



R O S I A

REMOTE REHABILITATION SERVICE FOR ISOLATED AREAS

PCP End of Phase

RAISE - Results &

conclusions

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1. The innovative solution

Provide a short description:

RAISE is proposing a novel ecosystem in a comprehensive approach to unblock the way towards wide adoption of tele-rehabilitation. The system builds upon integration of a wealth of hardware and software solutions for rehabilitation in a common platform, characterized by openness, standard-based interoperability, and trust stemming from a fine-granulated, risk-adaptive governance model to ensure the seamless integration to and maximum impact of all tools and services offered. RAISE targets to fulfil the gaps of interoperability and care coordination at diverse levels: a. patient level, b. provider level, c. healthcare professional level.

RAISE is an easily adapted and integrated solution for global rehabilitation and the stimulation of factors influencing the effectiveness and uptake of cost-effective rehabilitation methods. RAISE leverages cloud-native logic and offers the Portal Server, API, and Portal services as core components of the Open Platform for data storage, processing, and visualisation. The Developer's Layer provides an easy and efficient automated quality-evaluating CI/CD. All available apps for the full tele-rehabilitation process, devices, and catalogue management tools are contained in the Catalogue.

In detail, RAISE proposes an innovative set of tools for an integrated patient pathway towards tele-rehabilitation, whose pillars are:

- an **open platform** available to patients, their informal caregivers and healthcare professionals for clinical supervision, shared care plan design, prescription recommendation, and social collaboration for the tele-rehabilitation period, with a user-friendly multimedia environment. The open platform utilizes cutting-edge technologies to offer excellent care tools (virtual assistants, etc.); Demonstrating the effectiveness of emerging techniques and methods in tele rehabilitation of chronic pathologies has a two-fold purpose: a. motivate and trigger the participation of patients and of all the involved individuals and communities (e.g. caregivers, healthcare professionals etc.), b. emphasize on the parameters that tele rehabilitation is most effective in the clinical practice through a life-long, easily accessible platform.
- a **catalogue** of devices, services and tools empowering and educating patients towards self-management with a shared care plan across different fields, such as gamified physical exercise, exercise assessment, and more; the proposed coaching and gamification services are highly motivating and a paradigm shift from a delayed response which leads to acute cases and costly hospitalization to a new preventive personalized approach towards a cost effective healthcare services.
- a **developers' layer** that provides tools for developers to implement and deploy apps including code management tool, dependency check plugin for security assessment, automated processes through CI/CD pipelines, documentation for the available APIs and databases, and a sandbox server for the implementation, test and validation phase of every new app. When a new app passes every test, it is ready for deployment to the production server of the RAISE platform. This methodical approach, ensures the safe and efficient administration of all platform applications.

The RAISE ecosystem employs confidentiality methods (e.g. encryption, anonymization) and interoperable strategies (FAIR, use of HL7/FHIR). Sustainability is enabled through the educational content and virtual agent in the solution.

In line with the needs noticed in the World Health Organization (WHO) reports in respect to the rehabilitation services' gaps, RAISE aims at: a) a **strategic renewal, the formation of new strategies**; b) **sustained generation of digitalized rehabilitation services** through the promotion and marketing of new products and services and their interconnection in personalized care pathways and care plans; c) **specific tech-related domains redefinition**, towards the creation of new markets (domain redefinition); d) **organizational rejuvenation** with the design of new more effective processes, capabilities, and structures in respect to rehabilitation services' provision; and e) **existing business models' reconstruction** through the development of novel rehabilitation remote business models to ground an integrated and interoperable framework and an innovative ecosystem for the selected pathologies.

RAISE has already implemented a fully operational solution, which was tested and validated in the three (3) pilot sites during Phase 3 by the procurers' end users.

2. Commercialisation success

Provide a short description:

How mature is the innovative solution in terms of its readiness to commercialise widely: Which steps towards wide scale commercialisation have been completed by now (*don't forget: IPR protection, certification, CE marking, attracting additional investors to grow the business, setting up sales / distribution channels / marketing activities to expand sales to other countries etc.*).

RAISE combines many consortium partners' components into a cohesive, marketable digital package. The tools' strategy alignment and commercialization success are outlined below by each partner, who owns the necessary IPRs for their respective tools.

The **Centre for Research and Technology Hellas (CERTH)** is one of Greece's major research institutions and the number one in northern Greece. CERTH/ITI is a world-class institution in the fields of informatics, telematics, and telecommunications. CERTH's tools for the solution have been utilized and verified in completed EU projects, such as:

- Novel Medical Information Visualisation Tools and Virtual and augmented reality games
- Gamification and Social community platform (Frailsafe H2020 & CaregiversPro-CMMD),
- Virtual Guidance platform based on AI and speech agent (CHRODIS+ H2020, MYaIRcOACH H2020),
- Security and privacy component (Gatekeeper H2020),
- Shared care plan (DM4ALL PCP H2020),
- Clinical decision support system (myAirCoach h2020, DM4ALL).

CERTH has assessed these components in various EU projects, which are described in the References page. While CERTH is not a company, it does have a large network of industrial and academic partners, as well as local health providers, to whom RAISE may be marketed.

Televes is a well-established technology provider with the objective of increasing its presence in the Telehealth/telecare market. The generated synergies with service providers will not only benefit the Quality of Life of the citizens but also will contribute to the sustainability and efficiency of the public health and social services.

IBV is a Research Institute dedicated to transfer scientific knowledge and technologies to improve people's health, well-being and quality of life, adding value to companies and the social and economic environment. One of its main goals is to support companies in all phases of the development process from the identification of innovation opportunities to the design and evaluation of solutions in the rehabilitation sector. During RAISE, IBV will offer:

Suite of applications (SW & HW) for functional assessment of musculoskeletal system: Suite of applications for assessing human musculoskeletal functions based on specific SW and HW. In particular, IBV included the following application in RAISE Catalogue:

- a. NedVEP: Hand dynamometer that records muscle strength and loss of strength associated with the gestures of gripping, lateral pinch and distal pinch.

NedVEP, designed and developed by IBV, is especially aimed at guiding professionals during the clinical processes associated to the diagnosis, treatment and control the rehabilitation of the main locomotor pathologies. To this end, they make use of a set of algorithms for calculating biomechanical variables, as well as a series of databases of normal and pathological populations, segmented by age and gender. This application previously depicted are in TRL9

Uoi researchers have experience of fully commercializing research outcomes by transforming research outcomes to products, as in the case of PDNeurotechnology company.

VIDAVO is structured so as to focus into capitalising the research experience and exploit research outcomes turning them into successful commercial products. All these years VIDAVO has consistently invested in scientifically proved, market focused products. Their solutions cover a wide range of application from telemedicine, to mhealth to health content management. In particular, the chronic disease management platform, Vida24®, has been tested across EU both as a remote monitoring solution and an integrated care suite. RAISE's innovative and exploitable results are set to catalyze Vidavo's expansion into a novel and promising business domain focused on active aging. This strategic move heralds the opening of a previously unexplored market, rich with possibilities and ripe for growth. It represents an exciting opportunity for our organization to diversify its portfolio and reach out to an entirely new and expanding pool of potential customers, thereby enhancing our market presence, and contributing to our long-term vision of transformative healthcare solutions.

INESCTEC will be involved with the Center for Biomedical Engineering Research, namely the Bioinstrumentation lab which aims to perform high-level interdisciplinary R&D in engineering and computational approaches applied to health, well-being, rehabilitation and sports performance, namely crossing several areas, such as Physics, Engineering (Electronics, Computation, Signal Processing), Physiology, Physiotherapy, Psychophysics, Sports and Human Movement sciences. INESCTEC aims to expand the networking with the private sector and medical key players through the results obtained in the RAISE, increase of research activities in the field and

INESCTEC constantly establishes strategic partnerships with clinical partners, research institutes, medtech companies and startups and fosters international cooperation to exploit its R&D results and innovative technologies. INESCTEC's solutions are currently undergoing a technology transfer process to portuguese national entities and companies, namely, WalkingPAD is under negotiation to be exploited by the portuguese Ministry of Health Shared Services and it is expected to undergo a certification process in the near to medium term.

Getting easier access to (a new segment of) the public procurement market (did the procurement enable you to work with procurers/end-users that you were not working with beforehand)

Participation in the ROSIA procurement enabled the RAISE consortium to establish direct collaboration with new public healthcare procurers and end-users across different European regions. Through structured communication, pilot testing, and feedback sessions, the consortium gained valuable insight into local healthcare workflows, digital maturity, and operational needs, which were previously outside its network. This engagement has strengthened RAISE's position within the public eHealth procurement landscape, facilitating future collaborations and market entry in similar public-sector initiatives.

Growing your business across borders and/or to other markets (e.g. private markets) thanks to the first customer references provided by the procurement

The procurement provided RAISE with its first cross-border validation and reference customers, enhancing the consortium's credibility in the European digital health and tele-rehabilitation markets. By piloting the solution in diverse healthcare environments, the consortium gained practical understanding of market differences and identified clear opportunities for expansion into new regions and private healthcare sectors. These experiences have laid the foundation for future commercialization activities and strategic partnerships beyond the initial pilot countries.

Shortening the time-to-market for your innovation thanks to early customer/end-user feedback

Early and continuous feedback from healthcare professionals and patients during the pilot phases allowed the consortium to refine and optimize the RAISE platform in real-world settings. This iterative co-design process significantly reduced development uncertainty, ensuring that the solution better meets end-user expectations and regulatory requirements. As a result, the time-to-market for the final RAISE product has been shortened, with a clearer commercialization roadmap and higher confidence in its usability and adoption potential.

4. Business growth

Provide a short description:

How much has your business already grown during the procurement

In terms of (a) personnel growth; (b) turnover growth; (c) growth in market share etc.

All partners involved new or existing personnel during Phase 2.

CERTH will market the RAISE solution through current collaborations with health providers and health companies. CERTH will also use RAISE consortium's connections to promote its unique e-health components and systems in the broader European market.

Televes will market the RAISE solution mainly through telecare/eHealth service providers and its current customers in the Telehealth/telecare market. The modular RAISE solution will bring new customers and enable the solution to be extended to private and public customers. Televes expects the completion of phase III and the piloting of the solution at RAISE deployment sites to serve as an international reference. Subsequently, thanks to Televes' international sales network, feasibility studies will be carried out to support international commercialisation.

Thanks to the results of the project, the **IBV** will see increased opportunities for technology transfer among leading European companies developing customised solutions in the fields of tele-rehabilitation and telecare.

In addition, the deployment of these solutions will allow IBV the establishment of stable collaboration processes with these companies in terms of maintenance, support and evolution of the technological applications developed in the project.

Uoi will utilize the feedback from and collaboration with the procurers' network to bring to market its innovative tools for rehabilitation in Greece and in other participating regions and to mature research outcomes. Also, UOI will promote the RAISE solution through partnerships with hospitals, clinical partners and companies.

Vidavo during the procurement has experienced growth in all three aspects. In terms of personnel growth, we have hired 1 new employee since the start of the procurement. In terms of turnover, and market share we have also seen growth which is a result of the improvement of our services after participating in the procurement. Looking ahead, we see opportunities to expand into new markets and develop new products and services that will continue to drive growth for our business.

During the procurement phase, **INESC TEC** has strengthened its strategic position through partnerships with hospitals, clinical institutions, and medtech companies, promoting the RAISE solution across multiple healthcare networks at both national and international levels. This initiative has not only expanded the visibility and adoption potential of RAISE but has also supported the internationalization of INESC TEC's research and innovation activities in tele-rehabilitation. These efforts have contributed to growth in both personnel dedicated to RAISE and the overall scope of technology transfer and market reach.

What are the prospects to grow your business via wider commercialisation of the solution:

- how large is the potential market for your solution? is it a growing / steady / declining market?
- by when can commercialisation start (now / in 1 / in 3 / in 5 / in more than 5 years)
- is competition patchy (no major players) / established (but no comparable offering) / fierce

CERTH is already collaborating with companies active in the health field and has identified an increasing demand for AI enabled platforms and communication tools (i.e., virtual assistants). Furthermore, through its active involvement in research and innovation actions, CERTH has identified that Greek public healthcare system's demand for e-health solutions is increasing and the e-health market in Greece is growing.

The Global Telerehabilitation Market Size is projected to reach USD 9.13 billion by 2027, exhibiting a CAGR of 13.4% during the forecast period 2020-2027¹, in this way, RAISE is aligned with the objective of increasing **Televes** presence in the Telehealth/telecare market both in gateways and middlewares. Televes will commercialize the resulting Software & Hardware platform following a B2B model, focusing mainly in telecare/eHealth service providers.

IBV advocates for a mutual commercialization with the rest of the RAISE consortium members, placing at their disposal their solutions as a part of the comprehensive final solution. Without detriment of the later, and with the previous consortium agreements, IBV will encourage the technology transfer of their solutions to third parties belonging to the European telerehabilitation and telecare sector.

Uol is active in research related to rehabilitation and delivery of ICT enabled services to patients that need rehabilitation, and has identified pain points and unmet needs in service delivery and market gaps in the growing market for chronic disease management ICT solutions.

Vidavo is poised to expand through commercialization of its telemedicine and mHealth solutions, addressing the growing market demand. Digital health has still a lot room to grow, many features to develop and many use cases to address. Vidavo's key offerings include the wearable (TRL7) and Vida24 suite (TRL9), supporting diverse patient remote monitoring and telemedicine applications. In Vidavo we continuously improve our services (software and hardware) by leveraging our product portfolio and addressing unmet needs. Vidavo aims to capture a significant market share through a B2B model, targeting telecare and eHealth service providers

INESCTEC has ongoing collaborations with some of the largest Portuguese hospitals, and launched several startup companies in the health sector, addressing unmet market needs. The aging population and the continuous annual growth of non-communicable diseases (NCD's) prevalence are placing a huge and growing demand on innovative telerehabilitation solutions, both in Portugal and worldwide

The commercialization of the product is scheduled to start directly after the end of Phase 3.

Which future steps do you plan to take to further grow your business (e.g. attracting additional investors to grow your business, mergers / acquisitions / joint ventures / spin-offs / IPO, setting up sales / distribution channels / marketing activities, expanding to other countries etc.)

CERTH is already offering products to health sector companies. It aims to utilize Phase 2 results to further refine already offered solutions and bring new solutions to the market. Furthermore, it aims to expand to the public procurement market in Greece and in other participating regions. The established spin-off companies of CERTH will also play a crucial role in the exploitation of RAISE solution.

Televes, will base its business grow in its current commercialisation and marketing network. No further investments are foreseen at this stage.

IBV, foresees an organic growth among the European SME, gaining positioning among the European sector of telerehabilitation and telecare solutions manufacturers.

Uol continues being active in research related to rehabilitation and delivery of ICT enabled services to patients thus Uol researchers are currently involved in several related projects investigating advanced solutions based on state-of-art (and looking beyond) technologies including but not limited big data analysis, the use of real-world data and the application of machine /deep learning. As

a future step, UOI aims to expand its research field and provide more health solutions. The above is a strategic research direction for the UOI team, and will be pursued even if the project does not move to the next phase.

Vidavo persistently seeks to broaden its services to encompass a wider range of use cases and user requirements. This expansion is facilitated by the modular architecture of Vidavo's Vida24 suite. Our solutions can be effortlessly adapted to accommodate new scenarios. Throughout this procurement, we gained valuable insights into market needs and enhanced our system. Furthermore, Vidavo supports the growth of its own spin-off, which focuses on refining and commercializing our wrist wearable.

INESCTEC will continue to strive for R&D based innovation to offer solutions for the health market demand and to transfer its technologies to either health and clinical entities, existing companies or promoting new startups and spin-offs at international level

5. Final remarks *(not for publication purposes, to assess how further EU support could best help you)*

What are remaining bottlenecks to commercialise your solution (e.g. certification, legislation etc.)

During Phase 3, the consortium collaborated with MDR as well as regulatory professionals to determine the class status of the RAISE solution. It was concluded that RAISE is not classified as a medical device software and therefore does not require certification by MDR in order to enter the market. The conclusion disposes of a major potential obstacle and allows the consortium to focus on interoperability, market entry, and data protection compliance instead.

One such key bottleneck is awareness and stakeholder participation in the market. Even though the RAISE solution has demonstrated high-quality evidence of effectiveness and user satisfaction during the pilot, awareness of its potential and advantages is low among its future adopters, such as healthcare providers, policymakers, insurers, and patient associations. The majority of markets remain in an early phase of development of digital rehabilitation equipment, and major decision-makers are not yet familiar with the clinical, operational, and economic advantages that an integrated tele-rehabilitation platform like RAISE can offer. Therefore, a coordinated communication and dissemination strategy should be put in place to build credibility, show outcomes, and create awareness among private and public health sectors. This encompasses focused presentations to health officials, attending online health conferences, posting evidence-based results in peer-reviewed articles, and utilizing EU health innovation networks to maximize outreach.

In addition, other investors will need to be pulled in to support large-scale commercialization and business model viability. The consortium is exploring partnerships or a joint venture model to support global deployment of the RAISE platform. But investment will be contingent on demonstrating market readiness, scalability, and regulatory compliance, all of which require concentrated funding and support.

Finally, user training and capacity building remain key for long-term use and user satisfaction. Diversity of end-users from patients and lay caregivers to healthcare professionals demands tailored training modules and onboarding processes to build digital confidence and proper use of the system. Carefully crafted educational pathways, such as e-learning materials, clinician certification modules, and patient-led tutorials, will contribute significantly to acceptability and sustained engagement with the RAISE platform. Without ongoing user empowerment, even an advanced solution risks not being implemented in real-world settings.

What type(s) of assistance do you need to address those bottlenecks and grow your business / commercialise your solution more widely (e.g. EU regulation on x, finding investors, IPR help etc.)

With the culmination of Phase 3, the RAISE consortium has also identified a number of support forms that would help accelerate the commercialisation and greater uptake of the solution across Europe.

1. Investment and Financial Facilitation

The next step towards mass commercialisation requires targeted financial investment to scale up operations, adapt the solution to fit integration into healthcare systems of member states, and execute a sound market-entry strategy. The consortium can benefit from EU-financed investor matchmaking exercises, to pursue possible public-private finance collaborations.

2. Dissemination and Market Awareness

An extremely critical activity where EU assistance could be highly effective is raising awareness and confidence in the RAISE solution with healthcare authorities, clinicians, and patients. The consortium would get visibility across EU digital health networks, such as EIT Health, Digital Europe, and national innovation hotspots, to highlight the evidence-based results achieved in the pilots. International exhibitions, matchmaking events, and stakeholder workshops participation would also help to communicate the value created by RAISE and promote its replicability in European regions. Strategic communication and dissemination planning customized assistance would be crucial to increasing market penetration and collaboration with service providers and insurers.

3. Capacity Building and User Training

Capacity building for patients and clinicians is another key area of assistance. The RAISE consortium envisions the creation of an official digital training system whereby users can enroll in individual modules depending on their function—patients, carers, or clinicians. Collaboration with EU activity on digital skills in health might provide the tools and facilities required to scale up these training efforts.

How important was the procurement for your business (w/could you have done it on your own?)

The ROSIA procurement process has been essential for the development, validation, and future market readiness of the RAISE solution. Without this structured framework, it would have been extremely challenging for the consortium to access real healthcare environments, engage directly with procurers and end-users, and test the solution under realistic clinical and operational conditions.

The PCP model provided a unique co-creation setting where continuous feedback from patients, clinicians, and healthcare authorities guided the iterative design and refinement of RAISE, ensuring that the final solution is evidence-based, user-centred, and aligned with real needs.

Furthermore, the procurement enabled the consortium to address socio-economic and cultural differences among end-users, leading to the development of a modular and flexible platform that can be adapted to diverse healthcare systems and resource settings while maintaining cost-efficiency. Through ROSIA, RAISE was also able to demonstrate measurable impact in the field of tele-rehabilitation—something that would have been difficult to achieve independently due to limited access to clinical partners and funding for large-scale pilots.

Finally, the procurement process has positioned RAISE as a reference solution for integrated digital rehabilitation services in Europe, strengthening the consortium's visibility, credibility, and collaboration potential in the rapidly growing digital health market. It has opened new market opportunities and created the foundation for sustainable commercialization pathways that would not have been possible without the coordinated support and structure of the ROSIA PCP framework.