Assessment Report

TITTAN
Interreg Europe

Translation, Innovation and Technology Transfer in Ageing Network

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A. Executive Summary

Rationale:

The main goal of this document is to identify the situation of the region in relation to the three thematic areas addressed by TITTAN and to identify valuable experiences and good practices, to be presented to the other partners.

Expected Outcome:

The result of this activity will be one Assessment Report per partner, which will be shared with the rest of the partners and the local stakeholders involved in each region, before the first Interregional Workshop. The good practices identified in the Assessment Report will be further explained in the framework of the Workshops that will be held during the project.

The Assessment Report will serve as a basis for the development of the Action Plan, which should be elaborated by each partner at the end of the Phase I and properly implemented during the Phase II of the project.

B. General overview of the regions involved in TITTAN

General overview of the region
Partner name
ACIS, Axencia de Coñecemento en Saúde. Health Knowledge Agency.
Region name
Galicia
Country
Spain
Number of inhabitants in the region
2.673.000 inhabitants
Percentage of population over 65 years
23%
Please indicate the policy instrument which has been addressed by TITTAN and the main features of this policy instrument.
2014 – 2020 ERDF Operational Programme of the Region of Galicia. The ERDF Operational Program of Galicia was approved in March 2015, aligning with Europe 2020 targets and the Regional Specialization Strategy. The area of health and especially the field of Active Ageing and Healthy living are among the highest priorities for the region. The Galician OP is divided in 10 Thematic Objectives (TOs). TO1 aims to foster Research and innovation development in the region. Galicia aims to become a lead region in Southern Europe that offers knowledge intensive products and services linked to a healthy lifestyle model. Under this framework the Galician Regional Health Government is aware of the challenges ahead. Galician senior population (more than 65 years old) reached the 23% of the total population in 2015. Besides, a considerable part of Galician people live in rural areas and the management of healthcare services are most expensive. Innovation seems the only solution to overcome current health challenges. Since 2011, Galicia collaborates with other European regions in the development of European and participating actively in some of the most important initiatives developed at EU level (KIC, EIPonAHA, etc). Long term collaborations and exchange of good practices can be a very powerful measure to incorporate successful strategies implemented by other European regions in Galicia. The final goal is to increase the quality of life of our patients, guaranteeing a sustainable healthcare system through the incorporation of innovative policies.
Are the main objectives addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialisation (RIS3)?   If yes, please indicate how.

Yes.
TO1 of the Galician ERDF OP aims to foster research and innovation development in the region. All investments related to the TO1 will be related with the already approved Galician RIS3 strategy. The RIS3 strategy is consequently subjected to the OP. The RIS3 has been defined around 3 big Challenges. Challenge 3 involves the promotion of New Healthy lifestyle model based on Active Ageing of Population.

Which actions of the following are considered the key areas in the Health and Well-being Sector in your region? How they have evolved in the last 5 years? Please select at least three:
- **Prevention, screening and early diagnosis** (1. Health literacy, patient empowerment, ethics and adherence; 2. Personal health management; 3. Prevention, early diagnosis of functional and cognitive decline; other, please specify).
- **Care and cure** (1. Protocols, education and training programmes for health workforce, comprehensive case management, multi-morbidity, poly-pharmacy, frailty and remote monitoring; 2. Multi-morbidity and R&D; 3. Capacity building and repeatability of successful integrated care systems; other, please specify).
- **Active ageing & independent living** (1. Assisted daily living for older people with cognitive impairment; 2. Extending active and independent living through Open and Personalised solutions; 3. Innovation improving social inclusion of older people; Other, please specify).

1. Prevention, screening and early diagnosis
- **1.1 Health literacy, patient empowerment, ethics and adherence** are considered as key areas for the Health Sector in the region. Several plans are being implemented in order to tackle this challenge, as for example: *e-saúde, Escola de pacientes, paciente experto 2.0, EMPATTICS, etc.* The most relevant projects in this field will be further explained through the good practices reported below.

2. Care and cure:
- **2.1 Protocols, education and training programmes for health workforce, comprehensive care management, multi-morbidity, poly-pharmacy, frailty and remote monitoring** are considered as key areas for the Health Sector in the region. One of the main goals to reach is to provide patients with useful and friendly tools for managing their diseases while being at home. This challenge was tackled through the plan Innovasaúde, funded with 45 M€ of ERDF funds, which was launched from the Public Health System of Galicia to get a safe, fast, intelligent and patient centred Health System. One of the projects developed within Innovasaúde was *Digital home.* This is bidirectional channel to connect healthcare service with patients, so patient receive advise and reminders of self-care and good practices during the following-up of their disease; as well as monitoring of vital signs, which are directly reported to their general practitioner and nurse.

3. Active Ageing & Independent living:
- **3.1. Extending active and independent living through Open and Personalised solutions** are considered as key areas for the Health Sector in the region. In recognising the hard work developed during the last years by the Public Health System of Galicia, the region has been recently awarded with the "three stars" category in the EIP on AHA, as a reference site in terms of Active Ageing.

Along in this same line, a new project has been recently approved by the Spanish Ministry of Health, Código 100, which will be managed from the Public Health System of Galicia in order to response to demographic change. The plan is funded by Operational R&D&I Plan Technological Funds 2014-2020 (80% ERDF) and it is structured in three lines of action:

- Innovative therapies, devices, services and protocols.
- Patient empowerment.
- Training Health Professionals.

Moreover, the Public Health Authority is working closely with the Public Welfare Authority in several plans to achieve the independent living for elderly people through innovative solutions. Please find below some examples:
- Referral hospitals provide elderly population with medication directly at home. The project was launched in 2000 and there are currently 9.200 citizens taking part in the programme.
- In-house socio-sanitary services are being provided to elderly population through interactive television and *MiAvizor pilot* (monitoring the daily activity of senior citizens at home).

As previously reported, the RIS 3 Strategy of Galicia was approved in 2014 and defined around 3 big Challenges, being the third challenge, the promotion of a New Healthy lifestyle model based on Active Ageing. The approval of the RIS3 was a turning point for the Health Sector in the region and allowed the development of the two major innovation plans from 2012-2015, Hospital 2050 and Innovasaúde, which were implemented with the following purposes:
- Hospital 2050, the Hospital of the future: safe, sustainable, efficient and innovative green building.
- Innovasaúde: safe, fast, intelligent and patient-centred health system.

Both plans will be further explained throughout this report.

Are the leading companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?

Hospital 2050 and Innovasaúde were the two major innovation plans developed in Galicia, which received 90 M€ of ERDF funding from 2012 to 2015 to implement 23 large-scale projects articulated around the hospital of the future and a new structural and functional design of the hospitals.

These plans caused a high impact in the SMEs of the region, the impact was specially notable for IT companies which developed innovative and specialized solutions for giving answers to the challenges proposed by the Galician Public Health Sector.

These companies have now a very useful background for having worked with the Public Health System of Galicia in Hospital 2050 and Innovasaúde through mechanisms of Public Procurement of Innovation Procedures.

They have increased their specialization in the field of health and are in position to develop solutions, which address directly the needs of the Health System.

Is there a close cooperation between the companies, the universities and research centers

related to the Health Sector and the public administration in your region?

Yes, being a region of 2.149 million of inhabitants as well as having a Public Health System which is common to allthe region allows Galicia to establish strong partnerships and collaborations between the main stakeholders of the region.

In order to continue working on the strengthening of health knowledge and innovation ecosystem in Galicia, a new public agency was launched in January, 2016. The Health Knowledge Agency, ACIS.

ACIS manages the health knowledge of the entire Galician Public Health System around 4 strategic areas:

- Training for healthcare professionals.
- Health research.
- Innovation from an open approach, not only for results to be transferred from the laboratory to hospital beds and also to the market, but also for them to generate economic returns that result in public health.
- Assessing technologies to ensure that the most innovative ones are applied in accordance with top security criteria.

Please indicate the relevant stakeholders from private sector (big companies, cluster, etc.) related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

All the relevant stakeholders from private sector related to the Health Sector in the region are represented by the following Clusters, which are actively involved in the TITTAN project.

- **Biotechnology Cluster of Galicia, BIOGA:** non-profit business association that brings together the organizations integrated in the Life Sciences value chain based in Galicia. The cluster, was initially founded by 3 companies in 2010 and has, since then, increased its number of partners to more than 45. BIOGA comprises partners from different institutions, most of them are companies, and more specifically SMEs. Some of them are spin-offs from universities, but also some big companies. In addition to the industrial representatives, some Public Research Organizations such as the University of Santiago and Biomedical Foundations are also part of BIOGA.
- **Health Cluster of Galicia:** non-profit association whose main objective is the business dynamization of Galicia, contributing to the economic and social development of the region, through cooperation among all institutions and public and private companies related to the health system, by performing innovative projects. The cluster consists currently of 38 partners (companies, research centres, universities).
- **Food Cluster of Galicia, CLUSAGA:** The food industry is one of the strategic sectors in Galicia, both due to its dimension, and its economic and social significance. In this area, Clusaga articulates an organizes the structure of the Galician food industry, in a broad sense, integrating businesses, as well as innovation and research bodies and other organizations, in cooperation processes, making it possible to reap benefits from the

implementation of actions and collaborative projects and reaching a critical mass, strengthening the international competitiveness and visibility of the sector. The cluster consists currently of more than 70 partners (companies, research centres, universities).

Please indicate the relevant stakeholders from research centers and universities related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

The three public Universities of Galicia, as well as the main research centres of the region are involved in the project through the participation of the Biomedical Foundations and Clusters. The universities and the Public Health System develop their activity research in the field of health under the umbrella of the three Biomedical Institutes of Galicia (IDIS, IIS and INIBIC), which are managed by the three biomedical Foundations of Galicia, which are actively involved in TITTAN.

The main goal of the Biomedical Foundations is to promote research, training, scientific development and innovation in the health sector. To achieve this, the three Biomedical Foundations use innovation as a tool for transferring research results to society.

- **Biomedical Foundation Ramón Domínguez- Health Research Institute of Santiago de Compostela (IDIS)- University of Santiago de Compostela.**
- **Biomedical Foundation Galicia Sur- Health Research Institute of Vigo (IIS)- University of Vigo.**
- **Biomedical Foundation Profesor Novoa Santos- Health Research Institute of A Coruña (INIBIC)- University of A Coruña.**

Please indicate the relevant stakeholders from public administration related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

- **Innovation Agency of Galicia, GAIN:** regional agency in charge of implementing the Galician RIS3 strategy as well as managing the ERDF funds. GAIN is actively involved in TITTAN.
- **Public Health System of Galicia, SERGAS and the Regional Ministry of Health:** both actively involved in TITTAN through the role of ACIS in the project.

Please indicate the 3 innovative projects/interventions with higher transformational impact in the Health Sector which have been developed in the last 5 years in your region.

1. Hospital 2050
2. Innovasaúde
3. PRIS programme, Pre-commercial development of research results from the Galician Public Health System.

These 3 interventions have been identified as good practice in the region and they will be explained in more detailed throughout in the applicable section of this report.

To which of the three thematic areas addressed by TITTAN do you think you can contribute most?

As per the previous experience of the region in terms of Public Procurement of Innovation, the we think the region of Galicia will contribute most to the first thematic area addressed by TITTAN, the area related to foster the Outside-IN Innovation.

Which of the three thematic areas addressed by TITTAN are you more interested in learning about?

We are really interested in learning more about new strategies and policies to raise citizen´s awareness about the use of innovations in the field of health, which are strictly aligned with the strategy of the Health Public Service of Galicia.

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strengths	Weaknesses
- Strong and high quality Public Health System. - Innovation selected as one of the priorities in the Strategy of SERGAS. - High quality of life and raw materials (healthy food) in the region. - High coordination among the main stakeholders.	- High number of small companies without innovative/research capacity in the region. - Lack of specialized investors. - Fragmented private sector. - Lack of investment in R&D.
Opportunities	**Threats**
- Recent creation of ACIS as the chief element of health knowledge and innovation. - Room for developing new products and services. - RIS 3 strategy oriented to health. - Exception IT infrastructure and homogeneous Electronic Medical Records.	- The ageing trend. - Financial crisis not resolved. - Core structure not yet consolidated and depending on political changes.

Partner name
BIOEF, Basque Foundation for Health Research and Innovation

Region name
Basque Country

Country
Spain

Number of inhabitants in the region
2,173,210 inhabitants

Percentage of population over 65 years
21% (458.396; 8.9% men (193.550), 12.18% women (264.846)

Please indicate the policy instrument which has been addressed by TITTAN and the main features of this policy instrument.
2014 – 2020 ERDF Operational Program of the Basque Country. The ERDF Operational Program 2014-2020 of the Basque Country is the document in which the strategy and thematic objectives of intervention are set up in the region. It addressed finance activities by the ERDF for the new programming period 2014-2020, and the financial arrangements set for these objectives. The ERDF Programme put special focus on the thematic objectives addressed to promote the smart specialization strategy in Europe 2020: R+D+I (OT1), TICs (OT2), SMEs (OT3) and Low Economy and Carbon (OT4).   The measures addressed through the TITTAN project are as follows :   - Thematic objective 1 (R+D+I), where there is a specific mention on boosting the R+D+I on ageing and health by promoting the technological convergence to fill gap markets on ageing, health and others (page 12 of the document).   - Thematic objective 3 (to improve the competitiveness of the SMEs), to which creating new services, products for ageing population, and health, is one of its main issues (page 15 of the document).

Are the main objectives addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialisation (RIS3)?   If yes, please indicate how.
Yes, the Basque Country Smart Specialization puts the emphasis and priorities on: Advanced manufacturing, Energy, Biosciences / Health.   The smart specialization approach aims to bring together resources and knowledge from different fields, technologies and disciplines to develop activities that cover the whole value chain of R&D&I. Moreover, the Basque Country opts for innovation as a key element for improving the competitiveness of its economy, the public sector must assume an exemplary leadership role with respect to innovation, through the improvement of public services, guidance for citizen and operational efficiency to meet the following needs: • To adapt the functioning of public administration to the parameters of an advanced democracy.   • To ensure efficient services and quality care to citizens.   • To consolidate and update the development of eGovernment.

- To adapt its organizational structure and professional profiles.
- To involve citizens in the design, management and evaluation of policies.

Which actions of the following are considered the key areas in the Health and Wellbeing Sector in your region? How they have evolved in the last 5 years? Please select at least three:

- **Prevention, screening and early diagnosis** (1. Health literacy, patient empowerment, ethics and adherence; 2. Personal health management; 3. Prevention, early diagnosis of functional and cognitive decline; Other, please specify).
- **Care and cure** (1. Protocols, education and training programmes for health workforce, (comprehensive case management, multimorbidity, polypharmacy, frailty and remote monitoring); 2. Multimorbidity and R&D; 3. Capacity building and replicability of successful integrated care systems; Other, please specify).
- **Active ageing & independent living** (1. Assisted daily living for older people with cognitive impairment; 2. Extending active and independet living through Open and Personalised solutions; 3. Innovation improving social inclusion of older people; Other, please specify).

- **Prevention, screening and early diagnosis**
- **Personal health management**
- **Capacity building and replicability of successful integrated care system**
- **Extending active and independent living through Open and Personalized solutions**.

The Basque Country healthcare model aims to enhanced patient centered and seamless care by improving coordination and continuity of care between care levels and adapting provided care to patient needs. In this way, the structural integration of both primary and secondary care organizations of each specific area into one single integrated care organization (ICO) is a priority in the healthcare plan. This plan was launched at the beginning of 2012 and finished in January of 2016 resulting in 13 ICOs. The creation of the ICOs has allowed the merging of governance bodies and, in consequence, the coordination between healthcare professionals of distinct care levels has been improved.

Integrated Intervention Plans for population groups identified according to their risk has been deployed in the Basque Health Service. They include clinical pathways that involve all levels of care, disciplines and actions needed to implement the best clinical practice for:

- Multimorbid patients
- Patients with Diabetes Mellitus
- Patients with Congestive Heart Failure (CHF)
- Patients with Chronic Obstructive Pulmonary Disease (COPD)

The integrated intervention plans has been joint to the incorporation of new innovations, such as the creation of new roles ("liaison nurse" in hospitals and "case manager/advanced skills nurse" in health centers), implementation of telemonitoring services, and deployment of structured programmes boosting patient empowerment.

In the Basque Country, prevention, screening and early diagnosis has been a key area in the Public Basque Health Service (Osakidetza). Great efforts have been done in the last years and several programs for early diagnosis have been deployed: screening for early detection of breast cancer, screening for early detection of colon cancer, heel

test for newborns etc. Currently, special emphasis is being made in the development and up-scaling of new programs and strategies to boost personal health management and patient empowerment, and improve adherence to treatment:

- Educational programs in self-care for patients, caregivers, and citizens (School of Patients, Active Patient) and new models of community interventions through the "local health networks"
- Information and training for citizens in drug therapies, including chronic diseases and ageing (iBOTiKA)
- Improve pharmacotherapeutic care by strengthening communication among professionals for a better use of medicines and reach better health outcomes of patients with Diabetes II and polypharmacy.
- Optimize safety and effectiveness of drugs in people cared by home care services.

The new programs respond to the priorities of Basque Country Health Plan (2013-2020) formulated by the Basque Government and the strategic guidelines 2013-2016 of the Health Service, Osakidetza.

Moreover, integrated communication systems to unify and share clinical information have been developed:

- Electronic health record (EHR- Osabide Global), e-prescription (Presbide), intranets and other communication mechanisms (videoconferences). These have been scaled up to all services and extended to nursing homes to facilitate the communication between health professionals and ensure shared clinical information. It will cover over 50% nursing homes places in December 2016.
- Interoperability of social and health information systems, using a tool (InterRAI-CA) to share the diagnosis and care plans. This is being piloted and 70 licenses have been bought.

A risk stratification tool was created in 2010 to identify patients with different levels of complexity according to the risk of using healthcare services in the near future. Three stratification processes have been done and currently work is being carried out to improve the tool (data collection, social indicator, feasibility).

Another key area in the Basque Country is the "Extending active and independent living through Open and Personalized solutions". The Digital Agenda 2015 fosters Living labs structures as Ergolab, to create more usable digital services for the elderly; the University of Deusto evaluating ICT solutions in real environments laboratory or Living Labs, and through interdisciplinary platforms (Deusto Ageing and Wellbeing Interdisciplinary Research Platform). Telemonitoring services for chronic heart failure (CHF) and Chronic Obstructive pulmonary disease (COPD) has been deployed in Osakidetza and currently covering 210 CHF and 170 COPD patients.

Are the leading companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?

Yes

In the Basque Country, the health sector is heterogeneous in nature, since it includes both biotechnology based companies such as medical equipment, medical devices, ICT and

bioinformatics, suppliers or manufacturers of prostheses and implants companies. Many of these companies are grouped in the Basque Biocluster-Basque Association of Bioscience.

Moreover, traditional pharmaceutical companies, Faes Farma and Bial, have joined in recent years new business groups (Progenika Group now integrated into the Grifols Group, Noray BG Group, BTI, Praxis Group) that have grown at more rhythm and have an international presence. Young startups, in a process of generating new businesses, are emerging. Mostly, the bioregion is made up of a variety of small firms, characterized by their youth, their long maturation periods (and the associated financial requirements), the existence of highly qualified and gender parity, intensive activity in R + D, and the inherent international vision.

On the other hand, the region ongoing efforts towards person centred care have led to applied research in neuroscience (Achucarro, CIC Biogune, Progenika), interoperability (Ibermatica, Everis), domestic robotics (Tecnalia and IK4), rehabilitation technologies (Tecnalia) and innovative functional food (Tecnalia).

MONDRAGON Corporation (MONDRAGON) is the first industrial cooperative created in 1956 in the Basque Country and is the foremost Basque business group and the tenth largest in Spain. MONDRAGON corporation created MONDRAGON Health, which belongs to MONDRAGON Promotion Centre, with the aim of leading Health Sector development and fostering the generation of comprehensive solutions through inter-cooperation. MONDRAGON Health wishes to contribute to transform the local business fabric and create wealth and added-value employment. An important aspect of MONDRAGON Health's work is seeking opportunities for business and joint collaboration with companies–corporate group companies and others–and with local governments, health administrations, etc.
MONDRAGON corporation has participated in the creation of 280 SMEs which employ over 80,000 pe
ople. Moreover, MONDRAGON serves as an inspiration to the growing number of social entrepreneurs. Through local government R&D programmes the SMEs they create collaborate with technology centres such as TECNALIA and IK4 and large enterprises such as INDRA.
The University of Deusto is working in the implementation of enabling technologies for older people (or at risk of frailty, for example Sunfrail project) through serious games based on ICT sensors (Kineage), or in a cognitive rehabilitation programme designed for individuals with psychosis and/or schizophrenia as well (REHACOP programme).

The University of the Basque Country UPV/EHU is working in joint projects regarding optimal physical exercise programs to avoid or reverse frailty and developing specific technology for physical rehabilitation of the upper limbs.

The Basque Health Service (Osakidetza) has developed integrated ICT tools such as EHR (Osabide) and the Nursing Care Program (Osanaia) with local companies as Ibermatica and Bilbomatica.
Health research linked to the healthcare system is carried out in the Basque Health Service (Osakidetza) managed by the Basque Foundation for Health Innovation and Research (BIOEF), as well as in the Institutes of Health Research (IHR) Biodonostia and Biocruces, Kronikgune and Osatek.

Is there a close cooperation between the companies, the universities and research centres related to the Health Sector and the public administration in your region?

Yes, there is a close cooperation. There are several initiatives in which different organizations are working together closely as the LifeKIC initiative for the EIT HEALTH KIC, Reference Site in the European Innovation Partnership on Active and Healthy Ageing (EIP-AHA) and the definition of the RIS3 strategy.

Please indicate the relevant stakeholders from private sector (big companies, cluster, etc) related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

Tecnalia
IK4
MONDRAGON corporation (MONDRAGON Health)
Progenika Biopharma
Noray bioscence group
Praxis Pharmaceutical
FAES FARMA
BIAL
BTI Biotechnology Institute
Deusto Foundation
Basque BioCluster (Abyntek Biopharma, AJL Ophtalmic, Bial Industrial Farmacéutica, Biobide, Bioftalmik, Biofungitek, Biokilab, Biolan Microbiosensores, Laboratorios Biotalde, Brainco, Biopharma, BTI Biotechnology Institute, Dynakin, Faes Farma, Histocell , Idoki, Ikerlat Polymers, IMG Pharma Biotech Ingeclima, Inkoa Sistemas, Innoprot, Laboratorios Bromatológicos Araba, Laboratorium Sanitatis, Midatech, Biogune, Noray Bioinformatics, One Way Liver Genomics, Praxis Pharmaceutical, Progenika Biopharma, Proteomika, Vacunek)

Tecnalia, IK4, MONDRAGON corporation and Deusto Foundation are actively involved in the project.

Please indicate the relevant stakeholders from research centres and universities related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

- Kronikgune
- CIC Biogune
- CIC Biomagune
- CIC Nanogune
- Achucarro-Basque Center for Neuroscience
- Basque Center on Cognition Brain and Language
- BCA-Basque Center for Applied Mathematics
- BIOFISIKA-Basque Center for BIOFISIKA
- Ikerbasque-Basque Foundation for Science
- Matia Institute of Geronlogy
- University of the Basque Country UPV/EHU
- University of Deusto
- University of Mondragon
- Institutes of Health Research (IHR) Biodonostia and Biocruces
- OSATEK

Kronikgune, Matia Institute of Geronlogy , University of the Basque Country, University of Deusto, University of Mondragon are involved in the project.

Please indicate the relevant stakeholders from public administration related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

- The Basque Department of Health
- The Basque Department of Economic Development and Competitiveness
- The Basque Department of Treasury and Finance
- Basque Health Service (Osakidetza)
- BIOEF
- SPRI-Basque Business Development Agency
- Ikerbasque-Basque Foundation for Science
- Innobasque-Basque Innovation Agency

BIOEF, The Basque Department of Health, the Basque Department of Treasury and Finance and the Basque Health Service are involved in the project.

Please indicate the 3 innovative projects/interventions with higher transformational impact in the Health Sector which have been developed in the last 5 years in your region.

1. eHealth Strategy: The Basque Department of Health, through Osakidetza, has deployed an ICT strategy to support integrated care dealing with ageing, chronicity and dependency. The final objective is the creation of a unified system that integrates all different clinical information, with the aim of promoting continuity of care under the same process between the different integrated care organisations (ICOs) avoiding fragmented care. In addition to this, an e-Health strategy, Osarean, has been implemented providing non-face to face care focused on prevention, monitoring and health advice.

The Basque Department of Employment and Social Policies has deployed a telecare service covering more than 35.000 people connected via "panic button" and phone, with a central call centre and mobile teams (Beti-on). Operators can activate services entrusted to the eHealth Centre, such as telemonitoring or emergency department.

The most relevant health ICT tools deployed are Risk Stratification System, unified Electronic health Record (EHR), Osanaia (a tool for nurse´s management), e-Prescription (Presbide), multi-channel communication services (OSAREAN Customer Relations Management, CRM, platform), Personal Health Folder (PHF) and other tools that increase coordination among healthcare professionals and social care workers. Health professionals from any centre or care level can communicate and share information through the EHR and the electronic prescription.

Osabide Global, the unified EHR, is a single electronic medical records´ program providing comprehensive patient focused information. All Osakidetza centers have deployed the EHR (including hospitals and primary care centers). The tool contains all health-related information on a patient, facilitating service delivery and enabling the provision of new forms of healthcare such as videoconference between primary and specialized healthcare. With its patient centered approach, it has significantly contributed to the care continuum, and allowed to overcome the previously existing barriers between different areas and levels of care.

Osabide Global interoperates permanently and very intensively with hospital healthcare

information systems (HIS). For each patient, doctors can see all stored data, as next appointments, fact sheets and recommendations, informed consent forms, social history, pending tasks, reports etc. Different clinical data and diagnostic tests or health records are also accessible in Osabide Global.

Osanaia is a tool created for the management of nursing care, allowing to set and manage personalized nursing care plans, customized to each patient needs. It integrates information from primary, specialized care and mental health.

The e-Prescription service, Presbide, is provided by a unique system in both care sectors, and covers all health centers, hospitals and community pharmacies. This system has been integrated as a module within the EHR systems (Osabide).

OSAREAN Multichannel Services Centre (MSC) supports the e-health call center, run by nurses on a 24X7 basis and manages several e-health services:

- Health advice, managing through a protocol supported algorithm, mild health problems that can be treated at home or referring patients to an appropriate health professional or emergency service.
- Chronic care, performing activities embedded in integral clinical pathways, such as symptoms follow up, adherence reinforcement calls, health education or others.
- Telehealth integration, gathering the information provided by all telemonitoring devices and sensors that measure patients´ clinical parameters at home, facilitating patient follow up, care adherence and enhancing patient-professional communication.
- Prevention programs, such as stop smoking program, monitoring sedentary lifestyles etc and health related questionnaires completed by patients in the PHF.
- Personal Health Folder (PHF) system permits, via personalized web access, patients examining and downloading their clinical reports and information. Patients can introduce health data. This information is recorded into their EHR, via the CRM for further evaluation and health status monitoring by professionals.
- Administrative procedures such as appointments and some documents can be performed on line.

2. Holistic view of the need to approach ageing and innovation by all agents.
Several strategies has been defined to deal with ageing and innovation in the Basque Country:

- The Health Plan for the Basque Country (2013-2020), the strategic guidelines (2013-2016) of the Basque Department of Health and the strategic Social and Health Care guidelines for Basque Country (2013-2016) establish as a priority ageing, chronicity and dependency.
- The Basque Country Strategy on Ageing (2015-2020) has been defined by the Department of Employment and Social Policies (Basque Government). The strategy is focused on adaptation to an ageing society (new governance model), anticipation and prevention for ageing better and friendly environments and participation in the construction of welfare society.
- The Plan for Science, Technology and Innovation "PCTI Euskadi 2020" has been developed by the Basque Government to create the conditions to improve the level of efficiency of science, technology and innovation system. The Plan aims to deepen the results orientation of the system, adapting the different types of research activity and their position in the value chain of the innovation to this objective. This Plan aims to apply more innovation to

research, increasing cooperation between the science world and the business world to guide the activity of R+D+I towards results which can meet business demands and help address the major challenges facing the Basque Country, thus contributing to job creation and to economic and social wealth.

- The Health research and innovation strategy 2020 of the Basque Department of Health comprises the guidelines to follow in order to ensure the healthcare system becomes as essential pillar in the RIS3 strategy and establish as objective: increase the impact of activities R + D + i aimed at improving health citizenship and contribution to the generation wealth; improve the integration of research and innovative activities the care work care and teaching; stimulate the realization of research and innovation by the health care professionals and advance in the involvement of patients and citizenship; Improve funding for research and innovation in health, with both internal and external resources.

Education related to health is a priority for the three universities of the Basque Country (University of the Basque Country UPV/EHU, University of Deusto and University of Mondragon). New qualifications related to Health have been created: Physiotherapy degree (University of the Basque Country) and Biomedical engineering degree (University of Mondragon). Moreover, several masters are running: "Healthy Ageing and Quality of life" by the University of the Basque Country UPV/EHU, "Health Management", and "General Health Psychology and Clinical Neuropsychology" by the University of Deusto. The University of Deusto, furthermore, is running the DIRS-COFUND project, one of which focus areas is Health and Wellbeing. Mondragon University runs courses for middle range managers to ensure the vision of integration and chronicity. The University of the Basque Country has launched EUSKAMPUS together with TECNALIA and DIPC (Donostia International Physics Center), based on the International Campus of Excellence Programme. EUSKAMPUS constitutes a community of ten education, research and transfer clusters that shape the three main specialization areas one of them being healthy ageing and quality of life.

Moreover, an infrastructure for innovative knowledge transfer within and across sectors has been established in the Basque Country. Associations of private companies, non-profit organization and public sector include Basque Biocluster (biosciences sector) and Gaia (electronics, information technology and telecommunications). InnovaNet (Euskadi+innova) supports training and actions related to innovation in companies.

The Basque Foundation for Health Innovation and Research (BIOEF) has implemented Innosasun program, that "de facto" converts the healthcare services in a real testing lab or living lab for SMEs innovations, providing support through capabilities, knowledge and its extensive collaborative.

Osakidetza has created Integrasarea, a network to ensure continuity of patient-centered care and actions carried out in different health organizations. It includes actors from health organizations, citizens and industry. It aims to disseminate management tools,guidelines and best practices to ensure continuity of care and promote collaborative learning.

Basque Country participates in national and international networks: EUNEHTA, EUPHA, EHMA, INAHTA, HTAi, WHO Global Network of Age friendly Cities and Communities, Covenant on Demographic Change, AFE-INNOVNET, WeDO Network.

All these activities and strategies are reflected by the Active Ageing index results that place Basque

Country in the 7th place of 28 European countries analyzed. This index measures the extent to which older people can realize their full potential in terms of employment, participation in social and cultural life and independent living. It also measures the extent to which the environment they live in enables seniors to lead an active life. It consists of 22 indicators grouped into four dimensions: employment, social participation, independent and secure life, and capacity for healthy aging. The Basque Country ranks in the second position compared to the EU-28, only after Sweden in the fourth dimension. This dimension measures if the environment facilitates active aging. It accounts for 20% of the overall score and includes aspects such as life expectancy, life expectancy in health, mental health, the use of information and communication technologies, social connectivity and level of education.

3. RIS3 Strategy priority in Bioscience and Health

The RIS3 strategy is a dynamic process in which various actors are involved, making up the four parts of the innovation 'helix': public authorities, the business community, academia and knowledge, and civil society.

Therefore, the design and monitoring of its implementation will be done collaboratively through the development of each of its priority areas, by:

- A participatory process, called Entrepreneur Discovery Spaces, to flesh out the priorities in science, technology and innovation in the Basque Country, taking as its starting point the current situation.
- The promotion of pilot projects generated from a real need or challenge detected in the Basque socio-economic fabric or from an opportunity for the country, which will be used as a test to validate and/or specify a priority, a new approach or a new way of doing new politics.

On the deployment of the strategy RIS3 in Bioscience Health a pilot group has been created. The pilot group is formed by actors from different sectors: research (CIC Biogune, Cic biomagune), industries (IK4, Tecnalia, Basque Biocluster, Euskampus), the Basque Health Service (Osakidetza) with the technical support of Ikerbasque (Basque Foundation for Science), BIOEF and Spri (Basque business development agency) and a directive commission (The Health Department, The Education, Language policy and Culture Department, The Economic Development and Competitiveness department and The Treasury and Finance Department) and Innobasque (Basque Innovation Agency) as technical secretariat.

The pilot group has worked in identify:

- Priority areas: Rare Diseases, Personalized Medicine, Digital Health-devices, Analytics/Big Data
- Strategic initiatives: Innosasun, Innovative Public Procurement, Baliosasun, EIP-AHA.

For each priority area, a working group has been established. The working group is formed by skilled persons in each area. These working groups have to assess the impact on the health sector of its area, assess the technological, scientific-and business skills in the Basque Country in relation to the area and evaluate the global trends to explain the need or opportunity of this priority area, developing a living document and later implement a plan of action in each priority area.

To which of the three thematic areas addressed by TITTAN do you think you can contribute most?

We can contribute to the three thematic areas

Which of the three thematic areas addressed by TITTAN are you more interested in learning about?
We are interested in learning about the three thematic areas

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strengths	Weaknesses
● The Basque Health Service is public, based on the principles of universality, solidarity, equity, efficiency, quality and citizen participation. Chronicity and integrated care driving to a new organizational model are considered a priority. Strong shared leadership addressing the coming tackles. ● Health Sector is a strategic priority. It is reflected in the different strategies lines (PCTI, RIS3…) and in the new qualifications in health that have been launched in the last years in the Basque Universities. ● Small size of the region which enables the interdisciplinary and intersectorial collaboration (ecosystems) and favors the changes with the early adopter culture of the Basque Country. ● Industrial and technological sector highly developed.	● Dispersion of activity, lack of focus and small critical mass (few actors and try to reach a lot) and low investment in R + D+i compared to other countries and incapacity to transform research to products and services. ● Limited communication between the different actors. There is a wide gap between the health system and social health workers (psychology, physiotherapy). ● Industrial sector in the health area is weak, is asleep and must be activated. Moreover, there is a lack of health professional profiles in the productive and technological sector. ● Health system capacity is underused and limited culture in R+ D+ i in health.
Opportunities	**Threats**
● Ageing as an economic opportunity (silver economy). It is an emerging area being an opportunity for the Basque industrial sector and for the new network of entrepreneurs. ● European framework that supports innovation, research and ageing and the scaling up of good practices. ● Need for restructuring the healthcare system to respond to changes, new professionals competences and roles are being consolidated in the system. New approaches in interprofessional and collaborative work are emerging.	● Economic crisis. Political instability and risk that decision-makers do not support R + D + i. ● Not having focus, dispersion of activities and not be able to provide feedback activities. ● International competitors that are ahead of us and are more developed. ● The ageing population which is a major expense for the system and the generational change that may cause the absence of leaders.

• Economic crisis. • Sociocultural level of citizenship.	

General overview
Partner name
FRRB, Fondazione Regionale per la Ricerca Biomedica
Region name
Lombardia
Country
Italy
Number of inhabitants in the region
10.008.349
Percentage of population over 65 years
2.193.018 (21.9%)
Please indicate the policy instrument which has been addressed by TITTAN and the main features of this policy instrument.

TA1: Inside – Out:

- **PCP Best practice of the Lombardy Region:** Lombardy Regional Operational Programme ERDF 20142020 – Axis I – Action1b-3.: "*Optimizing public expenditure through more efficient services*" and the "*Promotion of new markets for innovation – Increase the innovation demand by the Public Administration through PCP and PPI*".
- ***Action I.1.b.3.1*** - *Strengthening and upgrading government demand for innovation through support for Pre-commercial Public Procurement and Innovation Procurement* **Cluster Initiative - Lombardy Technology Clusters:** Lombardy Regional Operational Programme ERDF 2014-2020 – Axis I Action 1b.2: policy to support the cluster policies.
- ***Action I.1.b.2.1****: System-wide measures to support Lombardy firms' participation in national platforms for concerted action and technological specialization networks such as the National Technology Clusters, and in projects funded under other European programmes for research and innovation such as Horizon 2020*
- ***Action I.1.b.2.2****: Support for implementing complex R&D projects on a chosen few subject areas, and for applying functional technological solutions to the implementation of S3s.*

TA2: Outside - In

- **Increase Businesses' Innovative activity:**
- **Action I.b1**: Raising the proportion of firms which engage in R&D in collaboration with outside bodies
- **Action I.1.b.1.1**: Support for the buying-in of services for technological strategic, organizational and commercial innovation by companies
- **Action I.1.b.1.2**: Support for the economic exploitation of innovation by experimenting with and taking up innovative solutions in processes, products and organizational formulas, and by funding the industrial application of research findings

- **Action I.1.b.1.3:** Support for co-operative R&D activities to develop new sustainable technologies, products and services **Strategic Document for Industrial Policies of Region of Lombardy (2013-2018) – Part 4 – Development of research and support to innovation:** Section 4.2: Recommendations in terms of policies:
- *Regional Ecosystem for innovative start up;*
- *Support to networks of enterprises;*
- *Support to enterprises with difficulties.*

TA3: Social Innovation for Lifelong Care

- Ability research project
- Good morning CReG (Buongiorno CReG)
- Healthpresence and i-clinic

Are the main objectives addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialisation (RIS3)? **YES**

Lombardy S3 document – Work Programme Life Sciences IS4 - Disability and rehabilitation

- *IS4.1 Development of innovative devices, systems, including ICT, and/or methods for neurocognitive and/or neuromotor rehabilitation IS4.2 Development of innovative models for monitoring, assessing and supporting rehabilitation of disabled patients for treatment continuity*
- *IS4.3 Development of communication, information and mobility systems for social, scholastic and work participation by the disabled*
- *IS4.4 Development of new instrumental and/or assessment methods for rehabilitation procedures IS4.5 Development of videogames and exergames that exercise cognitive and motor abilities*
- *IS4.6 Development of mechatronic technologies for rehabilitation*

Which actions of the following are considered the key areas in the Health and Wellbeing Sector in your region? How they have evolved in the last 5 years? Please select at least three:

- **Prevention, screening and early diagnosis:**
- Health literacy, patient empowerment, ethics and adherence;
- Personal health management;
- Prevention, early diagnosis of functional and cognitive decline; Other, please specify)
- **Care and cure**
- Protocols, education and training programmes for health workforce, (comprehensive case management, multimorbidity, polypharmacy, frailty and remote monitoring);
- Multimorbidity and R&D;
- Capacity building and replicability of successful integrated care systems; Other, please specify).
- **Active ageing & independent living**
- Assisted daily living for older people with cognitive impairment;
- Extending active and independent living through Open and Personalised solutions;
- Innovation improving social inclusion of older people;

Are the leading companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?
Yes
Is there a close cooperation between the companies, the universities and research centres related to the Health Sector and the public administration in your region?
Yes
Please indicate the relevant stakeholders from private sector (big companies, cluster, etc) related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
• Lombardy Cluster for Life Science, Finlombarda S.p.A.
Please indicate the relevant stakeholders from Research Centres and universities related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
• Don Gnocchi Foundation
Please indicate the relevant stakeholders from public administration related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
• Directorate General Healthcare of Lombardy Region • Directorate General of University, Research and Open Innovation of Lombardy Region
Please indicate the 3 innovative projects/interventions with higher transformational impact in the Health Sector which have been developed in the last 5 years in your region.
1. The first Pre Commercial Procurement in the health sector in Italy. 2. Open Innovation platform. 3. Ability: European Project for remote monitored rehabilitation of cognitive and motor deficits.
To which of the three thematic areas addressed by TITTAN do you think you can contribute most?
After the first plenary meeting with the stakeholders we think we can provide insights form the Lombardy Region on all the thematic Areas encompassed by TITTAN.
Which of the three thematic areas addressed by TITTAN are you more interested in learning about?
• For Thematic Area 1: **What is needed:** *the region has no functioning programme about the promotion of interregional public buyers´ groups, thus it is interested in learning from other regions about that practice.* • For Thematic Area 2: **What is needed**: *The platform targets also the health system and sector, but not active ageing specifically, so the TITTAN project may be an opportunity to import specific practices about active ageing put in place by other regions.* • For Thematic Area 3: **What is needed:** *Among the practices of interest for the Region of Lombardy, it is the acquisition of knowledge in the use of e-health systems and programmes to support*

> *disabled people. These experiences may be improved and enriched thanks to the TITTAN project.*

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strengths	Weaknesses
The Lombardy healthcare system is a leader in **innovative medical** and **surgical technology**, **advanced medical training** and **research**. Its doctors are distinguished thanks to their excellent professional experience in several fields, and the region is home to **top-class universities**, including six medical faculties, which stand out for their ability to attract students from other Italian regions and from abroad (three faculties offer medical degree programmes in English language). With some of the most important hospitals in Italy, Lombardy has long attracted highly respected physicians covering many fields of expertise, especially in the area surrounding the regional capital, Milan. The high proportion of patients from other regions – about 10% and up to 50% in some specialties, such as oncology and cardiology – proves the attractiveness of the LHS. The merits of the model, compared to other Italian regional models, are its high quality of healthcare services within a framework of good control of healthcare spending and a balanced budget. Lombardy is particularly notable for the presence of some of the most important centres of excellence for cancer care and research, as well as for other disciplines, including surgical specialties (cardiothoracic surgery, neurosurgery, paediatric surgery, robotic surgery, cosmetic surgery, etc.). The system has a number of **globally-recognised centres of excellence** that are protected and supported by the distinctive Lombardy business model, one that is characterised by a **mix of private–public financing**, whereby public initiatives are implemented predominantly on a regional administrative level, and	The main weakness of the Lombardy System Is the high number of elderly people (over 65) which represent a continuous challenge for the regional health care structure. The demographic situation requires a deep focus and monitoring (qualitative and quantitative) of their health status to avoid a financial and social collapse.

private initiatives take place fundamentally through banking foundations.

Special attention is paid to **biotechnology**. Of all the Italian companies that operate in biotechnology, 35% reside in Lombardy, and the region accounts for 73% of national investments in biotechnology Research & Development. These 78 companies employ 11,555 people and generate annual revenues of € 2.4 billion.

About 60% of the productive **pharmaceutical enterprises** operating in the country are located in Lombardy. In addition, there are internationally-recognised universities hosting medical-scientific disciplines, sufficient to make the region one of the best international biomedical and biotechnology research centres in existence, particularly in the fields of genomics and nanotechnologies.

The Lombardy biotechnology chain includes not only large, midsize and small companies, but also modern science parks, internationally important universities, and clinical institutes and networks involved in experimentation. Within its territory there are about **500 Research & Technology Transfer Centres in the field of life-sciences**, as well as **six science and technology parks t**hat are active in several highly innovative sectors, including life-sciences, bio- and nano-technologies, food and agriculture, and other fields. Lombardy hosts 24% of the courses dedicated to biotechnology and 25% of the Italian science parks. The region offers an ideal location for research into medical devices, new drugs and innovative technologies.

Opportunities	Threats
The new regional Health System reform, which kicked in on January 2016, provides a clear picture of the LHS state of the art and tries to tackle the main threats to the LHS. In particular, statistics suggest that in 2030 Lombardy will have a population of about 3 Million elderly, with more than 1 Million people being over eighty years old. Two over 60 people every under 20. There will be a swift from patients from acute symptoms to chronic.	The main threats come from the demography and epidemiology of the Lombardy region. In fact the Region presents the following situation: 6.400.000 healthy people 3.600.000 Million people with at least one chronic disease 400.000 people which are completely not financial self-sufficient, of which 50% access the

The new reform face this situation implementation a new paradigm: from "*to cure*" to "*to care*". This will eventually lead to: • Rationalisation of services, thanks to a reduction of Local Health Units (ASL) with the implementation of ARCA, • Requalification of health professionals which will gain a profound knowledge on how to handle chronicity. • Centralisation of the single patient, with his specific condition and needs.	emergency every year. This situation poses a huge burden on the LHS which, if not talked properly, could lead to a collapse of the Regional Health System

General overview
Partner name
HEALTHY SAXONY e.V.
Region name
Saxony
Country
Germany
Number of inhabitants in the region
4.055.274 inhabitants (January 2015)
Percentage of population over 65 years
24,94 % (January 2015)
Please indicate the policy instrument which has been addressed by TITTAN and the main features of this policy instrument.
ERDF The ERDF Operational Programme of the Free State of Saxony is the regional policy instrument that manages ERDF funds. It has been approved by the Saxonian government in November 2014 as a result of detailed consideration regarding regional challenges as well as overall investment priorities. Extensive parts of this programme align with priorities of the Europa 2020 smart specialization strategy, e.g. to foster research, development and innovations, reduce CO_2-Emissions, the adjustment to climatic changes as well as the preservation of the environment and many more. The improvement of healthcare through more resourceful and innovative technology-based measures is among the top priorities of the region. The rate of population under the age 20 decreased from 24% in 1990 to 15% in 2012 while the rate of senior population (age 65 or higher) increased during the same period from 16% to 25%. It is expected that the amount of senior population will be increased up to the rate of 33% by 2025 while the rate of the younger population will hardly increase. Furthermore a remarkable amount of the Saxonian population lives in rural areas where medical and healthcare provision are far less dense than in urban regions. Only by fostering and implementing technology-based innovations, Saxony can tackle the distinctive demographic and healthcare challenges mentioned above.
Are the main objectives addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialisation (RIS3)? If yes, please indicate how.
The regional innovation strategy for smart specialisation (RIS3) is the result of a strategy development process that is based on comprehensive analyses and intensive participation of numerous stakeholders like, for instance, health economics and biotechnology. Health is a key driving force of economic growth. Lifetime health and well-being for all, high-

quality and economically sustainable health and care systems, and opportunities for new jobs and growth, are the challenges; overcoming them is the aim of promoting research and innovation. The term health industry has a cross-industry character and includes the development, manufacture and marketing of goods and services that are used in the broadest sense of the preservation and restoration of health.

Some parts of the healthcare industry include highly innovative, research-oriented fields. These arise both in the life sciences and medical technology (new diagnostic and treatment approaches, pharmaceutical products, medical equipment, medical computer science), in the field of knowledge-intensive services (medical and nursing care), and increasingly outside the traditional health care system, at the interface between other disciplines of knowledge, for example engineering and information technology. So, for example, winning over an ageing population to support the testing and structuring of alternative care facilities becomes increasingly important.

Consequently, the understanding of health, disease, disability, development and (active) ageing and their improvement through innovative scalable and effective products, strategies, interventions and services are to be supported. These include e-health measures, measures for telematic, interdisciplinary networking and Ambient Assisted Living (AAL).

The Free State of Saxony will strengthen the willingness and ability to create healthcare innovation and improve the conditions for it – for instance via the foundation of institutions like Biosaxony and HEALTHY SAXONY. This also supports a more patient-oriented society and market research (Open Innovation, User Innovation) to increase the marketability of innovations in health and nutrition.

In Saxony, more than 30 university and non-university research institutions are active in the field of life sciences. The institutions are working together as partners, to jointly promote medical / therapy and molecular bioengineering interdisciplinary research and translate it into applications. Two of the four German Excellence Initiative Institutions in the field of regenerative medicine / therapy are located in Saxony: CRTD (Dresden) and TRM (Leipzig).

Which actions of the following are considered the key areas in the Health and Wellbeing Sector in your region? How they have evolved in the last 5 years? Please select at least three:
- **Prevention, screening and early diagnosis** (1. Health literacy, patient empowerment, ethics and adherence; 2. Personal health management; 3. Prevention, early diagnosis of functional and cognitive decline; Other, please specify).
- **Care and cure** (1. Protocols, education and training programmes for health workforce, (comprehensive case management, multimorbidity, polypharmacy, frailty and remote monitoring); 2. Multimorbidity and R&D; 3. Capacity building and replicability of successful integrated care systems; Other, please specify).
- **Active ageing & independent living** (1. Assisted daily living for older people with cognitive impairment; 2. Extending active and indepedent living through Open and Personalised solutions; 3. Innovation improving social inclusion of older people; Other, please specify).

- Prevention, screening and early diagnosis
  - Patient empowerment, prevention and early diagnosis of functional and cognitive decline: GeriNet Night Café (see best practice sheet), several projects and centres implemented and run by the university medical centres and large hospitals
  - Prevention, early diagnosis of functional and cognitive decline: LIQUID – Screening for elderly people at risk GeriNOT in the hospital and ANGELINA, a self- and expert-assessment
  - Early diagnosis of functional and cognitive decline: SOS-Net, Tessa and TNS-Net ehealth-based acute stroke treatment networks connecting virtually all Saxon hospitals to

the three major stroke units at the two university medical centres Dresden and Leipzig as well as to the Chemnitz hospital

Constant implementation, extension and improvement of the existing structures during the last years. Ehealth provides new means and tools for facilitating collaboration across all sectors.

- Care and cure
  - Capacity building: implement care networks for inpatient and outpatient care, especially in rural areas: KOMPASS Leipzig
  - capacity building: implementation of interoperable, widely available ehealth infrastructure platform CCS Telehealth
  - case management: SOS-Care stroke ehealth-assisted outpatient case management with CCS-Telehealth, TeleCoaching ehealth-assisted outpatient heart insufficiency telemonitoring with CCS-Telehealth

- Active ageing & independent living

  - Assisted daily living for older people with cognitive impairment: Quartiers- und Generationengenossenschaft
  - European falls prevention project submission DOREEN and collaboration in EIP-on-AHA AG A2

Especially in the field of active and healthy ageing there is strong innovative power throughout the SME landscape, the networking and cluster institutions as well as the research institutes and universities in Saxony. New care and case management models, sensors and ehealth applications are being developed and tested.

Are the leading companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?

GeriNet is the regional network with all Health Sectors for elderly peoples and their families. They developed in 5 workgroups cluster conception for urban and rural areas.
1a, 1b, 2a, 3a

Carus Consilium Saxony
2b, 2c, 3b

Both are mainly networking institutions however, among several more. There are no leading companies in the health sector in Saxony per se, there is a conglomerate of excellent research institutions, university medical centres, innovative hospitals, associations, many biotechnology and medical technology companies with high innovative power.

Dresden University Medical Centre, Leipzig University Medical Centre, Chemnitz municipal hospital
1c

Is there a close cooperation between the companies, the universities and research centres related to the Health Sector and the public administration in your region?
Yes, implemented in a private association: HEALTHY SAXONY e.V., which also provides the connection to the Saxon State Ministry for Social Affairs
Please indicate the relevant stakeholders from private sector (big companies, cluster, etc) related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
Biosaxony e.V.: is the cluster of biotechnology and life sciences industries in the Free State of Saxony. It stimulates innovation, supports initiatives in the interest of small and medium enterprises, and passes on technical knowhow in R&D and market oriented transfer projects. It is included into TITTAN via LOI. Silicon Saxony e. V. is Europe's most successful trade association for the micro- and nanoelectronic, smart system, application and energy system industries, connecting 300 manufacturers, suppliers, research institutes, universities and public institutions in a network. Organic Electronics was founded on October 6th 2008 by seven companies and three research institutes from the organic sector in order to strengthen the organic center in Saxony and global. VTI represents the textile industry in Saxony which is highly innovative and has a strong impact on the healthcare sector. They are involved into TITTAN through membership in HEALTHY SAXONY.
Please indicate the relevant stakeholders from research centres and universities related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
Technical University Dresden: it is one of eleven German "Excellence Universities". The Faculty of Business and Economics, through its Chair of "Systems Development", supports Regional Government about the implementation of ehealth initiatives. University Medical Hospitals Dresden and Leipzig (both members of HEALTHY SAXONY) Fraunhofer institutes (MOEZ, ENAS ...), not actively involved.
Please indicate the relevant stakeholders from public administration related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
State of Saxony – Saxon State Ministry for Social Affairs and Consumer Protection: it is the main public authority at regional level, in charge of designing and implementing health policies. It is in charge of managing the policy instrument. (involved via LOI and close cooperation through HEALTHY SAXONY)
Please indicate the 3 innovative projects/interventions with higher transformational impact in the Health Sector which have been developed in the last 5 years in your region.
1. CCS Telehealth 2. Telemedical stroke networks (SOS-NET, TESSA, TMS-Net)

3. GeriNet
To which of the three thematic areas addressed by TITTAN do you think you can contribute most?
Areas 2 and 3
Which of the three thematic areas addressed by TITTAN are you more interested in learning about?
Area 3 and 1

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strengths	Weaknesses
Saxon research institutes provide remarkable expertise in the fields of widespread diseases, regenerative medicine, cancer treatment and IT supported biotechnology. The region has a wealth of powerful small businesses and strong research and education institutions.	• Funding critical • No venture capital culture • Startup scene still growing
Opportunities	**Threats**
HEALTHY SAXONY shares this responsibility with the Saxon Ministry of Social Affairs. Public/private cooperation and technology transfer for developing new products and services. It represents an ideal benchmark, since it comprises both high income and low income districts already dealing with issues related to ageing populations and various connecting factors for lifelong support.	Saxony is the state most affected in Germany by the demographic change and also the most rapidly ageing region in Germany.

General overview
Partner name
DHI, Digital Health & Care Institute / University of Strathclyde
Region name
Scotland
Country
United Kingdom
Number of inhabitants in the region
5,373,000 (Estimate as of 30 June 2015) Source: http://www.gov.scot/Topics/People/Equality/Equalities/DataGrid/Age/AgePopMig
Percentage of population over 65 years
18% (estimate mid 2015) Source: http://www.gov.scot/Topics/People/Equality/Equalities/DataGrid/Age/AgePopMig **See figure below:**
Please indicate the policy instrument which has been addressed by TITTAN and the main
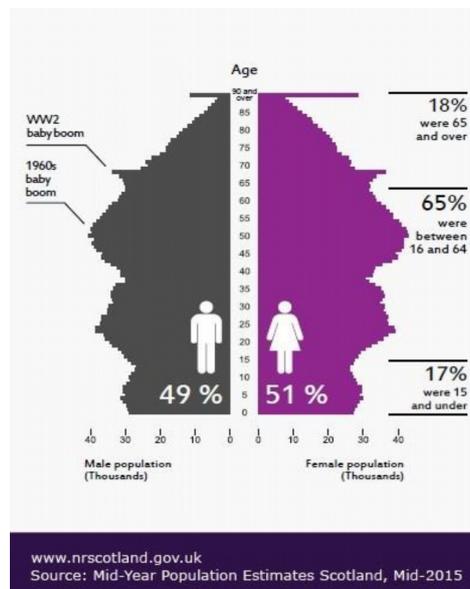
features of this policy instrument.

The Scottish European Regional Development Fund (ERDF) Operational Programme (OP) 2014 – 2020 sets a number of priorities including:

- Innovation in Support of Growth and Jobs
- Promoting business investment in innovation and research, and
- developing links and synergies between enterprises, R&D Centres and higher education sectors

Innovation is a key driver of production growth, and Scotland has a strong base of innovation which it can build on. As the Economic Strategy for Scotland makes clear, improvements in innovation enabled businesses to become more competitive, grow more quickly, enter new markets and become more resilient to change.

The Scottish Government is supporting ambitious collaborations between business, academic and others to capitalise on Scotland's world class research through a dedicated innovation policy (case study 3.1.2) and significant investment in a network of Innovation Centres (see case study 3.2.2). There are currently eight Innovation Centres in Scotland, including the Digital Health & Care Institute (DHI), one of the TITTAN network partners. DHI plays a hub role in the Scottish health and care ecosystem and has a main focus on aging as a potential domain for innovation.

planning to support international collaboration by piloting Innovation and Investment Hubs at key global locations, and this project could be an enabler for its development.

Through the Policy Instrument and the economic strategy, Scotland has committed to investing business research and innovation, as well as investing in the promotion of products and services. There is also a commitment to developing open innovation in a number of key sectors.

In addition to supporting innovation activity in Scotland, the Scottish Government is also

Are the main objectives addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialization (RIS3)? If yes, please indicate how.

Yes. Although not exactly the same format as other EU regions' RIS3, Scotland has adopted an approach to Smart Specialisation at the European level and the Scottish Government's economic strategy – with a priority in Life Sciences – operates as part of this approach.

Having a regional innovation smart specialisation strategy/approach agreed with the Commission is a pre-condition for 2014-2020 ERDF innovation activity. More information is available on pages 4-6 of the Scottish ERDF Operational Programme in the Smart Growth section.

A Scottish Government blog states that:

'In Scotland, our approach has been not to draft a separate strategy document but to draw together the elements of our strategic framework which are linked to Smart Specialisation

and to engage in furthering our Smart Specialisation Strategy as an integral part of our domestic agenda.
We are also working closely with EU partners to share learning and experience on this, to accelerate demonstration of how this can lead to enhanced delivery and promote more efficient and effective use of public investment.'

Which actions of the following are considered the key areas in the Health and Wellbeing Sector in your region? How they have evolved in the last 5 years? Please select at least three:
- **Prevention, screening and early diagnosis** (1. Health literacy, patient empowerment, ethics and adherence; 2. Personal health management; 3. Prevention, early diagnosis of functional and cognitive decline; Other, please specify).
- **Care and cure** (1. Protocols, education and training programmes for health workforce, (comprehensive case management, multimorbidity, polypharmacy, frailty and remote monitoring); 2. Multimorbidity and R&D; 3. Capacity building and replicability of successful integrated care systems; Other, please specify).
- **Active ageing & independent living** (1. Assisted daily living for older people with cognitive impairment; 2. Extending active and independent living through Open and Personalised solutions; 3. Innovation improving social inclusion of older people; Other, please specify)

1. **Health literacy, patient empowerment, ethics and adherence**

Scotland's key area:
Person-centred Health and Care:
'Ensuring what matters most to people is at the heart of how services are designed, delivered and improved'

High quality, person-centred healthcare is at the heart of the Scottish Government healthcare strategy for Scotland. The 'Healthcare Quality Strategy for Scotland' (2010) sets a strategic vision for the NHS in Scotland which embraces 3 key 'person-centred' principles which strive to ensure that:

- *'the NHS listens to peoples' views, gather information about their perceptions and personal experience of care and use that information to further improve care*

- *the NHS builds on the values of the people working in and with NHSScotland and their commitment to providing the best possible care and advice compassionately and reliably by making the right thing easier to do for every person, every time*

- *the NHS is making measurable improvement in the aspects of quality of care that patients, their families and carers and those providing healthcare services see as really important'*

As part of this policy commitment, a number of key initiatives have recently been developed, including:

- **Must do with me**

Practical improvements to person-centred care are promoted and supported through five key '*Must Do With Me'* areas:

> 1. *What matters to you?*
> 2. *Who matters to you?*
> 3. *What information do you need?*
> 4. *Nothing about me without me*
> 5. *Personalised contact*

'Together these five "Must Do With Me" areas are designed to ensure that all of the interactions between people using services and the staff delivering them are characterised by listening, dignity, compassion and respect.'

- **Care Quality Improvement Programmes**

The Scottish Government healthcare quality strategy is committed to delivering the highest quality of care, striving to ensure that services and care delivery are continuously improved.

This is achieved in practice by a multi-faceted care quality implementation strategy, which seeks to ensure that care is delivered according to clinical excellence and evidence-based best practice; that quality improvement is an intrinsic part of NHSScotland processes as well as key performance targets.

Care and cure (Protocols, education and training programmes for health workforce):

● **Clinical excellence and evidence-based best practice:**
The Knowledge Network and 'Evidence into Practice'
The Knowledge Network platform is the national knowledge management platform for health and social care delivered by the Knowledge Services Group of NHS Education for Scotland (NES). It provides high quality knowledge support for delivery of health and social care.

The Knowledge Network provides:

- **A wealth of 12 million information and learning resources from more than 100 quality assured health and social care providers.** This includes collections of articles, books and journals, guidelines, policy documents, resources for patients and service users, evaluated websites and e-learning courses.

- **A personal webspace:** allows users to choose collections of resources defined for different workforce groups and topics. 'My Resource Space' also allows users to

save and organize personal collections of resources using tagging. People Connect provides a social directory.

- **Online community tools:** help groups of health and social services staff and partners to create their own community websites and collaborative workspaces to share information and learning resources as well as personal knowledge and experience. Community websites provide tools including wikis, blogs, discussion forums, tagging and personal profiles.

'Evidence into Practice', is part of The Knowledge Network and is designed to help clinicians find, share and apply evidence to practice to deliver the best quality patient care. It provides a targeted clinical evidence search which includes guidelines, pathways, evidence summaries and systematic reviews.

● **Healthcare Improvement Scotland:**
Healthcare Improvement Scotland is the national healthcare improvement organisation for Scotland and part of NHSScotland. Healthcare Improvement Scotland's mission is to encourage and support continuous improvement in healthcare practice.

The organisation work with staff who provide care in hospitals, GP practices, clinics, NHS Boards and with patients, carers, the community and the public. In particular, Healthcare Improvement Scotland provides quality improvement support to healthcare providers.

Care of older people: Healthcare Improvement Scotland measures NHS boards against a range of standards, best practice statements and other national documents relevant to the care of older people in acute hospitals. Healthcare Improvement Scotland inspections focus on the three national quality ambitions for NHSScotland, which ensure that the care provided to patients is *person-centred, safe and effective*. The inspections are designed to ensure that older people are being treated with compassion, dignity and respect while they are in an acute hospital.

Improvement Hub (ihub): In response to the integration of health and social care services across Scotland which became effective as of the 1st of April 2016, Healthcare Improvement Scotland has worked with a range of partners to create a new improvement resource, called the Improvement Hub (or ihub). This resource is designed to support Health and Social Care Partnerships and NHS boards to improve the quality of health and social care services.

● **Care Quality Improvement Programmes:**
Care quality improvement is also enacted in practice via targeted care quality improvement programmes. Recent improvement programmes include:

- **The Scottish Patient Safety Programme:**

This is a national initiative launched in 2008 to reduce avoidable harm in NHSScotland and transform the safety of acute care for patients. The programme is led by Healthcare Improvement Scotland and is delivered in partnership with 15 NHS boards across Scotland. It aims to improve the safety and reliability of healthcare and reduce harm, whenever care is delivered. From an initial focus on acute hospitals, the programe has now been expanded to include safety improvement programmes for Acute Adult care, Maternity and Children care, Mental Health and Primary Care (SPSP, 2014).

2. **Assisted daily living for older people with cognitive impairment**
   Scotland's key area :

Healthcare Improvement Scotland has been leading a national programme of work with NHS boards to improve older people's acute care in NHSScotland since April 2012. This programme called the *'Improving Care for Older People in Acute Care'* workstream focuses on 2 key areas:

- **care co-ordination**: focused on identification and immediate management of frailty
- **cognitive Impairment:** focused on identification and immediate management of delirium.

- **The 'Frailty work-stream'** aims to identify frail patients on admission to acute care, so that those patients receive timely comprehensive geriatric assessment and input from a specialist team on the day of admission. Evidence shows that timely assessment on admission improves outcomes for geriatric patients (Graham et al., 2011).

- **The 'Delirium work-stream'**:

Older people and people with dementia, severe illness or a hip fracture are more at risk of delirium. Healthcare Improvement Scotland has developed a 'care bundle' for identifying and caring for people with delirium and it is being piloted with NHS boards in Scotland.

Impact of the programme:
Data from individual boards shows some patients outcomes improvements, including:

- *'reduced mean length of stay from 22 days to 8 days in NHS Grampian*
- *a 50% decrease in the average number of falls per month in two wards between January 2013 and January 2015 in NHS Greater Glasgow and Clyde*
- *frailty screening in three wards in the surgical directorate at the Royal Infirmary of Edinburgh resulted in decreases in length of stay, falls and the number of complaints.'*

3. Extending active and independent living through open and personalised solutions

Scotland's key areas:

Anticipatory care planning: developing a national approach to anticipatory care planning to enable people living with long term conditions to live in their community and avoid hospital admissions

Pathways for high resource individuals – identify and test pathways of care that enable people at risk of becoming high resources users of health and care, and help them to spend more time in the community than hospital.

Place, home and housing: planning of housing and related services to provide people with a home environment that supports greater Independence and improved health and well-being.

- **Independent-Living Vision & Collaborative:**
In 2013, the Scottish Government, the Convention of Scottish Local Authorities, the disabled people's Scottish Independent Living Coalition, and NHS Scotland jointly issued a 'Shared Vision for Independent Living in Scotland'.

The statement set out a vision supporting independent-living in the community for people with disabilities, including 'the rights to practical assistance and support to participate in society and live an ordinary life'.

- **Active and Independent Living Improvement Programme** (AILIP) is an Allied Health Professions-led national improvement programme. In May 2015, the Scottish Government announced a £3 million, three year fund to enable active and independent living for people recovering from illness or injury. It aims to develop innovative ways to help people with illness, disability or injury to lead healthy lives and stay in their own homes.

Are the leading companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?

There are a range of companies specialising in the key areas which were indicated in the previous section In Scotland.
These companies range from small to medium sized enterprises to Multi National Corporations, who may not be active in the specific key areas, but are active in the healthcare across Scotland as a whole and therefore impact on the key areas.

SMEs:
- Mydex

- TIYGA
- CM2000
- Albyn Housing
- Commuicare 247

   MNCs:
- Oracle Systems
- Virgin Media
- Vodaphone
- Hitachi
- Capita
- Pfizer
- Medtronic
- GSK
- British Telecom
- Hewlett Packard Enterprises
- CISCO
- Dimension Data
- Orion Health

Is there a close cooperation between the companies, the universities and research centres related to the Health Sector and the public administration in your region?

Scotland has a strong ties linking industry, academia and research centres and this is actively encouraged by the Scottish Government.

This can be evidenced by the number of networks and organisations that are in place to help promote innovation and strengthen these existing links.

One of the key examples is the Network of 8 Innovation Centres which was created in 2012 by the Scottish Funding Council in Partnership with Scottish Enterprise and Highlands and Islands Enterprise to Support transformational collaboration between universities and industry.   The Centres aim to enhance innovation and entrepreneurship across Scotland, and have the full backing from industry.   They will draw on the wealth of research expertise to Work on problems and opportunities which have been identified by industry, as well as supporting skills and training, and increasing collaborative working.
The Digital Health and Care Institute is one of the 8 innovation centres.
http://www.innovationcentres.scot/who-we-are/

Other examples include:

Scottish Enterprise
Scottish Enterprise is Scotland's main economic development agency and non-departmental public body of the Scottish Government.   They Work with the public and private sectors to identify and exploit the best opportunities for delivery of a significant and lasting effect on

the Scottish economy.
http://www.scottish-enterprise.com/

Highlands and Islands Enterprise Integrates economic and community development, covering the Highlands and Islands of Scotland, which makes over half of Scotland's land mass. They are the Scottish Government's economic and development agency with the aim to generate sustainable economic growth across the Highlands and Islands.
www.hie.co.uk

Interface was established in 2005, and is a knowledge connection for business and acts as a central hub connecting organisations from a wide variety of national and international industries to Scotland.
http://www.interface-online.org.uk/about-us

NHS Research Scotland promote and support excellence in clinical and translational research in Scotland so that patients can benefit from new and better treatments. Formed through a Partnership of the Scottish NHS Boards and the Chief Scientist Office of the Scottish Government, they aim to ensure that NHS Scotland provides the best environment for supporting research.
http://www.nhsresearchscotland.org.uk/working-with-us

Scottish Health Innovations Limited (SHIL) work with in partnership with NHS Scotland and healthcare professionals to develop and commercialise products to improve patient care. They are the only organisations set up to Work alongside NHS Scotland to carry out commercialisation activities.
http://www.shil.co.uk

Knowledge Transfer Partnerships - The scheme helps businesses to innovate and grow by enabling new skills, knowledge and expertise and apply these to strategically important projects, through linking them with a University and a KTP associate.
https://connect.innovateuk.org/web/ktp

Additionally, each University in Scotland has a Department/team which is dedicated to establishing and enhancing the relationships between the universities in Scotland and the industry base.

Please indicate the relevant stakeholders from private sector (big companies, cluster, etc) related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

Scottish Enterprise, are a non-departmental public body of the Scottish Government, and work collaboratively across the public and private sectors in Scotland to deliver significant and lasting benefits for the Scottish economy.

As active stakeholders and members of the regional steering group, Scottish Enterprise

represent the private sector.   As the Project progresses we may invite other relevant key stakeholders to join us on the TITTAN Regional Steering Group. We are also planning to invite Highlands and Islands Enterprise who represent the north and west of Scotland with the same remit as Scottish Enterprise, to join the Regional Steering Group and have started these discussions.

Please indicate the relevant stakeholders from research centres and universities related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

There are a number of key stakeholders across Scotland from research centres and universities which are active in the health and care sector in Scotland.   There are 19 higher education establishments in Scotland, and DHI, the lead regional partner for Scotland for TITTAN, is engaged with them all to different degrees.

The **University of Strathclyde** is represented on the Steering Group and is taking a key role in the Project, including the preparation of this regional assessment report.
Strathclyde are ranked 7th in the UK for spin-out Company creation, and research is in the top 20 of the UK.
 http://www.strath.ac.uk/

The University of Strathclyde is also hosting the only Computer Science-led Digital Health research group in Scotland: https://dhawg.cis.strath.ac.uk/

The College Development Network have recently joined the Regional Steering Group and lead on innovation, creating CPD opportunities and sharing best practices across Scotland's colleges Network.

IRISS - The Institute for Research and Innovation in Social Services is a charitable company with a mission to: promote positive outcomes for the people who use Scotland's social services by enhancing the capacity and capability of the social services workforce to access and make use of knowledge and research for service innovation and improvement.   DHI are involved with IRISS at present, but to date they have not been engaged with the TITTAN project.
http://www.iriss.org.uk/

Please indicate the relevant stakeholders from public administration related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.

The public administration in Scotland in relation to the health and care sectors is a collaboration of a Number of organisations, headed up by the Scottish Government and the NHS.

The Scottish Government - The devolved government for Scotland has a range of responsibilities which include: health, education, justice, rural affairs, housing and the environment. Some powers are reserved to the UK government and include: immigration,

the constitution, foreign policy and defence.

The Scottish Government are actively involved in the TITTAN regional steering group through the Innovation Team and Health Innovation Partnerships, which are part of the Scottish Government's health and social directorate.
http://www.gov.scot/

NHS
NHS Lothian: is one of 14 territorial NHS health boards in Scotland.

NHS National Services Scotland - NSS supports customers to deliver their services more efficiently and effectively by offering shared services on a national scale using best-in-class systems and standards. Their aim is to help our customers save money and free up resources so they can be re-invested into essential services. They also provide consultancy and support to help public bodies join up health and social care. NSS are engaged with TITTAN project and are active members of the regional steering group.
https://nhsnss.org/

SCTT - The Scottish Centre for Telehealth and Telecare supports the development and expansion of technology enabled health and care services in Scotland. This involves working across boundaries with industry, academia, local authorities, NHS Boards and third and independent sectors to develop recognised models for redesigning health and care services.   SCTT are actively involved with the TITTAN project and have participate in the Regional Steering Group.
http://sctt.org.uk/

NHS Research Scotland (NRS) aims to support and promote excellence in clinical research in NHS Scotland, that will make a positive difference to patients health within Scotland, the UK and internationally.   We are in the process of engaging NRS with the TITTAN project.
http://www.nhsresearchscotland.org.uk/working-with-us

Please indicate the 3 innovative projects/interventions with higher transformational impact in the Health Sector which have been developed in the last 5 years in your region.

1. **Scottish Innovation Centre Network:**
    The Digital Health & Care Institute is one of 8 Innovation Centres, which have had a transformational impact over the past 5 years - increase in innovations in health and care, through working with key strategic partners throughout Scotland.   The programme is currently undergoing a review process, and it anticipated that there will be a formal report published in October 2016 which will give a full response.

2. **My Diabetes My Way (MDMW)** - using data for diabetes.   A self-management system for diabetes, which is NHS Scotland's patient and carer information portal for diabetes. It contains validated educational materials, video and interactive tools supporting patient education and self-management, and allows patients across Scotland direct Access to their diabetes data via a novel electronic personal health record. The system

is unique in that it offers Access to an entire national population, and provides information from many diabetes related sources, and has the potential to connect to any medical report in the UK and beyond.

MDMW are currently working with DHI to develop algorithms to interpret lifestyle wearable data and analyse blood glucose results, this will enable improved self management and allow patients to have a more useful with dialogue with clinicians.   The existing website portal will be relaunched as part of this activity and is being co-designed with users.

3. **Scottish Patient Safety Programme: i**s a unique initiative that aims to improve the safety and reliability of healthcare and reduce harm, whenever care is delivered. Currently the work-streams focus on: acute hospitals, acute adult care, Healthcare Associated Infections, Maternity and children, medicines, Mental and health and primary care.

To which of the three thematic areas addressed by TITTAN do you think you can contribute most?

Although Scotland has very strong expertise in all 3 of the thematic areas, it has a particularly strong record in the thematic area 1 'Outside to Inside Technological transfer' and hence we propose to focus our contribution to the TITTAN network on this specific domain.

Which of the three thematic areas addressed by TITTAN are you more interested in learning about?

Thematic area 2 – Inside-Out technological innovation

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strengths	Weaknesses
● The Scottish Government Policy Support & financial commitment to a High quality NHS / Care Quality. A strong policy commitment to eHealth (i.e. eHealth Directorate within Scottish Government), extensive and robust eHealth infrastructure built over the last 20 years, high expertise in using new technologies and digital health services (eHealth / telehealth / telecare) ● Highly skilled, trained and dedicated NHS workforce ● good-quality data (e.g. ISD), information and evidence	● entrenched health inequalities which remain difficult to resolve despite concerted efforts to address these issues ● care coordination not always optimal ● change management / technology and service innovation can be slow and protracted ● lack of evidence to support new technologies and ways of working

● very strong track record of European and international cooperation. NHS24, for example, is very visible in Europe and leads one of the Action Groups in the European Innovation Partnership (EIP) on Active and Healthy Ageing. Scotland has also recently been awarded '4 star references cite' status at the European level.	
Opportunities ● integration of health and social care ● world-class universities, medical schools and research and development centres ● strong support for innovation and digital technologies both within and outwith the NHS	**Threats** ● Brexit impact on economy and NHS staff recruitment and retention ● Political uncertainty around Scotland's Status within the UK / Europe ● Financial constraints as consequences of the above

General overview
Partner name
LSV Marshal Office
Region name
Lower Silesia Voivodeship
Country
Poland
Number of inhabitants in the region
2,9 mln
Percentaje of population over 65 years
15,6 %
Please indicate the policy instrument which has been addressed by TITTAN and the main features of this policy instrument.
Action Plan for employment-Regional Innovation Strategy (RSI) for 2011-2020
Is the issue addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialization (RIS3)? If yes, please indicate how.
Yes - With regard to the scientific-technological specialization, high potential exists in the areas such as chemical sciences (including the material engineering and nanotechnologies), medical sciences, biology and biotechnology, pharmaceutical sector, food sciences, environmental technologies, measurement and communication technologies, mechanics and automatics and civil engineering.
Which areas of the following are considered the key areas in the Health and Wellbeing Sector in your region? How they have evolved in the last 10 years? Please select at least three areas: Nutrition, Food safety, communication between Health Service and patients, communication between professionals, Chronic patients management, Emergency Care management, Active Ageing, Clinical Information management, Support system to diagnosis, Healthy eating and active lifestyle, ICT sector, Biotechnoly sector, Personalised medicine, Healthcare, Communications technology, Other (please indicate).
1. Communication between Health Service and patients 2. Chronic patients management 3. Active Ageing
Are the leader companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?
Yes – there are some for Communication between Health Service and patients and Chronic patients management
Is there a close cooperation between the companies related to the Health Sector and the Universities and Research centres in your region?

Yes - there are several clusters established
Please indicate the relevant stakeholders from private sector (big companies, cluster, etc) related to the Health Sector in the region.
Asseco Poland SA, Comarch SA, e-Heakth Cluster, ICT Cluster
Please indicate the relevant stakeholders from research centres and universities related to the Health Sector in the region.
Medical University, EIT+
Please indicate the relevant stakeholders from public administration related to the Health Sector in the region
Wroclaw Municipality
Please indicate the 3 biggest innovative projects/interventions in the Health Sector which have been developed in the region.
- Data Techno Park   - Health Programme – Tyree editions   - CareWell Project
To which of the three thematic areas addressed by TITTAN do you think you can contribute more?
Good practices implementation
Which of the three thematic areas addressed by TITTAN are you more interested in learning about?
PP Partnership

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strenghts	**Weaknesses**
ICT supports Health System Easy access to data and services. Patients understand the innovation need Engagement of local authorities Health care ubits are interested in	Most of Patients are not ready to use ICT Services Medical staff is not very enthusiastic Luck of local innovation financing Biurocrasy of public procurements There are no opportunities to build business relationships A small flexibility of the public sector
Opportunities	**Threats**
Positive Financial effect Information goes with patients	The difficulty in obtaining financing Continuous change of regulations

Better Healthcare The patient willingly stays at home and does not generate queues Reducing the cost of production of goods and services for highly accurate and long-term determination of the demand for the implementation of orders for the needs of the group, The possibility of better capacity utilization, logistics ongoing contracts for application and development of new technologies compatible with the requirements of suppliers.	The fear of the introduction of innovative procedures The cost of specialized advisers

General overview
Partner name
City of Almere (CAL)
Region name
Amsterdam Metropolitan Area (AMA)
Country
The Netherlands
Number of inhabitants in the region
200.000 (City of Almere)/ 2.4 mln. (AMA)
Percentage of population over 65 years
16% (AMA)
Please indicate the policy instrument which has been addressed by TITTAN and the main features of this policy instrument.
ERDF 'Kansen voor West 2014-2020 Operational Programme'. The main features of this policy instrument, relating to TITTAN, are the use of the ERDF funds to stimulate Innovation. Priority axis 1: Strengthening research, technological development and innovation. Specific Objective 1: Valorisation: increasing the share of - primarily internationally marketable - innovative products and services in overall enterprise turnover. The primary objective is to have the knowledge available in the Western Netherlands to accrue economic value. This impulse is a necessity for maintaining the region's competitiveness. The desired end result is an increased number of marketable products and services. The result is to be achieved through the cooperation of SMEs with each other and with knowledge institutions. The development and use of test beds, living labs and demonstration sites creates a connection between demand (end user) and supply (enterprises and knowledge institutions). On the basis of the RIS3, emphasis is primarily placed on SMEs within the nationally designated top sectors, including –relevant to TITTAN- Life sciences & Health, ICT, High tech materials and systems, and Creative Industry. The focus within this investment priority is concentrated on cross-overs. Special attention is given to innovations contributing to tackling the major societal challenges identified by the EC. The scope of this target encompasses almost the entire innovation chain, from applied research aimed at valorisation at the very start to supporting market introduction at the end, and including process innovation.
Are the main objectives addressed by the policy instrument involved in TITTAN, linked to the regional innovation strategy for smart specialisation (RIS3)?   If yes, please indicate how.
Yes. The RIS3 identifies valorisation as a horizontal theme that is important to all Dutch top sectors, including Life Sciences & Health and ICT. The emphasis is on public-private collaboration through innovation projects. Valorisation is to be encouraged by having entrepreneurs respond to

societal needs that relate to the major societal challenges.

Knowledge institutes, industry and healthcare providers need to collaborate better and the innovation system of the Randstad region needs to be strengthened.

Areas within Life sciences & Health mentioned for further joint positioning are: Imaging infrastructure, Healthy ageing, Personalized medicine, Cohorts, Prevention, and West Netherlands as living lab/ field lab for testing innovations.

Which actions of the following are considered the key areas in the Health and Wellbeing Sector in your region? How they have evolved in the last 5 years? Please select at least three:

Prevention, screening and early diagnosis (1. Health literacy, patient empowerment, ethics and adherence; 2. Personal health management; 3. Prevention, early diagnosis of functional and cognitive decline; Other, please specify).

Care and cure (1. Protocols, education and training programmes for health workforce, (comprehensive case management, multimorbidity, polypharmacy, frailty and remote monitoring); 2. Multimorbidity and R&D; 3. Capacity building and replicability of successful integrated care systems; Other, please specify).

Active ageing & independent living (1. Assisted daily living for older people with cognitive impairment; 2. Extending active and independet living through Open and Personalised solutions; 3. Innovation improving social inclusion of older people; Other, please specify).

In Almere aandacht in beleid en uitvoering, vanuit gemeente voor;

1. Personal health management- transformatie, keukentafel gesprekken, wijkteams, zelfredzaamheid

2. Extending active and independent living through Open and Personalised solutions- transitie langer thuis, Slim in Haven

3. Health literacy, patient empowerment, ethics and adherence -senior live, mantelzorg/ vrijwilligers

1. Protocols, education and training programmes for health workforce, (comprehensive case management, multimorbidity, polypharmacy, frailty and remote monitoring); CIV projecten,

Are the leading companies in the Health Sector of your region specialized in the key areas which have been formerly indicated?

There is a number of larger, international leading companies located in the Amsterdam Metropolitan Area (IBM, Philips, Zetacom) as well as many relevant smaller, innovative SMEs and startups (e.g. Cinnovate, KSYOS, Gerimedica, Patient1, Dezzel, MediWebs/Inforium).

Is there a close cooperation between the companies, the universities and research centres related to the Health Sector and the public administration in your region?

Yes. Over the passed 10 years, the Amsterdam Metropolitan Area has made an effort to cluster the various stakeholders for collaboration, innovation and growth in Life Sciences & Health. Today the Amsterdam Economic Board brings together partners in the area of 'health' and coordinates activities engaging research and education, government, companies, healthcare organisations and related partners. GWIA (Health and wellbeing Innovation Center Almere) is an initiative set up in Almere, that stimulates quadruple helix partners to work together on innovation projects. In 2016, the Amsterdam Metropolitan Area became an official reference site within the European Innovation Partnership on Active and Health Ageing, strengthening the clustering of relevant

stakeholders further.
Please indicate the relevant stakeholders from private sector (big companies, cluster, etc) related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
Due to the close relationship between the City of Almere, GWIA and the Amsterdam Economic Board, the City of Almere has easy access to many stakeholders from industry per thematic area. Innovative companies located in Almere are e.g. Cinnovate, Patient1, Dezzel, and MediWebs/Inforium.
Please indicate the relevant stakeholders from research centres and universities related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
Due to the close relationship between the City of Almere, GWIA and the Amsterdam Economic Board, the City of Almere has easy access to stakeholders from research and universities. We involve the Ben Sajet Centre, a regional partnership of the Academic Medical Centre, University of Amsterdam, VU University & Medical Centre, Amsterdam University of Applied Sciences (HvA), Amsterdam Health & Technology Institute and careprovider Cordaan. It brings together science, practice and education to improve and innovate the quality of care for older people as well as the quality of work for care professionals.
Please indicate the relevant stakeholders from public administration related to the Health Sector in the region, and which of them are actively involved in the TITTAN project.
Of the 32 municipalities collaborating within the administrative cooperation of the Amsterdam Metropolitan Area, the City of Almere, including its public health department (GGD) is actively involved in TITTAN.
Please indicate the 3 innovative projects/interventions with higher transformational impact in the Health Sector which have been developed in the last 5 years in your region.
1. Creation of the Health and Welbeing Innovationcenter Almere (GWIA), a public private foundation that specifically promotes and facilitates collaboration and innovation in health and wellbeing, including the training of the health professionals of the future (in various talent projects).   2. National transformation of the Social Domain: promoting person empowerment and autonomy as much as possible, through migration to integated- and community care.   3. Reedewaard and Woonmere – two 'living labs' that combine quality care with smart technology, for senior and severly disabled citizens respectively.
To which of the three thematic areas addressed by TITTAN do you think you can contribute most?
TA2 – Ecosystem for Innovation
Which of the three thematic areas addressed by TITTAN are you more interested in learning about?
TA1 – Procurement of innovation

What are the main strengths, weaknesses, opportunities and threats which are currently being faced by the Health Sector in your region? (Please, indicate maximum 4 in each field)

Strengths	Weaknesses
- Strong fundamental and translational science base, with many patents and publications (oncology, neuro-, cardio- and immunology, infectious diseases, public health, exercise/ sports, imaging) - Good ICT infrastructure, internet density, e-ready population, smart region - Excellent region for testing innovations, e.g. co-creation in living labs - Heterogeneous super cluster, with opportunities for cross overs of Health with e.g. ICT, Creative industries - High quality care and cure - Transition of management of health and social care from national to local responsibility - Presence of quadruple helix health cluster/ ecosystem, strong start up climate - Highly educated, multilingual workforce - High quality of life - Culturally diverse community, 175 nationalities - Accessible, global business hub with many Venture Capitalists - Several EU infra institutes EATRIS, BBMRI, ELIXER, InfraFrontier, and Clinical Research Organisations - National topsector for life sciences & health, joint acquisition efforts and human capital agenda	- One of most expensive countries for care and cure (12% GDP) - Informal care and person empowerment not well established (culturally) - Not enough qualified ICT professionals - Many innovations, few successful implementations - Many small companies, few Dutch multinationals in life sciences and health, e.g. big pharma - Knowledge paradox: limited valorisation from science to business - Heterogeneous super cluster, diverse economy: health is just one of many promising clusters - No long-term development or investment agenda on (e)health
Opportunities	**Threats**
- Rapid demographic ageing: silver economy, business and job creation - Transition to living at home as long as possible - Collaborations with other EU health innovation regions - Cross overs with other growth areas, especially ICT (and creative industries,	- Life Sciences & Health takes a long, risky and costly road to market - Competition of other health innovation regions and emerging markets - Strict regulations (EU, NL) - Growing costs of care (within last years of life), shrinking healthcare budgets, compromising healthcare system

Food, Tourism, Logistics) ● *Urbansiatie, locatie voor grootstedelijke vraagstukken rond health* ● Grand societal challenge and economic opportunity connected to EU agenda and funding (ERDF, H2020) ● Global growth sector ● Integrated, holistic approach towards health: physical, social, mental ● Translate success of Smart City/ living lab approach to health, including area based and user centred innovation ● Publiek private collaboration, connecting science to business ● Amsterdam port to Europe	● Overdiagnosis and overtreatment, supply creates demand ● Social-economic health inequalities ● Rapid demographic ageing, increase in chronic disease, lifestyle diseases (obesity) and multimorbidity ● Growing or decreasing world population? ● Limited collaboration between government departments for health, economics and education ● Financiële crisis limits investments, dependency on government support

C. Thematic Area 1. Outside-In Technological Innovation

The main goal of this thematic area is to promote the acquisition of innovative products and solutions for public healthcare systems, mainly through the implementation of innovative practices, such as public procurement of innovation, co-creation programs between public bodies, private companies, educational and knowledge system and citizens, public-private partnerships, etc.

In order to know more about the previous experience of the region in this sort of good practices, please fill the information requested in the box below. Please add as much "boxes" as good practices identified[1].

Title of the good practice
Joint Research Units
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Galician Innovation Agency, GAIN. Public Administration which depends directly of Ministry of Economy, Industry and Employment.
Summary of the good practice (3.000 characters)

A Joint Research Unit is a structure, which is set up by different higher education and research institutions (both public and private) by pooling human resources and equipment based on a joint strategy and common scientific project.
 	
This program was launched by GAIN in order to foster the establishment of joint research units in the region. These units are focused on the promotion of the relationships between all the stakeholders involved in the innovation ecosystem through the joint development of high impact R&D lines.
 	
The Joint Research Unit needs to be comprised by one research organization from Galicia and one company, or two as a maximum. They need to be active at least for 3 years, the expected output after three years is that the JRU operates independently with no needed of funding.
 	
The minimum expenditure eligible for subsidy is 2.000.000M€, it is required that the company has a minimum participation of 40% of the total budget, the research centre should has a minimum participation of 10% of the total budget of the Joint Research Unit.
 	
The research organization (technology centre, university, biomedical foundation, etc) will receive the grant from GAIN, nevertheless all the members of the Joint Unit will be benefit from the results generated during the development of the activities.
 	
The main objectives are as follows:
• To establish joint working groups between research organizations and companies to become catalysts of development of R&D lines.
• To develop high impact projects.
• To enhance the research groups.
• To foster synergies among the research organizations and companies.
• To attract R&D inversion to Galicia.
• To boost the transference of results from investigation to market.
 	
Three Joint Research Units were granted in the field of Health:
• **(2014) eHealth Joint Knowledge Centre (eJKC)**: use of ICT technologies in the field of Health.
  ◦ Participants: Gradiant and Everis.
• **(2014) Joint Research Unit USC-Esteve:** open innovation for early discovery of treatments
  ◦ Participants: University of Santiago de Compostela and Esteve Laboratories.

- **(2015) Joint Research Unit CHUS-Roche for precision oncology:** innovative solutions to reach a precision oncology for breast and prostate cancer based on the molecular and functional characterization of key steps for tumor dissemination and progression.
  - Participants: Fundación Ramón Domínguez and Roche Farma S.A.

Due to the fact that the research organization involved is one of the stakeholders of TITTAN, It should be emphasized the impact of the Joint Research Unit CHUS-Roche for its main role in cancer research, one of the illness with most prevalence in elderly population. It has been configured with the aim that the clinical criteria define the basis of the research projects to rapidly revert to the patient but also with the company criteria to assure also market success for the research results. Their main research lines are:

- Liquid Biopsy: generation of specialized knowledge about molecular mechanisms of tumoral dissemination based on the characterization, patterns of dissemination etc of Circulating Tumoral Cells and ctDNA and generation of new technology tools with direct application to biomedicine.

- Modelization: development of new technologies based on microfluidics and nanotechnology for modelling of complex in vitro and development of in vivo models, such as zebra fish.

- Nano-oncology: generation of new therapeutic and diagnosis strategies based on nanotechnology.

How much funding has been mobilised for its implementation?
Joint Research Units in Health Sector (2014-2015)   Granted by Public Administration, GAIN: 2,2 M€   Total mobilised: 7,3 M€   Joint Research Unit CHUS-Roche for precision oncology   Granted by Public Administration, GAIN: 732.000 €   Total mobilised: 2,5 M€
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
The coverage of the good practice is regional but the expected impact is international.   The establishment of joint research units is a tendency all over the world.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It's an extended program of GAIN with regional coverage and available for all sectors in Galicia (Health, IT, Fishing, Automotive, Agricultural, Dairy Sector, etc).
Is this good practice being currently implemented on an on-going basis as a routine procedure?
It's being implemented as a routine procedure by the Public Administration since 2014.   - Year 2014: 7 Joint Research Units (2 of them in Health sector) were granted by GAIN with a total funding of 5M€.   - Year 2015: 10 Joint Research Units (1 in Health sector) were granted by GAIN with a total

funding of 7M€.
• Year 2016: Call for proposal opened with a total funding of 5M€

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Although the impact of the Joint Research Units established in Galicia in terms of market and employment is not yet known due to their recent implementation, according to the call for proposals of 2016 launched by GAIN it is expected that 90 new high skill jobs will be created related to the call of 2016.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers: difficulty to find companies that believe in this type of collaboration. Facilitators: the commitment of GAIN with this kind of collaboration between public and private sector.

Are new collaborations foreseen between the parties involved in this good practice?

Yes, new collaborations between research centres and companies involved in Joint Research Units have been already established. In fact, Fundación Ramón Domínguez, has signed a new collaboration agreements with Roche by ceding equipment for one of the research lines, liquid biopsy.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

Both have the opportunity to know in depth how the other party deals with research. • For the research group it is a great opportunity to test their ideas first and then their prototypes, results, etc. • For the company it is the perfect chance to know the unmet medical needs of their areas of interest.

Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?

As per the recent creation of the Units is too early to state the social impact as well as the health impact of this good practice. Nevertheless, it is expected these units to accelerate the development of innovative solutions which improve the quality of life of citizens.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?

Yes, a new call for proposals was opened by GAIN in June 2016 with a total funding of 5M€.

Title of the good practice
Conectapeme (Connecting SMEs)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Galician Innovation Agency, GAIN. Public Administration which depends directly of Ministry of Economy, Industry and Employment.
Summary of the good practice (3.000 characters)
Program launched by GAIN in order to foster public-private cooperation, between Small and Medium Enterprises and regional research centres through the support of innovative, market-oriented research projects and aligned with RIS3. The strategic areas of the program are as follows: • Industry research • Experimental development • Innovation in organization models and process. The program is targeted to consortiums between 2 and 6 companies (SMEs preferably) with collaborative projects. At least one of the members of the consortium needs to be a small company and one public research centre has to be involved in the project with a significant role. The research centre selected will be outsourced by at least one of the members of the consortium with a minimum budget of 15% and a maximum of 25% of the total budget of the project. It is also required that all the members of the consortium has their headquarters in Galicia and develop their activities in the region. They are allowed to outsource up to 50% of the activity, if needed. In order to be eligible, the total budget of the project should be between 0,5 and 1,5M€ with a duration from 2 to 3 years. 7 projects in the Health sector were selected in 2014 (latest call). Some examples: • Analysis, design and prototype of an IT system for automating processes of genetic analysis in blood. • New drugs development for the treatment of cancer. • Light emitting nanomolecules for biomedical diagnostic applications
How much funding has been mobilised for its implementation?

Total budget, 2014 -2016: 8 M€
• Health and Active Ageing:
  ◦ Granted by Public Administration, GAIN: 3 M€
  ◦ Mobilised: 4,8 M€

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?

The coverage of the good practice is regional and in fact it is a requirement that all the members of the consortium develop its activities in Galicia in order to increase the competitiveness of SMEs as well as research centres in the region.
This good practice is being implemented by other public administrations all around the world.

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?

It's an extended program implemented by GAIN since 2013 and financed by the European Regional Development Fund (ERDF) in strategic areas for the region of Galicia.

- Granted by Public Administration, 2013-2015: 13,8 M€
- Granted by Public Administration, 2014-2016: 8 M€
- Granted by Public Administration, 2016-2018: 25 M€

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

It is being implemented as a routine procedure since 2013.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Yes, in fact the creation of new highly qualified jobs is one of the required criteria in order to the proposals be selected.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers:
- Real partnership and involvement between companies and reserach centres/universities are absent in their daily routine.

Facilitators:
- The commitment of the Public Administration with this kind of collaboration between public and private sector.
- RIS3 Galicia: SME INNOVA is conceived as a support programme for knowledge absorption by SMEs, contributing to improve their competences and competitiveness, because SMEs are going to have a strategic role in the Galicia smart specialisation development.

Are new collaborations foreseen between the parties involved in this good practice?

Yes, most of the organizations which collaborate in one of the editions of Conectapeme, apply collectively for new projects in the subsequent calls of the programme. Moreover, these organizations set up consortiums and networks for working together in other projects, both national and international.

Please indicate the most valuable benefits obtained and lessons learned by the Investors and companies involved.

The most valuable benefit obtained by the companies involved is to have the opportunity to work closely with technological centers, as well as to collaborate with complementary companies of the sector. This opportunity allows to build bridges in order to develop innovative solutions

Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?
The opportunity for the companies to develop products oriented to the market.
Has it implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Yes, the good practice has been implemented by GAIN, which is the regional competent authority responsible of the management of the European Regional Development Fund (ERDF) in strategic areas for the region of Galicia. GAIN is the public organization in Galician in charge of managing the ERFD Funds in terms of Innovations.   - Call for proposals 2013-2015: ERDF, 2007-2013   - Call for proposals 2014-2016: ERDF, 2007-2013   - Call for proposals 2016-2018: ERDF, 2016-2020

Title of the good practice
Bio Investor Program & BioSpeed Dating
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
BIOGA. Galician Life Sciences Technology Cluster.
Summary of the good practice (3.000 characters)
This strategy is based on a combination of two programs, the *Bio Investor Program and the Biospeed Dating*, which cover the following areas: health and medical devices, agri-food and environment, pharmaceuticals and cosmetics. The selected projects mainly come from the following sources: technological transfer offices at universities, biomedical foundations, small companies and entrepreneurs. The strategy of BIOGA is to focus on specialized investors who are not only potentially interested in the project but can also provide the projects with their experience by making suggestions and recommendations to the business plan. They are basically venture capital funds, both public and private and public centres for business support an R&D **Bio Investor Program:** focal point for the birth of new biotech business projects while at the same time a meeting point for all those who invest in science and biotech on a national level. The program has incorporated a 25-hour training program for the biotech projects in order to get a higher grade of maturity of the business plan. **Biospeed Dating:** yearly activity organized in order to connect the different stakeholders of the biotech sector. The session includes one-to-one meetings for the participants to interact with another biotech companies and projects, as well as a plenary session with an expert in the field of strategic partnering. This event is organized with the aim of fostering the networking between company-research centre and company-company. The main objectives of the strategy launched by BIOGA are the following: • To facilitate entrepreneurs and companies the access to Investors. • To bring closer the capital risk entities and its work methodology to the entrepreneurs. • To share successful project experiences which have previously obtained financing. • To promote an effective networking between entrepreneurs and investors.
How much funding has been mobilised for its implementation?
Bio Investor Program • Granted by Public Administration, GAIN: 100.000€/year • Total mobilised: 1M€/ year BioSpeed Dating • Granted by public Administration, GAIN: 10.000€/year • Total mobilised: 2M€ in 4 editions

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
The projects which participate in the strategy are from a regional scope, nevertheless the venture capital funds are from all over the country. Similar initiatives are being implemented in another regions of Spain as Cataluña or Comunidad Valenciana.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It is being implemented as an extended programme, with a regional scope. ● Bio Investor Program: 6 editions launched. ● BioSpeed Dating: 4 editions launched.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
This good practice is being implemented as a routine procedure; both events take place once per year.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Yes, there is evidence of the contribution of this good practice in terms of fostering the creation of biotech companies, as well as to create specialized jobs in business development. One of the main objectives is to boost the relation between companies and research groups in order to facilitate the knowledge, improve the scope of the markets and its applications. Thanks to the Bio Investor Program, 30% of presented projects received funding through capital risk companies, as well as the know-how of experts who joined the team of the project as sponsors or business development managers.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: lack of commercial potential of some the projects presented. Facilitators: ● High number of projects developed and presented to the Program ● Support received from Public Administration ● Increase of the entrepreneurship culture in the region
Are new collaborations foreseen between the parties involved in this good practice?
Yes, this good practice is implemented once per year. As previously reported, around the 30% of the projects received funding by signing agreements with investor after its participation in this Program. We expect this percentage keep growing in the upcoming editions of the Program.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
It is very useful for the companies to know first-hand and during one day the lines of research as well as the technologies which are being currently developed by the research centres. This is a good way for the companies to know how its expertise is valuable for the researchers and to

| explore new models of collaboration. |
| Which have been the social impact, as well as the health impact of the implementation and execution of this good practice? |
| To develop new products, as for example functional foods or IT applications which help to the prevention and control of illness in a non-invasive way, genetics test for diagnosis, etc. To develop projects of research between companies and research groups by establishing consortiums and platforms at a national level. To improve and adapt the business plan of projects in early stage. |
| It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice? |
| Yes, BIOGA is the organization in charge of implementing this good practice with the financial support of GAIN, Galician Agency of Innovation, which depends directly of Ministry of Economy, Industry and Employment. GAIN is committed to support this good practice since 2010, when the first edition was launched. |

Title of the good practice
Public Procurement of Innovation in Health Sector
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
ACIS, Health Knowledge Agency and Galician Public Healthcare System. Public Administration which depends directly of the Regional Government, Department of Health.
Summary of the good practice (3.000 characters)
First experience with PPI involved was the implementation of the plans **Innovasaúde and H2050** in order to foster innovation through Public Procurement of Innovation (PPI), an instrument of innovation policy whose ultimate goal is to boost innovation and internationalisation through the establishment and reinforcement of technological demand. PPI has become a driver for healthcare innovation and the generation of new products and services that help the business sector compete at the international level.   Both plans were established through an agreement with the Ministry of Economy and Competitiveness in which SERGAS is the beneficiary of a public grant provided by the EDRF funds in the frame of the R&D Operational Plan to benefit companies, Technological fund 2007-2013, with a total amount of 90 M€ (80% co-finanziation).   Innovasaúde objectives: - PATIENT–CENTRED Healthcare: Development of new offshore tools (telehealth, telemonitoring, 2.0 websites for patients,…).   - SAFE AND FAST Healthcare: Development of safer and faster and communication systems.   - INTELLIGENT Healthcare: optimal delivery of quality and safe services.   Within Innovasaúde, 14 sub-projects were developed: Mobile diagnostic-therapeutic healthcare point, Medical imaging centre, Hospital at home, Multi speciality telecare products, Patient expert in 2.0, Smart multilevel alert system, Advanced medical simulation centre Computer-aided diagnosis systems, Professionals 3.0, Innovation space for healthcare services, Integrated information and management system for clinical and epidemiological data for research, Transfer of the results of research and innovative healthcare projects, Integrated system for digitalisation, indexation, custody and management of clinical information.   H2050 objectives: - Safe hospital: safe, effective and efficient assistance.   - Green hospital: efficient use water and energy, integral management of solid and liquid waste, management of chemical substances among other while fulfilling the current regulation.   - Sustainable and efficient hospital: integrated into the environment and open to the

rational use of new technologies.

Within H2050, 8 sub-projects were developed: Smart management system in emergency services, Integrated traceability system for patients and resources, Hospital robotics, Self- sustainable hospital, New 2050 integrated management system, Smart ward, Experimental hospitalization H2050, Secure digital hospital, Preservation of clinical information.

The successful experience gained within the implementation of the aforementioned plans has allow ACIS to coordinate the largest PCP project of the H2020, the **EMPATTICS** project with 5 M€ and 7 partners involved. EMPATTICS was launched in February, 2016 with the main objective of supporting patients to become active self-managers. The project aims the development of technologies to empower chronic patients and to tackle the need of patient´s adherence.

The plan of the Galician Public Health System for the 2016-2020 period, **CODIGO100** is a new innovation plan funded with 13 M€ by EDRF funds. It involves 3 lines of action:
- Promotion of personalized therapies, devices, services and protocols.
- Promotion of patient empowerment technologies.
- Promotion of training, communication and technologies to empower Heatlh professionals.

How much funding has been mobilised for its implementation?

- H2050 and Innovasaúde:
  1. Funding: 90M€
  2. Mobilised via PPI: 27,4 M€
- EMPATTICS:
  1. Funding: 5M€
  2. To be mobilised via PCP: 3,5 M€
- Código 100
  1. Funding: 13M€
  2. To be mobilised via PPI: 9,1 M€

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?

The original geographical coverage of the good practice is regional but the experience gained within the development of the aforementioned plans has been transferred both at a national and an international level.
The experience and knowledge developed in Galician Public Health System has been transferred to a national PPI programme, led by the Spanish Ministry of Economy and Competitiveness, MINECO, directed towards the 17 Spanish Autonomous Regions.
In addition, the protocol developed in PCP is being tailored to a European level thanks to the EMPATTICS project, led by ACIS on behalf the consortium of the project (Central Denmark, Aragón and Ill de France).

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?

This good practice has been implemented as an extended programme. Some of the sub-projects developed within H2050 and Innovasaúde were firstly deployed as a pilot programme in order to

be tested and improved before their expansion.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Public Procurement of Innovation is implemented as a routine procedure. After the successful results obtained with H2050 and Innovasaúde, the Galician Public Health System has continued the same line of work with EMPATTICS and Código100.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Yes, only data for H2050 and Innovasaúde are available for the time being. In terms of PPI the figures are as follows: • 27 companies benefited • 33 tenders launched via PPI • Total mobilised: 27,4 M€ Data for EMPATTICS and Código100 are not yet available as they are both being currently implemented.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: • Lack of experience not only in Galicia but in Europe in the management procedures of PPI. • Administrative constraints faced by the Public Administration in terms of hiring and tenders launching. Facilitators: • High implication of all services and departments (Innovation, IT, Treasury, Financial Controller, etc.) involved in the Galician Healthcare Public System. • High amount of funding received. • The role of the Galician Public Health System, which act as a leader organization of the economy in the region.
Are new collaborations foreseen between the parties involved in this good practice?
Yes, companies which have been previously involved in the implementation of H2050 and Innovasaúde have shown their interest in staying tuned about the news and the upcoming calls for tender of EMPATTICS and Código100.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
Companies which have been previously involved in the implementation of H2050 and Innovasaúde know the procedures of the PPI and are experienced enough to apply for new tenders launched in terms of PPI.
Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?
One of the most relevant impacts of the implementation of H2050 and Innovasaúde is to provide greater facilities to patients in their daily manage of the their illness. Nowadays it is easier for them to check their medical records, to ask for appointments with theirs doctors and to have

their treatment ready to be taken at the Pharmacy.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Yes, as already mentioned, Galicia is beneficiary of ERDF funds period 2014-2020. The Operating Program of Galicia includes an investment of 25M€ /including regional co-funding for the deployment and implementation of innovative solutions that have been launched during the period 2007-2013 within the projects H2050 and Innovasaúde. The program includes 5M€ of annual investment from 2016-2020, that will be applied by contracting deployment services through a series of public procedures.

Title of the good practice
Innovative public procurement office
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Osakidetza- Servicio Vasco de Salud (Public administration)
Summary of the good practice (aprox. 3.000 characters)

The health system is an active agent within the innovation ecosystem and is really concerned about the introduction of new services, products, processes or organizational methods, applied to the internal practices, work organization or external relations, that can help to add value, get sustainable results over time and improve the competitiveness of Basque Country to meet the double demand arises: health care of people and contribution to the socioeconomic development of the Basque Country. This is stated explicitly in the mission of the Strategy Research and Innovation in Health 2020. The Axis 1 "Impact" of this strategy has been identified as an objective: "To promote the development of innovations, with the health system as a tractor element" which pursues the corporate implementation of innovative public procurement tool around the needs of the health system or health system challenges, establishing resources, processes and responsible.

The recent creation of an **Innovative Procurement Office** for **innovative public procurement** (http://www.osakidetza.euskadi.eus/r85-ekcpi01/es/contenidos/informacion/compra_publica_innovadora/es_def/index.shtml), aims to purchase innovative products and services, not only encouraging the creation of innovative ideas in the field of health, but also supporting their development and implementation. Currently there is an open call there promoting technological areas related to health where there is greater development capacity. It identifies 6 technological challenges:

- **Actions in emergency and home Care:** control and management of the elements of both emergency assistance and home care, covering the process from active management of connections ambulances through medical history, completing the procedural documents established in medical care.
- **Emergency Management:** Improving of the waiting time of patients' attention and optimizing resources through proper control and management, in which the information of the patient flow is included.
- **Improvement the safety of the patient:** development of physical and informatic services, which can be connected to the medical history, to increase and facilitate the safety of the usual procedures of the Osakidetza staff: unequivocal recognition of the patient, safe administration of drugs, etc.
- **Social and Health record:** unification under a single clinical history the patient data and those protocols or tools which allow to assess them, and therefore meet patients in their complex dimension, integrating the access to the single clinical history from the different agents involved in the care of patients.
- **Screening programs:** Management and integration of screening programs and similar actions, which joint to the clinical history, allow the complete management of the patient (notices, communication of results, surveys, etc.).

- **Patient empowerment:** innovative remote patient management solutions which allow activating them (acquisition of knowledge, skills and confidence to manage their chronic diseases). The innovative solutions should serve as a meeting and training point between patients and trainers.

Two of the 6 challenges have been prioritized: Emergency management and Improvement the safety of the patient, which is carrying out the process of technical dialogue so that the needs are sufficiently specified to have enough information and market knowledge to produce a document with ideas considered of interest

The Creation of this office is a clear example of how Public Procurement of Innovation Solutions (PPI) and Pre-Commercial Procurement (PCP) policies can be used to generate demand of new social and health care products and services.

How much funding has been mobilised for its implementation?
Consulting services has been hiring for the implementation of the program (60.000 euros).
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
It is a regional practice.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It has been implemented as an extended programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
At this moment, 2 of the 6 challenges identified, have been prioritized: Management emergency preparedness planning and response (challenge 2) and improvement of the patient safety (challenge 3). In addition, it is working on the identification of two new challenges or needs to give continuity to the process.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
As the innovative procurement office has been created recently, there is no evidence that it has contributed to the creation of new markets, employment or job creation. However, we can say that the implementation of it has an objective to respond to a double demand: improve the health care of people and contribution to the socioeconomic development of the Basque Country. In this regard, the resolution 2160/2015 of 27th November is an open call for participation of individuals or legal entities to identify innovative solutions. After selection of the innovative solutions and the definition of functional specifications for the services/systems/products to develop , Osakidetza may initiate the corresponding procurement procedures (Royal Legislative Decree 3/2011 of 14 November , approving the revised text of the Law on Public Sector Contracts set) to contract the selected entities. Therefore the procedures will provide an opportunity of growth for those entities.
Please indicate which have been the barriers and facilitators identified for success in the

implementation of this good practice.

Facilitators:
- The innovative procurement office is a strategic priority of the Basque Health System (Objective 1.5 of the research and innovation strategy in health 2020).
- Learning from the experience of Galicia
- There are several instruments to support the Public Procurement of Innovation Solutions:
- Financial support (Centre for Industrial Technological Development - CDTI)
- Fundamentals of the CPI (Ministry of Economy and Competitiveness - MINECO) (PDF, 7 MB)
- Horizon 2020 - The SME Instrument (European Commission)
- Topics for Innovation Procurement (European Commission)

Barriers:
- Lack of resources because of the economic crisis.

Are new collaborations foreseen between the parties involved in this good practice?

The innovation procurement office is going to be used to seek solutions to the identified needs within the health system in the future through the identification of new challenges.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

Currently, we are not aware of the benefits for private businesses or entities involved. However, a great interest in the open call and the office has been manifested by local and regional companies.

In this way, the call for ideas for innovative solutions to the proposed challenges is an open call that aims to promote the participation of individuals or legal entities to identify innovative ideas and solutions that meet the identified technological challenges. Eight enterprises were interested in the challenge 2 (Management emergency preparedness planning and response) and five enterprise were interested in the challenge 3 (improvement of the patient safety).

Moreover, it is supposed that the major benefits supported by the innovation procurement office are:
- Improve the public services by incorporating innovative goods or services.
- Encourage business innovation.
- Promotion of the internationalization of the innovation using the local public market as a launch customer or reference.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The implementation of the Innovation procurement office has a double objective: the improvement of the health care of people and the contribution to the socioeconomic development of the Basque Country through the purchase of innovative products and services in the field of health which respond to the identified challenges.

At present, two challenges and needs have been identified and the interesting ideas submitted to respond to these challenges are being analyzed. After that, specific administrative and techniques clauses will be elaborated for the award of the contract and the implementation of the chosen solutions.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
The innovative procurement office responds to one objective of the research and innovation strategy in Health 2020.

Title of the Good Practice
INNOSASUN Programme
Name of Organisation in charge (Please indicate whether it is a Public Administration, an Educational and Research Institution, Industry or Community).
BIOEF (Basque Foundation for Health Innovation and Research)(Public Administration)
Summary of the good practice (aprox. 3.000 characters).

In 2016, Research and Innovation Strategy in Health 2020 of Basque Government was presented, aiming to achieve the greatest impact of the activities of R&D&I developed by the health system, both internally and in collaboration with third parties (Industry, Research Centers and others technological and educational agents). This impact should be translated into an improvement of citizen's health and an upgrade of the system itself in socioeconomic terms, linking to the Research and Innovation Strategy for Smart Specialization (RIS3).

One of the main actions in this regard is the implementation of INNOSASUN Programme, which was started at the end of 2014. INNOSASUN Programme is a support mechanism to articulate interaction among Basque Public Health System and business sector, meeting needs of both sides and providing an ad hoc support. This activity is enabled by Health System's capacities, know-how and its extensive and collaborative network, working as innovation ecosystem and living lab.

INNOSASUN Programme is coordinated by the Unit of Relationship with Third Parties within BIOEF, providing support and expertise form Health Research and Innovation network, which comprises Basque Health Department, Basque Public Health System (Osakidetza), Health Research Institutes, Osatek, Kronikgune and socio-sanitary space.

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 born ideas within the Healthcare System working in transferring these needs and ideas to the industries and research center of the region to try to engage them in order to provide innovative solutions in a win-win scenario.

REHAND Project is an emblematic example of outside – in innovation coordinated by INNOSASUN Programme and related to Active and Healthy Ageing. There was a need to improve care for patients in rehabilitation by using new technologies in a sustainable way. Then, through the INNOSASUN program, a Basque SME that has developed a robotized system for assisted rehabilitation of upper limb- a limitation that affects specially to elderly people- was contacted. As a result, healthcare professionals from Osakidetza are collaborating in the project with that company with the main objective of evaluating the effectiveness of the new system. The assessment of the effectiveness, efficiency and acceptance of the new product in the health sector will help, on the one hand to the company in the implementation of the new product in the market (commercialized by a Basque SME), and in the other hand, to the Health System in its subsequent decision of their inclusion in the portfolio of services.

Moreover, INNOSASUN works with research centers and industries in reducing the gap between the research and the market by offering several services to external organisms according to the

next main activities:

- Advice and guidance in the development of new products/services, acting as facilitator in connecting company and clinicians' point-of-view.
- Coordination and management of demonstration clinical studies, validation and/or cost-effectiveness studies.
- Supply of biological samples, through the Basque Biobank for biomedical research projects.
- Provision of data for market research or other analysis.
- Channeling of needs and/or proposals to other mechanism.

WID Varstiff Project, recently ended, is an emblematic example of inside – out innovation related to active and healthy ageing coordinated by INNOSASUN. In this project, a smart new material was presented at Gorliz Hospital in the INNOSASUN Programme framework. It was developed by a Basque research centre and can be either flexible or rigid depending on controllable parameters. However, there was not a clear functionality for this new material. As a result of several brainstorming sessions in the hospital with the participation of a multidisciplinary team, they concluded that this material would be useful in some unmet needs in their daily routines with patients in wheelchair, in particular, at reaching trunk control. During 2 years, a selected research team worked on the design of the device, the clinical protocol and all requirements for its clinical validation. Nowadays, the device has demonstrated to be highly beneficial for these patients in different ways, it is being already used by healthcare professionals and is being commercialized by a new spin-off set up as a consequence of this project.

INNOSASUN works in close collaboration with the Technology transfer Office (TTO), which is also part of BIOEF, which manages the relationship of the Health System with the companies and other socio-economic agents related to the transfer of research results.

Since its implementation, INNOSASUN has received 175 requests for support from 64 entities located in the Basque Country and has created 7 Special Interest Groups (SIGs) in the following areas: rehabilitation, hepatology, oncology, maxillofacial surgery, rheumatology, additive manufacturing and alergology/otolaryngology. In addition, 8 clinical studies with innovative technologies are being carried out focused on diagnosis, new therapies, monitoring therapies, rehabilitation, orthoprosthesis, software development, additive manufacturing and equipment for health environment. Each of them includes a multidisciplinary working team.

How much funding has been mobilized for its implementation?
350.000€/year
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
Regional (Basque Country). Not yet.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
Extended programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes
Is there evidence of a contribution of this good practice to growth of new markets, employment

and job creation?
Yes, thanks to many public – private collaborations coordinated by INNOSASUN Programme, several companies and other external agents have been able to access to new markets, improve some of their products that were already into the market and obtain new products that fulfill final user's expectations and clinical requirements.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers   - Healthcare professionals mainly oriented to assistance activities.   - R&D&i activities undervalued by clinicians.   - Dearth of professional profiles focused on R&D&i management into the Healthcare System.   **Facilitators**   - Healthcare System integrated in the regional Science and Technology Network with transversal capacities.   - Progressive growth of regional business sector focused on health sector.   - Human health and Life sciences as a RIS3 priority promoted and supported by Basque Government.   - Capacities and collaborative attitude of healthcare professionals.
Are new collaborations foreseen between the parties involved in this good practice?
Yes
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
Companies dedicated to health sector need the Healthcare System as strategic R&D&i partner for multiple roles such as technological partner, practitioner, validator and finally customer. They need the clinicians and sometimes patients' feedback and point of view in the different steps of the value chain.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Thanks to the implementation of INNOSASUN Programme, 64 regional entities have been helped to improve their portfolio, which has enabled the approach of new innovative technologies to healthcare professionals. In addition, 8 demonstration projects are being carried out which are clinical studies with participation of patients that can access to these innovative solutions.   Thanks to the implementation of INNOSASUN Programme, BIOEF has elaborated a data base of the Basque companies working in the health sector, indicating the technologies and business lines in which they work, which facilitates the search for technological partners for innovation projects
It has implemented any measures by the regional government in 2015 – 2016 to tackle the main topic on this good practice?
Research and Innovation Strategy in Health 2020, presented in 2016, comprises several actions to enrich socioeconomic development of the region, especially in the Health Sector, turning Healthcare System into a reference partner for companies and external organisms of the sector. To manage this, the Department of Health of Basque Country established the INNOSASUN Programme as a key element which acts also as support instrument for Science, Technology and Innovation Plan – PCTI Euskadi 2020.   Indicators of INNOSASUN Programme are focused on quantifying and monitoring the

collaborations between the healthcare system and the industrial sector and allow the measure of the scientific, socioeconomic and health impact.

Title of the good practice
ARCA model as developer and promoter within the territory of Lombardy Region of innovative procurement tools and practices.

Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
ARCA (Azienda Regionale Centrale Acquisti S.p.a) – the Central Public Procurement Body of Lombardy Region.
Summary of the good practice (aprox. 3.000 characters)
ARCA - Azienda Regionale Centrale Acquisti S.p.A. is an entity totally controlled by Lombardy Region which acts under its direct control and coordination.   The Central Purchasing Body of Lombardy Region has been established in 2007 as a Strategic Direction of Lombardia Informatica LtD, following the 2007 Italian Financial Act (L.n. 296/2006) which gave to the Italian Regions the possibility to establish their own Central Purchasing Bodies. Since October, 1st 2012 the Direction has become an autonomous body (Public Agency) and in 2014 it became what ARCA is now, further optimising and innovating the regional public expenditure.   The Company centralized the public expenditure of public authorities within the region, including: the Lombardy Region, the health sector and the local administration. The goals achieved are efficiency, efficacy and savings of the public procurement, working as central purchasing body through innovative negotiations systems as well as the management, development and promotion of the e- procurement platform, named SINTEL.

CENTRAL PURCHASING BODY AND UNIQUE CONTRACTING AUTHORITY
- Manages and grants centralized public procurement tenders with the aim to finalise and sign framework contracts for the procurement of goods and services.
- Manages public tenders on behalf of single public bodies and bodies governed by public law.

PROCUREMENT TECHNICAL COMMITTEE
• Manages procurement processes related to specific product categories. • Coordinates the purchasing plan for goods and services of the regional entities.
E-PROCUREMENT PROMOTION
• Develops and disseminates technological tools to support the purchases of the public administrations in a totally digitalized manner (SINTEL platform and Electronic negotiation NECA)
TECHNICAL CONSULTANCIES
• Supports Public Administration entities with professional consultancies to prepare of their public tenders and disseminates e-procurement within the PA entities

How much funding has been mobilised for its implementation?
Not available at the moment.

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
Regional Lombardy Territory, including over 1.200 public authorities.

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
It is an extended programme.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
The benefits are in terms of savings for the public authorities and of standardization of quality. Besides employment and job creation the evidence is the efficient allocation of FTE within the public sector (employees usually dedicated to the procurement process can be involved in other activities).

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: local authorities usually do not accept centralization of procurement, since they are afraid about losing tailored needs. ARCA overpassed this barrier by bundling at the beginning the most standardized products and services, such as; stationery, paper for printers. Once the results were achieved in terms of savings and price for quality, ARCA started to centralize the commodities in the health sector such as vaccines, drugs, etc. A second barrier is given by the market, since suppliers certainly avoid competition. For this reason, in order to solve this barrier, ARCA: 1) usually studies in deep the market before launching the tendering procedure, in terms of entry barriers, quality of products, supply chain. 2) activated a communication activity with the associations of suppliers.

Are new collaborations foreseen between the parties involved in this good practice?
Not applicable.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
Economic Benefits: • No more costs to correct and send documents (mail, pony express, fax, etc); • No more risks connected to paper storage of important documents; • Possibility to save costs of negotiated goods and services in the centralised procedures (higher contractual power). Efficacy Benefits: • No more incomplete documentation; • Availability of continuously updated data; • Uniformity of documents submitted during the tenders Efficiency Benefits: • Reduced time in the analysis and verification of administrative documents.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Healthcare is one of the sectors where ARCA acts. With the establishment of this Central Purchasing Company, the whole sector is benefiting of lower costs and more innovative goods and services.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
The measures are taken also at national level, since the national government has strongly encouraged the procurement centralization activity at national and local level.

Title of the good practice
Pre- Commercial Procurement Niguarda
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
ARCA - ASST Niguarda – DG Research, University and Open Innovation of Lombardy Region.
Summary of the good practice (approx. 3.000 characters)
The best practice is the design and the implementation of a pre commercial procurement which allows Hospital Niguarda to purchase a smart system for moving beds developed within the frame of a public tender for R&D services organised and managed by the Central Purchasing Body (ARCA). It represents the first pilot PCP in Italy and its main goal is the development of a prototype of an automated universal medical device for moving hospital beds which result in a significant advance in terms of technology and performance and, at the same time, cost reduction.
How much funding has been mobilised for its implementation?
For the three phases of the PCP a total amount of 750.000€ have been allocated.
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
Only at regional level.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
It is indeed a pilot project. The regional policy to start and manage a PCP have been approved and other PCP have started in other fields, all of them under the control of the DG Research, University and Open Innovation and ARCA.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
The pilot is still in progress, at the moment it is not possible to evaluate the impact.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
More than barriers or difficulties the Lombardy pilot PCP has been complex in terms of design and implementation since we dealt with a new methodology and a new process instead of a single procedure which required the Lombardy system to adopt specific skills and professionals particularly in the definition and qualification of the public need, the determination of the state of the art of the technology to be developed and adopted and lastly for the definition of the

Intellectual Property Rights.
Are new collaborations foreseen between the parties involved in this good practice?
Yes, ARCA and the DG Research are designing new PCPs in other fields.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
As lesson learnt we can claim that the PCP process needs high levels of transparency to release the potential benefits for the industry, the public sector and the society as well. The participating enterprises are able to develop better products, less costly and perfectly responding to the needs of the public sector, being able to reduce the market uptake time. The mechanisms for sharing risks and benefits connected to R&D activities between public and private sector has determined a mutual interest to promote a wide commercialisation of the new solutions which are being developed. The enterprises, having the ownership the IPRs have the full interest in exploiting the product. The public sector, keeping a certain share of the IP, will gain some money with the commercialization of the solution.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The main outcome of the PCP has been the obtainment of hospital beds which allows health professional to easily move the patient within hospital rooms and buildings.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
No

Title of the good practice	
Sintel Platform for e-procurement procedures	
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)	
ARCA	
Summary of the good practice (approx. 3.000 characters)	

Sintel is the regional e-procurement platform, established with the aim to realise a system able to support the Lombardy public administrations in the management of their tender procedures.

Sintel gives to the public entities the capacity to set up and manage autonomously public tenders on line, in full autonomy and without costs, and with the possibility to use professional help.

How much funding has been mobilised for its implementation?	
Not available at the moment.	
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?	
Sintel is a platform which links both sides of the market: the demand side is composed exclusively by public administrations within the Lombardy region; the supply side is open to all the suppliers at regional, national or European level wishing to be registered in the platform.	
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?	
It is a tool implemented for all the kinds of procedures.	
Is this good practice being currently implemented on an ongoing basis as a routine procedure?	
Yes.	
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?	
The Sintel reduces costs of purchasing good and services from the public administrations thus	

improving the performances of public budget.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Facilitator: Sintel is completely free of charge for suppliers and for public administrations. Barriers: the main barrier was "psychological" since public authorities at the beginning avoided the transposition from paper-based procedures (the traditional one) to the electronic one. This barrier was surpassed by: 1) training on the platform and tailored assistance; 2) making compulsory the use of the procedure for the health sector and for the Regional Authorities.
Are new collaborations foreseen between the parties involved in this good practice?
The platform is already used by all the regional public entities.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
The main benefits for the public sector can be summarized in the picture below:
Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?
The main benefits listed above have enabled important social impacts, for both public sector (more efficient public expenditure), and for service provider (more tender and more business opportunities).
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
• Adaptation of the platform to the new legislation on public tenders. • Improved tools for agreement negotiations.

Title of the good practice	
Flex-MED (Ideation / Idea competition)	
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)	
Embedded in the project flex+: The project is coordinated by Fraunhofer FEP and Fraunhofer IAP, in collaboration with Organic Electronics Saxony (OES)	
Summary of the good practice (aprox. 3.000 characters)	
We are looking for innovative ideas that leverage diverse possibilities of flexible electronics. In this context we would especially value ideas that contribute to well-being, recovery and cure of patients. These could be also applications that measure certain health parameters, support the elderly in their daily routine or help kids to learn new skills. In short: We are looking for ideas that combine "human needs" with flexible electronics. We received 70 ideas	
How much funding has been mobilised for its implementation?	
1M€	
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?	
National, but open for international	
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?	
Pilot program Yes there is a plan for repetition	
Is this good practice being currently implemented on an ongoing basis as a routine procedure?	
yes	
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?	
Yes	
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.	
to achieve specialist staff and broad public	
Are new collaborations foreseen between the parties involved in this good practice?	
Yes	
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.	

go out from the own industry open mind for a different view and different technologies
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Identification of new products with flexible electronics for health care, life science and medical engineering
It has implemented any measures by the regional goverment in 2015-2016 to tackle the main topic on this good practice?
No

Title of the good practice
Innovate UK/ SBRI Research & Development Funding for Innovation in Technology and Services for Older Adults
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Innovate UK (Public Organisation – State funded) https://www.gov.uk/government/organisations/innovate-uk **Innovate UK** (formally the Technology Strategy Board) is the UK's innovation agency with a remit to fund research and development opportunities in science and technology developments which will drive future economic growth across the UK. Part of Innovate UK, the **Small Business Research Initiative (SBRI)** is an established process to connect public sector challenges with innovative ideas from industry, supporting companies to generate economic growth and enabling improvement in achieving government objectives.
Summary of the good practice (aprox. 3.000 characters)
Although the R&D portfolios of Innovate UK / SBRI spans the whole spectrum of technologies, it has recently invested in several large-scale Assisted Living / Digital Health programmes, including: ● The **Assisted Living Innovation Platform (ALIP**): The ALIP programme was launched in November 2007 with an initial £6m of joint funding from the Technology Strategy Board, England's Department of Health and the UK research councils. ALIP sought to foster and fund a wide-ranging programme of research and development (R&D) collaborations to develop innovative technologies to enable the ageing population and those with long-term health conditions to live with greater independence. The R&D project portfolio conducted under ALIP was wide-ranging and included: - Technology platform development - Remote Monitoring & Analytics - Co-design technology development, Sociotechnical and ethnographic studies - ALT market analysis and business model development The ALIP thematic areas were: - Knowledge Transfer - fostering of collaborative approaches and environments - Home based systems and user-centred design - Telecare and Telehealth digital product and service development - Smart Care Distributed Environment - Interoperability of digital and ICT products,

services and systems
- Economic business modelling and socio-behavioural studies - understanding the barriers to adoption of independent living technologies
- Standards - scoping and mapping of national and EU standards to support market development and commercialization of IL technologies and services
- Design-led innovation for Independent Living - inter-generational, social innovation, entrepreneurs and start-ups (SBRI)
- Delivering Assisted Living Lifestyles at Scale - redesign, implementation and scalability of technology enabled products, services and systems (SBRI) for health and wellbeing
- Long Term Care national challenge - disruptive innovation for alternative models of long term care (SBRI)

ALIP projects funded over in Scotland include (see appendix 3.1.1 for details):

- **Tackling Barriers to Adoption of Assisted Living Technology for Older Adults (COBALT, 2011-2013)**

- **Delivering Assisted Living Lifestyle at Scale (dallas) programme (2012-2015):**
  Dallas was a UK-wide Assisted Living Technology programme which included a Scottish Demonstrator programme called 'Living-it-Up' (see case study 3.3.1 for additional details)

  - **SBRI:**

- **'Advanced Pattern recognition Technology for Multi Articulating Prosthesis, ATMAP' (2013-2015)**: is a collaboration between Touch Bionics and the University of Strathclyde aiming to develop a brain- machine interface software and hardware solution providing upper limb amputees with a fully independent multi-articulating 5 digit prosthesis with advanced muscle signals to providing intuitive control.

'Personalised Diabetes Education and Care' is an SBRI competition funded by the Scottish Government, Scottish Diabetes Group, Scottish Enterprise, Innovate UK and NHS Scotland. The aim of the project consists in findings innovative new solutions focused on diabetes education and mobile health particularly for those with Type 1 Diabetes. This SBRI programme had over 65 applications and selected a short list 5 in a process managed by Innovate UK and Phase 1 will run till October 2016, where the 5 shortlisted projects will undertake their feasibility study, with the winners from this stage progressing to Stage 2.   It is anticipated that there will be a report following Phase 1 which will indicate the success of the project to this stage.   On entering Phase 2, the projects will then move on to the testing and development of their prototypes.
-
It was agreed at the start of this programme that it was key for the projects to engage with the diabetes community to ensure that applicants had a clear understanding of the current needs and challenges faced, and a number of workshops/events have been undertaken to help them understand these issues.

How much funding has been mobilised for its implementation?
  - ALIP Tackling Barriers to Adoption of Assisted Living Technology for Older Adults (COBALT, 2011-2013): **£510,005**.   - SBRI Advanced Pattern recognition Technology for Multi Articulating Prosthesis (APTMAP, 2013-2015): **£770,972**.   - ALIP / SBRI Dallas Living-it-Up (2012-2015): **£10 million** Including contributions from Technology Strategy Board (£5m), Scottish Government (£3.9m), Highlands & Islands Enterprise (£0.8m) and Scottish Enterprise (£0.3m)   - SBRI Personalised Diabetes Education and Care: **£450,000.**
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
 Innovate UK and SBRI have funded a wide range of initiatives in Assisted Living Technologies across the UK since 2008. The ones which have been mentioned above had a substantial component (e.g. lead partner) based in Scotland.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
  - ALIP has been a national programme since 2007 which has funded X Projects across the UK for a total funding of £ X millions.   - Dallas was also a national programme which ran from May 2012 to June 2016 and received a total of £37million of funding (£10 million in Scotland).   - The format for the SBRI in Diabetes is now being replicated across other conditions, with the next challenge area being dermatology.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Living-it-Up developed as part of the dallas programme is currently a live service managed by NHS 24 in Scotland (see case study 3.3.1)
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
 Since Innovate UK / Technology Strategy Board was established in 2007, the organisation has invested around £1.8bn (~ €2.25bn) in business- led innovation, which has been more than matched by the private sector - returning between £11.5bn and £13.1bn to the economy.

This funding supported innovation in 7,600 organisations, creating around 55,000 new jobs

The figures above are for all of the Innovate UK R&D portfolio and hence not only limited to Digital Health / Technologies for Healthy Living. We were not available to identify the figures specific to Digital Health.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

These will be specific to individual projects and hence the information is too complex to be summarised here.

Are new collaborations foreseen between the parties involved in this good practice?

Innovate UK is committed to supporting innovation in technologies for healthy living.
It is currently running a 'Long-Term Care Revolution' national challenge competition.

The 'Long-Term Care Revolution' national challenge competition sets out to stimulate the development of innovative new products, services and systems that disrupt the institutional long-term care model.

It aims to ensure that UK businesses can take advantage of the growing market opportunity in new health technologies. The competition is open to organisations working together as a consortium through a single contracted project lead, to develop and deliver commercially viable products, services and systems. Successful applications receive a 100% funded development contract over a period of up to 24 months.

The SBRI Diabetes programme and the other follow on SBRI challenges will forge new collaborations as the outcome of the programme is to give industry a clear route to procurement within the NHSScotland.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

These will be specific to individual projects and hence the information is too complex to be summarised here.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

Same as above.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?

Consolidation fund of £1.131 million has been awarded in April 2015 by the Scottish

Government's Technology Enabled Care (TEC) Programme to maintain and further develop the Living it Up programme (see also case study 3.1.3 TEC and 3.3.1 Living-It-Up.

Title of the good practice
Scottish Government 'Innovation in Health' programme / Health Innovation Assessment Portal
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Scottish Government
Summary of the good practice (aprox. 3.000 characters)

The Scottish Government 'Innovation in Health' programme is a policy initiative launched in June 2012 with the aim of promoting and supporting innovative solutions for raising the quality of health and healthcare for the people of Scotland (Scot. Gov., 2012a).

Some of the initiatives promoted under the 'Innovation in Health' programme include:

● **National Health and Social Care Innovation Fund / Innovation Partnership Board**:

The Health and Social Care Innovation Fund was launched in June 2014 with seed funding of £100,000 with the aim of promoting innovations within NHS Scotland and support new initiatives for the development of pioneering treatments for Scotland's patients as well as promoting the use of new technologies to put people more in control of their own health. The fund is managed through the **Innovation Partnership Board**, including senior NHS and Scottish Government staff as well as industry leads and academics.

● **NHSScotland Innovation Champions Network**:

Since 2013, each NHS Board has an Innovation Champion.
Innovation Champions serve as internal and external contact points on innovation and as drivers around the innovation agenda. Scottish Government works with the Innovation Champions through quarterly meetings and ongoing engagement.
Additional information about the Innovations Champions network can be found in Appendix 3.1.2.

● **Innovation Centres Programme**:
The Innovation Centre programmes are collaborations between universities, businesses and civic partners striving to deliver demand-led, sustainable innovations which deliver economic growth and benefit the Scottish population (the Innovation Centre programme is described in details in the case study 3.2.2. in this report).

● **Health Innovation Assessment Portal**:
https://www.hiap-scotland.org/

The Health Innovation Assessment Portal (HIAP) managed by NHS National Procurement provides information, guidance and support to help assess how innovative products or technologies could be deployed within the NHS to support the organisation's strategic aims

and evaluate the potential costs and benefits of the proposed innovations.

The aims of the HIAP-Scotland portal are:

- To provide a single initial point of contact, information, advice and assessment for new products and technologies for consideration by NHSS.
- To provide potential suppliers to NHSS with information, guidance and support in how to develop ideas and innovations into products and technologies that may be of potential use to NHSS.
- To support and regularise the assessment process, levels and types of evidence (and their sources) and feedback to developers of new technologies and ideas.
- To create a forum for debate and to generate dialogue on the emerging 'unmet needs' of NHSS.
- To encourage a multi-disciplinary assessment community who are able to provide constructive feedback on potential technologies and innovations.
- To promote the work of other organisations in this area and to 'sign-post' interested suppliers accordingly.

As of July 2016, a total of 161 people had registered as innovators on the HIAP portal, with 61 innovation proposals submitted and 99 registered assessors. The full details of the HIAP innovation assessment process are included in Appendix 3.1.2.

How much funding has been mobilised for its implementation?

The Health Innovation Fund received seed funding of **£100,000** allocated by Scottish Government in 2014.

What is the original geographical coverage of this good practice? (Local, regional, national...)
Has this good practice been adopted in other regions around the country or beyond?

The Innovation in Health programme is a national policy operational across NHSScotland and the HIAP portal also applies across NHSScotland.

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?

The 'Innovation in Health' vision sets to support collaborations and synergies between the NHS and life sciences companies to work together to produce 'economic gain' as well as 'health gain' for the country. The statement for innovation in health recognises the potential of Scotland to become a world leading centre for innovation in health through partnership working between Government, NHSScotland, industry and the research community.

In March 2013, the Scottish Government launched its Route Map to the 2020 Vision for Health and Social Care (Scot. Gov., 2013) which emphasised the importance of pursuing 'opportunities to work with other public sector and business partners to drive

transformational innovation' and 'increase investment in new innovations which both increases quality of care and reduce costs, while simultaneously providing growth in the Scottish economy'.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
The Innovation in Health programme is an active policy operational across NHSScotland and the HIAP portal is also a live service.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Through the implementation of new innovations approved through the portal, it would be anticipated that new markets could be opened up for innovators, however, this has yet to be reviewed and therefore there is no information available on this at this time.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Prior to implementation, many enquiries / approaches may have been duplicated as there was no one single point of contact. With the launch of the portal, then the innovators have a central point where there are an agreed portfolio of assessors reviewing and providing timely feedback on any recommendations on next steps or what data / research would be required.
Are new collaborations foreseen between the parties involved in this good practice?
As part of the Program Board - which includes SHIL (Scottish Health Innovations Ltd), SHTG (Scottish Health & Technology Group) & Scottish Enterprise - there is to be future discussions on the potential to integrate all activities through these organisations via the portal to ensure total visibility and to minimise duplication.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
The main benefit of the HIAP process is that investors and companies receive advice on what information is required should there submission not meet the minimum requirements. If the innovation is assessed they also receive valuable feedback on their submission.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Minimal at this time. While there any many solutions which have been reviewed and currently under review.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Data not available

Title of the good practice
CivTech® Innovation Flow
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Scottish Government
Summary of the good practice (approx. 3.000 characters)

The CivTech® pilot is harnessing new technologies to drive daring and innovation in the public sector. It brings together private sector innovation, public sector organisations and citizens to develop more efficient and effective products and services, which will translate to new, better, faster and easier experiences for everyone.

Backed by the Scottish Government, it is providing an unprecedented route for entrepreneurs, start-ups, SMEs and other businesses to develop the benefits of digital transformation in the public sector.

The CivTech® pilot has been designed to explore a number of hypotheses, including:

- The kinds of stimulus and benefits the private sector has experienced through the digital revolution can be replicated in the public sector, if the same kind of tech creativity and innovation is unleashed

- There is a huge resource of tech creativity and innovation in the nation that could be applied to help solves societal challenges

- Much of this creativity and innovation is in parts of the private sector that the public sector rarely engages with – for example, SMEs and micro-businesses

- With the right kind of offer, these SMEs and micro-businesses could be encouraged to engage

- That putting different teams in the room, solving different Challenges with different approaches and tech, will drive a 'cross-pollination' innovation stimulus (for more on 'innovation at the intersection' read the *Medici Effect* by Frans Johansson).

- It is possible to build a new model of engagement which would incorporate the best parts of the private sector 'innovation model' – for example, challenges and accelerators – and make the public sector journey – including procurement – as straightforward as possible.

- That the societal challenges the CivTech® pilot is seeking to find solutions for are not confined to Scotland, and as a result the solutions have worldwide commercial potential.

- In solving these problems, the CivTech® pilot has the potential not only to improve public services, but also to provide a real stimulus for Scotland's emerging and vibrant tech sector

The CivTech® pilot has also been designed to engage many parts of the Scotland ecosystem, including:

- The public sector, and public sector organisations

- The private sector: all sizes and stages of companies including SMEs and micro-businesses, entrepreneurs, pre-starts, start-ups and established businesses

- Both public sector and private sector investment sectors; eg the Scottish Investment Bank and angels respectively:

- Innovation centres

- Academia and researchers

- The Citizen and citizen groups

The CivTech® Innovation Flow

At the heart of the CivTech® pilot is the CivTech® Innovation Flow - a process that takes problems identified by public sector organisations and goes through a number of stages to deliver solutions.

(see Appendix 3.1.3. for further details about the **CivTech® Innovation Flow**).

How much funding has been mobilised for its implementation?

The CivTech® pilot has a budget of approximately £415,000.

This covers team, building, marketing, programme and legals.

It excludes any procurement funding for the challenges.

What is the original geographical coverage of this good practice? (Local, regional, national...) Has this good practice been adopted in other regions around the country or beyond?

This is pan-UK although the initial applications have for the most part come from micro and small enterprises in Scotland [which goes a long way to proving some of the hypotheses].

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?

CivTech® is currently a pilot programme.

Given the overwhelmingly supportive response from both public and private sectors – including public sector organisations, entrepreneurs, pre-starts, start-ups, and established businesses, business and tech network organisations, academia and innovation centres, there are plans to develop the CivTech® strategy on a longer term basis.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

As it's a pilot, practices are only now being defined. However, many of these arew based on previous good practice and are therefore based on robust models; and it's already apparent other organisations are interested in how we're doing things.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

This is precisely one of the things we're testing.

Judging by the number of applications, it's reasonable to say that the private sector sees CivTech® as a real opportunity, and therefore it must follow that it will contribute to the growth of new markets, employment and job creation.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Perhaps the biggest barrier in terms of developing the approach now encompassed by CivTech® was the sheer novelty of the approach. To encourage creativity and innovation in the public sector, we ourselves had to be hugely creative and innovative. We have had to look many long-held practices and methodologies including how procurement is undertaken, what kinds of companies are engaged with, the kind of specifications we write, and even what innovation means in the public sector. And then we've remodelled them. All this necessitates change – some of it hugely significant – and change is often neither easy, not easily embraced: it's difficult for people, and it takes them out of their comfort zones.

Overcoming this, we encountered real help. Internally there are key 'champions' for the concept: people who realised the need to try new ways of engaging with creativity and innovation, and who were prepared to 'give it a go'. There were receptive public sector organisations who were prepared to buy into what was – even relatively recently – little more than a well-articulated paper exercise. And in the private sector, there are evangelists who bought into the idea, welcomed the public sector trying something new and relevant to their constituency, and were prepared to lever their credibility and spread the word.

And within the CivTech® team we adopted a rigorous approach to everything we did. Every innovation we looked to introduce has had to be extremely carefully developed, with a 'full sheet' of hard-edged justification. Then handled with as much care and sensitivity as possible. The CivTech® pilot is a journey, and we want to take people along with us.

Are new collaborations foreseen between the parties involved in this good practice?

The CivTech® pilot is, by its very nature, an experiment that drives collaboration and co-operation. At this stage we are focused on the most successful possible delivery of the pilot, and are looking longer term to the development of 'CivTech® 2', and so have not

looked at exploiting an extended collaboration dynamic, we would be surprised if new collaborations and/or co-operations do not emerge from the various combinations of the key players.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

This can only really be answered once the CivTech® pilot is complete however we would expect a number of benefits to accrue.

For the public sector organisations:

- Improved service delivery

- Happier citizens

- Economies [so funding can be re-directed]

- An enthusiasm for innovation and daring

- Better connections and relationship with the private sector

- For the private sector organisations:

- New business opportunities

- Increased turnover and profits

- The opening up of a major market – the public sector – which has been denied to many of them

For the country :

- Increased production, GDP

- A major boost to a key, emerging sector [tech]

- New businesses, business growth, jobs increases

- Positioning Scotland as a leading centre for CivTech and technology

- Happier citizens

What has been the social impact, as well as the health impact of the implementation and execution of this good practice?

Again this can only really be answered once the CivTech® pilot is complete.

However the six Challenges include two from the health sector, and two specifically focused on the environment. These, if answered successfully, have the potential to have very clear impacts on societal wellbeing and the health of the nation. And indeed the remaining two also have potential to improve people's lives.

This is because CivTech® at its purest is about *citizen technology* – about creating products and services to make Scotland 'a more prosperous, just, open and equal society - and along

the way, make people's lives better'. So social and health impact is built in at the deepest level.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Data not available

Title of the good practice
Technology Enabled Care (TEC) programme
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Scottish Government. The Programme itself is overseen by an independent Programme Board, and is delivered in conjunction with the Scottish Centre for Telehealth & Telecare (SCTT) and NHS National Services Scotland.
Summary of the good practice (aprox. 3.000 characters)

The Technology Enabled Care (TEC) Programme is a three-year, £27 million Telehealth & Telecare national programme launched in 2014.

The objectives of the TEC programme are aligned with the National Telehealth & Telecare Delivery Plan (Scot. Gov., 2012b)., which set to:
- *'support people to have greater choice, control and confidence in their care and wellbeing;*
- *enable safer, effective and more personalised care and deliver better outcomes for the people who use our health, housing, care and support services;*
- *help generate efficiencies and add value through more flexible use of our workforce capacity and skill mix and by reducing wasteful processes, travel and minimising access delays.'*

The first tranche of £9 million funding for 2015/16 targeted five key strategic areas:

- The substantial expansion across Scotland of home & mobile health monitoring within integrated care settings;
- Extending the use of NHS video conferencing facilities to other partners, increasing the numbers and range of users and doubling the level of clinical consultations;
- Increasing the numbers of people receiving telecare packages
- Sustaining and expanding on-line platforms to give people direct access to information, advice and assistance
- Exploring the scope and benefits of switching current provision of Telecare from analogue to digital telecare

48 applications from across Scotland were submitted for the phase 1 of TEC funding (2015/2016). 23 projects were funded using a 2 stage selection process (see Appendix 3.1.4. for further details about the TEC Project assessment process). Projects funded over the first year of the TEC programme (2015-2016) under the five key strategic areas above included:

Integration Authorities / Lead Agencies	Aberdeen City; Angus; Argyll & Bute; Borders; East Renfrewshire; Edinburgh; Glasgow; Highland; Midlothian; Orkney; Perth & Kinross; Renfrewshire; West Lothian; Western Isles.
Health Boards	NHS Ayrshire & Arran; NHS Lanarkshire; NHS24; NHS Lothian.
Third sector	Quarriers; Health & Social Care Alliance; Alzheimer Scotland.
National Orgs.	Scottish Fire & Rescue
Collaborations	Adapting for Change (led by Lochaber Care & Repair with Aberdeen, Falkirk, Fife and the Borders)

All of the above are receiving funding to progress various activity across the four primary workstreams, with just under half focusing on one workstream only and the rest focusing on two, three or (in two cases) on all four workstreams (NB: Workstream 5 was a nationally-commissioned research piece):

Workstream 1: Expansion of Home Health Monitoring	**9:** Argyll & Bute, NHS Ayrshire & Arran; East Renfrewshire; Highland; NHS Lanarkshire; NHS Lothian; Renfrewshire; Western Isles; West Lothian
Workstream 2: Expanding the use of VC	**5:** Angus; Borders; NHS Lanarkshire; Midlothian; Orkney
Workstream 3: Digital Platforms	**10:** NHS24; ALLIANCE; Argyll & Bute; Ayrshire & Arran; Glasgow; Highland; Lanarkshire; NHS Lothian; Scottish Fire & Rescue; West Lothian
Workstream 4: Expanding the take up of telecare	**17:** Aberdeen; Adapting for Change; Angus; Argyll & Bute; Ayrshire & Arran; East Renfrewshire; Edinburgh; Glasgow; Highland; NHS Lanarkshire; Midlothian; Perth & Kinross; Quarriers; Renfrewshire; Scottish Fire & Rescue; Western Isles; West Lothian
In addition to above, Alzheimer Scotland is receiving funding to help promote the greater use of technology (in general) for people with dementia and to support a number of areas in their focused activity.	

How much funding has been mobilised for its implementation?
£8.9 million in 2015/16 and £9 million in 2016/17 and 2017/18
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
The TEC is a national programme across Scotland

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
The Programme has been implemented at a national level in order to embed, and sustain, the use of technology enabled care at a local level.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
The aims of the TEC programme is that innovative technologies and services are integrated into routine practice within the duration of the programme, with a view to becoming 'business as usual' within core service delivery.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Although not the primary purpose of the programme, a number of new roles have been created across the country in order to deliver specific objectives. The real market opportunities are likely to start developing from year 3 onwards, as the implementation of the shift from analogue telecare to digital telecare starts progressing (workstream 5).

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Actual implementation at a local level has been facilited by an adapted version of the EU-funded Momentum Framework (the 18 Critical Success Factors for Mainstream Adoption of Telemedicine). Our 'Readiness Assessment for Technology Enabled Care' was used by all recipients of funding to enable them to identify priority areas for investment.   An independent scoping exercise (not yet published) has shown that a number of barriers remain: • Lead in time / start-up cycle longer than anticipated initially;   • Procurement guidelines/Supplier issues;   • Connectivity issues;   • Data sharing.   However, the same review identified the following successes to date: • Provision of impetus and recognition for the TEC mission   • A flexible and constructive central-local relationship   • (very) Effective national collaboration   • The emergence of local TEC champions   • Better understanding of implementation issues and how they can be addressed   • Wider awareness that TEC is about systems not organisations

• Early lessons and emerging evidence are utilised locally and nationally

Are new collaborations foreseen between the parties involved in this good practice?
Yes. Work carried out through the TEC Programme, along with existing core infrastructure work carried out under the eHealth Strategy, has led to a decision to create an overarching Digital Health & Care Strategy for Scotland. This will cover all aspects of digital health and care, from innovation through to piloting then mainstream service delivery.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
This is still emerging, as worsktream five in particular is likely to lead to a significant market shift in the next 5 – 10 years. As the rest of the Programme is primarily about upscaling already tried and tested approaches, most companies involved are purely engaged in a supply basis.   In terms of investors, part of the full evaluation of the programme at the end of the three year period will examing the return on investment, although support is being provided to local areas in order to help develop local business cases for sustained local investment decisions.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
This various significantly across all areas of activity, and will be one of the key questions asked of the final evaluation.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Yes.   The programme tackles a number of cross-cutting themes, such as digital participation, digital literacy, health inequalities, access to services, and individual choice and control.

Title of the good practice
Group Purchasing Organizations gain popularity in Lower Silesia
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Marshal Office and A. Falkiewicz Specialist Hospital - Public administration
Summary of the best practice (aprox. 3.000 characters)
Marshal Office of Lower Silesia Voivodeship would like to promote innovative products and solutions for public healthcare system, mainly through the implementation of innovative practices, such as public procurement of innovation, co-creation programs between public bodies, private companies, educational and knowledge system and citizens, public-private partnerships, etc. So far there is a good practice called purchasing groups. The idea is very simple - to buy as cheaply as possible, and then to the least the cost of use during production or service performance or with an appropriate profitably sell. The customer with the low value needs and dumb but so strong bargaining position and to get the purchase price as a large entity. The owners of similar commercial units or services are increasingly turning to the group purchasing to increase the negotiating power and bargaining.
How much funding has been mobilized for its implementation?
It was a tendering procedure carried out in 2009 on a delivery of medical devices and equipment for **5414000 PLN**
What is the original geographical coverage of this best practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
Worldwide - Europe has a moderately developed, but fast-growing market for group purchases. United Kingdom is leading in this area, next are France, Belgium, Germany and Spain Practically every hospital in the United States belong to at least one purchasing group. More than 70 per cent of all purchases of hospitals is carried out by these organizations
Has been this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
As an extended programme
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
It is implemented as a routine procedure.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
It was implemented in structural funds projects – it is not direct employment & job creation
Please indicate which have been the key factors identified for successing in the implementation of this good practice
Low cost purchasing,

Are new collaborations foreseen between the parties involved in this good practice?
Hospitals willingly referring consortia within the the same group. Purchasing groups can be organized by entities interested in joint purchasing, by the coordinator, or the external operator - company specialized in providing this type of service
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The implementation and execution of this good practice caused the much economical approach to the purches. Health sector can buy more products for les and save money for other needs.

Title of the good practice

Outcome Oriented Finance (OOF)

Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)

City of Almere

Summary of the good practice (aprox. 3.000 characters)

Since 2008 a new way of financing well-being and care has been gradually itroduced by the City of Almere. A transition is being accomplished form financing output to financing outcome. Rather than financing individual organisations for their individual output, the city chooses to look at the broader picture and finances a set of desired results for each of their partners (partners rather than suppliers). The combination of these sets of results per partner is the broader outcome in the social domain that the city wants to achieve. Thus, not one of the city's partners is accountable for making societal changes or changes in the city's societal challenges but it's the collective of partners that have a collective responsibility.

Mind you that this system does no include medical care and cure. These do not belong to the responsibility of local/regional government in the Netherlands. It's focus is prevention, social well-being, social security and care that is provided via the WMO (Social Support Act) and the Participation Act.

OOF is based on a set of 10 societal goals that have been set by the city board and council. These goals range from children to seniors and from the healthy and talented to people with social, financial, mental and physical impediments.

OOF is organized in an anual cycle of execution, evaluation and policy innovation.

How much funding has been mobilized for its implementation?

It is not easy to put a number on OOF since it has been an innovation that has come about gradually over many years. It can be estamated that over the last 8 years, two fte. (senior advise) have been actively involved full time which comes to an anual budget of around € 200.000. However, one can also argue that the implementation was for free because these fte. would otherwise also have been employed by the city. They have basically changed the system as part of going concern.

The volume of finance involved in the execution of OOF is tens of millions and it is growing since local government has been delegated to carry out more care tasks gradually over the last years by national government.

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?

The geographical coverage is local, limited to the city of Almere.

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?

OOF was implemented at first as a pilot, aimed at a single partner of the city. Now it has developed into an extended programme, covering the whole range of the partners withi the city's social domain.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
OOF has become going concern, which does not mean that it's development has been completed. The city aims to make improvements and changes to OOF still in the coming years.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
There is no decisive evidence of the creation of new markets or job creation. Bear in mind that government has had to make large budget cuts over the last decade. Many innovations have been aimed at keeping the system of prevention and well being financialy feasable. Changes and shifts are taking place however in the character of prevention and care.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
The main barrier is in the area of culture and fear of/adversity to change.
Are new collaborations foreseen between the parties involved in this good practice?
Certainly. Partnership between the city and the organisations active in the social domain, and between those organisations is still developing. Tasks and objectives are dynamic and are being redefined constantly and also the role of citizens as partners in this constellation is taking shape.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
For all partners it has become clear that no single individual organisation can bring about social change by itself and thet is is senseless to make organisations individualy accountable for social outcome. Only a joint effort and dedication will achieve change and will lead to a better practice and execution of social policy. Partnership is stronger and leads to more sustainable results/outcome than hierachical relationships between investor/financier and suppliers.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
A stronger emphasis and appreciation of prevention leads to a healthier and more resilient society and also creates room for specific attention to more complex individual cases and problems in society.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
The proces of implementing and improvement of OOF has been ongoing since 2008. The focus over the last two years has been on involving more and also smaller partners/parties.

Title of the good practice
Horizontal Accountability (HA)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
City of Almere
Summary of the good practice (aprox. 3.000 characters)
Horizontal accountability is a practice that has developed as a result of Almere's practice of Outcome Oriented Finance. The city and her partners have grown to realize that to bring about a change in society and a change in the system of financing well-being, prevention and care is was not effective that suppliers only report on their output and results to the city in a one on one relationship. Parallel to the development of OOF a demand came about among the partners and in the city administration that partners are also accountable to eachother rather than only to the city. To implement this horizontal accountability would enhance cooperation between partners and would improve the social outcomes as a whole in the city. Partners would step out of their silo's and be more aware of eachothers goals and activities. By doing so the risk of overlap of activities and of hiatuses would be deminished, again leading to more efficient and effective input and outcomes. This best practice was first introduced in 2010. The organisation responsible for citizen well-being which at that time was the only organisation under the OOF regime, was asked to carry out a "story telling session" by the city to make their work better known among other partners and also within the city organisation. In the next year the tree largest organisations who were active in the social domain decided to join forces and organize the "strory telling sessien" together and show how their activities, output and outcomes were interconnected and how they reinforced eachother, showing thet 1+1 is not 2 but 3. Horizontal Accountability has become commonplace in Almere with more and more organisations joining this practice. This practice of Horizontal Accountability has drawn the attention of national government's Auditor-General's Office who are looking into the possibilities to pilot it further.
How much funding has been mobilized for its implementation?
Similar to OOF this is the type of innovation that is being carried out as "going concern" by senior consulting staff of the city. Faced with budget cuts and societal change it is part of the job to look for new and innovative ways to get the best results for the citizens of our city. No special budget has been allocated for this practice.

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
The coverage of this practice is local but it has drawn attention at the national level and also other municipalities/cities have shown interest to adopt (parts of) this practice.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
This practice has become part of the OOF practice as it is a phase in the accountability and policy cycles of the City of Almere.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
This practice is now a routine procedure but it is still developing further. One of the reasons for this is that local government in the netherlands is being delegated more tasks in the area of care by the national government. Therefor more partners will be added to the system of HA over the next years. These partners, being of a somewhat different nature than the original HA-partners (roughly: Care vs. Prevention) will pose their own challenges as they become part of the HA practice. Challenges we can not exacltly foresee and predict at this stage.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
HA in itself does not directly lead to new markets. It mainly improves the quality of accountability and it helps the city and her partners to realize better outcomes in the social domain.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
The main barrier is in the area of culture and fear of/adversity to change. The old Silo/output-thinking vs. The new Partnership/outcome-thinking.
Are new collaborations foreseen between the parties involved in this good practice?
Yes. The addition of new partners to HA leads to new partnerships. Also more public private partnerships since many of the care organisations that are being contracted by the city are private organisations, opposed to the more publicly funded organisations for well-being and prevention.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
For all partners it has become clear that no single individual organisation can bring about social change by itself and thet is is senseless to make organisations individualy accountable for social outcome. Only a joint effort and dedication will achieve change and will lead to a better practice and execution of social policy. Partnership is stronger and leads to more sustainable results/outcome than hierachical relationships between investor/financier and suppliers.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The quality of the execution of social policy has improved and public funds have been used more effective and efficient.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
New partners are being introduced to the practice of HA since 2015 when thye Social Support Act was broadened to delegate more care related tasks from national government to the local level of cities and municipalities. HA is a dynamic proces that has not ended yet.

D. Thematic Area 2. Inside-Out Technological Innovation.

The main goal is to reduce the gap between research and market in the health sector, by promoting the establishment of innovation ecosystems, based on the quadruple-helix approach (public administrations- educational and research institutions -industry-communities). Those ecosystems should promote the transfer of transnational research results to companies and boost the developing of new products and services.

In order to know more about the previous experience of the region in this sort of good practices, please fill the information requested in the box below. Please add as much "boxes" as good practices identified[1].

Title of the good practice
PRIS programme, Pre-commercial development of research results from the Galician Public Health System

Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
ACIS, Health Knowledge Agency. Public Administration which depends directly of the Regional Government, Department of Health.

Summary of the good practice (3.000 characters)
The PRIS programme, conceived as a commitment of the Galician Health Public System, started in 2013 to catalyse and boost the good ideas of the professionals of the Health Sector in the region. The PRIS programme is a pioneer project in Spain, which was launched on the occasion of the high quality and international impact of the research projects in the region. The projects have demonstrated a great potential to be transferred to the market while generating economic value, closely related to the value generated in terms of healthcare assistance. The daily role of ACIS in the PRIS programme is based on identifying, managing and adding value to the projects in close cooperation with the three Galician Biomedical Foundations (Fundación Ramón Domínguez, Fundación Biomédica Galicia Sur and Fundación Profesor Novoa Santos) and with the professionals of the Galician Health Public System. This is an open innovation programme, which is open to the entire health system (practitioners, researchers, nurses, etc), to all technologies (drugs, diagnostics, devices, software, etc) in all readiness levels (proof of concept, prototype, etc). Of course, the programme cannot assume the whole development of a new drug or medical device, so that the resources have been focused on IP protection, external validation, regulatory studies, first manufacturing procedures, prototypes, etc. The PRIS is a very useful tool for adding value to research projects by identifying good ideas and teams, reducing risks and consulting the market from the very beginning. The phases of the programme are as follows: - Phase 1: Identification of R&D projects, which are being developed in Galician hospitals with results with market potential by competent teams.   - Phase 2: Pre-validation with the market and external consultants the strengths and weaknesses of the projects.   - Phase 3: Development of strategic plans for the most interesting projects.   - Phase 4: Financial Support of co-development plans for the selected projects, in collaboration with companies.   The first edition of the PRIS was launched in 2013 and ACIS is currently implementing the second edition of the programme with the collaboration of the Galician Innovation Agency, GAIN. The PRIS programme is strongly reinforced by different local initiatives, which were launched by the Galician Biomedical Foundations, focused on providing researchers with specific training and advice in technology transfer.   **Fundación Ramón Domínguez** launched in 2014, as an extended practice, the ***Technology Transfer***

Training Programme, with a total funding of 40.000€. So far, the main topics of this Programme have been: good practices in tech transfer, good practices in clinical trials, improvement of oral skill with investors, improvement of presentations and regulatory affairs.

- **Fundación Biomédica Galicia Sur** launched the *Training on IPR and innovation* as a pilot programme with the objective to continue with this kind of training on an ongoing basis. It has been also developed the **ICT Development Platform,** which offers consultancy services in software development for the researchers of the institution. The objective is to accelerate the development of ITCs solutions in the field of Health and to establish contacts with companies of this sector.

How much funding has been mobilised for its implementation?
First Edition: Granted by Public Administration: Total mobilised: 2,4 M€ in total. 1.4 Million for research at hospitalas (managed by Biomedical Foundations) and 1,0 Million for companies.

What is the original geographical coverage of this good practice? (Local, regional, national…)Has this good practice been adopted in other regions around the country or beyond?
The original coverage is regional, as the PRIS is open to the entire Galician Public Health System. It is a pioneer project in Spain, which has not yet been developed in other regions. Nevertheless, other institutions in Andalusia and the Basque Country have already expressed their interest in implementing similar projects.

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It has been implemented as an extended programme open to the entire Galician Public Health System. The three Galician Biomedical Foundations have been involved during the two editions launched, by identifying the most relevant research projects in their operating areas, with no relevant difference in the number of projects identified and finally selected.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, the first edition was launched in 2013 and the second call for proposals was launched in 2015 and is currently being managed by ACIS. The objective is to launch this programme regularly with a new edition every 2 years or at least every 3 years.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Despite the fact that the projects are in an early stage, there is evidence of their contribution to the growth of new markets and job creation. Please refer to the information below for further information: - Project 07 and Project 10: 2 start-up have been already launched.   - Project 28 and Project 16: start-up in process of launching.   - Project 03: in the course of signature to be transferred to a pharmaceutical company.   - Project 14: in negotiation to start offering services.   - Project 30: already incorporated to the Hemodynamic Service at Complexo Hospitalario Universitario de A Coruña.   - Project 27: under internal review to be transferred.

Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses

and/or other transfer practices.

Taking into account the 2 editions launched, the figures are as follows:
- 65 projects received
- 40 projects reviewed
- 20 projects selected for development
- 2 start-up already launched
- 2 start-up in process of launching
- 2 license agreements
- 1 exploitation agreements
- 2 ongoing negotiations with companies
- 10 projects in phase of assessment

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers: There is a clear lack of investors specialized in the biomedical sector. Local private companies are reluctant to invest in R&D results. There are also limited connections with international partners to help with the translation to the market. Many projects with excelent results in the lab end with a patent or a publication but they lack of enough resources to demonstrate industrial interest.

Facilitators: the PRIS programme has been designed for and by the Health System, so that the daily and real needs of the patients are known. Moreover, the projects have been managed for multidisciplinary teams and taking into account the market rules. The role of Biomedical Foundations was critical. They know very wel the research teams and they projects and have dedicated team to support the techs transfer process.
Companies participated in the program through the SERGAS Contractor Profile. The Galician Health sector has an annual budget of 3.5 Billion euros and it is very attractive for medium size companies: They participated in the tender process because they were also interest in the establishment of new business relationship with the health system.
The health System also organized meetings with local and international investors, including representatives of VC units of international Pharmas. Frequent contacts with pharmas and a detailed roadmap for each project were critical success factors for the techs transfer process.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

The implementation of the PRIS programme as well as the specific training coordinated by the Biomedical Foundations have allowed the researchers:
- To know and understand better tech transfer procedures.
- To gain conscience on the importance of protecting their results.
- To be aware of the necessity of managing technology results.
- To fully understand the regulatory requirements for developing their projects.
- To get contacts with the industry
- To get access to new sources of funding (mostly from private sector)

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

The companies have had the opportunity to know the most challenging and promising research projects in the field of Health in Galicia. Moreover, the PRIS programme allows those companies which are interested in one particular project, to join the team in an early stage of development but with an enough maturity grade to have demonstrated positive preliminary results.

Regional investors also participated y several seminars with researchers and international counterparts. They increased their networks with investors specialized in biomedical fields. They also learnt the risks and benefits of these projects.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The projects are in an early stage for the time being, so it is expected a bigger impact in the future. As already mentioned, some projects are being currently developed and tested in clinical trials, other have been incorporated as routine procedure in hospitals and others are in negotiation with pharmaceutical companies in order to follow its development or to be commercialized.

The PRIS program had also impact on the administration. The Galician Government implemented new policies to create start-ups participated by the Galician Healthcare Service. The creation of start-ups was mostly restricted in Universities. After the PRIS program a newlegal frameworkwas implemented for projects developed in hospitals. This new set of rules and protocols opened the route to other projects leaded by entrepreneurial researchers and medical doctors.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?

Yes, GAIN, Galicia Innovation Agency has recently launched the IGNICIA Program.

The IGNICIA program has extended the idea of the PRIS Program beyond the health sector. IGNICIA, Managed by GAIN, involves other areas of knowledge like new materials, energy, aquiculture, ICT, etc. IGNICIA will launch its call for projects in September 2016. There is no enough information at this time.

Title of the good practice
<mark>Health Innovation Platform</mark>
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
ACIS, Health Knowledge Agency. Public Administration which depends directly of the Regional Government, Department of Health.
Summary of the good practice (3.000 characters)
The Health Innovation Platform (HIP) was launched in 2010 by the Regional Government Department of Health and the Galician Health Service with the mission of being a transversal tool able to implement structural improvements in a systematic way. Since January, 2016 the coordination of the Health Innovation Platform has been assumed by ACIS.   The HIP is an open channel to professionals, patients, caregivers, companies, etc. external stakeholders and professionals. HIP is open to collaborative projects with all type of agents, such as users, association of patients, business, universities, technological centres, etc. looking for synergies and complementarity. The HIP Allows projects to improve their quality and efficiency and also transform them into applicable projects to the everyday reality of clinical practice.   The HIP platform helps our ecosystem to share experiences and learn and spread out good practices. It is nowadays organized in two main areas: • 7 innovation nodes (one per each care area) in charge of managing those ideas, which are proposed by the professionals (nurses, pharmacists, administrative staff, physicians, etc)   The specific objectives of the Platform are as follows: • To align efforts, resources and talent of the whole health organisation with real user needs.   • To encourage and motivate health professionals by getting them involved in innovative projects.   • To facilitate interaction and participation in multidisciplinary projects with external agents.   • To create a new model to manage and co-ordinate innovative initiatives by promoting and developing high-impact health innovation projects and providing, when necessary, access to sources of funding.   • To ensure the implementation of positive results from projects or experiences.   • To facilitate the development of a socio-economic pole that develops business in the region.   The values of the Platform aim to foster the following: • Creative innovation focused on patients and professionals.   • Open innovation by opening the health organization up to internal and external agents.

- Collaborative innovation by setting up multidisciplinary teams.
- Internationalization by promoting exchange and collaboration with partners in other countries.
- Flexible and positive innovation by making procedures simpler.
- Innovation with impact focused on results.

The core aspects of the Platform are as follows:

- Innovation in Healthcare: introduction of new products and services to improve efficiency. Involving users from the initial processes in controlled environments where impact is assessed.
- Innovation in Health administration: technological development, advances in energy efficiency, changing the role from buyer to partner in joint developments and searching for external sources of funding through competitive calls.
- Transfer and development of research business: assess capacities and results of research, orienting it towards the market and business development.

How much funding has been mobilised for its implementation?
It did not suppose extra-cost, just the reallocation of own resources (budget, staff, etc). One of the success factors of the Innovation Platform is its financial independence. The HIP must be self-sustainable. In other words, it prioritize those projects that don't request additional budgets (at least high budgets). If one project request additional budget, the HIP needs a clear route to get this extra financial support.
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The original coverage is regional, so the Health Innovation Platform is open to the entire Galician Public Health System. However, the Health Innovation Platform works closely with other related national entities by taking part in several networks, as for example: ITEMAS (Medical Technologies Innovation Platform). There is another Health Innovation Platforms across Spain, but the structure of the innovation nodes is a pioneering model in the country.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It has been implemented as an extended programme open to the entire Galician Public Health System. Since the creation of the Platform, the model has been improved on an ongoing basis from many different points of view: success in competitive calls, creation of the nodes, and communication of results.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
It is being implemented as a routine procedure and gaining strength within the last years.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
As previously reported, the Health Platform of Innovation is a transversal tool which catalyses and

manages projects received from the different stakeholders both internal and external. So the Platform by itself does not create new jobs or markets directly but it does through the different initiatives and projects managed by the Platform

Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.

As previously mentioned, taking into account the transversal nature of the Platform is difficult to specify the numbers. The Health Innovation Platform has actively participated in the management of previously reported projects, especially during the implementation of the Hospital2050 and Innovasaúde Innovation Plans.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers:
- Lack of mechanisms to provide extra time for professional for developing their innovation projects.
- Poor communication: professionals are not aware of all the initiatives launched by the Galician Health Public System.
- Professional´s resistance to change how they work routinely.

Facilitators: the interdisciplinary team which takes part in the Health Platform (practitioners, nurses, pharmaceuticals, engineers, chemistries, etc.) is fully involved in different scopes of the Galician Public Health System. This allows the HIP to know the needs of the patients and professionals while having the knowledge and competences about how to proceed when the implementation of a solution is needed.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

Since the Platform was created the following benefits were obtained by the researchers:
- Better and easier communication with central services.
- Awareness-raising on innovation implementation through the Public Health service.
- Training in innovative ways of management procedures (Lean, Kanvas, Design Thinking, etc.)
- Guidance on technology transfer and IP protection.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

Since the Platform was created is easier for the investors and companies to know the real needs detected by professionals in their daily routine, as well as to know the main worries of the Galician Public Health System.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The HPI looks for guaranteeing the sustainability of the Health System through structural organization changes linked to projects of health innovation. For this reason, projects promoted by the HIP contribute towards a new model:
- Patient centred and it fulfils their needs: developing new tools and services that avoid

unnecessary hospitalisation and the saturation of hospital services but at the time allow agile communication and access

- Safe and agile: applying new solutions to reduce as muchs as possible human error in the professionals

- Smart: changing structure of assistance services that certify an optimum capability in services as to quality and security

- To make the health sector an engine of socio-econimic development, delivering value in the Autonomous Community of Galicia.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?

Yes, as formerly reported, in order to reinforce innovation taking the whole regional ecosystem into account, gather the areas of Innovation, Training and Research and manage from a global point of view the Platform´s activities, ACIS was created as a new entity attached to the Galician Health Ministry and Galician Healthcare Service in January, 2016.

ACIS activities are clearly targeted to the 35.000 professionals that every day work in the Galician Health System.

The ACIS Innovation team is highly interdisciplinary including medical doctors, doctors in sciences, European Innovation managers and experts in finance. The team has been recognized at national level for the results obtained in Innovasaúde & Hospital2050 and for its involvement in 4 European projects.

Title of the good practice
FOOD & HEALTH: InnoFood – Inconsumer – Inclusilver projects
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Galicia Food Cluster – Cluster Alimentario de Galicia
Summary of the good practice (aprox. 3.000 characters)

The INNOFOODS project studies the feasibility of product preparation with a modification of the processes, the incorporation of bioactive ingredients or ingredients with a nutritional profile in order to obtain new or improved food, adapted to the requirements of specific groups.

Thus, the aim is to contribute to the diversification, differentiation and a higher added value of food products by developing new products tailored to the new nutritional requirements, with formats and textures suited to the new consumer demand of certain specific groups. As a result, new products characterized at physicochemical, nutritional and organoleptic level are developed with applicable processes and technologies, as well as applicable regulations regarding health declarations and consumer information.

In the specific topics identified as priorities can differentiate the following scale operational objectives and activities, from lowest to highest level in terms of cooperation between stakeholders:

i. Capture and disseminate strategic information.

ii. Identify strategic challenges and potential synergies.

iii. Evaluate the potential synergies identified.

iv. Identify and promote cooperation groups with common interests to generate cooperation projects.

The actions are promoted from the cluster, but implementation is up to the partners through collaborative projects. These are located at the top of the "cooperation pyramid" aforementioned.

In 2015-2016, three topics were developed in this area, coordinated by the cluster with the participation of a total of nine partner companies and several technological centers: Innovation in formulation of food products and beverages adapted to new consumer trends; Innovation in dairy products for nutrition of the senior population; and challenges for the food sector meeting the specific needs of the children population.

The projects are developed as pilot programs seeking to boost innovation in companies in the food value chain in collaboration with knowledge centers to strengthen their innovative potential and competitiveness defining development strategies and business plans based on the identification of

market opportunities and related is the insights consumer analysis project; analyses consumer behaviour and trends related to businesses products and services.

Also in at European level the cluster seeks to extend the networking with other European clusters in European Strategic Clusters Partnership for Food and Health and a specific topic is developed at supporting the collaboration between actors belonging to different sectors in order to create the right conditions for generating and validating innovative ideas in the field of personalised nutrition for the silver population that have a great potential to reach the market. The collaboration will favour the rising of new integrated value-chains which have personalised nutrition as common ground and will be specifically addressed to the silver economy. The collaborations among clusters will go far beyond the initial field and a spill around effect would trigger other cross- sectorial collaborations addressing other challenges related to the *silver society*.

How much funding has been mobilised for its implementation?

350.000 € has been mobilized in different projects to develop the consumer, trends and market studies and for develop networking activities as workshops and study trips.

What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?

INNOFOODS is a national project and is related with the European Strategic Clusters Partnership for Food and Health

Has this good practice implemented as a pilot programme or as a extended programme? In pilot programme, is there any plan for a wider implementation?

Pilot programs. Wider implementation is expected by the individual partners.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

Is being implemented as a routine procedure in the new cluster strategic plan for the period 2016-2020.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

None evidence for the time being. Nevertheless, as previously reported, the projects are developed by companies to strengthen their competitiveness defining development strategies and business plans based on the identification of market opportunities, so that growth of new markets is expected as a result of implementation of this good practice.

Please indicate the technology transfer impact in terms of: spin-off launched number of licenses and/or other transfer practices.

After the implementation of the aforementioned projects, the resultant prototype and food products concept are currently being evaluated for future market launch.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers:

- Commercial barriers:
  - Access to market of new products related with health is difficult due to the legislation of health claims.
  - Limited marketing capacities of SMEs.
  - Limited collaboration of distribution wholesalers.
- Limited collaboration among stakeholders, in particular RDI institutions – companies.

Facilitators:
- Research capabilities of RDI System
- Public funding for projects

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Cooperation and transfer of knowledge between all the stakeholders involved in the projects (research centre – companies), which are very often cross-sectoral organizations from different countries.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
Benefits and lesson learnt by Investors are very similar to the benefits obtained by researchers, as they are mostly related to the establishment of alliances between companies, which facilitate the cooperation and open innovation from the partners of the projects.
Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?
Potentially the development of future dairy products, intended for the elderly population that can exert a reducing and preventive role regarding risk factors causing certain diseases, so they provide a better state of health leading to a greater well-being and quality of life.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
The measure has not yet been announced but it is known that one proposal for innovative public purchases of functional foods is being developed, GAIN will be the organization in charge of managing and launching this policy, which is expected for year 2017.

Title of the good practice
FIK initiative-a private interdisciplinary scientific/technological development initiative
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Fundación TECNALIA Research & Innovation (Research Institution)
Summary of the good practice (aprox. 3.000 characters)
FIK is a private interdisciplinary scientific/technological development initiative in the field of ageing and disability. Its goal is to obtain patentable results that allow the profitability of the enterprise to be optimized and which lead to products and/or services that maximize the personal freedom, independence, health and quality of life of the elderly and disabled whilst simultaneously generating an economic framework. FIK is made up by 26 investment partners and has a budget of approximately 50 million euros over a 10-year period (2007-2017) in the context of ageing and disability. FIK approaches a major problem in developed societies whilst also representing a major economic opportunity. FIK expects to generate 35 patents in 10 years. FIK initiative has the following goals: • To transfer the products developed within the scope of FIK to the market in the form of patents (sale or license) or start-ups. • To alleviate the effects of the progressive ageing of developed societies and to prevent dependency situations. • To promote technology from a market perspective and with social responsibility towards the elderly and those people with some form of disability. FIK is backed by 26 investment partners who have placed their trust in this ambitious project. These include: • Financial bodies • Industrial groups • Social and health institutions • Mass media • Family investment funds • Public institutions • A TECNALIA Knowledge Partner.
How much funding has been mobilized for its implementation?
50 million euros over a 10-year period (2007-2017)
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Regional (Basque Country).
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
This is a private initiative started in 2007. The progress of its development as it was scheduled has allowed achieving great results obtaining patentable technologies, devices and solutions mainly in

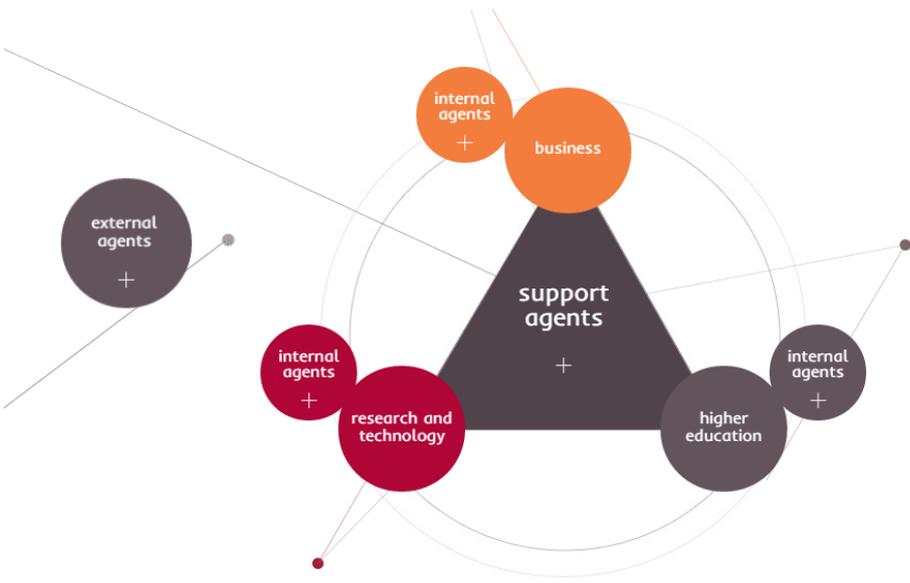| |
|---|
| the area of rehabilitation technologies and/or devices and telecare systems. |
| Is this good practice being currently implemented on an ongoing basis as a routine procedure? |
| Yes, it is implemented as a routine programme. |
| Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation? |
| There is evidence of contribution to the creation of new technology based companies, such as Textia and FESIA, apart from other commercial developments already licensed to different companies. |
| Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices. |
| Two NTBCs (new technology-based companies) have been launched:
 ● Textia, dedicated to commercialize the VARSTIFF© textile technology;
 ● Fesia, dedicated to commercialise our FES-a devices fitted with technology based on functional electrical stimulation on the market. |
| Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice. |
| A facilitator has been the tax policy for research and innovation (R&I) in the Basque Country. |
| Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved. |
| The researchers have learnt that it is very important to orientate the research activity to the wealth creation through the generation of industrial property. |
| Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved. |
| The main benefit has been the return of investment (ROI) via royalties or via the participation in the created spin-offs. |
| Which has been the social impact, as well as the health impact of the implementation and execution of this good practice? |
| The employment generation as a result of the new spin-offs that have been created to commercialize the R&I results achieved by this FIK initiative. |
| It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice? |
| New policies to promote the R&D in this area have been established at a regional level. One of these policies is the initiative launched by the Basque Health department for the public procurement of innovative solutions. |

Title of the good practice
<mark>**M4FUTURE_comprehensive corporate innovation model**</mark>
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
MONDRAGON Corporation (Business Group)
Summary of the good practice (approx. 3.000 characters)

MONDRAGON is one of the largest Spanish business group. Its business model is based on cooperation, a commitment to continuous innovation and a highly competitive product range, and it has made them the leading international company they are today.

MONDRAGON is committed to innovation, cooperation and development. Its work generates new business activity, knowledge and trained staff through a comprehensive corporate innovation model called M4FUTURE (http://innovative-thinking.mondragon-corporation.com/en/index). The model encompasses somehow the accumulated knowledge and experience in the development of MONDRAGON Experience from the official opening of the first cooperative in 1956, through to the present day (http://www.mondragon-corporation.com/wp-content/themes/mondragon/docs/History-MONDRAGON-1956-2014.pdf).

This cooperative business model encourages participation and relationships between the agents involved in different areas, applying the three sides of the triangle of knowledge: Business, Research & Technology, and Higher Education.

- Business internal agents: MONDRAGON incorporates within its organisation cooperatives and companies with a presence in the industrial, financial and distribution sectors, with commercial and production offices around the world.

- Research & Technology internal agents: in addition to the resources invested by these cooperatives in technological development, MONDRAGON also has a network of business R&D units and technology centres that focus on research in fields that are strategic to the business sector.
- Higher Education internal agents: MONDRAGON has its own university and a Management and Corporate Development Centre. Both are characterised by the formal and continuous training they offer, which is always adapted to companies and institutions within an international context. Furthermore, the university carries out important research and dissemination activity. In order to highlight some of the specific activities that impact on entrepreneurial activities and health sector, the university has a Bachelor's Degree in Entrepreneurial Leadership and Innovation (http://www.mondragon.edu/en/studies/bachelor-degree/bachelors-degree-in-entrepreneurial-leadership-and-innovation/) and a Bachelor's Degree in Biomedical Engineering (http://www.mondragon.edu/en/studies/bachelor-degree/bachelor-degree-in-biomedical-engineering/).
- Support agents: based on a collaborative innovation model, MONDRAGON has a structure of corporate support agents who work together to create a critical research mass and to leverage financial resources and infrastructures that will boost collaboration between research centres, the university and companies.
- External agents: through surveillance and collaboration with complementary organizations and entities the Corporation obtains knowledge and resources needed to develop corporate strategic areas. To perform the activities outlined above, MONDRAGON has a technological monitoring and competitive intelligence action plan that includes the participation and involvement of customers and suppliers, and that provides them with relevant information about the environment and current trends. This helps MONDRAGON to identify areas of strategic interest that can be used to launch value added projects in collaboration with their own network of external agents (companies, research centres and universities). Furthermore, MONDRAGON also collaborates with Public Institutions, Investors and Regulating Bodies to obtain the resources necessary to develop its Innovation Strategy.
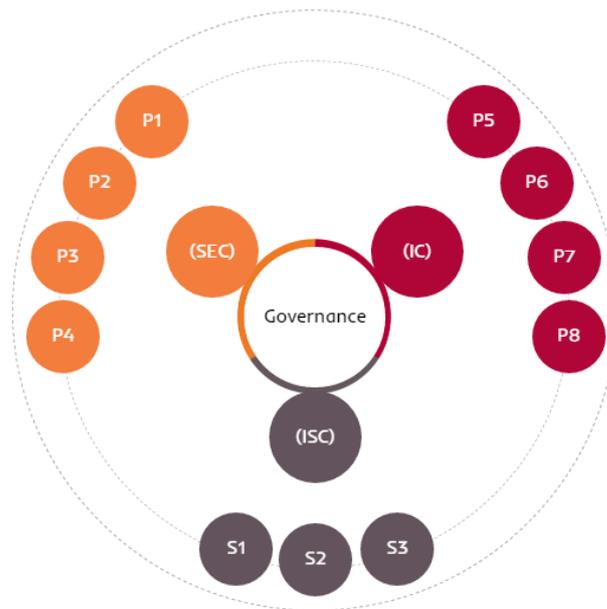
IPK: Innovation, Promotion & Knowledge

The innovation model M4FUTURE is a comprehensive corporate system for innovation, promotion and knowledge that consistently updates business models and promotes new activities in future sectors. This process management model was developed to optimise work methods and encourage collaboration between agents, researchers and companies, making possible building new businesses among other activities. The Governance of M4FUTURE is comprised of:

- *Steering and Empowerment Cycle (SEC)*: the Steering and Empowerment Cycle aims to focus, guide and train all agents in the system to achieve the optimum performance of initiatives undertaken in the field of innovation.
- *Innovation Cycle (IC)*: the Innovation Cycle focuses on developing complete, interdivisional projects in strategic sectors to promote innovative proposals that are successful in the market.
- *Innovation Support Cycle (ISC)*: the Innovation Support Cycle aims to provide a set of support mechanisms for the Model, both methodological and economic, to facilitate the development of the SEC and IC in a systematic and continuous way.

The development of new content continued within the framework of the M4FUTURE Corporate Innovation Model is focused on the following areas: open innovation, talent management, strategy and culture of innovation, criteria and tools for diversification, entrepreneurship, portfolio management of R&D&I projects, creativity in the processes of innovation and industrial property. In line with the efforts to meet market needs and customer demands at all times, seven strategic areas have been identified for the future, and MONDRAGON is already working on them:

- Automotive sector
- Capital goods and Manufacturing
- Energy, Sustainability and Smart Cities

- Home Solutions
- Infrastructure, Construction and Rehabilitation
- Healthcare, Ageing and Wellbeing
- Human Capital Development

MONDRAGON's strategic activities in the area of HEALTHCARE, AGEING AND WELLBEING have a common denominator: people, their safety and wellbeing, along with improved quality of life. In an era that needs to cope with an ageing population, there is a lot to do to promote wellbeing. MONDRAGON develops and supplies innovative medical, socio-medical and nutritional solutions and services. For instance, two businesses developed recently within the health sector are:

- KIRO Robotics (http://www.kiro-robotics.com/): a technology company that specializes in the automation of equipment for the hospital sector. It concentrates on developing solutions to automate and control key points of hospital processes, and hospital pharmacy processes in particular, improving the safety of patients and health professionals alike, and delivering increased efficiency. It currently has some of the world's most advanced technology in the hospital pharmacy sector: the KIRO Oncology System.
- FAGOR Healthcare (http://www.fagorhealthcare.com/en/index/): offers an innovative solution for medication preparation of blister packs (service known as MDS - Monitored Dosage System). The product, Medical Dispenser, makes preparation in pharmacies safer, minimizing errors and following established protocols. The stakeholders that benefit from this service are: patients, pharmacists, doctors, local authorities and ultimately health system.

Moreover, all areas have the commitment to develop their activities around the same common denominators, providing, for instance, solutions to help people enjoy a more comfortable, safer daily life in their home, or transforming and creating spaces and infrastructures integrating the most advanced equipment and solutions.

How much funding has been mobilised for its implementation?
The total mobilised funding amounts to 590.000 € for a period of 4 years (100.000 € for 2013, 100.000 € for 2014, 100.000 € for 2015, 170.000 € for 2016, and 120.000 € of direct staff costs for this period).
What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?
Local, but it can be spread internationally within the subsidiaries of the corporation.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
It has been implemented as an extended programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, it is currently implanted as a routine practice.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Yes, the evidence in 2015 are: • 80 M€ in New Business Sales • 199 new employees related to New Businesses
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
451 current patent families in 2015. Between 2012-2015: 16 Start-Ups launched (13 of them currently under way).
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Facilitators: • The accumulate knowledge and experience of MONDRAGON. • The own structure of MONDRAGON that involves the three sides of the knowledge triangle. **Barriers:** • Economic Crisis and its effects.
Are new collaborations foreseen between the parties involved in this good practice?
Yes. It is an open collaborative model.
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Among other valuable experiences, the researchers involved have increased their project funding experience, their relation background with European Commission in general, and their experience related to work on practical projects, focusing their research activities on applied research fields.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
The innovation model provides a comprehensive corporate system for innovation, promotion and knowledge that consistently updates business models and promotes new activities in future sectors. This process management model helps to organization's cooperatives and companies to optimize work methods and encourage collaboration between agents, researchers and companies, making possible building new businesses among other activities.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Employment and job creation related to the Basque Country Smart Specialization within the Biosciences / Health area, among others.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Not applicable

Title of the good practice
Development of medical devices and other systems for health sector, based on traditional Basque Country capabilities in advanced manufacturing technologies.
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
IK4 Research Alliance and its 9 members (research institutions): AZTERLAN, CEIT, CIDETEC, GAIKER, IDEKO, IKERLAN, LORTEK, TEKNIKER & VICOMTECH IK4 is a private and independent alliance of R&D centers, a benchmark in the European R&D context.
Summary of the good practice (aprox. 3.000 characters)
IK4 is a private and independent alliance of R&D centres, a benchmark in the European R&D context. It comprises 9 organisations in the Basque Country: AZTERLAN, CEIT, CIDETEC, GAIKER, IDEKO, IKERLAN, LORTEK, TEKNIKER and VICOMTECH. The IK4 Research Alliance sets out to generate, capture and transfer scientific and technological knowledge in order to contribute towards improving the competitiveness of companies and the progress of society. One of the main industrial capabilities in Basque Country is related to advance manufacturing. There is a wide and historic tradition around manufacturing, being nowadays one of the most active European regions in automotive parts manufacturing, energy sector related products, tool machine producer and electronics goods supplier. Around these fields, many companies also designs and manufacture a huge variety of industrial equipment. Based on this knowledge, last decades some companies have oriented new activity lines to the medical device sector and to the development of specific technological equipment for the health sector (hospitals, etc.). In this strategy, IK4 research centers have participated in many projects with these companies, transferring their knowledge and experience acquired in "traditional" sectors, to cope with the specific requirements of this new field. The result for IK4 is that today we have cumulated quite an important background that can support the growth of this industrial area, helping Basque Country companies to diversify their traditional portfolio. Some representative examples are: **BEXEN Cardio.** Product family of multiparametric monitor-defibrillators **iLine Microsystems.** Portable compact coagulometer for INR (International Normalized Ratio) determination **microLIQUID.** From moulds or microfluidic chips to lab on a chip development and microfluidic services. **AJL Ophthalmic.** Ultraprecision machining equipment for intraocular lens & optical implants manufacturing

Irisbond. Eye tracking integrated system to control a computer by operator eyes movement **ALCAD.** Sensors & comms. VoIP system to monitor patient status in hospitals & residences **eMedica.** eVida Vascular is a software tool used for pre-operative planification of patients with aortic aneurysms **"La Asunción" Clinic.** Hygehos technological tools related to Medical Record & Hospital Management, for staff and patients.
How much funding has been mobilised for its implementation?
There in not a statistic about this, but we can estimate between 5 and 10 M€.
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The companies involved are mainly located in Basque Country. The market target for them is, at least, Europe and America.
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
This is a private initiative supported by Basque public institutions and administration, as one part of an extended programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
It's implemented as a routine programme.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
There is a clear evidence of contribution to the creation of new technology based companies, employments, technology, sales including export and, at the end, wealth for society
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
At least 3 spin-off from IK4 research centres NTBCs (new technology-based companies) that have been launched: ● **eMedica**, http://www.emedica.es/es/ ● **Irisbond**, http://www.irisbond.com/ ● **microLiquid**, http://www.microliquid.com/ There are other companies that have successfully developed a new business area based on these technologies. And there are some NTBCs (new technology-based companies) that have been able to develop their company project and nowadays they are selling their products. Finally, some IK4 centers have been able to register some licenses, related to the knowledge developed for these mentioned companies.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
A facilitator has been the tax policy for research and innovation (R&I) in the Basque Country. Another one is the interest of the Basque Country Health Administration to cooperate in the development of this sector, providing knowledge and test programs.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
The IK4 researchers have acquired a wide expertise in potential capabilities and needs for a quite new sector in Basque Country, leading them to develop new knowledge and skills.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
The main benefit has been the return of investment (ROI), but also they have learn, together with IK4 research centers: - how to develop new technologies to be more competitive in this sector. - how to take profit from already developed technology for another field and translate it to their sector
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The employment and knowledge generation as a result of commercialization of the solutions developed. Also the opening of a non-traditional market and its opportunities for companies.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Regional government still promotes R&D activities in this area and, in fact, is included in one of the 3 main priorities established in Basque RIS3 document, "Bio-science & Health".

Title of the good practice
The Open Innovation Platform of Lombardy Region
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Finlombarda S.p.A, financial holding company of Lombardy Region
Summary of the good practice (approx. 3.000 characters)
A collaborative Platform facilitating participation, sharing and collaboration of all actors of the innovation process in industry, research and society. Its objectives are: • To address the strategic challenge of growth and competitiveness • To foster and support the creation of open innovation ecosystems • To support the launch, operation and valorisation of R&D+I projects • With a specific focus on regional smart specialization strategy
How much funding has been mobilised for its implementation?
Total amount € 2.706.107,85 – EU funds € 1.072.701,15 (ERDF-2007-2013) and National Public funds € 1.633.406,70
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Regional coverage.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
It is a pilot programme. There is a plan of a wider implementation with the future development of an English version of the platform.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, it is implemented on an ongoing basis.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Finlombarda has dedicated to the Open Innovation 5 FTEs in the first two years. Indirect benefits from new cooperations set up by regional entities participating in the platform can be supposed.
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
In the long term period an open source software will be available for other platforms.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
The idea of an open environment means sharing knowledge and contents and it could be difficult

to understand and to agree with, moreover the existing open innovation platforms are private with a commercial purpose the Lombardy Region Open Innovation challenge is to be public with a more wide purpose: to foster and support the creation of open innovation ecosystems to support the launch, operation and valorisation of R&D+I projects with a specific focus on re-gional smart specialization strategy. Importantly, implementation of open innovation practices has been proved efficient in all industrial sectors, particularly in the emerging industries, thus being in line with the goals of the regional government.
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Not applicable for the measure.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
It is a tool for dialogue and governance, a large and complex environment of relationships between the public and private economic players.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The platform allows an immediate and wide on time communication with all the players of the Lombardy Region. The consultation of the stakeholders, especially form the public sector, is quick and with no costs. This also creates an augmented transparency about the activities carried out by the public sector
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
An English version of the platform will be released in the next year.

Title of the good practice
<mark>Hacking Health chapter Milan</mark>
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Cluster Lombardia Life Sciences – Bicocca University
Summary of the good practice (approx. 3.000 characters)
Hacking Health chapters are autonomous and organize regular meetups, clinics, workshops and health hackathons in partnership with local digital health stakeholders. Hacking Health aims to transform healthcare by connecting healthcare professionals with designers, developers, innovators and entrepreneurs to build realistic, human-centric solutions to front-line healthcare problems. We believe that innovation is fuelled by diverse minds and perspectives. Hacking Health: - Fosters innovative digital health ecosystems   - Engages and inspires its stakeholders;   - Supports the development of human-centric solution.
How much funding has been mobilised for its implementation?
The event is funded by sponsors.
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Regional coverage with regard to the Hacking health Chapter Milan
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
This is the second hacking health chapter in Milan. But it is the first organised within the frame of the Cluster Lombardy Life Science.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
If successful the cluster will use the format as a routine procedure to stimulate its affiliated entities dealing with digital health.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Many of the ideas borne and developed during the hacking health initiatives have raised several million €. i.e.:   - LOGIXMD: It started as a doctor's pitch in Winnipeg, but a year later LogixMD is now a dynamic medical software company that creates innovative knowledge translation software and web apps and a fully functional app.   - AUTI-SIM: A GAME THAT RECONSTRUCTS LIFE AS AN AUTISTIC CHILD: "Kay Taylan pitched the original idea at the 48-hour event, and handled programming and game design. Matt Marshall designed the playground level and the project logo. Krista Howarth, an early childhood educator specializing in working with kids with autism, advised Kadayifcioglu and Marshall on autism." – Games For Change Q&A on the process behind the game.
Please indicate the technology transfer impact in terms of: spin-off launched number of licenses and/or other transfer practices.
To date more than hundreds products and spin off companies have been created over the

national events of hacking health
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
The main barriers are the gap between the hospital and medical approach to a problem and the introduction to a solution of different competencies and technologies. The facilitators for the success are the presence of advisors able to create the bridge between knowledge (researchers/students) and market needs using new technologies.
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Researchers and students are improving their knowledge on how to start up a business developed from the needs of the users/patients. Besides one of the benefit is to strengthen the research system by encouraging new researchers to develop original avenues of research.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
Pairing innovators and health care professionals the initiative has the great advantage to design and eventually deliver products that respond to precise and actual needs. This allows an easy market uptake of the solutions ideated.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Improved functionalities of devices for patient use, improved care management and self-management.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
No.

Title of the good practice
C3-Saxony
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Saxon State Ministry for Economic Affairs, Labour and Transport
Summary of the good practice (aprox. 3.000 characters)
The EU-funded project **C3-Saxony** contributes towards the implementation of the cross-innovation approach by initiating and supporting innovation activities at the interface of microelectronics and life sciences, especially in the areas of personalized medicine and mobile services. Solutions emerging in C3-Saxony will provide important answers to current **societal challenges** like demographic change while having the potential for high economic growth.
How much funding has been mobilized for its implementation?
700.000 Euro
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Regional (Saxony), similar projects in Flandern and Rhone Alp
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
No
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
No
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
No
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
Two spin-offs, cross-cluster cooperation projects (at least three projects with a grant application)
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: Motivation of SMEs to participate, awareness creation in the beginning (trust), "language" of different stakeholders (triple helix) Facilitators: Innovation vouchers, publicitiy, international visibility, innovation contest
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Knowledge exchange with entrepreneurs, networking among sectors and stakeholders, start thinking about business development
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
Got an insight into Saxon and European research, publicity – especially towards Saxon ministry
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

New diagnostic methods (Zellmechanik, Lipotype, VivoSenseMedical)
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
No, but recommendations for action and implementation into RIS3 are given

Title of the good practice
HEALTHY SAXONY
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
HEALTHY SAXONY e.V. (private association)
Summary of the good practice (aprox. 3.000 characters)
HEALTHY SAXONY was established in early March 2014 to strengthen the co-operation within the health sector. It is the port of call for all representatives from companies, institutes, universities and research establishments active in the health sector and in healthcare. The aim is to forge better ties between business, science and politics by creating and maintaining regular exchange processes between inventing industry, healthcare providers and policy makers. HEALTHY SAXONY serves as cluster representative for the healthcare industry in Saxony. Thus, it naturally collaborates with other cluster representatives like Biosaxony (representing biotechnology industry), Silicon Saxony (representing microelectronics), Organic Electronics (representing flexible, organic electronics), VTI (representing textile industry). It eases the transfer of knowledge between inventing and using partners in order to minimize transaction cost in the process of market entrance. Especially in the healthcare sector, specific regulations and requirements are in place which increase the obstacles especially for small and medium enterprises. Together with the Saxon Ministry of Social Affairs and Consumer Protection, HEALTHY SAXONY defines tangible measures and projects that derive from the formulated strategy in the Masterplan. Those projects aim at improving one or more of the Masterplan aspects, organized into three areas of interest. Both institutions carefully monitor the validity of these areas of interest and mutually initiate a changing process should they need adjustment. HEALTHY SAXONY was founded by both Saxon University medical centres, the largest communal hospital, representations of both practitioners and hospitals, the largest health insurance company in Saxony and a number of further members, totalling 10. Since its official enrolment in May 2015, the number of members grew to 23 as of today.
How much funding has been mobilised for its implementation?
The ESF-funded implementation project "Koordinierungsstelle Gesundheitswirtschaft" (coordinating body for the healthcare economy) was funded with 200 TEUR
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Original coverage is Saxony. There are comparable approaches in other Laenders, however, as the purpose of the creation of HEALTHY SAXONY was to implement a cluster representation in Saxony, there was no original intention to roll out.
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme, is there any plan for a wider implementation?

Extended programme. The blueprint of a healthcare cluster representation matches existing representations for other clusters (e.g. biotechnology).

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

The project's outcome, a cluster representation, was implemented by founding the private association HEALTHY SAXONY e.V. which provides a routine. However, sustainability depends on organic growth regarding membership.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

The existence of a facilitating cluster representation for healthcare industry and healthcare providers helps biotechnology and medical industry in their going-to-market attempts. Thus, HEALTHY SAXONY contributes to fostering employment and job creation, however, measuring evidence remains difficult.

Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.

In its 12 months of existence, the private association HEALTHY SAXONY already provided means for three transfer projects (one medical products, one biotechnology product, one textile product) and takes part in several further ongoing transfer projects with bio, silicon and organic electronics companies.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Main barrier lies in lack of funding after the initial project period. The private association finances itself out of membership fees and has to rely on acquiring project funding.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

Researchers are involved outside of HEALTHY SAXONY as it is primarily a representation for healthcare providers which are using research products. Researchers are involved e.g. in biotechnology cluster or textile cluster – their main benefit lies in insight about the actual requirements in the healthcare industry/healthcare provider cluster.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

Companies in all affected clusters greatly profit from the efforts of HEALTHY SAXONY to facilitate the transfer of knowledge and products between the clusters.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

Aside from improving transfer between clusters, HEALTHY SAXONY also serves as a sustainability provider for pilot project results. Those results, often implemented in confined areas, are spread and rolled out throughout Saxony, allowing wider population groups to benefit from pilot actions in general.

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?

No

Title of the good practice
Scottish Health Innovations Ltd (SHIL)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Scottish Health Innovations Ltd (SHIL) is private company limited by guarantee, wholly owned by Scottish Ministers and two health boards (NHS Tayside & Golden Jubilee National Hospital).
Summary of the good practice (aprox. 3.000 characters)

● **Scottish Health Innovations Ltd (SHIL):**
http://www.shil.co.uk/

SHIL was set up in 2002 by NHS Scotland and Scottish Enterprise to support innovation in the NHS. SHIL works in partnership with NHS Scotland to support and develop innovative solutions which address a clearly identified healthcare needs; with the proposed innovations being generated by NHS healthcare professionals. By developing these ideas, SHIL creates new products and technologies that aim to improve patient care and generate income for NHS Scotland.

SHIL aims to act as a technology transfer and commercialisation body for NHSScotland Prior to SHIL there was no real means for innovations to be commercialised through the NHS. This forced inventors to look for other ways of taking their ideas forward such as through Universities or independently through private companies. SHIL now not only fills this gap but in so doing it can add considerable value to these innovations in the process.

Initially, SHIL set itself the task of raising awareness about IP and to establishing effective systems for disclosure of innovations and assessment of their commercial potential. SHIL also worked closely with the Scotland Chief Scientist Office (CSO) to establish policies for ownership of IP and incentive schemes for investors (CSO, 2004).

- A significant number of IP awareness raising presentations and training seminars were held with groups of NHS managers and other healthcare staff. This was supplemented by a large number of one to one meetings with key individuals.

SHIL provide the following services to innovation customers:

Project management
Market Research
Sourcing of funding
Intellectual property protection

Sourcing of development partners
Spinout set up
Regulatory consultancy

SHIL has received over 1500 project proposals and hence rigorous means of evaluating and prioritising innovations is carried out to assess the best prospects for commercialisation base on each innovation's merit in relation to its IP position, clinical and/or technical utility, market potential and resource and funding requirements.

Approximately 10-15% of projects are selected for development, (see Appendix 3.2.1 for further details).

How much funding has been mobilised for its implementation?
This information is not known.

What is the original geographical coverage of this good practice? (Local, regional, national…) Has this good practice been adopted in other regions around the country or beyond?

SHIL is a national organisation which supports innovation across all of NHSScotland and some of the companies created with SHIL support have since gone on to become world market leaders in their respective industries:

- **TouchBionics distributes its products in the United States, North and Central Europe, Southern Europe, Asia, Argentina, Australia, Brazil, Columbia, and South Africa.**
- **Ambicare Health Limited Ambulight PDT products are available in clinics in Europe, North America, South America, Asia, Africa, and Oceania**

Has this good practice implemented as a pilot programme or as an extended programme? **In case it is a pilot programme , is there any plan for a wider implementation?**

SHIL is now a well-established innovation programme which has been operating since 2002.
SHIL remains the only vehicle that allows Health Boards to share in the financial rewards from innovation activities.

Framework agreements exist between SHIL and all the health boards to allow SHIL to operate on their behalf and ensure that revenue from successful commercialisation of inventions is returned to the health board and SHIL. SHIL adds value through the following activities:

- Raising Awareness and building a culture of innovation within NHS Scotland
- Evaluating, shaping and protecting Intellectual Property
- Preparing Business and Project Plans
- Knowledge and experience of product development
- Project Management and prototyping
- Experience in establishing agreements with 3rd parties

- Freedom to operate commercially
- Raising investment from multiple sources
- Active involvement of highly experienced Board

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

Promoting and encouraging innovation within NHS Scotland is a key priority for both the Chief Medical Officer and CSO

- Current CSO priorities are to 'de-clutter' the innovation landscape within Scottish healthcare
- SHIL will play an increasingly important role as the only vehicle that allows Health Boards to share in the financial rewards from innovation activities
- SHIL is also responsible under contract from CSO for the Central Management functions of NHS Research Scotland (NRS) - http://www.nhsresearchscotland.org.uk

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Yes, as this is the main purpose of SHIL.

● **TouchBionics:**

(Figures below are for 2015 expect otherwise stated):

45 employees in the UK, 50 in the US and a further 7 in Germany, Italy and France.
The company achieved total revenue of £15 million in 2015

Source: http://www.iii.co.uk/articles/220062/global-exposure-touch-bionics

● **Ambicare Health Limited:** currently has 2 employees

● **AURUM Biosciences Ltd:** currently has 2 employees

- Novel technique for measuring metabolism using MRI
- Acute ischaemic stroke market $2.9Bn
- Bespoke PFC material in preclinical development
- Patent portfolio assigned from UoG and NHS GG&C
- Investment completed August 2015 (TriCap, Wellcome Trust)
- Idea brought to SHIL in 2006 by Clinical Consultant Neuroradiologist
- Aurum spun out by SHIL in September 2015

● **Clear Surgical** currently has 2 employees

- Ideas brought to SHIL in 2006 & 2009 by consultant surgeons

- Oplight (NHS Ayrshire & Arran) and CR forceps (NHS Grampian)
- SHIL founded spin-out company in 2013 to develop & market both inventions
- CE marked devices with global sales potential
- 3rd round of investment (£600k) completed in August 2016 (SE and Angels)

None of the above is yet at the stage of revenue generation.

Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.

Since SHIL's inception in 2002, six spin out companies have been formed and are still in existence. Numerous licence agreements have been agreed, of which five currently generate income for NHS Scotland and SHIL. In addition, SHIL has generated savings for the NHS by providing advice on IP at no additional cost to health boards.

- **TouchBionics**:
http://www.touchbionics.com/
SHIL's first spin-out company formed in April 2002 to commercialise prosthetic technology developed in the Rehabilitation Services of the NHS Lothian Health-Board. The Touch EMAS system was the world's first fully modular prosthetic arm for patients requiring upper limb prostheses.

- **Ambicare Health:**
www.ambicarehealth.com
Ambicare Health (previously known as Lumicure Ltd) is a SHIL spin-out company created from a collaboration between NHS Scotland and St Andrew's University. The company has developed a portfolio of wearable light sources for medical and consumer healthcare applications. Ambicare's light-emitting source was created at Ninewells Hospital, Dundee for the treatment of skin cancer and has been further developed into products for the treatment of acne and for wrinkle reduction.

- **Clear Surgical**:
http://www.clearsurgical.com/
Clear Surgical was set up in 2013 as a spin-out from SHIL. The medical device company aims to improve and develop innovative solutions to surgical problems.

- **Aurum Biosciences:**
www.aurumbiosciences.com
Aurum Biosciences Ltd is a SHIL spin-out company created from a collaboration between NHS Greater Glasgow and Clyde and the University of Glasgow. AURUM Biosciences Ltd develops novel pharmaceuticals for use in a number of different clinical indications of high unmet medical need. Aurum is currently completing preclinical development of its lead stroke management product.

- **Cardioprecision Ltd** is a company, developing high quality medical devices for minimally

invasive cardiovascular surgery. Currently its primary focus is on medical instrumentation dedicated to minimal access aortic valve replacement (AVR). CardioPrecision Ltd is developing a medical device to allow the surgeon to perform AVR using minimally invasive technology which causes less pain and lead to earlier mobilisation and recovery from surgery.

- iGrading:
The iGrading product is the result of a collaboration between the University of Aberdeen, SHIL and NHS Grampian and commercial partner Medalytix Ltd. which can help reduce the risk of blindness by detecting early incidences of diabetic retinopathy.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

One of the key facilitators for success is awareness of innovation and IP among NHS staff. SHIL has a huge target audience (the NHS in Scotland employs about 160,000 staff) and some of its key work is raising awareness among the NHS, which will increase the number of ideas that are brought to SHIL for cultivation and which can be developed and commercialised to generate financial returns for the heath service and improve patient care.

SHIL's business development managers conduct a programme of small group presentations at clinician meetings, journal clubs and multi-disciplinary team meetings and are represented at numerous national events including the annual NHS Scotland event, the Convergent Technologies Showcase, Biodundee 2014.

There are many players in the health innovation field in Scotland and there is an element of crossover between different organisations and some blurring of the lines. Clearer and better defined partnerships could ease this crowded arena.

Another barrier which may prevent or delay SHIL spin out companies achieving revenues is the challenge of having medical devices adopted by the NHS in Scotland. SHIL is developing relationships with the Scottish Health Technologies Group to understand and look at ways of addressing this challenge.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

Benefits: SHIL take on burden of commercialisation from busy clinicians; revenue return to inventor and their health board

Lessons: Commercialisation can be long process (SHIL has key role in managing expectations of NHS inventors);

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

Benefits: access to SHIL network of contacts within the NHS and expertise in IP management, marketing, regulatory affairs

Lessons: Access back into the NHS (for sales etc.) can be problematic due to size and complexity of NHS, e.g. difficulties in dealing with procurement processes

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
SHIL has built a culture of innovation within the NHS, encouraged all those working for the NHS to think in an innovative way and realise that they are all potential inventors, provided support and training in IP, commercialisation processes for NHS staff
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
Not available data

Title of the good practice
<mark>Digital Health & Care Institute</mark>
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
University of Strathclyde
Summary of the good practice (approx. 3.000 characters)

The Scottish Funding Council (SFC):
SFC is a Non-Departmental Public Body of the Scottish Government established in 2005. SFC is the national, strategic body responsible for funding teaching and learning provision, research and other activities in Scotland's 25 colleges and 19 universities and higher education institutions.

SFC Innovation Centres:
As part of the Scottish Government's commitment to foster innovation within Scottish society / economy (see also section 3.1.2), SFC launched the Innovation Centre programme in 2012 in partnership with Scottish Enterprise and Highlands and Islands Enterprise. SFC committed £120 million for the Innovation Centre programme over five years (2013-18) to support transformational collaboration between universities and businesses. The Centres aim to enhance innovation and entrepreneurship across Scotland's key economic sectors, create jobs and grow the economy.

Innovation Centres funded the SFC innovation programme include:

- **Digital Health & Care Institute:**
  http://dhi-scotland.com/

- **Stratified Medicine Scotland:**
  http://www.stratmed.co.uk/

- **Data Lab:**
  http://www.thedatalab.com/

The DHI Innovation Model

The Digital Health & Care Institute was set up in 2013 with funding from the Scottish Funding Council and is part of the Network of Innovation Centres in Scotland. DHI brings together people and organisations in the health and social care, charity and technology, design and academic sectors to develop new ideas for digital technology and information services that will improve the health and care services for Scotland's communities.

To encourage innovation DHI operates a developmental model, which helps build

collaborations and facilitates strong projects, taking them from early stage innovation through to commercialisation. The services offered support the creation of the 'right' digital products/services for Scotland, and provide support for development from early exploration, ideation and co-design which gives a foundation for, and enables, more technology focused, and grant funded activity.

The Innovation model that is operated consists of three different Project types, of which any one, or a combination of all can be applied at any one time.

Exploratory Project – Facilitates a cross sector, multi-disciplinary knowledge Exchange to tackle challenges and shape collaborations to take early stage opportunities forward. This usually takes the form of a Swift set of innovation workshops involving relevant experts on an 'in-kind' contribution basis. This activity is hosted by DHI, and creates strengthened collaborations and a report which focuses groups towards an emerging opportunity which can be applied for digital solutions.

Laboratory Project – This leverages design innovation capabilities to support development of innovative solutions, using the principles of co-design alongside involvement from relevant users and subject matter experts for early prototyping. The majority of the laboratory work consists of elements of field work and leveraging Access to health and care settings and co-design workshops. The outcome will take the form of a rich, design innovation report and accompanying media, which focuses towards a pre-technology prototype and includes the next stages for development. This work is undertaken by DHI, working alongside the proposer.

Factory Project – These projects are more intense with academic focus and involvement in the technical development and evaluation of solutions which have been designed and built (often with support via a previous exploratory or laboratory Project). This type of Project typically involves short bursts of technology development followed by live tests in operational settings. The DHI team will facilitate and support the structuring of projects including contractual discussions, and can make direct grant awards of up to £50,000 (€60,000) of direct grant awards to Scottish higher education institutes. The Project will aim to academic expertise to demonstrate the value of the digital innovation, facilitating relevant reporting and publication as well accelerating further commercialisation.

To date DHI has a Project portfolio of nearly 100 projects with further projects in the pipeline.

How much funding has been mobilised for its implementation?
DHI has been allocated £10m (12m Euros) to deliver the objectives over a period of 4 years £6.6m (8m Euros) from the above has been allocated to the delivery of the projects through the delivery of the innovation model.

What is the original geographical coverage of this good practice? (Local, regional, national…)Has this good practice been adopted in other regions around the country or beyond?
The Innovation Centres were set up to cover Scotland.   DHI solely funds Scottish Academic Institutes, however the other partners in the projects (civic and industry) may be based elsewhere, but must aim to generate economic impact for Scotland.   To date, and the best of our knowledge, the DHI model has not been replicated in any other regions or countries
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
DHI is approaching the conclusion of Phase1 and is in the planning stage for Phase 2, this will take it out with its implementation of a pilot Project.   It is anticipated that Phase 2 will commence in August 2017.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
As the innovation model is a key delivery of DHI it is implemented an ongoing/day to day basis with a dedicated team of staff.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Phase 1 of DHI will be drawing to a conclusion in July 2017, at which point there will be a formal evaluation, which will provide the evidence of the contribution to growth of new markets, employment and job creation. The nature of the innovations which are supported by DHI are entering new and emerging markets, and it is anticipated that this will contribute to the growth of the digital health and care market in Scotland and globally.
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
Phase 1 of DHI will be drawing to a conclusion in July 2017, at which point there will be a formal evaluation, at which point we will be able to report on the technology transfer impact. From the existing Project portfolio it would be anticipated that there will be at least: • 5 Spin-outs created • 17 existing businesses who will launch new products or have had existing products evaluated • 4 innovations likely to be licensed • The remaining projects are still working on which practice will be the most beneficial.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: • In terms of innovation, SMEs in particular find it difficult to contribute to, and thrive in innovation.

- DHI was frequently seen as part of the public procurement system, and the perceptions surrounding this created a barrier for some.
- Ethics and Regulatory pathways can be barriers as they are designed for the regulation of the pharmaceutical and medical device industries, and are too heavy for application for the majority of digital health and care innovations.

Facilitators:
- Having a local, Scotland-wide set of strategies and policies for innovation and for the transformation of health and social care.
- Exploration of Corporate supply chains, which bring resilience to collaborations.
- Benefits gained from being at arms length from the formal public sector governance, which enables Project which have a element of risk, which may not otherwise have been considered.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

The Factory projects in particular have the most benefits for researchers. The Project portfolio has over 40 projects which are at various stages of delivery, all of which fund research activity being undertaken by an academic institute as part of the collaboration.

The first batch of Project are drawing to a close over the next few months, at which point they will be asked to feedback to DHI on the lessons learnt, and also the benefits which they have drawn from the project.

It is anticipated that the benefits to the researchers will include:

- Becoming involved in a collaboration with not only business, but also civic partners.
- Where the idea has been generated from an academic, they benefit from the expertise which enables them to identify their innovations adoption and route to market/spin-out/licence etc
- Using their research to create benefit and impact in real-life situations
- As the projects which come through the model can score highly for impact, they may contribute to the REF impact for the Universities.

It is anticipated that the lessons learned will include:
- Ensuring clear understanding of the contractual processes and requirements for working as part of a collaboration, and therefore manage expectations.
- Learning to Work as part of a collaboration and the pitfalls that come with such activity.
- University legal departments/tech transfer offices have been required to look at the balance of their contracts to allow them to contract with SMEs and Civic organisation.

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

The majority of the projects in the portfolio have an element of industry involvement.

The first batch of Project are drawing to a close over the next few months, at which point the business partners will be asked to feedback to DHI on the lessons learnt, and also the benefits which they have drawn from the project. DHI is also currently undertaking an industry review, and the superficial findings reflect that benefits will include:

- Participation in a collaborative Project, working with not only academics, but other civic partners, thus gaining useful insight into their expectations and enabling co-design of innovations, as well as gaining an understanding of systems viability in a service level context.
- Access to high-quality academic expertise, which would have otherwise remained unavailable to them.
- Access to third party objective evaluation being made available to them.
- Access to the grant funding to make the academic-industry collaboration a reality.
- Access via the Exploratory Projects and Network events to reports outlining emerging opportunities
- Access via the Laboratory Projects to design innovation reports, concept prototypes, user groups and industry experts
- Tailored commercialisation / route to market expertise from the DHI team, including introductions to relevant contacts.

It is also anticipated that the lessons learned will include:
- The pitfalls of working as part of a collaboration (i.e. ability for collaborations to move at speed)
- Dealing with the contracting process and understanding the terms and conditions imposed, for example IP clauses.
- Ensuring compliance with State Aid guidelines.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The innovation model and the projects in the portfolio are required to have either (or both) a health or social impact. There are over 100 projects and each will have a health/social impact.

The first batch of Project are drawing to a close over the next few months, at which point they will be asked to feedback to DHI on the health and social impacts. In most cases the impacts are not measureable and the greatest impact will be seen over the next few years.

It is anticipated that amongst those impacts will be:

- Enhanced point of care testing and emergency care provision
- Improved health and emotional well-being for citizens
- Proactive management of health and well-being for citizens
- Encouraging increased physical activity for citizens

- Reduction in falls - including early detection of frailty
- Early identification of conditions
- Improved self management of conditions
- Improved Clinical Decision Support for clinicians, GPs etc
- Reduction in hospital visits/stays - increased ability to stay in the home setting
- Enhanced care provision within the community
- Improved mental health provision
- Improved management of conditions across care pathways
- Development of medical devices
- Citizen empowerment
- Next generation digital health and care records and connected sytems across Scotland

It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?

The Regional Government (Scottish Government) has been promoting innovation in the period for 2015-16 through a range of strategies and policies, which have involved DHI and the DHI innovation model, examples of which include:

- Involvement in open innovation challenges, for example the Scottish Business Research Institute Funding (SBRI) programme in Diabetes.

- Using the exploratory Project method to support the early stage Discovery phases of government funded initiatives such as ePrescribing, big data analytics for service planning and the integrating diabetes model.

Title of the good practice
<mark>Research & Development in Scottish Universities</mark>
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Scotland's higher education institutions are funded directly by the Scottish Funding Council (SFC) which is a non-departmental public body of the Scottish Government. Scottish Universities operate as independent registered charities.
Summary of the good practice (aprox. 3.000 characters)

Scotland has 19 Universities and higher education institutions, with many of those actively involved in research and R&D activities in collaborations with the NHS, health industry, innovation centres and research funders.

Scottish Universities play a crucial role in many of the initiatives which have been highlighted in this report:

- Several Scottish universities have either led or substantially contributed to projects and programmes in assisted living technologies funded by the Technology Strategy Board / Innovate UK / SBRI (case study 3.1.1) including the Universities of Glasgow, Strathclyde and St-Andrews.

- Scottish universities must be included within an innovation partnership (along with a business and a civic partner) under the SFC innovation centre programme (case study 3.2.2) and are the only organisations within the partnership eligible for direct financial funding support from the innovation centres.

- Several successful medical technologies spin-off companies supported by initiatives such as SHIL (case study 3.2.1) were initiated from collaborations between NHS organisations and academic institutions, including Aurum Biosciences (University of Glasgow), Ambicare Health (St Andrew's University).

 Scottish Universities have participated in substantial recent research and development programmes including:

- **The EPSRC Digital Economy programme**:
  The University of Aberdeen & the University of Dundee

- **Innovate UK ALIP**:
  The University of Glasgow, Strathclyde and St-Andrews

A brief overview of each institution's track record in the field is provided in Appendix 3.2.3.

How much funding has been mobilised for its implementation?

- University of Aberdeen: Funding of £11.8M was awarded from EPSRC to Aberdeen 'dot.rural' hub although the exact proportion of this funding allocated to the projects described above (TOPS, MIME, ASICA) is not known.
- University of Aberdeen: ITTS: Total Budget: € 2 321 754,72 - Total Funding Request: € 1 583 42,06 (01/09/2011-31/03/2014)
- University of St-Andrews: TSB ALIP COBALT £520,832
- University of Strathclyde: TSB SBRI Advanced Pattern recognition Technology for Multi Articulating Prosthesis (APTMAP, 2013-2015): Funded Value: £386,003 / Total project budget: £770,972

What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?

Most of the projects described above were part of national programmes (ALIP, EPSRC Digital Economy programme) except ITTS which was part of a European Northern Periphery programme.

Has this good practice implemented as a pilot programme or as a extended programme?
In case it is a pilot programme , is there any plan for a wider implementation?

See response above

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

Universities are continuously involved in R&D collaborations in Digital Health (see previous case study 3.2.2 on the Digital Health & Care Institute for example).

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Yes, see below

Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.

Spin-out companies developed as part of research programmes & R&D projects conducted within Scottish Universities include:

● Aurum Biosciences (University of Glasgow): www.aurumbiosciences.com ● MIME (University of Aberdeen): http://mimetechnologies.com/ ● Aridhia Informatics (University of Dundee) http://www.aridhia.com/
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
These will be specific to individual Universities & projects and hence the information is too complex to be summarised here.
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
As above.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
As above.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
As above.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
No data available

Title of the good practice
TELEMONITORING
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Marshal Office and A. Falkiewicz Specialist Hospital - Public administration
Summary of the best practice (aprox. 3.000 characters)
There are several solutions which can be used in a number of different ways. Each of these use-cases involves different users, different care processes and a different solution configuration. Consequently, the benefits that can be achieved also vary based on the use case: New technologies supportstaying of patients at home under telecare.
How much funding has been mobilised for its implementation?
Pilot site of CareWell Project, realized and cofunded within ICT PSP Programme. More than 600 000 EUR has been mobilised for its implementation
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Data not available
Has been this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Dat not available
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Data not available
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Data not available
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
Data not available
Please indicate which have been the key factors identified for successing in the implementation of this good practice
Data not available
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Data not available
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

Data not available
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Data not available.

Title of the good practice
TELEREHABILITATION
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
IMMD Health LTD
Summary of the best practice (aprox. 3.000 characters)
It is a new field of science but already has many followers all over the world. It is an innovative combination of rehabilitation and modern telecommunications services. In Lower Silesia, this field of medicine is still developing, but soon the market will appear in companies providing such services. Our solutions include integrated mobile telemedicine systems which includes: a miniature intelligent microelectronic components such as transmitter, receiver, control software, charger and a headband. The transmitters can be attached on to the human body with the help of armbands. Depending on the application, you can use the indicated number of transmitters that communicate with each other and with the receiver via the USB port. The sensors transmit real-time data to reconstruct a three-dimensional postural human model. Transmitted data from accelerometers, gyroscopes, magnetometers, can be used for multi-dimensional analysis, statistics, indicators with graphic presentation. In addition, these data can be sent over the Internet to the Call Center, a specialist (trainer, physiotherapist), who can in real time track all of the reconstructed animations, quantitatively assess the progress and introduce new models of research, training and rehabilitation exercises.
How much funding has been mobilized for its implementation?
There was Invested approximately 100 000 EUR - Funds support the spin off and about 50 000 EUR of their own.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The prototype has been tested locally, we have conducted a pilot study and experimental results are published
Has been this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
There are ongoing efforts to attract business partners for product development
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
No
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
There are Lletters of intent and opinions of future users,- specialized hospitals and rehabilitation centers
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.

No data available
Please indicate which have been the key factors identified for successing in the implementation of this good practice
No data available
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
Technologies were verified and efficient algorithms were identified for animation avatar
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
No data available
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Interest in the medical community and society

Title of the good practice
FASCIA AS A SOMATIC SENSORY RECEPTOR - NEW FORMS OF MASSAGE
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Wroclaw **University School of Physical Education in Wroclaw**
Summary of the best practice (aprox. 3.000 characters)
Elastic deformation of tissues (medical massage) as a mechanical stimulus somatic sensory receptors in neurological reflexes of the dorsal horn re-education centers of the spinal cord is an egzample of the stimulation of sensory deep receptors in the fascia. Feeling deep we call the ability to sense orientation of body parts,as well as, active and passive movement. Broader concept is proprioception, which means the holistic phenomena associated with formation, processing and information transfering, resulting in proprioceptors, which in addition to the receptors of deep sensation, include muscle receptors and receptors in the skin overlying the pond or muscle.
How much funding has been mobilised for its implementation?
No data available
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The original geographical coverage of this best practice is local
Has been this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Yes there is a plan to publish the description an results of this good practice
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
This good practice being was implemented on an ongoing basis and is not a routine procedure
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
No
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
No data available
Please indicate which have been the key factors identified for successing in the implementation of this good practice
No data available
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

No data available
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
No data available

Title of the good practice
ROBOTIC SOLUTIONS FOR THE ELDERLY
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
FLASH Robotics
Summary of the best practice (aprox. 3.000 characters)
This good practice is to provide social robots as personal trainers and companions for elderly care facilities as well as home environment. The main objective is to enable training, both physical and mental, without the need for human assistance. Additional benefits of such system include motivating to active and healthy living, supporting patients' adherence to medical recommendations, psychological assessment, easier access to modern communication channels, and prevention of social exclusion.
How much funding has been mobilised for its implementation?
No data available
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
This local Company brings together passionate engineers, designers and psychologists to create and customize social robots to help integrate robotic technology into our daily lives.
Has been this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
No
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
This good practice is currently implemented on an ongoing basis.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Yes. These products are the result of the experience gained through many years of social robot research.
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
It is a spin-off company of Wrocław University of Technology
Please indicate which have been the key factors identified for successing in the implementation of

this good practice
No data
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
No data available
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
No data available
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
No data available

Title of the good practice
Health and Wellbeing Innovation Centre Almere (GWIA) aka as the HealthFactory (GezondheidFabriek)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Health and Wellbeing Innovation Centre Almere (GWIA) is a Public Private Foundation
Summary of the good practice (aprox. 3.000 characters)
GWIA, first established in 2014, kicked off seriously in 2015. GWIA 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. Only by really working together can we tackle today's complex challenges in the area of health, wellbeing and living. Challenges concern e.g. the connection between science and industry, regulations and standards, ethical, security and privacy issues, complex financing structure and viable business models, and the role of government in innovation. Apart from promoting collaboration, GWIA's hallmarks are: person-centric, demand-driven and open innovation. GWIA 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. GWIA has an (inter)national scope, and its partner network is not regional, limited to the Province of Flevoland or Amsterdam Metropolitan Area. It currently (2016) has a pipeline of ca. 25 projects, varying from European to local, from product to service to system/ process innovations, involving children, disabled persons and older adults, including the innovation of vocational training of future health and care professionals (introducing 21st centruy skills). GWIA itself has no budget to dedicate to projects; project partners together contribute the necessary (financial) funds. In this respect, companies are typically asked to invest in projects, with the project subsidy being used for validatation purposes involving health and care providers and knowledge institutes. GWIA offers partners: (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 – NL & beyond Project development and funding support Projectmanagement GWIA's business case is built on: sponsorship, renting of R&D lab and office space, project fees and consulting services. GWIA will be renamed GezondheidFabriek (HealthFactory) in 2017, emphasizing its comprehensive offer to consortia, which includes lab facilities (from hardware to software, 3D printers to electric soldering irons, as well as a 'Collaboratorium', supporting big data

analytics) to physically work together on innovation.
How much funding has been mobilised for its implementation?
To set up the actual physical facility (excluding the development of projects), a project budget of ca. €2.9M was made available by the so called Investment Fund Flevoland Almere, the City of Almere plus private partners (industry 42%/ government 58%).
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
GWIA brings together international, national, regional and local partners. Its activities are not limited to the City of Almere, or region, despite the fact that it has a close collaboration with regional and local government (Almere, Prov Flevoland and amsterdam metropolitan Area), as it is positioned and assigned to cluster local innovation projects and knowledge in the area of Health, technology and big data. GWIA is unique in this sense. It is driven by the need for collaboration to tackle (global) societal challenges, not driven by regional economic agendas. An identical practice is not available elsewhere.
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Extended programma
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
yes
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
It is still early days, but already now GWIA has positioned itself successfully as the preferred local partner/vehicle, clustering ehealth innovation projects. eHealth is a new market, with few products being actually implemented.
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
GWIA certainly offers partners the opportunity to launch a spin off or generate a license. Of the 25 projects currently in the pipeline, none has ended yet. Some collaborations concern the development of an indiviual product (e.g. FreeWheels, a self-driving wheelchair), other projects concern the implementation of eHealth solutions via various living labs/ fieldlabs organised to support end-users (e.g. elderly, disabled youth), professionals and entreprenerus.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: Complexity of collaborating in the area of health: different/ contradicting ambitions, different areas of expertise, lack of time, money. Funding to facilitate innovation projects professionally. Facilitators: A wish to collaborate and share. A company/ consortium that has first experienced the benefits of collaboration in practice and is

now prepared to invest serious time and money to convince others, companies and government, to combine efforts and generate the funds to make GWIA happen as well as contribute projects, expertise and network to enable a flying start.
Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.
GWIA offers researchers the opportunity to collaborate with and understand companies/ entrepreneurs, as well as health and care organisations, sharing views and findings.
Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.
GWIA offers companies and investors a hub to find knowledge- and healthcare partners, exchange information and physically create and test new solutions together.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
This is too early to tell: GWIA facilitates innovation projects, where applicable this includes the generation of evidence on the effects on health and wellbeing.
It has implemented any measures by the regional government in 2015-2016 to tackle the main topic on this good practice?
N/A

Title of the good practice
Amsterdam Economic Board
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Amsterdam Economic Board is a Public Private Foundation
Summary of the good practice (aprox. 3.000 characters)
The Amsterdam Economic Board builds on the Amsterdam Metropolitan Area's (AMA) uniqueness and strengths to improve regional competitiveness. It accelerates collaboration, innovation and growth related to five urban challenges (health, mobility, connectivity, circular economy and jobs for the future) by bringing together and exploiting synergy between (triple helix) commercial, academic and public partners clustered in regional strongholds such as life sciences & health, food & flowers, escience/ ICT, creative industries, financial & business services, logistics, and tourism & conferences. The Board was created in 2012, by merging the Amsterdam Innovation Motor (created in 2004 to build clusters), and Knowledge Network Amsterdam (Kenniskring, 1994). The mayor of Amsterdam is chairman of the Board. Per challenge a leader from industry plus triple helix core team is assigned to coordinate activities and strategy: for Health, the focus is on stimulating innovation in prevention and health technology/ IT with the ambition for all AMA citizens to extend their lifespan with 2 extra healthy life years by 2025. In this respect, AMA is a three star reference site within the European Innovation Partnership on Active and health Ageing. The City of Amsterdam is a WHO Age Friendly City. The ambition of the Board is to secure a position among the top 3 of Europe's innovative regions in 2025, by creating solutions for the five urban challenges mentioned. These solutions will also contribute to the liveability of the region. For example, trhough its platform Amsterdam Smart City, Amsterdam has made serious advances to become a smart city, taking a participatory bottom-up approach and creating an extensive amount of smart city pilot projects, aimed towards environmental sustainability, throughout the city. In the area of Health, AmsterdamHealth was recently created, a platform connecting innovative parties and collaborations. As of 2016, in order to leave the ownership of initiatives/ projects the Board is involved in as much as possible to the market, the Board minimizes its active participation in (European) projects, , usually restricting its role to consortium building and the project start-up phase. The Board restricts active participation to those projects where a neutral, facilitating party is needed or that have no clear public or private lead. Apart from (online and offline) community building, Board activities concern the signalling of opportunities for innovation, forming consortia of cross-sectoral partners for innovative projects, offering access to regional and international networks, creating physical and virtual meeting points (events and online platforms), providing information on financial instruments, and providing data-driven information regarding the challenges.

How much funding has been mobilised for its implementation?
The Board was created in 2012. The Board receives funding from triple helix partners. In 2014 this amounted to €3,7M, derived from government (European projects 38%, regional government 34%), companies (19%) and knowledge institutes (9%).
What is the original geographical coverage of this good practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The Board carries out its tasks essentially within and for the Amsterdam Metropolitan Area. However, the concept of the Board (triple helix collaboration related to societal challenges) has since been replicated by e.g. Economic Board Utrecht and Innovation Quarter (Province of South-Holland)
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Extended programme
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
yes
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
The European Commission awarded the title of European Capital of Innovation 2016 to Amsterdam for its holistic vision of innovation related to four areas of urban life: governance, economics, social inclusion and quality of life. It is hard to link the stimulation of innovation directly to growth, i.e. number of new jobs and businesses. To this end the Board developed a dashboard, a framework with four 'lenses', looking at 1) External environment (scenario's and early warning system), 2) International competitive position (rankings, data), 3) Economic performance AMA (e.g. growth), 4) Board results (e.g. stakeholder management).
Please indicate the technology transfer impact in terms of: spin-off launched, number of licenses and/or other transfer practices.
As said, it is hard to link the stimulation of innovation directly to regional impact and growth. Since its creation in 2007, the Board and its predecessor Amsterdam Innovation Motor have gathered facts and figures on technology transfer (and research funding capacity). There have been on average 5-10 spin offs and 30-60 licenses per year (2009 onwards) in AMA.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: Difficulty to gain the (political) support to do what you are there for, to stimulate collaboration, due to conflicts of interests at the various levels of the triple helix, between local and regional partners, between cultures of public and private organisations; and due to different timelines – these tend to be longer in public than in private organisations. A third party intermediary linking the different blood groups of organisations requires trust and a nose for chances to align individual organisation's interests. Innovation cannot thrive without the necessary goodwill.

The availability of company funding to innovation projects is often limited, e.g. due to the many poor start ups/ SME in a clusters such as Health, and limited number of (financially well to do) multinationals.

The fear of becoming a 'project machine', only to keep the organisation running, instead of focussing on the broader picture of regional community building, innovation and growth. Combined with the difficulty of finding a a sustainable model for successful project activities, once project funding has ended.

Facilitators:

The will and decision in 2004 to (financially) support one unique organization dedicated to bringing triple helix parties together to set a collective regional ambition and (innovation, investment, European, Human Capital) agenda, and manages the process.

The interst and participation by numerous people and organisations seeing the benefits of collaboration, meeting people they otherwise might not have met or joining projects that support their organisation's (innovation) goals.

Please indicate the most valuable benefits obtained and lessons learnt by the Researchers involved.

Researchers now better know
- how and where to find non research partners, to transfer science and technology.
- How to capitalize on research outcomes

The Board offers the opportunity to meet and collaborate with companies/ entrepreneurs (in dedicated clusters and cross sectoral), applying science in practice and combining science and innovation and growth (internationally).

Please indicate the most valuable benefits obtained and lessons learnt by the Investors and companies involved.

The Board offers companies and investors a community/ clusters to find partners, they might otherwise not have met, to learn, exchange information or collaborate. Collaborations lead to new ways to collaborate, like pre-competitive joint projects.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

As said, it is hard to link the stimulation of innovation by the Board directly to regional impact (in health and social care). The ambition of the Board is to secure a position among the top 3 of Europe's innovative regions by 2025. The Netherlands currently holds the 5th position in the European Innovation Scoreboard 2016 country ranking, and the Provinces of North-Holland and Flevoland, both, are strong innovators.

It has implemented any measures by the regional goverment in 2015-2016 to tackle the main topic on this good practice?

The Board has contributed to the City of Amsterdam (via eldermen for Economic Affairs and for Health &Wellbeing, Elderly) now having a well-founded focus on innovation in Health supporting the City's leading role in the European Innovation Partnership on Active and health Ageing reference site and WHO Age Friendly City programme.

E. Thematic Area 3. Active Citizens for Healthy Ageing.

The main goal is to raise citizen´s awareness about the use of innovations in the field of health (such as new technologies, lifestyle models, prevention practices, new organizational models, involvement of patients in co-design and co-creation experiences with health professionals and caregivers, etc.) for improving quality of life and lifespan.

In order to know more about the previous experience of the region in this sort of good practices, please fill the information requested in the box below. Please add as much "boxes" as good practices identified[1].

Title of the good practice
É-Saúde Platform
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
SERGAS, Servizo Galego de Saúde. Galician Public Healthcare System.
Summary of the best practice (3.000 characters)
É-Saúde is an electronic platform, which was developed to improve the communication between citizens and the public healthcare system. The platform aims to be flexible and easy to use, but without compromising security. É-Saúde acts as a tool of personalization of services for the patient by providing citizens with easy access to personalized services and contents according to their personal needs. Since the very beginning a multidisciplinary team (Citizen attention services, Quality services, IT services, Innovation services, nurses, doctors as well as patients), has been working closely with the company in charge of developing the platform. The platform, which is oriented to both towards sick and healthy citizens, aims to be the meeting point in the virtual field between citizens and the Galician Public Healthcare Systems. Please find below its main features: - Access to personal data: electronic medical records, health card, x-ray diagnosis, etc.   - Access to documentation and information related to health, which has been previously checked and backed by professionals.   - Access to specific online trainings from the Galician School of Health for Citizens, Escola de Saúde para Cidadáns.   - One-stop window to ask for appointments with general practitioner, nurse, etc.   - Access to the e-consulting primary care service, which allows the patient to talk to their doctor by phone, to ask for medication, etc.   - Information about available resources in the immediate environment: primary centres, hospitals, pharmacies, etc.   - Access to information about patient associations and communities related to their pathology.   - Access to blogs and social networks to share experiences with both other patients and professionals.   - Access to a pool of suggested apps which have been previously validated by professionals.
How much funding has been mobilised for its implementation?
Total mobilised: 1,1 M€
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The original coverage is regional; e-Saúde will be available to all the patients and professionals of the Galician Public Healthcare System by the end of 2016.

Although right now this good practice has not been adopted in other regions yet, some regions have expressed their interest in knowing more about e-Saúde.

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?

It will be implemented as an extended program by the end of 2016, although it was firstly tested as a pilot in one of the seven health areas of Galicia, EOXI Ferrol.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

Yes, it is, as already mentioned, the platform will be fully deployed by the end of 2016.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

e-Saúde is one of the projects developed within Innovasaúde and H2050 strategy, so that the data available in terms of growth of markets and job creation are concerned to the whole plan Innovasaúde and H2050. Please refer to Public Procurement of Innovation in Health Sector good practice for further information.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

*Please take into account that the barriers and facilitators reported are based on the feddback received from the EOXI Ferrol, where e-Saúde has been firstly piloted.
- Barriers: 23% of Galician population is older than 65 years old and they have difficulties in handling properly electronic devices.
- Facilitators:
  - Easy access from all electronic devices (smart phone, tablet, laptop).
  - Easy and unequivocal access with username and password by using the CHAVE system, which allows accessing the platform without needing a physical support, as for example electronic ID reader.

Are new collaborations foreseen between the parties involved in this good practice?

Yes. On the one hand, as already mentioned those companies which have been previously involved in the implementation of H2050 and Innovasaúde have shown their interest in staying tuned about the news and the upcoming calls for tender of EMPATTICS and Código100.

On the other hand, patients have been involved in the design and implementation of e-Saúde from the very beginning which is a good practice to put the patient in the centre of the health system. Patients are participating in the description of new projects launched, as for example the EMPATTICS project.

The main goal of EMPATTICS is to develop technologies to empower chronic patients. The seven European partners involved in the project are currently identifying the common challenge faced by their Health System in order to look for an innovative solution which will be applied by all the partners. The procedure followed to identify the common challenge, is based on several meetings with patients who suffer from chronic illnesses. Patients are in charge of communicating their needs and requirements as well as the ideal solution they would like to have. After the meetings,

these requirements will be clearly specified in the call for tender.

How the implementation of this good practice has contributed to the patient empowerment?

e-Saúde achieves more empowered and active patients because:

- Patients get **information previously checked and approved** by health professionals.
- Patients have **access to training** related to their disease.
- Patients are able to challenge and **ask their healthcare professionals questions easily.**

e-Saúde allows patients to better understand their health condition and its effect on their body and the need to have a more healthy lifestyle for managing their condition, feel able to make informed choice about treatment.

Moreover, e-Saúde helps patient to better manage the time related to his/her disease (appointment with GP, specialist, pharmacist, etc).

Please indicate the most valuable benefits obtained by the Public Administration involved.

- Lower frequency of visits by patients to the General Practitioner.
- Greater health literacy of patients, which means healthier people.
- Patients are more decision-making about their diseases.

Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?

The entry into force of e-Saúde supports the sustainability of the Health System, In the same way the mobile technology made possible that all the Galician population has access to telephonic services without the restrictions of the geographical dispersion that characterize to our region, the innovation with ICTs applied to direct online services for patients, will allow patients to remove technology, mobility or distance barriers in order to offer faster, closer and higher quality healthcare services.

It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?

Yes, as already mentioned, Galicia is beneficiary of ERDF funds period 2014-2020. The Operating Program of Galicia includes an investment of 25M€ including regional co-funding for the deployment and implementation of innovative solutions that have been launched during the period 2007-2013 within the projects H2050 and Innovasaúde. The program includes 5M€ of annual investment from 2016-2020, that will be applied by contracting deployment services through a series of public procedures.

The regional government is currently working to improve e-Saúde and to offer the following services:
- Delegated service for elderly people as well as for minor children.
- Access and option to record the Living Will.

Title of the good practice
Cardiac rehabilitation: gym and meetings with patients
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
University Clinical Hospital of Santiago de Compostela (CHUS)
Summary of the best practice (3.000 characters)
Cardiac rehabilitation (cardiac rehab) is a professionally supervised programme to help people recover from heart attacks, heart surgery and percutaneous coronary intervention (PCI) procedures such as stenting and angioplasty. Cardiac rehab programs usually provide education and counselling services to help heart patients increase physical fitness, reduce cardiac symptoms, improve health and reduce the risk of future heart problems, including heart attack (*American Heart Association*) The cardiology service of the University Clinical Hospital of Santiago de Compostela has implemented a complete cardiac rehabilitation programme. One of the innovations is a gym for cardiac patients, which provides specific training and exercises for this type of patients. Besides, every Wednesday a group of patients and their relatives meet a group of experts related to cardiac rehabilitation. The meetings lasts around 1 hour and the hot topics, though related to cardiac rehabilitation, are very varied: - healthy dietary habits   - suitable physiotherapy for cardiac rehabilitation   - educating patients and their relatives on how to manage cardiac patients   - eliminating bad habits: tobacco…   - establishing good practices: physical exercise…   The meetings began in September 2015 and are still in progress. The environment was sought to be patient-friendly, so the room chosen was a very special one: CODIGO SAUDE, an innovative meeting-room located inside the hospital, but in the library facilities, with comfortable sitting puffs, tables and blackboards, close to one of the coffee lounges of the hospital.
How much funding has been mobilised for its implementation?
Funding for the gym: 30.000€ Fees for the professionals: 0€ (no fees from professionals)
What is the original geographical coverage of this best practice? (Local, regional, national…)Has this good practice been adopted in other regions around the country or beyond?
Not yet, the original geographical coverage is local.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It was a pilot programme, but its success has converted it into an extended programme, although just for the cardiac rehab.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
For this specific topic (cardiac rehab), it's already a routine procedure.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Not in this terms.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
BARRIERS: distance of patients living in rural areas. Difficulties in transportation especially in elderly patients. FACILITATORS: motivational interview with cardiac rehabilitation nurse .
Are new collaborations foreseen between the parties involved in this good practice?
No new collaboration foreseen for the time being, as there is already a wide commitment of both cardiac service and patients.
How the implementation of this good practice has contributed to the patient empowerment?
There's evidence of its contribution to the patients in terms of: • Quality of life • Satisfaction • Adherence to the cardiac rehabilitation programme.
Please indicate the most valuable benefits obtained by the Public Administration involved
The patients' better adherence to a cardiac rehabilitation programme saves costs to the Public Administration.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Better quality of life of the patients and their relatives as well as empowerment of patients, since they take control of their rehabilitation process.
It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?
Although the regional government actively promotes patient participation and empowerment no measures ha been implemented by the regional government to foster this specific good practice.

Title of the good practice/
Osasun Eskola, Active Patient Program and Kronik On programme
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)/
Basque Health Service-Osakidetza (Public Administration)
Summary of the best practice (aprox. 3.000 characters)/

"The Health Plan 2013-2020" of the Health Department defines as priority areas: Equity and Responsibility; People with ill health; Healthy Aging, Health of children and young people, Healthy environments and behaviors. Based on these strategic lines the Basque Country Government is promoting a strategy for ageing and chronic patient care based on self-care promotion and population education. In this context, Osakidetza offers the section School of Patients "Osasun Eskola" where health information is collected through its website http://www.osakidetza.euskadi.eus/osasuneskola/es/. It facilitates and provides on line information and training not only to patients and caregivers but also to citizens, aimed at maintaining and promoting population health and health performance by making responsible disease-related decisions. Moreover, through prescribe information the professionals can recommend to their patients to get information related to their diseases using the Osasun eskola web.

Osasun Eskola is also working in design training programs for professionals to acquire educator competences, both face-to-face and virtually, to reinforce self-care for patients and caregivers, develop programs of health education for healthy people and chronic patients, train caregivers of dependent patients, and advice patient associations.

Some of the initiatives are:

- "Information Prescription, advising in health" Plan
- Active patient programme
- Kronik ON programme for multimorbid patients
- Training to professionals in empowerment tools
- Support to caregivers
- Community activities

"Information Prescription, advising in health" Plan started in 2015, has been developed through collaboration between Osasun Eskola and O-Sarean, aims to contribute to greater patient autonomy in self-management their condition or disease, facilitating the delivery or access to personalized health information and communication between the user and the healthcare professional. The areas of access are:

• Extranet Osakidetza: by developing and grouping own information about the most prevalent chronic health problems in our population, for the patient who attend various health problems (multimorbid patients) as well as for the promotion of health and self-management.

• In consultation- through the Electronic Health Record (HER). The information available on the extranet is offered to healthcare professionals. They can deliver personalized information to their patients such as "Find out about your illness "Kronik ON programme" for multimorbid patients" as well as "Healthy Living" information.

• Health Folder. All information of the extranet (not personalized) is offered to all users. In future, personalized information according to the chronic health problems that have registered in the EHR will be offered.

Finally, as a visual element of the Plan, with the support of the videos on basic Cardiopulmonary resuscitation (CPR) edited by Osakidetza, citizens are encouraged to conduct training sessions in schools, civic centers, as well as improvised citizens in the areas near the main access health facilities (hospitals, health centers ...).

Active Patient Program started as a pilot in 2009, has been deployed in all the integrated healthcare organizations of the Basque Country Healthcare System (Osakidetza).

Active patient program is an educational programme in self-care which helps chronic patients or caregivers acquire knowledge and skills related to the disease and its management.

It works since 2009 following the methodology of Stanford. It offers two training courses for patients: "Taking control of your health", for chronically ill, and "Self-management of diabetes," aimed at type 2 diabetics and their caregivers. After more than three years of experience, the program has developed its own practice, adapting the methodology of Stanford another self, taking into account the environment and needs. The goal is to provide information to a better understand of disease, to train skills in self-care and disease management and to promote changes towards healthier lifestyles.

The complete intervention consists of group sessions (8 to 15 people) lasting 2.5 hours, once a week for six weeks-eight weeks. Each group is supervised by two leaders previously trained; at least one of the two leaders should be a chronic patient him/herself or caregiver for a chronic patient.

Kronik ON program is a new program programme empowering frail elderly patients and caregivers designed by Osakidetza and Kronikgune. The program has been designed in collaboration between Osakidetza and Kronikgune and piloted in 2015 and 2016.

This is a structured and standard empowerment program. The program is structured in four sessions, one session per week, and a reminder session 2 months later. The duration of each session is estimated 20-30 minutes long, and is developed at the Primary Health Center or at Patient´s home. During follow-up calls and face-to-face visits an assessment of the empowerment degree is done, reinforcing self-management, widening knowledge, etc.

All materials have been developed by a working group composed by nurses of both primary and secondary care and are available on the section "Osasun Eskola" inside Osakidetza (Basque Public Health Provider) website. Videos, leaflets and presentations are available on-line: http://www.osakidetza.euskadi.eus/r85-chpapp00/es/

During this year new initiatives has been deployed: alcohol and underage youth, pressure ulcers and tobacco withdrawal, care your heart, asthma, colorectal cancer screening program, breast cancer, suicide, information for support to caregivers.

How much funding has been mobilised for its implementation?
100.000 euros/year
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Basque Country. There are similar initiatives in other regions in Spain (Aragon, Andalucía, Catalonia, Galicia, and Asturias).

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It is an extended programme for all citizen in Basque Country
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, it is used as a routine procedure
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Osakidetza is working in the development of an online platform through the initiative of the Innovative public procurement office. The online platform will be focus in the empowerment of patients and caregivers. In order to know the acceptation for the patients in using the online platforms, Osakidetza is working in collaboration with an enterprise which has exclusiveness in the use of the online courses of the Stanford University. Active Patient Program and Kronik On program require the production and printed of materials, so some local enterprises have had benefits thanks to the program.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Facilitators: • Osasun Eskola is included in the Health Plan 2013-2020 and in the strategic plan of research and innovation 2020. • The Director Committee of Osakidetza is promoting Osasun Eskola and has included a communication plan with patient associations • Programme prioritized by Department of Health and linked to the funding of the Health care provider **Barriers:** • Need of more professionals working in Osasun Eskola (informatics, clinicians…) • Static web that needs to be further developed • Patient recruitment and retention of monitors (Active Patient Programme)
Are new collaborations foreseen between the parties involved in this good practice?
Yes. • New programs and materials are going to be included in Osasun Eskola. Therefore, this requires the engagement professionals, patients and patient associations. • Osasun Eskola is part of the Network of Schools for health, born as a proposal of the Ministry of Health, Social Services and Equality of Spain. • The first Meeting of the Network of Schools Health was organized in Donostia in 6-7 May 2016   http://www.osakidetza.euskadi.eus/evento/i-jornada-de-la-red-de-escuelas-de-salud-esta-de-verdad-el-paciente-en-el-centro-del-sistema/r85-pkactu02/es/ • New programs for different diseases (cancer and heart failure) and for gipsy community are being designed. The collaboration of professionals, patients and patient association is needed.
How the implementation of this good practice has contributed to the patient empowerment?

Through Prescribe information, the professionals recommend patients with some chronic condition to use the Osasun Eskola web in order to get information of interest.

On the other hand it aims to active patients about the most relevant issues related to its chronic condition in order to take decision shared with professionals.

The Active Patient Program and Kronik On program allow to patients a better knowledge about their disease, they can self-management their symptoms and they know what to do when their health is worse.

Please indicate the most valuable benefits obtained by the Public Administration involved.

- In 2015, Osasun Eskola in collaboration with the corporate Training Service of Osakidetza have been organized 162 courses (146 face-to-face and 16 on line) with a total of 7943 professional attending.
- Development of materials with health content with reliable information. The healthcare professionals have available quality information to give their patients.
- A total of 3808 Health Professionals have been trained to the activation of patient through126 courses related to healthcare education by group techniques, methodology for shared decisions, promotion and prevention activities, brief health advice and healthy habits prescription.
- A network of active patients has been created in the Basque Country

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

- The patients are interested in management of their diseases and they have a better relationship with their health professionals.
- From beginning of Active Patient Program (2010) till December 2015, 3295 people have been activated by 219 trainers. In 2015, 74 programmes have been carried out: 43 for an active self-care and 31for diabetic patients, training 750 people (63 years old average). The results of the satisfaction questionnaire that the patients fill when they finish the training r reflect a great satisfaction (4,8 points over 5).

It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?

The strategic lines (2013-2020) of the Department of Health define as priority areas: Equity and responsibility, people with disease, healthy aging, child and adolescent health, environments and healthy behaviours. Based on the strategic lines the Basque Country Government is promoting a strategy for chronic patient care based on self-care promotion and population education.

The program is supported by the Contract Program (funding program) of the Basque Health System and is a priority area of the Strategic Line of Basque Country Healthcare system.

New indicators have been included for the follow up of Osasun Eskola.

Title of the good practice
Age-Friendly Basque Country (Euskadi Lagunkoia)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Matia Institute of Geronlogy (Research Institution)
Summary of the best practice (aprox. 3.000 characters)

The Basque Country has taken a proactive approach to the WHO Age-friendly cities and communities' initiative by developing, implemented by the Department of Employment and Social Policies and Matia Institute from 2012. Rallying institutions, agents and individuals to make living spaces more "age-friendly", where people can live without physical obstacles and barriers is a primary goal.

The goals of the initiative are:

- Tapping the potential represented by seniors in the life of villages and cities as welfare generators.
- Create and promote community participation processes.
- Create a Network of friendly initiatives.
- Facilitate the introduction of changes in the environments to improve the quality of life.

In order to promote and develop the project was established a work plan in collaboration with the Federation of Retirees and Pensioners of the Basque Country (FEDERPEN). In this way, in new municipalities the elderly associations have created self-managed groups for carrying out the qualitative assessment through meetings and citizens forums, promoting empowerment and leadership to older persons.

ACTIONS IMPLEMENTED:

- Euskadi Lagunkoia: Age-friendly Business: Euskadi Lagunkoia (http://euskadilagunkoia.net/es/) has released Age-friendly Business to promote the development of inclusive communities in the Basque Country. The initiative provides educational and self-assessment materials to participating businesses to facilitate development. Information also includes how businesses can provide quality service for older adults that are affected by loss of mobility, vision and hearing impairments and dementia.
- Euskadi Lagunkoia: Dementia Friendly Community Guide: Dementia Friendly Guide aims citizen awareness and guidelines on how to help people with dementia in their daily life. The Guide was launched with the collaboration of the Alzheimer Associations of the Basque Country on the World Alzheimer's Day (September 21st, 2015).
- Time Bank: To promote communication and mutual support among neighbors and time swap. 1 town involved.
- Age-Friendly places: Working groups led by people of all ages in order to detect improvement proposals, recover public spaces, encourage citizen participation and strengthen social networks in the neighbourhood. Supplemented for mapping places by citizenship. 1 town 23 participants.
- Legacy: Intangible cultural heritage transmission by the older people. 12 (9 online)

documentary videos (5'). • Web platform Euskadi Lagunkoia (www.euskadilagunkoia.net): With the aims to share good practices, documents, guides and news; and to promote the participation 2.0 by the blog section, Bank of time and AF Mapping.
How much funding has been mobilised for its implementation?
Not available
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
It is a local and regional practice.   It is based in WHO Age-friendly Cities and Communities program.
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
It has been implemented as an extended programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
It is implemented on an ongoing basis as a routine procedure, but is adapted to each municipality. Firstly, a practical guide to implement in municipalities was developed with tools and best practices to build a friendly territory. Baseline assessment was made in 15 towns, with secondary data sources, an Age-Friendly Survey (N 1.447 people 16+), Citizen forums (345 participants) and other 77 stakeholders involved (Cities Councils, schools, associations, business, etc.). It provides guidance on how to develop an age-friendly project.   In a second phase (2015-2016 it was scaled up to 18 new municipalities and the three main cities. Elderly associations have created self-managed groups for qualitative assessment.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Some municipalities have created new jobs to develop the programme. However, there is no evidence that it has contributed to the creation of new markets.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Facilitators: • WHO Global Network of Age-friendly Cities and Communities and the Covenant on Demographic Change: Age-Friendly Europe. • The new generations of older people demand their active participation. • Elderly as generating welfare.   **Barriers:** • Difficulties in social participation, to involve people. • This project needs the implication of a lot of people and stakeholders working together. So it needs a lot of time and perseverance for the successful implementation.
Are new collaborations foreseen between the parties involved in this good practice?
Collaboration between stakeholders is continuous.   During 2012-Jun2016 have been participated 36 City councils.

Matia Institute is involved in the "EIP AHA Action Group D4: Age-friendly Environments".

The main objective of the Action Group D4 on Innovation for age friendly buildings, cities and environments is to bring together partners from all over Europe who are committed to implementing strategies for the creation of age-friendly environments which support active and healthy ageing of the European population.

The current Action Group brings together partners representing around 70 multi-stakeholders who are composed of regional and local authorities from across the EU, European NGOs, technology providers, research centers, and SMEs.

How the implementation of this good practice has contributed to the patient empowerment?

The project has contributed to the elderly empowerment in the civil and social life.

Please indicate the most valuable benefits obtained by the Public Administration involved

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- Promote citizen participation.
- Empowerment of older persons.
- Adapt the municipality to aging population

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The social impact: Stakeholders involved 2012-2016
- City councils: 36
- Government Departments: 4
- Citizens participating in the survey: 2.044
- Citizens participating in Forums: 420
- Older Associations: 37
- Other associations: 49
- Schools: 24
- Business: 82
- Total citizens: 2.464

Social and civil participation promote a healthy life.

It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?

Basque Strategy on Ageing 2015-2020 (Department of Employment and Social Policies) has set as a priority the need to develop urban policies that enable aging people to live at home and friendly neighborhoods with their preferences and needs.

The Basque Strategy on Ageing 2015-2020 objectives are (i) ensuring the role and participation of aging people in this process, promoting the growth of voluntary action and participatory movements and community collaboration with among aging people, (ii) assessing the transfer of care and support provided by the older people in the family, encouraging co-responsibility and (iii) promoting friendliness processes in Basque Country.

Title of the good practice
Community perspective to addressing health- an intersectorial approach
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Basque Health Service (Osakidetza)- Directorate of Public Health and Addictions of the Basque Government (Public administration).
Summary of the best practice (aprox. 3.000 characters)
The Basque Health Plan 2013-20204 in its priority area 1 "Fairness and Responsibility "establishes among its actions the development and strengthening of community action on health the participation and involvement of different actors at the local level.   At the same time in 2013, the Department of Health and the Basque Health Service-Osakidetza developed the Integrated Care Plan with the aim that the Integrated Health Organizations adopt a proactive approach aimed at improving the health of the population, ensuring the necessary social care according to the health needs and all people. This Integrated Management Plan is based on three pillars: governance, integrated approach to population and culture and values.   Community approach to health is a key element development of both plans and born of interest of the Health Department and Health service to promote incorporating this approach in their organizations. Community level is the micro context in which are a high number of intermediate determinants of health and which is likely to public health policies and others, impact unevenly.   For this reason, it is necessary to address these determinants from a different perspective than the usual health policy making and closer to the reality of micro context in question. Such approach is the community health. Community health approach is a participatory process. In practice, it can be understood as a process involving technical and professional resources, government and the community and, in a more operational sense, as a mode of action and an instrument to address issues related to health within a community context.   This requires a coordinated and transversal work in the health system with the rest of the public administration and social agents. It should work from all areas in a culture of health, focusing specially on promotion and prevention; the conviction should be a commitment of all people and all public authorities of the Basque Country. The effective development of a population health approach in which primary care and public health work in a coordinated fashion in promoting individual and collective health and disease prevention is necessary.   The protagonists of the health community approach are: • health professional from the health care system and public health   • city halls   • other institutions: education, social services…   • citizens   In other to address the health community approach, the Department of Health, the Health service system (Osakidetza) and the department of Public Health and Addictions formed a leading group for the assessment of needs and promoted and prioritization the implementation of homogeneous and effectiveness community interventions that respond to the identified needs. These community intervention should supported by existing resources.   The work was developed by 2 subgroups:

Methodological subgroup which is responsible for the preparation of a methodological guide for the community approach to create a role model for all community agents.

Training and community health awareness subgroup which is responsible for:

- Training program plan (corporate training service of Osakidetza) aimed at professionals from the Basque Health Service and Department of Public Health and Additions in order to train them in community approach.
- Community Health awareness Plan:
    1. Face to face training addressed to management teams, assistant Directors/s, program managers, coordinators of the integrated healthcare organization (ICOs).
    2. Online training aimed at community workers from Health care system, Public Health, institutions, citizenship ...)

The objective is created awareness in community health through the creating of networks for community health in order to define and deploy homogeneous and effective community interventions.

How much funding has been mobilised for its implementation?

The training program cost around 4000 euros. The participation of professionals from Health care system, Public Health department is needed and it has a cost around 100.000 euros.

What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?

Regional (Basque Country)

Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?

It has not been piloted but the projects have been developed locally through training / action with a timetable of one year duration

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

The program and local health networks have been implemented gradually but it is intended to be a part of the work agenda of the professionals that are involved.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Currently, there is no evidence but it is needed that different professionals from the different agents (councils, healthcare systems, public health) work actively in the health networks.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Facilitators:

- Support by the Basque Government.
- Community health is a priority reflected in the Health plan 2013-2020
- Priority for the different agents involved: Basque health service, Department of Public Health and Additions, Department of Education, Language policy and culture.
- Close collaboration between the Department of Health and the Basque Health Service (Osakidetza)
- Constitution of a promoter group of community health

Barriers:

- Diversity of cultures in different levels of care;
- Difficulty for the intersectorial and collaborative work

- Difficulty to work with the community.   - Little culture of participation.   - Different interests.   - Few resources dedicated to community work   - Professionals and population do not have community health culture   - Lack of participation of the community in health programmes
Are new collaborations foreseen between the parties involved in this good practice?
Yes, it is a process of continuous participation in the local health network, where a diagnosis of the community is made. After the diagnosis, different interventions are prioritized in the community.
How the implementation of this good practice has contributed to the patient empowerment?
Moving from an informed citizen to a citizen engage and with capacity to decide Greater effectiveness and efficiency in interventions. Improve the integration of people in the community
Please indicate the most valuable benefits obtained by the Public Administration involved
- Collaborative and intersectorial work between different agents of public administration: education, public health avoiding duplications in the programmes, interventions…   - Visibility in the community of all existing resources and the confidence in the public administration increases.
Which have been the social impact, as well as the health impact of the implementation and execution of this good practice?
- Increased knowledge of community Working on areas prioritized by the community;   - Community empowerment   - Selection homogeneous and effective community interventions
It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?
No data available

Title of the good practice
Spanish Network of Healthy Universities
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
University of the Basque Country (Educational Institution).
Summary of the best practice (aprox. 3.000 characters)
Spanish Health, Social Services and Education, Culture and Sports Ministries and Conference of Rectors of Spanish Universities created a network to promoted health and wellbeing in university population and in society. University of the Basque Country joined this agreement last June. This network aims: • To develop universities as active agents to promote healthy habits. • To promote teaching and research in health promotion • To stimulate the exchange of experiences in the area • To facilitate the joint work among public health agencies, community institutions and universities • To agree strategic lines to develop a project of health promoting universities • To promote joint projects on the strategic lines of the network • To stimulate international participation of the agents • To increase the offer of activities and services addressed to promote health in university community The strategic lines of the network are: • Creation of healthy university environments • Training in health promotion in university for undergraduates and graduates • Research in health promotion • Participation and collaboration between public health agencies, community institutions and universities • Services and activities in the Campus to promote health.
How much funding has been mobilized for its implementation?
Unknown
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
National. Two ministries, 40 Spanish Universities and 10 Health Structures of Spanish regions participated in the network.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
As mentioned above, it is an extended program all around Spain.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?

The practice is being currently implemented in the University of the Basque Country
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
The program has increased academic offer and activities related to health promotion in universities. This will allow graduates to be more competitive in this emerging area, increasing the offer of health related services and products for the society.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Facilitator:
    ● The activity was prioritized by Spanish Health, Social Services and Education Ministries, and the Conference of Rectors of Spanish Universities
Barrier:
    ● The involvement of so many institution has led to increased bureaucracy which has delayed the startup of some activities

Are new collaborations foreseen between the parties involved in this good practice?
We hope that other universities and communities will incorporate to the network in the next future.
How the implementation of this good practice has contributed to the patient empowerment?
The recent incorporation of the University of the Basque Country to the project has not allowed us to evaluate the impact.
Please indicate the most valuable benefits obtained by the Public Administration involved
Creation of the Service of Applied Physiology for university community New academic offer in the area: Degree of Physiotherapy and Master of Healthy Ageing and Quality of Life
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
University has increased activities to promote healthy life for university community and the society In the future, graduates will be more competitive in this emerging area, increasing the offer of health related services and products for the society.
It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?
The strategic lines (2013-2020) of the Department of Health define as priority areas: Equity and responsibility, people with disease, healthy aging, child and adolescent health, environments and healthy behaviors. The Basque Government, in its Smart Specialization Strategy, has included Bioscience and Health as main areas of R+D specialization in the Basque Country.

Title of the good practice
REHACOP-rehabilitation program for people in early phases of cognitive decline
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
University of Deusto (Educational and Research Institution)
Summary of the best practice (aprox. 3.000 characters)
The aim of this initiative is to provide people in early phases of cognitive decline with an intervention which is friendly, easy and with non-secondary effects, to cope with this deterioration. Secondly, the intervention enhances general health and functionality and prevents dependency. Thirdly, it increases the social relationship in this generation promoting wellbeing. For that purpose, 5 nursing homes in the area of Biscay were contacted and participated together with the University of Deusto in identifying and recruiting the target population. An expert in the field performed a pre-intervention general assessment to define the characteristics of participants in terms of their cognitive and psychological status. Medical and social records were accessible from the clinical history. If a person accepted to participate (voluntarily), he/she was assigned to either an experimental group or a normal control group. The experimental group was involved in group cognitive retraining with the Rehacop program (designed for this purpose) 3 times a week during 3 months. All the assessments were again implemented at the end of the intervention. The control group was enrolled in occupational tasks (including sports, gardening, and manual dexterity) with the same frequency and duration. After both groups completed the intervention cycle, we observed a statistically significant improvement in the experimental group compared to normal controls in most cognitive domains explored. This improvement was related to functional outcome and level of dependency. This practice has just recently been completed and local institutions through the Regional Government (Provincial Council of Bizkaia), are looking forward to extending the experience to further similar environments for the maximum population benefit. This initiative was presented initially in the participants' environment to know the process and encourage them to participate. They also provided feedback to the agents about their thoughts, worries and recommendations of improvements. This feedback, when possible, was implemented into the activity.
How much funding has been mobilised for its implementation?
Not avaiable
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Basque Country
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
The programme has been assessed by the designing and implementing team (Neuropsychology) of University of Deusto along with users and stakeholders. The assessment was carried out in four nursing homes, with different profiles and users, and therefore the extrapolation of findings to general population is guaranteed.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, it is a routine program
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
There is no evidence
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Facilitators: The results obtained in the evaluation stage **Barriers:** It involves a big number of stakeholders
Are new collaborations foreseen between the parties involved in this good practice?
There are not new collaborations
How the implementation of this good practice has contributed to the patient empowerment?
There is no evidence to contribute to the patient empowerment
Please indicate the most valuable benefits obtained by the Public Administration involved
Due to the highly structured nature of the programme, and its relatively simple implementation, the transference to the public network of health and social services in Spain and the Basque Country would be unproblematic. In order to extend its impact to the rest of Europe, the linguistic translation of the programme is necessary; however, no cultural adaptations are needed.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Objective evaluations by clinical staff at the nursing homes assessing clinical, cognitive and functional status of patient's pre-treatment and post-treatment have been undertaken. They report statistically significant improvement. Satisfaction surveys were carried out among staff members and users reporting overall high levels of satisfaction with the tool. Especially, staff members reported improving the quality of the services offered, saving time in planning specific treatments, feeling confident about the quality of their work, and improvement of the sense of belonging and cohesion of the treatment group. Users reported self-confidence in their abilities, improvement in the quality of the services received, higher level of social interaction with their peers and staff. On the other hand, relatives reported better health and relations with their affected family members.
It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?
Active and Healthy Ageing is one of the priorities of the Provincial Government of Biscay, which partially has supported this initiative. Healthy aging is one of the strategic lines (2013-2020) of the Department of Health.

Title of the good practice
KINEAGE- a serious game in 3D to help the elderly exercise while having fun
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
University of Deusto (Educational and Research Institution)
Summary of the best practice (aprox. 3.000 characters)
Kineage is a serious game in 3D which is focused on achieving active healthy ageing. The solution comprises a serious game in 3D to help the elderly exercise while having fun. The difference of this solution with other products available on the market is that it can be used even in wheelchairs, and it can be adapted to the particular necessities of the user. This way, exercise, rehabilitation and the enjoyment of an accessible leisure is promoted. Even by having a total lack of knowledge of new technologies, the users are able to play the game, learn about its use and apply this knowledge in other technological fields, addressing the problem of the digital divide. The game was developed by researchers from DeustoTech LIFE (eVida), University of Deusto (Spain), in collaboration with the "Santa y Real Casa de Misericordia" in Bilbao (residence centre for elderly in risk of exclusion). This project was funded by the Provincial Council of Bizkaia and was selected among the 20 finalists of \"Social Innovation in Ageing - The European Award 2014\", in which 220 institutions around Europe participated.
How much funding has been mobilised for its implementation?
Not available
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Local (Bizkaia Province)
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
The program started as a pilot in 2012 and it has been deployed a nursing home in Bizkaia. It is expected that other nursing homes adopt this programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, it is a routine program
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
There is no evidence
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Facilitators:

• KINEAGE was selected among the 20 finalists of \"Social Innovation in Ageing - The European Award 2014\"   • The co-creation methodology included from the beginning   **Barriers:**   • Difficulty to market access or scaling up since the cultural differences
Are new collaborations foreseen between the parties involved in this good practice?
New programs to improve elderly daily living activities, like promoting physical rehabilitation using robots.
How the implementation of this good practice has contributed to the patient empowerment?
The elderly participate from the beginning in the design of the user Interface and functionalities
Please indicate the most valuable benefits obtained by the Public Administration involved
Not applicable
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The program which started as a pilot, it has been included by the nursing home as one of their weekly activities. The project continues being improved in different aspects.   The opinion of the elderly can be seen in this video: https://www.youtube.com/watch?v=XikCay-GwKA
It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?
Active and Healthy Ageing is one of the priorities of the Provincial Government of Biscay, which partially has supported this initiative.   Healthy aging is one of the strategic lines (2013-2020) of the Department of Health.

Title of the good practice
EQUIMETRIX (Towards quantitative functional balance ASSESSMENT AND TRAINING)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Fundación TECNALIA Research & Innovation (Research Institution)
Summary of the best practice (aprox. 3.000 characters)
Given the impact of falls on individual and public health, and the fact that some fall can be prevented, great efforts have been made to identify people at risk and to implement strategies to prevent falls. However seventeen independent factors (Tinetti2010) contribute to an older adult's risk of falling. In addition it appears there is a significant interaction between risk factors and an individual's level of function (Cameron2010). In 2010 the American Geriatrics Society published an update (NGC2010) of the former clinical guidelines (AGS2001) which still specify all older adults be screened annually for falls by a health care provider, but now has expanded to include screening for balance and mobility impairments.   From these statements it is clear that balance assessment is important but functional balance assessment is crucial. Therefore we propose to use Equimetrix technology, which is Instrumental equipment developed by TECNALIA, providing functional balance assessment and training for fall prevention, filling the current gap between functional clinical tests and quantitative instrumental measurements. Equimetrix comprises sensing technologies, biomechanical features, methods for quantification of the instantaneous stability conditions of the user, and feedback for training purposes. The technology measures the relative 3D position of Centre of Mass (CoM) and Base of Support (BoS), and the relative 3D position of CoM and Centre of Pressure (COP) of humans. It computes a Stability Index based on features extracted from CoM and BoS/CoP relative positions. Once the user balance is quantified, Equimetrix technology is also used to provide training exercises. These exercises are either abstract (e.g. reaching a virtual target with our Centre of Mass, reaching a virtual target with our Centre of Pressure) or functional (e.g. tying our shoes with the highest stability condition).   This technology is complementary to current equipment and practices and might be combined with computer for visual feedback, such as EMG or virtual reality devices, Baropodometric devices, Sensorized walking pathways, Force platforms, and Sensorized treadmills.
How much funding has been mobilised for its implementation?
Not available
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Regional (Basque Country).
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme, is there any plan for a wider implementation?
It has been implemented as a pilot programme. There are further plans to include this good practice in later deployments of smart living solutions at home. In this sense, this Equimetrix technology has

been proposed to be deployed in several H2020 Large Scale Innovation Actions, which we expect to get funded soon.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

At this stage it is only being implemented as a pilot initiative. Its main objectives are to create evidences on the feasibility, acceptability and effectiveness of functional balance assessment and training device and services. Then, when these evidences have been proved, this initiative could become deployed as a routine procedure.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

There is no evidence.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Facilitator:
The existence of a FP7 R&D project called BALANCE (coordinated by Tecnalia, www.balance-fp7.eu) on the development of an exoskeleton to support postural balance during standing and walking.

Are new collaborations foreseen between the parties involved in this good practice?

- [EIP AHA Action Group A2: Falls Prevention](#)

Tecnalia is involved in the "EIP AHA Action Group A2: Falls Prevention" bringing into the project knowledge about current barriers and coming actions in the field of fall prevention and active ageing. Moreover this Equimetrix technology has been mentioned as one of the good practices to be provided within this A2 AG.

How the implementation of this good practice has contributed to the patient empowerment?

This pilot implementation allows the elderly person to have better knowledge about his/her postural stability and the potential risk of falls, providing a tool to better train his/her way of walking through the realization of training exercises so that a higher stability condition is achieved.

Please indicate the most valuable benefits obtained by the Public Administration involved

Not available

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

It is well known that frail people and fallers reduce both their physical and social activities which reduce their (and relatives) quality of life and after some time lead to medical care institutionalisation. We propose a set of applications (balance assessment and training) aiming at reducing the number of falls, therefore reducing the fear of falling, improve their confidence and as a consequence allow them to engage actively in social interactions.
The main advantage holds in the fact that these services are offered at home, therefore without the need of the user to travel to the healthcare professional periodically.

It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on

this good practice?
Due to the main importance of falls prevention for the regional government, in March 2015 the Health Department of the Basque Government published a guide with tips to prevent falls inside and outside the home of elderly people. Half of people over 64 years old, mostly women, suffer one or more falls a year at home or in the vicinity thereof. Of all accidents suffered by elderly people, 92% are falls, which involve annually, 4,500 hospitalizations and about 150 deaths. Among other actions considered by the Basque government in this sense is the promotion of innovative devices and interventions addressed on the prevention of falls for elderly people. This is one of the action lines included in the Health Plan 2013-2020 of the Health Department of the Basque Government, which includes healthy ageing as one of the main priorities with the aim of promoting active aging with interventions to maintain the autonomy of elderly people.

Title of the good practice
Ability research project
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Don Carlo Gnocchi Foundation is an IRCCS as a healthcare research institution – University of Milan Bicocca.
Summary of the best practice (approx. 3.000 characters)
The Ability research project, funded in Italy within the Smart Cities and Smart Communities funding program (Ministry of University and Research, Operational Regional Programme, Lombardy, Axis 1, - European Funding for Regional Development 2007-2013), aims at developing and testing the efficacy and the impact of a Personal Smart Health Community able to provide innovative trajectories for people with cognitive impairment, putting them at the core of a continuous and intertwining treatment and support from both formal (e.g. physicians) and informal (e.g. near relatives) caregivers, with special focus on home-based care.   Within this framework of the Ability project the investigators test the efficacy of the home-based motor-cognitive rehabilitation program delivered with two different approaches: the Ability platform versus the usual care program.
How much funding has been mobilised for its implementation?
4 Million €.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Pilot programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Not yet.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
The measure is able to boost new market opportunities for the business dealing with health technologies as well as near patient care givers.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
The success of this research project is guaranteed by the multidisciplinary approach given by a consortium of public and private entities involved. Fondazione Don Gnocchi is in fact collaborating for its implementation with different partners which include the University of Milan Bicocca, the Politecnico of Milan, Telbios Spa, Imaginary S.r.l. and so on .
Are new collaborations foreseen between the parties involved in this good practice?
Not applicable.
How the implementation of this good practice has contributed to the patient empowerment?
Personal Smart Health Community will be characterised by a "context aware" platform, personalised and interactive, which constitutes the environment inside which the information gathered from different sources, like health records, medical and non-medical sensors, smart

devices will be processed according the Internet of things paradigm, highlighting and defining innovative therapies adapted on the behaviour and level of risk of the patients with the overall aim to get a unique and integrated evaluation of the rehabilitation therapy.
Please indicate the most valuable benefits obtained by the Public Administration involved
The public administration will eventually benefit from the reduction of hospitalisation of the patient, as well as from a better rehabilitation of the latter.
Which have been the social impact, as well as the health impact of the implementation and

 execution of this good practice? |
| Healthier elderly people with a reduced motor or cognitive impairment. |
| It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice? |
| The results are being evaluated and an extended programme could be launched. |

Title of the good practice
Good Morning CreG (Chronic related Group)
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Medici Milano Centro located in Milan, Iniziativa Medica Lombarda located in Bergamo and Milan 2, MMG CReG located in Como together with the private partner Telbios Spa.
Summary of the best practice (approx. 3.000 characters)
In 2012 Lombardy Region first started a new experimental model of organization, named CReG, aimed at improving care of chronic patients outside the hospital. This new model is currently being tested in five Local Health Units and involves patients affected by the following chronic pathologies: hypertension, diabetes, heart failure, and chronic obstructive pulmonary disease. The main CReG innovation is the creation of a new subject, called Provider, who has to guarantee the chronic patients cure outside the hospital, coordinating General Practice and specialist medicine interventions. Overall, 450 General Practitioners (GP) associated in Cooperatives participated in the role of providers, enrolling about 65.000 patients in the entire Region. Patients participating to the project have been assigned to a specific diagnostic and therapeutic plan of care (PDTA) for their chronic diseases and providers had to control the progression and compliance in cure and clinical examinations. Many of the GP providers in Milan, Bergamo, Melegnano, and Como selected the same technological partner, and 60% of this population was managed through the same IT platform. Although preliminary, the results show an improvement of some indicators of clinical care for patients with cardiovascular risk enrolled in CreG project. This project represents a big challenge for General Practice who has the opportunity to demonstrate its ability in taking care of chronic diseases better than before. The main motivation for General Practitioners to participate to CReG has been to avoid to lose control on care of chronicity, which is a relevant part in daily General Practice activities. The CreG project is one of the biggest initiative in Europe in terms on number of physicians and patients involved.
How much funding has been mobilised for its implementation?
Cost based on the single patient cured.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Regional (the territories of Milan, Bergamo and Como).
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Pilot Programme.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
The positive results that are being gathered could eventually lead to a massive initiative in the Region.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
New opportunities for growth could be expected by the companies and hospital involved in the project.
Please indicate which have been the barriers and facilitators identified for success in the

implementation of this good practice.

Among the main difficulties of the project after 4 years of its implementation we can mention management and costs of the organisation, the lack of information about the performance of the project (and related costs) from the Region which made hard to have a good governance over the physicians and patients participating in the CReGs in the first 3 years of the project. Another difficulty is a lack of continuum of care due to the lack of agreement of the care pathways between specialists of different providers in the first three years of the project.

Are new collaborations foreseen between the parties involved in this good practice?

Yes. The CReG is being confirmed and new area will be involved in the project.

How the implementation of this good practice has contributed to the patient empowerment?

Sharing with them the path of care, setting precise objectives and actively involve them in the successfulness of the cure.

Please indicate the most valuable benefits obtained by the Public Administration involved

For the public sector, the successful implementation of the CreG project represent the possibility to provide a better care plan to its citizens-patients, which simultaneously result in better and longer life of the latter a smaller expenditure on the Regional Health Care budget.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

The patient is more empowered, with huge benefits in the management of its chronicity. In addition, the work of the General Physicians has been for the first time better quantified.

It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?

One of the future goal is to extend the CReG to other Lombardy care units and, therefore, include other physicians and patients.

Title of the good practice
Healthcare region Carus Consilium Saxony
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
University Hospital Carl Gustav Carus Dresden
Summary of the best practice (aprox. 3.000 characters)
The Healthcare Region Carus Consilium Sachsen is currently connecting more than 600 partners from about 200 institutions in the field of research, healthcare, patient care, economics and politics. The strong interaction with all partners of the network and the federal government of Saxony is the basis for the successful work of the CCS.
The management organization with the same name- Carus Consilium Sachsen GmbH- is responsible for the central coordination and is a subsidiary of the University Hospital Carl Gustav Carus at the University of Technology Dresden.
Against a background of demographic change, the stabilization of medical care and the modernization of healthcare at the same time will be some of the most important socio-political challenges in the years to come. The Carus Consilium initiates, regulates and coordinates sustainable healthcare concepts in order to secure and further develop healthcare, especially in rural areas.
The vision of Carus Consilium Sachsen is to deliver continuous care to the population as well as offering prevention, consultation, guidance, training, nursing and medical treatment, in order to enable them to live a long life, to improve their quality of life and to avoid regionally different care quality.

How much funding has been mobilised for its implementation?
The Federal Ministry of Education and Research has announced a "Health Regions of the Future" contest with awards totalling 40 million euros. The aim is to encourage innovation in healthcare through the regional cooperation between all partners which then leads to a promising value chain.
Each of the 20 winners will receive 100.000 euros in the first round of funding in order to be able to finalise their concepts in detail and to promote the intensification of cooperation between the various partners.
With the concept of Carus Consilium Sachsen the University Hospital Carl Gustav Carus participated at the contest and was picked up under the 20 winners of the first round.
In 2009, five regions were picked from these 20 winners, which will then each be supported by the for four years to allow them to realise their concepts. The 85 proposals that have been submitted cover a broad range of topics encompassing healthcare research and quality of healthcare to health promotion and prevention, clinical research, eHealth and telematics, medical technology, biotechnology and service research. Participants in the contest included health industry

associations, universities, universities of applied science, business development institutions and districts.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Project phase: administrative district of Dresden (east Saxony) Afterwards: Saxony, with some extension towards Brandenburg, Thuringia and Saxony-Anhalt
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
As the creation of the management organization was the final step towards sustainable regional management in Saxony, there is no further intention to extend the programme in this region.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, today the management organization with the same name- Carus Consilium Sachsen GmbH- is responsible for the central coordination of many innovative health care projects in Saxony and is a subsidiary of the University Hospital Carl Gustav Carus at the University of Technology Dresden.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Because of the positive influence of the healthcare region Carus Consilium on maintaining a levelled quality of healthcare throughout Saxony, a positive contribution of this good practice on employment and job creation can be assumed. However, there is no stable evidence for this assumption.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Barriers: • There was and is no structural public funding for the company itself. Faciliators: • The parent-subsidiary relationship of University Hospital Dresden and Carus Consilium Sachsen enabled the connection of science and healthcare. • Founding the company provided the means to efficiently set up several successful healthcare projects in the region.
Are new collaborations foreseen between the parties involved in this good practice?
University Hospital Dresden and CCS naturally collaborate with each other on a number of aspects because of CCS being a subsidiary.
How the implementation of this good practice has contributed to the patient empowerment?
The efforts of CCS aim more at improving healthcare quality and structures, thus a measurable direct effect on patient empowerment is not discernible.

Please indicate the most valuable benefits obtained by the Public Administration involved
There was no direct participation of public administrations in this best practice.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The aim is to boost economic growth in healthcare by promoting the collaboration between service providers, researchers, healthcare institutions (university clinics, hospitals) as well as pharmaceutical, medical device and biotechnology companies
It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?
No

Title of the good practice
GeriNeTrainer – The exercise programme with integrated cognitive exercises for everybody.
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
GeriNet Leipzig is a regional network for geriatric care with about 900 partners, especially in Saxony. It consists of scientists and practitioners of medical, social, nursing, therapeutic and health economic departments. Cand. rer. medic. Lysann Kasprick is health and nursing scientist, Diploma social worker, inclusive clinical social work of government recognition. Since 2011 she is responsible for the project and product management of GeriNet Leipzig. Lysann Kasprick is project director in the good practice GeriNeTrainer.
Summary of the best practice (aprox. 3.000 characters)
The project GeriNeTrainer aims to increase everyday competence by an activity program in groups and at home, which contains cognitive and mobility exercises for people with first cognitive and motoric impairments, limited everyday skills and diagnosed dementia. GeriNeTrainer is especially offered for people who are 70 years and older. The exercise units take place close to the homes of the participants in different parts of Leipzig. The aim is, that everybody can visit the GeriNeTrainer on his own and be more independent. The exercise and cognition units are offered as a small group (5 – 8 participants) or as an individual single accompaniment. The leader of the GeriNeTrainer groups are specially trained coaches, e.g. physiotherapists with an additional education as a GeriNeTrainer. Aims are the preservation of strength, endurance, coordination and memory abilities and nevertheless to avoid falls and injuries by falls. With the GeriNeTrainer, older people are supported to stay independently in their own homes as long as possible, which is an important resource to increase the quality of life. The loss of their familiar environment and privacy decreases the quality of life dramatically. With the participation in the GeriNeTrainer groups people are supported to have a daily structure, they get to know other older people who live near them, which prevents isolation and in case of need, they could talk to their GeriNetrainers, which could involve a case managers to help. Participants and their families therefore have a contact and sustained support. When deterioration of the situation a professional case management is used to avoid e.g. unplanned receptives to the hospital. The GeriNeTrainer project makes an important contribution to support older people in their own homes as a long-term support.
How much funding has been mobilised for its implementation?
The network partner invested their time and wrote the conception. The implementation is supported by the Municipal Social Welfare Association with 10,000 euros per district.
What is the original geographical coverage of this best practice? (Local, regional, national...) Has this good practice been adopted in other regions around the country or beyond?
Originally, the best practice GeriNeTrainer has been developed for local regions in and around Leipzig. Currently, there are 2 locations, where GeriNeTrainers groups are offered, 3 others are planned. The individual single accompaniment is offered in 5 city parts of Leipzig. GeriNeTrainers

are also trained in other regions around Germany.
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
The project started as a pilot programme, now it`s implemented in different regions in Leipzig and also Germany. Actually, 70 older people train once in a week in the GeriNeTrainer groups and 10 people are cared in individual single accompaniments. About 80 trainers has been educated as GeriNeTrainers.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, look at the box above.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Definitely there is a contribution to employment and job creation. Even pensioner or students, who are interested in sports and likes to work in groups with older people coulb become GeriNetrainer and earn some money. The most important thing is, that the trainers in the groups don´t change, because the participants trust them and don´t like personal changes. The trainers need to know, that it´s an long-term project and need to have fun while working with older people and motivate them to train.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
An important barrier was the access to the older people. They don`t visit a new group on their own. A cooperation with general practicioners was useful. Older people follow the advices of their general practicioner, if he/she recommends an exercise group.
Are new collaborations foreseen between the parties involved in this good practice?
There are other collaborations foreseen in another city parts of Leipzig. Long-term aim is to develop a franchise company, to build up GeriNeTrainer groups with the evidence-based concept in Germany and other countries.
How the implementation of this good practice has contributed to the patient empowerment?
The participants benefit from the mobility and cognitive exercises in everyday life. While train in the group, they see, which motoric and cognitive skills still exist or that it could be improved. They train balance and learn how to react in case of fall or stumble. In this way, the fear of falls could be reduced and the older people learn to trust in their abilities, take part in social life and increase the quality of life.
Please indicate the most valuable benefits obtained by the Public Administration involved
For participants with impaired everyday competence or care level the costs are assumed by the nursing care insurance. Accounting is on the low-threshold care offers §45b, social code book XI.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
The social impacts are: volunteers and students as well as educated health professionals wants to work with older people and support as well as motivate them to be active and train. For the

participants social isolation will be decreased, they learn to trust in their abilities and participate in social life again. With the GeriNeTrainer, quality of life could be improved statistically significant.

It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?

The GeriNeTrainer has been included in the European Demographic Plan.

Title of the good practice
Diagnostic of patients with seldom errors of the immune system with seldom inborn errors of the immune system
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Gesetzliche und private Krankenversicherungen (public administration)
Summary of the best practice (aprox. 3.000 characters)
According to estimations, around 4 mio. people suffer from rare diseases of the immune system. Seldomly, a cause of the symptoms is identified and an adequate therapy found. Thus, diseases become chronic, inducing lifelong suffering and exceeding cost for the public health system. Present best practice project: The St. Georg Hospital Leipzig runs a specialized department for immune defects (Immunodeficiency Center Leipzig, IDCL) for patients with uncertain symptoms offering diagnostics and therapy. Its capacity is currently limited to 400 patients of all age groups from three countries (Saxony, Thuringia and Saxony-Anhalt). In Germany, there are further five similar institutions (Berlin, Hannover, Freiburg, Munich, Dusseldorf). Many countries in Europe provide far less institutions like these even though conditions are comparable. Diagnostics work via standardised questionnaires, specialized blood tests are established and provide high certainty in confirmation or denial of rare immunological diseases. As of now, it is necessary in Europe that the referring physicians need to be informed about immunological diseases in general and need to know about the few existing specialized departments and patients are examined in one of these specialized departments. This best practice shows two obvious problems: Only a few patients are identified and treated Most patients remain hidden and cause immense costs. In addition to the existing project, an extension could address the known weaknesses and awareness by providing more information for patients and physicians and by implementing rather simple but effective ICT (Tele-Counsil). Two specific steps are already planned: 1. Specific tests based on an innovative early detection algorithm are implemented via tablets and performed with medical practices or other institutions in order to identify patients earlier with suspected or confirmed rare immunological disease.
How much funding has been mobilised for its implementation?

Current project: little cost (yet undetermined) for initial equipment and staff. In addition, between 1000 and 2000 EUR running cost per patient. Planned project extension: estimated budget of 1 Mio. EUR per specialized department per year.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
This practice covers three countries in Germany's East (Saxony, Thuringia, Saxony-Anhalt)
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
The current best practice project is established in routine work in Germany, however, there is room for improvement. Because of its effectiveness in identifying patients with rare immunological diseases and the established processes, it could work as best practice in other European states. The planned project extension will be a wider implementation of the first best practice project.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Currently, besides the existing good practice project, an identification of these rare immunological diseases often is result of coincidence. Standards are established in specialized competence centres only, where affected patients arrive also coincidentally or too late. The planned extension of the first project will provide the means to widely establish routine procedures.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
Current best practice project: no Planned extension: yes
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Because there are only a few information campaigns, the health system actors lack specific knowledge on these rare immunological diseases. Further, payors are seldomly willing and able to finance high setup cost.
Are new collaborations foreseen between the parties involved in this good practice?
Current best practice project: no planned project extension: yes, with ICT companies, researchers, physician's associations, support groups.
How the implementation of this good practice has contributed to the patient empowerment?
Data no available
Please indicate the most valuable benefits obtained by the Public Administration involved
Current best practice project: strong increase in treatment quality (physicians) and effective cost

reduction (payors) planned project extension: multiplication of current effects
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Current best practice project: patients: - reduction of number of sick certificates - reduction of days out of school or out of work - reduction of patients visiting multiple physicians - reduction of hospitalizations - reduction of redundant diagnostics and medication - provision of sound therapy, resulting in a better state of health and healing
It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?
No

Title of the good practice
CCS Telehealth Ostsachsen
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
T-Systems International GmbH (Industry), Carus Cosilium Sachsen GmbH
Summary of the best practice (aprox. 3.000 characters)
The telemedicine platform "CCS Telehealth Ostsachsen" is a european pilot scheme which offers a broad range of possibilities in networked medical care and is intended to help overcome former limitations in healthcare. To do this, the project makes an open and universally applicable IT platform available for the healthcare of an entire region - in Eastern Saxony and beyond. Thanks to "CCS Telehealth Ostsachsen" clinics, physicians, nurses, other medical service providers and patients at home are connected by means of own, secure data networks. The patients can meanwhile also play an active part and communicate with hospital personnel in real time.   **Objective:** **To create an infrastructure that is: widely available, interoperable, extensible and safe.**   A fundamental concern of the new service platform is the easy transferability to various medical applications and all regions in Europe. The technical and financial investments required from potential providers of telemedical services for establishing a new network of their own is markedly reduced and the patients in the Land will quickly become aware of the benefits provided by the telemedical care. "CCS Telehealth Ostsachsen" is a solution for everyone. It is not limited to individual medical fields or regions, but can be expanded to include virtually all areas of healthcare. It is designed to ensure high-quality, fast and nearby medical care for the population, and to prevent imbalances between the care available at urban centres and in rural areas   The development of the "CCS Telehealth Ostsachsen" system has for example included the establishment of telemedicine workplaces, pro-curement of tablets and IP phones for patients, and the installation of high-quality servers, scanners and a central data base. Responsibility for "CCS Telehealth Ostsachsen" is shared by the project sponsor Carus Consilium Sachsen GmbH, a subsidiary of Dresden's university clinic, and the Telekom-subsidiary T-Systems International.   The parties involved in this first implementation stage include the Dresden Cardiology Centre, Dresden University Clinic, Leipzig University Clinic, the Saxon Hospital in Arnsdorf, and the Klinikum Oberlausitzer Bergland in Zittau.   The development of the telemedicine platform has been co-financed by the European Fund for Regional Development and the Free State of Saxony, with a sum total of 9.8 million euros. This makes it the largest project funded within the programme of the Saxon State Ministry for Social Affairs and Consumer Protection (SMS) for promoting innovative approaches in the health economy during the Structural Fund's 2007-2013 funding period.

Three applications demonstrate the potential of the developed infrastructure:

- Telecoaching:
  1. Remote application for patient-centered care of patients with heart insufficiency
  2. Specially trained TeleNurses supervise health data of patients at home
  3. Patient submits health data via provided tablet and secure mobile connection
- Telepathology:
  1. Pathological tissue slices are scanned by high performance medical scanner
  2. Approx. 2GB per picture, stored in special local data center
  3. Partner institution provides clinical counsel after examining picture via secure connection
- Telestroke:
  1. Case manager organizes outpatient care of stroke patients after initial hospitalization and treatment, uses e-health infrastructure and EMR for managing care pathways
  2. In case of worsening health status, specialists contact GPs and initiate changes in medication or pathways, using information stored in the EMR on the e-health infrastructure

How much funding has been mobilised for its implementation?
80% funding, 9,8 Mio. EUR(of the European Fund for Regional Development and the Free State of Saxony), 20% private funding by project partners
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Eastern Saxony
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
It was a pilot programme until June 2015; currently plans to expand the system; Partners can integrate their solutions as easily as with a multipoint connector. Whoever takes part will be saving time and money while reaching more medical partners and patients. Many companies have already contacted us and want to get involved.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
Yes, Telestroke, development of integrated care contracts with health insurance Telecoaching contracts are in development but negotiations still take more time
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
development of ehealth applications, customizing of interconnectors, ehealth medical tools creates jobs in the industry demand for tele-nurses for case management and tele-physicians creates jobs and/or enforces employment.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers:
- privacy regulations of all affected regional entities (Saxony, Germany) and all affected institutions (healthcare partners, industrial partners)
- technical obstacles in interconnector creation between (e.g.) IHE industrial standards and non-IHE hospital information systems
- translation issues between medical knowledge and industrial development
- sustainable implementation of the developed best practice depends greatly on payor's interest to finance the specific ehealth solutions and care models

facilitators:
- public funding for the development of a state-of-the-art basic ehealth infrastructure for open and public access to all interested partners

Are new collaborations foreseen between the parties involved in this good practice?

Yes

How the implementation of this good practice has contributed to the patient empowerment?

- Telecoaching enables patients to better control their documentation and vital parameters
- Active participation of patients in documentation and treatment processes through ehealth infrastructure and developed tools

Please indicate the most valuable benefits obtained by the Public Administration involved

- Relevant public administration (Saxony) benefits from the wide availability of basic ehealth infrastructure for all future regional (and national) ehealth application, care models and electronic medical records (EMR)

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

Central and most important aspect:
- Care of patients in rural regions improves greatly through the availability of ehealth services that enable patients to remain in their dwelling while still being monitored and/or treated at state-of-the-art medical level
- This benefit increases with the distance to the next maximum level medical center
- Also increases with the number of upcoming medical applications that are hosted on the modular ehealth infrastructure platform

It has implemented any measure by the regional government in 2015-2016 to tackle the main

topic on this good practice?
No

Title of the good practice
Living-it-Up
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Scottish Centre for Telehealth and Telecare / NHS 24
Summary of the best practice (aprox. 3.000 characters)

The Living-It-Up (LiU) project is a large-scale digital intervention led by the Scottish Centre for Telehealth and Telecare (SCTT) / NHS 24, aiming to transform health and well-being services delivery throughout Scotland (Agbakoba et al. 2015a, Agbakoba et al. 2015b).

LiU's ambition was to develop technologies and services to provide improvements in health, wellbeing and lifestyles for over 55,000 people, including 10,000 with long-term health and care issues living across five geographic areas of Scotland, with a partnership including 4 NHS health-boards (NHS Lothian, Highland, Forth Valley, Western Isles) and Moray Community Health and Social Care partnership (CHSCP). LiU was from the outset integrated into the Scottish Government National Telehealth and Telecare delivery strategy (Scot. Gov., 2012b).

LiU aimed to target 5 key populations:
- General Population
- Active & Healthy, between 50 to 70 years
- 50 to 75 years with or at risk of Long Term Condition (LTC)
- Over 75 years with LTC or Frailties
- Service provider

Overview of Living It Up digital services and products

● **Liu Portal:**
The LiU portal acts as a single access points to the range of services offered by LiU (see below for further details son the services)
https://portal.livingitup.org.uk/

● **Discover:**
an online information portal with access to information on a range of health and social care products and services related to 'assisted-living' that is available in individual's local communities.
https://shine.livingitup.org.uk/discover/Searching

● **Shine:**

This initiative aims to identify individuals with varying skills and expertise and encourage its members to share their "talents" with their local communities. Shine identifies people's talents through the use of an online profiling tool that returns a personalised user profile. Shine also includes an online matching service to recommend to users how they may exchange their talents with others in their local community.
https://shine.livingitup.org.uk/

● **Connect:**
supports digital participation among communities in providing a means for people to remain 'connected' with their friends, family and care-givers via Skype or Cisco Jabber Client video conferencing (VC) suite.
https://portal.livingitup.org.uk/connect

● **Flourish:**
a service which provides a suite of interactive tools to support people in self-managing their condition. This includes trusted health related information and resources in addition to 'experience guides' which are peer-to-peer guides developed by users detailing what helps them to manage their condition on a daily basis. Further tools include 'Motiva' a home re-mote-monitoring service to help support people with COPD or HF and 'Florence' a text messaging alert based service to sup-port people in monitoring their health. Flourish also places emphasis on helping people to keep active.
https://flourish.livingitup.org.uk/

● **Get Active:**
Is a service developed in collaboration with Storm Health which encourages people to get active:

Further Information about LiU is available in appendix 3.3.1

How much funding has been mobilised for its implementation?
 - ALIP / SBRI Dallas Living-it-Up (2012-2015): **£10 million**   Including contributions from Technology Strategy Board (£5m), Scottish Government (£3.9m), Highlands & Islands Enterprise (£0.8m) and Scottish Enterprise (£0.3m) - Consolidation fund of **£1.131 million** has been awarded in April 2015 by the Scottish Government's Technology Enabled Care (TEC) Programme to maintain and further develop the Living it Up programme (see also case study 3.1.3 TEC)
What is the original geographical coverage of this best practice? (Local, regional, national...) Has this good practice been adopted in other regions around the country or beyond?

LiU is a national programme originally developed across 5 areas of Scotland: NHS Lothian, NHS Western Isles, NHS Forth Valley, NHS Grampian, NHS Highland

Has this good practice implemented as a pilot programme or as a extended programme?
In case it is a pilot programme , is there any plan for a wider implementation?

LiU is a live national service.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

In May 2015, LiU published its service blueprint Final Version with sustainability confirmed for 2015/16 through Scottish Government funding via the TEC programme.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

TBC

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers & facilitators to LiU and the wider dallas programme have been reported by the programme evaluators (University of Glasgow & Strathclyde) in:

(McGee-Lennon et al., 2015)
http://link.springer.com/chapter/10.1007/978-3-319-41652-6_11

& (Agbakoba et al. 2015a, Agbakoba et al. 2015b)

Are new collaborations foreseen between the parties involved in this good practice?

There were over 20 partners within the broader LiU partnership:

Table 1. Living-It-Up consortia.

Health sector	Scottish Centre for Telehealth and Telecare, NHS 24, NHS Lothian, NHS Western Isles, NHS Forth Valley, NHS Grampian, NHS Highland
Voluntary sector	Carers Scotland
Industry sector	Highlands and Islands Enterprise, Atos, Philips, Intersystems, STV, STV Healthcare, Maverick TV, Ernst &Young, Scottish Enterprise, Digital Life Sciences, Interlate, Sitekit, Looking Local
University and academia	Glasgow School of Art
Local authorities and state services	The Scottish Government, Kirklees Council, The Highland Council, Argyll and Bute Council, Moray Council, West Lothian Council, East Lothian Council, Edinburgh Council, Falkirk Council, Stirling Council, Clackmannanshire Council, Midlothian Council
Other organisations	Joint Improvement Team, Health Alliance Scotland

How the implementation of this good practice has contributed to the patient empowerment?

● **LiU Community Engagement:**

From the programme outset, community engagement has been an intrinsic part of the LiU community development.

The Health and Social Care Alliance Scotland (The ALLIANCE) and Glasgow School of Art (GSA) were contracted by LiU to conduct a range of community engagement events across Scotland (Alliance / GSA, 2012). Between June and November 2012, the ALLIANCE and GCA ran 5 'pop-up' community engagement sessions, interacting with a total of 532 people across the 5 LiU geographical areas. One key theme which emerged from these engagement events was that of 'Giving Back', which later shaped the design of the 'Hidden Talents' service specification, which later became the Shine Service. Community Engagement events have since been regularly undertaken by LiU in the 5 partnership areas.

Please indicate the most valuable benefits obtained by the Public Administration involved

This information is not known at this stage

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

This information is not known at this stage

Title of the good practice

Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)

Health and Social Care Alliance Scotland (the ALLIANCE)
http://www.alliance-scotland.org.uk/

The ALLIANCE is a third sector organisation and strategic partner of the Scottish Government in interfacing with the third sector.

Summary of the best practice (aprox. 3.000 characters)

The Links Worker Programme is a Scottish Government funded programme which aims to explore how the primary care team can support people to live well in their community. This programme arose from the convergence of two parallel discussions. One discussion centred on the 'Deep End Manifesto' which emphasised health challenges facing deprived communities such as the prevalence of social determinants of health creating complex medical conditions for GP practices. The other discussion was instigated by the Public Health Directorate who approached the Health and Social Care Alliance (the ALLIANCE) to explore possibilities for developing an innovative preventative project that would contribute to fulfilling a government manifesto commitment to tackling health inequalities. These discussions were taking place in the context of health and social care integration which ultimately informed the shape of the Links Worker Programme. The Programme was designed to help connect general practice with local communities and span the divide between clinical and community care.

A new, full-time specialist role, the Community Links Practitioner (CLP) has joined existing primary care teams in participating GPs. These CLPs work with people in the GP practice on a one-to-one basis to help identify and address issues negatively impacting their wellbeing and co-produce solutions that are not necessarily clinical. Community Links Practitioners also network with local community resources to support the development of their capacity and identify any gaps in local service provision.

The ALISS programme supports and enhances the Links Worker Programme as a tool that enables people to search for and find local community assets that can help them manage their health. Rather than being another website or single solution, ALISS offers an infrastructure allowing existing information about services that help people self manage their health to be linked (i.e. not a static database, directory or website). The result of this is a searchable index of information. The innovative aspect of ALISS is that the information in the ALISS engine is not top down and kept within condition specific silos. Rather it is information that follows the person. It is designed to be a backend index that uses open APIs that allows the information gathered in ALISS to be searchable from a variety of interfaces – be it local authority websites or condition specific websites. ALISS can offer analytics based on this more comprehensive index of services on the service provision in a particular area.

Community Links Practitioners have been issued with their own ALISS accounts. This allows them to add resources to ALISS as well as use it as part of their one-to-one work with patients. Using ALISS allows CLPs to signpost people to personalised and relevant local resources. An example being a person who suffered from stress and low mood following a period of physical illness was signposted to a creative writing workshop after a session with the CLP where they revealed an enjoyment of creative activities.

How much funding has been mobilised for its implementation?

Links Worker Programme: £2,506,810 (£1,488,692 spent to date)

ALISS: £1,328,987 (£1,036,458 spent to date)

What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?

There are currently seven GP practices participating in the Links Worker Programme. These are all 'Deep End' practices serving the most socio-economically deprived areas in Scotland. Combined, the seven practices have a patient list of over 29,000. The Links Worker Programme model is being utilised beyond these initial pilot areas, instigated through specific projects housed in local authorities such as East Ayrshire.

ALISS is a national programme that includes 60,000 indexed resources and services that support health and wellbeing across the whole of Scotland. Around half of these resources are linked to Scotland's 32 third sector interfaces that sit within each local authority area. The ALISS team are now working with NHS England to expand the ALISS functionality and implement it in several pilot areas across the Midlands.

Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?

The Links Worker Programme is being implemented as an extended programme within the GP practices it currently operated. Initial discussions on the programme began in 2012 and in 2014 the Scottish Government Secretary for Health and Wellbeing announced an extension to the programme which is now projected to run until at least 2018 based on current commitments. However, a key manifesto point of the governing party was to extend the Links Worker Programme to at least 250 GP practices across Scotland. This wider implementation is being supported by the ALLIANCE.
ALISS is an extended programme that began in 2009 and has received significant government backing in the form funding through a strategic partnership to help deliver the inclusive goals of the Scottish Government. Between 2013 and 2016 the ALISS team has expanded from 3 (2.5 WTE) to 6.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

The Links Worker Programme is routine within the GP practices with embedded CLPs. The CLPs are viewed as part of the practice staff and their case load is managed as part of the processes of the practice.

ALISS is similarly embedded into the routine of the practice. Both GPs and CLPs have a bespoke portal through which to access ALISS. This is used as a means of gathering together a list of the community assets within the GP locality that can support the health and wellbeing of those registered with the GP practice.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

The Links Worker Programme has developed a new job role within the GP practice – the Community Links Practitioner. There are currently seven CLPs, however, as the programme expands to at least 250 GP practices in Scotland it is anticipated that this will create a significant amount of further CLP posts as well as management roles to support implementation. This signifies the growth of the integrated health and social care services market whereby services are being developed that bridge the gap between health and social care following the Public Services (Joint Working) Act.

ALISS is crucial in this growing market of services as the Scottish Government has funded it specifically to explore ways in which ALISS can support the integration of health and social care. One of the functions of ALISS is providing analytics around local service coverage to the Joint Integration Board in order to support the strategic commissioning of services. With the aim of developing integrated preventative community services ALISS will provide information on the gaps in service provision in areas, this will ensure growth in the preventative services market and job creation in a community, bolstering local employment.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Links Worker Programme:
Developing and implementing a programme that brings together multiple strands of work across multiple sectors faces institutional cultural barriers. However, the development of the 'Programme Development Paper' and the 'Programme Preferred Options Paper' allowed the multiple stakeholders to work from the same plans. These published reports acted as an anchor for the project. This was supported by an active Programme Manager who developed strong relationships with stakeholders.

Due to the large volume of stakeholders it was important to develop and implement the programme swiftly. A barrier to fast implementation would be the bureaucracy that would be required to manage and coordinate the staff and stakeholders involved. To address this barrier, the programme is hosted by the Health and Social Care Alliance (ALLIANCE). The ALLIANCE is Scotland's third sector intermediary which sits between statutory and non-statutory services, this

meant that the project management team was small and flexible, able to respond to the changing environments of both GP services and community services.

At the implementation stage, adequate and comprehensive training provision for the CLPs was a key facilitator. A comprehensive induction training programme was designed that included ASIST Suicide Awareness Training along with an introduction to how GP practices operate. On a more continual basis The Scottish Association of Mental Health facilitated support and supervision sessions for the CLPs. Weekly joint practice meetings were established as safe spaces for reflecting on practice so that Practitioners are able to share good practice between themselves. This contributed to the sustainability and continuity of the programme from a workforce point of view.

CLPs also led Protected Learning Sessions within their GP practices to provide a deeper understanding of the ethos and wider aims of the programme – especially around the seven capacities of their work. These sessions stressed that the CLP work was to involve, support and compliment the work of the GP practice team, not to replace it.

ALISS:
Getting rid of information silos necessitates giving up control of that information. ALISS was challenging the protective nature of the creating, holding and sharing of information. This was a significant barrier to developing ALISS on a large scale. In order to facilitate the development of ALISS within this protective context, an Open Innovation Process approach was taken. By taking this route, ALISS was the product of input from a wide range of stakeholder and is therefore designed to suit the dynamic environment of health and social care information.

The use of open source data and open APIs was a significant facilitator in the successful implementation of ALISS. Enabling anyone to access and embed the information in ALISS, meant that the information was able to follow the changing habits of internet use. We have moved beyond a web of pages and towards an interconnected web of people and information. This means that people do not expect to have to search several different web pages to find information that is useful to them. Consequently, ALISS has been such a success because it is able to fit the needs of organisations drawing people to their particular website for information on services within a local authority or for a specific condition, while also offering a single, comprehensive index of information to the person.

There was a very practical barrier in the process of finding someone with the right skillset to develop the architecture for ALISS. When looking to deliver ALISS at scale the project had no dedicated technical support. When recruiting there was huge competition in the market with developer in high demand and commanding high salaries. Overcoming this barrier was facilitated by partnering with Edinburgh Napier University who developed 42 recommendations for developing the technology for ALISS this broke up the challenge onto manageable pieces of work. Once these recommendations had been made there was a small network of people who began work carrying them out. Once this groundwork had been done the ALISS team were able to contract with a Glasgow based software developer who completed this work.

Are new collaborations foreseen between the parties involved in this good practice?
As mentioned, the Links Worker Programme is going to expand over the course of this Parliament. The parties involved in this programme; the ALLIANCE, the Scottish Government and GPs at the Deep End will be strengthening their collaboration as plans for expansion and implementation are made.   ALISS is going to cement its relationship with the NHS as a key partner in the National Support Services Directory (NSSD) led by NHS Inform (the Scottish public health service website). The NSSD will contain two levels of information on support with health. On one side there will be curated clinical information regarding symptoms, clinical services and other medical resources. On the other side there will be the ALISS index that can signpost people to community services that will help them manage their health. This is a significant collaboration as it means that co-produced information on community services will be searchable on a flagship NHS project.
How the implementation of this good practice has contributed to the patient empowerment?
The Links Worker Programme and ALISS have contributed to patient empowerment by facilitating self management and choice. Through the Links Worker Programme patients are offered one-to-one support to help identify and address issues that negatively impact their health. With information from ALISS, individuals are then supported to access resources within the community that can benefit their health and increase their competence. This transforms people into active partners in their health, rather than accepting treatment from primary care, patients are involved in wider discussions and decisions about methods of improving health.   As part of the 'Prescription for Excellence' strategy there has been significant engagement with pharmacists, exploring their role within the community. A topic that came up consistently was that Pharmacists were being asked if there were local clubs, social groups or organisations that could help people stay active and manage their condition. This is evidence that people feel empowered to use clinical community resources to enquire about what matters to them, rather than just accept a service. ALISS facilitates this and allows professionals to be more responsive to the needs of the people they are serving.
Please indicate the most valuable benefits obtained by the Public Administration involved
The Links Worker Programme is a significant step towards the practical, service level integration of health and social care which is the core agenda in the sector. This is evidenced by the commitment to expand the programme. The Links Worker Programme has delivered a concrete example of how integrated services can be delivered from established centres of health.   Within the context of removing silos and having holistic services ALISS allows for connectivity between projects and facilitates collaboration. This benefits the Scottish Government and local authorities by providing continuity with regards to information across several strategic threads including Prescription for Excellence, Getting it Right for Every Child and the Links Worker

Programme. By being delivered by the ALLIANCE, ALISS is able to capitalise on the ALLIANCE membership of third sector organisations and associate members. This facilitates the use of ALISS as a strategic tool for information sharing and the shift to health and social care integration.

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

Case studies on the impact of the Links Worker Programme can be found here: http://links.alliance-scotland.org.uk/wp-content/uploads/In-our-words-Module-Final.pdf

The social impact of the Links Worker Programme and the use of ALISS within this is a reduction in social isolation and the empowerment of people to self manage their health.

The Equal Opportunities Committee of the Scottish Parliament published a report on 'Age and Social Isolation' on October 2015. In this report they commended the work of the Links Worker Programme as a facilitator in encouraging older to people to be more physically active. Furthermore, the Royal College of General Practitioners noted that with clearer information about community resources the take up rate of community service referrals increased from 50% to 80%. The use of ALISS in GP practices has given GPs the ability to socially prescribe with more confidence as well as being able to signpost to services more relevant to the individual, thus driving an increase in uptake of socially prescribed activities.

It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?

This information is not known at this stage

Title of the good practice
WG13 Digital Project
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
East Ayrshire Council of Voluntary Organisations Third sector organisation coordinating voluntary activity in East Ayrshire.
Summary of the best practice (aprox. 3.000 characters)

The WG13 Digital Project helps encourage digital participation among older people and aims to raise awareness of digital technology. It is funded by the Scottish Government Technology Enabled Care (TEC) Fund which was established to support the Government's commitment to increasing the use of TEC to allow people to live independently for longer. The WG13 Digital Project came out of a collaboration with the Fire Service who were promoting the use of TEC product to reduce the risk of fires in the houses of vulnerable people. East Ayrshire Council of Voluntary Organisations (EACVO) began exploring how to promote the use of TEC within a wider context of health and social care. Through conversations with people who use TEC and people who are considering using TEC, it was revealed that the institutional nature of the referral process, product selection and installation made people feel like 'patients' rather than people. From this the WG13 Digital Project was co-designed to be more of a 'shop' offering people products and tailoring services to them in an environment that did not feel like a statutory service. There are three core services; Peer Support, Trial Area and Home Environment.

Peer support offers peer led digital support including basic IT skills, tablet tutorials and mobile phone workshops. This service was established through feedback on the reluctance to attend formal digital skills workshops. Instead, this support is led by user need – people have a specific task they wish to complete with a computer and so come in for support with that. This has led to a co-designed service whereby small networks of people have emerged to support each other in developing their digital skills.

The trial area and the home environment allows people to select different eHealth and telecare products based upon the best fit for their needs and personal outcomes. Being able to see these products 'in situ' helps people see them as something other than a necessity. This service has become the single referral point for East Ayrshire Council when people have been assessed as requiring TEC. The innovation in this service is that it runs a drop in style service whereby people are able to come in and browse the options as well as speaking to an expert. This helps raise awareness about the different options available as it is not driven by statutory services that offer simple TEC packages but rather offer enhanced packages that are tailored to the needs of the person.

The project is still evolving in partnership with those who use the service. The input of peer support mentors and also the skilling up of people using the service to then offer

demonstrations of digital products represents a great use of continual, systemised co-production.

How much funding has been mobilised for its implementation?

£78,000 from Scottish Government Technology Enabled Care Fund

What is the original geographical coverage of this best practice? (Local, regional, national…)Has this good practice been adopted in other regions around the country or beyond?
This service initially covered East Ayrshire. However, it has now joined up with North and South Ayrshire to become the standard TEC referral point in Ayrshire.

Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?

Within East Ayrshire this is an extended programme of work.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?
The use of this service as a central referral point for people needing TEC is being done as a routine procedure. Being integrated with statutory services means that people who are assessed by the Social Work department as needing TEC are sent to WG13. Furthermore, Occupational Therapists and other statutory health professionals are sent to WG13 to be trained on the types of TEC that are available. This allows them to make informed recommendations to the people they are supporting in their statutory service. The role of WG13 within the procedures of the statutory health and care services is demonstrated by the fact that East Ayrshire Council has closed its own TEC demonstrator environment and support with purchasing. Instead WG13 is used.

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
The WG13 Digital Project supports employment in the local area. The service is run by trainees and volunteers looking to get experience in a working environment. Here, the staff are up-skilled to deliver training sessions on the TEC for local partners as well as running peer-led digital skills sessions.   The Health and Social Care Partnership was struggling to recruit homecare workers. It was identified that a contributing factor to this was the fact that they were using an online application service that many applicants struggled to understand. With the help of the WG13 Digital Project, potential applicants were able to get support in filling out these online applications. This resulted in the increased employment of homecare workers within the Ayrshire Health and Social Care Partnership area.
Please indicate which have been the barriers and facilitators identified for success in the

implementation of this good practice.

There have been few barriers to the implementation of the WG13 Digital Project. Initially, there were communication barriers with regards to ensuring that the core message on the aims of the project was shared between the stakeholders. However, regular and sustained face-to-face interaction between the organisations involved helped bring people together. The use of video conferencing could have further aided this.

One of the biggest facilitators for implementing the WG13 Digital Project was the simple nature of the idea. The concept of having a place where people can view TEC options was already accepted and the processes of referral were in place. However, take up was low due to the negative environment of the demonstrator flat and the role of the council as a gatekeeper. What this project added was a redesign of these services to make them more public facing. The relaxed, casual and modern environment of WG13 ensured public enthusiasm for the project and smooth implementation.

Timing was also a factor in facilitating the successful implementation if the WG13 Digital Project. With the introduction of SDS and the securing of money from the TEC fund, it was easy to integrate the project into statutory services. Rather than having to extract the cost of the project from the local authority, the local authority were receptive of a service redesign as it meant little material investment from themselves. Similarly, the introduction of SDS meant that there was more of a focus on notions of 'consumer choice' within social services. Such notions are at the heart of the WG13 Digital Project.

Are new collaborations foreseen between the parties involved in this good practice?

The WG13 Digital Project is about to begin a new collaboration with the Fire Service around falls prevention. WG13 currently provides information and training to the Fire Service around TEC solutions. However, WG13 is going to begin taking referrals from the Fire Service in instances where a person is vulnerable to falls and where there is a significant related fire risk.

WG13 works closely with third sector organisations in their work on digital skills and telephone befriending. This collaboration is going to expand as WG13 will begin to work more closely with third sector organisations on providing bespoke sessions on the TEC products that will most suit the people they support. For example, the Royal National Institute for the Blind will be offered tailored TEC packages from WG13 along with training that will support specifically people with visual impairments.

How the implementation of this good practice has contributed to the patient empowerment?

One of the priorities in setting up the WG13 Digital Project was to create a public facing service that was highly accessible. Rather than having a statutory service that is based on gatekeepers, paperwork and appointments, this project looked to the commercial sector for inspiration to develop a welcoming and flexible environment. This reshapes the 'patient' as a 'customer'. People are empowered to come into WG13 when it suits them without having to make an explicit appointment. This environment results in people feeling empowered to make

positive, independent decisions regarding the type of TEC they need.

This open environment has led to increased early intervention and adoption of TEC as there is more choice around the product available and recommendations are made on a personal basis, rather than the result of a formal assessment. This has led to people choosing TEC that they wouldn't have otherwise considered or even been assessed for. For example, a person with epilepsy was worried about leaving the house in case of a seizure. However, after a speaking to staff at WG13 she began using a fall alarm and GPS tracker meaning that if she had a seizure a family member would be alerted and be able to locate her. This has given her a huge boost of confidence and independence. Because of the WG13, people feel empowered to make choices regarding their health, often from options that would otherwise not have been presented to them.

Please indicate the most valuable benefits obtained by the Public Administration involved
Ayrshire Council has seen a 40% increase in the number of people choosing an enhanced TEC package when referred to the WG13 Digital Project. This is a huge benefit as it supports the work moving towards the 2020 Vision for health as well as the Scottish Government TEC strategy.
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
This information is not known at this stage
It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?
This information is not known at this stage.

Title of the good practice
PATIENT EMERGENCY POWERMENT (WRP®)
Name of the organization in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Foundation Fall People - Community
Summary of the best practice (aprox. 3.000 characters)
It allows to obtain information about an unconscious or noncontact person, who is being rescued, at the time to be reached by the rescuers. Once the patient's mobile phone is put close to the NFC tablet, the system will receive on-site saved information, in international code of ICD-10, about medical data / history of that person (being rescued)- illnesses, allergy, prescribed medications, etc. Basic information about the diseases, contained in a small WRP® device, which is being worn all the time, will be decisive in the first seconds to save live.
How much funding has been mobilised for its implementation?
Data not available
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Local - small town Oborniki Śląskie
Has been this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
This good practice has been implemented as a pilot programme – there is a plan to implement in the region emergency
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
No
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
No
Please indicate which have been the key factors identified for successing in the implementation of this good practice
Data not available
Are new collaborations foreseen between the parties involved in this good practice?
Data not available
How the implementation of this good practice has contributed to the patient empowerment?
Data not available
Please indicate the most valuable benefits obtained by the Public Administration involved
Data not available

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Data not available

Title of the good practice	
Senior Live	
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)	
Stichting HierTV (HierTV Foundation)	
Summary of the best practice (aprox. 3.000 characters)	

Senior-Live is a platform for online services to the elderly of Almere.
The goal of best practice Senior Live is to enable elderly in Almere to stay in their home as long as possible, in their familiar neighbourhood in good health and wellbeing.

Goal: More seniors who are able and willing to use the available technology in their best interest and according to their needs

Mission: To stimulate self-reliance and to prevent seniors ending up in social isolation. To help achieve this Senior-Live makes the necessary information and services accessible at home, in a way that adapts itself according to the skills of the user

Senior live provides two types of services: Practical Technical Support at home and technical workshops (teaching the use of modern media) on the one side and services that make life more pleasant, easier or more fun for the elderly in Almere on the other side (Fitness Online (or Live) Coffee Online, Sing & Smile).

Finally, Senior-Live is providing the living lab function for the Health Factory (see TA2) by involving the elderly in the developing of new products and services and involving them in research projects.

How much funding has been mobilised for its implementation?
This practice receives structural funding of around € 100.000 p.a.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
The coverage of Senior-Live is local, aimed at the City of Almere.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
Senior_live is a pilot programme. There are plands for wider implementations towards more services and more target groups. However, funding is a barrier at the moment. Senior-live is government funded but it needs to develop towards self sustainability over the next couple of years.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?

There is a basis of activities that are carried out as routine procedure but Senior-Live also partly is implemented as a pilot still.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
No direct evidence yet. Developments are slower than foreseen.
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Formost, funding has been an issue over the years. Also to get parties in the city to joint the senior-live platform and adapt to the provision of online services is proving to be extremmely difficult. Organisations seem to prefer to all develop their own platform for services. This results in a lack of cooperation and a disarray of technologies and standards which is not beneficial for the end user at all.
Are new collaborations foreseen between the parties involved in this good practice?
Yes, digital services are the future. Senior-Live is a front runner in this area in Almere in the social domain.
How the implementation of this good practice has contributed to the patient empowerment?
Elderly learn to use modern technology and media which enhances their abilities to take part in a digital society. Elderly are involved in developing new services and products from the perspective of the end user.
Please indicate the most valuable benefits obtained by the Public Administration involved
tbc
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Social impact is limited however, to teach elderly about new technology is very worth wile for their social relations and for their abilities to participate in modern society.
It has implemented any measure by the regional government in 2015-2016 to tackle the main topic on this good practice?
In 2016 Senior Live was involved in the Health Factory to organize the living lab. This Living Lab is needed to involve elderly in research and development activities.

Title of the good practice
Political Marketplace
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
City of Almere
Summary of the best practice (aprox. 3.000 characters)
Whereas in most other cities councils have plenary meetings once a month, Almere has one almost every week (on Thursday evenings, three times a month). In 2004, Almere's city council introduced this new form of meeting (the Political Market) for political decision-making. The Political Market is open to the public. Residents can visit the meetings and approach councillors or members of the Municipal Executive to discuss local issues. The meetings are also broadcasted on the website http://gemeenteraad.almere.nl.
How much funding has been mobilized for its implementation?
This information is not available.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Local coverage as it concerns the local political process. Many municipalities have come to Almere to learn from this practice and have addopted (part of) it in their own contexts.
Has this good practice implemented as a pilot programme or as a extended programme? In case it is a pilot programme , is there any plan for a wider implementation?
This practice is part of a wider process tro improve the professionality of the local political institutions.
Is this good practice being currently implemented on an ongoing basis as a routine procedure?
This practice is now going concern in Almere.
Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?
No direct evidence
Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.
Political entities aren't always eager to enhance the role of the public in policy making or accountability. This practice can be seen as an early example of "new democracy" or social innovation and change always leads to resistance. There are extra costs involved in executing this practice however, the quality gain of the political process and the wider public support for local policies outweighed that.
Are new collaborations foreseen between the parties involved in this good practice?
Information not available.

How the implementation of this good practice has contributed to the citizen's empowerment?
Citizen's are empowered to have a larger and more serious role in local policy making.
Please indicate the most valuable benefits obtained by the Public Administration involved
More public foundation for local policy More transparancy of the local political decisionmaking and accountability processes
Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?
Information not available
It has implemented any measure by the regional goverment in 2015-2016 to tackle the main topic on this good practice?
In 2016 the city council has decided to take futher steps to improve the quality of their role as controller of the city board. This is to be seen as part of the process in which the Political markertplace came into being.

Title of the good practice
Age Friendly City Amsterdam
Name of the organisation in charge (Please indicate whether it is a Public administration, an Educational and Research Institution, Industry or Community)
Public Health Service of Amsterdam (GGD Amsterdam)
Summary of the good practice (aprox. 3.000 characters)

A city that senior citizens enjoy living in and which encourages healthy and active ageing– that is the aim of the Age-Friendly City concept developed by the World Health Organization (WHO), and that is the aim of Age-Friendly City Amsterdam. Amsterdam became part of the WHO worldwide network of Age-friendly cities and communities in 2015. While Amsterdam currently counts ca. 800.000 citizens with 12% older adults (65+ years), this proportion is expected to grow to 16% in 2030. The city aims to use the age friendly initiative to further strengthen and streamline its activities on the topic of demographic change and the ageing population.

The age friendly city programme builds on existing activities by the public administration, including existing practices to engage citizens (including older adults) in policy making, and the (emerging) practice for different departments to combine efforts towards great societal challenges (such as overweight). To organise the Age-Friendly City (AFC) Amsterdam a light project organisation was set up. A multi-disciplinary team was brought together representing the eight domains that play a key part in any age-friendly city: 1. Community and health care, 2. Transportation, 3. Housing, 4. Social participation, 5. Outdoor spaces and buildings, 6. Respect and social inclusion, 7. Civic participation and employment and 8. Communication and information.

To develop an Action Plan first local data were collected on the 8 domains and (all) services and programmes already in place were mapped. Elder citizens were included in these activities as co-

researchers alongside professionals as the city wanted to know their opinion on subjects they believed to be important.

Based on the data and information collected a 5-year Action Plan was drawn consisting of four city wide action lines (with targets): **1. Dementia, 2. Loneliness, 3. Accommodation for the elderly and 4. Falls prevention**. In addition a number of pilot areas/ neighbourhoods were selected to pilot topics such as 5. Spatial strategies to enhance an age friendly environment and 6. Participatory research by elderly.

At this moment in time the programme is being implemented, with a number of projects carried out per and across all four action lines with and by different city departments in collaboration with others (such as universities, students, citizens, etc.). It is the task of the AFC programme manager to manage and overview the projects in relation to the targets and programme at large. Descriptions of the various programmes/ action lines are available in Dutch. We would like to mention just a few projects and their (preliminary) results:

Participatory research by elderly
So far interesting results are gained through participatory research with elderly e.g. by walking through selected neighbourhoods with professionals and elderly to survey the conditions for the elderly. Another project involves the training of a group of elderly to become co-researchers and interview other elder citizens in two neighbourhoods: Does this method help to get access to people that are usually hard to reach or never heard? In both neighbourhoods the co-researchers were able to interview elderly citizens, including people that were not seen or spoken with before! Does this type of research empower participants? The co-researchers showed a high level of participation and they will continue their work e.g. to work on the findings and explore solutions based on their research and they will be involved in the development of an 'age proof route'.

Spatial strategies to enhance an age friendly environment
Another example is the assignment of a Municipal Executive Councillor responsible for healthcare & urban planning. Until recently health was neglected in the department of urban planning. Ageing and the built environment, however, are very much related. Ageing has consequences for spatial issues at different levels of scale. The use of the home, the public space, the dispersion of health and care services, mobility etc. Self-management and autonomy have become key areas, also for people with disabilities. This too has led to a number of activities, measures, programmes and projects, involving e.g. place making (more public art), new innovative housing-care concepts, social interventions, house coach service, etc.

Dwellings suitable for the ageing population?

Not suitable: respondents from all age-categories

niet geschikt
- > 60
- 50 - 60
- 40 - 50
- 30 - 40
- 20 to 30
- < 20
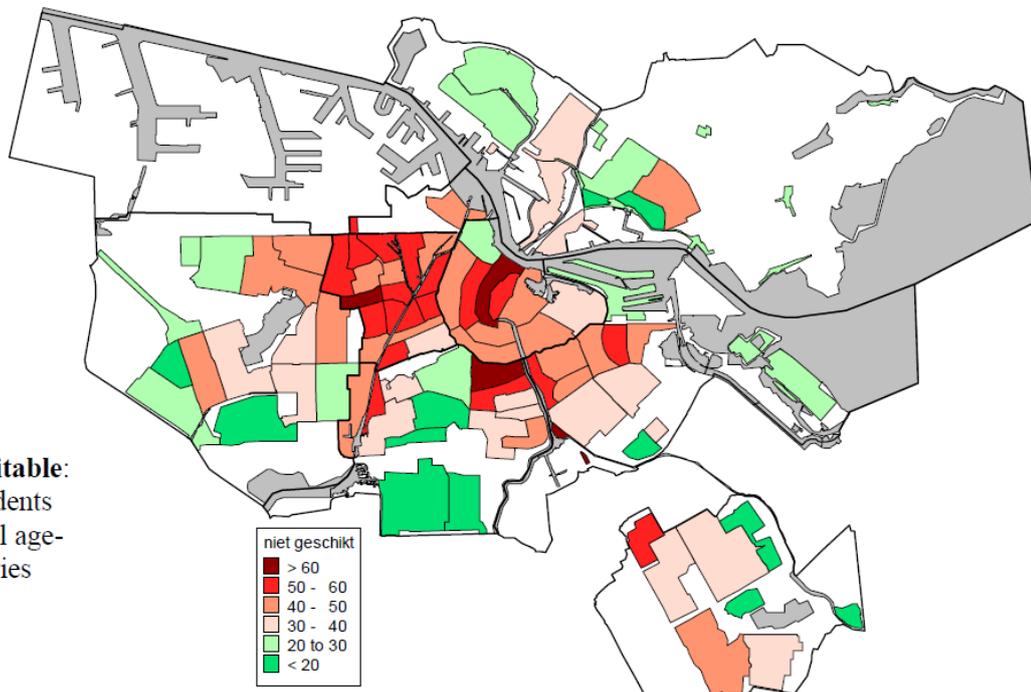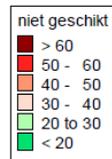
How much funding has been mobilized for its implementation?
Work on the programme, including the preparation of the action plan, was originally carried out by the Amsterdam Municipal Health Service on a small budget. Most work was done by employees already involved with elderly or related to senior citizens. Together with e.g. older adults and the Amsterdam University of Applied Sciences research was carried out (€180k) to collect qualitative and quantitative data in two neighbourhoods in Amsterdam (Indische buurt Oost and Buitenveldert). After three years the programme was transferred to the Department of Care with a dedicated 2 FTE. Funding is somewhat scattered as projects are initiated /implemented both by the Age Friendly City programma and other parties like the Amsterdam University of Applied Sciences. The total budget spent on the spatial strategies (excluding research) is €800k, and on falls prevention €500k (2018) . One FTE is dedicated to Age Friendly City. This excludes the capacity of other employees within the city administration, whose work on age friendly city is an integral part of their repsonsibilties and tasks.
What is the original geographical coverage of this best practice? (Local, regional, national...)Has this good practice been adopted in other regions around the country or beyond?
Local. In The Netherlands so far only two cities join this WHO inititative, Amsterdam and The Hague. The WHO age friendly city format, however, is being looked at by other cities, such as Almere, to develop its policies in the field.
Has this good practice implemented as a pilot programme or as an extended programme? In case it is a pilot programme , is there any plan for a wider implementation?

As this is a local implementation of the wider WHO Age friendly city and communities inititiative, it can be regarded as an extended programme. Any city or region can join this global initiative.

Is this good practice being currently implemented on an ongoing basis as a routine procedure?

The practice is currently being implemented as part of a multi year plan

Is there evidence of a contribution of this good practice to growth of new markets, employment & job creation?

Ever since the transition of the health and care system towards 'more affordable health and care services' such as living at home longer and independently in the case of older adults, new markets and jobs are being created. An example is the above invitation of tenders for spatial interventions @€800k. This best practice facilitates this transition.

Within what is called the Silver Economy, expectations are high with regards to digital health applications. The digital health sector is characterised as emerging from the conjunction of health and care services, mobile health and ICT, and it is one of the fastest growing economic sectors globally, in need for skilled staff.

The Amsterdam Metropolitan Area, with strong economic sectors in terms of creative industry and ICT, is stimulating digital health activities (see under Amsterdam Economic Board). Unfortunately exact numbers are hard to gather as the businesses involved in digital health are not typically registered together.

Please indicate which have been the barriers and facilitators identified for success in the implementation of this good practice.

Barriers for success:
- Limited resources availabe to realise wishes and needs
- Projects pose difficulty for local governments:
- How do you choose the innovation to scale up? What are the criteria?
- Procurement rules
- Technology is usually developed without the associated necessary social services
- sustainable finance, especially because the Dutch healht care system has different acts, and therefore different financial ways of financing care and cure
- adoptation among professionals and clients of technological solutions

Facilitators for success:
- the Amsterdam alderman for health and care has been supportive of the initiative
- willingness of representatives fom diferent municipal departments to collaborate and join forces
- the allocation of some budget has made is possible to execute the action plan
- building onto already prioritezed themes by the city council, like tackling loneliness and dementia
- building onto existing networks and projects to carry out relevant research and co-create.

Are new collaborations foreseen between the parties involved in this good practice?

Yes, this is only the start of the process. We will continue strengthening the collaboration

between the physcial domains (e.g. mobility, housing) and social domain.

How has the implementation of this good practice contributed to patient empowerment?

Older adults (not patients) are typically involved both in the creation and execution of the age friendly city programme. Older adults have been invited to participate as co-researchers, alongside professionals and students. The Amsterdam City Council has been seeking information from senior citizens by organising meetings at which the elderly shared their opinions on subjects they believed to be important.
This way older adults were not only informed but also involved/ engaged and able to join and decide allowing for greater effectiveness and efficiency of interventions and improved integration in the community.

Please indicate the most valuable benefits obtained by the Public Administration involved

Benefits:
- The age friendly city approach, involving and integrating 8 'independently operating' domains, has benefitted the collaboration across these domains within the city allowing for more (exchange of) knowledge and information with (hopefully) more efficient and effective solutions and interventions to projects and challenges. And less duplications. This concerns specifically the crossover between the physical and social domain. But also better cooperation between health, care and the department of art and culture.
- More bottom-up developed initiatives
- By looking at older adults through the eyes of older adults and their formal and informal carers projects and activities carried out should be as successful as they can possibly be
- Insight in the community regarding all existing resources and challenges/ statistics

Which has been the social impact, as well as the health impact of the implementation and execution of this good practice?

- Increased (integrated) knowledge of the Amsterdam community
- Working on areas and at locations prioritized by the community (and based on data)
- Community empowerment: co-researchers now organise all kinds of activities themselves
- In the pilot areas we implement interventions to make the public area more age proof (better accesibble, stimulating mobility and facilitating contact between people). Although theze pilots need to be evaluated we expect health and social effects given the goals of these interventions. On fall prevention, this is too early to tell, but given the communicatoin strategy, one might expect more awareness of fall risk and what to do about it

Has any measure been implemented by the regional government in 2015-2016 to tackle the main topic of this good practice?

Fall prevention: we are busy implementing new interventions
Spatial strategies: measures have changed due to elderly participation but the goals stayed the
     same