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Sharing solutions for better regional policies

Action Plan

TITTAN

Interreg Europe

Translation, Innovation and Technology Transfer in Ageing Network

Lead partner:

Galician Health Knowledge Agency (ACIS)

acis AXENCIA DE COÑECEMENTO EN SAÚDE

September, 2018

Part I – General information

Project: **PGI01366 TITTAN Network for Technology, Innovation and Translation in Ageing**

Partner organisation: ***Lead partner.*** **ACIS - Axencia Galega para a Xestion do Coñecemento en Saúde (Galician Health Knowledge Agency)**

Other partner organisations involved (if relevant):_____

Country: **Spain (ESPAÑA)**

NUTS2 region: **Galicia**

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Part II – Policy context

The Action Plan aims to impact:	X	**Investment for Growth and Jobs programme**
		European Territorial Cooperation programme
		Other regional development policy instrument

Name of the policy instrument addressed: **2014 – 2020 ERDF Operational Programme (OP) of the Region of Galicia**

In this Action Plan, we focus on the 2014 – 2020 ERDF Operational Programme (OP) of the Region of Galicia as a result of the influence of the Galicia RIS3 and the Galicia Innovation Plan 2020 (Plan Galicia Innova 2020).

The Galician Operational Program 2014-2020 (OP) has been divided into 10 Thematic Objectives. Thematic Objective 1 (TO1) aims to foster Research and innovation development in the region. All investments related to the TO1 will be related to the already approved Galicia RIS3 strategy. The Galicia RIS3 strategy is, consequently, subjected to the Operational Program, so any further changes in the planned activities of the Galicia RIS3 strategy will have a direct impact on the Galician Operational Program.

The Galicia RIS3 Strategy has been defined around 3 big Challenges. Challenge 3 involves the promotion of "a new healthy lifestyle model based on active ageing". The TITTAN project aims to tackle this challenge, by improving the quality and performance of the European regional healthcare systems in relation with the healthy and active ageing.

The main target is to convert Galicia into a leading region in the south of Europe in the application of new technologies to the field of active ageing and personal autonomy, especially in benefit of the elderly affected by some kind of disability. The actions related to this target and objective of this Action Plan are:

- Reinforcing the generation of new knowledge in the specific areas of this priority in which Galicia boasts a competitive capacity at the international level.
- Supporting the setting up of technologically-based companies capable of enhancing this knowledge in order to market the scientific progress achieved in Galicia, with a view to improving quality of life and active ageing.

Finally, the Galicia Innova 2020 Plan reinforces the Galicia RIS3 strategy in order to maximize the impact on the challenges established in the Galicia RIS3. It has defined three Strategic Areas. Strategic Area 2 involves "Innovation and Entrepreneurship" and channel its actions in three areas. The TITTAN project is part of the "Innovation in public services" area which aims to lead the development of new solutions in the field of active ageing, healthy living, and promotion of personal autonomy. The actions proposed in the Galicia Innova 2020 Plan within the TITTAN project will be part of the scope of this Action Plan.

Part III – Details of the actions envisaged

Rationale and expected outcome

The Hospital 2050 (H2050) was a Health Innovation Plan with an investment of over 45M€, co-funded by the ERDF funds, ended in 2015 with the result of 9 projects.

The final result of this Project was the physical-scale demonstration of the future hospital facilities. This demonstration is physically carried out in new areas of the Ourense University Hospital (CHOU) in Ourense (Spain), belonging to the Galician Health Service. The conception of design took into account a new patient-centred functional model, based on an open and participative healthcare approach.

The following needs had been detected in hospitals within the project:

- More efficient and safe healthcare processes must be introduced;
- Innovation in hospital services means to introduce new services or organisational changes substituting inefficient ones so that more quality and lower-cost objectives can be achieved;
- Need of ensuring efforts and investments to be successful and to improve the quality of hospital processes;
- Healthcare innovation projects have a risky and uncertain design since when the user has to face new products and services, he behaves unpredictably;
- Many solutions offered by the new technological solutions market do not meet neither healthcare organisations nor users real needs. In most cases, users have not taken part on the technological development of those solutions.
- It is necessary to have infrastructures, controlled environments for medical practise and serving as test bench so that new solutions can be developed, and tested.

Experimental room

Several proposals were posed to meet these needs:

- To build a physical infrastructure acting as hospitalisation floor and designed with the required characteristics to be used as Living Lab. This infrastructure will provide real controlled environments to evaluate healthcare innovation proposals. Different healthcare and non-healthcare professionals will interact with patients, carers and relatives. This infrastructure will be provided with the necessary devices and equipments to pilot new healthcare technologies.
- The new H2050 Experimental Hospitalisation floor (including its functional design and the building Project itself) will meet the needs to pilot the healthcare innovation projects. This includes, for example, refurbishment of the infrastructure to complete the self-sustainable Hospital (lighting, power-efficient façade and roofing, natural lighting and ventilation use). The new H2050 Experimental Hospital floor will enable, as the subproject, to compare service efficiency and quality of the new hospital of the future model with the current model inside the same Hospital Complex.
- To build high technological clinical scenarios, hospitalisation floors, waiting rooms, nursery offices to develop Living Lab environments to test systematically the user experience. The results of the different projects of healthcare innovation could be evaluated in these scenarios.
- To reduce the risk of failure by making users participate in the development of the projects from the early stages of design and definition of requirements to the testing of the first prototypes. E.g. participation of users in the design of hospital beds, stabilization beds, wheelchairs, perfusion pumps, television screens, communication systems, control systems, information management and medical safety...
- To have information and communication technologies laboratories (TIC) closer to users, integrated into healthcare areas so that developers can interact in a regular manner with users to create rapid developments. Software and hardware development.

Co-Creation Space

The following aspects were taken into account for the project to succeed:

- To design and build hospital floors under predefinition that will be used as Living Lab.
- To choose big-income medical or surgical specialities in order to have a testing tool that produces a great number of cases in short periods.

- Versatile technological environment that enables to implement different technological developments.

The result of the H2050 project was the construction of a physical infrastructure with functions for hospitalization wards with the necessary characteristics as to be used as a future "Living Lab" in the Ourense University Hospital (CHOU).

Action Plan

The main action envisaged by our Action Plan correspond to the support of our Health Regional Service (Servizo Galego de Saúde) which aims to develop a Living Lab in Ageing at the Ourense University Hospital (CHOU). The main objective is to capitalise the facilities to create an environment for co-creation and experimentation with the active participation of users and industry.

In terms of results, the policy instrument will be influenced by changes in the management of the policy instrument (improved governance) -IE Programme Manual section 4.3.1 Type 2. That is, based on the lessons learnt during Phase 1, some of the future public calls for innovation procurement in health which are co-funded by ERDF funds will include a requirement to test and to get an evaluation of the prototypes/products in the Living Lab.

To sum up, the results of the TITTAN project and the influence of the policy instrument will be twofold: Firstly, we will create an user-centred open innovation ecosystem focused on the challenges and opportunities of an ageing population, as the result of capitalising the Ourense Living Lab facilities built through a PPI process and co-funded with ERDF funds. Secondly, we will influence the OP indirectly by setting up a requisite to get an evaluation of the prototypes/products through the Galician network of Health Living Labs in some of the upcoming innovation procurement calls co-funded by ERDF funds.

ACTION 1: The Ourense Health Living Lab pilot action

I. The background

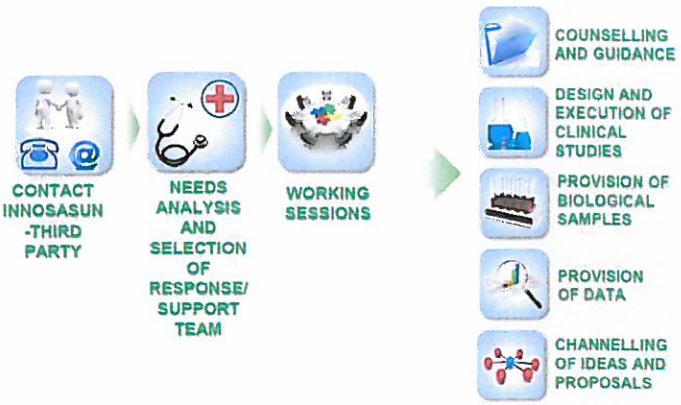
The three *in situ* visits performed during the Interregional learning phase in the framework of the three Thematic Areas (TA) will be the basis of the TITTAN Action Plan for Galicia. We identified and learnt from the most interesting good practices to influence the policy instrument for Galicia.

Good practice: **INNOSASUN Programme**
Main institution: *BIOEF - Basque Foundation for Health and Innovation*
Location: *País Vasco, Spain (España)*
Thematic Area 1. Outside-In Technological Innovation

The INNOSASUN programme, coordinated by BIOEF, is a support mechanism through which the interaction between the Health System and the business sector and related agents is articulated, responding to their needs in innovation. INNOSASUN aims to make the Basque Public Health System as a preferred partner, putting their skills and also know-how to serve socio-economic development.

Attending to outside-in innovation, INNOSASUN plays an important role because the interaction of companies and technological agents with the health system facilitates the search for technological partners which have innovative solutions to the needs arising from the Healthcare System. Therefore, INNOSASUN provides adapted support to those unmet needs and ideas born within the Healthcare System working in transferring these needs and ideas to the industries and research centres of the region to try to engage them in order to provide innovative solutions in a win-win scenario.

Workflow



The main **lessons learnt** in the INNOSASUN good practice are the following:

1. Companies should build innovative solutions to "real needs" of the Health System.
2. Patients and healthcare professionals feedback should be taken into consideration even form early TRLs of the projects.

3. Companies from the health sector need the Healthcare System as a strategic R&D&i partner with multiple roles. They need clinicians and patients feedback at different steps of the value chain such as technological and clinical advice and end-users opinion.
4. To avoid healthcare professionals resistance or leaving the program, we should gather enough number of professionals (e.g., R&D&i activities undervalued by clinicians; Healthcare professionals mainly oriented to assistance activities).
5. Specific training is necessary to avoid lack of capacity to evaluate some projects from the industry (e.g., Lack of professional profiles focused on R&D&i management into the Healthcare System).
6. There are two types of key performance indicators:

Activity indicators

- Number and type of entities helped
- Requests attended and feedback received
- Third parties and healthcare professionals involved
- Establishment of multidisciplinary groups to best attend third parties and Health System needs

Impact indicators

- Improve portfolio: more competitive products/companies
- Increase market of the companies
- In situ evidence for the Health System
- Patients directly benefited from innovations

7. The collaboration between Public Health System and business sector and their support has to be adapted to each project/idea in order to establish a win-win scenario between both sides.
8. It is necessary to build a multidisciplinary and cross-collaboration innovation ecosystem to enrich the final design of the innovative product/technology.

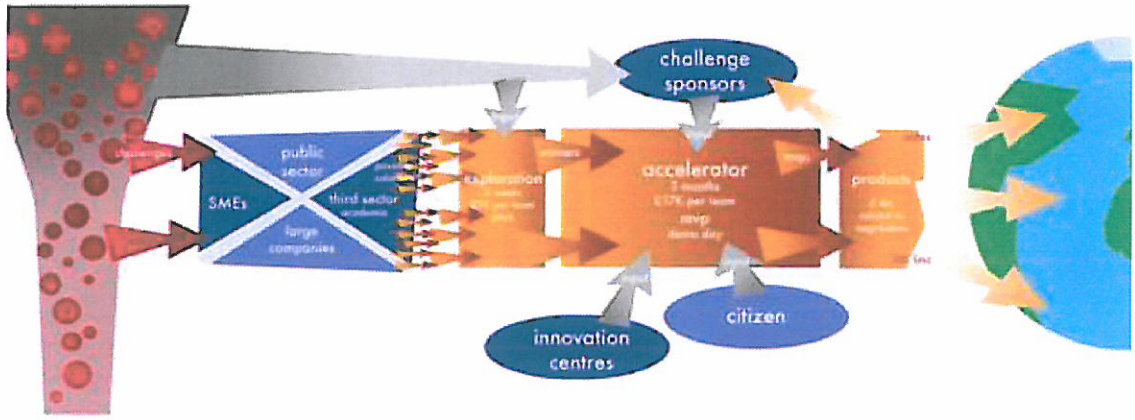
Good practice: **CivTech® Innovation Flow**
Main institution: *Scottish Government*
Location: *Scotland, United Kingdom*
Thematic Area 1. Outside-In Technological Innovation

CivTech® brings together public sector expertise and private sector creativity to solve real problems, develop new products, and deliver better, faster and easier services for everyone. Central to the approach is co-production with the citizen.

Part of the Scottish Government's Digital Directorate, CivTech's approach is already helping transform public sector engagement with tech and innovation, delivering significant benefits to public services, and producing genuine uplifts for the Scottish economy. And along the way, it's making people's lives better.

Model – CivTech Innovation Flow

The CivTech Innovation Flow combines PCP and PPI process together.



The main **lessons learnt** in the CivTech good practice are the following:

1. The solutions should help to transform the re-use of products and to make the Public Health system more efficient and effective.
2. As being the driving force of this initiative, you will need to support the companies or the developer of an idea with all your expertise, time and insight.
3. A product does not need every function and features to satisfy early customers, and to provide feedback for future product development (Minimum Viable Product MVP)
4. A demo day can be useful to demonstrate solutions to an audience of genuinely interested people. This helps to know if there is a genuine market with interest to invest in the development of innovative products.
5. Some barriers should be taken into account:
    - Lack of investors and reluctant to invest in R&D.
    - Some projects end with a patent but without enough interest in the industry.
    - Administrative constraints faced by the Public Administration in terms of hiring and tenders launching.

Good practice: **Health and Wellbeing Innovation Centre Almere (GWIA) as the HealthFactory (GezondheidFabriek)**
Main institution: *GezondheidFabriek, Public Private Foundation / City of Almere (CAL)*
Location: *Almere, Netherlands (Nederland)*
Thematic Area 2. Inside-Out Technological Innovation

HealthFactory aims to contribute to a healthy and social society by stimulating and facilitating collaboration and innovation projects, bringing together health and care providers, citizens, entrepreneurs, researchers, and government.

HealthFactory is a not-for-profit, open work and learning environment at the interface of technological innovation, big data value creation and social innovation. Projects are screened on the sharing of IP, use of open source, privacy conditions and the structure of collaboration. It brings its mission into practice in four activity areas: Network, Lab, Research and Talent.

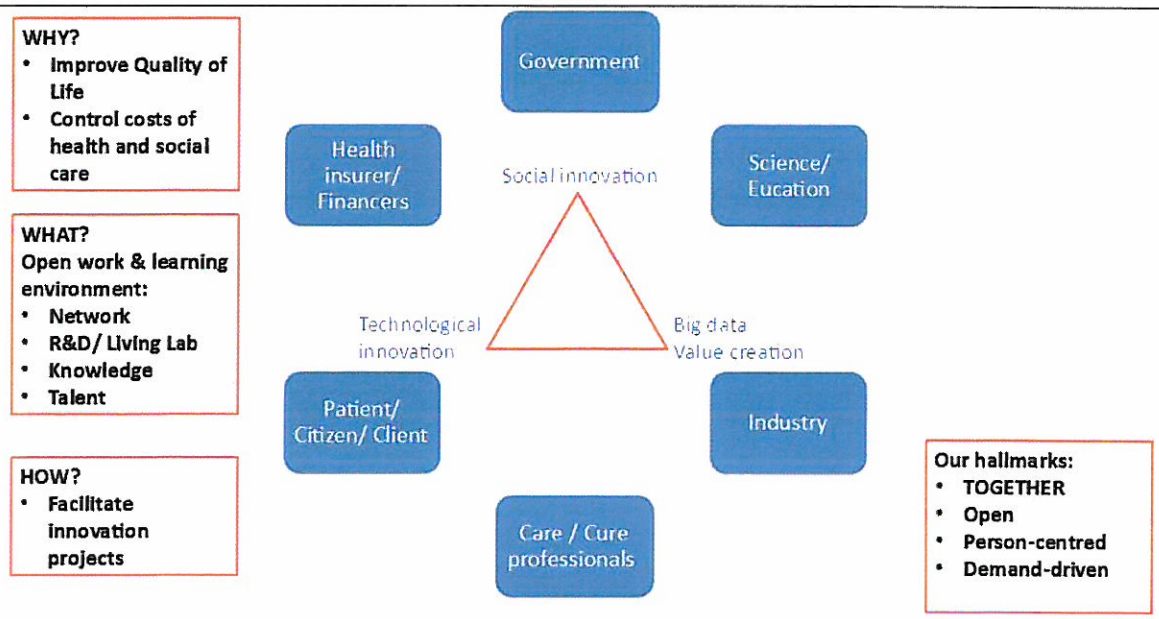
The main **lessons learnt** in the HealthFactory good practice are the following:

1. Living Labs are attractive for companies to test their technologies in real environments.
2. It is essential to have available different spaces to work and co-create jointly with our stakeholders.


Co-Creation Space


Experimental room

3. A business case is crucial to have a viable ecosystem. Funding may be obtained through sponsorship, renting of lab and office spaces, project fees and consulting services.
4. The implementation of the program requires time (e.g., HealthFactory needed about five years in total, preparation and realisation).
5. It is necessary to allocate funding to the construction of the Living Lab facilities (e.g., HealthFactory facilities were co-funded by the Investment Fund Flevoland).
6. Possible services offered:
    - (Free) Access to knowledge, network, partners, research and best practices.
    - Access to R&D facilities, office space and living lab opportunities to co-create and test.
    - Matchmaking in Public Private Partnerships.
    - Project development and funding support.
    - Project management.
7. The geographical coverage should be international, national and local.
8. The management structure of the Living Lab should include finance and communication activities, as well as a board/advisory board.
9. Collaboration with stakeholders is needed involving different kind of partners such as healthcare professionals, public, and private partners.
10. The network of stakeholders and users is much more important than the facilities in order to "joint" all different interests.



11. The internationalisation of this initiative is crucial for its viability. One of the European initiatives in this field is the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA), an initiative launched by the European Commission to foster innovation and digital transformation in the field of active and healthy ageing. Website: https://ec.europa.eu/eip/ageing/home_en
12. Some barriers should be taken into account are:
    - The complexity of collaborating in the area of health such as different/ contradicting ambitions, different areas of expertise, lack of time, money.
    - Lack of funding to facilitate innovation projects professionally.
    - Not getting health professionals involved. It can be solved by involving the Health Area Management and involving top health researchers and clinicians in the living lab.
    - Confidentiality could be a barrier in order to use the metadata to make a research and control the progress of the projects.
13. On the contrary, some of the facilitators to have in mind are:
    - Health professionals usually have a wish to collaborate and share their expertise.
    - Companies that have experienced the benefits of collaboration are now prepared to invest serious time and money to convince other companies and Government to combine efforts.

Good practice: **Living-it-Up**
Main institution: *Scottish Centre for Telehealth and Telecare / NHS 24*
Location: *Scotland, United Kingdom*
Thematic Area 3. Active Citizens for Healthy Ageing

The living it up programme was an award-winning online self-management service for people over 50 aimed at empowering people to improve their health and wellbeing.

Living it Up delivered innovative and integrated health, care and wellbeing services, information and products via familiar technology, which enabled people to keep better connected with their communities, those they care for and receive care from. These technologies included smart TV, mobile phone, games consoles, computers and tablets.

Some of the **lessons learnt** in the Living it Up good practice are:

1. It is essential to involve a wide range of stakeholders such as the health sector, volunteers, the industry, university and academia, or national/regional/local authorities.
2. Seniors may have difficulties in handling properly electronic devices. Thus, it is important to help them to get used to this new technology.
3. End users should be involved in the evaluations of the technologies that are being developed for them. Their feedback is crucial for the development of this new solutions.

II. **Sub-actions**

Sub-action 1.1: Ourense Health Living Lab Strategic Plan

Deliverable 1.1:

- ***Ourense Health Living Lab Strategic Plan (Plan Funcional del Living Lab del área sanitaria de Ourense)***

The demographic characteristics of Ourense, with high levels of dispersion and ageing, make this province an exceptional living laboratory for developing and applying technologies for quality lifestyles.

Throughout this document the five strategic factors will be analysed to develop the creation of an ecosystem of innovation in health in the Ourense Living Lab:

- To have a **space of Co-creation for innovation** and an infrastructure that allows both innovation and the interaction of agents with the market.
- **Research / innovation lines** centred on the patient for the application of alternative solutions that are more efficient and effective than conventional ones.
- People: all **agents and users** involved in the process of innovation and knowledge transfer to the market.
- A **Governance model** that promotes innovation and the efficiency of the system and the proactivity of the agents that participate in it.
- Have a **methodology** focused on transferring innovations to the market and, therefore, to society in the form of products or services.

The set of lessons learnt gained from the three in situ visits performed during the Interregional learning phase will contribute to the definition of the Ourense Living Lab strategy.

Sub-action 1.2: Internationalisation of the Living Lab

To this end, we will become member of the European Network of Living Labs (EnoLL). The European Network of Living Labs (ENoLL) is the international federation of benchmarked living labs in Europe and worldwide. It is well placed to act as a platform for best practice exchange, learning and support, and living lab international project development. Website: https://enoll.org/

Sub-action 1.3: Launch of a pilot public call aimed at recruiting innovative companies in need of product test or validation

Deliverables 1.3:

- ***Ourense Health Living Lab public call (Convocatoria para la participación en el ecosistema Living Lab del área sanitaria de Ourense)***
- ***Application form (Modelo de solicitud para la participación en la convocatoria)***
- ***Application form guidance (Guía para la cumplimentación del modelo de solicitud)***

While the ecosystem of innovation in health is developed, the next stage will be the launch of a pilot public call with the purpose of recruiting innovative companies in need of product test or validation. The level of maturity of the projects required in the public call will be according to the Technology Readiness Levels (TRL) based on a scale from 1 to 9 with 9 being the most mature technology.

Guidelines obtained from the INNOSASUN, the CivTech and the HealthFactory good practices will be helpful to the drafting of the specific terms of the public call and the application forms.

Sub-action 1.4: Selection Process

Deliverables 1.4:

- ***Application scoresheet to clearly set out the criteria being used to assess all potential solutions and the businesses behind them (Modelo de evaluación de solicitudes)***

The selection process will be divided into different sifts. To do this we will use the application form to assess:

- Overview of idea
- Level of innovation
- Commercial potential
- Commitment to schedule

Interviews can be possible in order to expand on and clarify the original application. The interview can also be used to understand:

- The team's strengths, attitudes and ethos
- Management structure, plans and ambitions
- The team's gender and diversity attitudes

Guidelines obtained from the INNOSASUN, the CivTech and the HealthFactory good practices will be helpful to the definition of the assessment criteria.

Sub-action 1.5: Project development

The project development stage will be carried out according to the Ourense Living Lab Strategic Plan. In particular, the following tasks will be developed by a Technical Committee:

- Execution, management, monitoring and evaluation of the progress of the selected projects.
- Recruitment of health professionals, patients and/or users of the Health Area of Ourense necessary for the execution of the selected projects.
- Dissemination of the Ourense Living Lab activities.
- KPIs necessary to assess the selected projects carried out in the Ourense Living Lab.
- Evaluation of the results obtained.

The Ourense Living Lab will use the FormIT as the project development methodology (Stahlbröst, 2008). FormIT is a human-centred approach to develop digital innovations. The FormIT process is typically carried out in three phases, each phase consisting of four stages. The three main phases are:

1) Concept design

2) Prototype design

3) Innovation design.

In each of these phases, four stages are carried out: 1) Explore, 2) Co-create, 3) Implement and 4) Evaluate, which are repeated in iterative processes. Besides these three phases, one additional phase is included: the planning.

Sub-action 1.6: Study of the results, lessons learnt and sustainability of the Living Lab ecosystem

Deliverables 1.6:

- ***Final result report of selected projects (Informe de resultado de proyectos seleccionados)***
- ***Ourense Living Lab sustainability report (Informe de sostenibilidad del ecosistema)***

The last stage will be the analysis of the process carried out in order to make improvements and learn from the experience. The level of achievement of the general and specific objectives will be analysed from each of the projects. In addition, the Living Lab sustainability report will analyse the functioning of the ecosystem and its feasibility.

The lessons learnt in this pilot action (Action 1) consequentially will constitute the ground for the Health Living Lab Strategic Plan for Galicia (Action 2)

III. **Players involved**

List of the organisations in the region who are involved in the development and implementation of each of the sub-actions and their role:

Sub-action 1.1: Ourense Health Living Lab Strategic Plan

- Galician Health Ministry
- Galician Health Knowledge Agency (ACIS)
- Ourense-Verín-O Barco de Valdeorras Health Area (assist in the elaboration of the Strategic Plan)

Sub-action 1.2: Internationalisation of the Living Lab

- Galician Health Knowledge Agency (ACIS)

Sub-action 1.3: Launch of a pilot public call aimed at recruiting innovative companies in need of product test or validation

- Galician Health Service/Galician Health Ministry
- Galician Health Knowledge Agency (ACIS)

Sub-action 1.4: Selection Process

- Galician Health Knowledge Agency (ACIS)
- Galician Health Service/Galician Health Ministry (specifically the following departments):
  - Healthcare Assistance Directorate
  - Patient quality Subdirectorate
  - ICT Subdirectorate (if applicable)
  - Financial Resources Subdirectorate (if applicable)
  - Human Resources Subdirectorate (if applicable)
  - Ourense-Verín-O Barco de Valdeorras Health Area

Sub-action 1.5: Project development

- Ourense-Verín-O Barco de Valdeorras Health Area
- Galician Health Knowledge Agency (ACIS)

Sub-action 1.6: Study of the results, lessons learnt and sustainability of the Living Lab ecosystem

- Ourense-Verín-O Barco de Valdeorras Health Area
- Galician Health Knowledge Agency (ACIS)

Consellería de Sanidade is the Galician Health Ministry, whose mission is defining and promoting strategies and guidelines consistent with health policy formulated by the Government of Galicia.

The Galician Health Service (Servizo Galego de Saúde) is an autonomous body under the Health Ministry of Galicia which is responsible for the management of all health centres and services in Galicia with the purpose of ensuring access to public healthcare.

The Ourense-Verín-O Barco de Valdeorras Health Area as the Ourense Living Lab belongs to this Health Area. It is one of the seven health areas in which the Galician Health Service is divided.

The Health Knowledge Agency (ACIS) is the public agency created to become the chief element of the health knowledge and innovation ecosystem in Galicia. ACIS manages this health knowledge around 4 strategic areas: training for healthcare professionals, health research, innovation from an open approach and assessing technologies.

IV. **Timeframe**

	Semester 1 Start month 10/2018 End month: 03/2019	Semester 2 Start month 04/2019 End month: 09/2019	Semester 3 Start month 10/2019 End month: 03/2020	Semester 4 Start month 04/2020 End month: 09/2020
Action 1.1: Ourense Health Living Lab Strategic Plan				
Action 1.2: Internationalisation of the Living Lab				
Action 1.2: Launch of a pilot public call				
Action 1.3: Selection Process				
Action 1.4: Project development				
Action 1.5: Study of the results and sustainability				

V. **Costs**

PILOT ACTION BUDGET	Semester 1	Semester 2	Semester 3	**Total**
Staff costs	23.800	23.800	23.800	71.400
Office and administration	3.570	3.570	3.570	10.710
Travel and accommodation				
External expertise and services				
Net revenues	-	-	-	-
Total	**27.370**	**27.370**	**27.370**	**82.110**

Staff costs: Staff costs necessary to effectively implement the Pilot Action.
Office and administration: 15% of staff costs
Net revenues: Net revenues not expected for the time being.

VI. **Funding sources**

THE OURENSE LIVING LAB FACILITIES – funded in 2015 by the H2050 Health Innovation Plan

The Ourense Living Lab facilities have been built through a public procurement of innovation (PPI) process and co-funded with ERDF funds in the framework of the Hospital 2050 (H2050) Health Innovation Plan. It ended in 2015 with the building end and Living Lab spaces completed: the sixth and seventh-floor areas (the experimental hospitalisation) and the terrace in the eighth floor where it is located the therapeutic garden.

THE OURENSE HEALTH LIVING LAB PILOT ACTION – funded by Interreg Europe

This pilot action aims to transfer the lessons learnt from the following existing practices: INNOSASUN Programme (BIOEF -partner 2); CivTech® Innovation Flow (DHI -partner 5); and HealthFactory (Almere -partner 7). As it is stated in the action 1 of this Action Plan, Galicia tests the viability of creating a Living Lab ecosystem with the aim of demonstrating the added-value of integrating the measures learnt in workshops and *in situ* visits.

The pilot action clearly derives from the cooperation showed during the Interregional Learning phase and it expects to implement a Living Lab ecosystem in Ourense and to influence the OP indirectly by setting up a requisite to get an evaluation of the prototypes/products through the Galician network of Health Living Labs in some of the upcoming innovation procurement calls co-funded by ERDF funds.

ACTION 2: Health Living Lab Strategic Plan for Galicia

I. The background

The lessons learnt in the pilot action (Action 1) will constitute the ground for the Health Living Lab Strategic Plan for Galicia (Action 2). The expected deliverables of the *sub-action 1.5: Study of the results, lessons learnt and sustainability of the Living Lab ecosystem* will provide the necessary guidelines to develop and implement the Living Lab Strategic Plan for Galicia.

The pilot action will give us the possibility of testing the good practices before being rolled out at the regional level. We will study the results and sustainability of the pilot Living Lab to redefine processes, avoid risks, and learn how to overcome barriers before implementing new Living Labs ecosystems in the other Health Areas of Galicia.

As a result, the pilot action will help us to meet the lessons learnt in the good practices INNOSASUN Programme (BIOEF -partner 2); CivTech® Innovation Flow and Living-it-Up (DHI -partner 5); and HealthFactory (Almere - partner 7). The Galician network of Living Labs should gather enough number of professionals to avoid healthcare professionals resistance as we learnt in INNOSASUN. Clinicians undervalue some R&D&i activities due to they are oriented to assistance activities and it is necessary to involve them. On the other hand, the Living Lab network should essentially involve a wide range of stakeholders such as the health sector, patients, industry, university, and academia. The recruitment of stakeholders is addressed by HealthFactory and Living-it-Up programme, being crucial to the success of the Living Lab network. Following the lessons learnt from our partners of CivTech, the organisation of demo days to show the innovative solutions achiveing in this ecosystem at the regional level to an audience of genuinely interested people, should help us to involve the stakeholders in the process.

Lastly, as regards the innovative solutions, our partners from INNOSASUN encourage us to demand companies to build innovative solutions to real needs of the Health System, so the Galician network should also allow companies to detect these needs.

The set of lessons learnt will be reflected also in the Strategic Plan for Galicia and, consequently, when the Galician network of Living Labs will be implemented.

II. Sub-actions

Sub-action 2.1: Health Living Labs Strategic Plan for Galicia

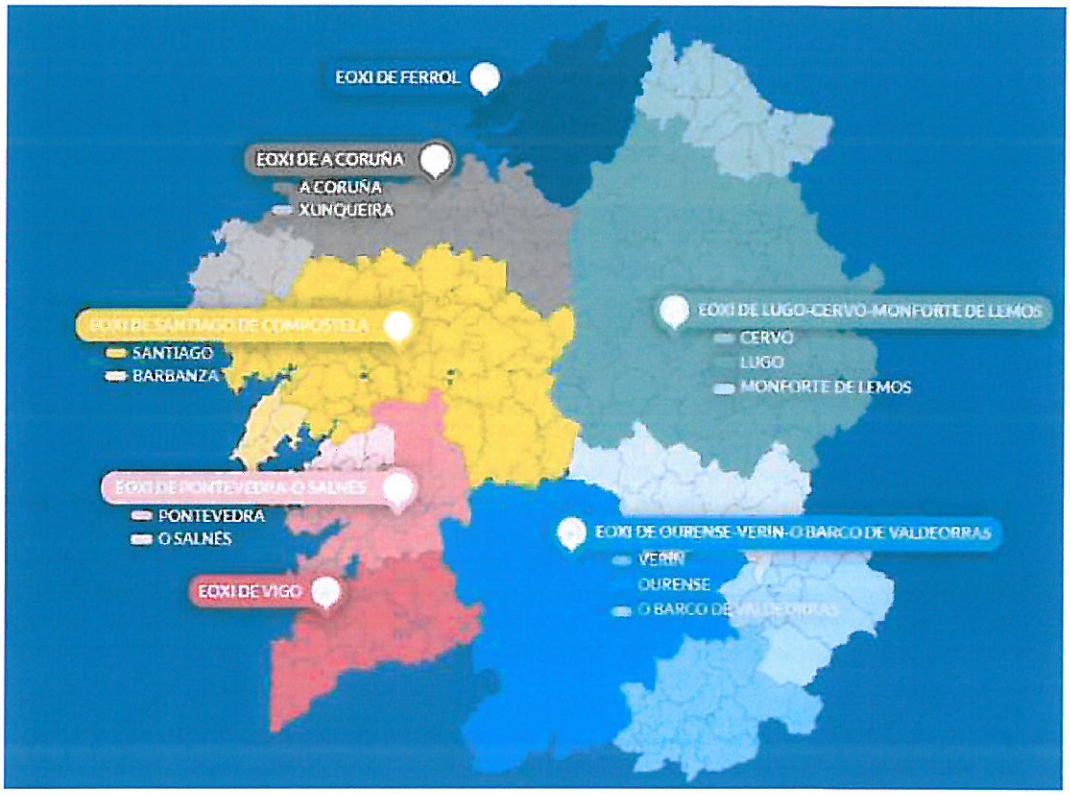
Deliverable 2.1:

- ***Health Living Labs Strategic Plan for Galicia (Plan Funcional de la red de Living Labs de Galicia)***

The aim of this document is to define a common framework to develop new environments for co-creation and experimentation with the active participation of users and industry in the Galician health system. The document based on the background learnt from the previous pilot action, will define the different spaces of co-creation for innovation within the Galician network of health infrastructures, the research/innovation lines, agents and users involved, and most important the methodology and governance model for each of the Living

Lab ecosystems developed in order to transform our hospitals and outpatient clinics in real labs to test innovative solutions as a previous step to reach the market.

The Galician Health System has seven Health Areas with outpatients clinics, regional hospitals, and major hospitals. Each of the seven health areas could potentially be a Living Lab. In addition, each of this areas has an Innovation Node to contribute to the identification of innovative opportunities. Their main aim is to strengthen the innovative culture of the organisation and the instrumentalisation, deployment, implementation, and monitoring of innovation projects in healthcare. The Innovation Nodes may contribute to the implementation of the network of Living Labs in the Galician health areas.



Sub-action 2.2: Start of the implementation of the Galician network of Health Living Labs

Deliverable 2.2:

- ***Galician Living Lab public call template – Annex to the Health Living Labs Strategic Plan (Modelo de convocatoria para la participación en los ecosistemas Living Lab de Galicia)***

The implementation of the Galician network of Health Living Labs should start together with the drafting of the Strategic Plan, defining spaces and staff involved in each of the Living Labs. The availability of co-creation and experimental spaces lab will determine the number of companies recruited in each of the Living Lab ecosystems. The research/innovation lines will be centred on the patient, mainly in the elderly with chronic diseases. These lines might be the followings: elderly and/or chronic patients care; patient empowerment; ICT, robotics and virtual reality.

ACIS will implement the Living Lab model defined in the Strategic Plan, adapted and managed by each ecosystem, where we will be the coordinator of this network of Galician Living Labs and will be part of each steering committee and will contribute to the definition of the strategic lines and objectives. In addition, ACIS will support the Galician network of Living Labs with communication and dissemination about the activities

developed, so as to spread the results to the interested audience and to promote and increase the participation of companies in the network, the launching of future public calls aimed at recruiting innovative companies in need of product test or validation and the activities related with the internationalisation of the Living Lab network as a result of the membership in the ENoLL.

Sub-action 2.3: New requisites in future innovation procurement (IP) calls co-funded by ERDF funds

The Galician Health Ministry and the Galician Health Service have been promoted several innovation procurement initiatives over last years, which include Public Procurement of Technology and Pre-commercial Public Procurement of technology approaches such as the Innova-saúde and Hospital 2050 innovation plans, the Código100 Innovation Plan, and the EMPATTICS project -a PCP cofunded action of the Horizon 2020.

The Galician Health Ministry has available funds related to innovation, under the 2014-2020 ERDF Operational Programme of the Region of Galicia, committed in 15 innovation procurement (IP) calls, CODIGO100 project, within three action lines:

- New therapies and devices, services and protocols responding to main social and healthcare priorities of Galicia.
- Projects to increase patient empowerment.
- Initiatives to increase the professional skills, modernize the system and foster an innovative culture.

These actions lines will have as central axis the early response to demographic change and the promotion of a new health system prepared to lead active and healthy ageing.

In order to promote the improvement of the public health services with new innovative solutions, as well as the promotion of business innovation, the Regional Ministry of Health and the Public Healthcare Service will encourage, to the extent possible, the presentation of innovative solutions in the tenders they promote. In addition, they may provide to the bidders co-creation spaces in the living labs within the Galician network of Hospitals to test the innovative solutions that are the subject of the tender. This possibility will be reflected in the corresponding contract documents as a condition for the execution of the proposal; that is, incorporating a clause where the bidder undertakes to test the innovative solutions in spaces designated as Living Lab of Galicia.

III. Players involved

Consellería de Sanidade is the Galician Health Ministry, whose mission is defining and promoting strategies and guidelines consistent with health policy formulated by the Government of Galicia.

The Galician Health Service (Servizo Galego de Saúde) is an autonomous body under the Health Ministry of Galicia which is responsible for the management of all health centres and services in Galicia with the purpose of ensuring access to public healthcare.

The Health Knowledge Agency (ACIS) is the public agency created to become the chief element of the health knowledge and innovation ecosystem in Galicia. ACIS manages this health knowledge around 4 strategic areas: training for healthcare professionals, health research, innovation from an open approach and assessing technologies.

IV. **Timeframe**

	Semester 1 Start month 10/2018 End month: 03/2019	Semester 2 Start month 04/2019 End month: 09/2019	Semester 3 Start month 10/2019 End month: 03/2020	Semester 4 Start month 04/2020 End month: 09/2020
Action 2.1: Health Living Labs Strategic Plan for Galicia				
Action 2.2: Start of the implementation of the Galician network of Health Living Labs				
Action 2.3: New requisites in future innovation procurement calls co-funded by ERDF funds				

V. **Costs** (if relevant)

As the result of having tested the maintenance costs of the Living Lab in the Pilot Action and after lessons learnt regarding the viability of the ecosystem, it is expected to have a network of self-sustainable Living Labs in order to cover expenses such as staff costs, infrastructure and maintenance costs.

The main services offered by the network of Living Labs to the companies which will be tested their solutions are:

- Co-creation spaces: co-design and co-production environments with end users (professionals, patients and caregivers)
- Test innovative solutions in real environments (i.e. hospital with end users). The network seeks to ensure the recruitment of end users and access to health data necessary to test the solutions, in compliance with the current legislation on data protection.
- Evaluation of results: according to efficacy, safety and efficiency criteria, as well as assessing their impact at the health, organisational, economic and social levels.
- Dissemination of the results of the initiatives carried out in the Galician network of Living Labs.
- Certificate of recognition: the Galician Health Service will recognise innovative solutions with a favourable evaluation.

VI. **Funding sources** (if relevant):

It is expected to implement a network of self-sustainable Living Labs in Galicia. The main costs are associated with the maintenance of the infrastructures and services offered to companies working in the experimental and co-creation spaces. Different alternatives are proposed to generate incomes:

- Fees from companies, technological centres, universities, etc. using the Living Lab facilities and services by two modalities:
  - Annual fees to benefit companies from all services provided by the network of Living Labs with the exception of renting the spaces to test their solutions.
  - Differentiated fees for services provided to the companies and the rental of spaces to test their solutions.
- Public and private sponsors

- EU/national projects with the aim of recruiting innovative companies in need of product test or validation.
- Innovation Procurement (IP): To combine PPI process and the network of Living Labs, in order to increase the participation of companies in the network, by setting up a requisite to test the innovative solutions through the Galician network of Health Living Labs. Specifically, the Regional Ministry of Health and the Public Healthcare Service have available 9,1 M. € ERDF co-funded through public procurement of innovation PPI process, to encourage the development of innovative solutions.

Date: 21/02/2019

Signature: Beatriz Allegue Requeijo – General Manager ACIS

Stamp of the organisation (if available):

Axencia Galega para a Xestión do Coñecemento en Saúde (ACIS)

Galician Health Knowledge Agency

Date: 21/02/2019

Signature: Jesús Vazquez Almuiña – Regional Minister of Health

Stamp of the organisation (if available):

Xunta de Galicia - Consellería de Sanidade

Regional Government of Galicia – The Public Health Authority of Galicia