ROSIA

Remote Rehabilitation Service For Isolated Areas

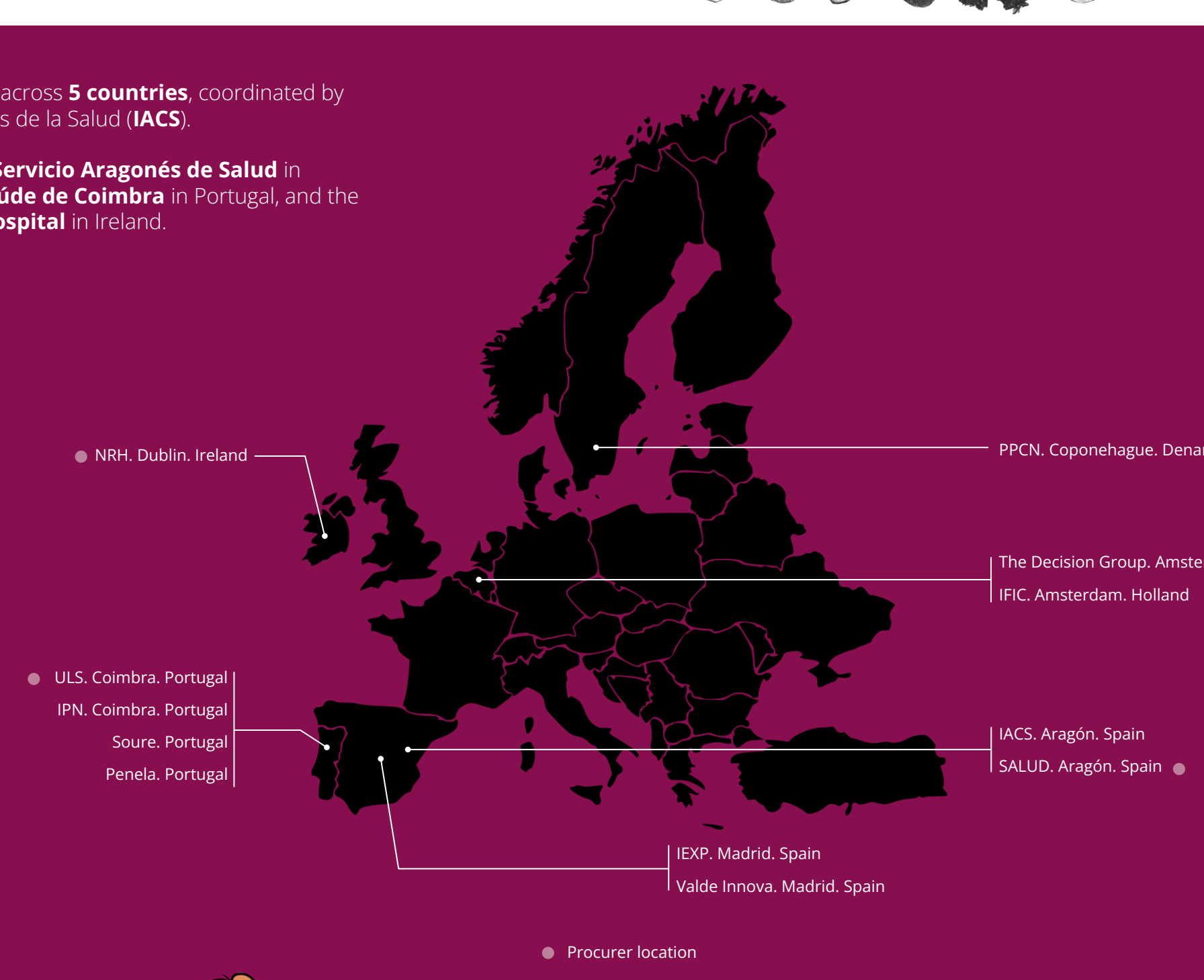
Pre-commercial Procurement (PCP) for Digital Health and Care Solutions

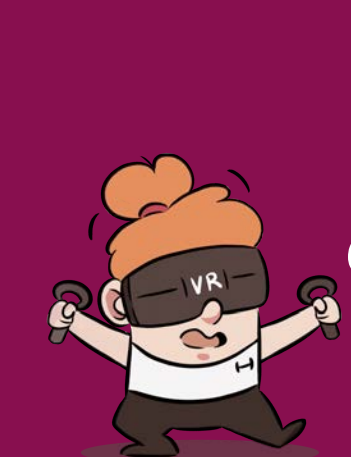
This project has received funding from the Euopean Union´s Horizon 2020 research and innovation programme under Grant Agreement No 101017606

5,5 million € | 60 months | jan 21 → dec 25 | 12 Partners | 5 Countries

ROSIA involves **12 partners** across **5 countries**, coordinated by Instituto Aragonés de Ciencias de la Salud (**IACS**).

ROSIA public procurers are **Servicio Aragonés de Salud** in Spain, **Unidade Local de Saúde de Coimbra** in Portugal, and the **National Rehabilitation Hospital** in Ireland.





" **ROSIA** project aims to design future rehabilitation services for remote rural areas, making sure those who live in the least populated areas, furthest from cities, have access to intelligent telerehabilitation services.

• New technologies • Social & Health services • Community resources • Rehabilitation specialists

ROSIA Why?

The Public Health system in Europe are in need of "Facilitating the rehabilitation of patients for whom travelling is a burden by using telerehabilitation services under the clinicians' supervision" & "Extending the rehabilitation period for those patients who could benefit from it by developing self-management and self-care supported by technologies and services".

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.

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-resilient as possible in their own health, supported through all the necessary educational, motivational, and technological resources.
- 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 Challenge

How to create a safe innovative tele- rehabilitation ecosystem & open marketplace that empowers patients and healthcare professionals?

ROSIA: the solution

Supervised self and community care of rehabilitation at the patient environment / Flexible and scalable value-based model of care / Tailored integrated care model / Motivation by strong implication of the community and virtual coaching tools

This model of care is intensive in its use of technology:

- Disruptive solutions to be used remotely.
- Data driven interventions.
- An open platform for third party solutions and timely and effective communication.

How ROSIA will make it feasible?

Unlocking the current market of disruptive solutions for home rehabilitation by:

- Development of the ROSIA Innovation Ecosystem.
- Enabling clinicians prescribing certified solutions from the ROSIA catalogue.

ROSIA Solution

Supervised community and self care rehabilitation at the patient environment.

Flexible and scalable value-based model of care.

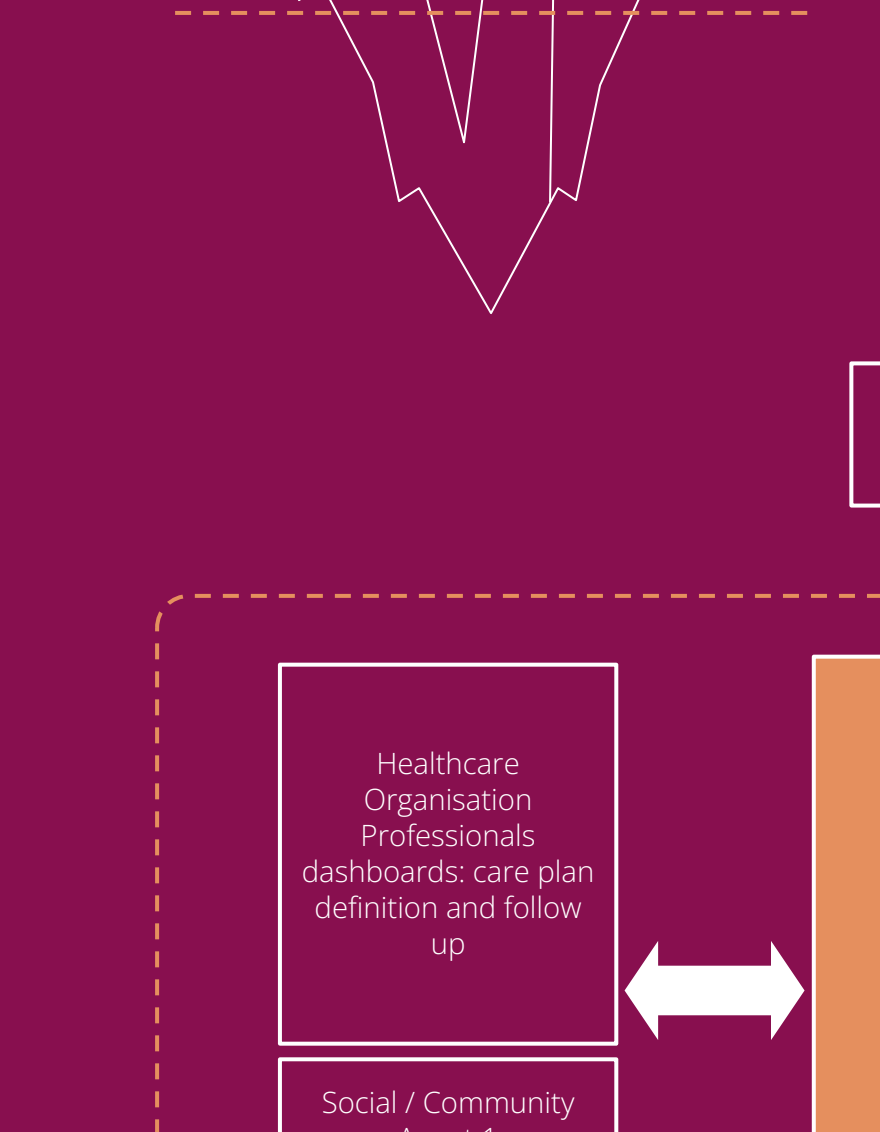
Tailored integrated care model.

Motivation by strong implication of the community and virtual coaching tools: implementing disruptive solutions at home, enable new data-driven interventions & Modern state-of-the-art open platform, enable third party solutions to seamlessly integrate

Technological Ecosystem

Development of an ICT Innovation Ecosystem for telerehabilitation able to integrate technology from third parties addressing needs of **patients**, **healthcare professionals** and **caretakers** (evaluation, vital signs, training programs, exercises performance, compliance, motivation, broad range of pathologies, interaction with clinicians, devices).

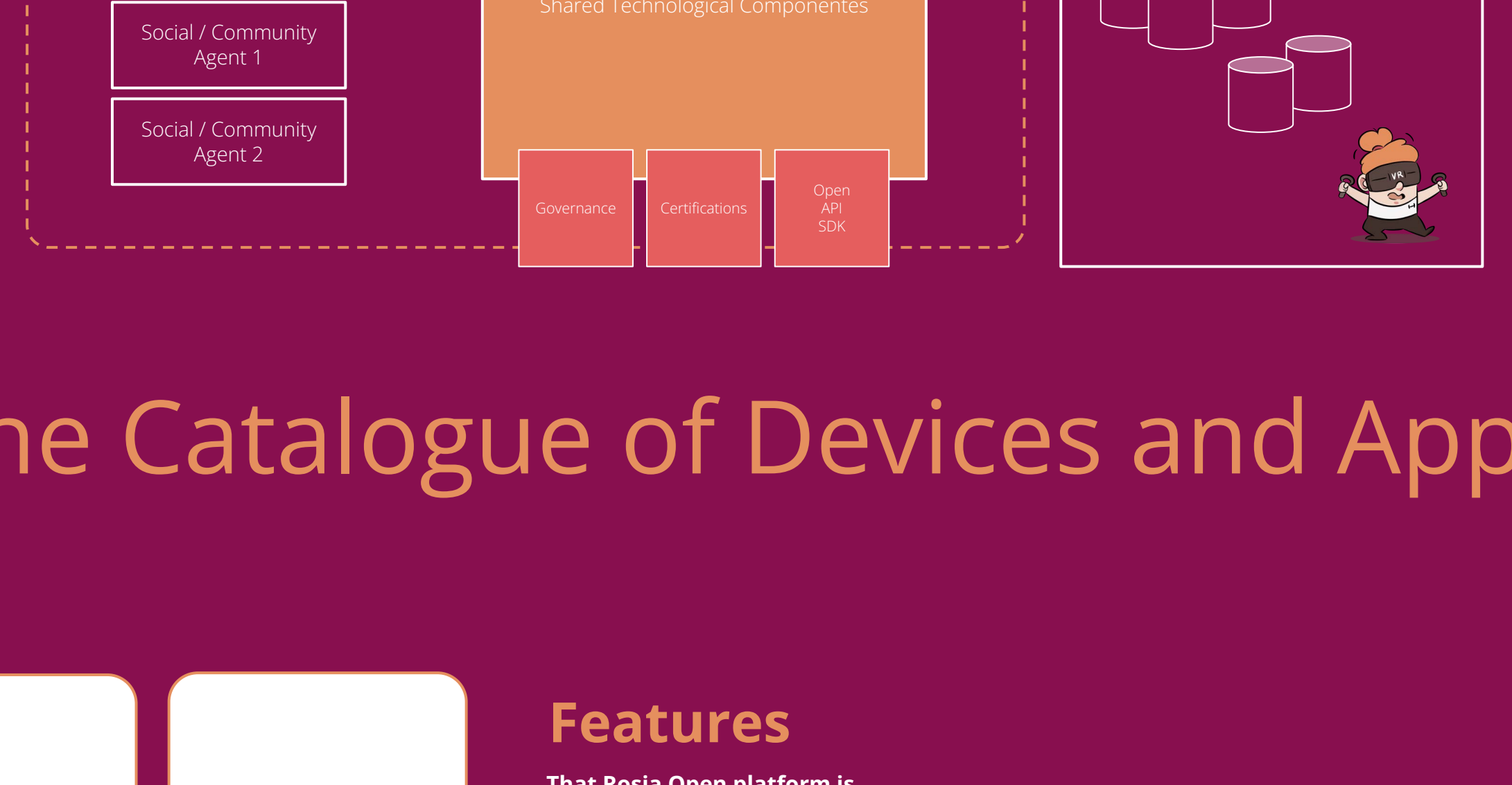
The ROSIA Catalogue for app & devices is only the tip of iceberg.



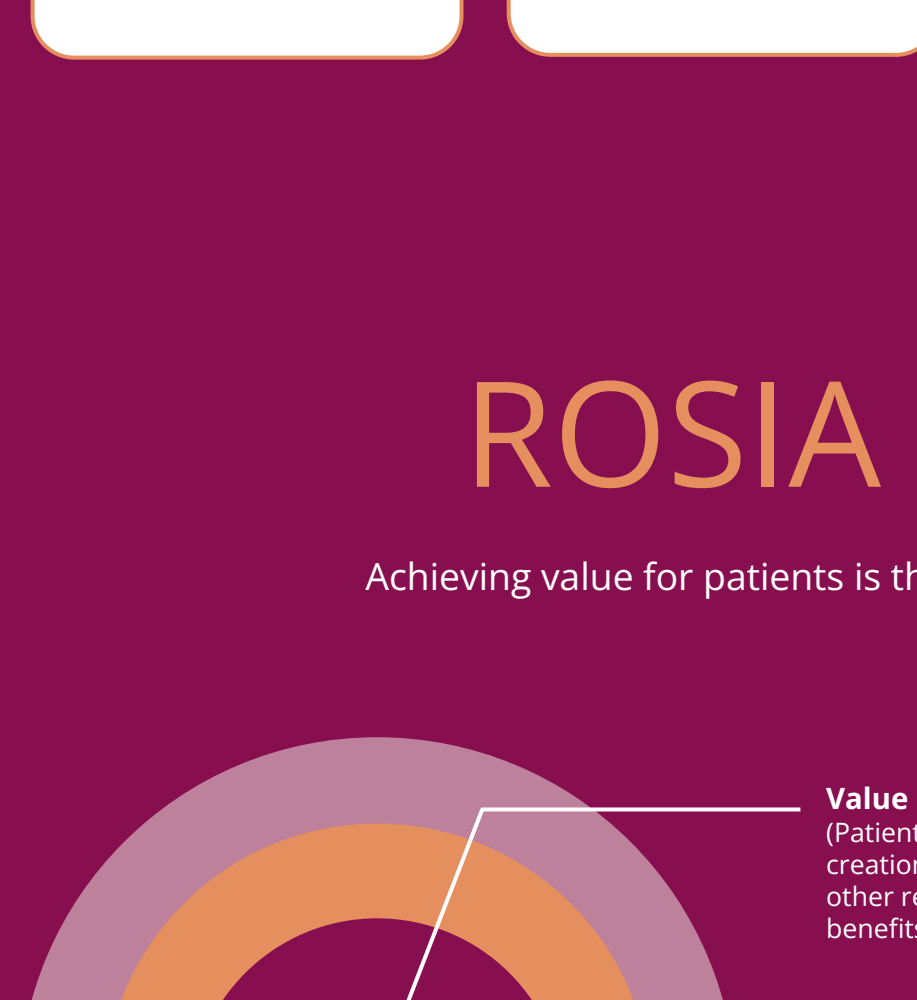
ROSIA Catalogue
(Certified apps, devices). A menu of evidence-based safe certified ICT solutions and services to be prescribed by a care team. All these services will allow the seamless sharing of clinical data with patients' consent.

ROSIA Developers
(API´s, SDK´s, QA, Automation, etc). The development of architecture and layer for developers with open API & governance tools to facilitate apps and services that uniformly can plug into the diverse backends of the buyer's regional infrastructures. We expect this to be defined as interoperable APIs, which will allow building up solutions based on existing modules and will aid existing research projects in becoming market solutions.

ROSIA Open Platform
(Hosting, Cloud, Security, Data sharing middleware, etc). An agile open cloud-native platform to host shared services, communication, and management. For instance: Integrated Clinical Care Pathway builders, ePREM/ePROM protocol editor, data sharing, consent, login, business logic and other core shared services.



The Catalogue of Devices and Apps



Features

That Rosia Open platform is

- Built with a high degree of flexibility
- Have the ability to share data across sectors and facilitate involvement of patients
- To ensure a high degree of automation
- To facilitate light user interfaces relying on a "heavy" infrastructure
- To support BYOD (Bring Your Own medical Device) where feasible
- To have existing EU, national and/or regional infrastructure components as first choice
- To be based on standards
- Not to accept proprietary solutions
- To be developed using proven cloud native platform tools

ROSIA Value Based Model

Achieving value for patients is the overarching goal of health care delivery, with value defined as the health outcomes divided by costs.

The four RVB Model Pillars

In the **Rosia Value Based (RVB) Model**, the **value depends on results**, not inputs, and **it is measured by the outcomes achieved**, not the volume of services delivered. Nor is the value measured by the process of care used; process measurement and improvement are tactics but not substitutes for measuring outcomes and costs.

The solutions formulated according to the RVB Tele-rehabilitation Model **will result sustainable thanks to three components**:

- Their capacity to generate and create value according to the above definition.
- Their organizational strengths and capabilities.
- Their financial plan and their potential to scale up.

Challenges & Recommendations

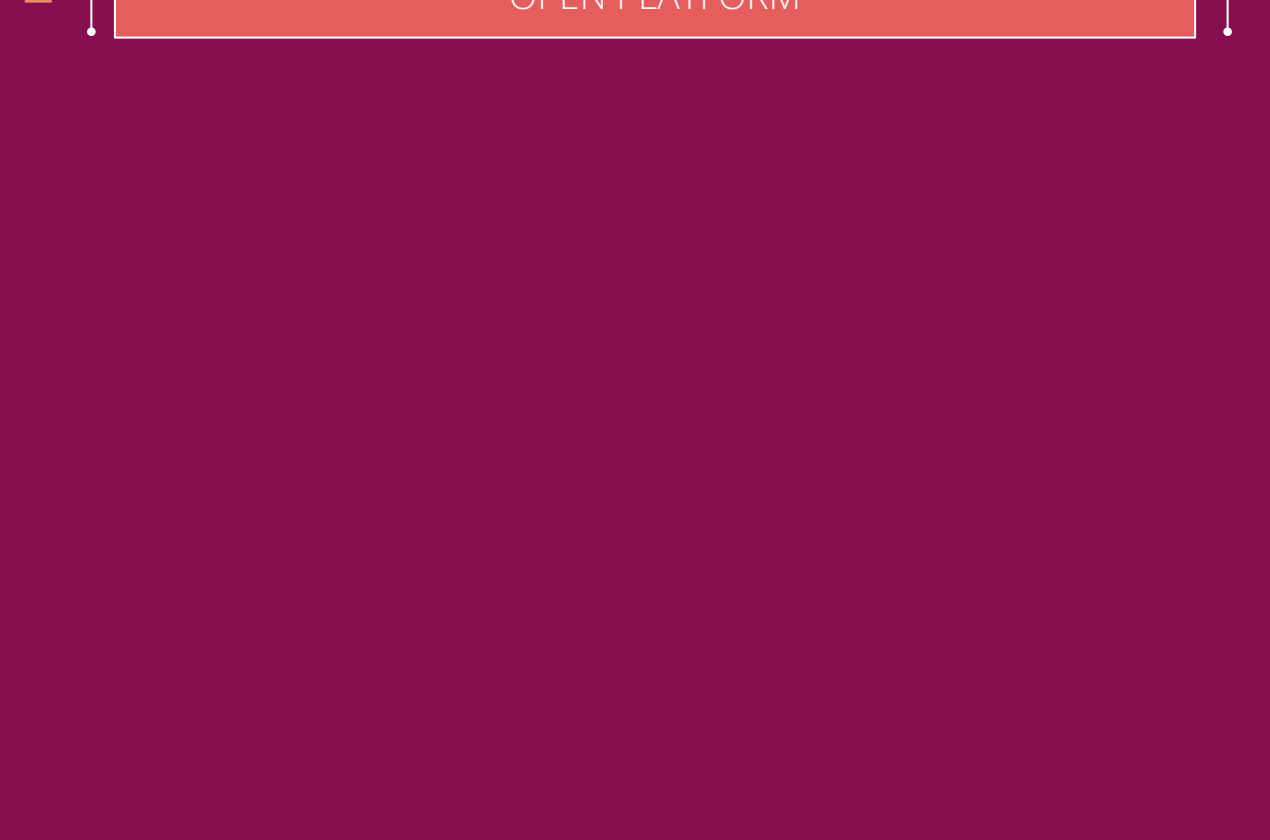
to implement the ROSIA Solution

Barriers

- For the healthcare system, it **implies an internal process of transformation towards specifically designed integrated-care models adding trusted digital interventions tailored to the patient needs.** It implies handling the transference of sensitive data and integrating a large and diverse set of digital therapeutics into their own ICT systems.
- For the developer (Vendors & innovators), fragmented care models and the diversity of ICT health systems to integrate, mean prohibitive costs of development. Difficulties to scale-up due to both the regulatory entry barriers and lack of interoperability or use of standards needed to scale.

Recommendations

- Increase connectivity in remote or isolated areas and foster digital skills of patients, especially the elderly.
- Improve health services and empower healthcare staff in remote or isolated areas:
  - attract healthcare professionals to rural communities.
  - inspire and engage students and young clinicians to opt for rural health.
  - improve the health staff working conditions in these areas.



TRL 5-6

Phase 0 (100%)
Preparation STAGE PCP
Cover Prior Information Notice and setup the Open Market Consultation
Tender Writting and Publication

Phase 1 (100%)
Solution design
Develop the feasibility study of selected solutions from awarded bidders
- Bahia Software
- GMV Solutions
- Eurecat
- Ethniko

Phase 2 (100%)
Prototype development
Prototype development of most promising solutions from Phase I
- GMV Solutions
- Eurecat
- Ethniko

Phase 3 (60%)
Original development and testing of limited volume of 1st test producto/services
- Eurecat
- Ethniko

TRL 7-8

Phase 4
Deployment of commercial volumes of end-products
Wide diffusion of newly developed solution

https://rosia-pcp.eu/
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https://www.linkedin.com/company/rosia-pcp/
https://www.facebook.com/ROSIA.PCP/

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