ENABLING DIGITAL TECHNOLOGIES FOR HOLISTIC HEALTH-LIFESTYLE MOTIVATIONAL AND ASSISTED SUPERVISION SUPPORTED BY ARTIFICIAL INTELLIGENCE NETWORKS

H2TRAIN

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H2TRAIN

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CHALLENGES & OBJECTIVES

Advancement in Biosensors for E-Health and Fitness Tracking

Key Challenges	• Sensing New Biosignals • Battery Life Extension
Expected Outcomes	• Using 1D and 2D Materials • Integration of AI
Advances	• E-Health Services • Wereable Technology

TECHNOLOGY DEMONSTRATORS

- Tattoo sweat sensing
- Glycemy Sensor System
- pH Sensor System
- ECG, EMG & SpO2
- Cortisol & Lactate on Graphene
- In-water activity tracker
- Energy harvester
- Biometric cryptography
- Textile-integrated tracker
- Edge-cloud AI continuum

PROJECT EVOLUTION

Project Start at TRL 1
Strong consortium
Webpage created

Project End
•TRL 5-6 Short Scale Demonstration stage

- Commercial production devices and systems.
- Star-ups created.
- AIoT industry implementing H2TRAIN technology.
- Energy harvesting industry implementing H2TRAIN technology.
- Biosensing industry implementing H2TRAIN technology.

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Large Scale Demonstration stage

2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | ...

Market implementation

Novel biosensing device integration (28 JUNE-4 JULY)

Embedded Intelligence (5 – 11 JULY)

System of systems (12 – 18 JULY)

Path for TRL 5-6 established

- Maturation and validation of the technology at larger scale.
- Key stakeholders engaged.
- Business case and business model towards commercialization developed.

www.h2train-project.eu

EXPECTED IMPACT

The H2TRAIN project will develop a range of advanced wearable biosensors and IoT-integrated devices for e-health and fitness tracking.

Publications:
High-impact scientific publications in materials science, AI, IoT, and wearable health tech.

Patents:
On novel biosensor designs, 1DM and 2DM integration, and energy-efficient data processing methods.

Sales:
By meeting the increasing demand for wearable health-monitoring solutions, H2TRAIN's products are expected to drive considerable sales growth in both consumer and medical device markets.

CONSORTIUM

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