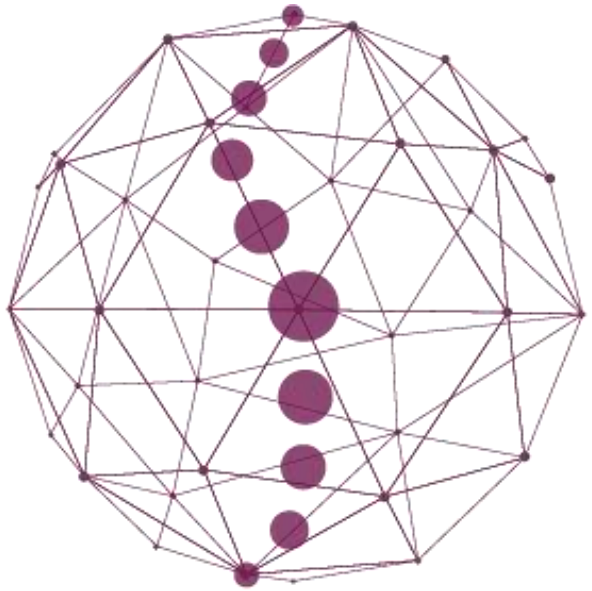


R O S I A

ROSIA

REMOTE REHABILITATION SERVICE FOR ISOLATED AREAS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101017606

WHAT IS ROSIA?

ROSIA

WHAT IS ROSIA?

ROSIA is a European project funded through the Horizon 2020 program.

Topic: SC1-DTH-14-2020 - Pre-commercial Procurement for Digital Health and Care Solutions

Grant agreement ID: 101017606.

It has an execution period of 54 months, from 1-1-2021 to Jun 30, 2025

ROSIA is coordinated by the lead procurer, IACS from Aragón.

In a nutshell …

Some pathologies like stroke, heart attack, COVID-19 or hip-replacement, may have a dramatic impact in the people health and well-being. Rehabilitation has the potential to reduce, and even reverse these impacts. However, it is a long, intensive in clinical resources, and painful process. **Rehabilitation is already insufficiently used, and the ageing population is increasing its demand**.

Remote areas in some European regions face depopulation. It increases the need of age-related care, and that includes rehabilitation, while resources keep limited and inconveniences of traveling makes the treatment painful and even unfeasible.

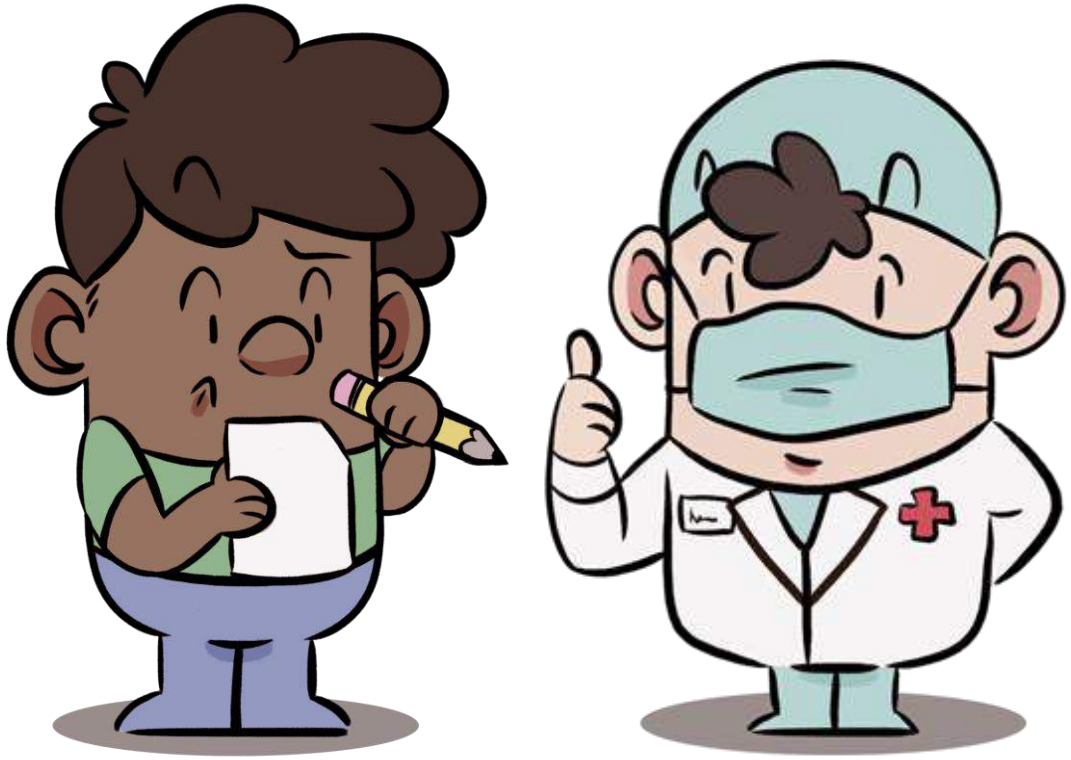
ROSIA proposes to generate a **flexible and scalable value-based model of care**, organized around self-management, or **self-care of rehabilitation at home**, designed from a **tailored integrated care model** which optimizes the quality of care and the use of clinical resources. **Motivation** plays a key role in the success of the rehabilitation process, and for that a **strong implication of the community** would be fostered, despite the use of **virtual coaching tools**.

This model of care is **intensive in its use of technology**: (i) disruptive solutions at home, (ii) data driven interventions, and (iii) an open platform for third party solutions that integrates timely and effective communication.

To make it feasible **ROSIA plans to unlock the current market of disruptive solutions for home rehabilitation** by the development of the **ROSIA Innovation Ecosystem**, to enable clinicians prescribing certified solutions from the **ROSIA catalogue** and facilitating to SMEs and researchers the access to health care system.

Patient experience and **ethics** plays a main role in our methodology for development.

ROSIA buyers' group represents three different European healthcare systems: **SALUD**, a regional authority from **Aragon**, **Spain**; **Coimbra Univ. Hospital** from **Portugal** and the **National Rehabilitation Hospital** from **Ireland**. Validation will take place in two shires/localities per country.



ROSIA is ready to purchase the design of a **technology-enabled all-in-one service**, flexible enough to adapt to a large variety of European health-care systems, and which allow the full development of the ROSIA model - complementing existing public resources with a public-private partnership

ROSIA will initially focus on seven pathologies:

- Chronic spinal cord injury
- Acquired brain injury
- Pneumology
- Arthroplasty
- Cardio-vascular disease
- Hip fracture
- COVID

WHY ROSIA?

ROSIA

What is the problem and why it is important?

Healthcare systems in Europe face the combined challenge of limited resources and an increasing demand spurred by rising cases of chronic conditions. The situation is intensified in depopulated areas, where the proportion of elderly people is higher (anticipating the situation in urban areas in 20 years' time) and the distances to access healthcare are longer.

This situation creates a pressing need for a fundamental rethink of the way health services and systems are organized.

Reorganizing rehabilitation services has been identified as an urgent need, due to the significant implications they have in people's lives (including the painful consequences of traveling from remote areas for every session) and the burden they place on the health care system.

How can it be solved?

ROSIA wants to pave the way for an extensive deployment of **the self-care** model for long-term conditions and disabilities by first focusing on rehabilitation. Supported self-care and self-management is a key component of rehabilitation. It enables patients to be as independent as they possibly can using their personal assets and capabilities. The public healthcare system should be aiming for patient-centred services to foster these qualities.

Redesigning rehabilitation services to better conform to patients' realities, needs and expectations is the most efficient way to warrant their ability to benefit from those services, regardless of where they live, and to improve, not only their health, but also their experience of the healthcare system.

Supported self-management in rehabilitation requires providing the patient with tools and guidance that can flex in line with their likely fluctuating health and wellbeing following an acute episode, and until a full recovery is accomplished or mere maintenance rehabilitation is required.

What are the challenges?

A preliminary look at the demand side shows that telerehabilitation is a mature concept largely deployed in very sparsely populated countries, like Australia, but it is currently understood mostly as teleconsultation. **There is no public healthcare system that currently deploys self-management rehabilitation in a large scale.**

The supply side, on the other hand, is already exploring a full range of new technologies to propose solutions catering to self-managed rehabilitation. There is, actually, a vast offer of research and pilots results already available. However, not so many seem to have found their way to the market (with the exception of a few that focus mostly on post-stroke rehabilitation).

The main hurdle for full scale deployment is that, because these solutions tend to work as pathology "silos" and stand-alone solutions, the healthcare provider ready to purchase them is faced with an endless list of non-interoperable, separated, telerehabilitation "platforms", rather than an integrated and flexible telerehabilitation suite of digital health and support services, one that could actually match the vast variety

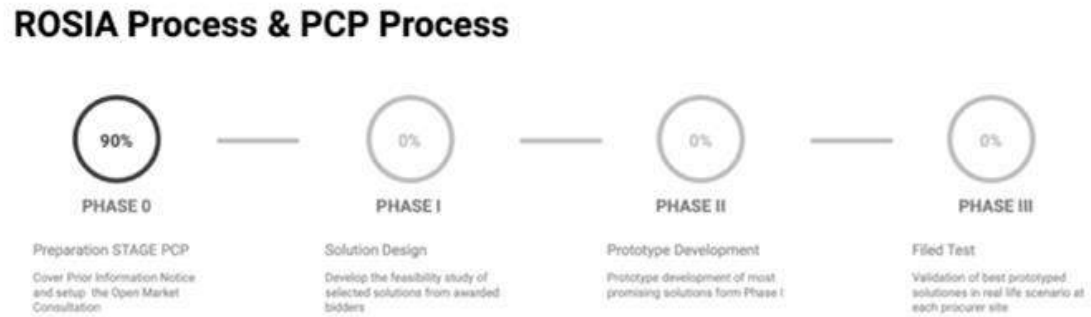
How ROSIA will solve the challenges?

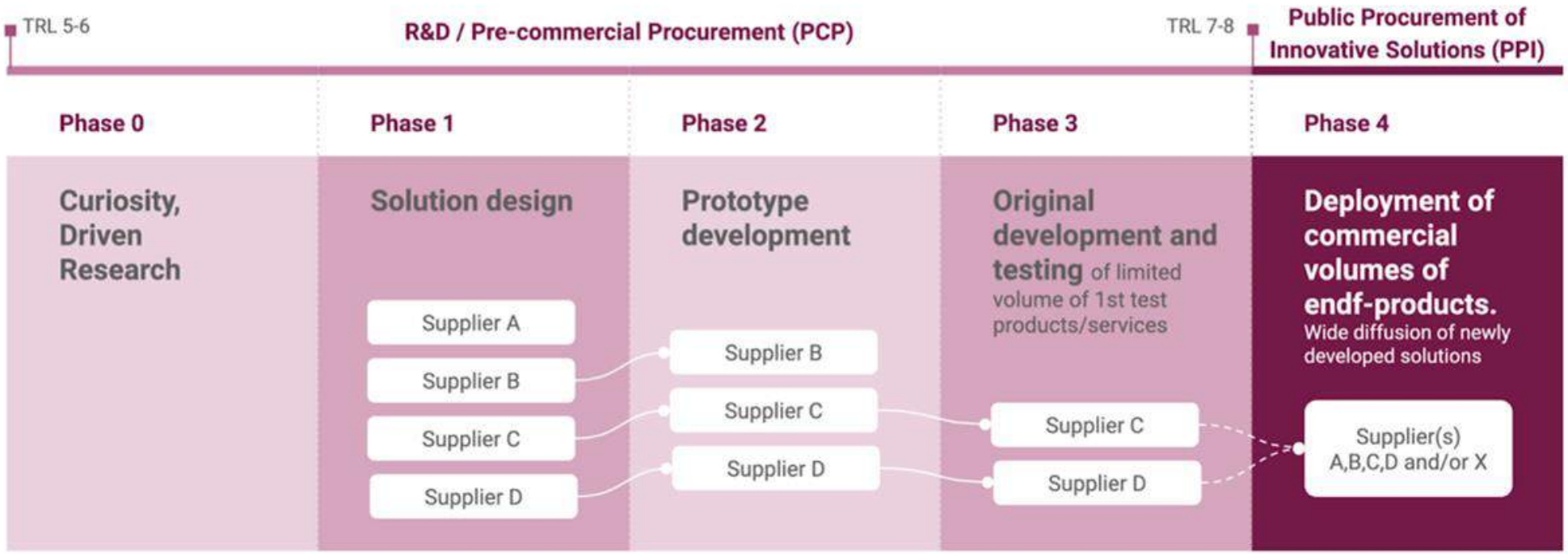
- Making available the entry to the telerehabilitation market of disruptive **technological solutions** for self-management, addressing the current and future public health and care needs in this field.
- Enabling **data driven insight interventions** for self-management, tailored to the patient's needs and context.
- Implementing a flexible model to build **personalized integrated care pathways** and procedures to support the patient in self-management and redesign the rehabilitation services to include an effective tele-care and proximity element, better fitted for XXI century patients, shifting away from the all in-person models of care.
- **Strengthening the role of the community** to support the multidimensional needs of the individual. The community will contribute to the well-being and also provide social networks, motivation, peer support, complementary rehabilitation treatments and facilitate healthy lifestyle adoption.
- **Empowering patients** and/or families to become as self-resiliant as possible in their own health, supported through all the necessary educational, motivational, and technological resources.
- Validating and **generate evidence** of value of each of the components of the telerehabilitation model, from the clinical outcomes, economical, and patient experience, and workforce satisfaction perspectives.
- Creating an **open platform**, including a governance model, designed and configured to deliver the features and functionality described in the above objectives. Define a catalogue of solutions to be clinically prescribed.
- Generating a **business model** which guarantees the long-term sustainability of the ROSIA care model both for the public buyer and for the provider.
- Increasing the overall **patient experience** and preserve dignity

ROSIA IS A PCP: WHAT IT IS AND HOW IT IS PERFORMED

ROSIA

ROSIA IS A PCP: WHAT IS IT AND HOW IT IS PERFORMED.

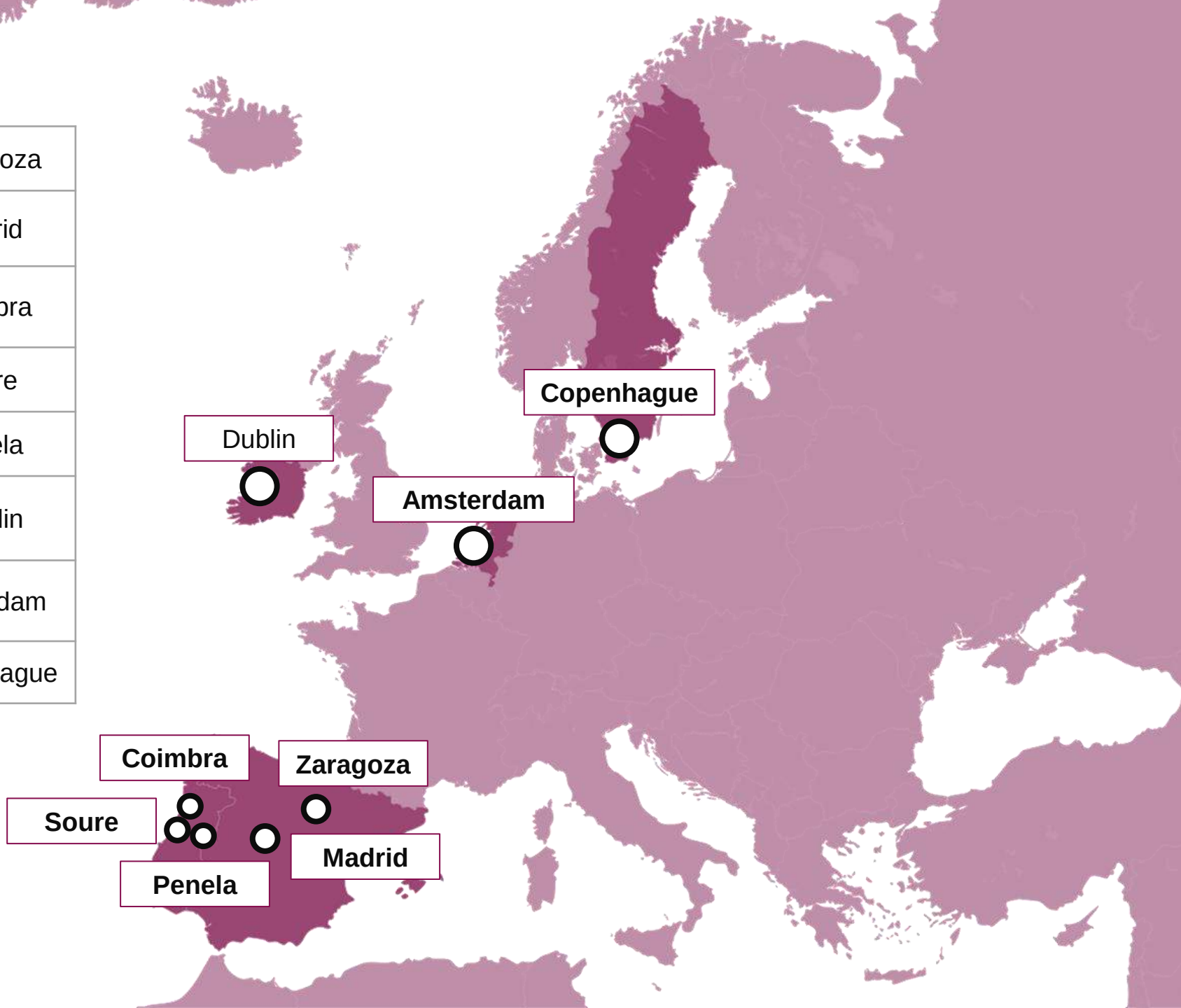




ROSIA: WHO WE ARE

ROSIA

Spain	Instituto Aragonés de Ciencias de la Salud / salud	Zaragoza
	iexp / VALDE INNOVA	Madrid
Portugal	CHUC / IPN	Coimbra
	município de SOURE	Soure
	penela	Penela
Ireland	NRH National Rehabilitation University Hospital	Dublin
The Netherlands	THE DECISION GROUP / IFIC International Foundation for Integrated Care	Amsterdam
Denmark	PRON.XYZ	Copenhague



ROSIA: WHO WE ARE

IACS (Instituto Aragonés de Ciencias de la Salud) was created in 2002 by the Aragon Health Act as an independent public entity under the umbrella of the Regional Health Department. The Institute organises its activity in two main areas: Knowledge Transfer and Research&Innovation

Main Coordinator

Lead Procurer

IACS is the main coordinator of the project

WEB

Aragonese regional Health Service-Servicio Aragonés de Salud (SALUD) is the public health provider for Aragón, having the responsibilities of overall management and coordination of the existing healthcare resources in the territory.

Procurer

SALUD will be leader of the PCP Administrative Process Management.

WEB

The NRH National Rehabilitation University Hospital is the only hospital in Ireland providing comprehensive, specialist neuro-rehabilitation to patients following acquired brain injury, spinal cord injury or amputation

Procurer

NRH is a procurer and part of the buyers group within the partnership

WEB

The Centro Hospitalar e Universitário de Coimbra, EPE (CHUC) is the most prominent Portuguese hospital having comprehensive research, teaching, and patient-centered care approach

Procurer

CHUC is a procurer partner and part of the buyers group.

WEB

VALDE is a consulting company based in Spain integrated by a network of senior collaborators with specialized profiles in innovation procurement (PPI and PCP) at European and National level. VALDE aims to promote and participate in high impact projects.

Supporting Partner

VALDE will act as procurement coordinator.

WEB

Instituto Pedro Nunes (IPN) is a non-profit private organization, created in 1991 from an initiative of the University of Coimbra, which aims to contribute to the transformation of the business environment and organizations based on innovation, quality, rigor and entrepreneurship.

Supporting Partner

IPN will lead the co-creation and co-design with end-users.

WEB

ROSIA: WHO WE ARE

IFIC is a not-for-profit network incorporated as a Stichting in the Netherlands. IFIC's mission is to cross organisational and professional boundaries in order to bring people to together to advance the science, knowledge and adoption of integrated care in policy and practice.

Supporting Partner
IFIC will lead the design of the telerehabilitation model.

WEB

The Decision Group is a consultancy firm pioneering in Value-Based Healthcare and its methodology and is implementing and educating VBHC in the Netherlands since 2006

Supporting Partner
TDG will be responsible of the Evaluation Framework

WEB

IEXP is the first organization specifically dedicated to patient experience in Spain and one of Europe's reference organizations

Supporting Partner
IEXP will engage patients in the solution co-creation.

WEB

PPCN is a health and care tech consultancy company based in Copenhagen and Bangkok, that help Scale-ups develop their markets of new business development.

Supporting Partner
PPCN is responsible of the ICT functional specification

WEB

The Municipality of Penela is a small territory of about 135 km2, where the area of forest occupies most of the territory, located in the Central Region of Portugal within the subregion Pinhal Interior Norte.

Pilote Partner
The Municipality of Penela will be involved in supporting the piloting activities.

WEB

The Municipality of Soure is a territory of about 260 km2, located in the Central Region of Portugal within the subregion Região de Coimbra

Pilote Partner
The Municipality of Soure will be involved in supporting the piloting activities.

WEB

ROSIA BASIS: INTEGRATED CARE

ROSIA

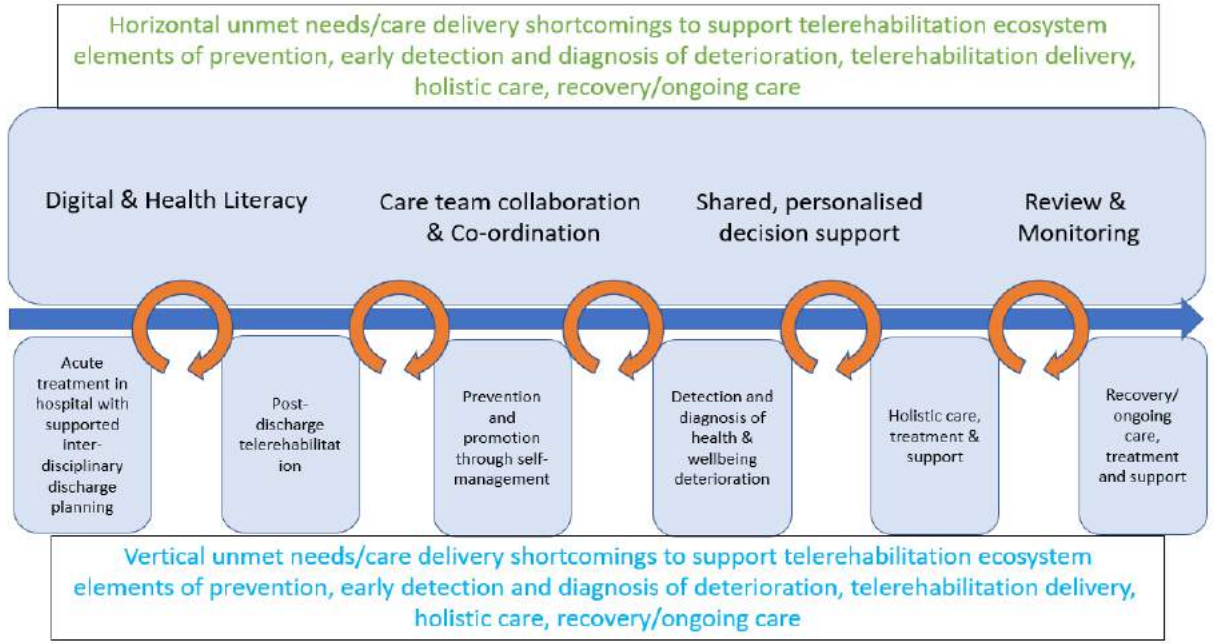
Vertical requirements of telerehabilitation care process pathway elements

The first days following discharge from hospital is recognised as a particularly vulnerable time for patients and their caregivers. Co-designing an individual's telerehabilitation programme post hospital discharge should involve family members, as well as primary and community health and care providers. It should also take into consideration the outcomes of a digital health and literacy assessment and home environment and carer capacity and capabilities.

A structured virtual interdisciplinary team meeting should take place to co-design the discharge plan which should include patient education, medication optimisation, psychosocial support, rehabilitation interventions, and follow up. Together, these activities constitute the telerehabilitation programme. Specific attention will be given to those interventions, patient education and psychosocial support, which aim to build the patient's self-management confidence and capability such that any signs of potential deterioration of their health and wellbeing are detected early and the care team can respond proactively and avoid complications or significant deterioration. This integrated and co-ordinated approach with information following the patient, opens up new possibilities for discovering and implementing optimized intervention strategies across the continuum of care to:

- Organise and co-ordinate care around people's fluctuating health and wellbeing needs;
- Understand and respond to individual's physical health, mental health and social needs in the round rather than in isolation;
- Make the best use of all the community's assets to deliver care and support to meet local needs;
- Connect those people undergoing rehabilitation and their caregivers with 'people like them' to provide a peer-to-peer support network to promote self-efficacy and confidence.

Integrated generic telerehabilitation pathways: from acute sector discharge planning to recovery/ ongoing care



ROSIA BASIS: MOTIVATED AND ACTIVATED PATIENT SUPPORTED BY THE COMMUNITY

ROSIA

MOTIVATED AND ACTIVATED PATIENT

Strength the **social network** of the patient

Promote **community intervention** for additional independent rehabilitation practices to enhance achievement of personal function goal and adoption of healthier **lifestyles**
Promote community intervention for secondary prevention, better informed patient, and **reduction of social isolation**.

Promote **community** intervention
Develop **social networks**, both in the physical and digital world
Develop **networks of peers** for patients and/or carers.

Promote alternative **rehabilitation practice**.
Promote a **healthy lifestyle**, wellbeing, mental health

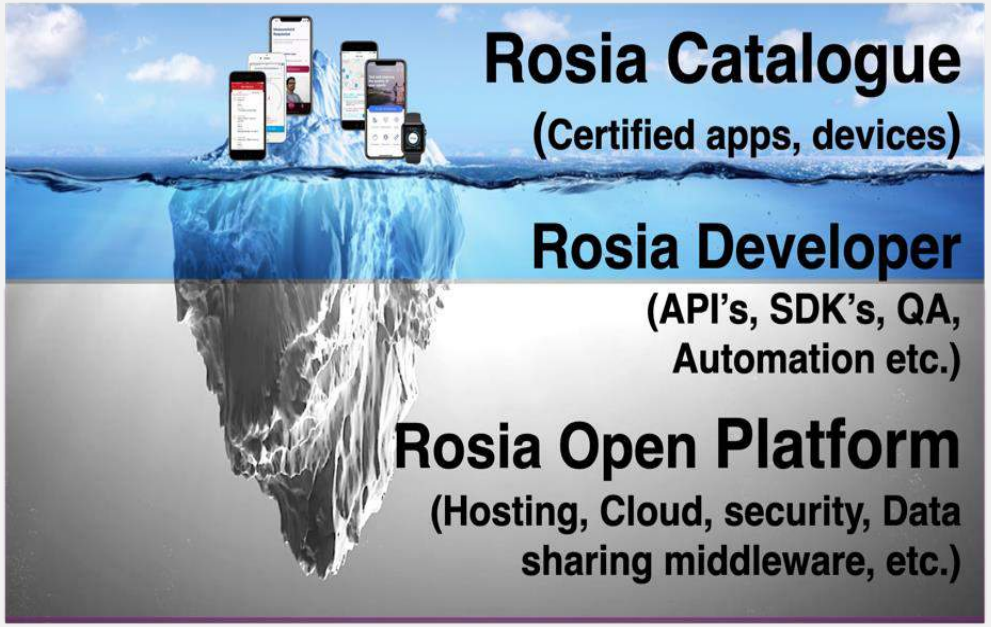
ROSIA BASIS:
ROSIA CATALOGUE, THE ENTRY DOOR TO INNOVATIONS INTO THE HEALTH CARE SYSTEM

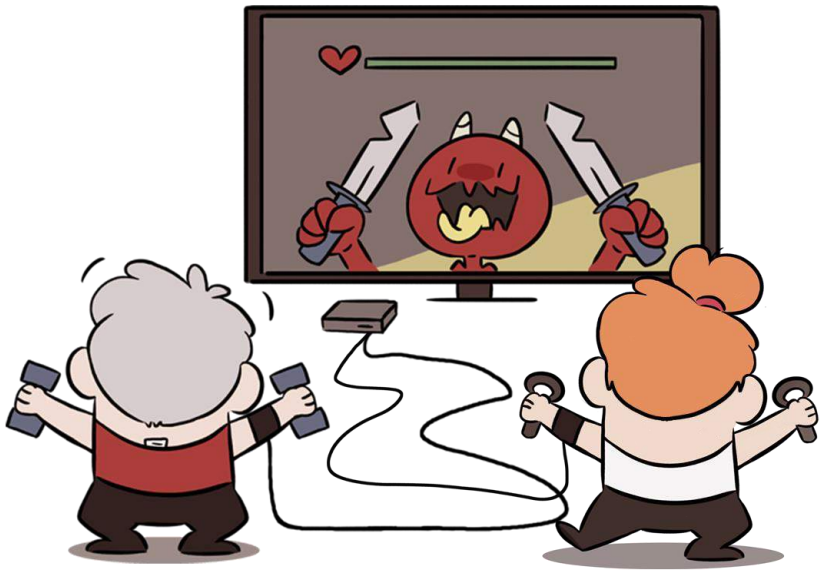
ROSIA

Development of an ICT Innovation Ecosystem for telerehabilitation able to integrate technology from third parties addressing all potential needs (evaluation, exercises definition, exercises performance, adherence, motivation, broad range of pathologies, interaction with clinicians).

This ROSIA Innovation Ecosystem is to be articulated around:

- **ROSIA Catalogue**: A menu of certified 3rd party solutions.
- **ROSIA Open Platform**: An open platform to host devices, communicate them, and manage data sharing





ROSIA Developers: The development of an architecture to define interoperable APIs, which will allow building up solutions based on existing modules, will aid existing research projects in becoming market solutions. Cooperation with any other related initiatives will be prioritized in order to aggregate demand.

ROSIA BASIS
A VALUE BASED MODEL

ROSIA

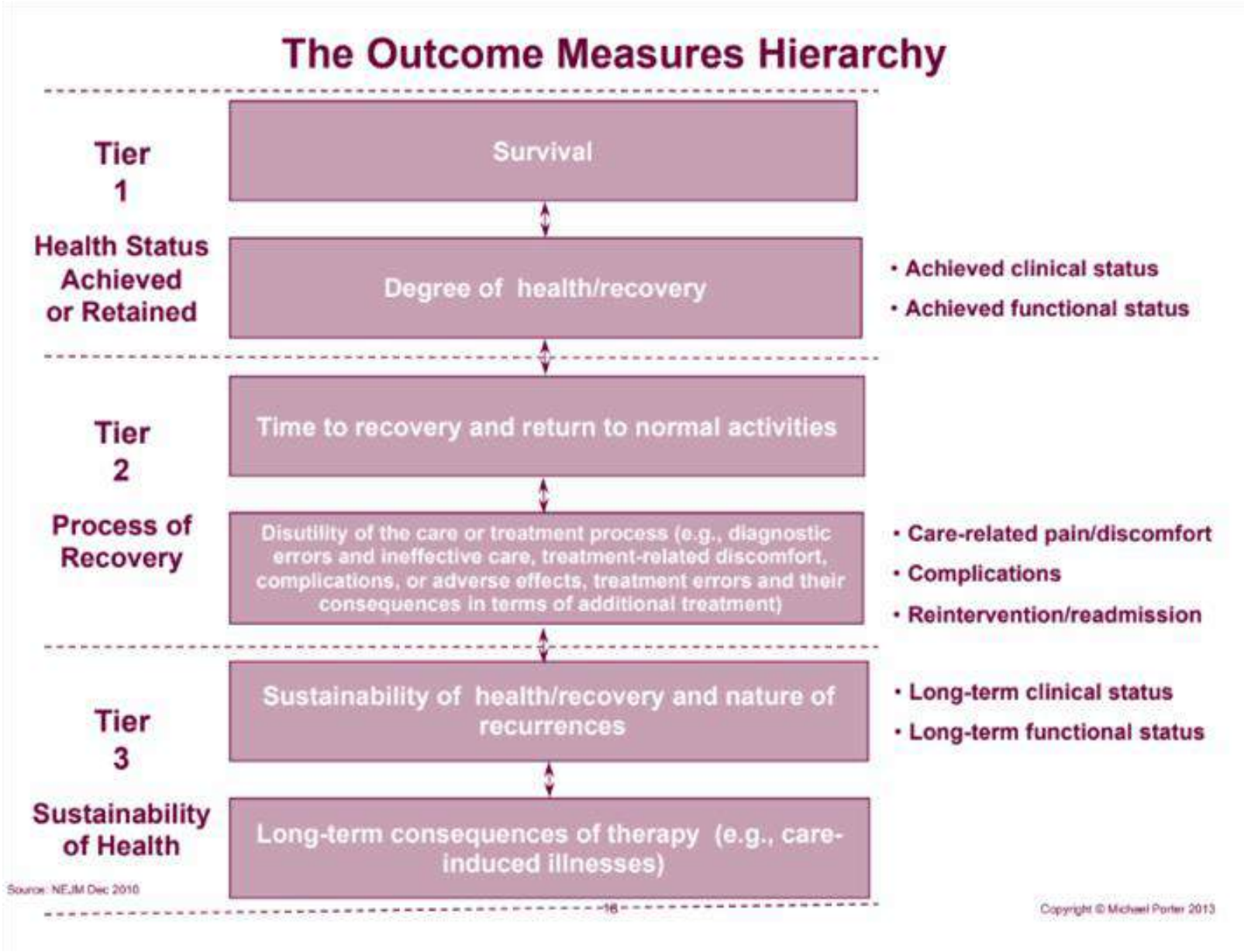
OUTCOMES

In the VBHC model, Patient Value is delivered in 3 tiers in an Outcomes Measures Hierarchy (Figure 3 Porter's 3 tier model.). Outcomes should be measured by medical condition, not by specialty or intervention.

ROSIA will mainly focus on Tier 2 and 3 (focus on rehabilitation part of the Care Delivery Value Chain), by performing the following steps:

1.- Validate and/or finalize a set of health indicators for the rehabilitation process.

2.- This helps us to establish the direct and indirect impact of the proposed solutions on these health indicators in Tier 2 and 3



The outcome measures hierarchy

ROSIA: OUR ROADMAP, WHERE WE ARE.

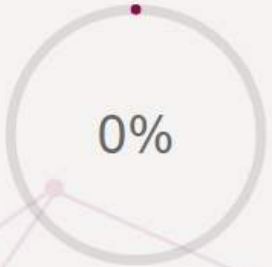
ROSIA

ROSIA’s and PCP Process

PHASE 0

Preparation STAGE PCP

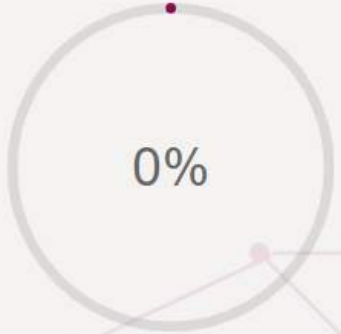
Where participants’ functions are co-designed with all involved stakeholders, the open market consultation is co-created with the industry, and the tender documents are redacted and validated.



PHASE I

Solution Design

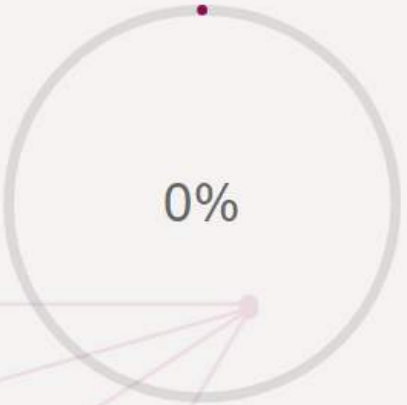
Where we develop a feasibility study of solutions from awarded bidders.



PHASE II

Prototype Development

Where we develop prototypes of the most promising solutions from Phase 1



PHASE III

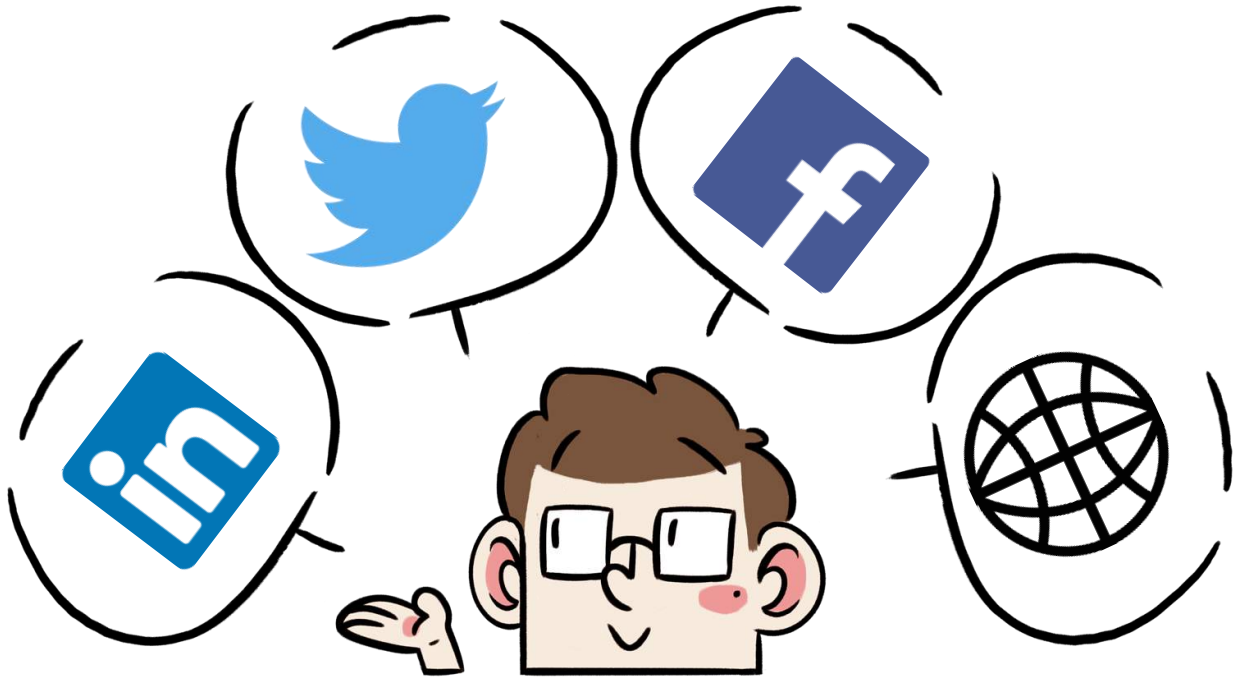
Field Test

Where the best prototypes are tested in real life scenarios at each procurer’s site

ROSIA: OUR ROADMAP

ROSIA: DO YOU WANT TO KNOW MORE ?
DO YOU HAVE SOMETHING TO TELL?

ROSIA



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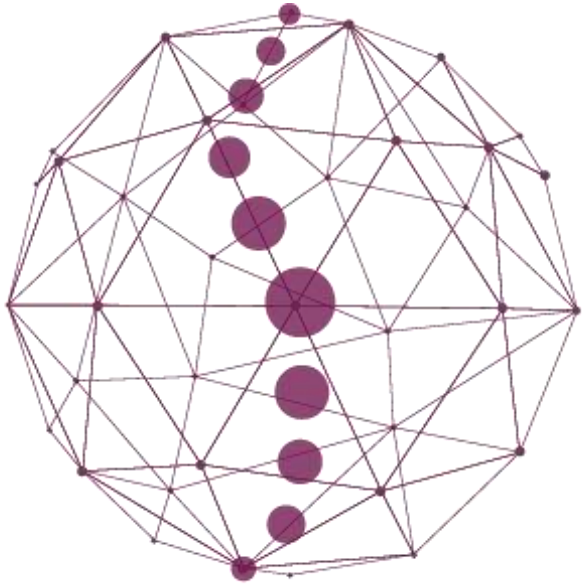
omc@rosia-pcp.eu



R O S I A

REMOTE REHABILITATION SERVICE FOR ISOLATED AREAS