Project COCOON
Thessaloniki, 20/04/2026

# Shielding Critical Infrastructure: Cybersecuring the Future Power Grid

**COoperative Cyber prOtectiON for modern power grids – COCOON**

COCOON is an EU-funded research and innovation project developing cyber-physical solutions for the protection of modern energy systems, applying in all different critical infrastructure.

## COCOON AT A GLANCE

COCOON aims to deliver advanced **cyber-physical protection solutions for modern power grids** and **next-generation substations**. The project brings together the expertise of academic partners with the infrastructure and operational experience of industry stakeholders to develop a practical solution: the **COCOON Programmable Node (CPN)**—a cost-effective, high-performance tool designed to enhance the cybersecurity of critical systems against evolving cyber threats.

The impact of COCOON will be demonstrated through **four real-world pilot sites,** ranging from an energy community and a regional coordination center in Greece, to a photovoltaic (PV) plant in Spain and a digital substation in the Netherlands.

In today's unstable global landscape, where geopolitical tensions and conflicts extend beyond borders, cyber threats are rapidly increasing. As a result, projects like COCOON are more critical than ever in safeguarding the resilience and security of modern energy systems.

## FROM THEORY TO ACTION

COCOON is now in the final months of its implementation, with its technologies ready to be tested in real-world environments across the four pilot sites.

1. **COCOON Programmable Node (CPN)**
   The CPN, composed of three core layers (COMML, IOL, and CSL), has reached its final development stage. The main challenge for UGLA and UCY was ensuring seamless interconnection between the layers—now successfully achieved.

2. **COCOON Dashboard**
   The operator dashboard is now finalized, providing a unified platform tailored to pilot requirements and supporting monitoring, detection, and decision-making.
3. **FDII Validation**
   USE has successfully tested cyberattack scenarios in a software environment to validate the **False Data Injection Identification (FDII)** algorithm. Results show strong detection capabilities, even for stealthy attacks. Validation in a physical lab is already underway, moving towards **TRL6**.
4. **Pilot Deployment**
   All pilot sites have **physically deployed the CPN**, integrated with the final dashboard and system architecture. Testing is about to begin, targeting **TRL7** through real-world validation.

# COCOON IS DISSEMINATED ACROSS EUROPE

COCOON partners and the **Dissemination team** have been actively showcasing the project's impact and tools at several key events across Europe.

- **SEMICON Europa 2025, Munich** – COCOON was present at this major **semiconductor exhibition**, highlighting the vital role of cybersecurity in modern digital industries (see Photo 1).
- **AI Enables Cybersecurity: The Meetup, Athens** – Organized by Cosmote, this event brought together cybersecurity experts, offering an excellent platform to **share COCOON's advancements**, exchange ideas, and discuss emerging trends in cybersecurity (Photo 2),
- **AI Meetup, Athens** – Organized by Cosmote, this event brought together cybersecurity experts, offering an excellent platform to **share COCOON's advancements**, exchange ideas, and discuss emerging trends in cybersecurity.
- **High-level AI & Critical Infrastructure Conference, Cyprus** – Our Coordinator, **Prof. Angelos Marnerides**, presented at "Driving Trustworthy AI through Design and Regulation," discussing **AI-driven security for Critical Infrastructure** and showcasing the COCOON Programmable Node in real-world scenarios.
- **Collaborative initiatives** – COCOON and a sister project, sharing several common partners, have agreed to **pursue joint actions in the future** to strengthen cooperation and knowledge exchange.
- **Consortium activities** – The COCOON **6th General Assembly** took place in Granada (Photo 3), alongside the **final internal workshop** in Seville, organized by **USE** (Photo 4), showcasing the project's latest technical achievements.

Through these activities, COCOON continues to **increase its visibility and engagement** in both the cybersecurity and energy communities across Europe.


# ENGAGING ON SOCIAL MEDIA

COCOON remains highly active on social media. On **Spotify**, we launched a new podcast series titled **"Inside COCOON: Final Results & Real Pilots."** The first two episodes have already been released: one with **UCY**, covering cyberattack demonstrations, the COCOON Dashboard, and insights from the project coordinator on organizational aspects, and one with **AUTH**, focusing on the **FDII algorithm** and its role in detecting falsified data in modern power grids.

COCOON has remained **highly active on LinkedIn**, sharing updates on the project's results. Posts have covered a range of highlights, from the **alpha version of the Dashboard** to the **first real-world demonstration of Ancillary Services (AS) in Greece**, and the **cybersecurity incident response training** conducted by ENCS for operators.

All dissemination events and their key takeaways were also shared, allowing followers to stay directly informed about project activities.

Finally, the **COCOON website** has been updated, providing a central place to follow the **latest developments** and learn about the project's outcomes in real-time as it approaches its final phase.

## For updates, visit: https://www.cyber-cocoon.eu

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# Partners:

University of Cyprus – Coordinator (UCY)

Aristotle University of Thessaloniki (AUTH)

Universidad de Sevilla (USE)

Delft University of Technology (TUD)

Ingelectus Innovative Electrical Solutions SL (ING)

Southeast Electricity Network Coordination Centre (SEL)

European Network for Cyber Security cooperatief (ENCS)

Enexis Personeel B.V.(ENE)

Cuerva Energia (CUE)

Hellenic Distribution Network Operator (HEDNO)

I&K Electrical Engineering Systems (IKE)

University of Glasgow (UGLA)

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