



## TEF H2 Satellite

The TEF H2 satellite is dedicated to maximising the potential of hydrogen energy systems and enable their integration within diverse energy ecosystems. It aims to optimise the hydrogen utilisation in multiple settings, including mobile, residential and industrial environments. The basis is in France and managed by CNRS FEMTO-ST, that contributes with its research and testing facilities, as well as its hydrogen-tailored AI applications.



## Unlock Innovation with Our Energy Services

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### Project Coordinator

Dr. Elissaios Sarmas [EPU]  
[esarmas@epu.ntua.gr](mailto:esarmas@epu.ntua.gr)

Prof. Vaggelis Marinakis [EPU]  
[vmarinakis@epu.ntua.gr](mailto:vmarinakis@epu.ntua.gr)

# Services

## 01 AI-Driven Energy Management for Fuel Cell Hybrid Electric Vehicles

This AI-powered energy management service optimizes power flow in Fuel Cell Hybrid Electric Vehicles (FCHEVs) by intelligently balancing energy use between the fuel cell and battery. Using real-time and historical driving data, it enhances vehicle efficiency, extends component lifespan, reduces hydrogen consumption, and ensures reliable performance across diverse driving conditions.

## 02 AI-Driven Active Control for More Efficient Hydrogen Integration in Microgrids

This AI-powered service enables intelligent control of hydrogen technologies within microgrids by coordinating real-time operation of electrolyzers, fuel cells, and other energy storage systems. It ensures optimal energy flow between hydrogen and electrical systems, enhancing efficiency, reducing renewable intermittency, and supporting grid stability.

## 03 Data-Driven Predictive Modelling for Fuel Cell Performance and Degradation

This service provides predictive analytics for fuel cell systems using data-driven models. By analyzing historical and real-time operational data, it forecasts performance degradation and identifies potential failures in advance. The goal is to enable proactive maintenance, reduce downtime, and extend the lifespan of fuel cell systems through intelligent, real-time monitoring and decision support.



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