



## **PERSIMMON Project: Pioneering Sustainable and Personalized Health Monitoring through Smart Patches**

PERSIMMON project is set to revolutionize the future of healthcare and environmental sustainability in Europe. In alignment with the 2023 State of the Union Address by President von der Leyen, PERSIMMON addresses key challenges facing the European Union by advancing decentralized personal health monitoring (DPHM) while significantly reducing environmental impact.

At the heart of PERSIMMON's innovation are biodegradable smart patches developed using cutting-edge sensor materials and digital surface mount technology (SMT). These patches are designed to provide continuous, personalized health monitoring, offering European citizens increased freedom, security, and health benefits. The project envisions an economic impact of up to €100 billion per year within a decade, driven by the widespread adoption of these technologies.

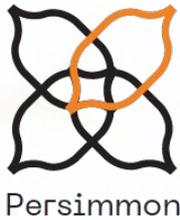
PERSIMMON's approach emphasizes sustainability and circularity in the production and disposal of smart patches. By leveraging biopolymers, liquid metal interconnects, and low-power recycling processes, the project ensures that these devices contribute minimal environmental waste, avoiding the pitfalls of microplastic pollution and excessive carbon emissions. Moreover, PERSIMMON's innovative recycling techniques for critical metals like gallium (Ga) align with the EU's Net-Zero Industry Act and Critical Raw Materials Act, reducing reliance on restricted materials.

The project also embraces the use of edge AI technology for health monitoring, adhering to the principles of the forthcoming AI Act. This ensures that data-driven carbon footprints are minimized, further enhancing the environmental benefits of PERSIMMON's solutions.

In addition to environmental gains, PERSIMMON is poised to strengthen Europe's electronics industry and manufacturing sector, with the potential to create 80,000 new jobs. By capturing an estimated 10% of the smart patch market within the next ten years, the project will contribute to better lives for millions of citizens while positioning Europe as a leader in clean and health technology.

The rapidly expanding market for smart patches, projected to reach over \$27 billion by 2033, underscores the urgency of sustainable innovation. PERSIMMON addresses this need by introducing personalized, multimodal sensor nodes for DPHM, capable of monitoring vital signs such as blood pressure and body temperature over extended periods. These advancements promise to enhance the quality of life while mitigating environmental risks associated with the growing use of disposable electronics.

PERSIMMON's holistic approach, which includes rigorous life cycle assessments (LCA) and studies on user comfort and compliance, ensures that the project's outcomes are both environmentally sustainable and socially responsible. By fostering a circular economy in the healthcare sector, PERSIMMON is setting a new standard for smart medical devices.



## About PERSIMMON:

With the participation of 13 Partners from 5 European countries, and with a total funding of more than €7 million, PERSIMMON is a pioneering European project focused on developing sustainable, personalized health monitoring solutions through smart patches. The project brings together leading experts in sensor technology, additive manufacturing, AI, and social sciences to create a new generation of eco-friendly, high-performance health monitoring devices.

For more information, please visit <https://persimmon-project.eu/>.

## PROJECT DETAILS:

<b>Grant Agreement Number</b>	101129713
<b>Project Full Title</b>	Personalized Sustainable Smart Patch Omnificence
<b>Project Acronym</b>	PERSIMMON
<b>Funding scheme</b>	RIA
<b>Start date of the project</b>	1 <sup>st</sup> September 2024
<b>Duration</b>	48 months
<b>Project Coordinator</b>	Klas Hjort   Uppsala University
<b>Project Website</b>	<a href="https://www.persimmon-project.eu">https://www.persimmon-project.eu</a>

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