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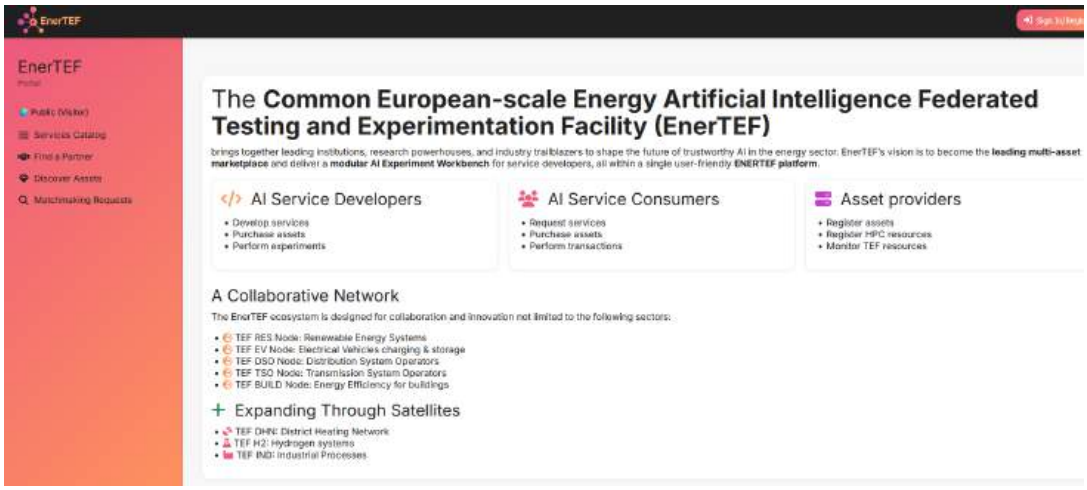
Common European-scale

**Energy Artificial Intelligence**

Federated

**Testing and Experimentation Facility**

# News




## EnerTEF Portal is Live!

EnerTEF is designed to become **Europe's leading multi-asset marketplace** and a home to a **modular AI Experiment Workbench**, enabling seamless development, testing, and deployment of AI services in a trustworthy environment. Through a single, user-friendly

platform, key players across the energy value chain can collaborate, experiment, and grow.

## Who Is EnerTEF For?

**AI Service Developers**

Develop cutting-edge AI services

Purchase assets and datasets

Run experiments in a secure and federated environment

**AI Service Consumers**

Request ready-to-use AI services

Acquire assets

Conduct transactions across a trusted EU marketplace

**Asset Providers**

Register and share assets

Add HPC resources

Monitor and manage TEF infrastructure

## A Growing Collaborative Ecosystem

EnerTEF connects innovation across multiple domains, supporting a wide spectrum of energy-related use cases:

- **TEF RES Node:** Renewable Energy Systems
- **TEF EV Node:** EV Charging & Storage
- **TEF DSO Node:** Distribution System Operators
- **TEF TSO Node:** Transmission System Operators
- **TEF BUILD Node:** Energy Efficiency for Buildings

And the ecosystem continues to expand through specialized satellites: **District Heating Networks (DHN), Hydrogen Systems (H2), and Industrial Processes (IND)**.

We invite all developers, providers, and energy stakeholders to explore the platform and join us in shaping the next generation of AI-driven energy innovation.

**Visit the EnerTEF Portal here** Click Here!

# EnerTEF Assets from TEF RES in Greece

We are pleased to present the **Renewable Energy Sources (RES) Monitoring & Analytics Platform**, now integrated into the EnerTEF ecosystem. This digital environment delivers advanced analytics, real-time monitoring, and operational intelligence for renewable energy installations across Greece.

## Explore Renewable Energy Assets

Users can select from multiple RES categories to access dedicated dashboards, detailed performance metrics, and operational insights.

## Hydroelectric Power

**Facilities:** 3 operational plants

**Available Analytics:**

- Production monitoring
- Water resource management
- Efficiency analysis
- Operational performance evaluation

## Wind Energy

**Facilities:** Coming soon

**Planned Features:**

- Wind farm analytics
- Turbine performance monitoring
- Wind speed and direction forecasting
- Operational and efficiency metrics

### Solar Energy

**Facilities:** Coming soon

**Planned Features:**

- Photovoltaic (PV) farm analytics
- Panel performance monitoring
- Irradiance and environmental data analysis
- Efficiency and output tracking

## Capabilities

**Data Analytics ( e.g. Historical trend analysis)**

**Operational Monitoring (e.g. Production metrics tracking)**

**Resource Management (e.g. Water flow and reservoir management)**

**Visit the RES Greek Assets here** Click Here!

## Athens Energy Portal is Live!

The **Athens Energy Portal, made by NTUA,** is an innovative digital platform designed to centralise, monitor, and transparently present key information about the Municipality's building infrastructure. By consolidating data from all municipal facilities, the portal supports informed decision-making, improved energy management, and the broader decarbonisation goals of the city.

Through a modern and user-friendly interface, the Athens Energy Portal enables:

- **Comprehensive recording** of all municipal buildings along with their technical and operational characteristics
- **Interactive mapping** that visualises the geographical distribution of public buildings across Athens
- **Continuous monitoring of energy consumption** across electricity, heating, and other networks
- **Calculation and tracking of the Municipality's carbon footprint**
- **Clear visualisations and analytical tools** that help identify trends, inefficiencies, and opportunities for improvement

**Visit the Athens Energy Portal** Click Here!

## EnerTEF Services Catalogue Available!

After months of dedicated collaboration across our expansive EnerTEF ecosystem, coordinated by DSS Lab EPU-NTUA and powered by five dynamic nodes and three innovative satellites, we are excited to unveil the first draft of our Catalogue of Services. This milestone marks a major leap forward for the energy innovation landscape, bringing together thirty cutting-edge services from our EnerTEF Nodes and ten groundbreaking offerings from our Satellites in one comprehensive and powerful resource.

This catalogue opens up a world of possibilities for testing, experimentation, and real-world deployment in the energy sector. Our mission is clear: to bridge the gap between end users and SMEs by defining the industry's most pressing needs, providing essential tools such as high value datasets and high performance computing resources, and empowering startups to build tailor-made AI solutions that deliver meaningful and measurable impact.

And this is only the beginning. The final version of the catalogue is already on the horizon, set to include an even broader range of services designed to accelerate innovation, strengthen competitiveness, and support the next generation of AI driven solutions.

SMEs and startups, prepare for what comes next. Significant opportunities are on the way, and the EnerTEF ecosystem is ready to support and amplify your journey.

**Don't miss out the Catalogue** Click Here!

# Communication Material

## EnerTEF Nodes & Satellites Factsheets

Discover the full potential of the EnerTEF ecosystem with our newly released factsheets, crafted to offer a clear and engaging overview of the services delivered by our five EnerTEF Nodes and three innovative Satellites. These factsheets provide an in-depth look at each service, showcasing advanced capabilities, cutting-edge technologies, and the tangible benefits available to SMEs, startups, and innovators across the energy sector.

Whether you aim to tap into powerful high performance computing resources, unlock value from expertly curated datasets, or explore new frontiers in AI driven experimentation, these factsheets serve as your essential entry point to everything the EnerTEF ecosystem has to offer. They are designed to inspire, inform, and guide you toward the tools and opportunities that can accelerate your innovation journey.

Step inside the EnerTEF ecosystem and discover how these services can propel your ideas forward.

## EnerTEF Sustainable Places 2025 Factsheets

You can download the Factsheets by clicking here.

**Do you want to see more and learn about EnerTEF?**
**Follow us**

# Events

## NTUA Energy Week

24-28 November 2025

Athens / Greece

EnerTEF participated in NTUA Energy Week 2025, held at the NTUA Multimedia Amphitheatre and organised by the IEEE PES NTUA SB. The project contributed to a dedicated session on AI and Energy.

During the session, Elissaios Sarmas, EnerTEF Project Coordinator, presented the vision and objectives of the EnerTEF initiative, the Common European-scale Energy AI Federated Testing and Experimentation Facility. The presentation highlighted how startups, SMEs, and end-users will soon be able to benefit from the EnerTEF Portal, which will offer advanced testing environments, federated data resources, and AI validation tools designed to support innovation in the energy domain.

A key part of the discussion focused on the integration of new end-users, such as Metlen Energy & Metals, and new startups, including avokado, into the expanding EnerTEF ecosystem.

The session featured contributions from several organisations active in the Greek and European energy landscape, including PPC S.A. (partner of EnerTEF), PPC Renewables - ΔΕΗ Ανανεώσιμες, Schneider Electric, Metlen Energy & Metals and more.

## Enlit Europe 2025

18-20 November 2025

Bilbao / Spain

EnerTEF participated in **Enlit Europe 2025**, the leading energy innovation event uniting experts, researchers, and industry pioneers shaping the future of Europe's energy transition.

EnerTEF organised a TEF Cluster Workshop with Energy Guard and AI-Effect sister projects on 20 November 2025, from 10-11:30 CET, at the EU Projects Zone (EU Projects Zone Hub - Theatre 1 (Hall 5). EnerTEF also had a **stand during the full 3 days at 5.F30–S022 with EnergyGuard, attracting many stakeholders across Europe.**

## Apps4Athens Hackathon 2.0

15-16 November 2025

Athens / Greece

EnerTEF participated in the 2nd Annual Innovation Marathon “Apps4Athens Hackathon 2.0 – AI Edition”, organised by the City of Athens and implemented by DAEM S.A., partners of EnerTEF at the Serafio City of Athens venue.

This year’s hackathon focused on Artificial Intelligence for smart resource management, sustainability and active citizen participation, bringing together startups, students, researchers, developers and professionals to co-create digital solutions for a more resilient and climate-neutral city.

The **Athens Energy Portal** was presented alongside other innovative tools and projects, including those developed within the European initiatives BUILDSPACE, ASCEND Projects and related smart city actions in Athens.

## International Conference on Energy in Buildings 2025

15 November 2025

Athens / Greece

The **EnerTEF Project** participated with Elissaios Sarmas, Senior Research Associate at the **Decision Support Systems Laboratory (DSS Lab), EPU–NTUA**, as a speaker at the **International Conference on Energy in Buildings 2025**, organised by the **ASHRAE Hellenic Chapter** under the support of the **Technical Chamber of Greece (TEE)**.

EnerTEF focused on the topic **"Digital Twins as Enablers of a Smarter and Energy Efficient Building Sector"**, on how **Artificial Intelligence (AI)** and **Digital Twin technologies** can drive the transition toward more intelligent, resilient, and sustainable buildings.

The session explored the application of digital innovation in improving building performance, enhancing energy efficiency, and supporting the integration of smart control systems and data-driven decision-making in the built environment.

## EBDVF 2025

14 November 2025

Copenhagen / Denmark

The **EnerTEF Project** took part in the **European Big Data Value Forum (EBDVF 2025)** in Copenhagen, Europe's leading event focused on data and AI-driven innovation.

**Elissaios Sarmas (DSS Lab, EPU-NTUA)**, EnerTEF Project Coordinator, spoke in the session titled: *"Foundations for an AI-Data-Driven Energy Future"*, contributing to a discussion on how **artificial intelligence, data spaces, digital twins, and smart infrastructures** are shaping the next generation of **intelligent, interoperable, and sustainable energy systems**.

# EnerTEF 3rd Project Meeting

22-23 October 2025

Porto / Portugal

On October 22-23, the full EnerTEF consortium, coordinated by DSS Lab, EPU-NTUADSS Lab, EPU-NTUA, gathered in Porto to mark the project's first anniversary, review progress, and plan the next phase of development.

During the meeting, partners visited INESC TEC's laboratories, including advanced hardware-in-the-loop setups, as well as key demonstration sites such as the Wave Power Station operated by Companhia de Energia Oceânica and CorPower Ocean's buoy construction facility.

**Key achievements from the first year include:**

- Development of a **Data Space–compliant mechanism** enabling sovereign and trustworthy data and asset exchange.
- The **first release of the EnerTEF Portal**, a marketplace providing AI Testing and Experimentation access for startups and SMEs.
- Establishment of a **growing catalogue of physical and digital assets**, including HPC components, Digital Twins, and regulatory sandboxes, available to partners across Europe.

# Sustainable Places 2025

8-10 October 2025

Monte Rosa 91 Conference Centre, Milan (in collaboration with Comune di Milano)/ Italy

This workshop explored human-in-the-loop digitalisation, ensuring energy innovation is inclusive, resilient, and socially grounded. Together with projects from the **Smart Energy Cluster**, **DEDALUS**, **Crete Valley**, **ENPOWER**, **EnerTEF** will showcased experiences that combined co-creation, flexibility, and market validation.

**Roundtable highlights**

- Empowering citizens and consumers through co-design and participatory governance.
- Ensuring interoperability and cross-carrier flexibility.
- Building robust innovation ecosystems linking SMEs, startups, communities, and industry.

## ESAIM 2025

8 October 2025

Donostia - San Sebastian / Spain

The EnerTEF Project participated in the **3rd European Symposium on Artificial Intelligence in Manufacturing (ESAIM 2025)** taking place on 8 October 2025 in Donostia – San Sebastian, Spain. Our partner, the **Laboratory for Manufacturing Systems & Automation (LMS)**, presented a paper titled: ***"Using Neural Operators as Manufacturing Processes Digital Twins: the Case of Laser Processes in Industry 5.0".*** The paper is authored by **Nikolaos Bourlesas, Alexios Papacharalampopoulos, and Panagiotis Stavropoulos**, and highlights innovative approaches to applying neural operators for advanced digital twin solutions in manufacturing, with a focus on laser processes in the context of Industry 5.0.

# Our Partners

This project has received funding from European Union's Horizon Europe Research and Innovation programme under the Grant Agreement No 101172887.

**EnerTEF**

Athens, Athens
Greece

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