RM4HEALTH

Improving healthcare and sports with remote monitoring

The ITEA project RM4HEALTH (Remote Monitoring in Health and sports) will boost continuous monitoring by allowing wearables and devices to relay measurements to a cloud-based remote monitoring platform for data ingestion. This will enable data modelling and algorithm development, yielding actionable insights into the health status of patients and athletes.

Addressing the challenge

Ageing populations mean increased injuries, chronic diseases and comorbidities, putting pressure on healthcare and wider society. In the US, for instance, a fifth of patients are readmitted within 30 days, costing over USD 26 billion annually. Remote monitoring would help patients and physicians with optimal preparation to avoid diseases and boost recovery, while fitness monitoring could also help athletes and coaches maximise performance. However, with value and intellectual property moving from technology towards applications and solutions, defragmentation and open technology platforms are required to keep Europe at the forefront of affordable healthcare.

Proposed solutions

To achieve this, RM4HEALTH will focus on the development of an open technology platform for vital sign monitoring. This will help emerging e-health applications and technologies to bridge the 'valley of death' more quickly and at a lower cost. In doing so, the project has four key aims. Firstly, new and existing wearables will use metrics like temperature and blood pressure as data sources for further innovations on data integration and algorithm development. This will transform the metrics into clinical insights to support use-cases. Secondly, the platform will enable continuous data collection from wearables and devices to develop advanced algorithms and data models and to connect with apps and

dashboards for use-cases, patient groups and athletes. Thirdly, digital twins and AI models will allow patients and athletes to track their own statuses. Finally, data-driven insights will be used to develop care and training programmes, including

^ Remote cardiac monitoring

alerts and recommendations for self-management.

Projected results and impact

At its core, RM4HEALTH is about reaching the potential of wearable health monitoring systems so that patients and athletes can maintain or regain an optimal health status. Compared to acute care monitoring, remote monitoring offers greater wellbeing as patients can stay in their preferred environment and nearer to loved ones; clinical deterioration can also be detected earlier, avoiding emergency

admissions. Additionally, monitoring of individuals in their normal lives provides insights that cannot be replicated in a lab or hospital. For healthcare providers, this greater understanding of a patient's condition can increase the effectiveness of clinical outcomes, thereby reducing costs and freeing up staff. By offering full ecosystem solutions, RM4HEALTH will also enable data-driven solution-as-a-service and subscription models with recurring revenues instead of traditional single-instance transactional business models, resulting in a significant market

impact for the partners – including SMEs, which can integrate their devices and functionalities into the project platform. In turn, this will boost Europe's share of the remote patient monitoring market, expected to be worth USD 3.15 billion by 2025 at a compound annual growth rate of 30.4%.

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WISEWARE ENGINEERED SOLUTIONS

Project funded by

CDTI Centro para el Desarrollo Tecnológico Industrial

Netherlands Enterprise Agency

BUSINESS FINLAND

Project start
Januari 2023

Project end
December 2025

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