PROFIT

Optimising workflows to enable smart hospitals

To optimise workflows and reduce staff burden in healthcare environments, the ITEA project PROFIT (PRocedure optimisation and data-driven Operational eFficiency in healthcare environmenTs) will enable smart hospitals via a facilitated and safe deployment of AI and the introduction of innovative solutions for asset management, alarm responses, operational efficiency, and clinical assistance and support to healthcare personnel.

Addressing the challenge

Chronic diseases affect a third of adults worldwide and are rising through rapid urbanisation, unhealthy lifestyles and ageing populations. Meanwhile, healthcare systems are under pressure: expenditures cost 10% of the average EU GDP, while a global shortfall of 13 million nurses is expected by 2030. This calls for smart hospitals, which connect people, data and technologies for better end-to-end care experiences and seamless transitions across care settings. The first challenge on this path is to increase operational efficiency to free up time for patient care.

Proposed solutions

To streamline tasks, improve patient outcomes and reduce human error, PROFIT will introduce novel solutions that optimise and simplify workflows across different areas. For smart asset management, technologies like edge intelligence, IoT and cloud computing will be combined to design smart, real-time location systems and AI to optimise hospital processes. For smart alarm responses and context-aware information management, context-driven information and communication nursing tools will improve resource utilisation, work processes and patient care according to end-user needs. For clinical procedure assistance and workflow efficiency, PROFIT will design a healthcare compute platform and a QA framework facilitating the deployment of AI-based medical algorithms while

respecting requirements and regulations. Crucially, these innovations will be interconnected within and beyond the hospital to address entire patient journeys. This will include the integration

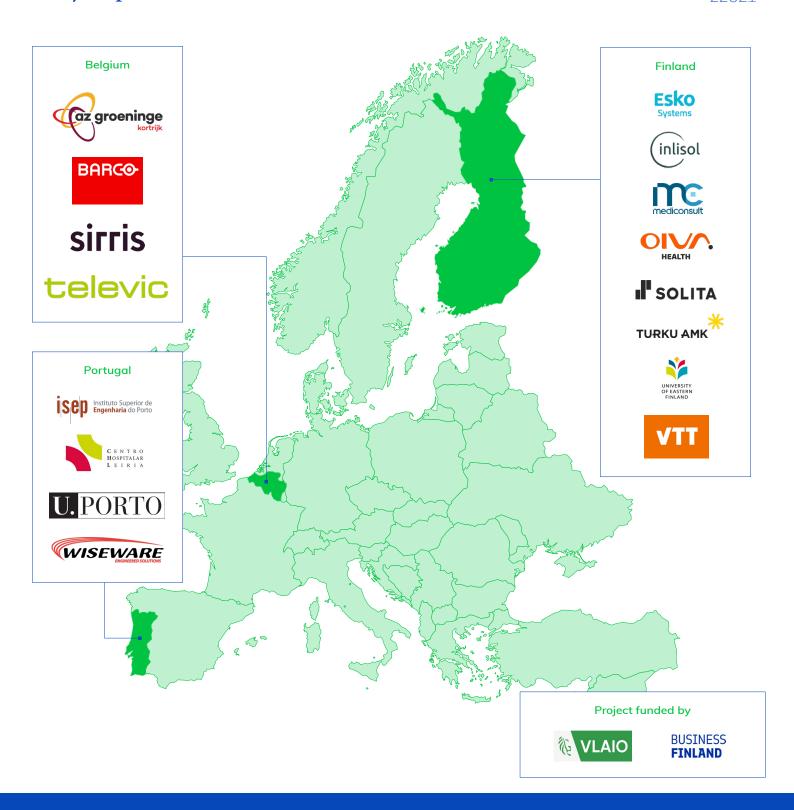^ PROFIT: technologies for optimising hospital processes and enhancing quality of care

of healthcare, social services and long-term care in a holistic and person-centric approach. Technological innovations will be introduced in various areas and clinical use cases and demonstrators will be built to exemplify and validate how the PROFIT solutions will be used in practice and how they complement each other in the clinical workflow.

Projected results and impact

PROFIT's primary outcome will be a

holistic solution that can be integrated within the existing healthcare system and with the existing products' portfolio of the industry partners. Its final goal, however, is firmly on improving quality of care, patient and practitioner experiences, and contributing to the sustainability of the healthcare systems.

PROFIT's market value chain is also relatively short as the industrial partners have existing sales channels to healthcare providers, enabling them to swiftly exploit new products and expand

to new markets. The market potential is very promising; the global healthcare AI market, for instance, will reach US$ 148 billion by 2029 at a 48% compounded annual growth rate. Additionally, the project will investigate new business models and develop integrated demonstrators and proof-of-concept systems for pre-clinical validation. This makes PROFIT a comprehensive first step towards truly smart hospitals.

Project partners

Belgium

az groeninge kortrijk

BARCO

sirris

televic

Portugal

isep Instituto Superior de Engenharia do Porto

CENTRO HOSPITALAR LEIRIA

U.PORTO

WISEWARE ENGINEERED SOLUTIONS

Finland

Esko Systems

inlisol

mc mediconsult

OIVA HEALTH

SOLITA

TURKU AMK

UNIVERSITY OF EASTERN FINLAND

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