



EDEMAP

**FUNDACIÓN PÚBLICA ANDALUZA
PROGRESO Y SALUD M.P.**

EDEMAP

PITCH

Management tool for the digitalisation of the Early Demand Map

ORGANISATION DESCRIPTION

Fundación Pública Andaluza Progreso y Salud M.P. (FPS) is a public non-for-profit organisation which belongs to the Andalusian Regional Ministry of Health and Consumer Affairs, that provides services to the Andalusian Public Health System (APHS). Recently, the Public Procurement of Innovation Technical Office (hereinafter, the Office) has been created within the FPS. The Office leads the matching technology supply and demand, manages the configuration of the Early Demand Map (EDM) of the APHS and promotes and manages PPI projects in health in Andalusia. Therefore, the Office works for the implementation of the Public Procurement of Innovation in Health Programme of Andalusia.

The region, located in the south of Spanish, has the largest healthcare system in Europe, with 1,517 primary care centres, 49 hospitals, 16 Health Management areas and more than 120,000 employees distributed throughout Andalusia.

Therefore, the problem affects 3 groups:

- i) **APHS professionals** (120,000 employees) whose key professional competencies could be improved.
- ii) **APHS users** (population of Andalusia: 8.4 million inhabitants). The digitalisation of the EDM would improve the health services in terms of quality and cost-effectiveness.
- iii) **Other professional sectors**. Generation of synergies between different disciplines for the development of collaborative projects.

CHALLENGE DESCRIPTION

Public Procurement of Innovation (PPI) has become a strategic action for the Regional Ministry of Health and Consumer Affairs of Andalusia, which has developed the Andalusian Public Procurement for Innovation in Health Programme and has created the **Public Procurement of Innovation Office Technical** (PPI-OT).

The Office is developing **the Early Demand Map (EDM) of the Andalusian Public Health System (APHS)**: an innovative methodology with a holistic approach to carry out the

identification, evaluation and prioritisation of innovation needs in the APHS in order to develop and implement PPI projects based on real and demand-driven needs, which are not currently covered by the market.

Its objectives are i) to identify the portfolio of needs in a systematized, dynamic and adaptable way, ii) to integrate all key agents, iii) to design support tools for the capture and identification of new needs, iv) to design a methodology for the prioritisation, evaluation and approval of needs/challenges, and v) to manage the portfolio of needs and its orientation to PPI funding calls for proposals. Once the needs are properly evaluated and turned into challenges, the managers of the Office will look for funding through regional, national and international calls.

Up to now, needs are compiled in a static and reactive way; that can get obsolete and difficult to adapt to possible changes in needs; and based on solutions to problems rather than on real needs. The more direct consequence of it is the delay on the implementation of possible PPI projects.

Therefore, a bad identification of needs has an important **economic impact** (waste or misuse of the resources, directly affecting the cost and sustainability of the APHS); **social** (an obsolete system incapable of providing the best and the most updated services and treatments to citizens), and **environmental** (a digitalisation process would reduce the environmental footprint of the actual system of needs compilation trough on-site workshops).

The main motivation to solve the problem is to **improve the APHS services** to the citizens of Andalusia through the **implementation of PPI projects** as a result of the **digitalisation of the EDM**.

This is how the process is developed:

FIGURE 1: EARLY DEMAND MAP PHASES



1. OPEN WORKSHOPS - needs identification: Needs are collected through workshops organised and managed by the Office. There are two different types of workshops: OPEN workshop and MIND workshop. The OPEN one is attended by 40 professionals of the APHS, who discuss about the health needs that are not currently solved by any market solution.

2. 1st DESCRIPTION OF NEEDS: Following the current system, a first amount of data is collected during the workshop, and the rest is collected afterwards in a bidirectional way between the Office project managers and the APHS professionals who attended the workshops and lead the needs/challenges identified.

3. MIND WORKSHOPS - external analysis: approximately one month after the OPEN workshop, the Office organise the MIND workshop, which is attended by 30 professionals from SMEs, companies, research centres, universities and patient´s associations,

4. Transforming NEEDS into CHALLENGES: first of all, the participants of the MIND workshop help to define innovation in order to transform it into challenges. Even though this transformation from needs into challenges is done after the workshops, between the needs leaders or proposers (from the healthcare system) and the innovation procurement Office´s managers, the process is enriched thanks to the inputs from the professionals who participate in the MIND workshop.

5. EVALUATION AND PRIORITISATION: the challenges defined after the workshops between the needs/challenges leaders and the managers are sent by email to an Evaluation Committee that will evaluate the different challenge proposals for both OPEN and MIND workshops in accordance with an established and approved evaluation system. Once they are evaluated, the Committee will prioritise them and the Office will then start the searching for funding opportunities.

In principle, the information collected of the different challenges are: contact data, need description and justification, state of the art, objectives, users, strategic alignment and relevance, level of innovation, TRL, phases, technical viability, resources, risks, economic viability, budget, sustainability, impact, industrial and intellectual property rights, replicability and internationalisation.

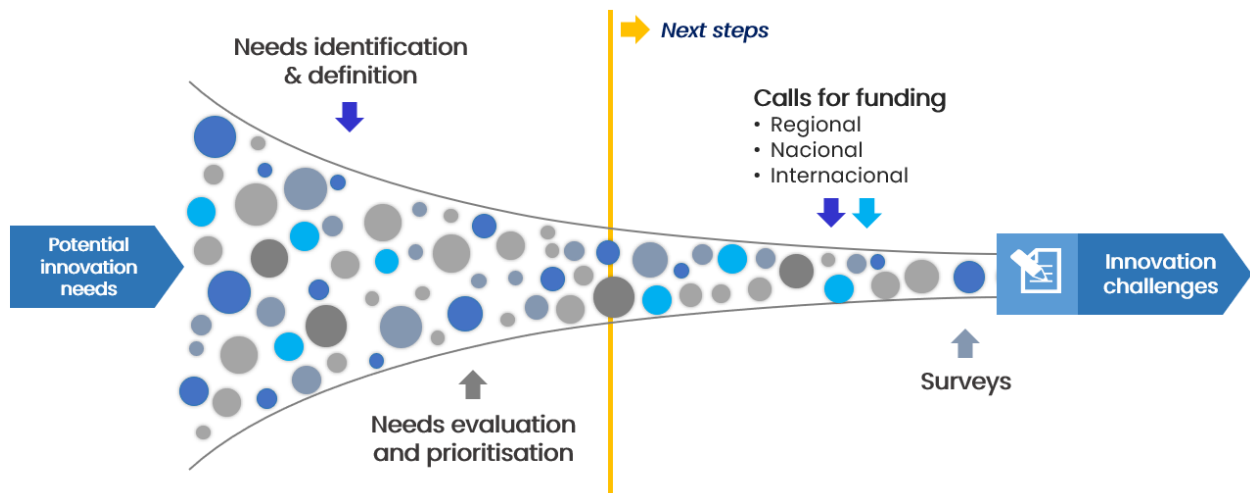
Therefore, the whole process currently starts and is mainly developed through the physical workshops, no digital solution is being used to tackle the challenge.

There are several features on our demand:

- Feedback feature to the management team, such as graphics which summarise how the process is being developed.
- The evaluation system is already settled, but it requires a peer review by evaluators.

- After collection and evaluation, there will be a panel of funding calls, which will ideally guide possible funding ways.

FIGURE 2: EARLY DEMAND MAP NEXT STEPS



The current platforms that could meet some of these requirements are much more focused on accelerator programmes competitions or awards for companies rather than on public organisations interested in compiling ideas/needs/challenges from its professionals, that will eventually be turned into challenges and matched with possible calls for PPI projects funding.

In this context, **the challenge here is the co-creation of a tool that allows the digitalisation and complete systematisation of the EDM.**

The Office will send to the potential users of the solution (professionals of the healthcare system that submit their innovation needs and experts' evaluators) specific surveys in order to check if the solution is fulfilling their expectations. They will also collect the opinion from colleagues and from the Observing Challengers.

CHALLENGE MAIN OBJECTIVES

General purpose of our challenge: **to be able to move from static formats**, both for the collection of information and for carrying out the evaluation and prioritisation of the identified needs, **to more dynamic ones** that are more attractive and agile for users and allow a greater professionalisation of the work carried out by the Office and the service that will ultimately be given to the System, the Industry and the citizenship.

Specific objectives:

- **Digital compilation and improvement of needs.**
- **Digital evaluation and prioritization** of APHS needs by an experts committee.
- **Digital management** of the whole process by the Office.

SOLUTION FUNCTIONAL REQUIREMENTS

The co-created solution shall use the needs identified by APHS´ users, turned into challenges after an evaluation process, to be exploited by the Office in order to guide its development as PPI projects.

The initial idea is the co-creation of a new separate solution.

The platform will be linked from corporate websites, such as:

<https://juntadeandalucia.es/organismos/fps/areas/investigacion-innovacion/cpi/paginas/mapa-demanda-temprana.html>

In order to achieve that, the tool shall meet some functional requirements.

FIGURE 3: eDEMAP SECTIONS -PURPOSE AND USERS-



Compulsory functional requirements

The key stages and interactions will be developed efficiently and effectively if the solution fulfil the following requirements:

- 4 sections:
 - o **Section 1:** health innovation needs repository (uploaded by proposers from the APHS, still pending for evaluation and prioritisation).
 - o **Section 2:** challenges evaluation (restricted to the Evaluation Committee and the PPI-TO).
 - o **Section 3:** challenges repository. After evaluation, this section will contain the information about the final challenges accepted and prioritised by the Committee.
 - o **Section 4:** management section that allows PPI-TO managers to review the whole process as well as to exploit the information. This would include:
 - An users' management feature, which will allow the centralised management of all tool users, their role and usage statistics. This would compile the information that each user gives.
- User management system: registration, login, permission, roles, etc.
- Functionalities adapted to the **different kind of users:**
 - o **APHS' s users** with capacity of generating needs: who shall have access to the section 1. They will upload information following a common template as well as specific annexes (if applicable). This template will be completed during different moments, i.e., after OPEN workshops when needs are identified and firstly described and after MIND workshops where needs are finally turned into challenges.
 - o **Evaluation Committee members:** who shall have access to the section 2. They should be able to mark and evaluate according to established eligibility and evaluation criteria, exchange information with other evaluators as well as with PPI-TO managers.
 - o **PPI-TO management team:** who shall have access to all sections (1, 2, 3 and 4). They will control the whole process: review the information uploaded by APHS' s users, communicate with them, move the needs to the evaluation module, assign needs/proposals to more than one evaluator and communicate with them, review the evaluation process, etc.
- All users, regarding their role, must be able to create an account which allows them to submit their needs, evaluate challenges and keep updated by notifications send by email of the process submission and evaluation and prioritisation process.
- Gantt chart to show needs, their development status and basic information, such as name, APHS leader, and that can segment per category.
- Calendar with relevant dates of the evaluation process.

- Information exchange channel between PPI-TO managers and APHS users, on the one hand, and evaluators, on the other hand.
- Template for need collection should include some mandatory data.
- Direct notification system and automatic reminders/alerts to the different types of users.
- Ranking after the evaluation is done.
- Spanish language.
- Friendly interface aligned with the EDM visual identity.

Desirable functional requirements

- Translation service from Spanish (mandatory language of the tool) to English.
- Optimized for multi-device access (desktop, mobile device, etc).
- SEO.
- Establishment of a terminology system that allows the categorisation of needs and challenges by specific areas in the field of Health Sciences (ex. MeSH: Medical Subject Headings).

PILOT SCOPE

The result of the co-created solution would be a digital portfolio of needs, materialised as challenges, i.e., strategic proposals evaluated and prioritised to address their subsequent funding and development.

After the co-creation of the solution, we will set a pilot based on the creation of a target group in one of the Strategic Lines of the Andalusian Public Procurement for Innovation in Health Programme. This will be defined later on. The APHS professionals that would be part of the on-site workshops that we currently run in order to identify needs. A group of them will submit their needs to the digital tool, and the management team will organise an evaluation pilot with some members of the Evaluation Committee, to check if the tool is fulfilling the requirements demanded.

After the proper development of the pilot, the Challenger will give feedback to the Solver about any modifications or improvements needed.

Type and number of targeted end-users

End-user type	Role	Number
APHS professionals from different areas and Health specialities	Clinicians, doctors, researchers, managers, procurement technician and professionals with capacity of identify innovation needs linked to one of Strategic Lines of the Andalusian Public Procurement for Innovation in Health Programme.	40 (current number of participants in one on-site workshops)
Evaluation Committee members	Top managers of the Regional Government of Health and Consumer Affairs that will evaluate and priosize the needs according to	10
PPT-TO management team	The professionals who are working on the EDM at the PPT-TO will review the whole process and exploit the information to give feedback on the pilot	4

TABLE 1: TARGET END-USERS

Language

Many of the professionals of the APHS do not speak and write English fluently. That is why the language of the solution features must be Spanish. Therefore, the translation from and to English can enrich it, but the Spanish availability is a must.

PILOT SET-UP CONDITIONS

PPI-TO is part of an organisation (Fundación Pública Andaluza Progreso y Salud M.P.) which belongs to the government of the region of Andalusia, public body whose digitalisation processes are managed by the Andalusian Digital Agency. Therefore, the solution co-created with the Solver has to comply with its guidelines.

Ethical, legal or regulatory

- In principle, it is not envisaged any approval by Ethical committees for end-users' involvement.
- Data storing and processing will comply with the practices of Junta de Andalucía corporate websites.
- Data protection will fully comply with the General Data Protection Regulation (GDPR).

- The solution will fully comply with the Spanish Organic Law on Personal Data Protection and guarantee of digital rights (*Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales - LOPD-GDD*).

Technological

- For the co-creation phase, the solution can be hosted in the cloud and run it by the solver.
- Later on, if the platform is finally acquired, FPS's own infrastructure might be used. But this issue can be further discussed during the co-creation phase.
- The solver shall provide the necessary development environments for the design and building phase of the systems. In the FPS infrastructure, the pre-production and production environments shall be installed. Any production upload of the system shall be pre-validated by FPS in the pre-production environment and shall comply with the production upload procedure defined by the Information Systems unit.
- The information systems developed shall allow the download of data in various non-proprietary formats such as CSV, JSON, XML or also a de facto standard such as Excel.
- If the above datasets contain personal information, data extraction shall be performed through a disassociation or anonymisation process that ensures compliance with GDPR.
- The proposals must guarantee compliance with the basic principles and minimum requirements required for adequate protection of the information that constitutes the National Security Scheme (ENS), regulated by Royal Decree 311/2022, of 3 May 2022.
- Accessibility and user-friendliness.
- Interoperability (Standardisation of sources and administrative records).

EXPECTED IMPACTS AND KPIS

eDEMAP direct impacts will be:

- **Reduction on the overall time** from identification to 'end of process':
 - o Needs identification: now, PPI-TO managers compile information in the onsite workshops and then send it by mail to the APHS professionals to be completed. This process can take around 2 weeks. If the solution is successfully created, APHS professionals can complete needs information at anytime from anywhere.
 - o PPI-TO management: PPI-TO managers can see the process evolution on the platform and start seeking for funding to possible PPI project much sooner.
 - o Evaluation: automatization of the assignment of challenges to evaluators, who will receive alerts and notification regularly.

- Automatic prioritisation for funding depending on the evaluation results (ranking according to thresholds and scores).
- **Increment on user's satisfaction:** managers will regularly send satisfaction surveys to users (APHS professionals and evaluators). The aim here will be to obtain an average score of 4.5 out of 5.

If the needs identification, evaluation and prioritisation become faster and easier through the digitalisation of the process, the co-created solution could also contribute to some relevant goals of the PPI Health Programme of Andalusia:

- Increase on the number of identified needs.
- Increase on the number of APHS professionals who participate in the EDM as need's identifiers. Currently, 160 APHS professionals from different specialities and areas annually share their innovation needs in onsite workshops.
- R&D Agents (SMEs, start-ups, companies, research centres, academia, patients, etc.) are indirect users, who may benefit after the implementation of preliminary market consultation and procurement implementation.

Therefore, possible PPI projects will be implemented sooner, so it will have a greater impact on APHS users (patients and Andalusian citizenship) and professionals.

BUSINESS OPPORTUNITY

Market size

Such an innovative solution will provide value in the provision of health care to citizens, promoting, in turn, economic growth and business development of Andalusia.

Regionally, this project could be replicable in any of the different regional ministries of Andalusia (12). We think this could be especially useful for the regional ministries of University, Research and Innovation; Educational Development and Vocational Training; Agriculture, Water, Fisheries and Rural Development; etc.

Nationally and at European level it could be also scalable to other public administration entities, especially in the healthcare sector. Only in Spain, there are 17 different regional ministries of Health.

Adoption plans

The Ministry of Health and Consumers Affairs of Andalusia strongly believes that PPI is, in its different forms, a tool that strengthens our capacity to face the challenges of a social,

economic and environmental context in continuous change, where technological development seems to be one step ahead. Indeed, if there is one sector where innovation is extremely fast, it is in the health one, which can use the PPI as a tool to transform healthcare services towards resilient, high-impact and innovative systems.

That is why it created the PPI Technical Office within FPS (Fundación Pública Andaluza Progreso y Salud M.P.) in December 2020. The Office i) gives support to the Andalusian PPI in Health Programme, ii) leads the matching technology supply and demand, iii) manages the configuration of the EDM and iv) promotes and manages PPI projects in health in Andalusia.

FPS is fully aware of the InnoBuyer programme and the benefits of being part of it. Therefore, our organisation is highly interested in being part of the InnoBuyer Programme and that is why it has expressed its commitment to **procure the co-created solution as long as it meets the described needs**. A budget reservation has been made to acquire it if successful.

On the other hand, the solution resulting from this demand-driven co-creation process can be **scaled** to different departments of our organisation as well as to many others, since it could permit the adaptation to other organisations' activities and methodologies for the identification, evaluation and prioritisation of innovation needs. Scalability capacity:

- Scalability to other **healthcare systems**, at a regional, national and international level.
- Scalability to other **regional governments**.
- Scalability to **private organisations** interested in identification and evaluation of innovation needs.

The full implementation of the solution after successful evaluation should not exceed 41.000€ (VAT excluded). The methodology and know-how will be developed by the project managers and technicians of the Office, who will be also in charge of the management of the co-created solution.