

ROSIA

REMOTE REHABILITATION SERVICE FOR ISOLATED AREAS



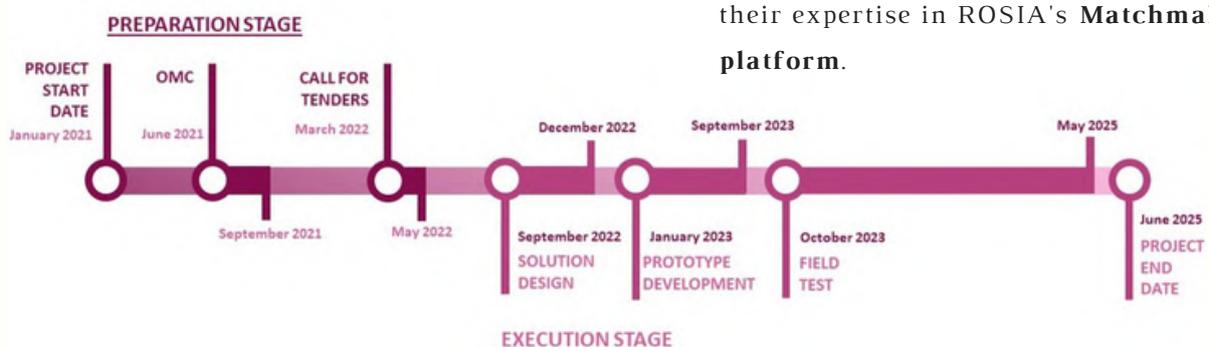
First year ...

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. These designs will take advantage of **new technologies**. They will integrate **social and health services**. They will even integrate whatever **community resources** are available in patients' villages and towns. But they will be prescribed and supervised by **rehabilitation specialists** in central **healthcare facilities**.

Project ROSIA started in January 2021 and involves 12 partners across 5 countries, and it is funded by the EU with an amount of EUR 5,5 million. The project's three public procurers are: **Sanidad del Gobierno de Aragón** in Spain, **Centro Hospitalar e Universitário de Coimbra** in Portugal, and the **National Rehabilitation Hospital** in Ireland.

The project conducted an Open Market Consultation this year to gather information from market suppliers and to inform the market about ROSIA's procurement plans and needs of the project's public procurers.

A successful PCP requires involving the relevant stakeholders to gain market insight on state of the art and future developments, and to also give them an opportunity to **create bidding consortia early on**.



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Consequently, during the OMC, ROSIA presented its challenges together with a **questionnaire** (to gather feedback from the market) and a **Matchmaking platform**.

As a result of the OMC process, **40 entities answered the questionnaire**.

And because it is unlikely that a single company or research project will be able to meet the full scope of ROSIA's tender requirements, ROSIA has developed a matchmaking tool, to help potential bidders meet other complementary bidders so they can build competitive bidding teams. Currently **51 companies** are offering their expertise in ROSIA's **Matchmaking platform**.

Open letter to potential bidders

*By Sandra García Armesto
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The three procurers participating in ROSIA are doing so because they are in urgent need of reorganizing their rehabilitation services.

Rehabilitation has a significant impact on patients' lives and on their medical conditions, and therefore carries elevated opportunity costs when not implemented. Yet **rehabilitation processes are a costly and convoluted item** on the budgets of health care systems, and may exert negative side effects on patients' lives when patients are forced to travel long distances to specialist rehabilitation centres (as is the case of patients living in remote and depopulated areas).

A broad deployment of telerehabilitation services can tackle these problems successfully. The **tools are already available**: devices and Apps based on state-of-the-art technologies such as virtual reality, augmented reality, gamification, depth cameras, sensors, AI, and which have been clinically proven effective in supporting telerehabilitation.

However, telerehabilitation is a complex process:

- **For the health care system**, it implies an **internal process of transformation** towards specifically-tailored **integrated-care models**. 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**, fragmented care models, lack of prescribed procedures, and the diversity of ICT health systems to integrate mean the **costs of development are prohibitive**.

In this stand-off, a PCP process, where public procurers work in direct collaboration with the research capacity of the market, is in a unique position to **unlock the situation**.

ROSIA PCP IS WILLING TO UNLOCK THE TELEREHABILITATION MARKET BY PURCHASING THE DEVELOPMENT OF A TECHNOLOGICAL INNOVATION ECOSYSTEM, ENABLING SERVICE PROVIDERS TO PROVIDE TELEREHABILITATION, AND SELF-MANAGEMENT & SELF-CARE OF REHABILITATION AT HOME, AT SCALE.

The ecosystem's design should enable the flexible implementation of a **value-based** and **integrated-care** model, enable data driven intervention and the seamless integration of third-party solutions.

We propose that the **ROSIA Innovation Ecosystem** be composed of **three core elements** that the 3 buyers can share.

ROSIA OPEN CATALOGUE

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 DEVELOPER

The development of architecture and layer for developers with open API's & 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

An agile open cloud-native platform to host shared services, communication, and manage e.g., Integrated Clinical Care Pathway builders, ePROM/ePROM protocol editor, data sharing, consent, login, business logic and other core shared services.



Conclusions from ROSIA's Open Market Consultation

In preparation of the project's call for tenders, an Open Market Consultation (OMC) with potential tenderers was launched to obtain the views of the market about ROSIA scope, and to facilitate consortia development. This report summarizes the result of the ROSIA Pre-Commercial Procurement project (ROSIA-PCP) Open Market Consultation (OMC) process.

The main objectives for the OMC process were:

- To **encourage** possible suppliers to participate in ROSIA OMC and future PCP
- To **inform** them about ROSIA PCP opportunities and processes.
- To **open a dialogue** between the ROSIA consortium and the market about scope, budget, functionalities, requirements, business model, IPR and additional requirements of the future PCP.
- To **gather information** from market suppliers.
- To **facilitate matchmaking** among suppliers.

ROSIA OMC was launched on July 12th, 2021 and remained open until September 3rd, 2021. For this phase, different actions were designed to maximise options for companies to send valuable information prior to the tendering phase. All identified suppliers for ROSIA-PCP were encouraged to **fill in an online questionnaire**; ROSIA webpage included an specific **Question & Answers section** for OMC participants; a **matchmaking** tool was created on the ROSIA webpage to encourage collaboration between potential joint bidders and several **bilateral meetings** were held with selected companies to deepen the information provided.

In parallel, a powerful dissemination strategy was designed and launched through multiple channels and social networks, promoting participation in the consultation and the dissemination impact of the ROSIA-PCP project.

Portugal	13
Spain	11
Ireland	4
Italy	3
USA	2
Germany	2
Amsterdan	1
Denmark	1
Sverige	1
Switzerland	1
UK	1

Private Companies	27
Startup	8
Technological Center	2
Research Center	1
Consortium	1
Non-profit	1

Large	8
Medium	5
Small	10
Micro	17

As a result of the OMC process, 40 entities answered the questionnaire. Companies represent 11 different countries and vary in type of organizations and company size.

MATCHMAKING PLATFORM

As the main conclusion and according to the information received, it was confirmed that none of the participating entities have all-in-one solutions ready that can be adapted and customized to our context. They need to team up.

WWW.ROSIA-PCP.EU/MATCHMAKING

Conclusion #1

ROSIA Consortium is looking for **all-in-one solutions** that require the involvement of different roles:

1. **Service providers:** Beyond the health services integrated in the portfolio of the 3 purchasers and which will be part of ROSIA, other services are required, such as IT assistance and maintenance to install and upkeep the necessary IT resources in patients' homes, or motivational support in monitoring the various prescribed activities...
2. **Open platform providers**
3. Innovative **application and device** developers to make up ROSIA's catalogue of applications.
4. **Systems integrators**, who can facilitate integrations between roles 2 and 3
5. **Project coordinators**

There are few companies that can play all of these roles, so joint participations between different companies is essential. It would be advisable for the possible

About Technology Readiness Levels (TRL)

Conclusion #2

Considering the solution to ROSIA's challenges as a comprehensive one, it is foreseen that the project will start with a TRL level of 5-6 and end at TRL 8-9. However, some applications/devices, integrated in the solution, could have a higher initial TRL. In these cases, the innovation would be generated:

1. By **removing barriers** in market development: existing innovative-disruptive high tech solutions for telerehabilitation at home can't be integrated in the common general practice of public health care providers since they are not connected, rather stand-alone, isolated, disease specific solutions and usually not integrated into existing care workflows or health system infrastructures.
2. From the ability of the **ROSIA ecosystem** to allow flexible and easy data exchanges from any certified health device/application that may exist in 5 years, improving remote rehabilitation services provided.

About Understanding/Awareness of ROSIA Project and Scope

partnerships to be set up before the tender is published, as the deadline for submitting proposals is expected to be around two months after publication.

This can be a major barrier to participating in ROSIA, and it needs to be addressed. ROSIA's matchmaking tool was designed for this purpose and 51 companies have already registered in it.

In view of **facilitating the participation of developers** for **ROSIA's ecosystem** ([ROSIA Open Platform](#), [ROSIA developer](#), and [ROSIA catalogue](#)) during the first and second phases of the PCP process, **we have decided not to limit subcontracting**, as this will allow companies that manufacture specific telerehabilitation devices and services to join the process in its third phase, without requiring having agreed to in earlier stages.

3. From the **utilization of certain applications and devices** for different uses than their initial purposes by integration of SDKs suppliers into a dynamic integrated telerehabilitation care model for supported self-management
4. By a **value based model** for business and long term sustainability.

On the other hand, given that **interoperability with devices is evolving so much** and so fast, it would be possible to introduce the possibility in the tender to include some elements of the proposals to be submitted with a lower TRL, in such a way that would allow some **very novel developments in ROSIA** that would generate relevant competitive advantages even if they are more risky (e.g. testing federating learning to share device information...).

RECOMMENDATIONS FOR FUTURE TENDER

The solution to ROSIA's challenges will be composed by different elements at a various TRLs. With independence of TRL, the integrated solutions must demonstrate reliability for field testing with final end users.

Conclusion #3

Open platform is a trusted layer where services can share data, analytics and targeted interventions can be developed. During the OMC process the multidisciplinary technical team has confirmed that ROSIA's open platform concept is in line with the generally accepted concept for such a platform by the market. Its most **relevant aspects** are:

- **ease of use**
- **flexibility**
- **interoperability** with applications and devices is achieved through non-proprietary APIs that enable as many integrations as possible
- adoption of most known interoperability **standards** like HL7, DICOM and IEEE 11073, among others, for achieving data, sharing, data curation and data alignment Governance

Conclusion #5

Some, but not all, of the applications and devices presented in the OMC **comply with all European legal requirements for medical devices**.

The ROSIA project should contribute to their achievement through the definition and implementation of **ROZIA Certification Process**, aligned with the Medical Devices directive. This process could include technical aspects (such as security or usability), legal aspects (compliance with data protection) and others such as scientific evidence supporting the real impact of those devices.

It would be interesting to consider the use of technologies that ensure **transparency** and **traceability** of the process, in order to build trust among potential participants in the ROSIA ecosystem.

About Technical Elements

Conclusion #4

Integration with public health care IT systems is often complex. In the case of **ROZIA**, three health systems from three different countries are involved, which increases the complexity enormously.

For this reason, the Consortium has planned to include in the tender **the development of a sandbox** that will allow, during the project execution, to make available a minimum set of data to be provided by the health care systems of the three procurers and some solution for the needs of information flow to implement integrated care models. Of course, this sandbox must be complemented by the **essential requirement**, as detailed in the tender documents, that the solutions presented will comply with certain integration standards, in order to ensure real integration with health care IT systems in the future. This readiness for integration will be tested during the execution.

Companies offering open platforms who participated in the bilateral meetings identified **integration with the health/social IT systems as a high barrier** to enter the competition, and were very supportive of implementing a sandbox solution instead.

Company developers of **agile cloud native open platforms** made clear that workshops with the IT departments of all procurers will be needed for the full development and integration of solutions.

RECOMMENDATIONS FOR THE CALL FOR TENDERS

- ROSIA will seek to include the elements of the open platform listed in Conclusion #3 in the tender documentation.
- ROSIA will consider not restricting the type of architecture proposed in the tender to allow for alternative approaches to be suggested for the open platform architecture.
- ROSIA will include in the tender the possibility of developing a sandbox during the execution of the project and will specify the integration standards required.
- ROSIA should ask for the implementation of a ROSIA Certification Process, aligned with the Medical Devices directive, for applications and devices included in the ROSIA catalogue

PCP CALL-FOR-TENDERS PROCESS

PCPs are tools that have been developed to address situations where **public institutions are looking for radical innovative R&D initiatives** for which there are typically no solutions in the market yet.

ROSIA PCP's call for tenders will be launched from March to May, specifying the project's challenges. Then **competing providers will have different ideas** as solutions to the challenges posed. And because no R&D has been carried out on any of these solutions yet, there is no proof as to which of them would best meet the procurers' needs. A PCP process therefore awards R&D contracts to several competing bidders at the same time, so as to be able to compare the different approaches to the challenges posed in real time.

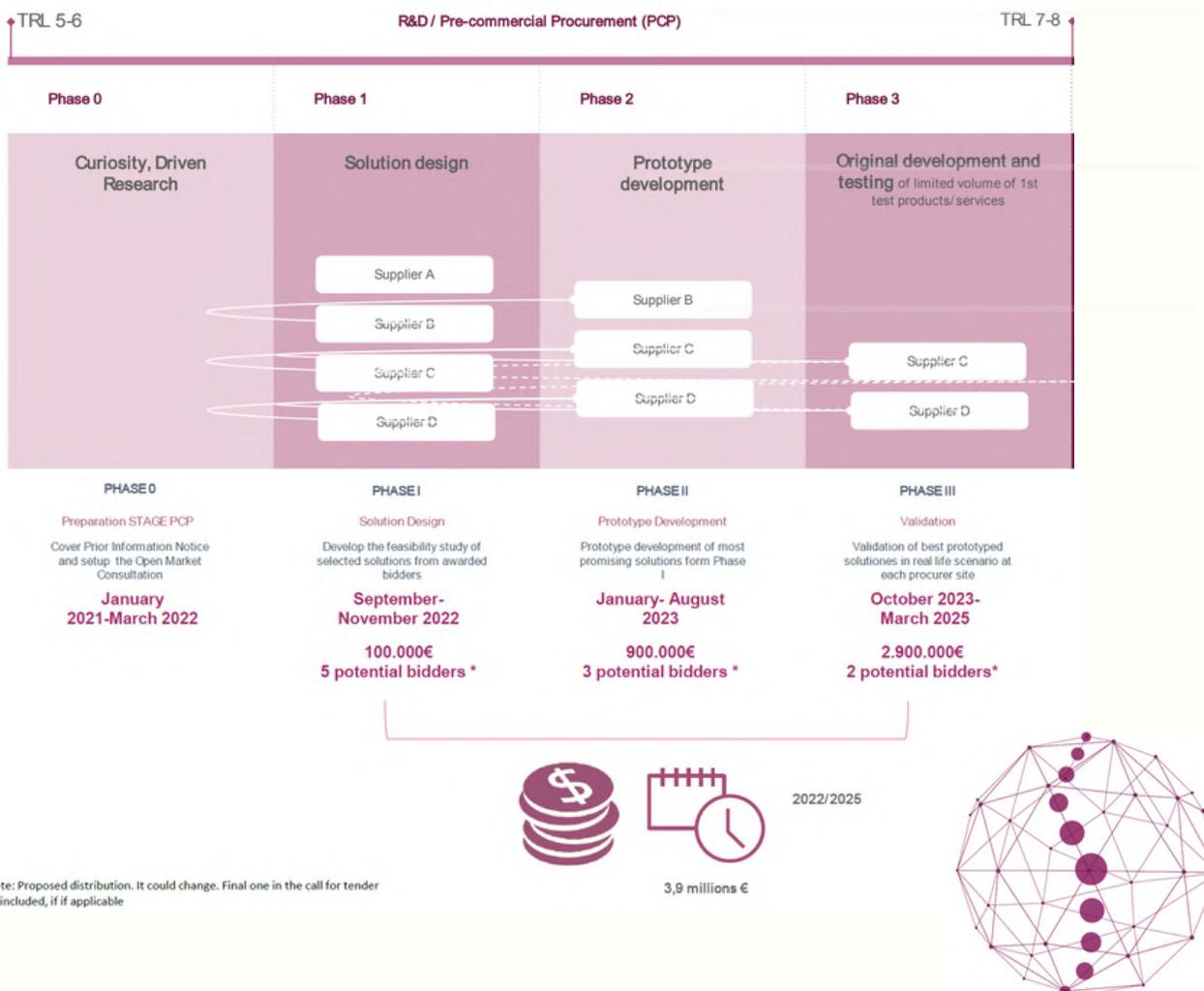


<https://rosia-pcp.eu/>

Illustrated by: @celia2dart

The R&D phases of a PCP process are three: (i) **solution design**, (ii) **prototype development**, and (iii) **Validation (testing)** of a limited set of 'first' products or services. At the end of each phase, solutions are evaluated and, through a gradual process of elimination, that which better meets the challenges posed is identified. This system allows successful contractors to improve their designs based on the feedback received from the procurers at the end of each phase. The phased approach, with growing contract size per phase, also gives smaller companies a chance to participate, as they are enabled to grow their business gradually.

ROSIA PCP: DATES AND BUDGET OF EACH PHASE



 <https://rosia-pcp.eu/>

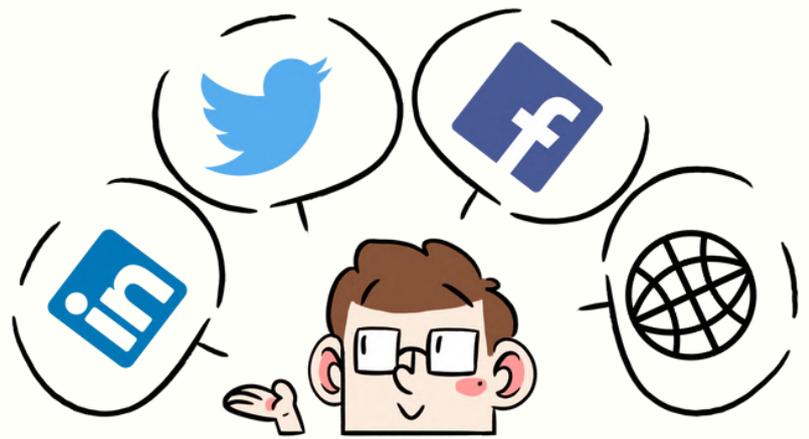
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THANKS!

ROSIA TEAM



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