activities submitted to the EC	1 - BRAVOSOLUTION	36	
MS4	Final report (technical & financial) including monitoring and networking activities submitted to the EC	1 - BRAVOSOLUTION	48	

Work package number [9]	WP3	**Lead beneficiary** [10]	7 - AYTO SANTANDER
Work package title	Preparation of the procurement		
Start month	1	**End month**	12

Objectives

The main activities of this work package are to develop the essential actions to prepare and launch the eCARE PCP call for tender. These actions include: to gather an understanding of the key requirements and the current state of the art, as well as to consult with other key stakeholders to validate the common unmet needs; to prepare and organize the open market consultation activities to obtain the view of the related industry; and to prepare the common procurement specifications for the call including assessment criteria. These aspects are then captured and included in the specific templates and official PCP documents to enable the PCP call for tender to be launched. Therefore, this WP2 has 2 primary objectives:

• to establish a continued dialogue with both the supply and demand side regarding the functionalities of eCARE pursued solution.

• To generate required documents and templates suitable for the PCP for tender.

Description of work and role of partners

WP3 - Preparation of the procurement [Months: 1-12]

AYTO SANTANDER, BRAVOSOLUTION, TICBIOMED, SCMA, ASL BN, FALKIEWICZ , CSI

Task 3.1 Prior art analysis and end-users need validation (M1-M6)

Task Leader: SCMA

Partners Involved: BRAVOSOLUTION; TBM, SCMA; CMA; ASL BN; FALKHOSP; CSI; SDR

This activity involves the following key sub-tasks:

• Firstly, to draw up a comprehensive list of reference stakeholders.

• Secondly, to perform a market review to validate the common eCARE challenge. A deep analysis of the technologies applied to health and care for old adults will be performed

• Thirdly, to carry out a stakeholder's consultation, including guided interviews and assessments conducted with demand-side stakeholders. This has a multiple purpose: to gain a comprehensive understanding of the barriers that hinder the exploitation of the technology; to understand to what extent the situation changes in different European countries; and to further validate the unmet needs already identified at proposal stage by the procurers. The output will enable analysis of how those barriers may be overcome.

The validation of the unmet needs will be performed utilizing co-creation and design thinking methodologies (combination of guide interviews, face to face and / or phone, co-creation workshops and validation meetings with procurers) so as to promote the collaborative identification and validation of the unmet needs at cross-national level, involving all the strategic stakeholders (end users, health workers, social care workers, procurers, technology advisors, etc.). In addition, an online questionnaire through the project website will be available to any interested stakeholders to maximize the opportunities to obtain valuable feedback on the unmet needs.

Task 3.2 Open Market Consultation activities (M6-M9)

Task Leader: TBM

Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR

After validating the unmet needs at procurer's level (common eCARE Challenge) the technical dialogue with the industry (Open Market Consultation) will start. Different activities will take place to present the eCARE common challenge to the industry and the PCP process, looking for supplier's feedback:

• 1 physical workshop per procurer's country,

• 1 web streaming workshop will be recorded and published on the project website as well as in other channels (YouTube) so as to maximize the dissemination of the event.

• 1 online supplier questionnaire will be created and publish for 2 months on the eCARE website,

• and bilateral meetings with any interested companies that required it.

This activity will be reinforced by a specific dissemination and communication campaign led by TBM to engage with the industry. The campaign will use several channels and tools: creation of a specific industry database, participation in thematic events to promote the OMC among the industry, strategy in social media channels, promotion in own partners

networks, creation of specific promotion materials, etc. TBM will make use of its own networks so as to ensure the engagement of the stakeholders:
- Own network (10k LinkedIn contacts; 2k twitter contacts and 1.5k email distribution list)
- eHealth-hub platform

A matchmaking platform for industry partners will be set up on the eCARE website to facilitate joint consortia. The OMC workshops will primarily aim to attract the attention of stakeholders, to inform them about eCARE challenge and tender as well as to begin their capacity building and match-making to allow them to apply for the call for tender. Participants will be invited to the matchmaking platform. Both events will be attended by eCARE partners as well as representatives from the user-side, including older adults, informal carers and social eCARE professionals.

This task also covers the publication of the prior information notice informing regarding the open market consultation that will be promoted and advertised widely using in particular also Horizon 2020 Internet sites and the network of H2020 National Contact Points.

Task 3.3 PCP tender documents preparation; including PCP model contracts and common procurement functionalities (M6-M12)
Task Leader: SDR
Partners Involved: BRAVOSOLUTION; TBM, ASL BN; FALKHOSP; CSI; SDR
This task will deal with the generation of the final PCP call for tender document. The tender text will be drafted in co-operation among all procuring partners and with the validation of the lead procurer's procurement department. Since the beginning of this task a specific legal committee formed by the legal profiles of the procurers will be created. A methodology of work will be established assigning responsibilities to all the parties involved. The specific activities that will be performed in this task are:
• Prepare the procurement documents and the common procurement specifications for the execution of the procurement (call documents, the contract notice, the invitation to tender and the procurement contracts, etc.)
• Formulate the results of the requirements analysis, the use cases and the service process models that will become part of the Challenge Brief document that will accompany the tender.
• Prepare the joint procurement agreement – in compliance with the PCP actions Grant Agreement and Annex D and Annex E of the work programme. All members of the buyers group prepare a formal and duly signed commitment on availability of the financial commitments to finance the PCP.
• Prepare the procedure for implementing the different phases (through specific contracts
• Prepare the contract implementation documents for the execution of the contract implementation stages.
• Fine-tune tender specifications, according to the results emerged from the open consultation.

Participation per Partner

Partner number and short name	WP3 effort
1 - BRAVOSOLUTION	6.00
2 - TICBIOMED	5.00
3 - SCMA	7.00
4 - ASL BN	7.00
5 - FALKIEWICZ	7.00
6 - CSI	7.00
7 - AYTO SANTANDER	10.00
Total	49.00

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D3.1	Prior art analysis and needs validation Report	3 - SCMA	Report	Public	6
D3.2	Open Market Consultation activities	2 - TICBIOMED	Report	Public	9
D3.3	PCP tender documents compilation; including functional specifications.	7 - AYTO SANTANDER	Report	Public	12

Description of deliverables

• D3.1 Prior art analysis and unmet needs validation report (Month 6). This report includes the methodology, analysis and validation of the unmet needs firstly identified by implementing different co-creation methodologies. The outcomes of this report will serve to prepare task 2.2 and 2.3.
• D3.2. Open Market Consultation Report (Month 9). The document contains the outcomes of the Open Market Consultation activities
• D3.3 PCP tender documents compilation; including functional specifications (Month 12). The document contains all the contract documents, different phases procedures; including the call functional specifications that the solution sought may have.

D3.1 : Prior art analysis and needs validation Report [6]

This deliverable will contain the follwoing information: - Comprehensive list of reference stakeholders. - Market review to validate the common eCARE challenge and deep analysis of the technologies applied. - Barriers that hinder the exploitation of the existent technology in the participating countries as well as means to overcome these barriers. - Plans to perform the stakeholder's consultation. - Preliminary list of identified unmet needs. . As an annex, an online questionnaire that will be used to collect feedback from the industry and the demand-side stakeholders.

D3.2 : Open Market Consultation activities [9]

This deliverable will cover the planning and execution of the Open Market consultation strategy and its outcomes. It will include as an annex he prior information notice informing regarding the open market consultation that will be promoted and advertised widely using in particular also Horizon 2020 Internet sites and the network of H2020 National Contact Points.

D3.3 : PCP tender documents compilation; including functional specifications. [12]

This deliverable will deal with the generation of the final PCP call for tender document. It will contain: - The procurement documents and the common procurement specifications for the execution of the procurement (call documents, the contract notice, the invitation to tender and the procurement contracts, etc.) - Final results of the requirements analysis, the use cases and the service process models that will become part of the Challenge Brief document that will accompany the tender. - Joint procurement agreement – in compliance with the PCP actions Grant Agreement and Annex D and Annex E of the work programme. All members of the buyers group prepare a formal and duly signed commitment on availability of the financial commitments to finance the PCP. - Procedure for implementing the different phases (through specific contracts eCARE - Tender specifications, according to the results emerged from the open consultation.

Schedule of relevant Milestones

Milestone number[18]	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS5	Prior art analysis and end-users need validated after co-creation methodologies	3 - SCMA	6	
MS6	OMC activities developed	2 - TICBIOMED	9	
MS7	PCP tender compilation. Tender package prepared	7 - AYTO SANTANDER	12	

Work package number [9]	WP4	Lead beneficiary [10]	4 - ASL BN
Work package title	Procurement publication and offers evaluation process		
Start month	11	End month	16

Objectives

This WP is focus on the tendering process. Main aspects that will be managed are related to the evaluation process set up and the definition of the evaluation procedure that will be used for the assessment of the offers received during the PCP phases. This action includes the PCP publication and evaluation process, including the awarding and contracting for the tenderers that will participate in the Phase A of PCP.

Description of work and role of partners

WP4 - Procurement publication and offers evaluation process [Months: 11-16]
ASL BN, BRAVOSOLUTION, TICBIOMED, SCMA, FALKIEWICZ , CSI, AYTO SANTANDER
Task 4.1 PCP publication activities, including tendering process and evaluation description (M11-M13)
Task Leader: ASL BN
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
This task deals with the following activities:
• An eTendering platform for the online management of the tenders will be developed by BravoSolution.
• Publish the eCARE tender (PCP tender package) by the Lead Procurer (ASL BN) on behalf of the rest of procurers and following with the national and European laws and in compliance with PCP guidelines including detailed description of the tendering process, the evaluation procedure and criteria by which subcontractors will be selected.), the format of the intermediate evaluations (incl. evaluation criteria and weightings) after the solution design and prototype development phases.
• National partners will publish the tender in their respective procurement portals.
• Define the duration that the PCP call for tender will remain open for the submission.
• Establish the mechanisms to ensure the communication tools with the tenderers.
• Engagement of internal and external experts from the Advisory Board who will not have conflict of interest in order to evaluate the proposals.
• Industry stakeholders are informed via a worldwide mailing of the publication of the tender. Continuous mailings over the duration of the call are used to increase the response rate.
Task 4.2 Offers Evaluation. Selection and contracting for Phase A (M14-M16)
Task Leader: ASL BN
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
Once the deadline to submit offers is closed, the buyer group will analyze the offers received by the interested entities. The offers will be evaluated according to the evaluation procedure and criteria defined earlier.
The evaluation procedure will be implemented by using the e-tendering platform so as to ensure transparency, traceability and security of the whole process. Furthermore, this on-line tool will facilitate a lot the evaluation done by a heterogeneous group of evaluators located in different countries and regions.
After the evaluation process, the selection and awarding procedure will be performed to define tenderers that will participate in Phase A of the eCARE PCP.
The Lead Procurer will be responsible for the contracting issues of awarding tenderers.

Participation per Partner

Partner number and short name	WP4 effort
1 - BRAVOSOLUTION	3.00
2 - TICBIOMED	1.00
3 - SCMA	4.00
4 - ASL BN	5.00
5 - FALKIEWICZ	4.00

Partner number and short name	WP4 effort
6 - CSI	4.00
7 - AYTO SANTANDER	4.00
Total	25.00

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D4.1	PCP Tender process and evaluation Report	4 - ASL BN	Report	Confidential, only for members of the consortium (including the Commission Services)	16

Description of deliverables

D4.1 PCP tender process and evaluation report (Month 16). This deliverable contains all relevant information about the tendering process and the evaluation criteria and procedures. In addition, it will gather the call results, including the total number of bids received, the data on and abstract the winning tenderers, and information on the evaluation, etc.

D4.1 : PCP Tender process and evaluation Report [16]

This deliverable contains all relevant information about the tendering process and the evaluation criteria and procedure for the request for tender and the Phase 1. In addition, it will gather the call results, including the total number of bids received, the data on and abstract the winning tenderers, and information on the evaluation, etc.

Schedule of relevant Milestones

Milestone number[18]	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS8	PCP launch and evaluation process implemented	4 - ASL BN	16	

Work package number [9]	WP5	Lead beneficiary [10]	4 - ASL BN
Work package title	PCP Contract implementation		
Start month	17	End month	48

Objectives

Objectives
The objective of this work package is to develop new technologies to address the topic. Therefore, this work package covers all the activities of the companies who apply and win a contract as part of the PCP call. This work is expected to be Research and Development of technologies including feasibility studies, prototype development and production runs. It will be structured in three phases: Phase A (selection of max. 8 solutions), Phase B (selection of max. 4 solutions awarded), and Phase C (max. 2 solutions awarded).

A technical and financial supervision of the contracts until the end of the PCP will be performed in this WP, to guarantee that the contract objectives will be reached, and contractors fulfil their commitments (task to be done, milestones, deliverables, deadlines, etc.).

Lastly, this WP include the review and technical evaluation of the results in PCP Phase A, verification of results in PCP Phase B and validation of results in operational environment in PCP Phase C. Selection and contracting of those companies which are going through the different phases of the PCP will be also implemented.

Description of work and role of partners

WP5 - PCP Contract implementation [Months: 17-48]
ASL BN, BRAVOSOLUTION, TICBIOMED, SCMA, FALKIEWICZ , CSI, AYTO SANTANDER
Task 5.1 Phase A Feasibility study proposals (M17 – M22)
(PCP Phase A, 6 months; max. 8 solutions awarded)
Task Leader: FALKSHOSP
Partners Involved: BRAVOSOLUTION; TBM, SCMA ASL BN; FALKHOSP; CSI; SDR

This phase will call for feasibility studies (technical and economical) over the eCARE challenge. At least, 8 solutions will be awarded on PHASE A of the PCP. The group of procures, led by the Lead Procurer; will perform a complete assessment on each solution, ensuring that they are evaluated with the same principles, independently of their location and origin. A technical and financial supervision of the contracts until the end of the PCP will be performed for Phase A to guarantee that the contract objectives will be reached, and contractors fulfil their commitments (task to be done, milestones, deliverables, deadlines, etc.). Submitted offers will be collected by the lead procurer and shared among the partners. All offers are passed on to the members of the buyers group according to the criteria defined in Task T3.1. The advisory board and the preferred partners will collaborate in the evaluation process. Tenderers will be informed of the outcomes of the selection. Contracts are concluded with the winning bidders that pass on to the next phase.

To facilitate the co-creation process, a specific communication and monitoring protocol will be developed for Phase A. The protocol will detail the systematic approach to review the progress of this phase against the defined specifications and will established deliverables to be produced, as well as the communication means/channels between procurers and contractors. It will include a detailed description of all the activities, outcomes, calendar and deliverables involved in the monitoring. A supervisor will be set between the procurer's team with the mission to follow-up each contractor´s progress against the tender requests. To monitor the phase, there will be regular meetings with contractors. A progress report will be delivered regularly to document the field-testing progress, intermediate results, operational issues, risks and amendment measures. This will guarantee that the contract objectives will be reached, and contractors fulfil their commitments (task to be done, milestones, deliverables, deadlines, etc.).

Task 5.2 Phase B Prototypes development (M23 –M34)
(PCP Phase B, 12 months, max. 4 solutions awarded)
Task Leader: CSI
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
The companies which made the best solutions in Phase A and will be awarded for Phase B will need to develop a prototype at a laboratory scale. Prototypes at this stage are conceived of as non- or partly-functional prototypes of key systems components. Progress of the work will be monitored on monthly basis by the buyers' group.

Prototypes will be subjected to testing with end-users (older adults, informal carers, social care professionals). A suitable number of individuals (n>10) will be involved in each country. Prototypes will be presented by suppliers at each partner site. Alternatively, tests can take place in labs of the suppliers, if conveniently reachable by test participants. Testing will take place according to common protocols developed. The specific protocols will be explained in the PCP tender packages available on the project website.

Test outcomes will be collected and analysed for design, to serve as input for the suppliers' development of the next phase of the PCP. The test data together with the documentation are collected by the lead procurer and shared among the partners. All information is passed on to the members of buyers group and the advisory board for evaluation and selection according to the criteria defined in the tender documents. The advisory board and the preferred partners will collaborate in the evaluation process Suppliers are informed of the outcomes of the selection.

To facilitate the co-creation process, a specific communication and monitoring protocol will be developed for Phase B. The protocol will detail the systematic approach to review the progress of this phase against the defined specifications and will established deliverables to be produced, as well as the communication means/channels between procurers and contractors. It will include a detailed description of all the activities, outcomes, calendar and deliverables involved in the monitoring. A supervisor will be set between the procurer's team with the mission to follow-up each contractor´s progress against the tender requests. To monitor the phase, there will be regular meetings with contractors. A progress report will be delivered regularly to document the field-testing progress, intermediate results, operational issues, risks and amendment measures. This will guarantee that the contract objectives will be reached, and contractors fulfil their commitments (task to be done, milestones, deliverables, deadlines, etc.).

A technical and financial supervision of the contracts until the end of the PCP will be performed for Phase B in order to guarantee that the contract objectives will be reached, and contractors fulfil their commitments (task to be done, milestones, deliverables, deadlines, etc.).

Task 5.3 Phase C Field testing (M35-M48)
(PCP Phase C, 14 months, 2 solutions awarded)
Task Leader: ASL BN
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
The companies which made the best four proposals/prototypes, selected in Phase B (T4.2) will be invited to participate in the call-off for Phase C. The awarded tenderers for Phase C will develop a limited volume of first products/services in the form of a test series. Selected suppliers develop the eCARE pilot systems for 10 months estimated test under real-life conditions in each country. Progress of the work is monitored in monthly status calls. Suppliers' install the pilot systems at each site in close collaboration with the respective site partner.

System introduction covers installation of central components and preparation of user devices for roll-out. On-site testing is done to reveal problems arising from the particular situation of equipment, the networks used and the organizational environment in which staff work to eliminate problems in the full pilot.
Operation of all systems at each site is to be maintained at full quality. The pilot operation team is led by the pilot site management organization and supported by core team staff. Members of the buyers' group will have the possibility to visit the pilots. Partners at the site maintain a pilot progress report, documenting operational issues and potential divergences.

A Data Management Protocol will be developed for the Phase C including ethical and data protection management issues. The Data Management Plan for Phase C will be included in the subsequent updates of Deliverable D2.5 Project Data Management Plan. Contractors will inform about their data management procedures and the solution specifies for the preparation of the Ethical approval application forms.

Procurers willset the Study Design Protocol, setting primary and secondary objectives of the pilot; the recruitment criteria (selection and exclusion), the definition of the sample dimension and the control group, the KPIs to monitor the progress of the field-testing and the effectiveness of the solutions. Informed consents should be signed by participats in the testing. Thus, specific Informed Consents forms should be prepared by the procurers.

An Evaluation Protocol based on the specific KPI defined in the call for tender will be developed. This KPIs will be set to assess the quality and efficiency of the solutions against the functionalities requested in the PCP challenge and their capacity to innovate the state of the art.

To facilitate the co-creation process, a specific communication and monitoring protocol will be developed for Phase C. The protocol will detail the systematic approach to review the progress of this phase against the defined specifications and will established deliverables to be produced, as well as the communication means/channels between procurers and contractors. It will include a detailed description of all the activities, outcomes, calendar and deliverables involved in the monitoring. A supervisor will be set between the procurer's team with the mission to follow-up each contractor

´s progress against the tender requests. To monitor the field-testing, there will be regular meetings with contractors. A field-testing progress report will be delivered monthly to document the field-testing progress, intermediate results, operational issues, risks and amendment measures. This will guarantee that the contract objectives will be reached, and contractors fulfil their commitments (task to be done, milestones, deliverables, deadlines, etc.).

The results of the pilot evaluation will be passed on to the members of the buyers' group and the advisory board for evaluation according to the criteria defined previously. The advisory board and the preferred partners will collaborate in the evaluation process. This specific evaluation of the solutions already tested will be develop in Task 71.

Participation per Partner

Partner number and short name	WP5 effort
1 - BRAVOSOLUTION	6.00
2 - TICBIOMED	3.00
3 - SCMA	6.00
4 - ASL BN	18.00
5 - FALKIEWICZ	15.00
6 - CSI	15.00
7 - AYTO SANTANDER	15.00
Total	78.00

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D5.1	Feasibility study monitoring and evaluation Report	5 - FALKIEWICZ	Report	Confidential, only for members of the consortium (including the Commission Services)	22
D5.2	Phase A – Results and benefits achieved report	5 - FALKIEWICZ	Report	Confidential, only for members of the consortium (including the Commission Services)	22
D5.3	Prototypes development monitoring and evaluation Report	6 - CSI	Report	Confidential, only for members of the consortium (including the Commission Services)	34
D5.4	Phase B – Results and benefits achieved report	6 - CSI	Report	Confidential, only for members of the consortium (including the Commission Services)	34
D5.5	Field testing monitoring and evaluation Report	4 - ASL BN	Report	Confidential, only for members of the	48

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
				consortium (including the Commission Services)	
D5.6	Phase C – Results and benefits achieved report	4 - ASL BN	Report	Confidential, only for members of the consortium (including the Commission Services)	48

Description of deliverables

D5.1 Feasibility study monitoring and evaluation Report (Month 22). The document contains all relevant information about the phase implementation, including the total number of inputs received, and the assessment by the buyers group by each participating supplier in the phase.
D5.2. Phase A – Results and benefits achieved report (Month 22). This report is following the template provided by the EC and it gathers the information on the results achieved and benefits obtained by the procurers and the R&D providers for Phase A.
D5.3 Prototypes development monitoring and evaluation Report (Month 34). The document contains a report on the prototype testing at lab scale, the phase implementation and results. It also contains all relevant information the total number of inputs received, and the assessment by the buyers group by each participating supplier in the phase.
D5.4 Phase B – Results and benefits achieved report (Month 34). This report is following the template provided by the EC and it gathers the information on the results achieved and benefits obtained by the procurers and the R&D providers for Phase B.
D5.5 Field testing monitoring and evaluation Report (Month 48). The document contains a report on the introduction of the pilot systems and on pilot operation. It also contains all relevant information about the phase results, including the total number of inputs received, and the assessment by the buyers group by each participating supplier in the phase.
D5.6 Phase C – Results and benefits achieved report (Month 48). This report is following the template provided by the EC and it gathers the information on the results achieved and benefits obtained by the procurers and the R&D providers for Phase C.

D5.1 : Feasibility study monitoring and evaluation Report [22]

The document contains all relevant information about the phase 1 implementation, including the total number of inputs received, and the assessment by the buyers group by each participating supplier in the phase.

D5.2 : Phase A – Results and benefits achieved report [22]

This report is following the template provided by the EC and it gathers the information on the results achieved and benefits obtained by the procurers and the R&D providers for Phase A.

D5.3 : Prototypes development monitoring and evaluation Report [34]

The document contains a report on the prototype testing at lab scale, the phase implementation and results. It also contains all relevant information the total number of inputs received, and the assessment by the buyers group by each participating supplier in the phase.

D5.4 : Phase B – Results and benefits achieved report [34]

This report is following the template provided by the EC and it gathers the information on the results achieved and benefits obtained by the procurers and the R&D providers for Phase B.

D5.5 : Field testing monitoring and evaluation Report [48]

The document contains a report on the introduction of the pilot systems and on pilot operation. It also contains all relevant information about the phase results, including the total number of inputs received, and the assessment by the buyers group by each participating supplier in the phase.

D5.6 : Phase C – Results and benefits achieved report [48]

This report is following the template provided by the EC and it gathers the information on the results achieved and benefits obtained by the procurers and the R&D providers for Phase C.

Schedule of relevant Milestones

Milestone number[18]	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS9	Feasibility study performed	5 - FALKIEWICZ	22	
MS10	Prototypes development performed	6 - CSI	34	
MS11	Field testing performed	4 - ASL BN	48	

Work package number [9]	WP6	Lead beneficiary [10]	2 - TICBIOMED
Work package title	Communication, Exploitation and Dissemination of the results		
Start month	1	End month	48

Objectives

The overall objective is to implement and carry out the Communication Strategy and the Dissemination and Exploitation Plans of the project covering:
• Manage the production and exchange of information of the project
• Use strategic communication tools to promote the project progresses
• Enrol enough number of competitive applicants that apply to the eCARE tender.
• Engage with key stakeholders to smooth out the implementation of the PCP within each project procurer.
• Facilitate that potential procurers outside the consortium get interested in the solutions developed under eCARE.
• Deliver the exploitation strategy for the project results
• Perform networking activities and linkages with end-users and other stakeholders.

Description of work and role of partners

WP6 - Communication, Exploitation and Dissemination of the results [Months: 1-48]
TICBIOMED, BRAVOSOLUTION, SCMA, ASL BN, FALKIEWICZ , CSI, AYTO SANTANDER
Task 6.1 Communication actions (M1-M48)
Task Leader: TBM
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
A specific communication strategy will be defined to promote the necessary actions so as the eCARE project to draw the interest of a wide variety of stakeholder groups and make them aware of its activities (e.g. open market consultation, launch of the PCP call tender, communication of project outcomes to relevant third parties, etc.) and the benefits/impacts for participating in the procurement /implementation phase. These communication actions address to other procurers, policy-makers, Space Industry, media, and the public at large etc. A dedicated identification of the main stakeholders will be implemented including the purpose of contacting them and how. Planned actions include.
• Presentation of results in key conferences or sectoral gatherings as described below.
• Open publication of content in relevant media. At least 4 papers or articles.
• Dissemination of at least 2 press releases during the project lifetime in English at European level and one per procurer country in the local language.
• Invitation to participate in the review or assessment of solutions to external potential procurers.
Task 6.2 Exploitation and dissemination of the results actions (M1-M48)
Task Leader: TBM
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
As described in Section 2.2, a Dissemination and Exploitation Plan (DEP) will be made at the beginning of the project (Month 6) and will be updated and deployed along the project life and beyond. The different versions of the plan will include the activities really developed in the project in the previous plan the foreseen ones for the next period. The plan will contain the following elements:
• Identification and classification of target stakeholders to be addressed (this identification will also serve to implement the communication strategy of the project).
• Project website and social media management: The first public release of the project website will take place in M3. The necessary measures to respect the privacy and security of the communications will be also implemented. Internal procedures to manage project communication will be implemented. It will include the scheduling of waves of communication, the preparation of attractive content and the leverage of partners´ dissemination channels (e.g.: email and social networks) to multiply the project information exchange. Very importantly, systematic actions to increase the awareness and recruit multipliers will be also deployed during project lifetime. The design and maintenance of the project website will be subcontracted by TBM. This is a minor subcontract estimated in the budget as other direct cost.
• Corporate project identity (logo, templates, etc.), website and other related design services (e.g.: brochures) will be selected, according to standard subcontracting procedures based on value for money. This will be subcontracted by TBM. It is foreseen in the budget as other direct costs.

• The dissemination methods and their specific associated activities; schedule and complementarily of the dissemination activities among partners; conditions to ensure proper dissemination of the generated knowledge, related to confidentiality, publication and use of the knowledge
• Activities for enrolment of competitive applicants in the PCP: To support the enrolment of suppliers, project partners will organize:
o Local events: At least one event per country where there is an eCARE partner will be organized. A press release will be circulated locally and nationally. We will organize 6 workshops with the aim to disseminate the project results. The workshops will be organized by: BRAVOSOLUTION; ASL BN; FALKHOSP; and CSI together with SDR in Spain.
These local events will coincide with the Open Market Workshops so as to maximize the audience and messages provided.
o Webinars: At least 1 open web conferences will explain potential participants the details of the project. The webinar will be recorded and upload in the web site for future reference.
At least, one webinar will be related to the OMC Workshop. It will be recorded and publish on the website and in other channels (i.e. YouTube).
Besides, the partners will set up an on-line tool to matchmake between those complementary applicants offering or demanding skills to form a consortium (in the framework of the OMC activities).
• Activities for engagement with key internal stakeholders to smooth out the implementation of the PCP: measures to get the early buy-in of critical stakeholders within each procurer have been explained in detail in section 2.2 and include:
o Personalized communication campaign to the key internal audiences.
o Management of potential issues after previous step.
o Identification of success indicators.
o Timely communication with stakeholders beyond their direct/immediate participation in a project activity.
o Organization of assertive meetings with key stakeholders to motivate participation.
- Explain what the project objectives and related actions are.
- Clearly communicate what is expected from who and when.
- Collect feedback and concerns (during and after the meeting)
o Finally, in collaboration with the EC project officer, a final Info day will be organized at the final stage of the project to share learnings and propose solutions to the bottlenecks identified during the project. This Info day in a form of a show case will invite stakeholders from the PCP domain and the functional scope. After the Info day, a statement regarding policy recommendations will be produced and disseminated, as part of D6.2
• Exploitation activities to maximize chances that the outputs of the project are put in value both by the consortium procurers and the suppliers after the end of the project. Special emphasis will be done to the standardization measures and the path to overcome the potential barriers identified to enable the further commercialization of the results. Foreseen actions include:
o Delivery of support regarding business modelling, access to private funding and go-to-market strategy. It will be available in the form of on-demand request of support to the participants in the first 2 PCP phases via tele-conferences. For each of the suppliers in the field-testing phase, they will receive at least 2 coaching sessions to help them with their exploitation plans.
o Suppliers will also be connected to initiatives or organizations that deliver business or legal support outside the eCARE consortium.
o The partners will encourage and support tenderers that reach the field-testing phase to carry out scientific measurement in results and outcomes, to be submitted to peer-review publications.
The eCARE ecosystem, the market and the technical context will be analysed by a multidisciplinary team with technical experts, and marketers, under the responsibility of the innovation manager. The innovation manager will advise the steering group on how the innovation can be optimized and will suggest improvements in other tasks accordingly. The task will deliver an innovation management plan as part of the WP deliverables. The expected WP impact will be reached by means of dissemination, communication and exploitation actions, leaded by the Innovation Manager (IM). TBM will take the lead in creating an innovation management plan and implementing it throughout the project
Special efforts will be made to interact with the current decision makers during the last phase of the project to prepare the ground for a future commercial purchase. The objective is to start preparing the future purchase (if the outcomes are successful enough). Planned actions include the organization of timely meetings with the procurers´ decision makers and their key influencers to assess if any of the solutions is good enough and affordable for the municipality, among other considerations. To promote opportunities for exchange and increase engagement, these key stakeholders will be invited to publicly present the project outcomes or other relevant information at events with media coverage.
In case of promising outlooks, the partners will start gathering information and preparing the way forward to a post-PCP purchase. In particular, funding programmes, like Public Procurement of Innovation (PPI) schemes, will be identified and evaluated for suitability. Other scenarios will be also investigated for each procurer.

Participation per Partner

Partner number and short name	WP6 effort
1 - BRAVOSOLUTION	4.00
2 - TICBIOMED	8.00
3 - SCMA	4.00
4 - ASL BN	4.00
5 - FALKIEWICZ	4.00
6 - CSI	3.00
7 - AYTO SANTANDER	4.00
Total	31.00

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D6.1	First version of the exploitation and dissemination plan	2 - TICBIOMED	Report	Public	6
D6.2	Second version of the exploitation and dissemination plan including communication and dissemination activities results	2 - TICBIOMED	Report	Public	12
D6.3	Third version of the exploitation and dissemination plan including communication and dissemination activities results	2 - TICBIOMED	Report	Public	36
D6.4	Final version of the exploitation and dissemination plan including communication and dissemination activities results	2 - TICBIOMED	Report	Public	48
D6.5	Project website	2 - TICBIOMED	Websites, patents filling, etc.	Public	3

Description of deliverables

D6.1 Fist version of the exploitation and dissemination plan; including communication activities planned (Month 6)
D6.2 Second version of the exploitation and dissemination plan including communication and dissemination activities results (Month 12)
D6.3 Third version of the exploitation and dissemination plan including communication and dissemination activities results (Month 36)

D6.4 Final version of the exploitation and dissemination plan including communication and dissemination activities results (Month 48)
D6.5 Project Website (Month 3). It is planned to have a first version of the ECARE website by month 3.

D6.1 : First version of the exploitation and dissemination plan [6]

this deliverable contains the fist version of the exploitation and dissemination plan; including communication activities planned as well as the plans foresee for the next period.

D6.2 : Second version of the exploitation and dissemination plan including communication and dissemination activities results [12]

This deliverable contains the second version of the exploitation and dissemination plan including communication and dissemination activities results as well as plans for the next period.

D6.3 : Third version of the exploitation and dissemination plan including communication and dissemination activities results [36]

This deliverable contains the third version of the exploitation and dissemination plan including communication and dissemination activities results and the plans for the next period.

D6.4 : Final version of the exploitation and dissemination plan including communication and dissemination activities results [48]

This deliverable contains the outcomes and key figures of the entire dissemination strategy implemented throughout the project and the exploitation plans for the future.

D6.5 : Project website [3]

This is the project website that should be operative and running in Month 3.

Schedule of relevant Milestones

Milestone number[18]	**Milestone title**	**Lead beneficiary**	**Due Date (in months)**	**Means of verification**
MS12	First version of the Exploitation and dissemination plan designed	2 - TICBIOMED	6	
MS13	Final version of the Exploitation and dissemination plan. Main results achieved	2 - TICBIOMED	48	
MS14	Project website running	2 - TICBIOMED	3	

Work package number [9]	WP7	Lead beneficiary [10]	3 - SCMA
Work package title	Field Testing final evaluation, lessons learnt and main conclusions		
Start month	35	End month	48

Objectives

This work package is dealing with the evaluation and validation of the technical solutions tested, including technical, operational and economical aspects. Furthermore, lessons learnt during the different PCP stages will be prepared and main conclusions regarding the assessment and recommendations for future actions in the field of digital and care services for frailty prevention, proposals for new lines of work and implementation of procurement methodologies improved.

Description of work and role of partners

WP7 - Field Testing final evaluation, lessons learnt and main conclusions [Months: 35-48]
SCMA, BRAVOSOLUTION, TICBIOMED, ASL BN, FALKIEWICZ , CSI, AYTO SANTANDER
Task 7.1 Field Testing final evaluation and validation of the technical solutions tested (M35-M48)
Task Leader: FALKHOSP
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
The buyer's group will perform the evaluation and validation of the technical solutions tested, encompassing technical, operational and economical aspects. To do so, the specific key performance indicators will be identified and selected to be measured after the PCP implementation.
The purpose of this task is to analyses the effectiveness of the solutions developed with regards to the ability of resolving the eCARE common challenges.
Since the beginning of Phase C, the buyer's group will measure the performance and the outcomes of the pilot by identifying and monitoring specific key performance indicators. These KPIs are based on the specific functionalities and award criteria that will be set-up in the eCARE Request for Tender.
The KPI will be measured during the field-testing protocol and in coordination with the contractors that are implementing the pilot. All the obtained data will be analyzed, and the main conclusions will be described in the deliverable D7.1 Assessment and validation of the innovative solutions resulting from the PCP Report. The deliverable contents will be further disseminated according to the Dissemination and Exploitation Plan of the project.

Task 7.2 PCP Stages lessons learnt including recommendations for further actions and implementation (M35-M48)
Task Leader: SCMA
Partners Involved: BRAVOSOLUTION; TBM, SCMA; ASL BN; FALKHOSP; CSI; SDR
This task will work with the analysis and the preparation of the main lessons learnt achieved during the different PCP stages. In addition, main assessment and recommendation for future actions in the field of healthcare integration, frailty prevention, implementation of improved procurement methodologies and proposals for new lines of work will be identified by the members of the consortium. This study will also include the identification of main barriers to further adoption and proposals for removing them.

A surveillance to detect PCP/PPI opportunities within the health and social care sector, either at national and EU level will be put in place. Detected opportunities will be communicated through the project newsletter and in the project website.

Linkages with WP6 will be established regarding the continuation / sustainability of eCARE services via other funding structures. Conclusions of this analysis will be collected in deliverable D7.2. eCARE guidelines on project learnings and recommendations and will be further promoted and disseminated as being one of main results of the project.

Participation per Partner

Partner number and short name	WP7 effort
1 - BRAVOSOLUTION	4.00
2 - TICBIOMED	3.00

Partner number and short name	WP7 effort
3 - SCMA	6.00
4 - ASL BN	2.00
5 - FALKIEWICZ	4.00
6 - CSI	2.00
7 - AYTO SANTANDER	3.00
Total	24.00

List of deliverables

Deliverable Number[14]	Deliverable Title	Lead beneficiary	Type[15]	Dissemination level[16]	Due Date (in months)[17]
D7.1	Assessment and validation of the innovative solutions resulting from the PCP Report	5 - FALKIEWICZ	Report	Public	48
D7.2	ECARE guidelines on project learnings and recommendations	3 - SCMA	Report	Public	48

Description of deliverables

D7.1 Assessment and validation of the innovative solutions resulting from the PCP Report (Month 48). This report will contain the assessment and validation of the innovative solutions resulting from the PCP by the beneficiaries
D7.2 eCARE guidelines on project learnings and recommendations (Month 48). These guidelines include the lessons learnt by each PCP phases as well as the main recommendations identified by the consortium for further PCP implementation processes. A statement regarding the Info Day recommendations will be included in this WP.

D7.1 : Assessment and validation of the innovative solutions resulting from the PCP Report [48]

This report will contain the assessment and validation of the innovative solutions resulting from the PCP by the beneficiaries

D7.2 : ECARE guidelines on project learnings and recommendations [48]

This deliverable contains the lessons learnt on each PCP phases as well as the main recommendations identified by the consortium for further PCP implementation processes. A statement regarding the Info Day recommendations will be included in this deliverable.

Schedule of relevant Milestones

Milestone number[18]	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS15	Validation and analysis of the solutions tested	5 - FALKIEWICZ	48	
MS16	ECARE guidelines on project learnings and recommendations	3 - SCMA	48	

1.3.4. WT4 List of milestones

Milestone number[18]	Milestone title	WP number[9]	Lead beneficiary	Due Date (in months)[17]	Means of verification
MS1	Governance structure, communication flow and methods. Quality Plan running	WP2	1 - BRAVOSOLUTION	3	
MS2	1st Period report (technical & financial) including monitoring and networking activities submitted to the EC	WP2	1 - BRAVOSOLUTION	12	
MS3	2nd Periodic Report (technical & financial) including monitoring and networking activities submitted to the EC	WP2	1 - BRAVOSOLUTION	36	
MS4	Final report (technical & financial) including monitoring and networking activities submitted to the EC	WP2	1 - BRAVOSOLUTION	48	
MS5	Prior art analysis and end-users need validated after co-creation methodologies	WP3	3 - SCMA	6	
MS6	OMC activities developed	WP3	2 - TICBIOMED	9	
MS7	PCP tender compilation. Tender package prepared	WP3	7 - AYTO SANTANDER	12	
MS8	PCP launch and evaluation process implemented	WP4	4 - ASL BN	16	
MS9	Feasibility study performed	WP5	5 - FALKIEWICZ	22	
MS10	Prototypes development performed	WP5	6 - CSI	34	
MS11	Field testing performed	WP5	4 - ASL BN	48	
MS12	First version of the Exploitation and dissemination plan designed	WP6	2 - TICBIOMED	6	
MS13	Final version of the Exploitation and	WP6	2 - TICBIOMED	48	

Milestone number[18]	Milestone title	WP number[9]	Lead beneficiary	Due Date (in months)[17]	Means of verification
	dissemination plan. Main results achieved				
MS14	Project website running	WP6	2 - TICBIOMED	3	
MS15	Validation and analysis of the solutions tested	WP7	5 - FALKIEWICZ	48	
MS16	ECARE guidelines on project learnings and recommendations	WP7	3 - SCMA	48	

1.3.5. WT5 Critical Implementation risks and mitigation actions

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
1	Losing critical staff or partners at crucial point of the project (Medium	WP2	The consortium has enough diversity and expertise to replace them by other qualified people in principle within the same organisation or within the consortium. Last stand, include a new partner with the required expertise
2	Disagreement among consortium partners (Low)	WP2	The Project Coordinator is the responsible of solving conflicts during the project.
3	Unexpected delay achieving Milestones (Low)	WP2	The risk will be avoided by WP leaders that will monitor WP partner`s progress to detect any delay at early stage.
4	Communication problems among partners (Low)	WP2	The Project Coordinator is the responsible of solving communication problems, establishing communication flows and methods and calling to bilateral meetings if necessary.
5	Availability of other/new technologies that may make parts of the project obsolete (High)	WP2, WP6	Project` Steering Committee monitors other technologies addressing similar problems. Adopt alternative technologies, when possible, replacing previous assumptions and project conceptual scenarios.
6	Critical components of the ECARE system does not fulfill with the expected requirements (Medium)	WP5	Partial technological development checkpoints will be established in order to detect failures at an early stage and implement appropriate corrections. Alternative solutions, at component level, will be monitored to assure the ECARE correct development.
7	Developed tools and components fails or have limited functionality (High)	WP5	There is a balance between existing solutions and those to be developed. Functionalities are ranked by priority.
8	The demonstration scenario must be changed due to external factors (Medium)	WP5	The Steering Committee decides about other possible demonstration scenario considering partner´s propositions. In case that there is not any possibility the SC will distribute the allocated budget accordingly.
9	Overestimation of workload. Budget not utilized (Low)	WP2	Monitoring of the work and reallocation of resources in other WPs where necessary.
10	Assignment of anticipated new tasks required resources (Low)	WP2	Re-planning across activities by the Steering Committee.

1.3.6. WT6 Summary of project effort in person-months

	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person/Months per Participant
1 - BRAVOSOLUTION	✓	10	6	3	6	4	4	33
2 - TICBIOMED		1	5	1	3	8	3	21
3 - SCMA		1	7	4	6	4	6	28
4 - ASL BN		2	7	5	18	4	2	38
5 - FALKIEWICZ		1	7	4	15	4	4	35
6 - CSI		1	7	4	15	3	2	32
7 - AYTO SANTANDER		1	10	4	15	4	3	37
Total Person/Months		17	49	25	78	31	24	224

1.3.7. WT7 Tentative schedule of project reviews

Review number [19]	Tentative timing	Planned venue of review	Comments, if any
RV1	12	Luxembourg	Aligned with the end of WP3 of preparatory phase (Preparation of the procurement)
RV2	22	Luxembourg	end of Phase A
RV3	34	Luxembourg	end of Phase B
RV4	48	Luxembourg	Final review linked to final payment - end of phase C

1. Project number

The project number has been assigned by the Commission as the unique identifier for your project. It cannot be changed. The project number **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

2. Project acronym

Use the project acronym as given in the submitted proposal. It can generally not be changed. The same acronym **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

3. Project title

Use the title (preferably no longer than 200 characters) as indicated in the submitted proposal. Minor corrections are possible if agreed during the preparation of the grant agreement.

4. Starting date

Unless a specific (fixed) starting date is duly justified and agreed upon during the preparation of the Grant Agreement, the project will start on the first day of the month following the entry into force of the Grant Agreement (NB : entry into force = signature by the Commission). Please note that if a fixed starting date is used, you will be required to provide a written justification.

5. Duration

Insert the duration of the project in full months.

6. Call (part) identifier

The Call (part) identifier is the reference number given in the call or part of the call you were addressing, as indicated in the publication of the call in the Official Journal of the European Union. You have to use the identifier given by the Commission in the letter inviting to prepare the grant agreement.

7. Abstract

8. Project Entry Month

The month at which the participant joined the consortium, month 1 marking the start date of the project, and all other start dates being relative to this start date.

9. Work Package number

Work package number: WP1, WP2, WP3, ..., WPn

10. Lead beneficiary

This must be one of the beneficiaries in the grant (not a third party) - Number of the beneficiary leading the work in this work package

11. Person-months per work package

The total number of person-months allocated to each work package.

12. Start month

Relative start date for the work in the specific work packages, month 1 marking the start date of the project, and all other start dates being relative to this start date.

13. End month

Relative end date, month 1 marking the start date of the project, and all end dates being relative to this start date.

14. Deliverable number

Deliverable numbers: D1 - Dn

15. Type

Please indicate the type of the deliverable using one of the following codes:

R	Document, report
DEM	Demonstrator, pilot, prototype
DEC	Websites, patent fillings, videos, etc.
OTHER	
ETHICS	Ethics requirement
ORDP	Open Research Data Pilot
DATA	data sets, microdata, etc.

16. Dissemination level

Please indicate the dissemination level using one of the following codes:

PU	Public
CO	Confidential, only for members of the consortium (including the Commission Services)
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)
EU-CON	Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)
EU-SEC	Classified Information: SECRET UE (Commission Decision 2005/444/EC)

17. Delivery date for Deliverable

Month in which the deliverables will be available, month 1 marking the start date of the project, and all delivery dates being relative to this start date.

18. Milestone number

Milestone number:MS1, MS2, ..., MSn

19. Review number

Review number: RV1, RV2, ..., RVn

20. Installation Number

Number progressively the installations of a same infrastructure. An installation is a part of an infrastructure that could be used independently from the rest.

21. Installation country

Code of the country where the installation is located or IO if the access provider (the beneficiary or linked third party) is an international organization, an ERIC or a similar legal entity.

22. Type of access

VA	if virtual access,
TA-uc	if trans-national access with access costs declared on the basis of unit cost,
TA-ac	if trans-national access with access costs declared as actual costs, and
TA-cb	if trans-national access with access costs declared as a combination of actual costs and costs on the basis of unit cost.

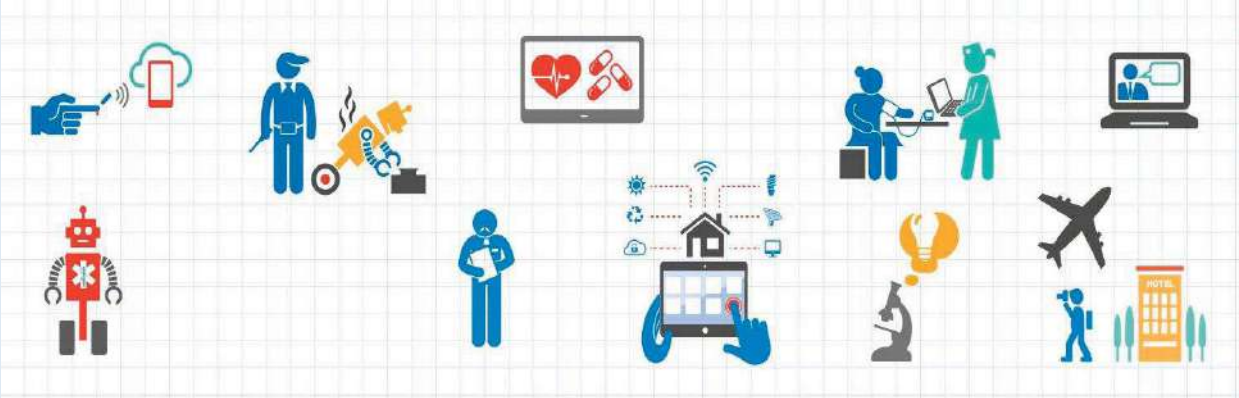
23. Access costs

Cost of the access provided under the project. For virtual access fill only the second column. For trans-national access fill one of the two columns or both according to the way access costs are declared. Trans-national access costs on the basis of unit cost will result from the unit cost by the quantity of access to be provided.

eCARE - Digital solutions supporting continuum of care for frailty prevention in old adults

"It is more important to know what sort of person a disease has than to know what sort of disease a person has" Hippocrates c400BC

WORK PROGRAMME: SC1-DHT-10-2019 - Digital health and care services
Date of preparation:24.10.2018



HISTORY OF CHANGES

PART A			
Version	**Date**	**Change**	**Page**
1.1	27.03.2019	Section 1to Section 3: Modification of some typo errors and spelling mistakes	Various pages
1.1	27.03.2019	Section 1.3: Modification of the % of budget share per phase. In the previous version the of this document, this was the budget distribution per each of the PCP phases. Phase A: 10% Phase B: 45% Phase C :55% This is in total 110% and it is mistaken. To amend it we have to lower the budget share for Phases B and C in the way proposed.	27, 28
1.1	27.03.2019	Section 1to Section 3: WPs and Tasks numbering update – Update the numbering due to the inclusion of the WP1 related to the Ethics aspects.	Various pages
1.1	27.03.2019	Section 3.1: Modification of the Pert Diagram to update the WP and Tasks numbering	45
1.1	27.03.2019	Section 3.1: Modification of the Gantt Chart to update the WP numbering	46
1.1	27.03.2019	Section 3.1 and Section 3.2: Inclusion of the role of an Innovation Manager	57, 63
1.1	27.03.2019	Section 3.1 Inclusion of a Data Management Plan	59
1.2	16.05.2019	Table with the list of participants deleted	1
1.2	16.05.2019	Tables 3.1a, 3.1b and 3.1c deleted	48 - 62
1.2	16.05.2019	Tables 3.2a and 3.2b deleted	66 - 68
1.2	16.05.2019	Table 3.4b	71
1.2	16.05.2019	Footer included	all

PART B			
Version	**Date**	**Change**	**Page**
1.1	27.03.2019	Section 4 and Section 5: WPs and Tasks numbering update – Update the numbering due to the inclusion of the WP1 related to the Ethics aspects.	Various pages
1.1	27.03.2019	Section 4: BravoSolution profile – Update Laura Sánchez CV	74
1.1	27.03.2019	Section 4 – TBM profile – Appointment of an Innovation Manager following the ESR outcome report	77
1.1	27.03.2019	Section 4.2 - Addition of the costs *for Azienda Ospedaliera Universitaria Federico II,* which is the Beneficiary 4 ASL Benevento Third Party	93
1.1	27.03.2019	Section 5.1: ESR requirement. Review and update of Ethical aspects following the Ethics review report.	95, 96

1.2	16.05.2019	Section 5.1: ESR requirement. Update section following the PO comments received by email on the 14th of May 2019	96,97

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1. EXCELLENCE

1.1 Progress beyond the state of the art

a) Analysis of existing state of the art

"It is more important to know what sort of person a disease has than to know what sort of disease a person has" Hippocrates c400BC

Longevity is one of the biggest achievements of modern societies. In the last 20 years, people all over the world have, on average, gained 6 years of life expectancy. Children born after 2011 have a one in three chances of reaching their 100th birthday. Europeans are living longer than ever before, and this pattern is expected to continue due to unprecedented medical advances and improved standards of living. By 2020, a quarter of Europeans will be over 60 years of age. Combined with low birth rates, this will bring about significant changes to the structure of European society, which will impact on our economy, social security and health care systems.

Population ageing has profound implications for the planning and delivery of health and social care. EU spending on medical care is currently growing faster than GDP. According to the 2015 Ageing Report, the total ageing costs in the euro area are projected to increase by 1.5 percentage points of GDP, from 26.8% in 2013 to 28.3% in 2060.[1] As the population ages, the health and care systems face significant challenges. Despite the life expectancy rise, the quality of life in these latest years may be poorer due to frailty and long-term conditions, with the consequent burden and negative impact on health and care systems.

The most problematic expression of population ageing is the clinical condition of frailty. Frailty develops because of age-related decline in multiple physiological systems, which collectively result in an increased vulnerability to sudden health status changes triggered by relatively minor stressor events. It is estimated that a quarter to a half of people over 85 years are frail[2], and this is set to reach epidemic proportions over the next few decades. While frailty increases, the average amount of health spending increases as well with the frailty level[3] in a range from 1,500 to 5,000 €/person year, depending upon the frailty status and the setting of care[4].

Frailty does not occur in silos; it usually comes along associated with another risk facto; loneliness. Prospective studies link elevated levels of loneliness with decline in gait speed or mobility[5]. The most recent studies in the field[6] evidence the existence of a bidirectional relationship between loneliness and frailty. Older people who experience important levels of loneliness are at increased risk of becoming physically frail [7]. Eurostat endorses the problem: currently, 7.2 percent of Europeans claim that they never meet up with their friends or relatives (not even once a year), and 13.4 percent of households within the EU-28 in 2013 was composed of a single person aged 65 or over. [8]

Then, ageing, frailty and loneliness constitute overlapping conditions submitted to multiple health and care interventions. This combination demands a high-specialisation of hospital and domiciliary care and a

[1] https://www.ecb.europa.eu/pub/pdf/other/eb201504_focus07.en.pdf?5f94ec02f8aa1eda4a86731743b93292
[2] Song X, Mitnitski A, Rockwood K. Prevalence and 10-year outcomes of frailty in older adults in relation to deficit accumulation. J Am Geriatr Soc. 2010; 58(4):681–7. [PubMed: 20345864]
[3] Ageing, Frailty and Health ECARE Expenditures Nicolas Sirven (Liraes (EA 4470) Université Paris Descartes, Irdes)
[4] García-Nogueras, I., Aranda-Reneo, I., Peña-Longobardo, L. M., Oliva-Moreno, J. & Abizanda, P. (2016). Use of health resources and healthcare costs associated with frailty: The FRADEA study. The journal of nutrition, health & aging, 21(2), 207-214. doi:10.1007/s12603-016-0727-9
[5] . Shankar A, McMunn A, Demakakos P, Hamer M, Steptoe A. Social isolation and loneliness: prospective associations with functional status in older adults. Health Psychol 2017; 36: 179–87.
[6] Social isolation and loneliness as risk factors for the progression of frailty: the English Longitudinal Study of Ageing, Catharine R. Gale, Leo Westbury, Cyrus Cooper, Age and Ageing 2018; 47: 392–397 doi: 10.1093/ageing/afx188
[7] Social isolation and loneliness as risk factors for the progression of frailty: the English Longitudinal Study of Ageing Catharine R Gale Leo Westbury Cyrus Cooper Age and Ageing, Volume 47, Issue 3, 1 May 2018, Pages 392–397,
[8] https://ec.europa.eu/eurostat/statisticsexplained/index.php/Archive:Social_participation_statistics#Social_isolation

constant struggle to improve efficiency and quality of healthcare provision. People suffering from frailty, loneliness and long-term conditions require regular support and treatment, and services to be easier to access, and to help to better manage their conditions themselves, so they are less likely to require emergency care.

Research experiences suggest that frailty can be considered a malleable and manageable condition, and therefore, there may be opportunities along its pathway to halt, reverse, manage and/or prevent its adverse consequences and worsening. The FP7-funded PERSSILAA demonstrated that, in a sample of 169 participants, 25% of frail participants transitioned back to pre-frail, while 25% of pre-frail participants transitioned to robust after two years follow-up and moderate physical activity. Early stages of frailty are the most appropriate target for intervention because they are more likely to be reversible.

But, although frailty is highly prevalent no country in Europe has adopted a systematic process for the surveillance or monitoring of this condition[9]. The EC has launched diverse EU policies aiming to prevent or improve frailty. Recently, it recently has created a key initiative that targets the prevention of functional decline and frailty (European Scaling-up Strategy in Active and Healthy Ageing) [10] that includes an action group focused on the prevention and early diagnoses of frailty and functional decline (both physical and cognitive). Making active and healthy ageing a reality by keeping older people healthy, independent and fulfilled is a challenge we need to address comprehensively. This also creates huge opportunities for Europe to think creatively and innovate in terms of modern technologies, improved services and new business models. This approach to the ageing of society is at the heart of the Europe 2020 strategy and its flagship initiative 'Innovation union'. This is also the thinking behind the 'European innovation partnership on active and healthy ageing' that the Commission launched in 2011 with the aim of enhancing Europe's innovation potential for tackling the challenges and embracing the opportunities brought about by demographic change

Integrated care offers perhaps the greatest opportunity for preserving function in late aging, however, health and care systems are currently not organized to deliver integrated care, but rather to identify and treat acute illness. Many challenges still need to be tackled to achieve sustainable and integrated care services. Change is needed at both the healthcare delivery and policy levels to emphasize integrated care across the life course and to encourage health aging.

Whereas the earlier conceptualisations of frailty were dominated by a medical paradigm focusing on a biological syndrome, the evidence of a bidirectional relationship between frailty and loneliness has led recently to the adoption of a **broader multi-dimensional approach[11] to acknowledge psychological elements like quality of life, as well as social elements** such as lack of social contacts, situational factors and wellbeing. **Tackling these factors necessitates creating holistic programs** and innovative partnerships to address all needs, from physical conditions, to mental health, and psychosocial risk factors. This requires, as first step, that a **better methodology for the screening and identification of pre-frail status** in older adults that should be progressively adopted by health and care delivery services across EU**.**

In this framework, eCARE aims to deliver disruptive digital solutions for the prevention and comprehensive management of frailty to encourage independent living, wellbeing and to relieve health and care services budget pressure, throughout the implementation of a Pre-Commercial Procurement scheme. Solutions should improve outcomes for frailty in old adults entailing the physical and the psychosocial factors. The target group are the pre-frail/frail old adults with emphasis on those that feel lonely and/or isolated.

The project will **procure the development, testing and implementation of digital tools/services and communication concepts to facilitate the transition to integrated care models across health and social services** and country-specific cross-institutional set-ups, including decentralised procurement environments

[9] http://iisgetafe.es/wp-content/uploads/2018/06/ADVANTAGE-State-of-the-Art.pdf (page 19).
[10] European Innovation Partnership in active and healthy ageing. Prevention and early diagnoses of frailty and functional decline, both physical and cognitive, in older people. A compilation of good practices, 1st edition. Bruxelles Belgium: European Commission., 2017 http://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/gp_a3.pdf.
[11] Understanding frailty: meanings and beliefs about screening and prevention across key stakeholder groups in Europe Ageing and Society, Volume 38, Issue 6, June 2018, pp. 1223-1252

and collaboration across institutions. The procurers, health and care services providers will be enabled to share knowledge, test results and needs to better coordinate the primary and community care towards more local responsibility for care services, monitoring and rehabilitation.

The **eCARE project specific objectives** (SO) are:

- **(SO1) Promote systematic routine screening for pre-frailty stages** in at risk patients and older adults in clinical practice.
- **(SO2) Develop and implement sustainable multimodal interventions** for the prevention and comprehensive management of functional and cognitive decline and psychosocial frailty**.**
- **(SO3) Manage functional decline and frailty** through multidimensional targeted intervention in physical fitness, nutrition status, cognitive function, chronic conditions and diseases and on the social or psychological wellbeing of older people. Tackle loneliness and isolation and/or the perception of loneliness and isolation
- **(SO4) Contribute to integrated pathways of care with better informed, prepared and trained workforce** to deliver the holistic, anticipative and based-on-function type of care that old people require.
- **(SO5) Convey the shift to patient-centric intervention strategies** to ensure engagement and technology acceptance for the promotion of independent living in frailty prevention and management.
- **(SO6) Contribute to research and methodology on frailty** and active and healthy ageing and contribute to knowledge generation concerning the mechanisms for ageing and the progression of frailty, including the correlations between frailty and loneliness and isolation.
- **(SO7) Contribute to managing demand and increasing the sustainability of health and social eCARE** by optimising resources, systems and societal costs associated with ageing. Relieve the pressure on governments to provide more cost-effective health and care systems throughout affordable solutions/tools.
- **(SO8) Promote cooperation, including cross-sector international collaboration**, between university research groups, health and social care stakeholders, municipalities, and companies dedicated to ageing issues, in order to support competitive translational research, development and transfer of innovation to the market.

eCARE SOs are in line with the objectives of the Action Group on "Prevention and early diagnosis of frailty and functional decline, both physically and cognitive, in older people"´ from the European innovation partnership on active and healthy ageing (EIP-AHA). By means of this PCP, eCARE will manage to identify the innovative solutions capable to make major progresses towards the implementation of the above-mentioned objectives and bring forward the facts raised by the Action Group on frailty from the EIP-AHA.

There is a case for tackling frailty in older people at EU level: the causes and high prevalence; and the numerous and costly consequences. Since frailty is not an inevitable consequence of ageing, a stronger focus on early diagnosis and screening is needed along with a better understanding of its driving factors. Emphasis on prevention can reduce the incidence of frailty and postpone its onset. Addressing frailty prevention, by innovative ways of thinking can benefit from having a PCP concerted approach. It can help shifting from reactive disease management to screening, triage, anticipatory care and prevention on functional decline and frailty. This shift is to be brought about by the eCARE project through innovative, coordinated and comprehensive prevention, assessment and integrated management solutions addressing frailty.

To achieve the above-mentioned goals, the consortium is formed by 4 public procurers, 2 of which are health and care providers, and the other 2 are social care and health care services. The 3 preferred partner organizations will provide specialized support in the following areas of expertise: public procurement of innovation, social care and frailty management, eHealth technology and communication agency. The expertise of the partners in other PPI projects, such as: Relief; Pro-Empower; EPP-eHealth; and eHealth Hub, will be key in guiding the whole consortium towards the successful implementation of this PCP procurement strategy.

State-of-the art of solutions already offered by providers on the market or under development

There is an emerging consensus that preventing frailty in older adults is one key to holding down health and care costs and to improve dramatically health outcomes and quality of life as well as to enable longer period of independent living in older adults. Distinguishing older people who are frail from people who are not frail

should therefore form an essential aspect of assessment in any health and care service, but, this challenge falls across multiple policy spheres. A PCP concerted action among different stakeholders, intervening in 2 areas: screening/assessment and management of frailty in older adults seems, therefore, an appropriate instrument to undertake these challenges.

Currently, frailty is mainly measured in care or clinical settings but, yet implantation is limited. Although there is a plethora of frailty assessment methods worldwide, with the quality of measurements varying widely, there is no yet an international "gold" standard measurement for frailty.

Frailty measurements range from short, fast and crude frailty screening methods to sophisticated, time-consuming measurements, consisting of: questionnaires, surveys, health records monitoring, etc. Some measurements are better for population-level frailty screening, whereas others are best suited for clinical screening, or assessment. Therefore, quality of frailty measurements varies widely, with many measurements still needing cross-cultural validation studies. Today, the two most common frailty measurements, Fried's Frailty Phenotype (the CHS index) and Rockwood and Mitnitski's Frailty Index FI appear to be the most robust assessment tools for use by clinicians and researchers.

However, up to date there is not a commercial instrument in the market aimed to assess frailty. Most of the existing frailty screening tools have been developed and utilized for risk assessment in research and epidemiologic studies. An example of such is the *SHARE-FI instrument for frailty screening*[12], which represents the first European research effort towards a common frailty language at the community level that is based on the first wave of the Survey of Health, Ageing and Retirement in Europe, SHARE[13], but more experiences are needed to validate the impact on this screening methods on quality care. In this sense, the *2014 Social Protection Committee´s Long Term Care* report, underlined the urgent need to better understand the risk factors for frailty to improve early detection, prevention and management to reduce future demand on long-term care. The report outlines the need to further contribute to the research and methodology on frailty and active and healthy ageing and to improve the knowledge-base concerning the mechanisms for ageing and the progression of frailty. Further evidences are then needed to corroborate the findings of the prospective and the research studies as well as to progress beyond its outcomes.

Effective and efficient prevention of frailty requires, as first step, a better methodology for the screening and identification of pre-frail status in older adults. The frailty paradigm would be useful to identify older people at risk, but appropriate technological solutions to support screening and identification providing metrics are lacking. Novel solutions and further adaptation and reliability testing of existing tools for the assessment of risk of frailty syndrome among older population is required. Such quality frailty measurement should be able to identify frailty and predict patient outcomes; and be based on biological theory. And there is a need to progressively incorporate frailty measurement in clinical practice as part of routine care for older patients. This needs to be adopted by health and care delivery services across EU.

In terms of frailty comprehensive management integrated care technologies offer the greatest opportunity for preserving function in late aging in both physical and mental spheres, encouraging healthy aging across the life course. Integrated care has long emerged as a viable approach to overcome deficiencies in the care management for frail older adults, while at the same time improving efficiency, quality and effectiveness of the health services provided. But the degree of adoption of integrated care differs across countries and even regions within the EU. Some have adopted fully integrated care models whereas others have totally separated health and care delivery services. For all, the initiatives related to integrated care showed difficulty in addressing the transformation process, whereas extent of the barriers that they are facing is different:

- A key barrier to integrating care or improving services is the fact that funding streams for health and social care are separate. This presents a particular problem in financing the complex needs of frail older people since those needs increasingly span the boundary between the two systems. Integration and reform of social care funding have been mooted by governments for over 30 years, with uneven success.

[12] https://bmcgeriatr.biomedcentral.com/articles/10.1186/1471-2318-10-57
[13] http://www.share-project.org, a large population-based survey conducted in 2004-2005 in twelve European countries

- A further systematic barrier in integrated care services is the fragmented model of care delivery which remains focused on institutional episodic care and siloed pathways into primary, hospital and social care. As shown in the next figure, efficient care is undetermined further by the lack of shared access to patient information. This is exacerbated by the difficulty in accessing health and social care services out of hours. Consequently, increasing numbers of frail older people find themselves in hospital as a default position, with frequent emergency admissions to hospitals and longer lengths of stay than medically indicated.

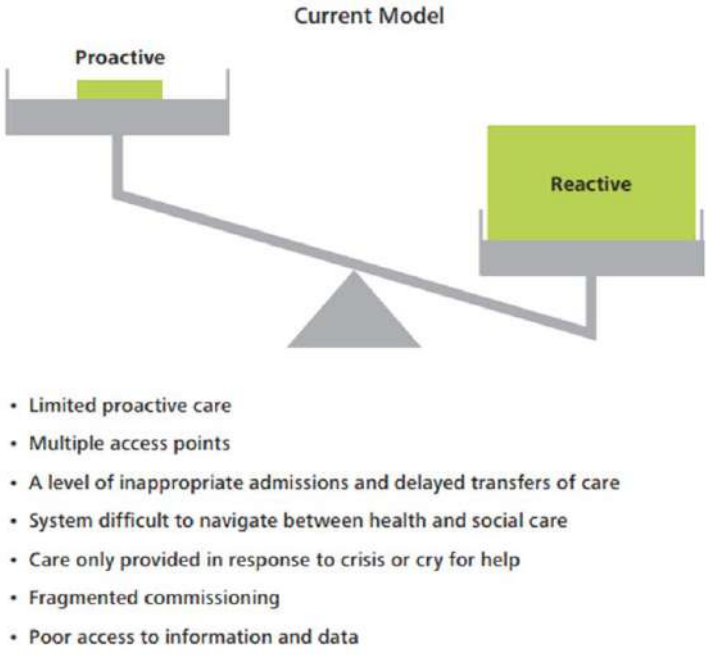


Figure 1. The current model of health and care delivery for frailty older adults

- Overall, yet the staff who spend most time caring for frail older people receive the least training. Health and care professionals are often unprepared to deliver the type of care that old people require. They usually lack the skills and knowledge on gerontology and geriatrics and on topics not directly related to these disciplines like shared decision-making, team-based care implementation, use of ICTs and continual quality improvement, needed to achieve that objective. The WHO in its "World report on ageing and health" (2015), concludes that health professionals are often unprepared to deliver the holistic, anticipative and based-on-function type of care. They are then especially ill-equipped to deal with the clinical and organizational challenges posed by frailty and therefore require specific

Although, the existing care systems tend to be slow in adopting new ways of collaborative working and attempting to recalibrate the way care is provided to meet such challenges will take time, in the meantime, there are solutions that have been taken to improve the efficiency and effectiveness of services.

The eHealth has aided the integrated of behavioural health by developing a variety of electronic methods that are used to manage information and make data-based decisions about people's health and care. These tools allow secure and private records for patients and make health information available electronically when and where it is needed. Using these tools can improve the quality of care and reduce care-related costs. Health care technology makes it possible for multiple providers to concurrently manage patient care. Electronically managing patient care eradicates the need for physical proximity to their patients and other providers. In primary care, examples of such advances include: (1) clinical diagnostic decision-making support; (2) computerized disease registries; (3) computerized provider order entries; (4) consumer health IT applications; (5) electronic medical record systems (EMRs, EHRs, and PHRs); (6) electronic prescribing; (6) Telehealth and Telemedicine; (7) Mobile Health (mHealth); (8) Virtual Healthcare; and (9) big data systems used in digital health.

Although all EU countries have developed an eHealth vision or action plan, only few (e.g., some Nordic / Baltic States, parts of the United Kingdom) have well-defined and comprehensive strategies in place linking up national, regional and municipal stakeholders and are 'mature' enough. In contrast, in the majority of MS eHealth implementation still centres on the introduction of Electronic Health Records (EHR) and e-Prescription, with only minor effects (but future opportunities) on the provision of comprehensive care. Examples of country strategies are show in the next graph:

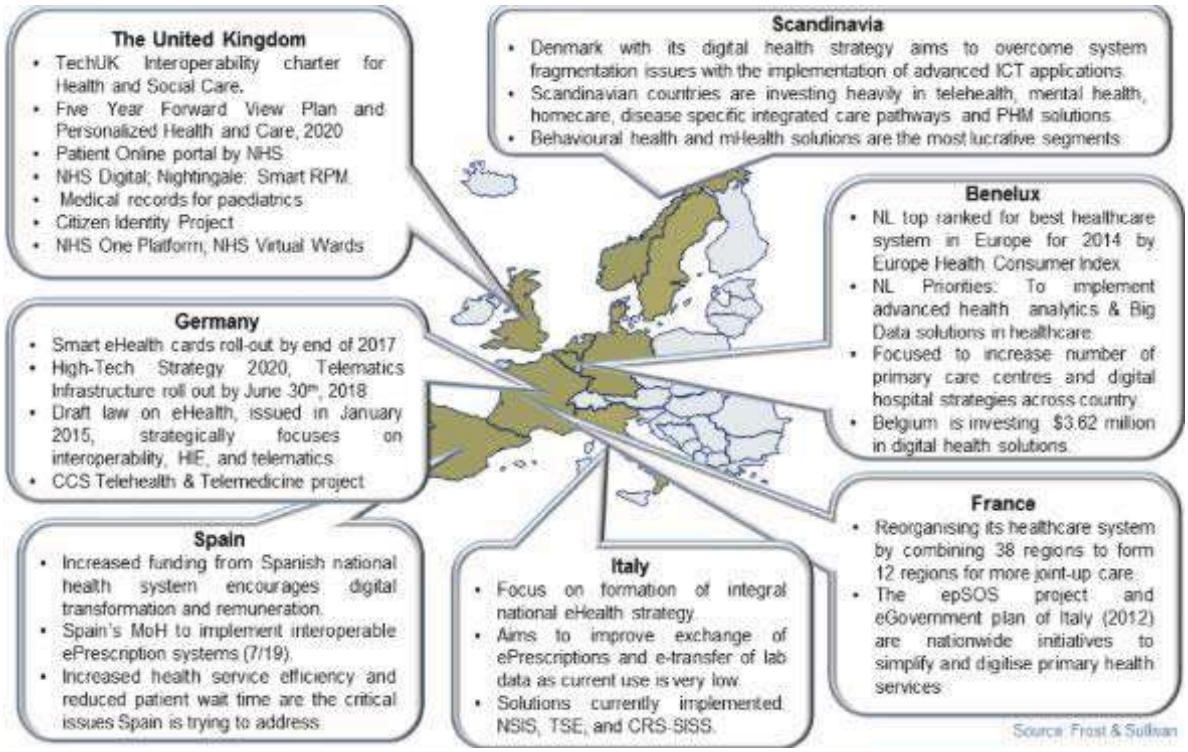


Figure 2. eHealth trends in western EU countries. Source: Frost $ Sullivan.

The global eHealth market is large. It is estimated that will be valued at around €280 billion by 2022[14] with a growing and consistent segment in the EU, mainly dominated by big players: Boston Scientific Corp., IBM, Motion Computing Inc., GE Healthcare, Epocrates Inc., Telecare Corp., CompuMed, Medisafe, Set Point Medical, Doximity, Lift Labs, Proteus Digital Health and Apple, with multiple solutions available.

Alongside, extensive research efforts have been provided over the last decade to develop technologies that support aging in place, and that reduce caregiver burden. Current solutions include a variety of assistive technologies that were developed according to the "ambient intelligence" paradigm. This paradigm aims to empower people's capabilities by means of digital environments that are sensitive, adaptive, and responsive to human needs[15]. These assisted living technologies are thus called ambient-assisted living (AAL) devices.

AAL devices are thought to provide home safety for the old adults, help with daily activities, and promote older adults' social participation by increasing connection and communication with their social network. However, a common drawback in existing AAL technologies is the lack of experimental validation[16]. In this vein, the benefits of AAL should be demonstrated with respect to both the autonomy of older adults, and the caregiver's self-perceived burden.

[14] Grand View Research. eHealth Market Analysis by Product, by Services and Segment Forecast to 2022. Report. San Francisco, Grand View Research

[15] A Survey on Ambient-Assisted Living Tools for Older Adults, Parisa Rashidi, Member, IEEE, And Alex Mihailidis, IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS, VOL. 17, NO. 3, MAY 2013

[16] Reeder, B., Meyer, E., Lazar, A., Chaudhuri, S., Thompson, H. J., and Demiris, G. (2013). Framing the evidence for health smart homes and homebased consumer health technologies as a public health intervention for independent aging: a systematic review. Int. J. Med. Inform. 82, 565–579. doi: 10.1016/j.ijmedinf.2013.03.007

Globally, the AAL market is very large. In the U.S. in 2011, 41 billion dollars was spent on assistive technology, and the much smaller European market was estimated at 525 million Dollars in 2015. Unfortunately, this growing supply does not translate into technology adoption by older adults[17]. Researchers have investigated the factors affecting technology acceptance amongst the older adults and, according to the *Senior Technology Acceptance Model*[18], three are the main families of factors identified as barriers:

- the characteristics of older persons (e.g., perceived needs, technological skills, medical conditions).
- their environment (e.g., social support for using technologies, living place).
- the features of technology (e.g., hardware, interface accessibility, usability).

In Europe, there still is low consumer awareness and there are low product adoption rates, but they are expected to change quickly in the near future due to technological developments[19]. The EU market is facing growth barriers due to (yet) the relatively small scale of national markets, differing market conditions and a lack of open standards. Large companies are moving ahead, such as Google with the launch of Google Home assistant, Alexa by Amazon as well as Apple with its new eHealth Kit and Wellness business, as well as Bosch, Legrand or Philips that have developed strategies, but penetration rate of SME companies is difficult as market adoption remains slow.

Despite considerable efforts for leveraging the knowledge on aging and human factors, other technology-related issues remain to be resolved.

- First, their silo-based nature makes it a challenge to aggregate them. Indeed, older adults require more and more services to assist an increasing number of solutions due to multiple, various and evolving needs, particularly in the context of frailty. As a result, personalized multiple intervention programs are more efficient (and sometimes less costly) to slow the impact of frailty (on cognition, autonomy, quality of life) than a usual intervention program.
- Second, the silo-based nature of most devices generates an overwhelming cognitive cost for older users, as documented in the literature on aging.
- A third limitation is related to the contextual relevance of assistive services (i.e., situation/context awareness). Indeed, most devices rely on an isolated telecommunication system. Thus, such services are not flexible and are supplied irrespective of a person's actual needs for a given situation, rendering them unsuitable, or indeed even obstructive for performing.
- Another market failure is that costs of technology are too high to be affordable on a large scale. The technologies are still expensive, and many technologies are not yet cost-effective. When designing such technology solutions, a key question is whether social care services are willing to pay for it. Furthermore, next to the purchase costs, the costs of ownership might be high as well. For example, data security and software updates can be pricy.
- And more importantly, these tools are often disconnected from care settings and outcomes are misused, misinterpret and there is no effective regular control on its management. This can have an adverse impact on the users' health and wellbeing.

Alongside, among the increasing number of tools to support old adult to age in place only few have been validated in an experimental study. There is a lack of truly structured tools, guidance or support to effectively adapt products and services to users' real needs. Most applications are just in theories and static assumptions and this prevents from adoption and use. Thus, clinal supervision s is the first step for the provision of evidence-based validated interventions. After several years of experimentation and pilots, the time has come to connect the learnings from these into an evidence-based roadmap for different use-case scenarios that are data-driven.

[17] Peek, S. T. M., Wouters, E. J. M., van Hoof, J., Luijkx, K. G., Boeije, H. R., and Vrijhoef, H. J. M. (2014). Factors influencing acceptance of technology for aging in place: a systematic review. Int. J. Med. Inform. 83, 235–248. doi: 10.1016/j.ijmedinf.2014.01.004

[18] https://www.researchgate.net/figure/The-Senior-Technology-Acceptance-and-Adoption-model-STAM-16-STAM-captures-the-context_fig2_220803551

[19] Growing the EU silver economy background, EC, February 2015.

And although these tools have the potential to support frailty prevention and comprehensive management, the reality is that today, there is not a solution in the market that undertakes frailty early detection and the specificities of its management process. There is a need to progress towards a better manage functional decline and frailty through multidimensional targeted intervention in physical fitness, nutrition status, cognitive function, chronic conditions and diseases and on the social or psychological wellbeing of older people, as well as to tackle loneliness and isolation and/or the perception of loneliness and isolation with a focus on each specific user-need.

Gerontologists, primary care physicians and care providers have long debunked the myth that frailty and loneliness are inherent characteristic of old age. But more recently, a study conducted in Europe concluded that the prevalence of frailty was higher in countries with lower GDP, probably due to socioeconomic, educational, and health factors.[20] Another study reported, based on the so far under-researched in the literature on loneliness, that between a third and a half of the older population report a rather serious level of loneliness and is particularly high among older women.[21] Differences in societal wealth and welfare and cultural norms may account for some of the unexplained variance on frailty and loneliness but these: gender, economic, cultural, etc. factors have traditionally been omitted. Understanding the correlations between these factors will allow to deliver more custom-centred targeted and efficient intervention plans.

The eCARE PCP offers an excellent opportunity to foster technology evolution through dialogue exchange and co-creation between both the demand and the supply side, validate findings, and meet the needs of the end-users. There is a need to progress towards the development of these solutions, by tackling implementing the R&D challenges outlined in the next section.

b) Planned progress beyond the state of the art

Due to the prevalent demographic changes and the continuously decreasing number of nursing staff and caregivers, there is an increased need for intelligent medical technologies, which enable people to live independently at home. In the actual health and care political and organisational context, population health management systems should be enhanced to support the process of integrating health and social care and a more active participation of patients and their careers. A shift towards patient and citizen-centric carer is urgently needed.

eCARE will progress beyond the state of the art by approaching older people not just in terms of their diseases but also in terms of physical, cognitive and psychosocial care and support to prevent functional decline, frailty and disability. The project key components to address frailty are those that define also integrated care, with the addition of targeting high risk frail individuals, an enablement attitude and a focus on outcomes most relevant to frail individuals and their caregivers. For these, a multimodal comprehensive system able to provide the most effective care will need to be provided.

To achieve the project specific objectives, the progress beyond the state of the art that can be attributed to the eCARE project is presented in the next table:

State of the art	eCARE progress beyond the state of the art
1. Lack of systematic routine for screening and assessment of frailty in older adults	**Better methodology for the screening and identification of pre-frail status in older patients**
There is a need to progressively incorporate frailty measurements in clinical practice as part of routine care for older patient. This needs to be adopted by	eCARE pursues the development of a better methodology for screening and identification of pre-frail status in older adults that facilitates a

[20] Frailty and associated risk factors in independent older people living in rural areas. ISSNe: 2182.2883 | ISSNp: 0874.0283. Available: https://doi.org/10.12707/RIV17078

[21] Late-life loneliness in 11 European countries: Results from the Generations and Gender Survey, by Thomas Hansen & Britt Slagvold (2015)

health and care delivery services across EU. Appropriate solutions to support screening and identification providing metrics are lacking. Novel solutions and further adaptation and reliability testing of existing tools for the assessment of risk of frailty syndrome among older population is required.	systematic routine for screening pre-frailty stages in at risk patients and to incorporate this routine into clinical practice. Existing methods for frailty screening and identification are time-consuming and lack of appropriate sensitivity levels. eCARE will deliver suitable and reliable digital solutions to support screening and identification of frailty in older adults, co-developed between professionals and the industry.
2. Lack of evidence-based interventions to avoid frailty	**Evidence-based intervention to contribute to a better understanding the factors affecting frailty condition**
Because the limited understanding of frailty progression mechanisms there is a need to better understand the risk factors affecting frailty progression and improve the knowledge-base of these mechanisms. Further evidences are needed to corroborate the findings of the prospective and the research studies to gain deeper insight into the complex mechanisms of frailty and aid the development and evaluation of interventions to improve outcomes. Successful prevention of frailty requires evidence-based interventions that can be offered earlier and tailored to the individual´s needs.	eCARE will deliver evidence-based interventions through appropriate pathways of health and social care to avoid incident frailty, its progression to disability and its consequences, including unnecessary hospitalizations and institutional care. The eCARE solutions will be monitored and tested in field-testing conditions. By these means, the project will provide evidence-based interventions for frailty progression and contribute to improve the understanding of factors affecting frailty condition.
3. Limited validation in existing technology solutions	**Professional co-design and supervision of technology solutions development**
Most of the existing measurements for frailty prevention have not been validated in experimental studies. The same happens with integrated care tools. They are just based in theories and static assumptions and this prevents from its acceptance and use. There is a need for solutions co-developed with professionals that have enough credibility to foster user adoption and promote goal-directed care. The development of such tools would facilitate to gain deeper insight into the complex mechanisms of frailty and aid the development and evaluation of interventions to improve outcomes.	Professional supervision is the first step for the provision of validated interventions but most of the tools have not even been validated in an experimental study. Most applications are just in theories and static assumptions and this prevents from adoption and use. eCARE will deliver digital solutions that have been co-developed together with professionals and, consequently, have enough credibility to foster user adoption and promote goal-directed care. The development of such tools would facilitate also to gain deeper insight into the complex mechanisms of frailty and aid the development and evaluation of interventions to improve outcomes
4. Existing barriers to technology adoption	**Delivery of user-centered solutions designed and oriented to the end-user needs**
Among the most formidable barriers to market adoption is the user. Acceptance and adherence to technology by the target user is critical for the solution to commercially succeed, even more old adults that might be pre-frail and feel lonely and isolated. More must be done to engage patients and carers in becoming 'fully engaged' as co-producers of their own care, and the work force needs to adapt to embrace multi-professional working.	To ensure stakeholders engagement and market implantation, eCARE will pursue the delivery of user-centred digital solutions designed and developed for the end-users. The eCARE solutions will incorporate better user experiences designed and re-oriented to what the old adults need, prefer, value conveying the shift towards a more patient-centric approach.

5. Insufficiently prepared workforce	**Better informed, prepared and trained workforce**
Health and care professionals are often unprepared to deliver the holistic, anticipative and based-on-function type of care that old people require. They usually lack the skills and knowledge on gerontology and geriatrics and on topics not directly related to these disciplines like shared decision-making, team-based care implementation, use of ICTs and continual quality improvement, needed to achieve that objective	eCARE will support a better informed, prepared and trained workforce to deliver the holistic, anticipative and based-on-function type of care that old people require, through new educational support tools for the workforce, including informal caregivers on the following aspects: gerontology and geriatrics, shared decision-making, team-based care implementation, use of ICTs and continual quality improvement, needed to achieve that objective
6. Better understanding of the psychosocial factors, gender dimension and its correlations affecting frailty progression to deliver multimodal personalised intervention programmes	**Delivery of multimodal personalised intervention programmes tackling the end-user social context**
There is a need to progress towards a better manage functional decline and frailty by means of personalised intervention programmes. These should be achieved by a better understanding the factors and the correlation between the factors affecting frailty and loneliness (social context, gender dimension, etc.) for the delivery of these personalised intervention plans.	eCARE pursues a better understanding of the factors affecting frailty progression and the delivery and implementation of sustainable multimodal personalised interventions programmes based on its findings. The eCARE solutions will manage the functional decline and psychosocial frailty through multidimensional goal-directed intervention programmes in physical fitness, nutrition status, cognitive function, chronic conditions on the social or psychological wellbeing of older people
7. Unaffordability of technological solutions	**Contribute to the sustainability of health and care systems throughout affordable and innovative technological solutions**
The health and care systems of every country face significant financial challenges to meet the needs of the aging population. Technology can support more sustainable services but, still, the costs of technology are high to be affordable on a large scale. Technologies are still expensive, are not yet cost-effective. Furthermore, next to the purchase costs, the costs of ownership might be high as well. For example, data security and software updates can be pricy.	When designing the eCARE solutions, a key question is whether health and care services are willing to pay for it. eCARE solutions will be designed taking into account what the health and social care services are willing to pay for it while at the same time maintaining high-quality standards. By these means, eCARE will contribute to managing demand and increasing the sustainability of health and social care services as well as to relieve the pressure on governments to provide more cost-effective health and care systems throughout affordable solutions/tools.
8. Uneven provision of continuum care across EU countries and regions	**Contribute to deliver continuum care across health and care services by technology improvement and self-management approaches**
Continuum care provision is still an uneven reality across EU subjected to different challenges. Moreover, the existing technological solutions are often disconnected from care settings and outcomes are misused, misinterpret and there is no effective regular control on its management. This can have an adverse impact on the users' health and wellbeing.	Many of the challenges mentioned require legislation, structural and organizational reforms, with implementation likely to take between five and ten years and will require sustained and consistent leadership to succeed. In this framework, the eCARE solutions should find the gap to facilitate and improve continuous care and break the

Integrated care involves strategic thinking, planning (including effects on organisational cultures and work routines, patient-health professional relationships, patient rights, etc.), standardisation, education and training, and interplay between providers, policy makers, and users, to name but a few of the challenges.	organizational barriers and develop new ways to share, build and communicate meaningful information across service boundaries in order to facilitate the staff organization and provision of service. Although, attempting to recalibrate the way care is provided to meet the challenges will take time, in the meantime, novel digital solutions with a self-management approach can improve the efficiency and effectiveness of the care delivery services.

Table 1. eCARE progress beyond the state of the art

Ambition of the improvements. R&D demand and improvement of the framework conditions.

eCARE pursues the development of basic methodological and standardized solutions for frailty prevention and multimodal interventions on different aspects of frailty, cognitive decline, malnutrition and quality of life, mental health of frail older people and their caregivers to improve the conditions of the state of the art. The prevention of factors such as malnutrition, mental health or lack of regular physical activity that have impact on different components of the frailty condition. The main demand on R&D is concentrated in the following 7 facets:

- Newly development easy-to-use and reliable solutions that facilitate early detection of frailty based on the most efficient standards and methods.
- Improve the understanding of the factors affecting frailty and the feelings of loneliness and isolation, and how they do correlate (e.g.: gender dimension, social context, etc.).
- Deliver personalised intervention plans taking into account the end-user societal context.
- Innovative and meaningful means to tackle the feelings of loneliness and isolation.
- New approaches to engage patients as active self-managers of their own health.
- New technology developments designed and oriented to the target end-user.
- And among all, investigate to deliver cost-efficient solutions, affordable to the payers involved.

Frail older people require access to a proactive and integrated care system that will deliver a step change in the management of their health, from early identification through to treatment and supported self-management. Health and social care needs to improve communication and co-ordination of services, with all touch points in the system, having access to robust, reliable and up to date information of patient´s health and social care needs. The rapidly changing health and care environment presents an opportunity to innovate and adjust business practices and services in ways that sustain and support our ability to meet the needs of the community and to improve the lives of older adults. The application of digital solutions in health and care systems can result in increased efficiency and improved quality of service, which can stimulate innovation in health-related markets.

1.2 Clarity and pertinence of the objective of the PCP – The common challenge

Public procurers involved in the eCARE project have the **common challenge to deliver disruptive digital solutions for the prevention and comprehensive management of frailty to encourage independent living, wellbeing and to relieve health and care services budget pressure, throughout the implementation of a Pre-Commercial Procurement process.** Although there are numerous eHealth solutions available that support ageing in place and independent living, so far, there is not a commercial solution in the market that undertakes frailty early detection and the specificities of its management process. Thus, the existing solutions do not satisfy the needs of the buyers' group. The state of the art and common unmet needs of the buyers' group and the end-users of the innovative solutions that motivate the focus of the PCP on this challenge is outlined below:

eCARE challenges	How eCARE addresses this challenge
(CH1) Challenge 1- Reliable, efficient holistic and responsive technology solutions for frailty detection.	
Unmet need	eCARE intervention to address this challenge
There is a need to progressively incorporate frailty measurements in clinical practice as part of routine care for older patient. Our health systems fail when it comes to preventing frailty in community dwelling and to addressing the complex care needs of frail old adults. Since frailty does not necessarily represent a point of no return, early intervention is necessary to prevent disability, avoiding adverse health events and hospital admissions. Thus, distinguishing older people at risk of frailty allows health and care professionals to identify early interventions and positive strategies that are effective and sustainable, weighing up benefits and risks, and for patients to make properly informed choices. The most evidence-based process to detect and diagnose severity grade frailty is the process of Comprehensive Geriatric Assessment (CGA). This is a resource intensive process, so effective technological solutions are urgently required to find equally reliable but more efficient, holistic and responsive methods for routine care.	By means of the PCP, eCARE will deliver digital solutions that will provide a better methodology for screening and identification of pre-frail status in older adults that facilitates a systematic routine for screening pre-frailty stages in at risk patients. Such quality frailty solutions should be able to identify frailty; and predict patient outcomes; and be based on biological theory. And there is a need to progressively incorporate frailty measurement in clinical practice as part of routine care for older patients. These solutions will facilitate the proactive and preventive action of professional's through the development of a personalised care plan and personalised multi-dimensional intervention, including: physical exercise, mental wellbeing and social engagement and its incorporation into the clinical and care routines.
(CH2) Challenge 2 - Better understanding of the psychosocial factors, gender dimension and its correlations affecting frailty progression	
Unmet need	eCARE intervention to address this challenge
There is a need to progress towards a better manage functional decline and frailty by means of personalised intervention programmes. These should be achieved by a better understanding the factors and the correlation between the factors affecting frailty and loneliness (social context, gender dimension, etc.) for the delivery of these personalised intervention plans.	eCARE pursues a better understanding of the factors affecting frailty progression (gender, social context, welfare, etc.). Findings from previous prospective studies will be analysed by the procurer's expert group, and links with key EU initiatives will be fomented. Findings of these initiatives and other research EU projects will be incorporated to form a solid knowledge-base that allows moving frailty understanding and health and care provision one step forward.
(CH3) Challenge 3 - Move towards holistic solutions to address frailty prevention, from physical condition to psychosocial risk factors	
Unmet need	eCARE intervention to address this challenge
Recent scientific findings evidence the importance of psychological factors in frailty prevention and reversal such as quality of life, maintaining social contacts and engagement, situational factors and wellbeing, which traditionally, have not been considered by health and care provision services.	eCARE will develop and further validate frailty-specific multi-dimensional solutions, encompassing the social dimension, to help older adults maintain a sense of self while building physical and psychological resilience. eCARE solution must tackle the physical and psychosocial factors, combat the feelings

Taking simultaneously into account physical and psychosocial aspects of frailty is a requirement to better explain the adverse events of aging and to better identify older adults at risk of negative geriatric outcomes. This necessitates creating holistic solutions and innovative partnerships to address the old adults needs, from physical conditions, to mental health, and psychosocial risk factors.	of loneliness and isolation, avoid social exclusion, support mental health and independent living, while promoting healthy lifestyles and safe habits. To achieve this, the solution should tackle the following areas and transform them into functional features: • Take into account the frailty or pre-frailty stage to tailor the correct recommendations for each user. • Mental health coaching: incorporate gamification, tutorials, avatars to enhance the state of mind and cognitive functions. • Provide structured multicomponent exercise coaching programs (consisting of endurance, flexibility, balance and resilience training) performed with low to moderate intensity. • Assess and optimize nutrition via nutrition coaching (mini Nutritional Assessment, consider vitamin D supplementation, etc.) • Advise patients to achieve a moderate mass index, combined with physical activity and/or physical exercise. • Incorporate virtual agenda to follow-up daily activities and, specially, medical appointments. • Assistive domotics to help with simple tasks, provide guidance or give instructions and may call emergency services when needed. They can also assist in or medicine intake (the right medicine at the right time), etc.
(CH4) Challenge 4 - Co-development to ensure clinical supervision and experimental validation in the field testing	
Unmet need	eCARE intervention to address this challenge
Among the increasing number of tools to support old adult to age in place only few have been validated in an experimental study. Most applications are just in theories and static assumptions and this prevents from adoption and use. Thus, clinal supervision is the first step for the provision of evidence-based validated interventions. Future eCARE digital solutions must be co-developed and supervised by health and care professionals.	eCARE solutions will be co-designed in collaboration with patients, health and care professionals and validated at patient level in the phase C of the PCP, which is the field-testing. The co-creation process will reassure reliability and, thus, maximise the user adherence. The validation process (field-testing) will be essential to gain deeper insight into the complex mechanisms of frailty and aid the development and evaluation of interventions to improve outcomes
(CH5) Challenge 5 - Establishment of monitoring and performance evaluation systems to improve the user experience	
Unmet need	eCARE intervention to address this challenge
The provision of evidence-based intervention can only be achieved by the establishment of monitoring and performance evaluation systems. Better, more comparable and longer-term data collection and reporting will be crucial	eCARE solution will integrate a monitoring and performance system to tackle the user status on the physical and the psychosocial domains to provide evidence of the impact on quality of care, the user experience and health outcomes. This

for building a more comprehensive evidence base and to improve the user experience. So far, the evidence base on both patient outcomes is based on small-scale examples, although the scale of implementation is slowly growing. Monitoring and performance systems are essentials and need to be implemented to provide evidence of the impact on quality of care, the user experience and the health outcomes.	will have also considerable clinical merit as it has the potential to support the paradigm shift in the provision of health and care of frail older people towards a more appropriate goal-directed service. Last, this has the potential to contribute to the standardization of these practices by data-driven effective communication to policymakers.
(CH6) Challenge 6 – User-centred care interventions tailored to the individual needs	
Unmet need	eCARE intervention to address this challenge
With current demographic patterns, we cannot rely on homogeneous, top-down health and care solutions for old adults. Every senior is different, and we need to develop user-centred care tailored to individual needs and which allows them to be involved in their own care. Thus, there is a need of personalized intervention programs that are more efficient (and sometimes less costly) to slow the impact of frailty (on cognition, mental health, autonomy, quality of life) than a usual intervention program.	The eCARE solution should be designed, integrated and deployed along functional lines to match much more closely to the user needs. The solution needs to be customizable and capable to evaluate the individual needs / preferences to implement personalised user-centred interventions, incorporating better user experiences, desing and technology oriented to what the old adults need, prefer, value.
(CH7) Challenge 7 - Ensure stakeholder's engagement and technology acceptance	
Unmet need	eCARE intervention to address this challenge
Because of the high reliability and user satisfaction requirements the market is inherently cautious of innovative technologies. Among the most formidable barriers to market adoption is the user, who will generally be in the front line: while many consumers demand convenient, accessible health and care services, there will likely always be a cadre of users who will never embrace technology devices. They may be saddled because of their health status or have a lower level of digital/health literacy, or some people may simply be uninterested. There is an information gap about the games and functions the old people enjoy. Acceptance and adherence to technology by the target user is critical for the solution to commercially succeed, even more old adults that might be pre-frail that are feeling lonely and/or isolated.	The eCARE solution should be designed for the user, counting on the way the health and care providers work. There is a need to improve system abilities such as user-friendliness, configurability, adaptability, motion, manipulation, decisional autonomy, dependability, interaction, perception and cognitive ability which will increase the engagement with the targeted population. Intuitive user interfaces to attract the attention of older people, efficient and effective operation, high functional dependability, good 3D sensing and interpretation of the working environment, are targeted characteristics pursued by the future eCARE solutions. The industry will be challenged to develop functionalities tailored to the older people and combine physical and mental training, to improve cognitive capabilities. A field-testing, with a sample population will confirm that the technology is valid for the targeted users. All these will promote technology acceptance and adoption as well.
(CH8) Challenge 8 - Enhance interoperability, flexibility and scalability to overcome technology silos. Pursue higher automation levels.	
Unmet need	eCARE intervention to address this challenge

Most devices rely on an isolated telecommunication system. Thus, such services are not flexible and are supplied irrespective of a person's actual needs for a given situation, rendering them unsuitable, or indeed even obstructive. This hinders from adoption and, what is more, limits the capacity of self-management of the end user. The more devices you can integrate, the more independent is the user. Giving independence to an old adult has direct impact in hospital savings.	The lack of flexibility is one of the main problems for technology implementation. Thus, the solution pursued should be flexible enough to integrate different technological devices. In addition, it should be scalable, capable to integrate, in a modular way the care pathway, considering the needs of the specific user. They should also be interoperable and based on open platforms as well as consider existing best practices and standardisation initiatives in the sector. In addition, higher automatization levels to manage the information will be pursued. Although the involvement of the professional is vital, some of the interventions should be automated to relieve the care burden.
(CH9) Challenge 9 - Enable user empowerment to self-manage their condition by means of education and training	
Unmet need	eCARE intervention to address this challenge
Due to the prevalent demographic changes and the continuously decreasing number of nursing staff and caregivers, there is an increased need for intelligent technologies, which enable people to self-manage their health conditions and live independently at home. Old adults should be engaged as active members of their "care team", allowing them to be involved in the decision-making processes according to their individual needs. More needs still to be done to achieve the full engagement of seniors as co-producers of their own care. Besides, self-management technology developments engagement comes mainly from assurance of reliability and confidence in technology developments through demonstration-cases.	Empowering patients to self-manage and maintain healthy lifestyles will improve their health outcomes and reduce the number of hospital visits. It would also help them feel more secure about dealing with their health status which will improve the psychological side of their condition. eCARE solutions should enable self-management and promote independence, by: • Help patients to "better comply" (adhesion) with the instructions of the socio-health professionals that operate around them. • Educate the patient, giving support and acting before the crisis emerge. • Include decision making tools that allow patients to increase self-management. • Information and decision tools to support physiotherapy and physical training etc.
(CH10) Challenge 10 - Education/training of the workforce, including informal caregivers	
Unmet need	eCARE intervention to address this challenge
Health and care professionals are unprepared to deliver the holistic, anticipative and based-on-function type of care that frail old people require. They usually lack the skills and knowledge on gerontology and geriatrics and on topics not directly related to these disciplines like shared decision-making, team-based care implementation, use of ICTs and continual quality improvement, needed to achieve that objective. They are then especially ill-equipped to deal with the clinical and organizational challenges posed by frailty and therefore require specific education and training.	eCARE will deliver new educational support tools for the workforce, including informal caregivers. This is aimed to: • to simulate use cases and settings • deliver tailored interventions • identify potential bottle-necks (organizational silos interoperability requirements etc) • alleviate the pressure of caregivers by new skills in the delivery of service.
(CH11) Challenge 11- Collect data for research purposes: basic methodological and standardized research on different aspects of	

frailty	
Unmet need	eCARE intervention to address this challenge
Health and care systems store a huge amount of data, but the way it is stored often makes it difficult to use the data for research purposes. This is due to the structure of the data and the fact that data collection is almost always retrospective. Today, data must be retrieved from the user charts and often combined with paper or e-dairy collection of data, not integrated with each other. Social data are fragmented and not standardized. The identification of meaningful datasets arising from assessments and monitoring solutions/tools in the physical psychosocial domain is pivotal to be integrated with the health domains and improve interventions.	eCARE solutions should improve utilisation of care and health outcomes. Collecting data for research use through the solution will allow the identification of the datasets required to improve integration of care through interoperability with health and care systems dataflows in the context of the GDPR. This approach has the potential to revolutionize the way care is delivered and will result in an improvement of old adult's health management. After several years of experimentation, it is important to connect the learnings into an evidence-based roadmap for different use-case scenarios that are data-driven.
(CH12) Challenge 12 - Pursue the cost-effectiveness, sustainability and affordability of the solution	
Unmet need	eCARE intervention to address this challenge
Life-cycle cost-efficiency, referenced in terms of both of purchasing prices and maintenance of running costs, should be kept as low as possible. Sustainable solutions will support integrated care and, by these means, contribute to avoiding hospitalization and institutionalization, giving the senior resources to stay at home under the best possible conditions. This is critical for any public application to support future investments thatbootstrap markets. Avoided cost are very important for public health buyers: sometimes a small additional cost can impact hugely on surging cost, for example related to disability.	eCARE will pursue the generation of more sustainable care models where savings can be measured i.e.: cost-effective to ensure the sustainability of the services that are offered. Life-cycle cost-efficiency, referenced in terms of both of purchasing prices and maintenance of running costs, should be kept as low as possible. The implementation of eCARE will provide evidence of cost effectiveness and demonstrative how such technology will positively impact on frailty prevention. In this project, a tag price range of (max. €/month ^ user) will be set, based on the average investments that procurer´s services involved in eCARE project can afford. This will be transformed in a requirement of the PCP call for tender.
(CH13) Challenge 13 – Facilitate effective continuum care across a range of health and care services	
Unmet need	eCARE intervention to address this challenge
The transition to integrated care is a complex process with high complexity being present in all aspects: design, implementation and assessment of integrated care. Continuum models must be carefully designed and implemented to fit the local context and needs. Failing to do so effectively may not bring benefits and, under such circumstances, performance will inevitably show poor or suboptimal results. Existing care systems tend to be slow in adopting new ways of collaborative working and information sharing, particularly where these cut across established organisational boundaries.	Find the gap to improve continuous care and how to break the organizational barrier and new ways to share, build and communicate meaningful information across service boundaries in order to facilitate the staff organisation and provision of service. Coupled with the user life-flow is the parallel challenge of the health and care provider and the policy makers. eCARE responds to the need for further interim solutions and policy initiatives in order to accelerate developments and bootstrap markets. Learnings and best practices will be collected, documented and diffused across the wide range of health and care

	stakeholders. These learnings and communication messages will be tackled in the *Communication, Dissemination and Exploitation Work Package*.

In order to meet the above-mentioned challenges, eCARE will launch a PCP call for tender to deliver digital solutions that facilitate continuum care across care settings in pre-frail/frail old adults. The challenge is to identify frailty by means of improved screening and identification methods and to propose virtual intervention measures tailored to the end-user's specific needs that address the physical and psychosocial spheres. The main goal is to maintain/improve the users wellbeing and promote independent living as well as to alleviate the financial pressure on the health and care systems. For this purpose, a key requirement will be the affordability of the solutions, which should be prioritized to maximize the chances of use and adoption. Self-empowerment will be another key requirement. By means of education, and self-empowerment, end-users will gain confidence in the management of their own health status, which has the potential to relief the caregiver´s burden. In addition, the eCARE solutions should integrate a monitoring and performance system to tackle the end-users and their response to the intervention program. This is aimed to improve their experience and provide more appropriate and goal-directed services. Data-sets resulting from the end-user monitoring should be prepared and collected in a way that allows its use for research purpose to, ultimately, improve utilisation of care and health outcomes. Finally, several facets such as: user-friendliness, configurability, adaptability, motion, manipulation, etc., should be carefully considered in the solutions design taking into account the targeted end-users.

Therefore, eCARE is poised to make major progresses to improve the quality of life of old adults by preventing frailty from a multidimensional approach by providing end-users with dependable, acceptable and sustainable support and assistance including where necessary individually tailored systems. Europe is facing important challenges as an ageing populating and increasing health costs impact on society. These societal needs will drive innovation and create disruptive opportunity. eCARE incorporates ingredients that will be effective in stimulating cognitive activity, maintaining social relationships and engaging in a personalised exercise plan as well as an advocacy service to help older adults and their family caregivers. A graphical representation of the eCARE solutions foresee intervention is presented below:

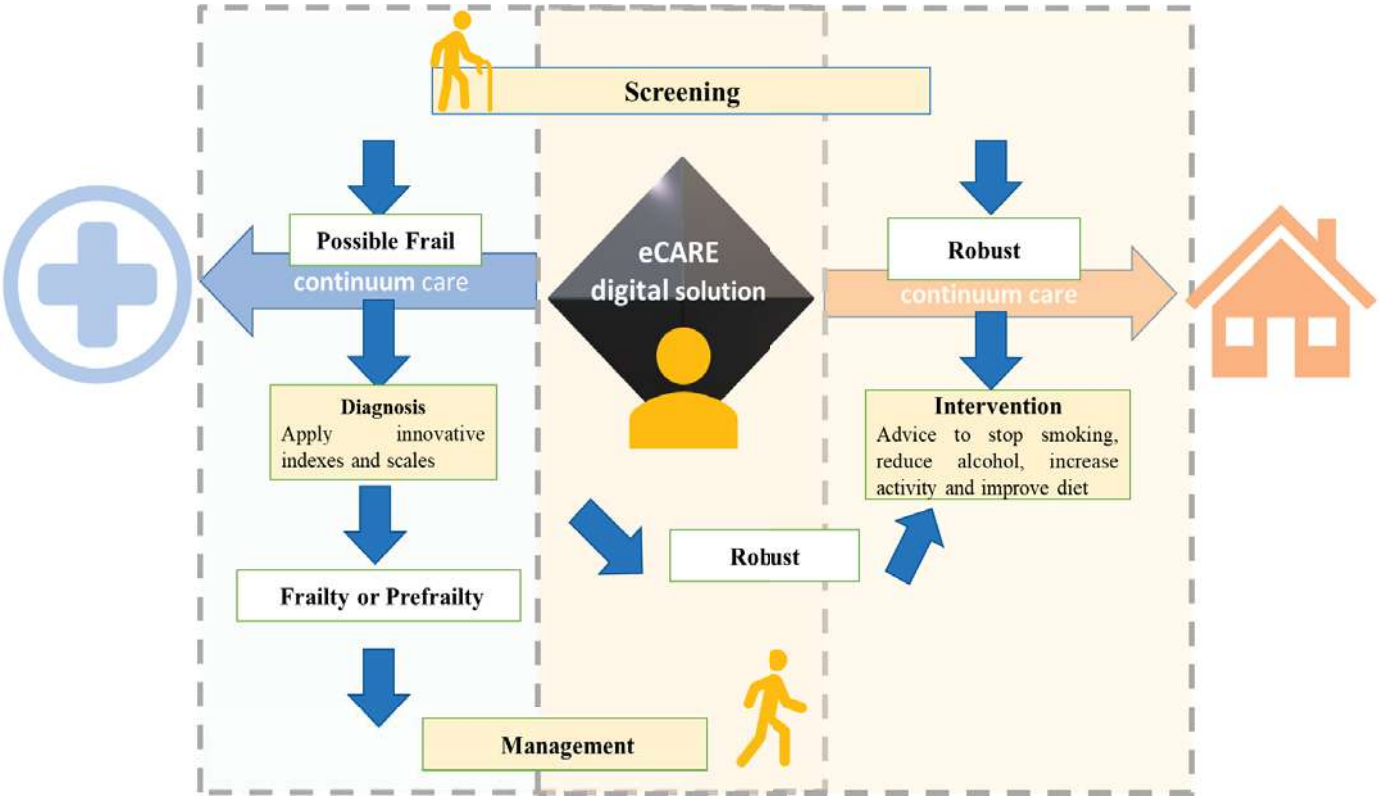


Figure 3. eCARE PCP solutions schematic representation

The procurement partners participating in this project are facing similar challenges and share the need for innovative solutions to meet the above-mentioned facets. The consortium is formed by 4 procurers from

Poland, Spain and Italy. These countries; Poland, Spain and Italy (in this order) are the EU countries which account for the highest rates of frailty[22] and, thus, where the most urgent action is needed.

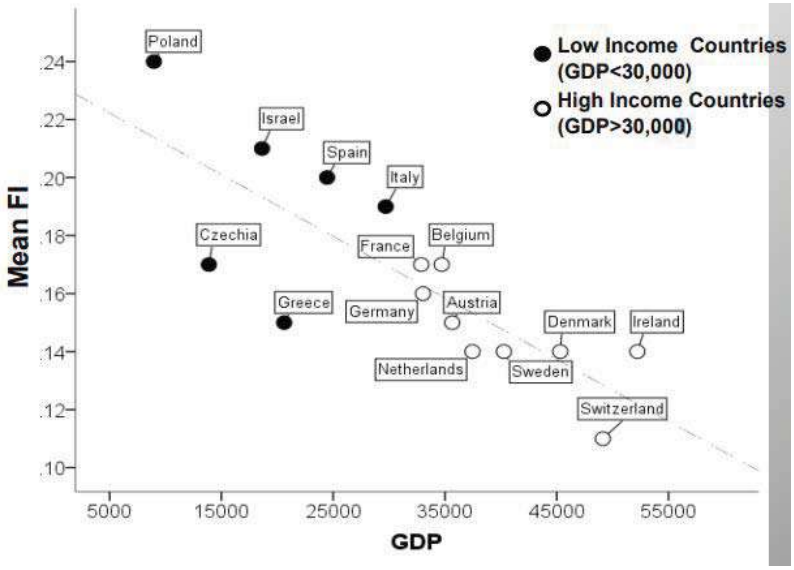


Figure 4. Frailty prevalence across EU in relation with GDP (Source: https://www.americangeriatrics.org/sites/default/files/inline-files/melissa_andrew.pdf)

eCARE procurers need is driven by internal motivations to revert the state of the art and obtain quality and/or efficiency improvements to pre-frail/ frail old adults. The consortium is formed by 4 public procurers, 2 of which are health and care providers, and the other 2 are social care and health care services, respectively. These public administrations have the responsibility and the mandate to establish policies and strategies to support independent living, not only for the most obvious social reasons, but to ensure the sustainability of the state of wellbeing and guarantee the provision of adequate social services. The other 3 organisations will provide specialised support in the following areas: procurement, frailty management, technology expertise and communication.

In the current demographical context, the provision of health and care services to an ageing population is one of the greatest social and economic challenges which is facing the EU. The projections foresee a growing number and share of old adults (aged 65 and over), with a particularly rapid increase in the number of very old persons, aged 85 and over. And frailty, which is the most problematic expression of ageing, is set to reach epidemic proportions over the next few decades.

eCARE business analysis highlights the importance of implementing this action, and further explains the partner´s motivation to focus in this PCP from multiple perspectives. The ageing costs in the euro area are projected to increase by 1.5 percentage points of GDP, from 2013 to 060[23],while the average amount of health spending for 65-year old and over seniors increases with the frailty level[24] in a range from 1,500 to 5,000 €/person on an annual basis. In this context, the project goal is to deliver quality, efficient and affordable solutions, with proper ROI through the potential savings achieved. Given the size of the challenge in EU, only small savings would represent an enormous impact with regards with the current status.

Pre-commercial procurement is an ideal framework for the delivery of innovative solutions. The eCARE network of procurers and the service providers are often on the frontline as new needs emerge. This PCP will allow the procurers to voice out their unmet needs, create a new demand to access sustainable products of higher quality, and develop new applications with lower life cycle costs. The demand and the supply side will work together to co-create and co-design the solutions and validate their functionalities against the specific

[22]American Geriatrics Association https://www.americangeriatrics.org/sites/default/files/inline files/melissa_andrew.pdf
[23] Ageing report, 2015.
[24] Ageing, Frailty and Health ECARE Expenditures Nicolas Sirven (Liraes (EA 4470) Université Paris Descartes, Irdes)

challenges outlined in the PCP call for tender. This will clearly maximize the engagement of innovation in health and care services.

eCARE procurers will proactively organize the requirements of the demand for care solutions in a coherent way. The procurers (buyers' group) will assess the solution adequacy to the targets. The preferred partners will contribute with solid knowledge of innovative procurement paths to the innovation procurement tender. The project partners will do this by:

- Providing a solid and informed base for dialogue between stakeholders by determining a coherent picture of the market state of the art of the sector based on practical experience of customers and suppliers.
- Enabling a genuine and credible dialogue between the supply-chain and customers to determine the practical policy and procurement actions required to deliver the eCARE solutions.
- Defining the common unmet needs, communicating these to stakeholders and initiating a mobilization plan for a PCP addressing eCARE needs.

The PCP may be summarized in a series of actions:

- Convey the relevance of innovation procurement to public procurers: Encouraging suppliers to offer novel solutions to address eCARE challenges rather than the lowest price solutions.
- Analyze the state of the art of the market with all potential suppliers, as well as the main problematic and barriers faced in the sector and that need to be overcome A set of actions involving both the supply and demand sides will be carried out: a coordinated first analysis of the state of the art conducted by all project members followed by a coordinated market sounding through all dissemination channels managed by the consortium will be undertaken to spread project results aiming to receive feedback from all key market players. For this, the role of procurers is vital to replicate and stretch the impact of the project.
- Providing public procurers with procurement know-how to improve public sector procurement efficiency and increase public sector market power by giving support to apply the methodologies of innovation procurement. Market sounding will provide an opportunity for engagement and two-way dialogue with innovative companies that can offer solutions and guidance on how to overcome the procurement barriers.
- Launching an agreed, realistic and validated joint PCP tender.

This PCP represents and an opportunity for the public bodies involved to shift the paradigm, moving from the "usual" way of purchasing goods that is based solely on the price of the product, to the best value for money concept. Life cycle costing, supply chain analysis or group purchase are rarely used, which means missing some opportunities to get innovative products that would give purchasers competitive advantage. The PCP will enable to identify common needs, conduct market analysis, understand supply chain, use these tools to comprise a higher procurement volume, and achieve bigger impact on suppliers.

1.3 Credibility of the proposed approach

a) Proposed concept and methodology

Public procurers involved in the eCARE project have the common goal to deliver disruptive digital solutions for the prevention and comprehensive management of frailty to encourage independent living, wellbeing and to relieve health and care services budget pressure, throughout the implementation of a Pre-Commercial Procurement scheme (PCP):

The project will make progress towards this aim by stimulating the demand and creating a robust framework for practical PCP outcomes within the period of the project. In Europe, the PCP has so far been an under-utilized tool for promoting innovation. The PCP process will be split into two stages: preparation and execution:

1. PREPARATION STAGE

The preparation stage will be based on feedback from the needs analysis of the buyer's group, prior art analysis and an open market consultation. Active participation of the final end-users of the solutions will be ensured at this stage (e.g.: allocating resources for implementation and building cooperation with other stakeholders). The expected outcomes of the preparation stage will be:

- Completed tender documents based on the Horizon 2020 PCP model contract documents, using common functional/performance-based specifications and common evaluation criteria.
- Signed joint procurement agreement confirming the final collaboration modus including the financial commitment of the buyers' group to pool resources for the PCP; and
- Final confirmation of the lead procurer.

In preparation of the PCP call for tender, an Open Market Consultation (OMC) with potential tenderers and end-users will be held to broach the views of the market about the eCARE scope. The OMC is held prior to the tender processes takes place. The purpose of the OMC is to canvass wide stakeholder opinion on the suitability of the eCARE PCP. Thus, the OMC will be an essential part of the preparation of the PCP Challenge. With the market consultation, the consortium will get an insight into the market; the state of the art and future developments to prepare an adequate tender with a feasible scope. To gain this knowledge, companies in the EU will be invited to fill in an online questionnaire on the eCARE PCP Challenge that will be opened for 2 months, interviews with selected key stakeholders will be maintained, working sessions with potential end-users will be arranged, and workshops at the premises of each procurer will be held.

The output of the OMC will give a broad insight into the current state of the art of the market. It will allow contributors to give feedback on what technologies should be included in eCARE, where they see the biggest technical challenges and what more information should be shared to make scope of the challenge clearer. The contributors will give valuable comments concerning data protection and privacy issues. The results of the consultations will be fully documented and considered in order to detail the tender specifications. The open dialogue will not distort competition; it will be announced in advance to enable potential tenderers regardless their geographic location through the OJEU, using the TED (Tenders Electronic Daily) web Portal in English, Horizon 2020 internet sites and National Contact Points. The Commission will be informed at least 5 days prior to the expected date of publication of the PIN for the open market consultation and 30 days prior to the expected date of publication of the PCP contract notice and its content. The PCP call for tender will remain open for the submission of tenders for at least 60 days. The PCP will take place according to market conditions and the Treaty principles and competition rules will be fully respected[25]:

The PCP will cover the procurement of R&D services, in a way that it will be clearly separated from any potential subsequent purchases of commercial volumes of end-products. Procurers undertaking a PCP can, if so they desire, but are not obliged to, after the PCP procures at market price R&D results generated during the PCP. (Negotiated procedure without publication, Article 31(2)(a) resp. Article 40(3)(b) resp. Article 28(2)(b) of public procurement directives 2004/18/EC resp. 2004/17/EC).

The consortium confirms the intention to implement the PCP in compliance with the Horizon 2020 requirements, in accordance with Annex E of the work programme and in the Grant Agreement for PCP co-fund actions

- The **lead procurer** will be Azienda Sanitaria Locale BN - ASL BN (Public procurer). The lead procurer is the beneficiary appointed by the buyers group to coordinate and lead the joint procurement,

[25]Article 16f of Directive 2004/18/EC; Article. 24e of Directive 2004/17/EC, Article 13(f)(j) of Directive 2009/81/EC Treaty principles on the free movement of goods and workers, the freedom to provide services, the freedom of establishment and the free movement of capital, as well as the principles deriving there from, such as the principles of non-discrimination, transparency and equal treatment Rules for Participation and PCP communication COM/2007/799 and associated SEC(1668)2007

as member of the procurers group. The lead procurer awards the R&D service contracts in the name and on behalf of the buyers' group. The lead procurer and the public procurers in the buyers' group are contracting entities as defined in the EU public procurement Directives. The Consortia will have all selected tenderers paid by the lead procurer (centralized payment modality) according to the share of the individual financial contribution of each procurer of the total PCP procurement budget.

- The **buyers' group** will be formed by: CSI; ASL - BN; FALKHOSP; SDR. All of them are public procurers.
- BRAVOSOLUTION, TBM and SCMA will also act as **preferred partners** during the PCP execution stage participating in the evaluation process.
- There will be a **third party** providing in-kind contributions against payment: **Federico II University Hospital**. As Member of the Coordination Team of the Campania Region (Italy) reference site of the EIP on AHA, Federico II University Hospital will support ASL BN (lead procurer) in defining the requirements and the use cases of the call for tender and in the implementation of the pilot.
- **Advisory board:** In addition, the consortium will timely count on the support of external experts to collaborate in the evaluation process, providing their expertise in the technology domain. A budget of 8.600 € has been allocated for this purpose to the Project Coordinator, under the Other Cost Category.
- **Ethical and legal expert:** Finally, it is foreseen to subcontract the support of an ethical and legal expert to provide guidance in the aspects related to ethics and data protection management, and to design the field-testing protocol that will be executed in Phase C (sample recruitment, consent informs, field testing definition, etc.). A budget of 15.000€ has been allocated for this purpose.

The consortium foresees the submission of a deliverable at the end of the preparation stage, where the role of the different partners involved in the execution of the PCP will be explained in detail; *D2.3 PCP tender documents compilation including functional specifications.*

2. EXECUTION STAGE

The PCP execution consists on the preparation of a joint PCP procurement and implementation of the PCP contracts under the supervision of the buyers' group, ensuring execution of the R&D services by the providers according to the action plan and requirements defined in the preparation stage. The solutions will be compared and validated against jointly defined criteria by the buyers' group and other concerned final end-users in real-life operational conditions to verify fitness for purpose in view of potential conversion into permanent service of the solutions. Finally, the results will be disseminated, and the ex-post exploitation strategy based on the outcomes of the PCP will be confirmed.

An open competition will be run to find solutions to the challenge. All tenders will be evaluated using the same criteria regardless of the geographical location of company, company size or governance structure. Furthermore, the tenders that offer the best solution at an appropriate risk and cost level will be favored.

The PCP will be launched by the lead procurer entity according to the EU public procurement directives 2014/24/EC, 2014/25/EC, and 2009/81/EC. The PCP contract notice will contain information on the intended number of R&D providers that will be selected to start the PCP, the number of PCP phases and the expected duration and budget for each PCP phase. The procurers will inform tenderers of the procurers' right to publish public summaries of the results of the PCP project, including information about key R&D results attained and lessons learnt by the procurers during the PCP, preserving the IPR rights and without distorting fair competition between the participating R&D providers or others on the market.

The approach used in PCP by procurers will be to buy the R&D from several competing R&D providers in parallel, to compare and identify the best value for money solutions on the market to address the PCP challenge. To reduce the investment risk, the most competitive solutions will be rewarded, and participation of smaller innovative companies will be facilitated. As has been explained the number of competing R&D providers will be reduced after each phase subsequent to intermediate evaluations. All the offers will be evaluated according to the same objective criteria regardless of the geographic location, organization size or governance structure of the tenderers.

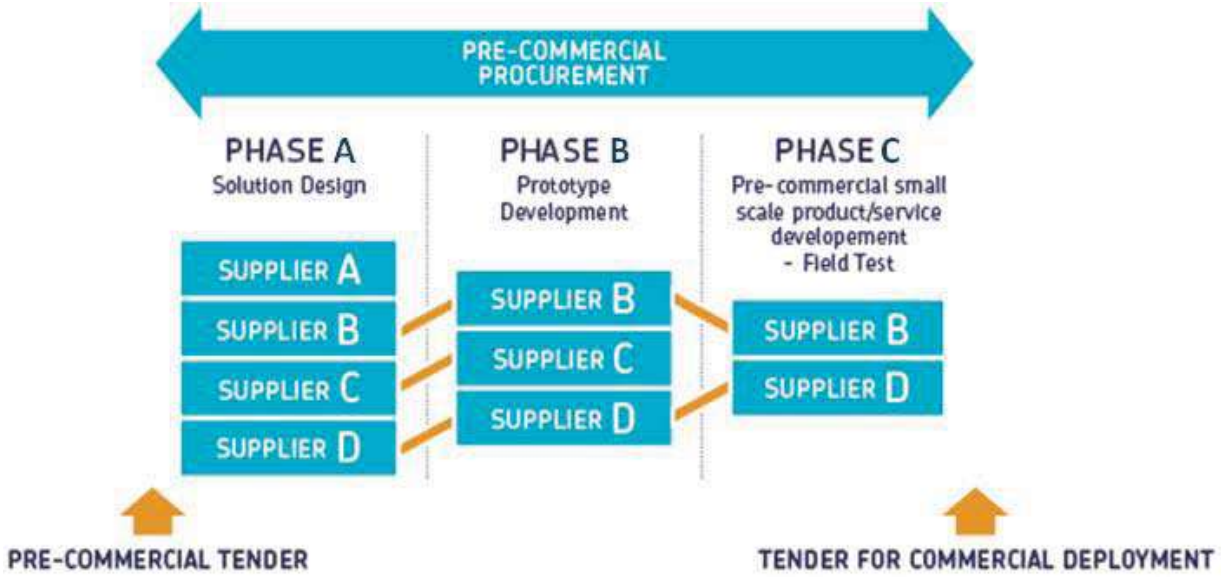


Figure 5. Diagram of PCP phases

The procurers will enjoy royalty-free access rights to use the R&D results for their own use. The procurers will also enjoy the right to grant or to require participating R&D providers to grant non-exclusive licenses to third parties to exploit the results under fair and reasonable market conditions without any right to sublicense. If an R&D provider fails to commercially exploit the results within a given period after the PCP as identified in the contract or uses the results to the detriment of the public interest, including security interests, they should transfer any ownership of results to the procurers.

The PCP will be structured in four "phases": Solution design, Prototype development and Pre-Commercial small-scale development and field test, and commercial procurement, as illustrated by the figure above. The product commercialization is out of the scope of the project. The total PCP budget is 3,920,000 €.

A specific WP5 will be designed for the contract implementation. In this WP5, all the contracts will be monitored to ensure that the eCARE objectives and that the PCP requirements are fulfilled by the contractors. Monitoring protocols will be created and set up among the procurers to facilitate the follow up of the R&D providers and the evaluation of the performance of the innovative solutions. These protocols will be based on the PCP monitoring principles established in the eCARE PCP Request for Tender. A Supervisor from the Buyer's Group will be assigned to each contractor since the beginning of Phase A to ensure a close monitoring of the contract against the expected outcomes (deliverables, milestones, outputs, results). Specific KPIs will be created to facilitate the follow-up of the different phases. These KPIs will be focused on monitoring the satisfactory and successful completion of the phase, as well as its compliance with the contract requirements (number of deliverables submitted on time). The monitoring actions will be gathered in a *Follow-Up* document created for that purpose and assigned to each Supervisor. In addition, intermediate monitoring meetings with contractors will be set-up in all phases to review the progress of the contracts. In these meetings, the Buyer's Group will be committed to provide specific feedback and recommendations to contractors to support them in the solution co-design.

In order to stimulate the possibility of more radical approaches being proposed and "out of box" thinking being used, the challenge description will be phrased as an open challenge. The PCP execution consist of 3 phases

- **PHASE A. Solution design**: IDENTIFICATION OF INNOVATIVE AND COST-EFFECTIVE SOLUTIONS (10% PCP budget; 6 months)

This phase is a feasibility study of the selected technologies and proposals, which aims to verify the technical, economic and organizational feasibility of each company's offer. The expected output from participating

companies is a report describing the results of the feasibility study and the conclusions for the start of the development activities in Phase B. The expectation is that this phase will last for 6 months. The budget for the R&D contracts in this phase is 392,000 Euros. This represents 10% of the total budget for the PCP call. From this sum a maximum of 8 contracts will be awarded.

- **PHASE B. Prototype development** (50% PCP budget; 12 months)

The purpose of this phase is to take the most promising ideas that have been shown to be feasible in Phase A and develop them into well-defined prototypes. The selection process for Phase B is based on the Phase A report and an application process, which will outline the company's plans for Phase B.

Selected companies will each develop a prototype based on the results of their feasibility study. The aim is to verify to what extent the prototype's main features meet the functional and performance requirements set in the challenge. Participating companies are expected to deliver a prototype specification and lab demonstration, as well as a plan for original development of a limited volume of first solutions and field-testing, and an updated cost/benefits evaluation including a preliminary business plan.

It is expected that the combined budget for this phase will be 1,960,000 Euros. This is 50% of the total budget for the PCP R&D contracts. A maximum of 4 projects will be selected for Phase B and this phase is expected to take up to 12 months.

- **PHASE C. Pre-commercial development; field test** (40% PCP budget; 14 months)

This phase aims to verify and compare the full feature set and performance of different solutions in real-life operational conditions of the targeted public service. Expected output from participating companies includes firstly field testing, secondly field test specification, thirdly specification of the final solution and other related technical documentation, and finally an updated cost/benefit evaluation.

Testing will be undertaken at the sites by the procurers. This phase will last maximum 14 months. All the solutions in Phase C will be tested in all the sites to ensure that a comparison can be made of performance both across sites and across solutions. Each procurer will identify a sample population to implement the proof of concept of the final awarded solutions.

The methodology to **validate / compare in the last PCP phase the performance of different competing solutions i**n real-life operational conditions against the functional / performance requirements (interoperability, scalability etc) will be jointly defined by the procurers in the buyer's group to verify fitness for purpose in view of potential conversion into permanent service of the solutions. It involves:

- Development of a specific communication and monitoring protocol for Phase C. The protocol will detail the systematic approach to review the progress of this phase against the defined specifications and will established deliverables to be produced, as well as the communication means/channels between procurers and contractors. It will include a detailed description of all the activities, outcomes, calendar and deliverables involved in the monitoring. A supervisor will be set between the procurer's team with the mission to follow-up each contractor´s progress against the tender requests.
- Development of a Study Design for the field testing. This document is aimed to provide general indications to the contractors for the preparation of the field testing, and to give contractors a better understanding of how the buyer's group (procurers) would like to conduct the field testing, including: use cases, sample users, control sample, duration, recruitment, informed consents, ethical aspects, number of iterations, etc.
- Development of a data management protocol for the phase C including ethical and data protection management issues.
- Development of an evaluation protocol based on the specific KPI defined in WP7. This KPIs will be set to assess the quality and efficiency of the solutions against the functionalities requested in the PCP challenge and their capacity to improve the state of the art.

- Development of the PCP outcome report for Phase C.

The specific Task 7.1. will focus on the validation of the solutions tested (during the Field-Testing Phase C) according to some pre-defined key performance indicators in order to check if there has been any improvement with respect to the current challenging situation.

It is expected that the combined budget for this phase will be 1,568,000 Euros. This is 40% of the total budget for the PCP Research and Development contracts. Phase C is expected to take 14 months with no more than 2 solutions progressing to this phase depending on their results from Phase B. At the conclusion of the Research and Development pilots the IPR and any prototypes will remain the property of the companies involved. The PCP will include also the purchase of R&D products resulting from the PCP.

Additional specific coordination and networking activities are foreseen to analyze the main knowledge obtained after the implementation of the PCP Phases. In this way, the lessons learnt will be documented as well as the recommendations for future implementation of the solutions tested. Different options will be further examined (cooperation in future PCP, PPI, other financing schemes, new lines of work, identified barriers for further implementation and proposals for removing them, etc.). Work packages related to those activities are WP6 and WP7.

The commercialization of the product or service falls out of scope of the eCARE project. eCARE is focused on developing a pre-commercial procurement process. Afterwards, it is up to the public body to decide whether to do a commercial procurement, and for companies to commercialize their innovations. Notwithstanding this, the Partners will prepare a sustainably Dissemination and Exploitation Plan (DEP) to maximize chances that the outputs of the project are put in value, both by the consortium procurers and the suppliers, during and after the end of the project. The main objective of the Plan, apart from establishing the main tools and actions to disseminate the project results, is to achieve traction towards the commercialization of the solutions promoted by the project. This traction should mainly materialize in the future commercial purchase of solutions by other related health and care organizations, within and outside the eCARE consortium. To support this objective, it will incorporate measures to be performed by the partners, both during the project lifetime and after it. The project team will propose and agree on impactful actions.

b) Performance indicators for measuring progress of the concept and methodology to achieve the objectives

Objectives for the joint procurement and, for the proposed related coordination and networking activities (clear, measurable, realistic) and performance indicators to measure progress to achieve objectives in project reviews and impact assessment

Project phases	Project activities	Objectives	Performance indicators
(1) PCP preparation	**a) Unmet needs validation**	Validation of unmet needs by the whole group of demand-side stakeholders	- # number interviews with various expert profiles from the demand side. - Participation in # sector related events. - Launch an online questionnaire through the project website. - Organisation of working session with older adults. - Development of a co-creation workshop (open to external stakeholders; professionals and old adults).
	b) Open Market	Validation of unmet needs by the whole group of supply-side stakeholders	- Direct interviews with selected stakeholders from the supply-side. - Assistance to sector events.

	Consultation		- Organisation of OMC workshops at each procurer country. - Number of companies engaged during market consultation - Launch an online questionnaire through the project website. - Offering a matchmaking tool on-line to facilitate the joint consortia.
	c) Preparation of the call for tender documents and the phase contracts	Wide dissemination of the publication of the call for tender	- Publication of notices in the media, project newsletter and project website. - Targeted communication to identified stakeholders. - Publication of articles in sector press. - Attendance to sector events. - Communication of PCP NCPs across EU. - Online webinar to increase the participation perspectives in the call for tender.
		Definition of the inclusion, exclusion and selection criteria	- Development of the inclusion, exclusion and selection criteria for each of the 3 PCP phases.
		Development of an eTendering platform for the PCP management.	- In accordance with the established criteria, development and launch of the PCP eTendering platform in due time and manner.
		Training on the use of the eTendering platform	- Development of a user-manual for tenderers. - Development of a user-manual for procurers. - Organisation of several training sessions for both procurers and tenderers
		Definition of the communication protocol between tenderers and procurers.	- Development of a communication protocol between procurers and tenderers.
(2) PCP execution and follow-up	**a) Evaluation of the offers**	Development of a specific procedure for the evaluation of the offers	- Number of proposals submitted by solvers - Setting the list of evaluators with multiple profiles. - Development of the evaluation Protocol for each of the 3 PCP phases.
	b) PCP phases monitoring	Definition of the monitoring protocol between procurers and contractors	- Development of the monitoring protocol for each of the 3 PCP phases. - Set the figure of supervisor to follow-up each contractor progresses on each phase.
		Definition of the communication protocol between procurers and contractors	- Development of the communication protocol between procurers and contractors for each of the 3 PCP phases.

		Definition of the field-testing protocol	- Development of the field-testing protocol for PCP phase C, including: recruitment, sample users, informed consents, control sample, duration, ethical aspects, number of iterations, etc.
		Definition of the Data Management characteristics	- Delivery of a data management protocol for the phase C (field testing).
	c) Validation of outcomes	Evaluation of the PCP outcome	- Development of the PCP outcome report for the 3 phases.
	d) Dissemination and exploitation of results	Wide dissemination and communication of the outcomes of each phase.	- Publication of notices in the media - Targeted communication to identified stakeholders. - Publication of articles in sector press. - Attendance to sector events. - Communication of PCP NCPs across EU.
	e) Communication strategy	Specific communication strategy to promote project progresses	- Presentation of results in key conferences or sectoral gatherings as described below. - Open publication of content in relevant media. At least 4 papers or articles. - Dissemination of at least 2 press releases during the project lifetime in English at European level and one per procurer country in the local language. - Invitation to participate in the review or assessment of solutions to external potential procurers.
(3) **Additional coordination and networking activities**	**a) Contribution to standardisation and certification**	Communication of PCP results to policy makers and involved stakeholders by means of dissemination and communication campaign	- Publication of notices in the media - Targeted communication to identified stakeholders. - Publication of articles in sector press. - Attendance to sector events. - Communication of PCP NCPs across EU.
	b) Contribution to awareness raising and experience raising	Set the necessary structure to support contractors to communicate the PCP outcomes and promote the R&D outcomes to maximise awareness and demand.	- Definition of a directed communication campaign. - Organisation of a workshop to support contractors in the communication of findings to enhance demand. - Create the figure of supervisor to support contractors to communicate outcomes. - Learnings of experiences of the project will be captured and documented as part of the WP7. - Number of purchases of solutions after the PCP.
	c) Preparing ground for cooperatio	Surveillance to detect PCP/PPI opportunities within the health and social care sector, either at national and EU level.	- Up to date monitoring of funding opportunities. Detected opportunities will

	n in future PCP/PPI		be communicated through the project newsletter and in the project website.

Table 2. Objectives PCP and coordination and networking activities and performance indicators

Relevance to the call SC1- DHT-10-2019

CALL REQUIREMENTS	eCARE RESPONSE
Digital solutions supporting a continuum of care across a range of health and care services to relieve the pressure on governments to provide more cost-effective health and care systems.	eCARE aims to deliver disruptive digital solutions for the screening, prevention and comprehensive management of frailty to encourage independent living, wellbeing and to relieve health and care services budget pressure, throughout the implementation of a Pre-Commercial Procurement scheme. The target group are the pre-frail/frail old adults with emphasis on those that feel lonely and/or isolated.
Improve utilisation of healthcare and health outcomes.	eCARE will improve utilisation of care and health outcomes collecting data for research use using the solution developed. This will allow the identification of the datasets required to improve integration of care through interoperability with health and care systems dataflows in the context of the GDPR. This approach has the potential to revolutionize the way care is delivered and will result in an improvement of old adult's health management connecting the learnings into an evidence-based roadmap for different use-case scenarios that are data-driven.
Established path to innovation, evidence of benefits of disruptive technologies that can support the development of sustainable business models, improved user and market engagement, strengthened procurement community, evidence of healthy innovation ecosystem including researchers, users, eHealth and other solution providers and procurers.	eCARE will pursue the generation of more sustainable care models where savings can be measured i.e.: cost-effective to ensure the sustainability of the services that are offered. Life-cycle cost-efficiency, referenced in terms of both of purchasing prices and maintenance of running costs, will be kept as low as possible. The implementation of eCARE will provide evidence of cost effectiveness and demonstrative how such technology will positively impact on frailty prevention.
Increased opportunities for solution uptake across wider international procurement markets by aiming at interoperable solutions that are validated through field testing by participating procurers in multiple countries across Europe and contribution to standardization where relevant.	eCARE responds to the need for further interim solutions and policy initiatives in order to accelerate developments and bootstrap markets. The eCARE solutions will be co-designed in collaboration with patients, health and care professionals and validated at patient level in the phase C of the PCP; the field-testing. The co-creation process will reassure reliability and, thus, maximise the end-user engagement. The validation process (field-testing) will be essential to gain deeper insight into the complex mechanisms of frailty and aid the development and evaluation of interventions to improve outcomes. Learnings and best practices will be collected, documented and diffused across the wide range of health and care stakeholders. These learnings and communication messages will be tackled in the *Communication, Dissemination and Exploitation Work*

	Package, and this will maximise the demand and chances of further adoption.

Table 3. Relevance to the call SC1-DHT-10-2019

Other related EU initiatives and projects

Over the years the European Union has created a comprehensive policy framework devoted to improving the use of information and communication technologies in health and promoting as well an active and healthy ageing as part of its broader Digital Single Market strategy, one of the Commission's ten political priorities. The EC has launched several initiatives aiming at increasing collaboration among different stakeholders in the frailty domain. The most important related to frailty at EU level are:

- The **ADVANTAGE** Joint Action on the Prevention of Frailty is co-funded by the Third European Health Programme of the European Union 2014-2020. It has a budget of €3.5 million euros and will run for 3 years from January 2017. The new Joint Action involves 22 Member States and over 40 organizations. Spain, in practice the Madrid Health Service-Getafe Hospital (a Reference site of the European Innovation Partnership on Active and Healthy Ageing), with the support of the Spanish Ministry of Health, Social Services and Equality, coordinates this initiative. Partners work together to summarize the current State of the Art of the different components of frailty and its management, both at a personal and population level and increase knowledge in the field of frailty to build a common understanding on frailty to be used by participating MS. The final output will be the "Frailty prevention approach" (FPA), a common European model to tackle frailty and indicate what should be prioritized in the next years at European, National and Regional level and on which to base a common management approach of older people who are frail or at risk of developing frailty in the European Union (EU). http://www.advantageja.eu/
- Other European initiatives are the **SPRINTT Project (SPRINTT)[26],** a large clinical trial with the overall goal of improving frailty care and prevention; and advocates for use of the **SHARE-FI,** an instrument developed to identify frailty in Primary care settings[27]. http://www.mysprintt.eu/en
- A key initiative that targets the prevention of functional decline and frailty (**European Scaling-up Strategy in Active and Healthy Ageing- EIP AHA**) [28] includes an action group focused on the prevention and early diagnoses of frailty and functional decline (both physical and cognitive). In addition, there is an Action Group focused in integrated care that is committed to reduce unnecessary hospitalisation of older people with chronic conditions, involving a shift from reactive service delivery to preventive, proactive and patient specific care. This action group on Integrated care is working to deliver easy-to-use tools (toolkits) and European guidelines that can be used by EU member states in their national plans.

Additionally, several European programmes support research and innovation in the frailty domain by means of direct funding for several EU research projects. The most important initiatives related to frailty are:

- **FrailSafe** is a research project that aims to better understand frailty and its relation to co-morbidities; to identify quantitative and qualitative measures of frailty through advanced data mining approaches on multiparametric data and use them to predict short and long-term outcome and risk of frailty; to develop real life sensing (physical, cognitive, psychological, social) and intervention (guidelines, real-time feedback, Augmented Reality serious games) platform offering physiological reserve and external challenges; to provide a digital patient model of frailty sensitive to several dynamic parameters, including physiological, behavioural and contextual; this model being the key for developing and testing pharmaceutical and non-pharmaceutical interventions; to create "prevent-frailty" evidence-based recommendations for the elderly; to strengthen the motor, cognitive, and other "anti-frailty" activities through the delivery of personalised treatment programmes, monitoring alerts,

[26] Marzetti E, Calvani R, Landi F et al. Innovative medicines initiative: the SPRINTT project. J Frailty Aging 2015; 4: 207–8.

[27] Lessende MI, Iturbe GA, Cortes BJJ. The frail elderly. Detection and management in primary eCARE (El anciano frágil. Detección y tratamiento en AP). Aten Primaria 2010; 42: 388–98.

[28] European Innovation Partnership in active and healthy ageing. Prevention and early diagnoses of frailty and functional decline, both physical and cognitive, in older people. A compilation of good practices, 1st edition. Bruxelles Belgium: European Commission., 2017 http://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/gp_a3.pdf.

guidance and education; and to achieve all with a safe, unobtrusive and acceptable system for the ageing population while reducing the cost of health care systems. https://frailsafe-project.eu/overview/at-a-glance

- **FRAIL** is an EUROSTARS running project that started on September 2017. It aims to develop an interoperable, secure and open solution platform to empower pre-fragile and fragile citizens through a non-intrusive sensing of activity and environmental conditions in the home context. FRAIL platform is a suite of 3 elements: a personal and home sensing system, an intervention system for care professionals, and a gamification system for physical exercise devoted to elderly people. These elements will be delivered separately or combined to support the treatment of frailty condition https://www.eurostars-eureka.eu/project/id/10824
- **SUNFRAIL** is a European project aimed at the design and validation of an innovative and integrated model for the identification, prevention and management of frailty and multi-morbidity in European community dwelling elderly subjects. The SUNFRAIL Model of Care provided the early identification of frailty and its risk factors in order to prevent its worsening and adverse outcomes. For this purpose, SUNFRAIL tool has been designed including 9 questions selected from evidence-based tools already adopted in health services to identity frailty according to the bio-(physical), psycho- (cognitive and psychological) and social domains. Thus, the assessment of frailty and its risk factor might allow primary prevention interventions in Primary and Social Care services (i.e. general practitioners, nurses, social workers) and secondary and tertiary prevention interventions in Secondary Care services (i.e. geriatricians, specialists). http://www.sunfrail.eu/
- **PERSSILAA** is a European project that integrates health promotion, disease prevention, screening and early detection of frailty through the assessment of community dwelling older adults along different dimensions, in the effort of integrating novel tools with available social and health services, improve health outcomes and prevent disability. The new services are offered to older adults (> 65 years) through local community service and are seamlessly integrated with health care services. This new multimodal service model, focusing on nutrition, physical, cognitive and social domains, is supported by an interoperable ICT service infrastructure, utilising intelligent decision support systems and gamification. http://www.perssilaa.com
- **BEYOND SILOS** project aim to address the issue of dehospitalization by designing and implementing a network of services and facilities that is tailored upon the local context, to support the reduction of the cost of avoidable hospitalization by implementing an efficient and effective ICT system. These devices had allowed the detection, transfer and monitoring of the clinical parameters that was stored at the hospital servers, supporting the hospital doctors to take medical decisions, in order to adjust the care pathway. The data collected at the patient's home were made available to the staff of the hospital through a web-based platform. Such a system integrates the function of hospitals for chronic diseases through a health management model network that identifies a range of facilities, professionals, equipment and tools. http://beyondsilos.eu/project.html
- **VIVIFRAIL.** This is a running Erasmus + project that focuses on the enhancement of knowledge development, and implementation of good practices, as well as the design of materials that can give to know the physical exercise prescription as a way to effectively improve health on elder people among their environment. http://www.vivifrail.com/project
- **CAREWELL** is a finished CIP action. It aimed to enable the delivery of integrated healthcare to frail elderly patients in a pilot setting through comprehensive multidisciplinary integrated care programmes where the role of ICTs can foster the coordination and patient cantered delivery care. Carewell focused in particular complex, multi-morbid elderly patients, who the patients most in need of health and social care resources

Related PCP projects for ageing well.

- **SILVER** (Supporting Independent Living for the Elderly through Robotics), January 2012 – September 2015, http://www.silverpcp.eu/, is a PCP based project searching for new technologies to assist elderly people in their everyday lives. The target group that this PCP Challenge looks to address is for those who require assistance by care staff in activities in daily life in order to continue living independently in their own homes, even when facing multiple physical and mental disabilities. The

outcome of Silver project is a Lean Elderly Assistant (LEA), a sophisticated walker to enhance the functional mobility of elders to favor independent living.

Links with the above-mentioned initiatives will be established during care to improve mutual added value regarding several aspects, such as:

- Capture learnings from the research developed for the benefit of eCARE PCP.
- Make awareness of the eCARE PCP to the companies involved in the above-mentioned R&D projects and inviting them to participate in the eCARE call for tender.
- Interchange of common relevant needs of the stakeholder value chain.
- Common dissemination and training strategies.
- Collaborations in the exploitation of the results.

eCARE will move one step forward with regards to the actual state of the art. The PCP frame will give the opportunity to the industry to develop much more radical solutions, in accordance with the real needs identified by the demand side offering health and care provision.

Alignment with EU policies

The European Commission is already pursuing policy initiatives on sustainable long-term care systems; and a life course and social investment approach to social protection systems and services; and also, on innovation at EU-scale for active and healthy ageing through (via the European Innovation Partnership on Active and Healthy Ageing [EIP on AHA] and the Active and Assisted Living Joint Programme [AAL JP]). The development of new skills and entrepreneurship meeting the needs of an ageing population is supported by a new Knowledge and Innovation Community on Healthy Living and Active Ageing under the European Institute of Technology while also European Regional funding plays a role, since 110 European regions have identified Active and Healthy Ageing as a smart specialization priority.

They are complemented by national and sectorial initiatives that provide examples for public policy actions, including voluntary norms and quality labels for goods and service providers, which could contribute to competition and cross-border market exploitation a European scale.

The Europe 2020 strategy calls for citizens in our ageing society to live actively and independently for longer and to continue contributing to the economy and to society. The Silver Economy also fits well with the new Commissions priorities regarding new jobs, growth, investments and strengthening of the industrial base.

Stimulating the market of products and services addressing the needs of old adults can create a massive pull-effect on existing or emerging markets (e.g. independent living & smart homes, health and wellbeing, and treatments). In many of these markets European economic operators have a strong potential for global leadership.

In the public sector a boost of the Silver Economy would be possible if public expenditure on active and healthy ageing would also be considered an investment as well as a cost. Achieving these objectives would require pro-active public policies designed to enable strategic investments and spending designed to foster active ageing, good health, social inclusion and independence.

2. IMPACT

2.1 Expected impacts

The application the eCARE solution can be a powerful tool resulting in increased efficiency and improved quality of service, which can stimulate innovation in the related markets. eCARE project will foster and accelerate the access to market for innovative solutions. This approach opens opportunities for the market and

in particular for SMEs, which comprise a large percentage of solution providers, promoting demand for and stimulating investment in innovation. The eCARE expected impact is explained in the next pages:

#	EXPECTED IMPACT	HOW eCARE CONTRIBUTES
1	Established path to innovation, evidence of benefits of disruptive technologies that can support the development of sustainable business models, improved user and market engagement, strengthened procurement community, evidence of healthy innovation ecosystem including researchers, users, eHealth and other solution providers and procurers.	eCARE proposal will boost public procurement innovation in the health and care sector. The network of procurers will undertake a coordinated procurement action. The PCP will be used to purchase innovative goods and services; as well to introduce novel solutions into the market to support the modernization, sustainability and improved access to continuum care services Collaboration between suppliers will be stimulated to develop innovative solutions, rather than for traditional products. The know-how gained will enable to develop outcome-based specifications including selection criteria other than the purchase price. This PCP will encourage further procurement by other stakeholders through the development of the proof of concept and validation of the digital solutions in the context of different realities through the field testing.
2	Increased opportunities for solution uptake across wider international procurement markets by aiming at interoperable solutions that are validated through field testing by participating procurers in multiple countries across Europe and contribution to standardization where relevant.	The resultant eCARE solutions will be co-designed in collaboration with patients, health and care professionals and validated at patient level in the phase C of the PCP, which is the field-testing. The co-creation process will reassure reliability and, thus, maximise the user adherence. The validation process (field-testing) will be essential to gain deeper insight into the complex mechanisms of frailty and aid the development and evaluation of interventions to improve outcomes. eCARE responds to the need for further interim solutions and policy initiatives in order to accelerate developments and bootstrap markets. Learnings and best practices will be collected, documented and diffused across the wide range of health and care stakeholders. These learnings will be collected in the WP7 and communication messages will be tackled in the *Communication, Dissemination and Exploitation Work Package*.
3	Realising more forward-looking procurement approaches aiming at ambitious quality and efficiency improvements	eCARE will support forward looking, concerted public-sector investment strategies that benefit from jointly implementing PCPs across different EU countries. Pre-commercial procurement will maximize the engagement of innovation in health and care services**.** A multi-stakeholder ecosystem will be created. Procurers and associate's partners will participate in co-creation activities to define their unmet needs. Service providers will be involved in the process as they play a key role in identifying needs Furthermore, the importance of early supply chain dialogue and understand how to implement procurement actions in collaboration with other buyers will be done. This will also be an opportunity to receive feedback from other stakeholders. The development of a realistic procurement strategy through the know-how gained by coaching and training activities, the review of the demand and supply sides, the identification of unmet needs and main barriers hindering their implementation, and dissemination activities will provide a basis for dialogue between stakeholders, which will take place during workshops organized by the project consortium. Experience from the consortium's successful innovation procurement projects in the health and care domain will be drawn on and adapted to eCARE.

		Learnings and best practices will be documented and reachable through the project website.
4	Reducing fragmentation of demand for innovative solutions by implementing more concerted procurement approaches and increased cooperation across boundaries among a critical mass of procurers with similar procurement needs that can trigger wide implementation of the innovative solutions.	eCARE will facilitate significant inroads into the defragmentation of the market. The core problem for new and innovative solutions is the lack of a credible demand from customers. This problem is addressed directly in eCARE by the creation of an informed and aware group of buyers. Market fragmentation and a lack of economies of scale often cause problems that hinder suppliers (especially SMEs) to enter the market, even when they have attractive solutions to offer. The procurement strategy developed by the consortium in consultation with customer and supply side stakeholders will result in generating economies of scale and creating stronger supply chains
5	Improving the competitiveness and growth of companies by developing innovations meeting the needs of European and global procurement markets	eCARE will deliver a generalized scheme for public procurement to facilitate the market uptake of this technology. The project will strengthen the competitiveness and growth of digital technology companies by developing innovations meeting the eCARE common needs for the European and global procurement markets. It will do this by: • Introduce SMEs innovation capabilities in problem-solving scheme • Raising employment (job creation) in the eHealth industry • Contribution to societal welfare. • Enhance the competitiveness of EU industry creating economic growth opportunities
6	Expected impact at societal level	• Involve all stakeholders in raising awareness and advocacy about frailty. • Use technologies to enable independence, wellbeing and collaboration. • Empower service users • Promote physical activity to maintain physical and cognitive function. • Integrate assessment and personalised interventions to improve nutrition. • Identify people at increased risk of frailty and functional decline. • Screen, prevent and offer support to people affected by cognitive decline. • Deliver comprehensive assessment, rehabilitation and case management. • Build workforce capability to deliver new models of integrated care. • Invest in innovation, research, evaluation and knowledge transfer on frailty. • Improvement of the quality of life and psychological wellbeing of older people with a specific focus on those at risk of social exclusion for their living conditions (alone or isolated) providing them cognitive, physical and emotional stimulation to prevent frailty and decline. • Improve the delivery of health and care through digital solutions.

		• Increase the social services innovation through Public Procurement of Innovation procedures. • Internal cost reduction and improve of sustainability in the daily operations of the eCARE procurers
7	Expected impact at policy level	• Contribute to the support the long-term sustainability and efficiency of health and care services. • Support to public procurers in the development of an appropriate legal, political and financial environment. • Contribute to recognize the primary role of public procurement processes to support public expenditure in health, and care, policies and services. • Support national, regional and local authorities in setting up sustainable funding schemes for health and care services. • Removing barriers to implement the eCARE digital solutions standardisation

Table 4. eCARE Expected impact.

2.2 Measures to maximize impact

a) Demand side measures to encourage wide deployment of solutions

By jointly undertaking a PCP the partners will significantly improve their internal capacity to procure innovative solutions to meet their future challenges through the participation in the procurement foresight workshops and the links that will be set with other running pilot innovation procurement projects. In addition, through their participation they will become influential leaders in both their own country/region and within the European community to promote and provide case examples of innovation procurement in practice.

By proactively growing a committed and informed procurement network of customers of solutions, the project will be able to generate the critical mass needed to stimulate a create response from the supply chain.

The PCP will be structured in 3 “phases”: Solution design, Prototype development and field test. The commercialization of products is out of the scope of the project, as deals with the product market implantation.

The approach used in PCP by procurers will be to buy the R&D from several competing R&D providers in parallel, to compare and identify the best value for money solutions on the market to address the PCP challenge. To reduce the investment risk, the most competitive solutions will be rewarded, and participation of smaller innovative companies will be facilitated by flexible inclusion, exclusion and selection criteria in the tender documents. The number of competing R&D providers will be reduced after each phase after intermediate evaluation. Each solution will be evaluated considering a series of indicators to check its degree of compliance with the demand needs.

A review of the supply side as well as consultations with the supply chain will result in a better understanding of the barriers they encounter. A key barrier to the wider technology engagement is user acceptance. Understanding better the sophisticated cognitive end-user characteristics would result in designing better products that can support transforming of continuum care processes.

Partners will develop a sustainably Dissemination and Exploitation Plan (DEP) to maximize chances that the outputs of the project are put in value, both by the consortium procurers and the suppliers, during and after the end of the project. The DEP will include:

- Objectives and selection of relevant KPIs.
- Selection of measures to promote sustainability and exploitation of results.
- Identification of main stakeholders and related initiatives at national and international level.

- Management procedures.
- Dissemination actions, tools and channels to promote the project results.

One of the main objectives of the Plan is to achieve traction towards the commercialization of the solutions promoted by the project. This traction should mainly materialize in the future commercial purchase of solutions by health and care related organizations, within and outside the eCARE consortium. To support this objective, it will incorporate measures to be performed by the partners, both during the project lifetime and after it. The project team will propose and agree on impactful actions. The initially identified are presented below. The DEP will also setup sound management procedures to closely monitor, assess and optimise them over time. It will also evaluate their impact to the stakeholders involved.

Measures to encourage wide deployment of solutions and remove barriers for wider market introduction for the innovative solutions

The procurers will get several benefits for participating in the joint PCP during the implementation of the eCARE project:

- Suppliers will establish a lower price (fair and reasonable conditions) for performing the R&D, compared to when the procurer keep exclusively all IPR rights for himself or asks for royalties on sales of R&D.
- Access results, on a royalty-free basis, for their own use.
- The right for the procurer to request PCP suppliers to license out R&D results to other public administrations and suppliers at Fair, Reasonable and Non-Discriminating (FRAND) conditions.
- The right for the procurer to call back the IPRs in case PCP suppliers fail to commercialize or abuse the IPRs.
- Acquire know-how in procurement of research and innovation that can be implemented in other municipality areas in the future.

These benefits should facilitate that the eCARE procurers move to the next stage after project end: The Commercial Procurement of technology. That is, PCP pays for the development and testing of the technology, but the IP remains in the suppliers. If the procurers want to incorporate the technology after the project ends they need to launch a new procurement process. This new Commercial Procurement likely would not be straightforward: there needs to be political willingness (considering that some of the decision makers that approved participating in this PCP may have changed) and budget availability within the consortium organisations (integrated health and care providers and care providers). Therefore, special efforts will be made to interact with the current decision makers during the last phase of the project to prepare the ground for a future commercial purchase.

Ideally, these efforts should leverage the momentum of the successful piloting of two solutions (at least one), to give ground to the mobilization of the political willingness and resources. Obviously, the purchase would only take place after the assessment of the solutions which is done at the end of the project. However, to avoid entering in a limbo once the project finishes, the earlier the interaction with the decision makers once the preliminary data about outcomes is available, the better.

The idea is to leverage as much as possible the resources of the project to start preparing the future purchase (if the outcomes are successful enough). Therefore, timely meetings will be held with the procurers´ decision makers and their key influencers to assess if any of the solutions is good enough and affordable for the services involved, among other considerations.

To promote opportunities for exchange and increase engagement, these key stakeholders will be invited to publicly present the project outcomes or other relevant information at public events with media coverage. Their quotes would also be incorporated in press releases or other ways of communication delivered by the partners.

In case of promising outlooks, the partners will start gathering information and preparing the way forward to a post-PCP purchase. Funding programmes at European, national or regional level to support the future purchase, like Public Procurement of Innovation (PPI) schemes, will be identified and evaluated for suitability.

Other scenarios will be also investigated for each procurer, including the initial direct purchase of a limited number of units for a special group of old adults.

To promote and encourage the wide deployment of the produced solutions several actions are envisaged:

- During the market consultation, procurers will be invited to participate at the dissemination meetings or at the webinar(s). The networks of the partners will be put in value to reach other potential procurers and make them aware of the future tender. Information about those that during the project lifetime express an interest on the topic will be curated and leveraged for future contact.
- At the end of each of the first two phases after the tender, there will be one written contact in the form of an email to communicate the advances and next steps within the process.
- At the end of the execution phase a webinar only for potential procurers will be held to share with them the insight, outcomes and lessons learnt. Those that express an interest to explore post-PCP adoption will be engaged in private conversations to explore synergies and follow-up actions.

Finally, in collaboration with the EC project officer, a final Info day will be organized at the final stage of the project to share learnings and propose solutions to the bottlenecks identified during the project. The workshop will invite stakeholders from the PCP domain and the functional scope. After the workshop, a statement regarding policy recommendations will be produced and disseminated.

Task 7.2. is also linked to these exploitation measures as it will also analysed the future recommendations for further implementation of the solutions.

b) Measures to encourage wide exploitation of results of the R&D providers

The PCP will be launched by the lead procurer entity according to the EU public procurement directives 2014/24/EC, 2014/25/EC, 2009/81/EC, 2004/17/EC and 2014/25/EC. In preparation of the PCP call for tender, an open market consultation with potential tenderers and end-users will be held to broach the views of the market about the R&D scope.

The prior information notice for the open market consultation and the PCP contract notice will be promoted and advertised widely using in particular also Horizon 2020 Internet sites and National Contact Points. The Commission will be informed at least 5 days prior to the expected date of publication of the PIN for the open market consultation and 30 days prior to the expected date of publication of the PCP contract notice and its content. The PCP call for tender will remain open for the submission of tenders for at least 60 days.

The results of this open market consultation will be duly taken into account to fine-tune the tender specifications. In respect of the Treaty principles, EU wide publication will be ensured (through the OJEU, using the TED (Tenders Electronic Daily) web Portal).

The approach used in PCP by procurers will be to buy the R&D from several competing R&D providers in parallel, to compare and identify the best value for money solutions on the market to address the PCP challenge. To reduce the investment risk, the most competitive solutions will be rewarded, and participation of smaller innovative companies will be facilitated. The number of competing R&D providers will be reduced after each phase subsequent to intermediate evaluations. All the offers will be evaluated according to the same objective criteria regardless of the geographic location, organization size or governance structure of the tenderers.

The PCP contract notice will contain information on the intended number of R&D providers that will be selected to start the PCP, the number of PCP phases and the expected duration and budget for each PCP phase. The procurers will inform tenderers of the procurers' right to publish public summaries of the results of the PCP project, including information about key R&D results attained and lessons learnt by the procurers during the PCP, preserving the IPR rights and without distorting fair competition between the participating R&D providers or others on the market.

The PCP will be structured in 3 "phases": Solution design, Prototype development and Pre-Commercial small-scale development and field test. In order to stimulate the possibility of more radical approaches being proposed and "out of box" thinking being used, the challenge description is phrased as an open challenge.

Testing will be undertaken at the four procurer's sites. ASL-BN, SDR, FALKSHOP and CSI. They will identify collaborating users and care settings to implement the proof of concept. BRAVOSOLUTION, TBM and SCMA will collaborate in assessing the impact and adherence of the users to the solutions awarded.

The consortium can provide a first customer reference to the providers participating in the PCP. Altogether, the procurers give services to a population of (approx..) 1,5 million inhabitants, with a much greater influence potential at regional level.

Procurer	Service Area	Potential influence area
ASL BN	Province of BN: 282,700 inhabit.	Campania Region: 5,820,268 inhabitants
FALKHOSP	Population service: 200,000 inhabit	Lower Silesia Region: 3,000,000 inhabit.
CSI	14 centers in the area of Barcelona and Baix Llobregat: 770,000 inhabit.	Barcelona and Baix Llobregat: 2,400,000 inhabit.
SDR	City of Santander: 175,0000 inhabitants	Cantabria Region: 582,206 inhabit.

Table 5. First customer reference volume of participating procurer

Management of IPR and knowledge

Sound management of Intellectual Property Rights (IPR) will be put in place as another means to achieve sustainable service success and to support wider procurement. Formally, this will be dealt with in the Consortium Agreement (CA) which will be concluded before the start of the collaboration as described in Section 3.2.

The procurers will enjoy royalty-free access rights to use the R&D results for their own use. The procurers will also enjoy the right to grant or to require participating R&D providers to grant non-exclusive licenses to third parties to exploit the results under fair and reasonable market conditions without any right to sublicense. If an R&D provider fails to commercially exploit the results within a given period after the PCP as identified in the contract or uses the results to the detriment of the public interest, including security interests, they should transfer any ownership of results to the procurers.

Access to project results / open access

Most of the deliverables of eCARE will be put in the public domain. The project website will play a key role in making them available to a large audience of interested parties. All the deliverables concerning standards, service requirements, service design, organisational approaches to the procurement of eCARE systems and services, as well as the outcomes of the evaluations will be public (see Deliverables List). As far as peer-reviewed scientific publications are concerned, eCARE will fully comply with the open access requirements of Horizon2020, especially in relation to the use of the self-archiving and open access publishing options.

Special measures will be undertaken by the eCARE consortium in order to encourage suppliers to the wide exploitation of the results**.** The following actions will be implemented during the project lifetime to maximize that suppliers commercialize the solutions developed with the support of the project:

- Request a draft business model and exploitation plan in the documentation at each PCP phase. This will force the companies to think about exploitation and start gathering relevant information leveraging the funding they receive from the project.
- Incorporate in the criteria to move to the next PCP phase the credible interest shown by the supplier in commercializing the technology after project end. The objective is to avoid applicants that are only interested in the direct PCP funding and may not continue their development after project end.
- Project partner TBM has experience in delivering support regarding business modelling, access to private funding and go-to-market strategy. It will be available for on-demand supports the participants

in the first 2 PCP phases and will do at least 2 coaching sessions with each of the participants of the field-testing phase, to help them with their exploitation plans, as explained in WP6.
- Tenderers will also be connected to initiatives or organizations that deliver business or legal support, like for example accelerators or European projects like eHealth Hub (www.ehealth-hub.eu/). The objective is that tenderers receive more support and/or after the project is finished.
- The partners will encourage tenderers that reach the field-testing phase to carry out scientific measurement in results and outcomes, to be submitted to peer-review publications. This will increase their credibility of their claims and help their visibility.

Besides, the eCARE partners will launch a communication campaign to encourage 3rd party organizations to get interested in supplier's solutions and consider their purchase. This campaign will be part of the Communication Strategy described below.

The goal of these actions is to maximize the sustainability of the project outputs after project end, in particular the solutions piloted in the last phase of the PCP. They aim to support supplier's commercial success in the market beyond the organisations that participate in the project. Suppliers must be the main driver of sustainability, as it is in their own benefit that the solutions tested in the project are acquired by other 3rd party organizations.

c) Communication activities and dissemination of results

Maximization of the project impact is critical for the project success. To maximize impact, it is critical to:
- Raise awareness: To ensure that the opportunity is disseminated (spread and understood) especially to potential participants and enroll competitive candidates
- Engage with key stakeholders
- Influence decision-makers: To ensure that political institutions work aligned specially to boost innovative public procurement and standardization.
- Boost sustainability. To ensure sustainability of the effective collaboration of eCARE stakeholders after the project.
- Creation of a Dissemination and Exploitation Plan (DEP)

Specific Communication Strategy

A specific Communication strategy will be designed and implemented to manage the information exchange related to the project. For that purpose, it will be established the following aspects:
- Objectives and selection of relevant KPIs.
- Identification and classification of the target audience/ stakeholders to be addressed. Actions to systematically collect relevant contacts under the selected categories.
- Selection of measures to convey timely messages to each targeted audience and facilitate the personalized engagement with them.
- Management procedures.
- Deployment of measures to maximize adoption after project end.

This strategy will be directly linked to the Dissemination plan established and addresses 3 key objectives involving communication exchange:
1. Enrol enough number of competitive applicants that apply to the eCARE tender. To obtain solutions that fit into the procurers´ requirements, it is critical that those with the most skills, knowledge and commitment apply to the tender. Otherwise, the solutions will not be good enough to be purchased after project end.
2. Engage with key stakeholders to smooth out the implementation of the PCP within each project procurer. To avoid issues with procurers´ stakeholders not directly involved in the project that may result in project delay, the partners will explain and collect early feedback from them.
3. Facilitate that potential procurers outside the consortium get interested in the solutions developed under eCARE. To multiply the opportunities of purchasing the developed solutions after project end.

To maximise impact, we will use the contact network of TBM consisting of: 10k contacts in LinkedIn, 2k twitter and 1.5k emails from stakeholders across EU. From the supply side, we will exploit the platform created in the eHealth project, that is coordinated by our partner TBM https://platform.ehealth-hub.eu/

For each objective, specific actions will be launched:

Enrolment of competitive applicants

The plan will organize several initiatives to make aware, attract and inform potential applicants about the market opportunity proposed by eCARE, and to encourage them to apply. In the consortium experience, to have enough quality it is important to enroll several times the number of available seats to join the first phase. In other words: ´to get quality, quantity is important. Planned initiatives include the delivery of:

- Corporate identity: Creation of the project logo and related corporate elements, like templates etc.
- Comprehensive web: An easy-to-understand web space will be created to facilitate the quick understanding of the project. It will take special attention to clarify the:
    - Functional scope of the tender.
    - PCP process, something that not all participants may be familiar with.
    - Expected dates for key milestones like publication of the tender, dissemination events, etc.
    - Rules of the game: eligibility criteria, Intellectual Property ownership, payments, etc.
    - Partners and contact information.
- Dissemination channels: Set up of corporate channels to make aware, communicate updates and support the enrolment.
    - Mailing list. Use of an online tool to send email updates to those that register.
    - Social Media: Setup of corporate LinkedIn and twitter accounts.
- Management of the communication:
    - Preparation of a schedule to deliver the key information in several waves using multiple channels.
    - Creation of relevant and attractive content to attract traffic and promote virality.
    - Definition of a protocol to leverage consortium partners´ own channels to multiply corporate dissemination.
    - Connection with 3rd party multiplicators. Engagement with information hubs that will help to spread the word about the project.
- Local events*:* At least one event per country where there is a eCARE partner will be organized. In those events, the local partners will explain the project, mainly focusing on the functional scope and the PCP process. It will be a good opportunity to assess the reaction from the market to the project. A press release will be circulated locally and nationally. The events will be also an opportunity to make aware about the project within the procurers´ organizations. These events will coincide in the framework of the Open Market activities so as to maximize the audience and messages provided. In addition, there will be one final workshop in the form of a show case. The consortium will take advantage of a major EU event in the field in order to organize this show case.
- Webinars: At least 1 open web conference will explain potential participants the details of the project. Therefore, travel would not be an obstacle to receive firsthand information.

Besides, the partners will facilitate the formation of consortiums of participants to jointly participate in the tender. It will be encouraged that not only technology experts propose, but also those with experience in eHealth, gerontology, psychology, sociology, change management, user design, etc. Among other methods, it will make use of on-line tools to matchmake between those complementary applicants offering or demanding skills to form a consortium. Finally, the Open Market Consultation will be also promoted in parallel during this phase. Potential applicants will be encouraged to submit their contribution using an on-line form in the project website.

Engagement with key internal stakeholders to smooth out the implementation of the PCP

Several measures will be implemented at the beginning of the project to get the early buy-in of critical stakeholders within each procurer.

- Personalized internal communication campaign to the key internal audiences.

  - Preparation of corporate content for optimal consumption for key internal audiences.
  - Organization of assertive meetings with key stakeholders to motivate participation.
    - Explain what the project objectives and related actions are.
    - Clearly communicate what is expected from who and when.
    - Collect feedback and concerns (during and after the meeting).
- Management of potential issues after previous step
  - Review the identified issues raised at each procurer and exchange within the consortium.
  - Joint identification of solutions at consortium level
  - Implementation of solutions
  - Periodic assessment and follow up.
- Identification of success indicators:
  - Collect what would mean success for the stakeholder types per procurer
  - List and exchange within the consortium
  - Joint review and assessment to decide about their incorporation in the tender requirements.
- Timely communication with stakeholders beyond their direct/immediate participation in a project activity.
  - Personalized updates regarding project advancement (e.g. tender preparation, public events, selection of candidates) to promote lasting engagement.

Communication of project outputs to encourage 3rd party take-up.

At the later phases of the project, once some preliminary results are available, the communication focus will be placed in facilitating that potential procurers outside the consortium get to know the solutions developed under eCARE and multiply the probability that also acquire any of them. Several actions will be implemented.

- Presentation of results in key conferences or sectoral gatherings as described below.
- Open publication of content in relevant media. At least 4 papers or articles.
- Dissemination of at least 2 press releases during the project lifetime in English at European level and one per procurer country in the local language.
- Invitation to participate in the review or assessment of solutions to external potential procurers.
- Leverage the corporate channels (including multipliers) to maximize communication impact.

The Communication Strategy will initially identify the stakeholder's different audiences and target groups impacted by these objectives. A first classification is proposed below.

- Procurement related:

  Stakeholders within the procurer organization:
  - Decision makers: politicians and middle-management.
  - Personnel in charge of Procurement.
  - Personnel in charge of health and care delivery management.
  - IT department in case the technology needs integration with corporate solutions.
  - Key influencers/advocates that may support the implementation of the project.

  Other
  - Supporting partners that deliver care in collaboration with the procurers.
  - Old adults involved in the testing of the solutions.
  - 3rd party organizations and other influencers that may contribute to the project.

- External to the consortium:

  Supply side:
  - Companies and experts
    - Information technology companies, in particular those specialized in digital technologies for age in place.
    - Organizations with experience in gerontology, psychology, sociology, change management, user design, or other added value expertise to complement the technological
    - AGE Platform Europe, which is a European network of more than 160 organizations of and for people aged 50+ representing directly over 30 million older people across in Europe. AGE aims at voicing and promoting the interests of the 150 million inhabitants aged 50+ in the European Union and at raising awareness of the issues that concern those most.

- Multipliers and supporters:
  - Patient associations at local level and those with a wider area of influence like The Patients Association (www.patients-association.org.uk/) and Friends of the Elderly- (www.beafriendtoday.org.uk).
  - European ICT associations, such as COCIR (European trade association representing medical imaging, health ICT and electromedical industries) and IHE Services (Integrating the Health care Entreprise);
  - Business related: like European Enterprise Network (een.ec.europa.eu/), and ECHAlliance (echalliance.com).
  - Horizontal associations and networks with touch points with the project: EURADA, EUREGHA (www.euregha.net), ENoLL (www.openlivinglabs.eu) and CORAL (www.coral-europe.eu.

  Demand side:
  - Other public or public organizations related to the delivery of e services like EHPPA (European Healthcare Public Procurement Alliance)- www.ehppa.com/; IFIC (International Foundation for Integrated care)- www.integratedeCAREfoundation.org/; WHO (World Health Organisation)- www.who.int/en-; Personal Connected Health Alliance (PCHAlliance), EIP-AHA- (ec.europa.eu/eip/ageing/home_en) and AGE Platform -www.age-platform.eu/.; EIP on AHA Action Groups; Urban Health Centers Europe (UHCE).
  - Innovation procurement initiatives like the Procurement forum (procurement-forum.eu) and the PPI Platform (www.innovation-procurement.org).

The plan will incorporate management procedures and clearly define responsibilities among project partners. TBM will coordinate the creation and implementation of the plan, in collaboration with the project partners.

3 IMPLEMENTATION

3.1 Work plan – Work packages and deliverables

The work plan is divided into six work packages, conceived in a coherent order to meet the project objectives. The methodology will be oriented to identify suitable and effective solutions followed by their respective analysis and validation.

WP2. Consortium management: This work package consists of administration and management of the project. The objectives are to coordinate all work conducted in the project, to oversee the tasks and work packages, to ensure sound financial management of the project and production of deliverables, as well as to report to the EC via the contracted reports.

WP3. Preparation of the procurement: The main objective of this WP is to prepare the eCARE procurement call for tender. The principal activities of this work package are to gather an understanding of the key requirements and current prior art analysis, and to implement several co-creation actions to validate the unmet needs with the end-users and other key stakeholders. A specific open dialogue with potential tenderers will take place to broach the views of the market about the intended R&D scope. All the understanding generated will be synthesized into a functional specification for the call, including assessment criteria and the joint procurement agreement among the Buyer's Group.

WP4. Procurement publication and offers evaluation process: This work package is focus on the tendering process. Main aspects that will be managed are related to the evaluation process set up and the definition of the evaluation procedure that will be used for the assessment of the offers received during the PCP phases. This action includes the PCP publication and evaluation process, including the awarding and contracting for the tenderers that will participate in the Phase A of the PCP.

WP5. PCP Contract implementation: The objective of this work package is to develop new technologies to address the common challenge. Therefore, this WP covers all the activities of the companies who apply and win a contract as part of the PCP call. This work is expected to be R&D of technologies including feasibility studies, prototype development and production runs. The PCP execution stage is the main focus of this action where the technical and financial supervision of the contracts will be implemented.

WP6. Communication, Exploitation and Dissemination of the results: This WP has a two-fold objective: from one side, it aims to develop an Exploitation Plan to maximize the opportunities that the outputs of this project are valorized both by the consortium and the suppliers after the end of the project. In this sense, the project partners will propose and deploy measures to maximize the successfully commercialization of the supplier´s solutions; and from the other side, this WP aims to disseminate and communicate the knowledge and results generated in this project, and to enable the means and channels to communicate them among the project wide list of stakeholders. This WP will pave the way to change the mindset of public procurers and other European decision makers to see the full potential of the eCARE solutions and maximize the valorization of the project outputs after the project end.

WP7. Field Testing final evaluation, lessons learnt and main conclusions: This work package deals with the evaluation and validation of the technical solutions developed, including technical, operational and economical aspects. In addition, within this WP, the lessons learnt during the different PCP phases will be gathered and documented to provide recommendations for future actions in two spheres: continuum care for frailty prevention and enhanced implementation of procurement innovation actions.

Graphical presentation of the components (Pert diagram)

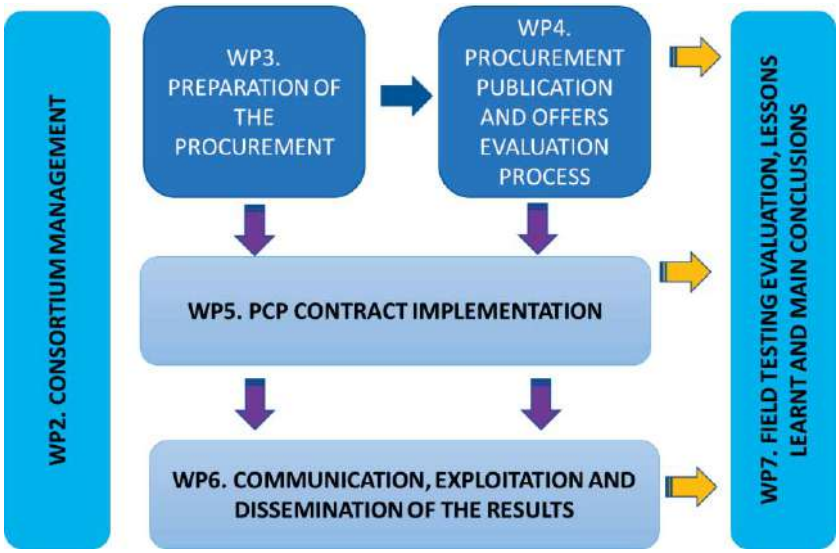
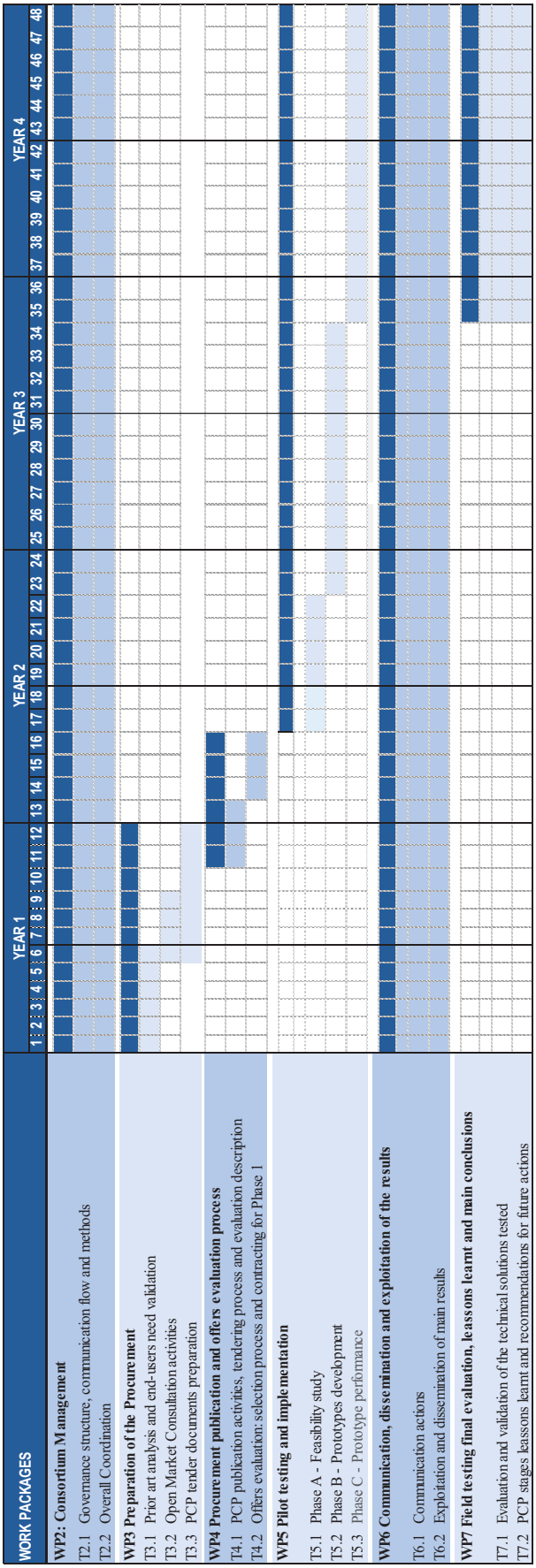


Figure 6 Pert Diagram representation of work flow



Timing (Gantt chart)

3.2 Management structure and decision-making procedures

The necessary management structure will be created and used for an effective project direction and management, performing the overall and day to day financial, legal, administrative and technical coordination. Communication flow and methods for reporting, progress monitoring, and quality assurance, and management of knowledge and of intellectual property will be established, while promoting the gender equality and the networking with other domain related projects and initiatives. Measures for avoiding risk and contingency plans regarding financial, legal, administrative and technical co-ordination to overcome potential risks of the project will be established from the beginning of the project.

The project has adopted a management structure that takes into account the complexity that supposes the project. Three main boards will manage the project activities:
1. The **General Assembly** is the high-level management body of eCARE in which all participants are represented. It is led by the Project Coordinator.
2. The **Executive Management Team** is composed by:

- The **Steering Committee** is in charge of the project supervision and executive activities. It is composed only by the Work Package Leaders and is chaired by the Project Coordinator.
- The **Project Coordinator** is responsible of the day-by-day project management. He is authorized to commit and negotiate on behalf of the consortium with the EC. Supported by:
- **Lead procurer**: offers support to the technical decision-making process. He is the chairman of the Steering Committee.
- **Financial/Administrative/Legal Coordination**: Project Coordinator.
- **Chairman of the technical committee**: SCMA will coordinate the technical meetings.

Other relevant figures within eCARE governance are the following:
3. **WP leader**: is responsible of managing the tasks grouped in the WP. The WP leader must report to the Executive Management Team, ensuring the fulfillment of its duties from the scientific point of view.
4. **Task leader:** at this level the responsibility of each task is assigned to a specific partner, who will be in charge of the task execution and the reporting to the WP leader.

The General Assembly
It is the ultimate decision-making body of the Consortium and is responsible for the approval of the management structure and the project direction. The GA is formed by all the partners and is chaired by the Project Coordinator. The GA assumes overall responsibility for liaison among the Parties in relation to the project, for analyzing and approving the results, for proper administration of the project and for implementation of the provisions contained in the Consortium Agreement.

- The GA will decide in cases of:
  - Modification of the management structure.
  - The exclusion of project-partners.
  - The alteration of the Consortium Agreement.
  - The premature completion/ termination of the project.
  - The General Assembly will rely on the Steering Committee, which will execute the GA functions.

The Executive Management Team:
Steering Committee (SC)
The role of the Steering Committee will be to provide strategic guidance to the project activities and to ensure the relevance of the deliverables. The SC is formed by the project coordinator and the WP leaders. The SC is responsible of the project supervision and executive activities. The SC will execute the GA functions and address relevant topics to be investigated further. The responsibilities of the SC chaired by the Project Coordinator are:

- Proposition of the management structure and establish communication flows and methods
- Approval of the overall project work plan, budget, S/T reports and financial reports

- Approval of the implementation plans and their associated financial plans
- Monitoring of the project progress and revision of the achievements
- Approval of the awareness, dissemination and training plans and its deployment
- Approval of the exploitation plan and knowledge and IPR protection strategy
- Approval of a Quality Assurance Plan and approval of the appraisal of financial, legal, administrative and
- Technological risks and related contingency plans.
- Approval of networking activities with other European related projects and initiatives

Project Coordinator (PC):
The Project Coordinator, BravoSolution, will be responsible for the continuous follow-up of the project and all the activities listed below. The PC is the unique contact person of the project from eCARE for interfacing with the EC. The role and responsibilities of the PC will be:

- Proposition of communication flows and methods.
- Chair prepare the agenda and minutes of project meetings and monitor implementation of decisions taken.
- Proposition of the overall project work plan and budget and oversee S/T and financial reports.
- Oversees the implementation plans and their associated financial plans.
- Oversees the project progress and revision of the achievements.
- Oversees the awareness, dissemination and training plans and its deployment.
- Oversees the exploitation plan and the management of the knowledge and IPR.
- Proposition of a Quality Assurance Plan and oversee the appraisal of financial, legal, administrative and technological risks and related contingency plans.
- Proposition of networking activities with other European related projects
- For better management the issues related to the technical domain and issues related to the administrative/financial/legal domain will be managed through the Lead Procurer and the PC respectively.

The Lead Procurer (LP), ASL BN, will be supported by the S/T Committee. The responsibilities of the LP are the following:

- Launch the PCP call.
- Guarantee the day-to-day technical coordination and ensure communication flows among WP leaders.

The Innovation Manager (IM), TBM,
The IM will be in charge of managing and ensuring the innovation of the new platform understanding the current technical and market problems and providing creative ideas for solving them. The innovation manager will advise the steering group on how the innovation can be optimized and will suggest improvements in other tasks accordingly.
The Administrative/Financial/Legal Coordination, BravoSolution, is responsible of:

- Coordinate the administrative / financial reporting as well as other administrative and financial issues.
- Guarantee the day-to-day administrative / financial / legal management, coordination among all partners.
- Ensure that all project partners set up and maintain appropriate accounting systems consistent with national and/or Commission requirements (if not already in place).
- Keep accounts making it possible to determine at any time what portion of the EC funds has been allocated to each contractor, and inform the EC of the fund distribution
- Receive all payments made by the EC and administer the Community contribution regarding its allocation among contractors and activities in accordance with this contract and decisions taken by the consortium.
- Obtain audit certificates of all project participants, when required.
- All other tasks mentioned in article II.2.3 of the Grant Agreement

Chairman of the technical committee:

SCMA will coordinate the technical meetings regarding the identification and validation of the common challenge as well as the definition of the call functional specifications from a social eCARE provider perspective.

Work Package Leaders
A WP-Leader is appointed to each individual Work Package. The role and responsibilities for WP-Leaders will be the detailed co-ordination, planning, monitoring and reporting of their individual Work Package, and together with the Steering Committee establish a close cooperation between all WPs permitting a continuous exchange of information. These leaders will be responsible of reporting every three months their WP status to the Coordinators.
Each WP Leader will be able to identify which tasks of his responsibility have been advanced or delayed, assisting Task Leaders in the activities and budgetary control. A final technical report per WP will be available at the end of the project including all relevant technical details.

Task Leaders (The role and responsibility of Task Leaders is the same as the WP Leaders at Task level)

- The General Assembly will rely on the Steering Committee, which will execute the GA functions.

Decision making structure and communication flow
The PC shall collect all the queries from the General Assembly (GA) members and WP leaders. These queries will be firstly analyzed by the PC and presented to the Steering Committee (SC) in order to discuss them and search for a solution before presenting it to the GA to be finally decided. The PC will assure the information flow within the project.

The GA shall not deliberate and decide validly unless two-thirds (2/3) of the partners are present or represented by proxy. The GA shall take decisions by a majority of the 70% of the votes of the partner present. All decisions related to the project results (presentation, publication or exploitation outside the initial plan) are made on the basis of the decision of the GA (all consortium members).

The SC shall not deliberate and decide validly unless three-quarters (3/4) of the Parties are present or represented by proxy. The SC shall take decisions by a majority of the 70% of the votes. All the topics to be discussed will be formally specified in the agenda of the meetings, so the PC must be informed of it previously, at least ten (10) calendar days before the date of the meeting.

The communication flow will bottom-up through the typical communications methods such as: meetings, videoconferences, e-mails, phone, fax etc. In particular a co-operative working method using the web site will be established. Passwords will be facilitated to all partners and to the EC.

Reporting
There will be internal regular project progress reports (every 3 months), from the WP leader to the PC, which will contain the detailed progress of the project and the plan for the next reporting period. There will also be an internal summary management and technical report every six months made by the PC and presented to the LP. Deliverables will be produced 1 month before the end of the delivery date in order to have time enough to be checked internally. The deliverables will flow from the Task leader to the WP leader and to the PC and when applicable to the LP for internal approval and when applicable to the AP as a quality mean of verification. Audit certificates will be also reported. Deliverables will be sent to the EC according to the delivery month.

Meetings
ECARE meetings will be arranged by the chairman of the corresponding Committee. All related documents will be ready 10 days before of the meeting, and the meeting reports available within 10 days after.

- GA: an initial 2-day kick-off meeting and one meeting every year. The EC may participate as an observer at the meetings of the General Assembly.
- SC: 1-day meeting each 6 months, with a special session dedicated to project risks.
- Additionally, extra meetings can be hold if it is considered necessary due to unexpected circumstances.

Quality Assurance Plan (QAP)

A QAP will be developed and proposed by the PC. It will be available by month 3 in the project and approved by the SC. The plan is supposed to function as an operational manual for the consortium, identifying an unambiguous and appropriate workflow between consortium partners and the various roles, designed for the project. The PC of the project will be the responsible of develop and update the QAP.

The QAP will identify:

- A clear list of all review, audit and acceptance points in the lifecycle of the project.
- A list of internal reviewers and review criteria for each deliverable.
- All types of forms and other documents that must be prepared in the project course, in order to closely track the progress and allow for early problem identification and solving.
- A special communication flow diagram, showing the relationship among the above three-type critical points, the respective documents and the precise roles and people involved.
- Risks and contingency plans. A Project Risk Management Process will be implemented since the control of the project risks is a continuous process. The PC will be in charge of the continuous follow-up, and there will be a dedicated point in each SC meeting.

Management of knowledge and Intellectual Property Right (IPR):
Knowledge management encompasses Intellectual and Industrial Property Rights for the inventions and their exploitation and dissemination. The need of pre-existing know-how (background) and the knowledge developed in the project (foreground) for project execution and use is regulated in the Consortium Agreement.

An active policy of protecting IP will be adopted where applicable. Considering the number of potential applications to be researched, advanced IPR strategies can be followed.
Any decision making regarding IPR in PCP projects will be also taken into account by the Buyer's Group.

Networking:
Active links with other related projects will be established. To improve mutual added value regarding several aspects, such as:

- Interchange of common relevant needs of the stakeholder value chain.
- Common dissemination and training strategies.
- Collaborations in business model's development.

Consortium Agreement:
A consortium agreement will be signed by the partners, before the signature of the Grant Agreement with the EC, addressing mainly the management structure and decision-making mechanisms, responsibilities and liability as well as all aspects related to: intellectual property rights (Background and foreground) and its protection and access rights, as well as the use (exploitation and further research) and dissemination of the knowledge.

The CA will define key concepts relating to IPR such as background and foreground knowledge, exploitation, access rights and potential pricing types. Also, rules will be described therein for attributing rights in such a way as to fully facilitate joint achievement of the intended results, including:

- Concerning exploitation of the project results, it is the understanding of the consortium that knowledge and pre-existing know-how will be made available to the partners under favourable conditions if they are necessary to perform the research and related work in this project. The placement of pre-existing know-how into the project will be detailed in the appendix of the CA. Herein; every single partner is entitled to describe its own pre-existing know-how.
- The suppliers will apply obtain and maintain the relevant IPR, with the procurers being granted royalty free access in keeping with the overall requirements of the PCP.
- Pre-existing know-how and foreground knowledge will be made available, on a royalty-free basis, to the other project partners for dissemination, research and academic purposes in respect to the intellectual property rights of the partner generating this knowledge.

- Pre-existing know-how and foreground knowledge will be made available to the other project partners for exploitation purposes at favourable conditions, with respect to the normal commercial conditions applied by the granting partner

In addition, the consortium agreement will include the confirmation of the consortium's commitment that clarifies inter alia the above consortium governance structure, project decision making procedures, the procedures for handling of financial transactions where appropriate between partners to finance the joint procurement and the procedures for the handling of IPR related rights among consortium members resulting from the procurement.

3.3 Consortium as a whole

In order to achieve the objectives of ECARE project, a multidisciplinary, with complementary strong research capabilities, and well-balanced consortium, from both the scientific and technical skills has been built up. The consortium members bring enough critical mass and complementary expertise to achieve the technical and societal objectives of the project as well as for spreading knowledge and technologies and for exploiting appropriately project results.

Complementarily among participants: The Consortium has been configured with a well-balanced contribution of organizations with strong research capabilities, 3 consultant experts, 4 Public Institutions-Procurers

- **Consultant experts**:
  - **BRAVOSOLUTION (Spain) -** BravoSolution is a leading international provider of Supply Management Excellence, delivered through software, professional services and category expertise, with a mission to generate value by supporting its clients in the improvement of procurement processes. BravoSolution works with supply management to address each business's unique processes, stakeholders and goals to deliver tailored solutions across the entire supply management cycle. With over 60,000 procurement professionals in 60 different countries using BravoSolution's technology and services, BravoSolution offers leading software, practice innovation and expertise to ensure that supply management is aligned with the company's strategic objectives to drive business growth.
  - **TBM (Spain) -** TBM is a cooperative cluster of ICT companies, Universities, Health eCARE providers, and Public Institutions that work together to promote eHealth innovation in the Region of Murcia (Spain). It is legally a non-profit business association, founded under the auspices of the Universities, Enterprises and Research regional Ministry. It counts currently more than 50 members at national level gathering Healthcare, ICT organizations and other stakeholders. In 2010 the association was awarded with the ´Excellence label´ for its strategic plan and since, joined the national database of excellent Innovative Enterprise Associations. It also holds a ´Gold label´ from the European cluster management excellence programme awarded in 2016.As part of its core expertise, the association has specialized in the identification of unmet needs and challenges in Health that can be solved with the use of ICT in order to spot areas of opportunity for the development of profitable eHealth innovation, following a methodological approach when interacting with potential customers and end-users (healthcare managers, professionals, patients, etc.). The methodology can be also leveraged for the identification functional requirements. TBM also makes a strong emphasis on Business Modelling, to realistically address market opportunities in the eHealth space. The association has a track record of business mentoring and support to entrepreneurs and SMEs, which can be also applied to the development of project-specific exploitation plans.
  - **SCMA (Portugal) -** SCMA is an NGO, founded in 1987, oriented to Human dignity in a sustainable and organized way. It has the mission to provide, create and develop appropriate social services according to Amadora Community needs, promoting solidarity, quality of life and human dignity. Its objectives are to empowering individuals/families in a disadvantage position; Deliver Social Responses to the Community, suitable to the diagnosis of needs, on Educational, Elderly, Health and Social Areas; Develop Integrated &Proximity Services; Work in Partnership with the 3 Sectors of Economy; Maximize Internal/External Social Accountability; Transference of Knowledge and Good Practices. Nowadays, the Organisation

has a work force of 470 employees and delivers daily support to 5300 Beneficiaries, in Amadora Council.

- **Public institutions - Procurers:**
  - **ASL BN (Italy)** – Azienda Sanitaria Locale BN is one of the 7 Local Health Agency of the Campania Region. It is a public entity with managerial, technical and financial autonomy. It carries out the tasks of the national health system in the geographical area of the province of BN. ASL BN is organized in 5 districts including hospitals and three multifunctional health centers, including prevention and mental health departments. ASL BENEBENTO will participate as Lead Procurer.
  - **FalkHosp (Poland)** – The A. Falkiewicz Specialist Hospital is a leading center in Lower Silesia (Poland) in the field of care for the old adults. The Hospital is a Provider of healthcare services/facilities and professionals. FalkHosp will participate as procurer.
  - **CSI (Spain) -** The *Consorci Sanitari Integral* (CSI) is a public organization of health and social services, which manages 14 centers in the region of Barcelona and the Baix Llobregat. The distribution of centers includes: - Specialized care, Primary Care, Socio-health care and Social area (Assessment Service for the degree of disability, Dependency assessment service). CSI will participate as a procurer.
  - **SDR (Spain)** - The city of Santander is the capital of the Cantabria region in the north of Spain and has a current population of approximately 173,000 inhabitants. The city participates in diverse initiatives. Among them, the SmartSantander project has established a before and after in the way of conceiving and organizing innovation in the city. Thus, Santander is well-known as a unique living lab in which to experiment with new technologies, applications and services. SDR will participate as procurer. SDR will participate as a procurer.

Partner name	Coordination of previous EU funded projects	Participation in EU funded projects	SME	Public Procurer
BRAVOSOLUTION	**X**	**X**	**X**	
TBM	**X**	**X**	**X**	
SCMA		**X**		
ASL BN		**X**		**X**
FALKHOSP		**X**		**X**
CSI		**X**		**X**
SDR		**X**		**X**

Table 3.3a Quality and experience by partner

nº	Partner Acronym	Country	Partner main roles
1	**BRAVOSOLUTION**	ES	Project coordinator. Leader of the WP2 Consortium Management BravoSolution will design and maintain an eTendering platform in order to manage online the PCP call for tender.
2	**TBM**	ES	Communication officer. Leader of WP6 Communication, Exploitation and Dissemination
3	**SCMA**	PT	Chairman of the technical committee. Leader WP7 Evaluation, lessons learnt and main conclusions
6	**ASL BN**	IT	Lead Procurer; Leader of WP4 Procurement publication and offers evaluation process and WP5 PCP Contract implementation. Responsible of launching the PCP. In addition, responsible to jointly define the PCP call for tender specification, carry out the OMC,

nº	Partner Acronym	Country	Partner main roles
			organize one national OMC workshop, implement field testing for awarded solutions, identify knowledge and encourage supply side to commercials the project outcomes.
7	**FALKHOSP**	PL	Procurer; responsible to jointly define the PCP call for tender specification, carry out the OMC, organize one national OMC workshop, implement field testing for awarded solutions, identify knowledge and encourage supply side to commercials the project outcomes.
8	**CSI**	ES	Procurer; Procurer; responsible to jointly define the PCP call for tender specification, carry out the OMC, organize one national OMC workshop, implement field testing for awarded solutions, identify knowledge and encourage supply side to commercials the project outcomes.
9	**SDR**	ES	Procurer; Procurer; responsible to jointly define the PCP call for tender specification, carry out the OMC, organize one national OMC workshop, implement field testing for awarded solutions, identify knowledge and encourage supply side to commercials the project outcomes.

Table 3.3b Consortium Partner's main role

Furthermore, as explained in Section 1, the necessity of including a public consortium from Spain, Italy and Poland composition is justified by following the social inequalities that affect the increase of frailty numbers. Public Procurers involved in eCARE from countries of the EU that experience the highest prevalence of frailty people crucial to invest in PCP projects so as to support the reverse of this situation.

3.4 Resources to be committed

The proposed budget for eCARE project is 5,600,000 €, the breakdown into type of activities and type of partners can be seen below. The consortium partners mobilize the critical mass of necessary resources for success. The partners are willing to commit the necessary resources, which means 392,000 €, 10% of the total budget. The total PCP budget is 3,920,000 €.

The project costs have been calculated using the most economic and appropriate means for each partner to ensure quality of the results within the allocated timeframe and budget. Each of the projects partner has evaluated the costs to enable the project to be successful. In order to achieve eCARE objectives, the following costs have been considered:

Table 3.4.a: Direct "costs of PCP subcontracting" – Total jointly committed budget for the PCP

Participant number / Short name	Country	(a) Participant's own resources (for the Horizon 2020 grant [€] (min d*10%)	(b)EU Contribution from Horizon 2020 [€] (max d*90%)	(c) Possible additional ESIF grant (including participant´s own resources for that grant (optional) [€]	(d) Total budget for the PCP subcontracts (excluding ESIF grants) = Maximum amount that can be eligible for cofounding	(e) Total budget for the PCP subcontracts (including ESIF grants) [€] (a+b+c)

					by Horizon 2020 [€] (a+b)	
BRAVOSOLUTION	ES	-	-	-	-	-
TBM	ES	-	-	-	-	-
SCMA	PT	-	-	-	-	-
ASL BN	IT	98,000€	882,000 €	-	882,000 €	980,000 €
FALKHOSP	PL	98,000€	882,000 €	-	882,000 €	980,000 €
CSI	ES	98,000€	882,000 €	-	882,000 €	980,000 €
SDR	ES	98,000€	882,000 €	-	882,000 €	980,000 €
TOTAL		**392,000€**	**3,528.000€**		**3,528.000€**	**3,920,000 €**

Table 3.4c: Direct costs of 'subcontracting of related additional coordination and networking activities'

BRAVOSOLUTION	**Cost (€)**	**Justification**
Subcontracting of coordination and networking activity 1	15.000	Consultancy tasks for legal and ethical aspects of the Field-Testing Phase C of the PCP
Total	**15.000**	

Table 3.4.d 'Other direct cost' items (travel, equipment, large research infrastructure, goods and services) of related additional coordination and networking activities

BRAVOSOLUTION	**Cost (€)**	**Justification**
Travel	19,200 €	National and EU travels representing the PCO
Equipment	-	-
Other goods and services	8,500 € 8,600 €	eCARE Final Infoday in the form of show case External advisory board supporting PCP evaluation process
Total	**36,300 €**	

TBM	**Cost (€)**	**Justification**
Travel	19,200 €	Various national and EU travels as communication officer
Equipment	-	-
Other goods and services	15,000 €	Project website design and maintenance subcontract. Subcontract of the design of the corporate identify and development of dissemination materials: roll-up, brochures, leaflet, video, etc.
Total	**34,200 €**	-

SCMA	**Cost (€)**	**Justification**
Travel	19,200 €	Consortium travels to various EU locations. National travels to implement field testing
Equipment	-	
Other goods and services	-	
Total	**19,200 €**	**-**

ASL BN	**Cost (€)**	**Justification**
Travel	19,200 €	Consortium travels to various EU locations. National travels to implement field testing
Equipment	-	

Other goods and services	3,000 €	Organization of 1 national OMC workshop
Total	**22,200 €**	**-**

FALKHOSP	**Cost (€)**	**Justification**
Travel	19,200 €	Consortium travels to various EU locations. National travels to implement field testing
Equipment	-	
Other goods and services	3,000 €	Organization of 1 national OMC workshop
Total	**22,200 €**	**-**

CSI	**Cost (€)**	**Justification**
Travel	19,200 €	Consortium travels to various EU locations. National travels to implement field testing
Equipment	-	
Other goods and services	3,000 €	Organization of 1 regional OMC workshop
Total	**22,200 €**	**-**

SDR	**Cost (€)**	**Justification**
Travel	19,200 €	Consortium travels to various EU locations. National travels to implement field testing
Equipment	-	
Other goods and services	3,000 €	Organization of 1 regional OMC workshop
Total	**22,200 €**	-

No costs related for “large research infrastructure” are foreseen.

4. Section 4: Members of the consortium

4.1 Participants (applicants)

Participant / Name of institution	Participant Short Name:	Participant Number	Participant Logo
BravoSolution España S.A	**BRAVOSOLUTION**	**1**	BravoSolution

The organization:

BravoSolution is a leading international provider of Supply Management Excellence, delivered through software, professional services and category expertise, with a mission to generate value by supporting its clients in the improvement of procurement processes. Top analysts have found that the right blend of skills, process, and technology improves a company's financial performance by 30 cents on every euro spent.
BravoSolution works with supply management to address each business's unique processes, stakeholders and goals to deliver tailored solutions across the entire supply management cycle.
With over 60,000 procurement professionals in 60 different countries (including Italy, France, Benelux, UK, Spain, Mexico, Germany, USA, UAE, China, Finland (Nordics) and Australia (APAC), using BravoSolution's technology and services, BravoSolution offers leading software, practice innovation and expertise to ensure that supply management is aligned with the company's strategic objectives to drive business growth.
The company has substantial track record in the Private and Public Sectors and has evolved its solution over the years to best meet the evolving needs of its sophisticated client base.

BravoSolution's key achievements include:

- Serving over 600 clients (in 40 countries, belonging to 18 distinct industries)
- A staff of over 600 procurement professionals in 18 offices across 12 countries (42 languages spoken, 40 different nationalities)
- Over 60,000 procurement professionals using BravoSolution Software technologies from over 60 countries.
- An ongoing Spend visibility provided to clients on a total portfolio of over € 500 Billion in annual expenditures.
- Over 300 supply management suites deployed for international clients.
- Over 700.000 supplier organisations involved in Supply Management processes conducted. through BravoSolution technology

BravoSolution has also a large experience in providing consultancy services and studies to private sector in the following subjects:

- Market Research
- Analysis of the supply value management chain.
- Procurement of Innovation strategies
- Spend Analysis assessment
- Global Savings Analysis and generation
- Cross country spend visibility and aggregation
- Procurement governance
- Processes re-definition

Innovation Department of BRAVOSOLUTION ESPAÑA leads the Innovation Procurement Initiatives and Projects develop in the company. Below are shown examples of PCP and CSA projects related to Innovation Procurement that is coordinated by BRAVOSOLUTION.

Main tasks and role in eCARE:

- Project Coordinator

• Innovation procurement consultant • Consultancy advisor in PCP processes: support in WP3, WP4 and WP5 • Leader of WP2 • Provide eTendering platform to launch the eCARE PCP.	
	Curriculum vitae / relevant skills/experience/technologies:
	Mrs. Asunción Ramirez (female) is an IT technical engineering working as commercial manager at BravoSolution. Asunción has over 25 years' experience of developing, implementing, and managing electronic procurement solutions for public administrations. She has participated in a wide range of innovative procurement projects numerous public sector projects and counts on an exhaustive knowledge of the sector. **Mrs. Laura Sánchez (female)** is a procurement consultant at BravoSolution (Spain). She holds an engineering degree and postgraduate specialization studies in project strategic planning, and occupational health and safety. Ms. Sánchez is responsible of the European Projects Department inside BravoSolution. She has more than 9 years of experience in the management, planning, execution and coordination of national and European research and development public funded projects. She has been the Project Coordinator of 2 funded FP7 projects. She has also coordinated the EPP-eHealth (GA: 644461) project that aims to identify the health care sector common eHealth unmet needs. And the RELIEF project (GA: 689476), that aims to launch a European Pre-Commercial Procurement tender to identify innovative ICT solutions to support chronic patients in the self-management of their pain. **Mrs. Patricia Martínez Galisteo (female)** is a procurement consultant for BravoSolution Spain. She has a humanities University Degree and Postgraduate Studies on business innovation. Currently, she works as Project Manager for the European Projects Department of BravoSolution supporting the company Technological and Operational Units promoting, coordinating and/or managing R&D and innovation projects at national and international level. At the same time, it carries out an exhaustive technological surveillance of the procurement sector. She has more than 5 years of experience in management of European R&D projects for both private and public sectors. Moreover, she has a vast experience in managing projects in cultural, human and social science fields. She also provides expertise in events organization: scientific project meetings, workshops; dissemination and exploitation activities; networking and training courses. Recent projects include defining and launching a European Pre-Commercial Procurement call to identify innovative ICT solutions and services to support chronic patients in the management of their pain control.
Relevant previous projects and activities:	
Some good examples of BravoSolution cooperation with the public sector in Public Procurement of Innovation are: **European Level** • **EPP-eHealth project**: http://innovationithospitals.com/, which aims to create a network of procuring organisation to identify their unmet needs within the eHealth sector (2015-2016) • **RELIEF PCP project**: http://relief-chronicpain.eu/, which pursues the development of self-management techniques for chronic pain management, through the implementation of a Pre-Commercial Procurement action (2016-2019). One of the most active European companies within the innovation procurement domain. Expert, trainee and speaker in international congresses, seminars and workshops related to innovation procurement. **Procurement experiences:** **UK Government** • Delivery of a pan-government eSourcing solution currently adopted by over 100 government organizations and which keeps attracting new entities each month, convinced by the opinion of the ones that have already experienced the benefits BravoSolution can provide; • Clients: Over 100 Public sector organisations across England, Wales and Northern • Ireland with a combined annual spend of over £ 30 billion;	

- Tenders managed online: Over 30.000 Tenders managed entirely online for contracts worth in excess of £ 80 billion;
- Active end-users: Over 12.000 procurement professionals actively using the solution;
- Over 280.000 suppliers engaged in electronic tendering, vendor management and contract management activities;
- Key usage figures: Over 2.100.000 tender documents submitted online (~ 400 Million pages of paper saved by electronic submissions).

Spanish Government:

- Implementing electronic public procurement in Community of Madrid administration and conducting the first eAuction carried out by the Community of Madrid.
- Spending categories and procurement optimisation for Madrid Subway;
- Implementing electronic public procurement in Hospital La Paz.
- Introducing new Directive 2014/23/EU for Public Procurement Reform to Hospital de Mostoles.

Other success cases and figures:

- Mexico central procurement government training and eProcurement system implementation;
- Implementing electronic public procurement in Community of Madrid administration and conducting the first eAuction carried out by the Community of Madrid.
- Government Procurement Service tackles Spend under Management using BravoSolution Spend Analysis (13th of November 2012)
- Healthcare Matters: BravoSolution Hosts UK Reality Sourcing Series (5th of September 2012)
- Gartner Names BravoSolution as Most Visionary Strategic Sourcing Vendor in Leaders Quadrant (The Wall Street Journal – 3rd of July 2013)
- Consalud.es – La Paz University Hospital saves more than € 100K in its first eAuction with BravoSolution (18th of March 2014)
- eProcurement for Ministry of Defense (20th July 2012) Region of Valencia (7th of February 2012)

Description of significant infrastructure/equipment:

BRAVOSOLUTION has developed eProcurement platform tools to facilitate PCP management and evaluation processes. This software is based on the BravoAdvantage solution (Strategic Procurement Platform) and it is customized to the PCP specific requirements so as to enables procurers participating in the project to launch the CARE PCP reducing risks and facilitating the monitoring and evaluation of offers in a remote way; generate more value and allowing transparency and traceability of the PCP process.

BravoAdvantage™ Sourcing enables you to work collaboratively to build, issue and evaluate sourcing events via a secure online solution. Whether you are sourcing the simplest products or complex categories, BravoAdvantage Sourcing streamlines the way you do business and lowers costs on both sides of the supply relationship.

BravoAdvantage Sourcing is a powerful end-to-end procurement management system that provides a secure, compliant sourcing solution for organizations like yours around the globe.

BravoAdvantage is delivered under a single, fully-integrated and customisable platform, available on-demand through our Software-as-a-Service (SaaS) delivery model, offering flexibility, value and rapid deployment.

This software is customized to the PCP specific requirements so as to enables procurers participating in the project to launch the eCARE PCP reducing risks and facilitating the monitoring and evaluation of offers in a remote way; generate more value and allowing transparency and traceability of the PCP process.

BRAVOSOLUTION also count on a Helpdesk Center: Local support teams available to assist with any incidents or queries related to the eSourcing platform.

Participant / Name of institution	**Participant Short Name:**	**Participant Number**	**Participant Logo**
TICBIOMED	**TBM**	**2**	

The organization:

TICBioMed (TBM) is a cooperative cluster of ICT companies, Universities, Healthcare providers, and Public Institutions that work together to promote eHealth innovation in the Region of Murcia (Spain). Legally a non-profit business association that was founded under the auspices of the Universities, Enterprises and Research regional Ministry. It counts currently more than 60 members at national level gathering Healthcare, ICT organizations and other stakeholders. In 2010 the association was awarded with the ´Excellence label´ for its strategic plan and since, joined the national database of excellent Innovative Enterprise Associations. It also holds a ´Gold label´ from the European cluster management excellence programme.

The cluster is the coordinator, among others, of the eHealth Hub project. This project delivers services to European eHealth SMEs to support them with their business modelling, access to private funding and commercialization. As part of this project, Ticbiomed leads the development of the eHealth Hub platform, a kind of ´yellow pages´ of the digital health landscape in Europe. It currently has more than 475 references including eHealth SMEs, investors, academia and other stakeholders. The platform and other resources like the association dissemination channels will be leveraged to give visibility to the tender (eg the Linkedin accounts managed by Ticbiomed have more than 10.000 contacts).

As part of its core expertise, the association has also specialised in the identification of unmet needs and challenges in Health that can be solved with the use of ICT in order to spot areas of opportunity for the development of profitable eHealth innovation, following a methodological approach when interacting with potential customers and end-users (healthcare managers, professionals, patients, etc.). The methodology can be also leveraged for the identification functional requirements.

In eCare, TICBioMed will be responsible for dissemination and outreach measures linked to the open market consultation and the call for tender.

TICBioMed has extensive experience with facilitating dialogue between supply and demand organisations in Europe. The association has participated in past Pre-Commercial Procurement projects like ProEmpower, being in charge in the open market consultation.

Main tasks and role in eCARE:

- Responsible of WP6 Communication and Exploitation activities.
- Responsible of implementing the Open Market Consultation activities (Task 3.2)
- Support in the validation of the solutions tested and offers evaluation at each PCP phases
- Innovation manager

	Curriculum vitae / relevant skills/experience/technologies:

	Mr. Jorge Gonzalez (male), Managing Director at TICBioMed. Dr. Gonzalez holds a Ph.D. in Physics from the Universidad Complutense de Madrid. He has successfully applied, managed and justified multiple research projects, both at his current position and as the Managing Director of IMET (spin-off ICT company specialized in cancer and clinical knowledge management). Prior to these roles, he worked at SAP AG (Germany) in the Research and Breakthrough Innovation department as a developer; at the University of Karlsruhe (Germany) as a post-doc Researcher in Semantic Web; and as a Senior Researcher at MINEIT (Web Mining company in Belfast). He is an SME Instrument business coach and has been an evaluator and reviewer of EC research projects. Jorge has recently been appointed as part of the 2018 HIMSS Europe's Future50 community. **Mrs. Myriam Martín (female).** Project manager with a wide experience in managing projects within the European context as well as analysis and implementation of business models. Currently hold by Mrs. Myriam Martín (female), project manager at TICBioMed. Myriam holds a BSc (Hons) in Economics and Business Administration from the Universidad Pontificia de Comillas (ICADE), and holds a Master degree in Business in the European Community form CEOE (MADRID). She has 18-years of experience on innovation policies and business development, with wide experience in the design, management and implementation of local, regional, national and European projects. **Mrs. Maria Luisa Lucas (female).** Communication manager for the dissemination and internationalization activities, hold by Mrs. María Luisa Lucas (female), communication manager at TICBioMed. She holds a degree in Journalism from the Universidad Católica San Antonio de Murcia (UCAM), and holds a Master degree in Marketing and Sales Management from ESIC Business & Marketing School (Madrid). She has 10 years of experience on communication consultancy, specialised in the design of dissemination strategies, social media and content marketing. She has already lead the role of dissemination and communication coordinator in the EU project inDemand.
Relevant publications:	
1. **Unmet need listing**: The GET Project has engaged with healthcare professionals and patients and identified several business opportunities in eHealth. These business opportunities include a detailed description, statistics and related solutions. Check them out following this link 2. **Unmet needs guide:** This document aims to support entrepreneurs and Small and Medium Enterprises (SMEs) to identify unmet needs in eHealth using a demand driven approach. That is, systematically interacting with customers and users to detect areas of opportunity. Download the guide 3. **Methods for identifying unmet needs**. This document explains the methods for identifying unmet needs in the eHealth domain. The method includes in depth interviews, focus groups, unmet needs corner, on-line surveys, third party challenges and informal exchanges. Download the guide 4. **Practical Guide to Getting Funded**. Digital health start-up looking for follow up funding? The GET Project has put together a comprehensive guide including latest trends, investors and funded start-up interviews, criteria and lessons learned from investors in the GET Funded pool. Download the complete guide here. 5. **250+ investors interested in your digital health solution**. The GET Project has identified 250+ VCs and investors around the world that have already made investments in digital health or are seriously investigating the area. Check out or download the list here	
Relevant previous projects and activities:	
eHealth Hub Coordinator. eHealth Hub is a 2016 EU-funded project focused on the digital health vertical. It provides high-quality, long-term business support tailored to the digital health ecosystem stakeholders. eHealth Hub addresses key challenges faced by European SMEs, such as fine-tuning of the business model, securing	

private investment, engaging with the demand-side actors, accelerating commercialization, getting legal and regulatory guidance to develop solutions in compliance with a multi-layer complex framework.
The eHealth Hub project is supported by the European Commission's Horizon 2020 Programme and has been born with the objective to continue support upon project completion, through the maintenance of sustainable and scalable support structures The eHealth Hub´s goal is to involve over 700 SMEs in its activities, and will develop partnerships with major European and international e-health networks, health care organizations, investors and other stakeholders.

ProEmpower
ProEmpower is a PCP project co-ordinated by MOH which aims to procure innovative ICT for patient empowerment and self-management of diabetes mellitus on behalf of four procurers: MOH, Portugal, Murcia region (Spain) and Campania region (Italy).

Global E-health Transforming services" (GET project) [FP7-ICT-2013-10]
The project has delivered four high-impact services to eHealth SMEs and entrepreneurs in order to boost their growth and move them to the next level of competitiveness. Each service has been designed to provide cross-border value to a different target group of companies. It has done so by offering training, mentoring, market intelligence, support and quality contacts.

READi for Health" [REGIONS-2012-2013-1]
Coordination of the Regions of Knowledge project "READi for Health" [REGIONS-2012-2013-1] that aims to strengthen the research potential of four leading eHealth regions (Murcia, Skåne, Oulu and Midi-Pyrénées) by supporting their triple helix clusters to become world-class players in domains related to the EU Digital Agenda for the Healthcare market (2013-2016)

FICHe
Project partner at the Future Internet Challenge eHealth (FICHe) [FP7-2013-ICT-FI] that challenges European 80 SMEs and web entrepreneurs to develop successful solutions using the available Future Internet technology in the eHealth market. At the end of the project, the results include twenty (20) tested prototypes and go-to-market strategies and business plans (2014-2016).

EU SME eHealth Competition
TICBioMed organises the ´EU SME eHealth Competition with the endorsement of the eHealth Unit of the European Commission and the support of other partners. The Competition is an opportunity to give visibility and recognition to the best European Small and Medium Enterprises.

Spanish eHealth Roadshow
Organizer of the ´Spanish eHealth Roadshow´, where seven eHealth associations collaborate to present the latest eHealth innovation to Healthcare stakeholders and decision makers in several Spanish regions in very lean and agile format. The objective is to cost-effectively introduce and facilitate networking between digital innovators and potential customers.

Participant / Name of institution	**Participant Short Name:**	**Participant Number**	**Participant Logo**

Santa Casa da Misericórdia da Amadora	**SCMA**	**3**	santa casa da misericórdia A M A D O R A

The organization:

Santa Casa da Misericórdia da Amadora (SCMA) is an NGO, founded in 1987, oriented to Human dignity in a sustainable and organized way.

Mission: Provide, create and develop appropriate social services according to Amadora Community needs, promoting solidarity, quality of life and human dignity.

Objectives: Empowering individuals/families in a disadvantage position; Deliver Social Responses to the Community, suitable to the diagnosis of needs, on Educational, Elderly, Heath and Social Areas; Develop Integrated & Proximity Services; Work in Partnership with the 3 Sectors of Economy; Maximize Internal/External Social Accountability; Transference of Knowledge and Good Practices.

Nowadays, the Organisation has a work force of 470 employees and delivers daily support to 5300 Beneficiaries, in Amadora Council, and delivers Services in the following areas:

- Health: On health area, SCMA comprehends 2 main Facilities: a Medical Clinic with 15 different specialities; a Long Term Care Unit (which comprehends a Unit for the rest of the Carer).
- The Long Term Care Unit delivers services daily to 30 clients and has a work force composed of Nurses; Physiatrists; Psychologists and Social Workers.
- Geriatry:2 Day Care Centers, supporting 100 Senior; 2 Elderly Residential, supporting 136 seniors; Home Care Services, supporting 170 seniors, 7 days week; 1 Assisted Residential Unit for 52 elderly.
- Education: 3 Kindergarten, covering 125 children daily; Luís Madureira School: covering 500 children daily; After School Activities covering 1300 children daily.
- Social Support: Care Center and Social Services of Amadora (C.A.S.S.A.): front line facility within and to the Community in order to boost the first assessment of needs, providing services daily to 80 persons;
- Social Campus: Integrated& Proximity Services, focused on 1300 Persons depending on Minimum Income and on the Community needs; Local Contract for Social Development-Community based Project based on creating infrastructures and improving skills among vulnerable people.

Amadora´s territory is 23.8 km2 for a population of 175.558 inhabitants, being the region in Portugal with the highest demographic density. SCMA delivers services daily to 5300 clients and has a workforce of 470 workers that daily access people´s needs, provide training/education and try to empower them. Amadora´s population is composed of 19% of people aged above 65 years old, being 42% of those aged above 75years old; 16.000 unemployed people;30.000 with very low education skills; 35.000 immigrants, namely coming from the Portuguese African ex-colognes, which represents 20%of the universe. Amadora has 7,2% of diabetes incidence among people aged in between 20-79 years old;19.8% of hypertension; a rate of 17.7 on the mortality associated to stroke for a national average of 11;15.6 on the mortality associated to the ischemic cardiac disease for a national average of 10.7.

SCMA is very focused on innovative methodologies and strategies to serve better the Community according to the population needs. The Organisation has been putting a very important effort in what is related to the dematerialization of the intervention and the comfort and security of the clients, namely the elderly clients, improving the Services delivered at Home, and that is why SCMA has been developing a Person Centred Model based on an Integrated Care Service that gathers Social Care with Health Care and ICT Tools at home.

Main tasks and role in eCARE:

- Social Care expertise and Guidance for all the Consortium, in what is related to the main needs, choices and limits to the interventions, among the end users; Person centred approaches; Good

	Practices and strategies to approach the elderly population; involvement of stakeholders, such as Organisations, Relatives and Volunteers. • Responsible of WP7 Evaluation, lessons learnt and main conclusions
Foto (not compulsory)	**Curriculum vitae / relevant skills/experience/technologies:**
	Adriano Fernandes (male). Head of Innovation at SCMA- Degree in Sociology in 1999 and 18 years of experience on the intervention and empowerment of vulnerable people. Adriano has been in SCMA since 2007, where he has been working on the development of Innovative Methodologies and Tools to faster increase capacity-building and empowerment. Since 2015 has been managing the Innovation Department, based on Consultancy-Training-Projects Management, in order to both enhance innovation, quality and sustainability in SCMA and on other Organisations. In the past 3 years he has been conceptualizing, developing and delivering an Integrated and Person-Centered Care Programme, through a collaborative process in between the Health and Social areas along with ICT, in order to improve the quality of life of the clients of the Organisation, leveraged on a profound Organisational Change Management Process (also led by him). Adriano has been coordinating, since 2009, all the national and european projects in what regards Social Innovation, Integrated Care, Health Care Innovation and e-Health, assuming the role of Contact Point. In what regards this Project he will be the Coordinator at SCMA. His main skills are Human Resources Management; Strategic Planning; Evaluation; Innovation; Collaborative Work; Consultancy; Projects Management. **Alexandra Andrade (Female).** Coordinator of the Home Care Support Service-Earned her Master degree on Social Work in 2016 and her degree, also, on Social Service, in 1999. Both from Instituto Superior de Serviço Social de Lisboa. Since then she has been working for 11 years with elderly persons in Santa Casa da Misericórdia da Amadora, managing the Home Care Support Service, which comprehends 4 different local services across Amadora council, representing a team of 50 Family Supporters and 3 local Coordinators for a population of 212 elderly living at home. Her main skills are in the field of Team Leading; Geriatry; Planning; Change Management. Alexandra has been participating in several national and European projects in what regards Social Innovation and Integrated Care. **Manuel Girão (male)**. General Director of SCMA.MBA on Executive Social and Health Equipment Management. Earned his degree of Teacher in 1ºcicle in 1999. From 1998 to 2000 taught on elementary and basic Schools and on the period of 2000-2004 became Pedagogical School Director of Luis Madureira School (of SCMA). Since 2004 to the present day his main role in the Organisation is in the position of General Director. His main skills comprehend: Leadership; Teams Leading; Resilience; Planning; Monitoring; Evaluation; Proactivity; Creativity; Resilience; Critical and Strategic Analysis. In addition, he takes part of the Board on SCMA; Member of Amadora Town Council Educational School Committee Member of the Commission for Education in the União das Misericórdias Portuguesas; Member of Lisbon Regional Secretary in the União das Misericórdias Portuguesas.
Relevant publications:	
	• Perplexidades de uma Enfermagem Nova, Enfermagem em Foco, nº 30-Ferreira,Pedro-1998 • Alimentação Parentérica. Uma revisão bibliográfica e intervenção de Enfermagem. Técnicas De enfermagem II, Cap IV, p. 71-127;-Ferreira,Pedro-1998 • A investigação e a produção de conhecimentos nas Escolas Superiores de Enfermagem, Artigo de Opinião, Jornal SOS Enfermagem, Junho-Ferreira,Pedro-1998

- Análise da participação dos enfermeiros nas Práticas Clínicas dos Cursos Superiores de Enfermagem, Artigo de Opinião, Jornal SOS Enfermagem, Julho-Ferreira,Pedro-2001
- Aprender a Viver com Saúde. Um projeto de intervenção comunitária. Revista Sinais Vitais, nº 38-Ferreir,Pedro-2001
- Desafios para o Ensino de Enfermagem em contexto de Ensino Clínico, Revista Enformação, nº4-Ferreira,Pedro-2006
- Posicionamento de doentes com hipertensão intracraniana:contributos para uma prática fundamentada. Revista Portuguesa de Enfermagem, nº11-Ferreira,Pedro-2007

PROGRAMMES

SCMA designed, developed and has been delivering several Programmes that have become Good Practices and Products in terms of Intervention, such as:

- Integrated and Person Centered Care Programme- Integration of Social Care+Health Care+ ICT in the service process model delivered in all the facilities of SCMA and on the Home Care Support of the Organisation, focused on the needs and expectations of the Person and on the limits of the Intervention
- Integrated Home Care Support Programme- Integration of Social Care+Health Care+ in the service process model delivered at Home, focused on the needs, expectations of the Person and limits of the Intervention. The Programme is also focused in the decentralization and dematerialization of the Intervention and on the real time access to critical social and clinical information.
- Social Volunteer Programme for Elderly- Volunteer Programme focused on Home Visits to provide informal support and ludic/pedagogical activities to elderly people living at home.
- Voz Amiga (Friendly Voice Programme)- Volunteer Programme focused on Phone Calls to provide informal support and diminish isolation on elderly people living at home.

Relevant previous projects and activities:

BEYOND SILOS- CIP-ICT-PSP 2013-7 – Integrated Care at Home.
ProEmpower- H2020-SC1-2016-2017- Prevention and Intervention on Diabetes Type 2
MEGAN- DG EMPLOYMENT, SOCIAL AFFAIRS AND INCLUSION-Mentoring for excluded groups and Networks
SMARTCARE- CIP-ICT-PSP.2012.3.1- Integrated Care at Home
EIP-AHA- Boosting Integrated Care Commitment submitted

Description of significant infrastructure/equipment:

INFRASTRUCTURE

- 2 Nursing Homes for 136 elderly clients
- 4 Home Care Support Services for 212 elderly
- 1 Assisted Residential Unit for 52 elderly
- 2 Day Care Centres for 100 elderly clients
- 1 Long Term Care Unit for 30 clients
- 1 Medical Clinic (CLIMA) with 15 medical specialties

TECHNICAL EQUIPMENT

- 1 Tele-Assistance system for 150 clients
- 1 Tele-Monitoring system for 150 clients
- 1 ICT Platform that gathers all the social and health care incidents and store processual information from the end users

Participant / Name of institution	Participant Short Name:	Participant Number	Participant Logo
Azienda Sanitaria Locale Benevento	**ASL-BN**	**4**	

The organization:

ASL Benevento is one of the 7 Local Health Agengy of the Campania Region. It is a public entity with managerial, technical and financial autonomy. This kind of public entities have been created by the Italian Public Administration so as to manage the health issues at regional level. Indeed, Azienda Sanitaria Locale Benevento carries out the tasks of the national health system in the geographical area of the province of Benevento. ASL BN is organized in 5 districts including hospitals and three multifunctional health centers, including prevention and mental health departments.

Main tasks and role in eCARE:

- Lead procurer
- Responsible of WP4 and WP5 (Procurement launch and Contract implementation)

Azienda Ospedaliera Universitaria Federico II is participating as a third party giving in kind contributions against payment to ASL BENEVENTO. More information is found in section 4.2. Third Parties involved in the project.

Curriculum vitae / relevant skills/experience/technologies:

- **Mr. Roberto De Toma (Male)** is the Director of Technical Department and Responsible for the management of ASL BN public procurements. He has been member of several Public Procurement Commissions. He has a degree in Civil Engineering. He is Lecturer in the ICT course for nurses and an technical expert for the National Agency for Health (AGENAS) of the Italian Ministry of Health.
-
- **Mr. Alberto Lombardi (Male)** is the Clinical Engineering Unit Manager. He is the Data Protection Officer. He has been member of several Public Procurement Commissions. He is the Prevention and Protection Service Officer and Member of Health Technology Assessment Commission. He has a Bachelor degree in Electronic Engineering and a Master degree in Clinical Engineering. He has been Lecturer in the Bioengineering course for physiotherapists and Speaker in Seminars, Conferences and Training Courses about Clinical Engineering, Telemedicine, e-Health, Safety and Security.
-
- **Mr. Crescenzo Simone (Male)** MD with Specialization in Hygiene and Preventive Medicine. He is a Coordinator of Complex Primary Care Unit of ASL BN. He is Member of National Board of the Italian Society for Telemedicine and eHealth (Società Italiana di Telemedicina e Sanità Elettronica)

Relevant publications:

[1] "Rete innovazione cronicità – UCCP Sannite e riorganizzazione delle Cure Primarie in Campania", autori Gianfranca Ranisio, Crescenzo Simone, Roberto De Toma, edizioni "Ad est dell'equatore" , Maggio 2016 grazie in the FEASR – Asse III – Misura 321 azione G, DD 482/2010, ISBN 9788899381165;
[2] "La gestione delle tecnologie biomediche in ambito sanitario - Pratiche, modelli e procedure in uso presso una azienda sanitaria", autore A. Lombardi, Casa Editrice Aessergrafica, Luglio 2015, ISBN 9788894045321, pagg.1-96;
[3] "Governance e HTA delle tecnologie biomediche", autori A.Lombardi, A.Di Mella, Tecnica Ospedaliera n.1 2018, ISSN 0392-4831, pagg. 58-63;

[4] "Home-Based Telemonitoring & Telerehabilitation Network for Fall Prevention" - autore A.Lombardi, N.Pappone, Poster scientifico pubblicato al XIII Convegno Nazionale A.I.I.C. - Napoli - Aprile 2013;
[5] "SMART HEALTH Ridisegnare la sanità territoriale tramite ICT" - autore A.Lombardi, N.Pappone, Poster scientifico pubblicato al XIII Convegno Nazionale A.I.I.C. - Napoli - Aprile 2013.

Relevant previous projects and activities:

[1] PSR 2007-2013 Misura 321 Tipologia G – DRD di Concessione n. 481 del 27/05/2010.
Promoter: ASL Benevento – Unità Complessa Centro Cure Primarie San Giorgio del Sannio.
Initiative: Experimental project for the realization of the Complex Unit Cure Primarie (UCCP) of San Giorgio del Sannio
Financed Amount: € 589.668,56

[2] PSR 2007-2013 Misura 321 Tipologia G – DRD di Concessione n. 482 del 28/05/2010.
Promoter: ASL Benevento – Unità Complessa Centro Cure Primarie Valle Telesina.
Initiative: Experimental project for the realization of the Complex Center of Primary Cure (UCCP) of Valle Telesina in Cerreto Sannita (BN).
Financed Amount € 581.887,23.

[3] POR FESR Campania 2007/2013 – Asse 3 – Energia. DD n. 201 del 20/03/2014 Dip. 51 Dir. Gen.
Promoter: ASL BN
Initiative: Project of "Works for the execution of interventions aimed at the construction of plants for the production of renewable energy and for the implementation of energy efficiency measures for buildings owned by the ASL".
Financed Amount: € 3.589.403,43;

[4] Project " Home-Based Telemonitoring & Telerehabilitation Network for Fall Prevention ", - Project Code NET-2011-02352645 - Bando di Ricerca finalizzata 2011-2012 - Ministero della salute,
Promoter: ASL BN, IRCCS F.S.M., ASL Roma1,
Amount: € 1.297.275,00;

[5] Project "SMART RSA - Sistema di telemonitoraggio e teleriabilitazione",
Promoter ASL BN e IRCCS F.S.M.,
Importo :€ 250.000,00

Description of significant infrastructure/equipment:

The Local Health Agency consists of:
- n. 5 Health Districts
- n. 1 Prevention Department
- n.1 Mental Health Department.
- n.1 Department of Elderly and Weak Assistance
- n.1 Department of Local Pharmaceutical Assistance.
- n.1 Department of Rehabilitation.
- n.1 Department of Local Maternal Infant
- n.1 Department of Pathological Addiction
- n.1 Clinical Engineering Unit

Participant / Name of institution	Participant Short Name:	Participant Number	Participant Logo
Szpital Specjalistyczny im. A. Falkiewicza we Wrocławiu A.Falkiewicz Specialist Hospital in Wroclaw	**FALKSHOSP**	**5**	

The organization:

The A. Falkiewicz Specialist Hospital is a leading center in Lower Silesia in the field of care for the elderly. It has a geriatrics and internal diseases warp and has implemented the pilot of CareWell project in Lower Silesia.

The Lower Silesian [Dolny Śląsk] Voivodeship (LSV) is one of the 16 voivodeships (provinces) into which Poland is currently divided. It is situated in the southwest of Poland.
Its capital and largest city is Wrocław, located on the Odra (Oder) river. Lower Silesia covers an area of 19,946 km2, and as of 2013 has a total population of almost 3 million.

The Hospital is a Provider of healthcare services/facilities and professionals for the implementation of the Polish pilot site of CareWell Project. This project was focus delivering integrated care to frail elderly patients through ICT.

Main tasks and role in eCARE:

- Public Procurer
- Responsible of launching jointly the eCARE PCP call for tender
- Contribute to the PCP preparation and contract implementation monitoring.

Curriculum vitae / relevant skills/experience/technologies:

Janusz Wrobel (Physician) (Male). Currently Director of A. Falkiewicz Specialist Hospital Graduated from medical and postgraduate studies at the Medical University in Wroclaw. Professional experience gained working in the Railway District Hospital in Wrocław, Lower Silesia Health Department Marshal's Office and the Lower Silesian branch of the National Health Fund.

Antoni Zwiefka (Dr. Eng.) (Male). Representative of Hospital Director for innovation and outer funds.
Graduated from Wroclaw University of Technology, employed by LSV Marshal Office in Health Department and A. Falkiewicz Specialist Hospital. He used to apply Internet technologies for many subjects concerning health and elderly people care. As a former network administrator he has been involved in new information technologies implemented within European projects for healthcare funded under the Programmes: 6FP (RIGHT Project), LLL (4Leaf Clover Project) and CE (InTraMed C2C Project) ICT PSP (CareWell Project). The RIGHT Project was realized by Lowe-Silesian Voivodeship to help Health Care Professionals in diagnosis and treatment and helped him to gain a remarkable knowledge and understanding of the different new technologies used in healthcare systems in the EU. What is more, he was also the author of numerous articles and presentations in the field of e-Health and Tele-Health. He is involved in the implementation of new technologies in the medical sector. On daily basis, he is implementing the idea of innovation transfer by developing and acquiring ideas given by medical workers. This is due to the scientific passion for knowledge change management in innovation transfer.

Relevant publications:

- Mateo M. *, Fullaondo A., Merino M., Gris S., Marchet F., Avolio F., Graps E., Ravic M., Kovac M., Zwiefka A., Davies D. , Mancin S., Forestiero A. , Stafylas P., Hurtado M., d´Angelantonio M., Daugbjerg S., Pedersen C. D., Hammerschmidt R., Stroetmann V., Azkargorta L., Giné A., Verdoy D. , Soto M., Mora J., Mar J., Vergara I. and de Manuel Keenoy E. (in Preparation), Impact assessment of an innovative integrated care model for complex patients with multimorbidity: the CareWell Project.

- Piotrowicz J., Soll A., Kielar U, Zwiefka A., Guligowska A., Pigłowska M, Kostka T., Kurpas D. , ICT and environmental support for patients with frailty syndrome: CareWell Project, Focus Project and SUNFRAIL Project. MSP (2017); 11, 1: 37–43.

- Zwiefka A., (2013) Bariery wdrażania innowacji telemedycznych, Transgraniczna wymiana danych medycznych Dolnego Śląska i Saksonii, Schwarz A, Zwiefka A (Ed), ISBN 978-83-62276-10-3

- Zwiefka A., Nycz M., Management of Knowledge Acquisition from Human Sources in Innovation Transfer In book: New Research on Knowledge Management Technology, InTech 2012

- Zwiefka A., Frączkowski K., New trends in Diagnosis Support and role of Nurses based on RIGHT-like systems. Telenursing, Elsevier 2010

- Zwiefka A., Wodoklis-Kaczyńska E., Frączkowski K., Redukcja ryzyka w diagnozie i leczeniu w oparciu o system RIGHT, 2008, Family Medicine and Primary Care Review, 10 (3), 1186-1190

- Zwiefka A, Klakocar J,Maroszek J, Bogowolska-Wepsięć M, Frączkowski K, Dudek R, Zastosowanie nowych technologii w ochronie zdrowia w celu redukcji ryzyka diagnozy i leczenia, 2008, Przewodnik Lekarza 109, (1), 281-286.

- Frączkowski Kazimierz, Zwiefka Antoni*: Mobile empowerment of patient by an integrated ICT environment. Acta Bio-Optica et Informatica Medica. 2016, vol. 22, nr 2, s. 56-6.:

- Zwiefka Antoni*, Frączkowski Kazimierz, Zaremba Marcin*: The implementation of the integrated medical care provided for the elderly patients (65+) with chronic diseases. Global Telemedicine and eHealth Updates: Knowledge Resources. 2016, vol. 9, s. 430-435,

- Frączkowski Kazimierz, Zwiefka Antoni*, Zaremba Marcin*, Sikora Krzysztof*: Patient with complex needs: experience in implementation of LSV - CareWell Platform [i in.]. ICTRS 2015: Proceedings of the Fourth International Conference on Telecommunications and Remote Sensing, Rhodes, Greece, 17-18 September 2015 / [ed. by Blagovest Shishkov. 2015. s. 122-128,

Relevant previous projects and activities:

CareWell - Multil-level Integration for Patients with Complex Needs (ICT PSP, 2014-2017).The purpose of the Project was measuring the impact of ICT-enabled integrated care with a multidimensional evaluation methodology. The project has recently undergone its Final Annual Review and has been rated "Excellent".

TITTAN - Network for Technology, Innovation and Translation in Ageing (Interreg Europe 2016 – 2020)

Participant / Name of institution	Participant Short Name:	Participant Number	Participant Logo
Consorci Sanitari Integral	**CSI**	**6**	Consorci Sanitari Integral

The organization:

The Consorci Sanitari Integral (CSI) is a public organization of health and social services, which manages 14 centers in the region of Barcelona and the Baix Llobregat.

The distribution of centers includes: - Specialized care: Sant Joan Despí Moisès Broggi Hospital, Hospitalet General Hospital, Dos de Maig Hospital, CAE Torrassa, CAE Cornellà and CAE Sant Feliu - Primary Care: ABS Collblanc, ABS Torrassa, ABS Gaudi and ABS Sagrada Familia - Socio-health care: Hospital Sociosanitario de Hospitalet - Residences: Francisco Padilla Residence and Collblanc Residence - Social area: Assessment Service for the degree of disability, Dependency assessment service.

Some of the parameters that define the volume of CSI activity are:
- Reference population: 700,000 inhabitants
- 3400 professionals
- 740 beds in operation

We are an institution that covers both the social and health sectors. We believe that we contribute the global vision and integration between the two dimensions.
Since we are the institution that we serve throughout the territory, we can bring the integrated and integrated territorial vision.
In addition, given the large number of patients we can do the necessary tests to evaluate the proposal.

Main tasks and role in eCARE:

- Public Procurer
- Responsible of launching jointly the eCARE PCP call for tender
- Contribute to the PCP preparation and contract implementation monitoring.

Curriculum vitae / relevant skills/experience/technologies:

Mrs. Meritxell DavinS (Female). Graduate in medicine since 2002 by the UAB. Specialist in Vascular Surgery. Doctor in surgery since 2015 with the Doctoral Thesis: "Telemedicine in the control of peripheral arterial disease". He has also made a postgraduate in Innovation and Research at the UAB.
She is currently responsible for eHealth and Innovation in the Comprehensive Health Consortium. His current tasks are the functional responsibility of the Information Systems (SAP), of innovation and all the eHealth reference. He is leading several projects of digital transformation: SAP with the help of the clinical decision, mobility projects (app pass plant and HADO app), telemedicine for chronic patients in the territorial area, Telemedicine and Xatbot for patients with major outpatient surgery, Tecuide, Vasc- CSI, artificial intelligence, virtual reality, ...
Her latest publication is: Use of Telehealth as a New Model for Following Intermittent Claudication and Promoting Patient Expertise. Telemedicine and e-Health. He is currently a collaborating professor at the UOC in the Master's Degree in Digital Health. Member of the Executive Board of the Digital Society. He has received different prizes: 2015 and 2016 Prize for the best communication at the Congress of the Catalan Society of Vascular and Endovascular Surgery. 2018: Prize "ASLAN digital transformation for public administrations" (Xatbot project), Award for best innovation project CSI for Xatbot, Hinnovar Prize: Telemedicine in psoriasis.

Mr. Benito Fontecha (Male). Graduate in medicine since 1993 by the Complutense University Specialist in Geriatrics. He is currently the head of the geriatrics service of the Integrated Health Consortium. Professor of palliative care masters at Institut Català Oncologia. He has collaborated with the definition of therapeutic efforts in a territorial key. Resident tutor

Mr. Javier Grueso (Male). Bachelor of Computer Science (Universitat Politècnica de Catalunya); Master's in business administration and Organization (Universidad Politécnica de Catalunya); Postgraduate in Information Systems Management (ICTNet) and Innovation Course (Break the Rules, provoke Change) in EADA.

Professional experience

- Chief Information & Innovation Officer at Consorci Sanitari Integral from 2008. He is responsable of the corporate information Systems and the Innovation Area
- In 2017 he is responsible for launching the innovation project in the CSI, constituting the Innovation Node, which deploys the innovation policy and implements all actions to promote and consolidate innovation in the CSI
- In 2008 he assumed the management of systems and actively participates in the start-up of the Sant Joan Despí Moisès Broggi Hospital, which becomes the technological reference of the CSI
- Project Mannager at Fisipe (1993-2014). Multinational of the chemical-textile sector
- Collaborations
- Participate since 2016 in the ICT Strategic Committee (CE-TIC) of the Department of Health of Catalonia. He has collaborated in the preparation of the Systems Director Plan of the Department of Health, which defines the strategic lines of the sector.
- Participates in the Information Systems group of the Health and Social Consortium of Catalonia (CSSC), where it represents the partner hospitals of the employer's association and coordinates the transversal projects of the sector and its prioritization with the Servei Català de la Salut.
- Founder and member of the Board of Directors of UnitSS. Association of Health Informatics of Catalonia.
- Member of the Board of Directors of ForumCIS (Catalan Forum of Sciences and Health)

Mrs. Melinda Jiménez Ibáñez (Female). Academic training social Work degree for the Ramon Llull University and later graduated in this area. Master's Degree in Counseling and Postgraduate Diploma in Development in managerial competences and innovation

She is Social worker manager of the Consorci Sanitari Integral; in the coordination of the social workers teams of primary care, hospitals, Socio-health and residential.

Previously coordinator of social workers in the environment of health and mental health.

She has participated in different committees of ethics and she is currently member of the Committee of the Health and Social Consortium of Catalonia and Responsible for the Health Committee of the Official association of social workers of Catalonia.

She also forms part of the writing team of the journal of Social Work in the Official association of social workers of Catalonia.

She has Collaborated with the Department of Health of Catalonia in the Attention to the Chronicity and Socio-health director plan and the Interdepartmental Program of Attention Social and Health Integration. The main collaboration has been the interaction between levels on care (primary care, hospitals ...) and care systems (social and health) in chronicity area.

Mrs. Evora Betancor Santana (Female). Degree in Medicine and Surgery 2000 from the Autonomous University of Madrid. Specialist in Geriatrics. Assistance coordinator of the sociosanitary area. Master's in clinical management. University of Las Palmas de Gran Canaria. September 2016-March 2018. Research sufficiency (12 credits), with research project "Prevalence of thyroid dysfunction in geriatric patients" Academic year 2004-2005. Complutense University of Madrid.

Mr. Jaume Muñoz Fernandez (male). Social health worker (ABS La Torrassa - Hospitalet de Llobregat). His basic functions carry out are related to:

- Socialize socially and / or subsidiary social welfare families, in order to make a diagnosis, planning, implementation and evaluation of intervention from the social side within the interdisciplinary teams
- Inform, guide, advise and / or manage the appropriate resources (human and technical) according to the social valuation carried out.

	• Give emotional support to those users and / or families that need it. • Coordinate the social intervention at the different levels of the health care network and collaborate in the process of continuity in social and health care • Integrate teaching and research with other professionals, institutions and university schools, managing practices and social research. **Mrs. Diana Ariza Herrera (female).** Bachelor of Medicine and Surgery at the National University of Colombia. Specialty in Geriatrics at the La Paz Hospital in Madrid, linked to the Autonomous University. Master in Palliative Care by the Catalan Institute of Oncology-Central University of Catalonia-VIC. Work activity as a responsible medical care center for the disabled and geriatric patients at the Geriatric Care Center Montejo de la Sierra-Madrid. Optional assistant in the Service of Geriatrics and Palliative Care of the Integral Health Consortium since November 2016. Involved in the detection and intervention in frailty in cancer patients and in those with incipient and moderate cognitive impairment. **Mrs. Ana Marina Gómez Mosquera (female).** Bachelor of Medicine and Surgery (2006-2012) at the Faculty of Santiago de Compostela. Specialty in Geriatrics (2013-2017) at the Meixoeiro Hospital of the University Complex of Vigo linked to the University of Vigo-Pontevedra. Working as an adjunct specialist in Geriatrics and Palliative Care in the Sanitari Integral Consortium since April and 2018. Formerly, adjunct physician in the Meixoeiro Hospital of the University Complex of Vigo. Since my incorporation to the Integral Healthcare Consortium, actively involved in the detection and intervention in fragility of patients with advanced vascular pathology (mainly tributaries of revascularization surgery).

Relevant publications:

- The challenge of clinical complexity in the 21st century: Could frailty indexes be the answer? DOI: 10.1016/j.regg.2016.07.005 PMID: 27544014
- Geriatrics and patients with multiple diseases. PMID: 17129530 DOI: 10.1157/13094911
- Frailty, severity, progression and shared decision-making: A pragmatic framework for the challenge of clinical complexity at the end of life. European Geriatric Medicine. 6 (2015) 189-94.DOI: 10.1016/j.eurger.2015.01002.
- Territorial protocol of adaptation of therapeutic intensity. Metropolitan area south of Barcelona. DOI: 10.1016/j.regg.2018.01.003

Relevant previous projects and activities:

- Unification of the therapeutic effort. Territorial protocol
- Implementation of the territorial functional unit of geriatrics southern metropolitan area of Barcelona.
- Rehabilitation of high stroke intensity.
- Rehabilitation with virtual reality in patients with stroke
- Multidimensional geriatric protocol of frailty as a tool to make decisions

Description of significant infrastructure/equipment:

We are an institution that covers both the social and health sectors. We believe that we contribute the global vision and integration between the two dimensions.

Since we are the institution that we serve throughout the territory, we can bring the integrated and integrated territorial vision.

In addition, given the large number of patients we can do the necessary tests to evaluate the proposal.

Participant / Name of institution	Participant Short Name:	Participant Number	Participant Logo
AYUNTAMIENTO DE SANTANDER	**SDR**	**7**	

The organization:

The city of Santander is the capital of the Cantabria region in the north of Spain and has a current population of approximately 173,000 inhabitants. From the Department of New Technologies belonging to the City Council, consisting of 15 technical staff and 9 foreign technicians, mainly manages and coordinates are the following tasks: Infrastructure management in data processing and communications, so that all municipal services carry out their functions by using new technologies. Deployment and management of networks and communications: voice lines and data transmission, perimeter security, Internet access and e-mail, servers, microcomputers and corporate databases.

In recent years, the city of Santander has moved into the vanguard of smart cities, improving public services and developing policies oriented towards its citizens and the stimulation of a new business model of productivity for the city.

At the municipal level, innovation is conceived as a transverse area to other areas of governance, coordinating the incorporation of new technologies with municipal services, which leads to an improvement in the services. The city participates in diverse initiatives related to smart cities. Among them, the SmartSantander project has established a before and after in the way of conceiving and organizing innovation in the city. Thus, Santander is well-known as a unique living lab in which to experiment with new technologies, applications and services.

A sustainability model has been developed based on the creation of a City Platform. All the urban services must be integrated into it, as they are tendered, as has occurred with the waste management service, with the aim of developing true intelligence in the Smart City.

Main tasks and role in eCARE:

- Public Procurer
- Responsible of launching jointly the eCARE PCP call for tender
- Contribute to the PCP preparation and contract implementation monitoring.

Curriculum vitae / relevant skills/experience/technologies:

Juan Echevarría (Male) – Technical liaison

PhD in Telecommunication Engineering, MSc. in Telecommunication Engineering (Microelectronics) from the University of Cantabria. He has been involved in several R&D projects in the public sector related to optical fiber sensors and he has also experience of more than 15 years working at private companies. He has developed and managed transportation, software, GIS, electronics and telecommunications at a consultant company and also electronic projects at an electronics technology company. He has been working on IP commercialization and negotiation in a public R&D entity. He joined the City of Santander in 2015 as innovation projects technician and he is also part-time lecturer at University of Cantabria.

Celia Gilsanz (Female)- Technical liaison

Celia Gilsanz has a Master diploma in Trade, Transport and international Communications from the University of Cantabria. She holds a Telecommunication Engineering degree and a Bachelor in radio communications systems. She has extensive experience in the private telecommunications sector at Orange headquarters in Madrid in the technical area where she held different positions mainly at planning network department. In addition, she has worked in the Public Administration sector helping with the internationalization of small Cantabria businesses. She joined the area of innovation at the Santander City Council in 2014 where she works deploying the Santander Smart City model.

	Sonia Sotero (Female)- Technical liaison Telecommunications Engineer, in Radio communications systems, from the University of Cantabria. She worked in several R&D projects as Radio Frequency Designer at the University of Cantabria for five years. She has extensive experience in Electronic Warfare systems, by working as RF engineer in Electronic Defence department of Indra Sistemas (Madrid), for Eurofighter DASS Programme. She joined Santander City Council in September 2014 as innovation projects technician.

Relevant publications:

- Elaboration of the General Plan for Innovation, with the development of Santander as an integral smart city, oriented towards developing and promoting the open innovation ecosystem and modernization of public administration.
- Improvements in the traffic management by monitoring the state of traffic flow in the main entrances of the city and guiding vehicles towards free parking places.
- Energy efficiency applied to street lighting, municipal buildings, sporting installations and schools, enabling the saving of nearly 1M€ annually and the reduction of carbon emissions.
- Monitoring in the city of air, noise, illumination and environment all conditions using fixed and mobile sensors.
- Smart Water Project for the management of water in the Nueva Montaña zone (15,000 inhabitants)
- Smart management of parks and gardens, planning the irrigation depending on the information obtained from the different zones.
- Tourist and cultural services have been improved by the installation of 2600 NFC/QR tags in strategic points of the city providing citizens with real time information and context aware information.
- Better incidences resolution service, reducing the time to solve them, thanks to citizens' participation in the "Pulso de la Ciudad" ('Pace of the city') initiative.
- The network that municipality and SmartSantander communications relies on has grown up from 10km to 60 km of optical fibre.
- Open data website with 75 catalogues of data.
- Centre for demonstrations and entrepreneurship Santander Smart City.
- Creation of new communication channels: web TV available in buses, applications such as SmartSantanderRA, Santander Visual, Santander al Movil, MedCitas, Santander Auna calendar, etc.
- Santander City Brain, online ideas platform that favours the citizens' participation.
- Modernization of Public Administration through electronic management of invoices, records and traffic fines.

Relevant previous projects and activities:

Santander has become an urban laboratory for national and international initiatives, allowing experiment, learn and incorporate what they learn to the life of the city. Currently Santander is participating in several European innovation projects.

- SMARTSANTANDER Project [Ended]: http://www.smartsantander.eu/. The deployment of a city-scale experimental research facility in support of IoT and IoS, while designing and developing the components that support mobility testing, data management, service innovation and federation in this environment. Europe's reference experimental living lab; 20,000 sensors deployed in the city for applications of street lighting, energy monitoring and control, waste management, parking space finder, environmental monitoring. The project envisions the deployment of 20,000 sensors in Belgrade, Guildford, Lübeck and Santander (12,000), exploiting a large variety of technologies. Total budget 8.6 M€, total funding 6 M€. From November 2011 to November 2014
- SOCIOTAL Project [In progress]: http://sociotal.eu/. It aims to design and provide key enablers for a reliable, secure and trusted IoT environment that will enable creation of a socially aware citizen-centric Internet of Things by encouraging people to contribute their IoT devices and information flows. Total budget 2.8 M€. From September 2013 to September 2016.

- CLIPS Project [In progress]: http://ec.europa.eu/digital-agenda/en/clips-project-cloud-public-services. Aims at introducing a new approach to deliver innovative public services, through the cloud-computing approach involving the community in the process. Total budget 2.38 M€. From February 2014 to August 2016.
- ORGANICITY [in progress]: http://organicity.eu/ This project aim to foster the co-creation of a new smart city engaging citizens in the different stages and through different tools. In order to do this, three urban laboratories (Aarhus, London and Santander) will be used as a unique experimental platform. The citizen participation is going to be fostered through dissemination activities based in past successful experiences in 3 cities. Also, a set of IT tools will be developed in order to ease any stakeholder to develop applications with low IT knowledge. In order to assess the success of the actions, 2 open calls will be made. Citizens and companies, making use of infrastructures and developed tools, are able to participate developing applications. Total budget 7.3 M€. From January 2015 to January 2018.
- SETA [in progress]: http://setamobility.eu/. Mobility generates a huge amount of data coming from thousands of sensors, city cameras, connected vehicles, citizens connected through their mobile devices, etc. This project aims to manage properly all these data in order to understand, optimize and manage the mobility in a more efficient and sustainable manner . Total budget 5.5 M€. From February 2016 to February 2019.

Description of significant infrastructure/equipment:

Santander Municipality has been tightly working with UC in the deployment of IoT devices in the city of Santander, mainly within SmartSantander and OUTSMART projects. In this sense, the Santander testbed is currently composed of around 3,000 IEEE 802.15.4 devices, 200 devices including GPS/GPRS capabilities and 2,000 joint RFID tag/QR code labels deployed both at static locations (streetlamps, facades, bus stops) as well as on-board of public vehicles (buses, taxis). Several use cases have been developed associated to aforementioned deployment:

- Static Environmental Monitoring: Around 2,000 IoT devices installed (mainly at the city centre), at streetlamps and facades, are provided with different sensors which offer measurements on different environmental parameters, such as temperature, CO, noise and luminosity.
- Mobile Environmental Monitoring: In order to extend the aforementioned static environmental monitoring use case, apart from measuring parameters at static points, 150 devices located at public vehicles (buses, taxis) retrieve environmental parameters, such as, CO, NO2, O3, particulate matters, temperature and humidity, associated to determined parts of the city.
- Santander City Brain, online ideas platform that favours the citizens' participation. http://www.santandercitybrain.com/
- Open data website with 75 catalogues of data.

4.2 Third parties involved in the project (including use of third-party resources)

ASL BENEVENTO

Does the participant plan to subcontract certain tasks (please note that core tasks of the project should not be sub-contracted)	Y
If yes, please describe and justify the tasks to be subcontracted A limited budget of 15.000€ is foreseen to be subcontracted for advisory in legal and ethical aspects of the PCP implementation stage. This advisory will be mainly focus on supporting in the preparation of the ethical aspects that should be taken into account in the field testing protocol designed and how the we should deal with the data management of end-users during the pilot.	

Different offers will be asked to expert entities so as to select the suitable contract for this support task.	
Does the participant envisage that part of its work is performed by linked third parties	N
If yes, please describe the third party, the link of the participant to the third party, and describe and justify the foreseen tasks to be performed by the third party	
Does the participant envisage the use of contributions in kind provided by third parties (Articles 11 and 12 of the General Model Grant Agreement)	Y

Third party 1: Azienda Ospedaliera Universitaria Federico II

Federico II University Hospital (FOUND) is an excellence health care facility in Southern Italy, that hosts over 50 Specialist Courses and master Degrees of Federico II University Medical School. It provides in-hospital admittance, day-hospitals, day-services and outpatient activities. FOUND takes part to the regional and national health care programs in organ transplantation, maternal-infant protection, AIDS and related syndromes, cardiology, heart surgery, hosting the Regional Centers for kidney and bone marrow transplants, cardiovascular diseases and specific paediatric diseases, providing high level of specialty care. Thanks to the presence of so many sectors, and to the coexistence of teaching, research and health care the hospital provides many opportunities to develop interdisciplinary activities. The Hospital hosts the Departments of Clinical Medicine, Clinical Neurosciences, Anesthesiology and Drug Utilization, Internal Medicine and Pathology, Gastroenterology, Endocrinology, Surgery that manage a broad range of diseases, including the most frequent chronic conditions, often affecting the elderly population, with a long-standing tradition of excellence in diagnosis and treatment of hypothalamic-pituitary diseases, neuroendocrine tumors, osteoporosis and neuroendocrine complications of obesity, heart failure, gastrointestinal disorders, dementia, cancer, coagulopathies.

Since 2013, FOUND R&D Unit manages Campania Reference Site of the European Innovation Partnership on Active and Healthy Aging (EIP-AHA), ensuring collaboration with many relevant loco-regional stakeholders. The Campania RS has also been recognized by the Campania Region (Regional Council Decision no. 622 of 13/11/2012), through the establishment of a coordination team to pursuit the Strategic Implementation Plan of EIP-AHA.

In 2016, FOUND, on behalf of the Campania Region, has re-submitted the application to Reference Site of the European Innovation Partnership on Active and Healthy Aging call, achieving the third star at the EIP on AHA Reference Site Awards, based on the results achieved during the own coordination. The recent Regional Council Resolution no. 221 of 26.04.2017 attributed the coordination of the Reference Site Campania to the Health Innovation Unit of the Campania Region, and established an interdisciplinary working group to ensure the harmonization of regional planning in the health sector, identifying the FOUND as a member.

FOUND is aligned with regional objectives in terms of health innovation, and supports the participation of local clusters, by planning and coordinating their activities within the EIP-AHA framework. FOUND is involved in activities generating small-scale successful actions, which will be scaled up across European regions. FOUND efforts are also aimed to increase, in collaboration with Campania Region Health Innovation Division, the awareness on the opportunities that ageing provides, and turn it into an

opportunity for development for all EU regions. In this perspective, the FOUND will also collaborate with identify current enablers of success and possible barriers to scaling-up good practices. **Azienda Ospedaliera Universitaria Federico II participates giving in kind contributions against payment (Article 11) to ASL BENEVENTO so as to reinforce the Lead Procurer Role in the validation of eCARE unmet needs. They will also participate during the PCP evaluation process as expert partners in the sustainability and cost-efficiency aspects of the solutions. Their allocated budget will be 15,000 €.**	
Does the participant envisage that part of the work is performed by International Partners (Article 14a of the General Model Grant Agreement)?	N
If yes, please describe the International Partner(s) and their contributions	

5 Ethics and Security

5.1 Ethics

ETHICS ISSUES TABLE

	Research on Human Embryo / Fetus	YES
*	Does the proposed research involve human Embryos?	NO
*	Does the proposed research involve human Fetal Tissues/ Cells?	NO
*	Does the proposed research involve human Embryonic Stem Cells (hESCs)?	NO
*	Does the proposed research on human Embryonic Stem Cells involve cells in culture?	NO
*	Does the proposed research on Human Embryonic Stem Cells involve the derivation of cells from Embryos?	NO
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	**YES**

	Research on humans	YES
*	Does the proposed research involve children?	NO
*	Does the proposed research involve patients?	NO
*	Does the proposed research involve persons not able to give consent?	NO
*	Does the proposed research involve adult healthy volunteers?	YES
	Does the proposed research involve Human genetic material?	NO
	Does the proposed research involve Human biological samples?	NO
	Does the proposed research involve Human data collection?	YES
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	**NO**

Privacy	YES

	Does the proposed research involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?	YES
	Does the proposed research involve tracking the location or observation of people?	YES
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	**NO**

	Research on Animals[29]	**YES**
	Does the proposed research involve research on animals?	NO
	Are those animals transgenic small laboratory animals?	NO
	Are those animals transgenic farm animals?	NO
*	Are those animals non-human primates?	NO
	Are those animals cloned farm animals?	**NO**
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	

	Research Involving ICP Countries[30]	**NO**
	Is the proposed research (or parts of it) going to take place in one or more of the ICP Countries?	NO
	Is any material used in the research (e.g. personal data, animal and/or human tissue samples, genetic material, live animals, etc): a) Collected in any of the ICP countries? b) Exported to any other country (including ICPC and EU Member States)?	NO
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	**NO**

	Dual Use	**YES**
	Research having direct military use	NO
	Research having the potential for terrorist abuse	NO
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	**YES**

Ethics Requirements
Details on the procedures and criteria that will be used to identify/recruit research participants must be provided.
During the PCP's Phase C, the solutions awarded will be verified and compared against jointly defined criteria by the buyers group and other concerned final end-users in real-life operational conditions to verify fitness for purpose in view of potential conversion into permanent service of the solutions. Expected output from participating companies includes firstly field testing, secondly field test specification, thirdly

[29] The type of animals involved in the research that fall under the scope of the Commission's Ethical Scrutiny procedures are defined in the Council Directive 86/609/EEC of 24 November 1986 on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes Official Journal L 358 , 18/12/1986 p. 0001 - 0028

[30] In accordance with Article 12(1) of the Rules for Participation in FP7, 'International Cooperation Partner Country (ICPC) means a third country which the Commission classifies as a low-income (L), lower-middleincome (LM) or upper-middle-income (UM) country. The list of countries is given in annex 1 of the work programme. Countries associated to the Seventh EC Framework Programme do not qualify as ICP Countries and therefore do not appear in this list.

specification of the final solution and other related technical documentation, and finally an updated cost/benefit evaluation.

Field testing will be undertaken at the sites by the procurers, in Europe. No transfer of personal data is planned to exchange or transfer with non-EU countries. Previously collected data will NOT be used in the field tests. All solutions in Phase C are tested in all sites to ensure that a comparison can be made of performance both across sites and across solutions. The consortium confirms that the ethical standards and guidelines of Horizon 2020 will be rigorously applied, regardless of the country in which the research is carried out. Furthermore, copies of the relevant ethics approvals from the host EU country and non-EU country will be submitted to the Commission.
Research participants will be recruited via professionals who would ask them to consider voluntary enrollment. All the relevant information regarding the field testing will be provided to them. Only certain people who have the target condition will be eligible to take part in the field test.

Detailed information must be provided on the informed consent procedures that will be implemented. Copies of templates of Informed Consent Forms and Information Sheets must also be provided to the Commission. These must be drafted in a language and terms understandable to the participants.

Informed consent forms and Information sheets will be drafted in a language and terms understandable to the participants, taking into account that they are older people and need. These forms will be provided to the Commission prior the commencement of the field test. They will follow the Directive 2001/20/EC relating to the implementation of good field test practices.
The recruitment will be done by the Procurers involved in the field testing following the usual practices carried out in their facilities. The end users will be informed regarding the objectives, procedure, how their data will be managed and so on. The recruitment will be voluntary. The end-users can reject their participation at any time.

- The informed consent procedures that will be implemented for the participation of humans will be kept on file
- The templates of the informed consent/assent forms and information sheets (in language and terms intelligible to the participants) will be kept on file.
- Copies of opinions/approvals by ethics committees will be kept on file

The applicant must clarify whether vulnerable individuals/groups will be involved. Details must be provided about the measures taken to prevent the risk of enhancing vulnerability/stigmatisation of individuals/groups.

Only prospective subjects that have the cognitive ability to provide legally effective informed consent will be involved. The specific selection criteria for subjects will be defined in the call for tender.. Researchers will meet individually or in small groups with potential participants in order to recruit and inform them of the research. In all situations, the information that is shared with the potential participants will be provided in a manner that is understandable to participants and which, therefore, allows them to make an informed decision.
The definition of user involved in Phase C (sample composition) will take into account the vulnerable groups involvement definition to ensure that elderly people involved will not suffer any kind of risk and impact during the field testing.
In these respects, the following best practice principles will be followed:
- Care must be taken to ensure that information sheets, consent forms and other documents use font sizes and vocabulary that are appropriate for the study population.
- The vulnerabilities and sensitivities of older people are not always apparent or known. ECARE project will be aware that any intervention with a vulnerable person may cause distress or harm. Advice from

relevant qualified social care staff from the Consortium will be sought if the field testing might have such impacts.
Details on incidental findings policy must be provided.
We will NOT use invasive testing techniques, but monitor the functionalities of ECARE solutions
Copies of ethical approvals for the collection of personal data by the competent University Data Protection Officer / National Data Protection authority must be submitted.
Ethical review will be required: the consortium will follow the EU Regulation requirements on this, as well as the requirements indicated by the Ethical Committees involved. Copies of ethical approvals for the collection of personal data by the competent Data Protection Officer / National Data Protection authority will be duly submitted to the EC.
Justification must be given in case of collection and/or processing of personal sensitive data.
We will collect health-related data. No other personal sensitive data will be collected (i.e.: racial or ethnic origin of the data, political options, religious beliefs, membership of trade unions, sexual life, offences commission, sentences of any course for such offences)). The data management procedures will be described in the Deliverable D2.5 Data Management Plan
Detailed information must be provided on the procedures that will be implemented for data collection, storage, protection, retention and destruction and confirmation that they comply with national and EU legislation.
Data collection/storage/protection/retention/destruction and confirmation will follow the EU Directives **and specially the new General Data Protection Regulation (GDPR)**. The Buyer's Group will ensure that the contractors include in their offers how they are going to fulfil with the current EU directives in data protection. The data management procedures will be described in the Deliverable D2.5 Data Management Plan. In addition, the field-testing protocol will include a specific section for describing the Data Management Plan.
Detailed information must be provided on the informed consent procedures that will be implemented.
Researchers will follow an appropriate and sensitive process of information sharing leading up to, and including, obtaining the participant's signature on the informed consent form. This task will be carefully performed to approach elderly people. Participants will be informed about the purpose of the study, benefits and how subject´s adherence will be assessed. The specific selection criteria for subjects will be defined in the call for tender. Researchers will meet individually or in small groups with potential participants in order to recruit and inform them of the research. In all situations, the information that is shared with the potential participants will be provided in a manner that is understandable to participants and which, therefore, allows them to make an informed decision. Once an individual has had all his/her questions answered and has agreed to participate in the study, the subject should sign and date the consent form. The Investigator who has oriented and consented the subject also must sign and date the consent form. • The informed consent procedures that will be implemented for the participation of humans will be kept on file • The templates of the informed consent/assent forms and information sheets (in language and terms intelligible to the participants) will be kept on file. • Copies of opinions/approvals by ethics committees will be kept on file.
The applicant must confirm that the ethical standards and guidelines of Horizon2020 will be rigorously applied, regardless of the country in which the research is carried out. Furthermore, copies of the relevant ethics approvals from the host EU country and non-EU country must be submitted to the Commission.

Ethical standards and guidelines of Horizon2020 will be rigorously applied, regardless of the country in which the research is carried out. Furthermore, copies of the relevant ethics approvals from the host EU country and non-EU country must be submitted to the Commission.
Detailed information must be provided to confirm that fair benefit-sharing arrangements with stakeholders from ICPC are ensured during the project.
Research and Development pilots the IPR and any prototypes will remain the property of the companies involved. Notwithstanding this, the procurers will enjoy royalty-free access rights to use the R&D results for their own use. The procurers will also enjoy the right to grant or to require participating R&D providers to grant non-exclusive licenses to third parties to exploit the results under fair and reasonable market conditions without any right to sublicense. If an R&D provider fails to commercially exploit the results within a given period after the PCP as identified in the contract or uses the results to the detriment of the public interest, including security interests, they should transfer any ownership of results to the procurers.

5.2 Security

The eCARE project does not involve:

- Activities or results raising security issues (NO)
- EU-classified information as background or results (NO)

B. Costs for related additional coordination and networking activities								Total costs	rate %	contribution[3]	grant amount[4]	indirect costs
B.1 Direct personnel costs				B.2 Direct costs of subcontracting	B.3 Other direct costs		B.4 Indirect costs[2]					
B.1.1 Employees (or equivalent) B.1.2 Natural persons under direct contract B.1.3 Seconded persons *[B.1.6 Personnel for providing access to research infrastructure]*		B.1.4 SME owners without salary B.1.5 Beneficiaries that are natural persons without salary			B.3.1 Travel B.3.2 Equipment B.3.3 Other goods and services *[B.3.4 Costs of large research infrastructure]*	B.3.5 Costs of internally invoiced goods and services						Estimated costs of in-kind contributions not used on premises
Actual	Unit[7]	Unit[8]		Actual	Actual	Unit[8]	Flat-rate[10] 25%					
b	Total c	No units	Total d	e	f	Total g	h = 0,25 x (b +c+d+f+g +*[i1]*[12]+*[i2]*[13]-n)	j = a+b+c+d+e+f +g+h+*[i1]*+*[i2]*	k	l	m	n
231 000.00	0.00	0.00	0.00	15 000.00	36 300.00	0.00	66 825.00	349 125.00	90.00	314 212.50	314 212.50	0.00
126 000.00	0.00	0.00	0.00	0.00	34 200.00	0.00	40 050.00	200 250.00	90.00	180 225.00	180 225.00	0.00
126 000.00	0.00	0.00	0.00	0.00	19 200.00	0.00	36 300.00	181 500.00	90.00	163 350.00	163 350.00	0.00
197 600.00	0.00	0.00	0.00	0.00	22 200.00	0.00	54 950.00	4 194 750.00	90.00	3 775 275.00	3 775 275.00	0.00
157 500.00	0.00	0.00	0.00	0.00	22 200.00	0.00	44 925.00	224 625.00	90.00	202 162.50	202 162.50	0.00
160 000.00	0.00	0.00	0.00	0.00	22 200.00	0.00	45 550.00	227 750.00	90.00	204 975.00	204 975.00	0.00
155 400.00	0.00	0.00	0.00	0.00	22 200.00	0.00	44 400.00	222 000.00	90.00	199 800.00	199 800.00	0.00
1 153 500.00	0.00			15 000.00	178 500.00	0.00	333 000.00	5 600 000.00		5 040 000.00	5 040 000.00	

tions.
operating grant (received under any EU or Euratom funding programme; see Article 6.5.(b)) are ineligible under the GA. Therefore, a beneficiary/linked third party that receives an operating grant during the action's duration cannotdeclare indirect costs for the yea
strate that the operating grant does not cover any costs of the action (see Article 6.2.B4).
contribution that the system calculates automatically (by multiplying all the budgeted costs by the reimbursement rate). This theoretical amount is capped by the 'maximum grant amount' (that the Commission/Agency decided to grant for the action) (see Article 5.
maximum grant amount decided by the Commission/Agency. It normally corresponds to the requested grant, but may be lower.
cost category will or will not cover indirect costs. Specific unit costs that include indirect costs are: costs for energy efficiency measures in buildings, access costs for providing trans-national access to research infrastructure and costs for clinical studies.

osts per unit (hourly rate) : calculated according to beneficiary's usual accounting practice.
ccording to the beneficiary's usual accounting practice.
n on the estimated budget' for the details (costs per hour (hourly rate)).
s, from which are excluded: direct costs of subcontracting, costs of in-kind contributions not used on premises and unit costs declared under budget category F if they include indirect costs (see Article 6.2.B.4).
n on the estimated budget' for the details (units, costs per unit).
ts, costs per unit, estimated number of units, etc).
nclude indirect costs.
ceiving funding.
eive funding.

ANNEX 2a

ADDITIONAL INFORMATION ON THE ESTIMATED BUDGET

- **Instructions and footnotes in blue will not appear in the text generated by the IT system (since they are internal instructions only).**
- **For options *[*in square brackets*]*: the applicable option will be chosen by the IT system. Options not chosen will automatically not appear.**
- **For fields in [grey in square brackets] (even if they are part of an option as specified in the previous item): IT system will enter the appropriate data.**

⚠ **Transitory period: Until SyGMa fully supports Annex 2a, you must prepare it manually (using this template by choosing and deleting the options/entering the appropriate data).**
For the 'unit cost tables': either fill them out manually or use currently existing tables from Annex 1 or the proposal.
The document can then be uploaded in SyGMa and attached to the grant agreement.

Unit cost for SME owners/natural beneficiaries without salary

1. Costs for a */*SME owner*]/*beneficiary that is a natural person*]* not receiving a salary

Units: hours worked on the action

Amount per unit ('hourly rate'): calculated according to the following formula:

{the monthly living allowance for researchers in MSCA-IF actions / 143 hours}
multiplied by
{country-specific correction coefficient of the country where the beneficiary is established}

The monthly living allowance and the country-specific correction coefficients are set out in the Work Programme (section 3 MSCA) in force at the time of the call:

- for calls *before* Work Programme 2018-2020:
  - for the monthly living allowance: **EUR 4 650**
  - for the country-specific correction coefficients: see Work Programme 2014-2015 and Work Programme 2016-2017 (available on the Participant Portal Reference Documents page)
- for calls *under* Work Programme 2018-2020:
  - for the monthly living allowance: **EUR 4 880**
  - for the country-specific correction coefficients: see Work Programme 2018-2020 (available on the Participant Portal Reference Documents page)

[additional OPTION for beneficiaries/linked third parties that have opted to use the unit cost (in the proposal/with an amendment): For the following beneficiaries/linked third parties, the amounts per unit (hourly rate) are fixed as follows:

- beneficiary/linked third party [short name]: EUR [insert amount]
- beneficiary/linked third party [short name]: EUR [insert amount]

[same for other beneficiaries/linked third parties, if necessary] ***]***

Estimated number of units: see Annex 2

Energy efficiency measures unit cost

2. Costs for energy efficiency measures in buildings

Unit: m^2 of eligible 'conditioned' (i.e. built or refurbished) floor area

Amount per unit*: see (for each beneficiary/linked third party and BEST table) the 'unit cost table' attached

* Amount calculated as follows:
{EUR 0.1 x estimated total kWh saved per m^2 per year x 10}

Estimated number of units: see (for each beneficiary/linked third party and BEST table) the 'unit cost table' attached

Unit cost table (energy efficiency measures unit cost)[1]

Short name beneficiary/linked third party	BEST No	Amount per unit	Estimated No of units	Total unit cost (cost per unit x estimated no of units)

[1] Data from the 'building energy specification table (BEST)' that is part of the proposal and Annex 1.

Research infrastructure unit cost

3. Access costs for providing trans-national access to research infrastructure

Units[2]: see (for each access provider and installation) the 'unit cost table' attached

Amount per unit*: see (for each access provider and installation) the 'unit cost table' attached

* Amount calculated as follows:

$$\frac{\text{average annual total access cost to the installation (over past two years}^{3})}{\text{average annual total quantity of access to the installation (over past two years}^{4})}$$

Estimated number of units: see (for each access provider and installation) the 'unit cost table' attached

Unit cost table (access to research infrastructure unit cost)[5]

Short name access provider	Short name infrastructure	Installation		Unit of access	Amount per unit	Estimated No of units	Total unit cost (cost per unit x estimated no of units)
		No	Short name				

Clinical studies unit cost

4. Costs for clinical studies

Units: patients/subjects that participate in the clinical study

Amount per unit*: see (for each sequence (if any), clinical study and beneficiary/linked third party) the 'unit cost table' attached

* Amount calculated, for the cost components of each task, as follows:

For **personnel costs**:

For personnel costs of doctors: 'average hourly cost for doctors', i.e.:

$$\{\frac{\text{certified or auditable total personnel costs for doctors for year N-1}}{\{1720 * \text{number of full-time-equivalent for doctors for year N-1}\}} \text{ multiplied by estimated number of hours to be worked by doctors for the task (per participant)}\}$$

For personnel costs of other medical personnel: 'average hourly cost for other medical personnel', i.e.:

$$\{\frac{\text{certified or auditable total personnel costs for other medical personnel for year N-1}}{\{1720 * \text{number of full-time-equivalent for other medical personnel for year N-1}\}}$$

2 Unit of access (e.g. beam hours, weeks of access, sample analysis) fixed by the access provider in proposal.
3 In exceptional and duly justified cases, the Commission/Agency may agree to a different reference period.
4 In exceptional and duly justified cases, the Commission/Agency may agree to a different reference period.
5 Data from the 'table on estimated costs/quantity of access to be provided' that is part of the proposal and Annex 1.

multiplied by
estimated number of hours to be worked by other medical personnel for the task (per participant)}

For personnel costs of technical personnel: 'average hourly cost for technical personnel', i.e.:

{certified or auditable total personnel costs for technical personnel for year N-1

{1720 * number of full-time-equivalent for technical personnel for year N-1}
multiplied by
estimated number of hours to be worked by technical personnel for the task (per participant)}

'total personnel costs' means actual salaries + actual social security contributions + actual taxes and other costs included in the remuneration, provided they arise from national law or the employment contract/equivalent appointing act

For **consumables**:

For each cost item: 'average price of the consumable', i.e.:

{{certified or auditable total costs of purchase of the consumable in year N-1

total number of items purchased in year N-1}
multiplied by
estimated number of items to be used for the task (per participant)}

'total costs of purchase of the consumable' means total value of the supply contracts (including related duties, taxes and charges such as non-deductible VAT) concluded by the beneficiary for the consumable delivered in year N-1, provided the contracts were awarded according to the principle of best value- for-money and without any conflict of interests

For **medical equipment**:

For each cost item: 'average cost of depreciation and directly related services per unit of use', i.e.:

{{ certified or auditable total depreciation costs in year N-1 + certified or auditable total costs of purchase of services in year N-1 for the category of equipment concerned}

total capacity in year N-1
multiplied by
estimated number of units of use of the equipment for the task (per participant)}

'total depreciation costs' means total depreciation allowances as recorded in the beneficiary's accounts of year N-1 for the category of equipment concerned, provided the equipment was purchased according to the principle of best value for money and without any conflict of interests + total costs of renting or leasing contracts (including related duties, taxes and charges such as non-deductible VAT) in year N-1 for the category of equipment concerned, provided they do not exceed the depreciation costs of similar equipment and do not include finance fees

For **services**:

For each cost item: 'average cost of the service per study participant', i.e.:

{certified or auditable total costs of purchase of the service in year N-1

total number of patients or subjects included in the clinical studies for which the service was delivered in year N-1}

'total costs of purchase of the service' means total value of the contracts concluded by the beneficiary (including related duties, taxes and charges such as non-deductible VAT) for the specific service delivered in year N-1 for the conduct of clinical studies, provided the contracts were awarded according to the principle of best value for money and without any conflict of interests

For **indirect costs**:

{{{cost component 'personnel costs' + cost component 'consumables' + cost component 'medical equipment'}

minus

{costs of in-kind contributions provided by third parties which are not used on the beneficiary's premises + costs of providing financial support to third parties (if any)}}

multiplied by

25%}

The estimation of the resources to be used must be done on the basis of the study protocol and must be the same for all beneficiaries/linked third parties/third parties involved.

The year N-1 to be used is the last closed financial year at the time of submission of the grant application.

Estimated number of units: see (for each clinical study and beneficiary/linked third party) the 'unit cost table' attached

Unit cost table: clinical studies unit cost[6]

Task, Direct cost categories	**Resource per patient**	**Costs year N-1 Beneficiary 1 [short name]**	**Costs year N-1 Linked third party 1a [short name]**	**Costs year N-1 Beneficiary 2 [short name]**	**Costs year N-1 Linked third party 2a [short name]**	**Costs year N-1 Third party giving in-kind contributions 1 [short name]**
Sequence No. 1						
Task No. 1 Blood sample						
(a) **Personnel costs:** - Doctors	n/a					
- Other Medical Personnel	Phlebotomy (nurse), 10 minutes	8,33 EUR	11,59 EUR	10,30 EUR	11,00 EUR	9,49 EUR
- Technical Personnel	Sample Processing (lab technician), 15 minutes	9,51 EUR	15,68 EUR	14,60 EUR	15,23 EUR	10,78 EUR
(b) **Costs of consumables**:	Syringe	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
	Cannula	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
	Blood container	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(c) **Costs of medical equipment**:	Use of -80° deep freezer, 60 days	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
	Use of centrifuge, 15 minutes	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(d) **Costs of services**	Cleaning of XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(e) **Indirect costs** (25% flat-rate)		XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
Task No. 2						
…						
Amount per unit (unit cost sequence 1):		**XX EUR**	**XX EUR**	**XX EUR**	**XX EUR**	**XX EUR**
Sequence No. 2						
Task No. 1						

[6] Same table as in proposal and Annex 1.

XXX						
(a) **Personnel costs:** - Doctors	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
- Other Medical Personnel	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
- Technical Personnel	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(b) **Costs of consumables**:	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(c) **Costs of medical equipment**:	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(d) **Costs of services**	XXX	XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
(e) **Indirect costs** (25% flat-rate)		XX EUR	XX EUR	XX EUR	XX EUR	XX EUR
Task No. 2						
…						
Amount per unit (unit cost sequence 2):		**XX EUR**	**XX EUR**	**XX EUR**	**XX EUR**	**XX EUR**
…						
Amount per unit (unit cost entire study):		**XX EUR**	**XX EUR**	**XX EUR**	**XX EUR**	**XX EUR**

I

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

TICBIOMED TECNOLOGIAS DE LA INFORMACION PARA LA SALUD EN LA REGION DE MURCIA ASOCIACION (TICBIOMED), established in CAMPUS UNIVERSITARIO ESPINARDO 7 EDIFICIO CEEIM, MURCIA 30100, Spain, VAT number: ESG73669426, ('the beneficiary'), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No ('2')

in Grant Agreement No 856960 ('the Agreement')

between BRAVOSOLUTION ESPANA SAU **and** the European Union ('the EU'), represented by the European Commission ('the Commission'),

for the action entitled 'Digital solutions supporting continuum of care for frailty prevention in old adults (eCARE)'.

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

[redacted]

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

IRMANDADE DA SANTA CASA DA MISERICORDIA DA AMADORA IPSS (SCMA), established in ESTRADA DA PORTELA QUINTA DAS TORRES BURACA CONCELHO DE AMADORA, AMADORA LISBOA 2610 143, Portugal, VAT number: PT501938206, ('the beneficiary'), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No ('3')

in Grant Agreement No 856960 ('the Agreement')

between BRAVOSOLUTION ESPANA SAU **and** the European Union ('the EU'), represented by the European Commission ('the Commission'),

for the action entitled 'Digital solutions supporting continuum of care for frailty prevention in old adults (eCARE)'.

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

[redacted]

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

AZIENDA SANITARIA LOCALE BENEVENTO (ASL BN), established in VIA ODERISIO 1, BENEVENTO 82100, Italy, VAT number: IT01009680628, ('the beneficiary'), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No ('4')

in Grant Agreement No 856960 ('the Agreement')

between BRAVOSOLUTION ESPANA SAU **and** the European Union ('the EU'), represented by the European Commission ('the Commission'),

for the action entitled 'Digital solutions supporting continuum of care for frailty prevention in old adults (eCARE)'.

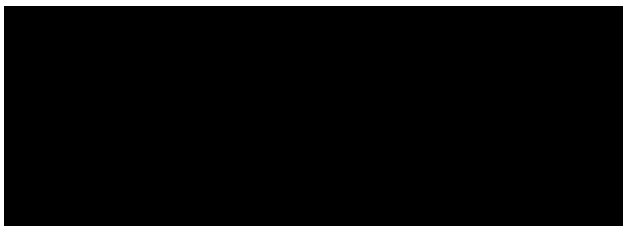
and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary



ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

SZPITAL SPECJALISTYCZNY IM A FALKIEWICZA WE WROCLAWIU (FALKIEWICZ), established in UL. WARSZAWSKA 2, WROCLAW 52 114, Poland, VAT number: PL8992227939, ('the beneficiary'), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No ('5')

in Grant Agreement No 856960 ('the Agreement')

between BRAVOSOLUTION ESPANA SAU **and** the European Union ('the EU'), represented by the European Commission ('the Commission'),

for the action entitled 'Digital solutions supporting continuum of care for frailty prevention in old adults (eCARE)'.

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

[redacted]

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

CONSORCI SANITARI INTEGRAL (CSI), established in AV. JOSEP MOLINS 29-41, L'HOSPITALET DE LLOBREGAT 08906, Spain, VAT number: ESQ5856254G, ('the beneficiary'), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No ('6')

in Grant Agreement No 856960 ('the Agreement')

between BRAVOSOLUTION ESPANA SAU **and** the European Union ('the EU'), represented by the European Commission ('the Commission'),

for the action entitled 'Digital solutions supporting continuum of care for frailty prevention in old adults (eCARE)'.

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

AYUNTAMIENTO DE SANTANDER (AYTO SANTANDER), established in PLAZA DEL AYUNTAMIENTO 1, SANTANDER 39001, Spain, VAT number: ESP3907500G, ('the beneficiary'), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No ('7')

in Grant Agreement No 856960 ('the Agreement')

between BRAVOSOLUTION ESPANA SAU **and** the European Union ('the EU'), represented by the European Commission ('the Commission'),

for the action entitled 'Digital solutions supporting continuum of care for frailty prevention in old adults (eCARE)'.

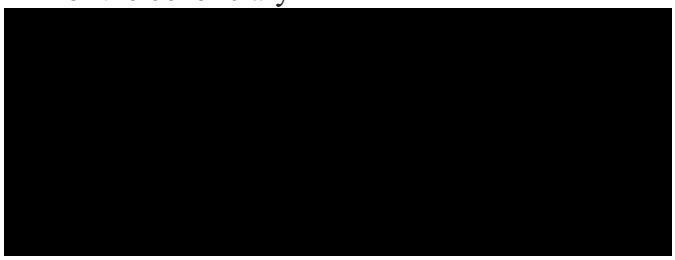
and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary



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FINANCIAL STATEMENT FOR *[BENEFICIARY [name]/LINKED THIRD PARTY [name]]* FOR REPORTING PERIOD [...ting period]

	Eligible[1] costs (per budget category)													Total costs	Receipts	EU contribution			Additional information
	A. Direct costs of *[PCP][PPI]* subcontracting	B. Costs for related additional coordination and networking activities													Receipts	Reimbursement rate %	Maximum EU contribution[3]	Requested EU contribution	Information for indirect costs :
		B.1 Direct personnel costs				B.2 Direct costs of subcontracting	B.3 Other direct costs			B.4 Indirect costs[2]	*[B.5 Costs of ...]*				Receipts of the action, to be reported in the last reporting period, according to Article 5.3.3				Costs of in-kind contributions not used on premises
		B.1.1. Employees (or equivalent) B.1.2 Natural persons under direct contract B.1.3. Seconded persons *[B.1.6. Personnel for providing access*		B.1.4 SME owners without salary B.1.5 Beneficiaries that are natural			B.3.1 Travel B.3.2 Equipment B.3.3 Other goods and services	*[B.3.4.Costs of large research infrastructure]*	B.3.5 Costs of internally invoiced goods and services		*[B.5.1 Costs of ...]6*		*[B.5.2 Costs of ...]6*						
Form of costs[4]	Actual	Actual	Unit	Unit		Actual	Actual	Actual	Unit	Flat-rate[5] 25%	Unit		Unit						
	a	b	Total c	No units	Total d	e	f	*[g]*	Total h	i=0,25x(a+b+c+f+*[g]*+h+*[j1]*[6]+*[j2]*[6]-p)	No units	Total *[j1]*	Total *[j2]*	k= a+b+c+d+e+f+*[g]*+h+i+*[j1]*+*[j2]*	l	m	n	o	p
[short name beneficiary/linked third party]																			

The beneficiary/linked third party hereby confirms that:
The information provided is complete, reliable and true.
The costs declared are eligible (see Article 6).
The costs can be substantiated by adequate records and supporting documentation that will be produced upon request or in the context of checks, reviews, audits and investigations (see Articles 17, 18 and 22).
For the last reporting period: that all the receipts have been declared (see Article 5.3.3).

ⓘ Please declare all eligible costs, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Only amounts that were declared in your individual financial statements can be taken into account lateron, in order to replace other costs that are found to be ineligible.

[1] See Article 6 for the eligibility conditions

[2] The indirect costs claimed must be free of any amounts covered by an operating grant (received under any EU or Euratom funding programme; see Article 6.2.B.4). If you have received an operating grant during this reporting period, you cannot claim indirect costs, unless you can demonstrate that the operating grant does not cover any costs of the action.

[3] This is the *theoretical* amount of EU contribution that the system calculates automatically (by multiplying the reimbursement rate by the total costs declared). The amount you request (in the column 'requested EU contribution') may be less.

[4] See Article 5 for the forms of costs

[5] Flat rate : 25% of eligible direct costs, from which are excluded: direct costs of subcontracting, costs of in-kind contributions not used on premises, and unit costs declared under budget category F if they include indirect costs (see Article 6.2.B.4)

6 Only specific unit costs that do not include indirect costs

ANNEX 5

MODEL FOR THE CERTIFICATE ON THE FINANCIAL STATEMENTS

- **For options [*in italics in square brackets*]: choose the applicable option. Options not chosen should be deleted.**
- **For fields in [grey in square brackets]: enter the appropriate data**

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Terms of Reference for an Independent Report of Factual Findings on costs declared under a Grant Agreement financed under the Horizon 2020 Research and Innovation Framework Programme

This document sets out the '**Terms of Reference (ToR)**' under which

[OPTION 1: [insert name of the beneficiary] ('the Beneficiary')] [OPTION 2: [insert name of the linked third party] ('the Linked Third Party'), third party linked to the Beneficiary [insert name of the beneficiary] ('the Beneficiary')]

agrees to engage

[**insert legal name of the auditor**] ('the Auditor')

to produce an independent report of factual findings ('the Report') concerning the Financial Statement(s)[1] drawn up by the *[Beneficiary] [Linked Third Party]* for the Horizon 2020 grant agreement [insert number of the grant agreement, title of the action, acronym and duration from/to] ('the Agreement'), and

to issue a Certificate on the Financial Statements' ('CFS') referred to in Article 20.4 of the Agreement based on the compulsory reporting template stipulated by the Commission.

The Agreement has been concluded under the Horizon 2020 Research and Innovation Framework Programme (H2020) between the Beneficiary and *[OPTION 1: the European Union, represented by the European Commission ('the Commission')][OPTION 2: the European Atomic Energy Community (Euratom,) represented by the European Commission ('the Commission')][OPTION 3: the [Research Executive Agency (REA)] [European Research Council Executive Agency (ERCEA)] [Innovation and Networks Executive Agency (INEA)] [Executive Agency for Small and Medium-sized Enterprises (EASME)] ('the Agency'), under the powers delegated by the European Commission ('the Commission').]*

The *[Commission] [Agency]* is mentioned as a signatory of the Agreement with the Beneficiary only. The *[European Union][Euratom][Agency]* is not a party to this engagement.

1.1 Subject of the engagement

The coordinator must submit to the *[Commission][Agency]* the final report within 60 days following the end of the last reporting period which should include, amongst other documents, a CFS for each beneficiary and for each linked third party that requests a total contribution of EUR 325 000 or more, as reimbursement of actual costs and unit costs calculated on the basis of its usual cost accounting practices (see Article 20.4 of the Agreement). The CFS must cover all reporting periods of the beneficiary or linked third party indicated above.

The Beneficiary must submit to the coordinator the CFS for itself and for its linked third party(ies), if the CFS must be included in the final report according to Article 20.4 of the Agreement.

The CFS is composed of two separate documents:

- The Terms of Reference ('the ToR') to be signed by the *[Beneficiary] [Linked Third Party]* and the Auditor;

[1] By which costs under the Agreement are declared (see template 'Model Financial Statements' in Annex 4 to the Grant Agreement).

- The Auditor's Independent Report of Factual Findings ('the Report') to be issued on the Auditor's letterhead, dated, stamped and signed by the Auditor (or the competent public officer) which includes the agreed-upon procedures ('the Procedures') to be performed by the Auditor, and the standard factual findings ('the Findings') to be confirmed by the Auditor.

If the CFS must be included in the final report according to Article 20.4 of the Agreement, the request for payment of the balance relating to the Agreement cannot be made without the CFS. However, the payment for reimbursement of costs covered by the CFS does not preclude the Commission *[Agency,]* the European Anti-Fraud Office and the European Court of Auditors from carrying out checks, reviews, audits and investigations in accordance with Article 22 of the Agreement.

1.2 Responsibilities

The *[Beneficiary] [Linked Third Party]:*

- must draw up the Financial Statement(s) for the action financed by the Agreement in compliance with the obligations under the Agreement. The Financial Statement(s) must be drawn up according to the *[Beneficiary's] [Linked Third Party's]* accounting and book-keeping system and the underlying accounts and records;
- must send the Financial Statement(s) to the Auditor;
- is responsible and liable for the accuracy of the Financial Statement(s);
- is responsible for the completeness and accuracy of the information provided to enable the Auditor to carry out the Procedures. It must provide the Auditor with a written representation letter supporting these statements. The written representation letter must state the period covered by the statements and must be dated;
- accepts that the Auditor cannot carry out the Procedures unless it is given full access to the *[Beneficiary's] [Linked Third Party's]* staff and accounting as well as any other relevant records and documentation.

The Auditor:

- *[Option 1 by default:* is qualified to carry out statutory audits of accounting documents in accordance with Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts, amending Council Directives 78/660/EEC and 83/349/EEC and repealing Council Directive 84/253/EEC or similar national regulations*]*.
- *[Option 2 if the Beneficiary or Linked Third Party has an independent Public Officer:* is a competent and independent Public Officer for which the relevant national authorities have established the legal capacity to audit the Beneficiary*]*.
- *[Option 3 if the Beneficiary or Linked Third Party is an international organisation:* is an [internal] [external] auditor in accordance with the internal financial regulations and procedures of the international organisation*]*.

The Auditor:

- must be independent from the Beneficiary *[and the Linked Third Party]*, in particular, it must not have been involved in preparing the *[Beneficiary's] [Linked Third Party's]* Financial Statement(s);
- must plan work so that the Procedures may be carried out and the Findings may be assessed;
- must adhere to the Procedures laid down and the compulsory report format;
- must carry out the engagement in accordance with this ToR;
- must document matters which are important to support the Report;
- must base its Report on the evidence gathered;
- must submit the Report to the *[Beneficiary] [Linked Third Party]*.

The Commission sets out the Procedures to be carried out by the Auditor. The Auditor is not responsible for their suitability or pertinence. As this engagement is not an assurance engagement, the Auditor does not provide an audit opinion or a statement of assurance.

1.3 Applicable Standards

The Auditor must comply with these Terms of Reference and with[2]:

- the International Standard on Related Services ('ISRS') 4400 *Engagements to perform Agreed-upon Procedures regarding Financial Information* as issued by the International Auditing and Assurance Standards Board (IAASB);
- the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants (IESBA). Although ISRS 4400 states that independence is not a requirement for engagements to carry out agreed-upon procedures, the *[Commission][Agency]* requires that the Auditor also complies with the Code's independence requirements.

The Auditor's Report must state that there is no conflict of interests in establishing this Report between the Auditor and the Beneficiary *[and the Linked Third Party]*, and must specify - if the service is invoiced - the total fee paid to the Auditor for providing the Report.

1.4 Reporting

The Report must be written in the language of the Agreement (see Article 20.7).

Under Article 22 of the Agreement, the Commission*[, the Agency],* the European Anti-Fraud Office and the Court of Auditors have the right to audit any work that is carried out under the action and for which costs are declared from [*the European Union*] [*Euratom*] budget. This includes work related to this engagement. The Auditor must provide access to all working papers (e.g. recalculation of hourly rates, verification of the time declared for the action) related to this assignment if the Commission *[, the Agency]*, the European Anti-Fraud Office or the European Court of Auditors requests them.

1.5 Timing

The Report must be provided by *[*dd Month yyyy*]*.

1.6 Other terms

[*The [Beneficiary] [Linked Third Party] and the Auditor can use this section to agree other specific terms, such as the Auditor's fees, liability, applicable law, etc. Those specific terms must not contradict the terms specified above.*]

[legal name of the Auditor]	[legal name of the *[Beneficiary][Linked Third Party]*]
[name & function of authorised representative]	[name & function of authorised representative]
[dd Month yyyy]	[dd Month yyyy]
Signature of the Auditor	Signature of the *[Beneficiary][Linked Third Party]*

[2] Supreme Audit Institutions applying INTOSAI-standards may carry out the Procedures according to the corresponding International Standards of Supreme Audit Institutions and code of ethics issued by INTOSAI instead of the International Standard on Related Services ('ISRS') 4400 and the Code of Ethics for Professional Accountants issued by the IAASB and the IESBA.

Independent Report of Factual Findings on costs declared under Horizon 2020 Research and Innovation Framework Programme

(To be printed on the Auditor's letterhead)

To
[name of contact person(s)], [Position]
[[*Beneficiary's*] [*Linked Third Party's*] name]
[Address]
[dd Month yyyy]

Dear [Name of contact person(s)],

As agreed under the terms of reference dated [dd Month yyyy]

with *[OPTION 1: [insert name of the beneficiary] ('the Beneficiary')] [OPTION 2: [insert name of the linked third party] ('the Linked Third Party'), third party linked to the Beneficiary [insert name of the beneficiary] ('the Beneficiary')],*

we

[name of the auditor] ('the Auditor'),

established at

[full address/city/state/province/country],

represented by

[name and function of an authorised representative],

have carried out the procedures agreed with you regarding the costs declared in the Financial Statement(s)[3] of the *[Beneficiary] [Linked Third Party]* concerning the grant agreement [insert grant agreement reference: number, title of the action and acronym] ('the Agreement'),

with a total cost declared of
[total amount] EUR,

and a total of actual costs and unit costs calculated in accordance with the [*Beneficiary's*] [*Linked Third Party's*] usual cost accounting practices' declared of

[sum of total actual costs and total direct personnel costs declared as unit costs calculated in accordance with the *[Beneficiary's] [Linked Third Party's]* usual cost accounting practices] EUR

and **hereby provide our Independent Report of Factual Findings ('the Report')** using the compulsory report format agreed with you.

The Report

Our engagement was carried out in accordance with the terms of reference ('the ToR') appended to this Report. The Report includes the agreed-upon procedures ('the Procedures') carried out and the standard factual findings ('the Findings') examined.

[3] By which the Beneficiary declares costs under the Agreement (see template 'Model Financial Statement' in Annex 4 to the Agreement).

The Procedures were carried out solely to assist the *[Commission] [Agency]* in evaluating whether the *[Beneficiary's] [Linked Third Party's]* costs in the accompanying Financial Statement(s) were declared in accordance with the Agreement. The *[Commission] [Agency]* draws its own conclusions from the Report and any additional information it may require.

The scope of the Procedures was defined by the Commission. Therefore, the Auditor is not responsible for their suitability or pertinence. Since the Procedures carried out constitute neither an audit nor a review made in accordance with International Standards on Auditing or International Standards on Review Engagements, the Auditor does not give a statement of assurance on the Financial Statements.

Had the Auditor carried out additional procedures or an audit of the *[Beneficiary's] [Linked Third Party's]* Financial Statements in accordance with International Standards on Auditing or International Standards on Review Engagements, other matters might have come to its attention and would have been included in the Report.

Not applicable Findings

We examined the Financial Statement(s) stated above and considered the following Findings not applicable:

Explanation (to be removed from the Report):

*If a Finding was not applicable, it must be marked as '**N.A.**' ('Not applicable') in the corresponding row on the right-hand column of the table and means that the Finding did not have to be corroborated by the Auditor and the related Procedure(s) did not have to be carried out.*

The reasons of the non-application of a certain Finding must be obvious i.e.

i) if no cost was declared under a certain category then the related Finding(s) and Procedure(s) are not applicable;

ii) if the condition set to apply certain Procedure(s) are not met the related Finding(s) and those Procedure(s) are not applicable. For instance, for 'beneficiaries with accounts established in a currency other than euro' the Procedure and Finding related to 'beneficiaries with accounts established in euro' are not applicable. Similarly, if no additional remuneration is paid, the related Finding(s) and Procedure(s) for additional remuneration are not applicable.

List here all Findings considered not applicable for the present engagement and explain the reasons of the non-applicability.

….

Exceptions

Apart from the exceptions listed below, the *[Beneficiary] [Linked Third Party]* provided the Auditor all the documentation and accounting information needed by the Auditor to carry out the requested Procedures and evaluate the Findings.

Explanation (to be removed from the Report):

- *If the Auditor was not able to successfully complete a procedure requested, it must be marked as '**E**' ('Exception') in the corresponding row on the right-hand column of the table. The reason such as the inability to reconcile key information or the unavailability of data that prevents the Auditor from carrying out the Procedure must be indicated below.*
- *If the Auditor cannot corroborate a standard finding after having carried out the corresponding procedure, it must also be marked as '**E**' ('Exception') and, where possible, the reasons why the Finding was not fulfilled and its possible impact must be explained here below.*

List here any exceptions and add any information on the cause and possible consequences of each exception, if known. If the exception is quantifiable, include the corresponding amount.

….

Example (to be removed from the Report):

1. *The Beneficiary was unable to substantiate the Finding number 1 on … because ….*
2. *Finding number 30 was not fulfilled because the methodology used by the Beneficiary to calculate unit costs was different from the one approved by the Commission. The differences were as follows: …*
3. *After carrying out the agreed procedures to confirm the Finding number 31, the Auditor found a difference of _____ EUR. The difference can be explained by …*

Further Remarks

In addition to reporting on the results of the specific procedures carried out, the Auditor would like to make the following general remarks:

Example (to be removed from the Report):

1. *Regarding Finding number 8 the conditions for additional remuneration were considered as fulfilled because …*
2. *In order to be able to confirm the Finding number 15 we carried out the following additional procedures: ….*

Use of this Report

This Report may be used only for the purpose described in the above objective. It was prepared solely for the confidential use of the *[Beneficiary] [Linked Third Party]* and the [*Commission*] [*Agency*], and only to be submitted to the *[Commission] [Agency]* in connection with the requirements set out in Article 20.4 of the Agreement. The Report may not be used by the *[Beneficiary] [Linked Third Party]* or by the *[Commission] [Agency]* for any other purpose, nor may it be distributed to any other parties. The *[Commission] [Agency]* may only disclose the Report to authorised parties, in particular to the European Anti-Fraud Office (OLAF) and the European Court of Auditors.

This Report relates only to the Financial Statement(s) submitted to the *[Commission] [Agency]* by the *[Beneficiary] [Linked Third Party]* for the Agreement. Therefore, it does not extend to any other of the *[Beneficiary's] [Linked Third Party's]* Financial Statement(s).

There was no conflict of interest[4] between the Auditor and the Beneficiary *[and Linked Third Party]* in establishing this Report. The total fee paid to the Auditor for providing the Report was EUR _____ (including EUR_____ of deductible VAT).

We look forward to discussing our Report with you and would be pleased to provide any further information or assistance.

[legal name of the Auditor]
[name and function of an authorised representative]
[dd Month yyyy]
Signature of the Auditor

[4] A conflict of interest arises when the Auditor's objectivity to establish the certificate is compromised in fact or in appearance when the Auditor for instance:
- was involved in the preparation of the Financial Statements;
- stands to benefit directly should the certificate be accepted;
- has a close relationship with any person representing the beneficiary;
- is a director, trustee or partner of the beneficiary; or
- is in any other situation that compromises his or her independence or ability to establish the certificate impartially.

Agreed-upon procedures to be performed and standard factual findings to be confirmed by the Auditor

The European Commission reserves the right to i) provide the auditor with additional guidance regarding the procedures to be followed or the facts to be ascertained and the way in which to present them (this may include sample coverage and findings) or to ii) change the procedures, by notifying the Beneficiary in writing. The procedures carried out by the auditor to confirm the standard factual finding are listed in the table below.

If this certificate relates to a Linked Third Party, any reference here below to 'the Beneficiary' is to be considered as a reference to 'the Linked Third Party'.

The 'result' column has three different options: 'C', 'E' and 'N.A.':

- 'C' stands for 'confirmed' and means that the auditor can confirm the 'standard factual finding' and, therefore, there is no exception to be reported.
- 'E' stands for 'exception' and means that the Auditor carried out the procedures but cannot confirm the 'standard factual finding', or that the Auditor was not able to carry out a specific procedure (e.g. because it was impossible to reconcile key information or data were unavailable),
- 'N.A.' stands for 'not applicable' and means that the Finding did not have to be examined by the Auditor and the related Procedure(s) did not have to be carried out. The reasons of the non-application of a certain Finding must be obvious i.e. i) if no cost was declared under a certain category then the related Finding(s) and Procedure(s) are not applicable; ii) if the condition set to apply certain Procedure(s) are not met then the related Finding(s) and Procedure(s) are not applicable. For instance, for 'beneficiaries with accounts established in a currency other than the euro' the Procedure related to 'beneficiaries with accounts established in euro' is not applicable. Similarly, if no additional remuneration is paid, the related Finding(s) and Procedure(s) for additional remuneration are not applicable.

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
A	**ACTUAL PERSONNEL COSTS AND UNIT COSTS CALCULATED BY THE BENEFICIARY IN ACCORDANCE WITH ITS USUAL COST ACCOUNTING PRACTICE**		
	The Auditor draws a sample of persons whose costs were declared in the Financial Statement(s) to carry out the procedures indicated in the consecutive points of this section A. (*The sample should be selected randomly so that it is representative. Full coverage is required if there are fewer than 10 people (including employees, natural persons working under a direct contract and personnel seconded by a third party), otherwise the sample should have a minimum of 10 people, or 10% of the total, whichever number is the highest)* The Auditor sampled _____ people out of the total of _____ people.		

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
A.1	**PERSONNEL COSTS** For the persons included in the sample and working under an employment contract or equivalent act (general procedures for individual actual personnel costs and personnel costs declared as unit costs) To confirm standard factual findings 1-5 listed in the next column, the Auditor reviewed following information/documents provided by the Beneficiary: o a list of the persons included in the sample indicating the period(s) during which they worked for the action, their position (classification or category) and type of contract; o the payslips of the employees included in the sample; o reconciliation of the personnel costs declared in the Financial Statement(s) with the accounting system (project accounting and general ledger) and payroll system; o information concerning the employment status and employment conditions of personnel included in the sample, in particular their employment contracts or equivalent; o the Beneficiary's usual policy regarding payroll matters (e.g. salary policy, overtime policy, variable pay); o applicable national law on taxes, labour and social security and o any other document that supports the personnel costs declared. The Auditor also verified the eligibility of all components of the retribution (see Article 6 GA) and recalculated the personnel costs for employees included in the sample.	1) The employees were i) directly hired by the Beneficiary in accordance with its national legislation, ii) under the Beneficiary's sole technical supervision and responsibility and iii) remunerated in accordance with the Beneficiary's usual practices.	
		2) Personnel costs were recorded in the Beneficiary's accounts/payroll system.	
		3) Costs were adequately supported and reconciled with the accounts and payroll records.	
		4) Personnel costs did not contain any ineligible elements.	
		5) There were no discrepancies between the personnel costs charged to the action and the costs recalculated by the Auditor.	
	Further procedures if 'additional remuneration' is paid To confirm standard factual findings 6-9 listed in the next column, the Auditor: o reviewed relevant documents provided by the Beneficiary (legal form, legal/statutory	6) The Beneficiary paying "additional remuneration" was a non-profit legal entity.	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
	obligations, the Beneficiary's usual policy on additional remuneration, criteria used for its calculation, the Beneficiary's usual remuneration practice for projects funded under national funding schemes…); o recalculated the amount of additional remuneration eligible for the action based on the supporting documents received (full-time or part-time work, exclusive or non-exclusive dedication to the action, usual remuneration paid for projects funded by national schemes) to arrive at the applicable FTE/year and pro-rata rate (see data collected in the course of carrying out the procedures under A.2 'Productive hours' and A.4 'Time recording system'). *'ADDITIONAL REMUNERATION' MEANS ANY PART OF THE REMUNERATION WHICH EXCEEDS WHAT THE PERSON WOULD BE PAID FOR TIME WORKED IN PROJECTS FUNDED BY NATIONAL SCHEMES.* *IF ANY PART OF THE REMUNERATION PAID TO THE EMPLOYEE QUALIFIES AS "ADDITIONAL REMUNERATION" AND IS ELIGIBLE UNDER THE PROVISIONS OF ARTICLE 6.2.A.1, THIS CAN BE CHARGED AS ELIGIBLE COST TO THE ACTION UP TO THE FOLLOWING AMOUNT:* *(A) IF THE PERSON WORKS FULL TIME AND EXCLUSIVELY ON THE ACTION DURING THE FULL YEAR: UP TO EUR 8 000/YEAR;* *(B) IF THE PERSON WORKS EXCLUSIVELY ON THE ACTION BUT NOT FULL-TIME OR NOT FOR THE FULL YEAR: UP TO THE CORRESPONDING PRO-RATA AMOUNT OF EUR 8 000, OR* *(C) IF THE PERSON DOES NOT WORK EXCLUSIVELY ON THE ACTION: UP TO A PRO-RATA AMOUNT CALCULATED IN ACCORDANCE TO ARTICLE 6.2.A.1.*	7) The amount of additional remuneration paid corresponded to the Beneficiary's usual remuneration practices and was consistently paid whenever the same kind of work or expertise was required.	
		8) The criteria used to calculate the additional remuneration were objective and generally applied by the Beneficiary regardless of the source of funding used.	
		9) The amount of additional remuneration included in the personnel costs charged to the action was capped at EUR 8,000 per FTE/year (up to the equivalent pro-rata amount if the person did not work on the action full-time during the year or did not work exclusively on the action).	
	Additional procedures in case "unit costs calculated by the Beneficiary in accordance with its usual cost accounting practices" is applied: Apart from carrying out the procedures indicated above to confirm standard factual findings 1-5 and, if applicable, also 6-9, the Auditor carried out following procedures to confirm standard	10) The personnel costs included in the Financial Statement were calculated in accordance with the Beneficiary's usual cost accounting practice. This methodology was consistently	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
	factual findings 10-13 listed in the next column: o obtained a description of the Beneficiary's usual cost accounting practice to calculate unit costs;. o reviewed whether the Beneficiary's usual cost accounting practice was applied for the Financial Statements subject of the present CFS; o verified the employees included in the sample were charged under the correct category (in accordance with the criteria used by the Beneficiary to establish personnel categories) by reviewing the contract/HR-record or analytical accounting records; o verified that there is no difference between the total amount of personnel costs used in calculating the cost per unit and the total amount of personnel costs recorded in the statutory accounts; o verified whether actual personnel costs were adjusted on the basis of budgeted or estimated elements and, if so, verified whether those elements used are actually relevant for the calculation, objective and supported by documents.	used in all H2020 actions.	
		11) The employees were charged under the correct category.	
		12) Total personnel costs used in calculating the unit costs were consistent with the expenses recorded in the statutory accounts.	
		13) Any estimated or budgeted element used by the Beneficiary in its unit-cost calculation were relevant for calculating personnel costs and corresponded to objective and verifiable information.	
	<u>For natural persons included in the sample and working with the Beneficiary under a direct contract other than an employment contract, such as consultants (no subcontractors).</u> To confirm standard factual findings 14-17 listed in the next column the Auditor reviewed following information/documents provided by the Beneficiary: o the contracts, especially the cost, contract duration, work description, place of work, ownership of the results and reporting obligations to the Beneficiary; o the employment conditions of staff in the same category to compare costs and; o any other document that supports the costs declared and its registration (e.g. invoices, accounting records, etc.).	14) The natural persons worked under conditions similar to those of an employee, in particular regarding the way the work is organised, the tasks that are performed and the premises where they are performed.	
		15) The results of work carried out belong to the Beneficiary, or, if not, the Beneficiary has obtained all necessary rights to fulfil its obligations as if those	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
		results were generated by itself.	
		16) Their costs were not significantly different from those for staff who performed similar tasks under an employment contract with the Beneficiary.	
		17) The costs were supported by audit evidence and registered in the accounts.	
	<u>For personnel seconded by a third party and included in the sample (not subcontractors)</u> To confirm standard factual findings 18-21 listed in the next column, the Auditor reviewed following information/documents provided by the Beneficiary: o their secondment contract(s) notably regarding costs, duration, work description, place of work and ownership of the results; o if there is reimbursement by the Beneficiary to the third party for the resource made available_(in-kind contribution against payment): any documentation that supports the costs declared (e.g. contract, invoice, bank payment, and proof of registration in its accounting/payroll, etc.) and reconciliation of the Financial Statement(s) with the accounting system (project accounting and general ledger) as well as any proof that the amount invoiced by the third party did not include any profit; o if there is no reimbursement by the Beneficiary to the third party for the resource made available (in-kind contribution free of charge): a proof of the actual cost borne by the Third Party for the resource made available free of charge to the Beneficiary such as a statement of costs incurred by the Third Party and proof of the registration in the Third Party's accounting/payroll;	18) Seconded personnel reported to the Beneficiary and worked on the Beneficiary's premises (unless otherwise agreed with the Beneficiary).	
		19) The results of work carried out belong to the Beneficiary, or, if not, the Beneficiary has obtained all necessary rights to fulfil its obligations as if those results were generated by itself..	
		If personnel is seconded against payment: 20) The costs declared were supported with documentation and recorded in the	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
	○ any other document that supports the costs declared (e.g. invoices, etc.).	Beneficiary's accounts. The third party did not include any profit.	
		If personnel is seconded free of charge: 21) The costs declared did not exceed the third party's cost as recorded in the accounts of the third party and were supported with documentation.	
A.2	**PRODUCTIVE HOURS** To confirm standard factual findings 22-27 listed in the next column, the Auditor reviewed relevant documents, especially national legislation, labour agreements and contracts and time records of the persons included in the sample, to verify that: ○ the annual productive hours applied were calculated in accordance with one of the methods described below, ○ the full-time equivalent (FTEs) ratios for employees not working full-time were correctly calculated. If the Beneficiary applied method B, the auditor verified that the correctness in which the total number of hours worked was calculated and that the contracts specified the annual workable hours. If the Beneficiary applied method C, the auditor verified that the 'annual productive hours' applied when calculating the hourly rate were equivalent to at least 90 % of the 'standard annual workable hours'. The Auditor can only do this if the calculation of the standard annual workable	22) The Beneficiary applied method [*choose one option and delete the others*] [**A**: 1720 hours] [**B**: the 'total number of hours worked'] [**C**: 'standard annual productive hours' used correspond to usual accounting practices]	
		23) Productive hours were calculated annually.	
		24) For employees not working full-time the full-time equivalent (FTE) ratio was correctly applied.	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
	hours can be supported by records, such as national legislation, labour agreements, and contracts. *BENEFICIARY'S PRODUCTIVE HOURS' FOR PERSONS WORKING FULL TIME SHALL BE ONE OF THE FOLLOWING METHODS:* ***A.*** *1720 ANNUAL PRODUCTIVE HOURS (PRO-RATA FOR PERSONS NOT WORKING FULL-TIME)* ***B.*** *THE TOTAL NUMBER OF HOURS WORKED BY THE PERSON FOR THE BENEFICIARY IN THE YEAR (THIS METHOD IS ALSO REFERRED TO AS 'TOTAL NUMBER OF HOURS WORKED' IN THE NEXT COLUMN). THE CALCULATION OF THE TOTAL NUMBER OF HOURS WORKED WAS DONE AS FOLLOWS: ANNUAL WORKABLE HOURS OF THE PERSON ACCORDING TO THE EMPLOYMENT CONTRACT, APPLICABLE LABOUR AGREEMENT OR NATIONAL LAW PLUS OVERTIME WORKED MINUS ABSENCES (SUCH AS SICK LEAVE OR SPECIAL LEAVE).* ***C.*** *THE STANDARD NUMBER OF ANNUAL HOURS GENERALLY APPLIED BY THE BENEFICIARY FOR ITS PERSONNEL IN ACCORDANCE WITH ITS USUAL COST ACCOUNTING PRACTICES (THIS METHOD IS ALSO REFERRED TO AS 'STANDARD ANNUAL PRODUCTIVE HOURS' IN THE NEXT COLUMN). THIS NUMBER MUST BE AT LEAST 90% OF THE STANDARD ANNUAL WORKABLE HOURS.* *'ANNUAL WORKABLE HOURS' MEANS THE PERIOD DURING WHICH THE PERSONNEL MUST BE WORKING, AT THE EMPLOYER'S DISPOSAL AND CARRYING OUT HIS/HER ACTIVITY OR DUTIES UNDER THE EMPLOYMENT CONTRACT, APPLICABLE COLLECTIVE LABOUR AGREEMENT OR NATIONAL WORKING TIME LEGISLATION.*	*If the Beneficiary applied method B.* 25) The calculation of the number of 'annual workable hours', overtime and absences was verifiable based on the documents provided by the Beneficiary. 25.1) The Beneficiary calculates the hourly rates per full financial year following procedure A.3 (method B is not allowed for beneficiaries calculating hourly rates per month). *If the Beneficiary applied method C.* 26) The calculation of the number of 'standard annual workable hours' was verifiable based on the documents provided by the Beneficiary.	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
		27) The 'annual productive hours' used for calculating the hourly rate were consistent with the usual cost accounting practices of the Beneficiary and were equivalent to at least 90 % of the 'annual workable hours'.	
A.3	**HOURLY PERSONNEL RATES** I) For unit costs calculated in accordance to the Beneficiary's usual cost accounting practice (unit costs): If the Beneficiary has a "Certificate on Methodology to calculate unit costs " (CoMUC) approved by the Commission, the Beneficiary provides the Auditor with a description of the approved methodology and the Commission's letter of acceptance. The Auditor verified that the Beneficiary has indeed used the methodology approved. If so, no further verification is necessary. If the Beneficiary does not have a "Certificate on Methodology" (CoMUC) approved by the Commission, or if the methodology approved was not applied, then the Auditor: o reviewed the documentation provided by the Beneficiary, including manuals and internal guidelines that explain how to calculate hourly rates; o recalculated the unit costs (hourly rates) of staff included in the sample following the results of the procedures carried out in A.1 and A.2. II) For individual hourly rates: The Auditor: o reviewed the documentation provided by the Beneficiary, including manuals and internal guidelines that explain how to calculate hourly rates;	28) The Beneficiary applied [*choose one option and delete the other*]: [Option I: "Unit costs (hourly rates) were calculated in accordance with the Beneficiary's usual cost accounting practices"] [Option II: Individual hourly rates were applied] *For option I concerning unit costs and if the Beneficiary applies the methodology approved by the Commission (CoMUC):* 29) The Beneficiary used the Commission-approved methodology to calculate hourly rates. It corresponded to the organisation's usual cost accounting practices and was applied consistently for all	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
	○ recalculated the hourly rates of staff included in the sample (recalculation of all hourly rates if the Beneficiary uses annual rates, recalculation of three months selected randomly for every year and person if the Beneficiary uses monthly rates) following the results of the procedures carried out in A.1 and A.2; ○ (only in case of monthly rates) confirmed that the time spent on parental leave is not deducted, and that, if parts of the basic remuneration are generated over a period longer than a month, the Beneficiary has included only the share which is generated in the month. *"UNIT COSTS CALCULATED BY THE BENEFICIARY IN ACCORDANCE WITH ITS USUAL COST ACCOUNTING PRACTICES":* *IT IS CALCULATED BY DIVIDING THE TOTAL AMOUNT OF PERSONNEL COSTS OF THE CATEGORY TO WHICH THE EMPLOYEE BELONGS VERIFIED IN LINE WITH PROCEDURE A.1 BY THE NUMBER OF FTE AND THE ANNUAL TOTAL PRODUCTIVE HOURS OF THE SAME CATEGORY CALCULATED BY THE BENEFICIARY IN ACCORDANCE WITH PROCEDURE A.2.* *HOURLY RATE FOR INDIVIDUAL ACTUAL PERSONAL COSTS:* *IT IS CALCULATED FOLLOWING ONE OF THE TWO OPTIONS BELOW:* *A) [OPTION BY DEFAULT] BY DIVIDING THE ACTUAL ANNUAL AMOUNT OF PERSONNEL COSTS OF AN EMPLOYEE VERIFIED IN LINE WITH PROCEDURE A.1 BY THE NUMBER OF ANNUAL PRODUCTIVE HOURS VERIFIED IN LINE WITH PROCEDURE A.2 (FULL FINANCIAL YEAR HOURLY RATE);* *B) BY DIVIDING THE ACTUAL MONTHLY AMOUNT OF PERSONNEL COSTS OF AN EMPLOYEE VERIFIED IN LINE WITH PROCEDURE A.1 BY 1/12 OF THE NUMBER OF ANNUAL PRODUCTIVE HOURS VERIFIED IN LINE WITH PROCEDURE A.2.(MONTHLY HOURLY RATE).*	activities irrespective of the source of funding.	
		For option I concerning unit costs and if the Beneficiary applies a methodology not approved by the Commission: 30) The unit costs re-calculated by the Auditor were the same as the rates applied by the Beneficiary.	
		For option II concerning individual hourly rates: 31) The individual rates re-calculated by the Auditor were the same as the rates applied by the Beneficiary. 31.1) The Beneficiary used only one option (per full financial year or per month) throughout each financial year examined. 31.2) The hourly rates do not include additional remuneration.	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
A.4	**TIME RECORDING SYSTEM** To verify that the time recording system ensures the fulfilment of all minimum requirements and that the hours declared for the action were correct, accurate and properly authorised and supported by documentation, the Auditor made the following checks for the persons included in the sample that declare time as worked for the action on the basis of time records: o description of the time recording system provided by the Beneficiary (registration, authorisation, processing in the HR-system); o its actual implementation; o time records were signed at least monthly by the employees (on paper or electronically) and authorised by the project manager or another manager; o the hours declared were worked within the project period; o there were no hours declared as worked for the action if HR-records showed absence due to holidays or sickness (further cross-checks with travels are carried out in B.1 below) ; o the hours charged to the action matched those in the time recording system. *ONLY THE HOURS WORKED ON THE ACTION CAN BE CHARGED. ALL WORKING TIME TO BE CHARGED SHOULD BE RECORDED THROUGHOUT THE DURATION OF THE PROJECT, ADEQUATELY SUPPORTED BY EVIDENCE OF THEIR REALITY AND RELIABILITY (SEE SPECIFIC PROVISIONS BELOW FOR PERSONS WORKING EXCLUSIVELY FOR THE ACTION WITHOUT TIME RECORDS).*	32) All persons recorded their time dedicated to the action on a **daily/ weekly/ monthly** basis using a **paper/computer-based** system. (*delete the answers that are not applicable)*	
		33) Their time-records were authorised at least monthly by the project manager or other superior.	
		34) Hours declared were worked within the project period and were consistent with the presences/absences recorded in HR-records.	
		35) There were no discrepancies between the number of hours charged to the action and the number of hours recorded.	
	<u>If the persons are working exclusively for the action and without time records</u> For the persons selected that worked exclusively for the action without time records, the Auditor verified evidence available demonstrating that they were in reality exclusively dedicated to the action and that the Beneficiary signed a declaration confirming that they have worked exclusively for the action.	36) The exclusive dedication is supported by a declaration signed by the Beneficiary and by any other evidence gathered.	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
B	**COSTS OF SUBCONTRACTING**		
B.1	**The Auditor obtained the detail/breakdown of subcontracting costs and sampled _____ cost items selected randomly** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is highest*). To confirm standard factual findings 37-41 listed in the next column, the Auditor reviewed the following for the items included in the sample: o the use of subcontractors was foreseen in Annex 1; o subcontracting costs were declared in the subcontracting category of the Financial Statement; o supporting documents on the selection and award procedure were followed; o the Beneficiary ensured best value for money (key elements to appreciate the respect of this principle are the award of the subcontract to the bid offering best price-quality ratio, under conditions of transparency and equal treatment. In case an existing framework contract was used the Beneficiary ensured it was established on the basis of the principle of best value for money under conditions of transparency and equal treatment). In particular, i. if the Beneficiary acted as a contracting authority within the meaning of Directive 2004/18/EC (or 2014/24/EU) or of Directive 2004/17/EC (or 2014/25/EU), the Auditor verified that the applicable national law on public procurement was followed and that the subcontracting complied with the Terms and Conditions of the Agreement. ii. if the Beneficiary did not fall under the above-mentioned category the Auditor verified that the Beneficiary followed their usual procurement rules and respected the Terms and Conditions of the Agreement..	37) The use of claimed subcontracting costs was foreseen in Annex 1 and costs were declared in the Financial Statements under the subcontracting category.	
		38) There were documents of requests to different providers, different offers and assessment of the offers before selection of the provider in line with internal procedures and procurement rules. Subcontracts were awarded in accordance with the principle of best value for money. *(When different offers were not collected the Auditor explains the reasons provided by the Beneficiary under the caption "Exceptions" of the Report. The Commission will analyse this information to evaluate whether these costs might be accepted as eligible)*	
		39) The subcontracts were not awarded to other Beneficiaries	

Ref	Procedures	Standard factual finding	Result (C / E / N.A.)
	For the items included in the sample the Auditor also verified that: o the subcontracts were not awarded to other Beneficiaries in the consortium; o there were signed agreements between the Beneficiary and the subcontractor; o there was evidence that the services were provided by subcontractor;	of the consortium.	
		40) All subcontracts were supported by signed agreements between the Beneficiary and the subcontractor.	
		41) There was evidence that the services were provided by the subcontractors.	
C	**COSTS OF PROVIDING FINANCIAL SUPPORT TO THIRD PARTIES**		
C.1	**The Auditor obtained the detail/breakdown of the costs of providing financial support to third parties and sampled _____ cost items selected randomly** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is highest*). The Auditor verified that the following minimum conditions were met: a) the maximum amount of financial support for each third party did not exceed EUR 60 000, unless explicitly mentioned in Annex 1; b) the financial support to third parties was agreed in Annex 1 of the Agreement and the other provisions on financial support to third parties included in Annex 1 were respected.	42) All minimum conditions were met	

D	OTHER ACTUAL DIRECT COSTS		
D.1	**COSTS OF TRAVEL AND RELATED SUBSISTENCE ALLOWANCES** **The Auditor sampled _____ cost items selected randomly** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is the highest*). The Auditor inspected the sample and verified that: o travel and subsistence costs were consistent with the Beneficiary's usual policy for travel. In this context, the Beneficiary provided evidence of its normal policy for travel costs (e.g. use of first class tickets, reimbursement by the Beneficiary on the basis of actual costs, a lump sum or per diem) to enable the Auditor to compare the travel costs charged with this policy; o travel costs are correctly identified and allocated to the action (e.g. trips are directly linked to the action) by reviewing relevant supporting documents such as minutes of meetings, workshops or conferences, their registration in the correct project account, their consistency with time records or with the dates/duration of the workshop/conference; o no ineligible costs or excessive or reckless expenditure was declared (see Article 6.5 MGA).	43) Costs were incurred, approved and reimbursed in line with the Beneficiary's usual policy for travels.	
		44) There was a link between the trip and the action.	
		45) The supporting documents were consistent with each other regarding subject of the trip, dates, duration and reconciled with time records and accounting.	
		46) No ineligible costs or excessive or reckless expenditure was declared.	
D.2	**DEPRECIATION COSTS FOR EQUIPMENT, INFRASTRUCTURE OR OTHER ASSETS** **The Auditor sampled _____ cost items selected randomly** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is the highest*). For "equipment, infrastructure or other assets" [from now on called "asset(s)"] selected in the sample the Auditor verified that: o the assets were acquired in conformity with the Beneficiary's internal guidelines and procedures;	47) Procurement rules, principles and guides were followed.	
		48) There was a link between the grant agreement and the asset charged to the action.	
		49) The asset charged to the action was traceable to the accounting records and the underlying documents.	

	○ they were correctly allocated to the action (with supporting documents such as delivery note invoice or any other proof demonstrating the link to the action) ○ they were entered in the accounting system; ○ the extent to which the assets were used for the action (as a percentage) was supported by reliable documentation (e.g. usage overview table); The Auditor recalculated the depreciation costs and verified that they were in line with the applicable rules in the Beneficiary's country and with the Beneficiary's usual accounting policy (e.g. depreciation calculated on the acquisition value). The Auditor verified that no ineligible costs such as deductible VAT, exchange rate losses, excessive or reckless expenditure were declared (see Article 6.5 GA).	50) The depreciation method used to charge the asset to the action was in line with the applicable rules of the Beneficiary's country and the Beneficiary's usual accounting policy. 51) The amount charged corresponded to the actual usage for the action. 52) No ineligible costs or excessive or reckless expenditure were declared.	
D.3	**COSTS OF OTHER GOODS AND SERVICES** **The Auditor sampled _____ cost items selected randomly** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is highest*). For the purchase of goods, works or services included in the sample the Auditor verified that: ○ the contracts did not cover tasks described in Annex 1; ○ they were correctly identified, allocated to the proper action, entered in the accounting system (traceable to underlying documents such as purchase orders, invoices and accounting); ○ the goods were not placed in the inventory of durable equipment; ○ the costs charged to the action were accounted in line with the Beneficiary's usual accounting practices; ○ no ineligible costs or excessive or reckless expenditure were declared (see Article 6 GA). In addition, the Auditor verified that these goods and services were acquired in conformity with	53) Contracts for works or services did not cover tasks described in Annex 1. 54) Costs were allocated to the correct action and the goods were not placed in the inventory of durable equipment. 55) The costs were charged in line with the Beneficiary's accounting policy and were adequately supported. 56) No ineligible costs or excessive or reckless expenditure were declared. For internal invoices/charges only the cost element was charged, without any mark-ups.	

	the Beneficiary's internal guidelines and procedures, in particular: o if Beneficiary acted as a contracting authority within the meaning of Directive 2004/18/EC (or 2014/24/EU) or of Directive 2004/17/EC (or 2014/25/EU), the Auditor verified that the applicable national law on public procurement was followed and that the procurement contract complied with the Terms and Conditions of the Agreement. o if the Beneficiary did not fall into the category above, the Auditor verified that the Beneficiary followed their usual procurement rules and respected the Terms and Conditions of the Agreement. For the items included in the sample the Auditor also verified that: o the Beneficiary ensured best value for money (key elements to appreciate the respect of this principle are the award of the contract to the bid offering best price-quality ratio, under conditions of transparency and equal treatment. In case an existing framework contract was used the Auditor also verified that the Beneficiary ensured it was established on the basis of the principle of best value for money under conditions of transparency and equal treatment); *SUCH GOODS AND SERVICES INCLUDE, FOR INSTANCE, CONSUMABLES AND SUPPLIES, DISSEMINATION (INCLUDING OPEN ACCESS), PROTECTION OF RESULTS, SPECIFIC EVALUATION OF THE ACTION IF IT IS REQUIRED BY THE AGREEMENT, CERTIFICATES ON THE FINANCIAL STATEMENTS IF THEY ARE REQUIRED BY THE AGREEMENT AND CERTIFICATES ON THE METHODOLOGY, TRANSLATIONS, REPRODUCTION.*	57) Procurement rules, principles and guides were followed. There were documents of requests to different providers, different offers and assessment of the offers before selection of the provider in line with internal procedures and procurement rules. The purchases were made in accordance with the principle of best value for money. *(When different offers were not collected the Auditor explains the reasons provided by the Beneficiary under the caption "Exceptions" of the Report. The Commission will analyse this information to evaluate whether these costs might be accepted as eligible)*	
D.4	**AGGREGATED CAPITALISED AND OPERATING COSTS OF RESEARCH INFRASTRUCTURE** The Auditor ensured the existence of a positive ex-ante assessment (issued by the EC Services) of the cost accounting methodology of the Beneficiary allowing it to apply the guidelines on direct costing for large research infrastructures in Horizon 2020.	58) The costs declared as direct costs for Large Research Infrastructures (in the appropriate line of the Financial Statement) comply with the methodology described in the positive ex-ante assessment report.	

	In the cases that a positive ex-ante assessment has been issued *(see the standard factual findings 58-59 on the next column)***,** The Auditor ensured that the beneficiary has applied consistently the methodology that is explained and approved in the positive ex ante assessment; ***In the cases that a positive ex-ante assessment has NOT been issued*** *(see the standard factual findings 60 on the next column),* The Auditor verified that no costs of Large Research Infrastructure have been charged as direct costs in any costs category; ***In the cases that a draft ex-ante assessment report has been issued with recommendation for further changes*** *(see the standard factual findings 60 on the next column),* • The Auditor followed the same procedure as above (when a positive ex-ante assessment has NOT yet been issued) and paid particular attention (testing reinforced) to the cost items for which the draft ex-ante assessment either rejected the inclusion as direct costs for Large Research Infrastructures or issued recommendations.	59) Any difference between the methodology applied and the one positively assessed was extensively described and adjusted accordingly. 60) The direct costs declared were free from any indirect costs items related to the Large Research Infrastructure.	
D.5	**Costs of internally invoiced goods and services** **The Auditor sampled cost items selected randomly** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is highest*). To confirm standard factual findings 61-65 listed in the next column, the Auditor: ○ obtained a description of the Beneficiary's usual cost accounting practice to calculate costs of internally invoiced goods and services (unit costs); ○ reviewed whether the Beneficiary's usual cost accounting practice was applied for the Financial Statements subject of the present CFS; ○ ensured that the methodology to calculate unit costs is being used in a consistent manner, based on objective criteria, regardless of the source of funding; ○ verified that any ineligible items or any costs claimed under other budget categories, in particular indirect costs, have not been taken into account when calculating the costs of	61) The costs of internally invoiced goods and services included in the Financial Statement were calculated in accordance with the Beneficiary's usual cost accounting practice. 62) The cost accounting practices used to calculate the costs of internally invoiced goods and services were applied by the Beneficiary in a consistent manner based on objective criteria regardless of the source of funding. 63) The unit cost is calculated using the actual costs for the good or service recorded in the Beneficiary's accounts, excluding any ineligible cost or costs included in other	

	internally invoiced goods and services (see Article 6 GA); ○ verified whether actual costs of internally invoiced goods and services were adjusted on the basis of budgeted or estimated elements and, if so, verified whether those elements used are actually relevant for the calculation, and correspond to objective and verifiable information. ○ verified that any costs of items which are not directly linked to the production of the invoiced goods or service (e.g. supporting services like cleaning, general accountancy, administrative support, etc. not directly used for production of the good or service) have not been taken into account when calculating the costs of internally invoiced goods and services. ○ verified that any costs of items used for calculating the costs internally invoiced goods and services are supported by audit evidence and registered in the accounts.	budget categories. 64) The unit cost excludes any costs of items which are not directly linked to the production of the invoiced goods or service. 65) The costs items used for calculating the actual costs of internally invoiced goods and services were relevant, reasonable and correspond to objective and verifiable information.	
E	**USE OF EXCHANGE RATES**		
E.1	a) For Beneficiaries with accounts established in a currency other than euros **The Auditor sampled _____ cost items selected randomly and verified that the exchange rates used for converting other currencies into euros were in accordance with the following rules established in the Agreement** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is highest)*: *COSTS RECORDED IN THE ACCOUNTS IN A CURRENCY OTHER THAN EURO SHALL BE CONVERTED INTO EURO AT THE AVERAGE OF THE DAILY EXCHANGE RATES PUBLISHED IN THE C SERIES OF OFFICIAL JOURNAL OF THE EUROPEAN UNION (https://www.ecb.int/stats/exchange/eurofxref/html/index.en.html), DETERMINED OVER THE CORRESPONDING REPORTING PERIOD.* *IF NO DAILY EURO EXCHANGE RATE IS PUBLISHED IN THE OFFICIAL JOURNAL OF THE EUROPEAN UNION FOR THE CURRENCY IN QUESTION, CONVERSION SHALL BE MADE AT THE AVERAGE OF THE MONTHLY ACCOUNTING RATES ESTABLISHED BY THE COMMISSION AND PUBLISHED ON ITS WEBSITE (http://ec.europa.eu/budget/contracts_grants/info_contracts/inforeuro/inforeuro_en.cfm),*	66) The exchange rates used to convert other currencies into Euros were in accordance with the rules established of the Grant Agreement and there was no difference in the final figures.	

	DETERMINED OVER THE CORRESPONDING REPORTING PERIOD.		
	b) For Beneficiaries with accounts established in euros **The Auditor sampled _____ cost items selected randomly and verified that the exchange rates used for converting other currencies into euros were in accordance with the following rules established in the Agreement** (*full coverage is required if there are fewer than 10 items, otherwise the sample should have a minimum of 10 item, or 10% of the total, whichever number is highest)*: *COSTS INCURRED IN ANOTHER CURRENCY SHALL BE CONVERTED INTO EURO BY APPLYING THE BENEFICIARY'S USUAL ACCOUNTING PRACTICES.*	67) The Beneficiary applied its usual accounting practices.	

[legal name of the audit firm]
[name and function of an authorised representative]
[dd Month yyyy]
<Signature of the Auditor>

ANNEX 6

MODEL FOR THE CERTIFICATE ON THE METHODOLOGY

- **For options [*in italics in square brackets*]: choose the applicable option. Options not chosen should be deleted.**
- **For fields in [grey in square brackets]: enter the appropriate data.**

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Terms of reference for an audit engagement for a methodology certificate in connection with one or more grant agreements financed under the Horizon 2020 Research and Innovation Framework Programme

This document sets out the '**Terms of Reference (ToR)**' under which

[OPTION 1: [insert name of the beneficiary] ('the Beneficiary')] [OPTION 2: [insert name of the linked third party] ('the Linked Third Party'), third party linked to the Beneficiary [insert name of the beneficiary] ('the Beneficiary')]

agrees to engage

[**insert legal name of the auditor**] ('the Auditor')

to produce an independent report of factual findings ('the Report') concerning the *[Beneficiary's] [Linked Third Party's]* usual accounting practices for calculating and claiming direct personnel costs declared as unit costs ('the Methodology') in connection with grant agreements financed under the Horizon 2020 Research and Innovation Framework Programme.

The procedures to be carried out for the assessment of the methodology will be based on the grant agreement(s) detailed below:

[title and number of the grant agreement(s)] ('the Agreement(s)')

The Agreement(s) has(have) been concluded between the Beneficiary and *[OPTION 1: the European Union, represented by the European Commission ('the Commission')][OPTION 2: the European Atomic Energy Community (Euratom,) represented by the European Commission ('the Commission')][OPTION 3: the [Research Executive Agency (REA)] [European Research Council Executive Agency (ERCEA)] [Innovation and Networks Executive Agency (INEA)] [Executive Agency for Small and Medium-sized Enterprises (EASME)] ('the Agency'), under the powers delegated by the European Commission ('the Commission').]*.

The *[Commission] [Agency]* is mentioned as a signatory of the Agreement with the Beneficiary only. The *[European Union] [Euratom] [Agency]* is not a party to this engagement.

1.1 Subject of the engagement

According to Article 18.1.2 of the Agreement, beneficiaries *[and linked third parties]* that declare direct personnel costs as unit costs calculated in accordance with their usual cost accounting practices may submit to the *[Commission] [Agency]*, for approval, a certificate on the methodology ('CoMUC') stating that there are adequate records and documentation to prove that their cost accounting practices used comply with the conditions set out in Point A of Article 6.2.

The subject of this engagement is the CoMUC which is composed of two separate documents:

- the Terms of Reference ('the ToR') to be signed by the *[Beneficiary] [Linked Third Party]* and the Auditor;

- the Auditor's Independent Report of Factual Findings ('the Report') issued on the Auditor's letterhead, dated, stamped and signed by the Auditor which includes; the standard statements ('the Statements') evaluated and signed by the *[Beneficiary] [Linked Third Party]*, the agreed-upon procedures ('the Procedures') performed by the Auditor and the standard factual findings

('the Findings') assessed by the Auditor. The Statements, Procedures and Findings are summarised in the table that forms part of the Report.

The information provided through the Statements, the Procedures and the Findings will enable the Commission to draw conclusions regarding the existence of the *[Beneficiary's] [Linked Third Party's]* usual cost accounting practice and its suitability to ensure that direct personnel costs claimed on that basis comply with the provisions of the Agreement. The Commission draws its own conclusions from the Report and any additional information it may require.

1.2 Responsibilities

The parties to this agreement are the *[Beneficiary] [Linked Third Party]* and the Auditor.

The *[Beneficiary] [Linked Third Party]:*

- is responsible for preparing financial statements for the Agreement(s) ('the Financial Statements') in compliance with those Agreements;
- is responsible for providing the Financial Statement(s) to the Auditor and enabling the Auditor to reconcile them with the *[Beneficiary's] [Linked Third Party's]* accounting and bookkeeping system and the underlying accounts and records. The Financial Statement(s) will be used as a basis for the procedures which the Auditor will carry out under this ToR;
- is responsible for its Methodology and liable for the accuracy of the Financial Statement(s);
- is responsible for endorsing or refuting the Statements indicated under the heading 'Statements to be made by the Beneficiary/ Linked Third Party' in the first column of the table that forms part of the Report;
- must provide the Auditor with a signed and dated representation letter;
- accepts that the ability of the Auditor to carry out the Procedures effectively depends upon the *[Beneficiary] [Linked Third Party]* providing full and free access to the *[Beneficiary's] [Linked Third Party's]* staff and to its accounting and other relevant records.

The Auditor:

- *[Option 1 by default: is qualified to carry out statutory audits of accounting documents in accordance with Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts, amending Council Directives 78/660/EEC and 83/349/EEC and repealing Council Directive 84/253/EEC or similar national regulations].*
- *[Option 2 if the Beneficiary or Linked Third Party has an independent Public Officer: is a competent and independent Public Officer for which the relevant national authorities have established the legal capacity to audit the Beneficiary].*
- *[Option 3 if the Beneficiary or Linked Third Party is an international organisation: is an [internal] [external] auditor in accordance with the internal financial regulations and procedures of the international organisation].*

The Auditor:

- must be independent from the Beneficiary *[and the Linked Third Party]*, in particular, it must not have been involved in preparing the Beneficiary's *[and Linked Third Party's]* Financial Statement(s);
- must plan work so that the Procedures may be carried out and the Findings may be assessed;
- must adhere to the Procedures laid down and the compulsory report format;
- must carry out the engagement in accordance with these ToR;
- must document matters which are important to support the Report;
- must base its Report on the evidence gathered;
- must submit the Report to the *[Beneficiary] [Linked Third Party]*.

The Commission sets out the Procedures to be carried out and the Findings to be endorsed by the Auditor. The Auditor is not responsible for their suitability or pertinence. As this engagement is not an assurance engagement the Auditor does not provide an audit opinion or a statement of assurance.

1.3 Applicable Standards

The Auditor must comply with these Terms of Reference and with[1]:

- the International Standard on Related Services ('ISRS') 4400 *Engagements to perform Agreed-upon Procedures regarding Financial Information* as issued by the International Auditing and Assurance Standards Board (IAASB);
- the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants (IESBA). Although ISRS 4400 states that independence is not a requirement for engagements to carry out agreed-upon procedures, the Commission requires that the Auditor also complies with the Code's independence requirements.

The Auditor's Report must state that there was no conflict of interests in establishing this Report between the Auditor and the Beneficiary *[and the Linked Third Party]* that could have a bearing on the Report, and must specify – if the service is invoiced - the total fee paid to the Auditor for providing the Report.

1.4 Reporting

The Report must be written in the language of the Agreement (see Article 20.7 of the Agreement).

Under Article 22 of the Agreement, the Commission, *[the Agency]*, the European Anti-Fraud Office and the Court of Auditors have the right to audit any work that is carried out under the action and for which costs are declared from *[the European Union] [Euratom]* budget. This includes work related to this engagement. The Auditor must provide access to all working papers related to this assignment if the Commission*[, the Agency]*, the European Anti-Fraud Office or the European Court of Auditors requests them.

1.5 Timing

The Report must be provided by [dd Month yyyy].

1.6 Other Terms

[The [Beneficiary] [Linked Third Party] and the Auditor can use this section to agree other specific terms, such as the Auditor's fees, liability, applicable law, etc. Those specific terms must not contradict the terms specified above.]

[legal name of the Auditor]	[legal name of the [Beneficiary] [Linked Third Party]]
[name & title of authorised representative]	[name & title of authorised representative]
[dd Month yyyy]	[dd Month yyyy]
Signature of the Auditor	Signature of the *[Beneficiary] [Linked Third Party]*

[1] Supreme Audit Institutions applying INTOSAI-standards may carry out the Procedures according to the corresponding International Standards of Supreme Audit Institutions and code of ethics issued by INTOSAI instead of the International Standard on Related Services ('ISRS') 4400 and the Code of Ethics for Professional Accountants issued by the IAASB and the IESBA.

Independent report of factual findings on the methodology concerning grant agreements financed under the Horizon 2020 Research and Innovation Framework Programme

(To be printed on letterhead paper of the auditor)

To
[name of contact person(s)], [Position]
[[Beneficiary's] [Linked Third Party's] name]
[Address]
[dd Month yyyy]

Dear [Name of contact person(s)],

As agreed under the terms of reference dated [dd Month yyyy]

with *[OPTION 1: [insert name of the beneficiary] ('the Beneficiary')] [OPTION 2: [insert name of the linked third party] ('the Linked Third Party'), third party linked to the Beneficiary [insert name of the beneficiary] ('the Beneficiary')]*,

we

[name of the auditor] ('the Auditor'),

established at

[full address/city/state/province/country],

represented by

[name and function of an authorised representative],

have carried out the agreed-upon procedures ('the Procedures') and provide hereby our Independent Report of Factual Findings ('the Report'), concerning the *[Beneficiary's] [Linked Third Party's]* usual accounting practices for calculating and declaring direct personnel costs declared as unit costs ('the Methodology').

You requested certain procedures to be carried out in connection with the grant(s)

[title and number of the grant agreement(s)] ('the Agreement(s)').

The Report

Our engagement was carried out in accordance with the terms of reference ('the ToR') appended to this Report. The Report includes: the standard statements ('the Statements') made by the *[Beneficiary] [Linked Third Party]*, the agreed-upon procedures ('the Procedures') carried out and the standard factual findings ('the Findings') confirmed by us.

The engagement involved carrying out the Procedures and assessing the Findings and the documentation requested appended to this Report, the results of which the Commission uses to draw conclusions regarding the acceptability of the Methodology applied by the *[Beneficiary] [Linked Third Party]*.

The Report covers the methodology used from [dd Month yyyy]. In the event that the *[Beneficiary] [Linked Third Party]* changes this methodology, the Report will not be applicable to any Financial Statement[1] submitted thereafter.

The scope of the Procedures and the definition of the standard statements and findings were determined solely by the Commission. Therefore, the Auditor is not responsible for their suitability or pertinence.

Since the Procedures carried out constitute neither an audit nor a review made in accordance with International Standards on Auditing or International Standards on Review Engagements, we do not give a statement of assurance on the costs declared on the basis of the *[Beneficiary's] [Linked Third Party's]* Methodology. Had we carried out additional procedures or had we performed an audit or review in accordance with these standards, other matters might have come to its attention and would have been included in the Report.

Exceptions

Apart from the exceptions listed below, the *[Beneficiary] [Linked Third Party]* agreed with the standard Statements and provided the Auditor all the documentation and accounting information needed by the Auditor to carry out the requested Procedures and corroborate the standard Findings.

List here any exception and add any information on the cause and possible consequences of each exception, if known. If the exception is quantifiable, also indicate the corresponding amount.

…..

Explanation of possible exceptions in the form of examples (to be removed from the Report):

i. the [Beneficiary] [Linked Third Party] did not agree with the standard Statement number … because…;

ii. the Auditor could not carry out the procedure … established because …. (e.g. due to the inability to reconcile key information or the unavailability or inconsistency of data);

iii. the Auditor could not confirm or corroborate the standard Finding number … because ….

Remarks

We would like to add the following remarks relevant for the proper understanding of the Methodology applied by the [Beneficiary] [Linked Third Party] or the results reported:

Example (to be removed from the Report):

Regarding the methodology applied to calculate hourly rates …

Regarding standard Finding 15 it has to be noted that …

The [Beneficiary] [Linked Third Party] explained the deviation from the benchmark statement XXIV concerning time recording for personnel with no exclusive dedication to the action in the following manner: …

Annexes

Please provide the following documents to the auditor and annex them to the report when submitting this CoMUC to the Commission:

[1] Financial Statement in this context refers solely to Annex 4 of the Agreement by which the Beneficiary declares costs under the Agreement.

1. Brief description of the methodology for calculating personnel costs, productive hours and hourly rates;
2. Brief description of the time recording system in place;
3. An example of the time records used by the [*Beneficiary] [Linked Third Party*];
4. Description of any budgeted or estimated elements applied, together with an explanation as to why they are relevant for calculating the personnel costs and how they are based on objective and verifiable information;
5. A summary sheet with the hourly rate for direct personnel declared by the [*Beneficiary*] [*Linked Third Party*] and recalculated by the Auditor for each staff member included in the sample (the names do not need to be reported);
6. A comparative table summarising for each person selected in the sample a) the time claimed by the [*Beneficiary*] [*Linked Third Party*] in the Financial Statement(s) and b) the time according to the time record verified by the Auditor;
7. A copy of the letter of representation provided to the Auditor.

Use of this Report

This Report has been drawn up solely for the purpose given under Point 1.1 Reasons for the engagement.

The Report:

- is confidential and is intended to be submitted to the Commission by the [*Beneficiary*] [*Linked Third Party*] in connection with Article 18.1.2 of the Agreement;
- may not be used by the [*Beneficiary*] [*Linked Third Party*] or by the Commission for any other purpose, nor distributed to any other parties;
- may be disclosed by the Commission only to authorised parties, in particular the European Anti-Fraud Office (OLAF) and the European Court of Auditors.
- relates only to the usual cost accounting practices specified above and does not constitute a report on the Financial Statements of the [*Beneficiary*] [*Linked Third Party*].

No conflict of interest[2] exists between the Auditor and the Beneficiary *[and the Linked Third Party*] that could have a bearing on the Report. The total fee paid to the Auditor for producing the Report was EUR _____ (including EUR _____ of deductible VAT).

We look forward to discussing our Report with you and would be pleased to provide any further information or assistance which may be required.

Yours sincerely

[legal name of the Auditor]
[name and title of the authorised representative]
[dd Month yyyy]
Signature of the Auditor

[2] A conflict of interest arises when the Auditor's objectivity to establish the certificate is compromised in fact or in appearance when the Auditor for instance:
- was involved in the preparation of the Financial Statements;
- stands to benefit directly should the certificate be accepted;
- has a close relationship with any person representing the beneficiary;
- is a director, trustee or partner of the beneficiary; or
- is in any other situation that compromises his or her independence or ability to establish the certificate impartially.

Statements to be made by the Beneficiary/Linked Third Party ('the Statements') and Procedures to be carried out by the Auditor ('the Procedures') and standard factual findings ('the Findings') to be confirmed by the Auditor

The Commission reserves the right to provide the auditor with guidance regarding the Statements to be made, the Procedures to be carried out or the Findings to be ascertained and the way in which to present them. The Commission reserves the right to vary the Statements, Procedures or Findings by written notification to the Beneficiary/Linked Third Party to adapt the procedures to changes in the grant agreement(s) or to any other circumstances.

If this methodology certificate relates to the Linked Third Party's usual accounting practices for calculating and claiming direct personnel costs declared as unit costs any reference here below to 'the Beneficiary' is to be considered as a reference to 'the Linked Third Party'.

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
A. Use of the Methodology I. The cost accounting practice described below has been in use since *[*dd Month yyyy*]*. II. The next planned alteration to the methodology used by the Beneficiary will be from [dd Month yyyy*]*.	**Procedure:** ✓ The Auditor checked these dates against the documentation the Beneficiary has provided. **Factual finding:** 1. The dates provided by the Beneficiary were consistent with the documentation.
B. Description of the Methodology III. The methodology to calculate unit costs is being used in a consistent manner and is reflected in the relevant procedures. *[Please describe the methodology your entity uses to calculate personnel costs, productive hours and hourly rates, present your description to the Auditor and annex it to this certificate]* *[If the statement of section "B. Description of the methodology" cannot be endorsed by the Beneficiary or there is no written methodology to calculate unit costs it should be listed here below and reported as exception by the Auditor in the main Report of Factual Findings:* - *…]*	**Procedure:** ✓ The Auditor reviewed the description, the relevant manuals and/or internal guidance documents describing the methodology. **Factual finding:** 2. The brief description was consistent with the relevant manuals, internal guidance and/or other documentary evidence the Auditor has reviewed. 3. The methodology was generally applied by the Beneficiary as part of its usual costs accounting practices.

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
C. **Personnel costs** General IV. The unit costs (hourly rates) are limited to salaries including during parental leave, social security contributions, taxes and other costs included in the remuneration required under national law and the employment contract or equivalent appointing act; V. Employees are hired directly by the Beneficiary in accordance with national law, and work under its sole supervision and responsibility; VI. The Beneficiary remunerates its employees in accordance with its usual practices. This means that personnel costs are charged in line with the Beneficiary's usual payroll policy (e.g. salary policy, overtime policy, variable pay) and no special conditions exist for employees assigned to tasks relating to the European Union or Euratom, unless explicitly provided for in the grant agreement(s); VII. The Beneficiary allocates its employees to the relevant group/category/cost centre for the purpose of the unit cost calculation in line with the usual cost accounting practice; VIII. Personnel costs are based on the payroll system and accounting system. IX. Any exceptional adjustments of actual personnel costs resulted from relevant budgeted or estimated elements and were based on objective and verifiable information. *[Please describe the 'budgeted or estimated elements' and their relevance to personnel costs, and explain how they were reasonable and based on objective and verifiable information, present your explanation to the Auditor and annex it to this certificate].* X. Personnel costs claimed do not contain any of the following ineligible costs: costs related to return on capital; debt and debt service charges; provisions for future losses or debts; interest owed; doubtful debts; currency exchange losses; bank costs charged by the Beneficiary's bank for transfers from the Commission/Agency; excessive or reckless expenditure; deductible VAT or costs incurred during suspension of the implementation of the action. XI. Personnel costs were not declared under another EU or Euratom grant	**Procedure:** *The Auditor draws a sample of employees to carry out the procedures indicated in this section C and the following sections D to F.* *[The Auditor has drawn a random sample of 10 employees assigned to Horizon 2020 action(s). If fewer than 10 employees are assigned to the Horizon 2020 action(s), the Auditor has selected all employees assigned to the Horizon 2020 action(s) complemented by other employees irrespective of their assignments until he has reached 10 employees.].* For this sample: ✓ the Auditor reviewed all documents relating to personnel costs such as employment contracts, payslips, payroll policy (e.g. salary policy, overtime policy, variable pay policy), accounting and payroll records, applicable national tax , labour and social security law and any other documents corroborating the personnel costs claimed; ✓ in particular, the Auditor reviewed the employment contracts of the employees in the sample to verify that: i. they were employed directly by the Beneficiary in accordance with applicable national legislation; ii. they were working under the sole technical supervision and responsibility of the latter; iii. they were remunerated in accordance with the Beneficiary's usual practices; iv. they were allocated to the correct group/category/cost centre for the purposes of calculating the unit cost in line with the Beneficiary's usual cost accounting practices; ✓ the Auditor verified that any ineligible items or any costs claimed under other costs categories or costs covered by other types of grant or by other grants financed from the European Union budget have not been taken into account when calculating the personnel costs; ✓ the Auditor numerically reconciled the total amount of personnel costs used to calculate the unit cost with the total amount of personnel costs recorded in the statutory accounts and the payroll system.

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
(including grants awarded by a Member State and financed by the EU budget and grants awarded by bodies other than the Commission/Agency for the purpose of implementing the EU or Euratom budget in the same period, unless the Beneficiary can demonstrate that the operating grant does not cover any costs of the action). <u>If additional remuneration as referred to in the grant agreement(s) is paid</u> XII. The Beneficiary is a non-profit legal entity; XIII. The additional remuneration is part of the beneficiary's usual remuneration practices and paid consistently whenever the relevant work or expertise is required; XIV. The criteria used to calculate the additional remuneration are objective and generally applied regardless of the source of funding; XV. The additional remuneration included in the personnel costs used to calculate the hourly rates for the grant agreement(s) is capped at EUR 8 000 per full-time equivalent (reduced proportionately if the employee is not assigned exclusively to the action). *[If certain statement(s) of section "C. Personnel costs" cannot be endorsed by the Beneficiary they should be listed here below and reported as exception by the Auditor in the main Report of Factual Findings:* - *…]*	✓ to the extent that actual personnel costs were adjusted on the basis of budgeted or estimated elements, the Auditor carefully examined those elements and checked the information source to confirm that they correspond to objective and verifiable information; ✓ if additional remuneration has been claimed, the Auditor verified that the Beneficiary was a non-profit legal entity, that the amount was capped at EUR 8 000 per full-time equivalent and that it was reduced proportionately for employees not assigned exclusively to the action(s). ✓ the Auditor recalculated the personnel costs for the employees in the sample. **Factual finding:** 4. All the components of the remuneration that have been claimed as personnel costs are supported by underlying documentation. 5. The employees in the sample were employed directly by the Beneficiary in accordance with applicable national law and were working under its sole supervision and responsibility. 6. Their employment contracts were in line with the Beneficiary's usual policy; 7. Personnel costs were duly documented and consisted solely of salaries, social security contributions (pension contributions, health insurance, unemployment fund contributions, etc.), taxes and other statutory costs included in the remuneration (holiday pay, thirteenth month's pay, etc.); 8. The totals used to calculate the personnel unit costs are consistent with those registered in the payroll and accounting records; 9. To the extent that actual personnel costs were adjusted on the basis of budgeted or estimated elements, those elements were relevant for calculating the personnel costs and correspond to objective and verifiable information. The budgeted or estimated elements used are: — (indicate the elements and their values). 10. Personnel costs contained no ineligible elements; 11. Specific conditions for eligibility were fulfilled when additional

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
	remuneration was paid: a) the Beneficiary is registered in the grant agreements as a non-profit legal entity; b) it was paid according to objective criteria generally applied regardless of the source of funding used and c) remuneration was capped at EUR 8000 per full-time equivalent (or up to up to the equivalent pro-rata amount if the person did not work on the action full-time during the year or did not work exclusively on the action).
D. Productive hours XVI. The number of productive hours per full-time employee applied is *[delete as appropriate]*: A. 1720 productive hours per year for a person working full-time (corresponding pro-rata for persons not working full time). B. the total number of hours worked in the year by a person for the Beneficiary C. the standard number of annual hours generally applied by the beneficiary for its personnel in accordance with its usual cost accounting practices. This number must be at least 90% of the standard annual workable hours. <u>If method B is applied</u> XVII. The calculation of the total number of hours worked was done as follows: annual workable hours of the person according to the employment contract, applicable labour agreement or national law plus overtime worked minus absences (such as sick leave and special leave). XVIII. 'Annual workable hours' are hours during which the personnel must be working, at the employer's disposal and carrying out his/her activity or duties under the employment contract, applicable collective labour agreement or national working time legislation. XIX. The contract (applicable collective labour agreement or national working time legislation) do specify the working time enabling to calculate the annual workable hours.	**Procedure (same sample basis as for Section C: Personnel costs):** ✓ The Auditor verified that the number of productive hours applied is in accordance with method A, B or C. ✓ The Auditor checked that the number of productive hours per full-time employee is correct. ✓ If method B is applied the Auditor verified i) the manner in which the total number of hours worked was done and ii) that the contract specified the annual workable hours by inspecting all the relevant documents, national legislation, labour agreements and contracts. ✓ If method C is applied the Auditor reviewed the manner in which the standard number of working hours per year has been calculated by inspecting all the relevant documents, national legislation, labour agreements and contracts and verified that the number of productive hours per year used for these calculations was at least 90% of the standard number of working hours per year. **Factual finding:** <u>General</u> 12. The Beneficiary applied a number of productive hours consistent with method A, B or C detailed in the left-hand column. 13. The number of productive hours per year per full-time employee was accurate. <u>If method B is applied</u> 14. The number of 'annual workable hours', overtime and absences was

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
<u>If method C is applied</u> XX. The standard number of productive hours per year is that of a full-time equivalent. XXI. The number of productive hours per year on which the hourly rate is based i) corresponds to the Beneficiary's usual accounting practices; ii) is at least 90% of the standard number of workable (working) hours per year. XXII. Standard workable (working) hours are hours during which personnel are at the Beneficiary's disposal preforming the duties described in the relevant employment contract, collective labour agreement or national labour legislation. The number of standard annual workable (working) hours that the Beneficiary claims is supported by labour contracts, national legislation and other documentary evidence. *[If certain statement(s) of section "D. Productive hours" cannot be endorsed by the Beneficiary they should be listed here below and reported as exception by the Auditor:* - *…]*	verifiable based on the documents provided by the Beneficiary and the calculation of the total number of hours worked was accurate. 15. The contract specified the working time enabling to calculate the annual workable hours. <u>If method C is applied</u> 16. The calculation of the number of productive hours per year corresponded to the usual costs accounting practice of the Beneficiary. 17. The calculation of the standard number of workable (working) hours per year was corroborated by the documents presented by the Beneficiary. 18. The number of productive hours per year used for the calculation of the hourly rate was at least 90% of the number of workable (working) hours per year.
E. Hourly rates The hourly rates are correct because: XXIII. Hourly rates are correctly calculated since they result from dividing annual personnel costs by the productive hours of a given year and group (e.g. staff category or department or cost centre depending on the methodology applied) and they are in line with the statements made in section C. and D. above. *[If the statement of section 'E. Hourly rates' cannot be endorsed by the Beneficiary they should be listed here below and reported as exception by the Auditor:* - *…]*	**Procedure** ✓ The Auditor has obtained a list of all personnel rates calculated by the Beneficiary in accordance with the methodology used. ✓ The Auditor has obtained a list of all the relevant employees, based on which the personnel rate(s) are calculated. For 10 employees selected at random (same sample basis as Section C: Personnel costs): ✓ The Auditor recalculated the hourly rates. ✓ The Auditor verified that the methodology applied corresponds to the usual accounting practices of the organisation and is applied consistently for all activities of the organisation on the basis of objective criteria irrespective of the source of funding. **Factual finding:**

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
	19. No differences arose from the recalculation of the hourly rate for the employees included in the sample.
F. Time recording XXIV. Time recording is in place for all persons with no exclusive dedication to one Horizon 2020 action. At least all hours worked in connection with the grant agreement(s) are registered on a **daily/weekly/monthly** basis *[delete as appropriate]* using a **paper/computer-based system** *[delete as appropriate]*; XXV. For persons exclusively assigned to one Horizon 2020 activity the Beneficiary has either signed a declaration to that effect or has put arrangements in place to record their working time; XXVI. Records of time worked have been signed by the person concerned (on paper or electronically) and approved by the action manager or line manager at least monthly; XXVII. Measures are in place to prevent staff from: i. recording the same hours twice, ii. recording working hours during absence periods (e.g. holidays, sick leave), iii. recording more than the number of productive hours per year used to calculate the hourly rates, and iv. recording hours worked outside the action period. XXVIII. No working time was recorded outside the action period; XXIX. No more hours were claimed than the productive hours used to calculate the hourly personnel rates. *[Please provide a brief description of the time recording system in place together with the measures applied to ensure its reliability to the Auditor and annex it to the*	**Procedure** ✓ The Auditor reviewed the brief description, all relevant manuals and/or internal guidance describing the methodology used to record time. The Auditor reviewed the time records of the random sample of 10 employees referred to under Section C: Personnel costs, and verified in particular: ✓ that time records were available for all persons with not exclusive assignment to the action; ✓ that time records were available for persons working exclusively for a Horizon 2020 action, or, alternatively, that a declaration signed by the Beneficiary was available for them certifying that they were working exclusively for a Horizon 2020 action; ✓ that time records were signed and approved in due time and that all minimum requirements were fulfilled; ✓ that the persons worked for the action in the periods claimed; ✓ that no more hours were claimed than the productive hours used to calculate the hourly personnel rates; ✓ that internal controls were in place to prevent that time is recorded twice, during absences for holidays or sick leave; that more hours are claimed per person per year for Horizon 2020 actions than the number of productive hours per year used to calculate the hourly rates; that working time is recorded outside the action period; ✓ the Auditor cross-checked the information with human-resources records to verify consistency and to ensure that the internal controls have been effective. In addition, the Auditor has verified that no more hours were charged to Horizon 2020 actions per person per year than the number of productive hours per year used to calculate the hourly rates, and verified that

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
present certificate[1]]. *[If certain statement(s) of section "F. Time recording" cannot be endorsed by the Beneficiary they should be listed here below and reported as exception by the Auditor:* - *…]*	no time worked outside the action period was charged to the action. **Factual finding:** 20. The brief description, manuals and/or internal guidance on time recording provided by the Beneficiary were consistent with management reports/records and other documents reviewed and were generally applied by the Beneficiary to produce the financial statements. 21. For the random sample time was recorded or, in the case of employees working exclusively for the action, either a signed declaration or time records were available; 22. For the random sample the time records were signed by the employee and the action manager/line manager, at least monthly. 23. Working time claimed for the action occurred in the periods claimed; 24. No more hours were claimed than the number productive hours used to calculate the hourly personnel rates; 25. There is proof that the Beneficiary has checked that working time has not been claimed twice, that it is consistent with absence records and the number of productive hours per year, and that no working time has been claimed outside the action period. 26. Working time claimed is consistent with that on record at the human-resources department.

[1] The description of the time recording system must state among others information on the content of the time records, its coverage (full or action time-recording, for all personnel or only for personnel involved in H2020 actions), its degree of detail (whether there is a reference to the particular tasks accomplished), its form, periodicity of the time registration and authorisation (paper or a computer-based system; on a daily, weekly or monthly basis; signed and countersigned by whom), controls applied to prevent double-charging of time or ensure consistency with HR-records such as absences and travels as well as it information flow up to its use for the preparation of the Financial Statements.

Please explain any discrepancies in the body of the Report.	
Statements to be made by Beneficiary	**Procedures to be carried out and Findings to be confirmed by the Auditor**
[official name of the *[Beneficiary] [Linked Third Party]**]*** ***[name and title of authorised representative]*** ***[dd Month yyyy]*** ***<Signature of the*** *[Beneficiary] [Linked Third Party]>*	***[official name of the Auditor]*** ***[name and title of authorised representative]*** ***[dd Month yyyy]*** ***<Signature*** *of the Auditor>*

ANNEX 7

MODEL FOR THE COMMITMENT ON AVAILABILITY OF RESOURCES

- **For options *[in italics in square brackets]*: choose the applicable option. Options not chosen should be deleted.**
- **For fields in [grey in square brackets]: enter the appropriate data**

COMMITMENT ON AVAILABILITY OF RESOURCES

Grant Agreement: [grant agreement number and acronym]

(To be filled out by each beneficiary of the buyers group and each linked third party that is providing financial commitments that are needed to carry out the PCP or PPI call for tender)

The undersigned declares that [name of beneficiary or linked third party] can commit and **make available financial resources** totalling EUR […] to finance its share of the *[R&D services] [innovative solutions]* to be procured, based on the estimated value of planned *[PCP][PPI]* procurement.

The undersigned declares that [name of beneficiary or linked third party] authorizes [names of the beneficiary that is the lead procurer] to **act in his name and on his behalf** as lead procurer for the planned *[PCP][PPI]* procurement.

SIGNATURE

For the beneficiary:

[electronic signature]
Done on [electronic time stamp]

For the linked third party:

[Name and signature] [Date and stamp]

(To be filled out by linked third parties that provide in-kind contributions necessary to carry out the call for tender)

The undersigned [name of the authorised representative] declares that [name of linked third party] can commit and make **available resources** by means of contributions in kind totalling EUR […] to the [name of beneficiary/ies] for carrying out the *[PCP] [PPI]* procurement, based on the indicated amounts of planned contributions.

For the linked third party:

[Name and signature] [Date and stamp]

ANNEX 8

MODEL FOR THE STATEMENT ON THE USE OF THE PREVIOUS PRE-FINANCING PAYMENT

➢ **For fields in [grey in square brackets]: enter the appropriate data**

STATEMENT ON THE USE OF THE *[FIRST][SECOND]* PRE-FINANCING PAYMENT

(To be filled out by the coordinator)

The undersigned:

- declares that […] % of the *[first][second]* pre-financing payment of EUR [insert amount] paid for Grant Agreement [insert grant agreement reference: number, title of the action and acronym] have been used,

- declares that this is based on substantiated data (bank slip/treasury account) provided by each beneficiary,

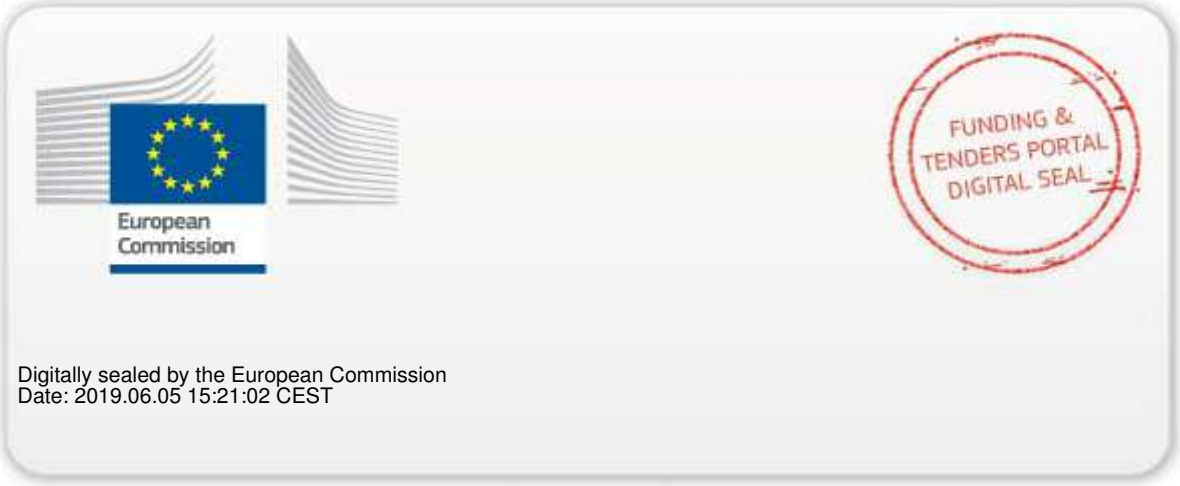
- certifies that the information contained in the periodic report is full, reliable and true, and is substantiated by adequate supporting documentation that will be produced upon or in the context of checks, reviews, audits and investigations,

- requests a *[second][third]* pre-financing payment of EUR [insert amount] for [insert grant agreement reference: number, title of the action and acronym].

SIGNATURE:

For the coordinator:
[electronic signature]

Done on [electronic time stamp]



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