

# CERTIFY NEWSLETTER #5

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October 20, 2024

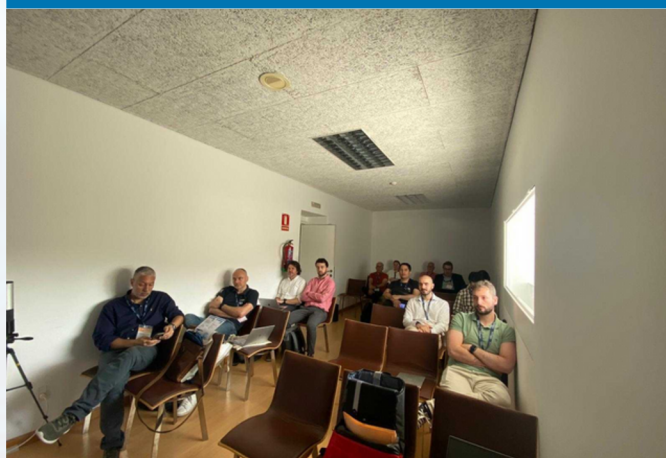
## Top News

Review meeting, stakeholders meeting, and plenary meeting in Salamanca, Spain

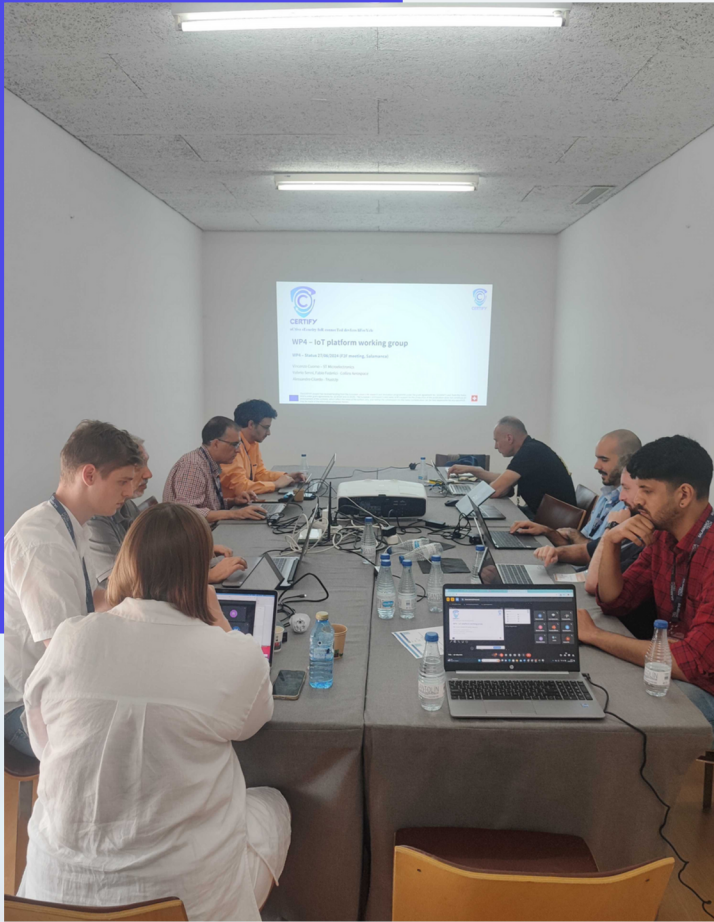
## CERTIFY

defines a methodological, technological, and organizational approach towards IoT security lifecycle management based on

- security by design support
- continuous security assessment and monitoring
- timely detection, mitigation, and reconfiguration
- secure Over-The-Air software update
- steady security information sharing



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# Newsletter Highlight

We had our 4th plenary meeting of the project on 26-28 June 2024 organized by Air Institute in Salamanca. The meeting was chaired by our project coordinator and joined by all partners physically and remotely. Each project partner presented its relevant work tasks, deliverables and milestones.

## Inside This Issue

- 4th plenary project meeting in Salamanca, Spain organized by Air Institute

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- Stakeholders meeting, WISP conference

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- Mid-term review meeting

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“The Internet of Things is not a concept; it is a network, the true technology-enabled Network of all networks.”

**Edewede Oriwoh**



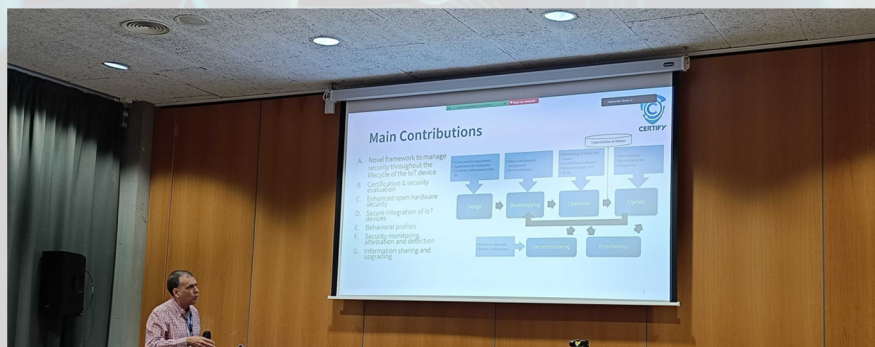
# 4th PLENARY MEETING



4th plenary meeting of CERTIFY was held in Salamanca, Spain from 26 to 28 June 2024 and was conducted by the Air Institute. During the meeting work package and task leaders took the lead and presented activities and their results since the last plenary meeting.



The format of the meeting included presentations by the work leaders followed by open discussion on tasks, results and next steps of the work packages. Meeting minutes and action points for each partner were prepared.



12

Research Partners

8

Countries

36 M

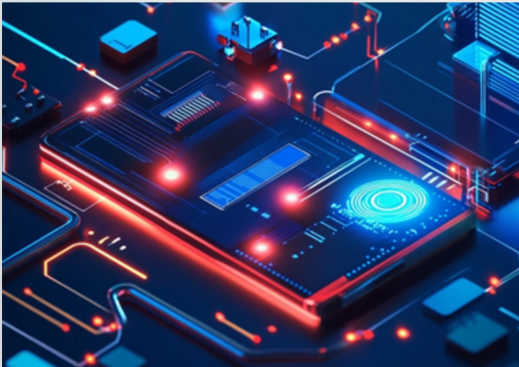
Project duration

# REVIEW MEETING

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The review meeting for the CERTIFY project focused on a comprehensive assessment of technical progress, ensuring adherence to project deliverables, and evaluating the impact of ongoing research activities was held. Work package leaders, along with the project coordinator and external evaluators, conducted a detailed review of the scientific and technical milestones, addressing any encountered challenges and deviations from the planned work. The meeting also included an in-depth review of resource allocation, dissemination of research findings, and formulation of next-phase action plans to ensure technical objectives are met within the established time frame.

Additionally, each work package leader provided an in-depth analysis of their respective areas, discussing progress, obstacles, and upcoming tasks. A detailed demonstration was also conducted on all three use cases, showcasing the practical applications and technical achievements to date, highlighting how they align with the overall project goals. Below you can find some work showcased in the review meeting:



Collins Aerospace demonstrated the secure enrollment, configuration and reconfiguration in 2 parts (Bootstrapping, Operations). In demonstration, device was authenticated, configured according to the manufacturer's profile specified in the MUD. Moreover, its behavior was monitored during the network bootstrapping and the extended threat MUD profile was enforced in the domain to automatically manage a novel threat. Finally, it also included the runtime attestation of the device behavior. The demonstration is available at <https://youtu.be/BVmJBCACymk>.

digital worx GmbH demonstrated the process of device registration once the bootstrapping of the device was already done, followed by the process of detecting threat with help of IDS, and publishing the threat evidence.

Additionally, it included showcase of the process of retrieving of software, updating the software and recording the update event. The main focus was to demonstrate the secure update and upgrade process followed in the project. The demonstration is available at <https://youtu.be/gRg7zd6hfGM>.



University of Zurich with the help of STMicroelectronics demonstrated the process of secure device bootstrapping in the low-end ARM device.

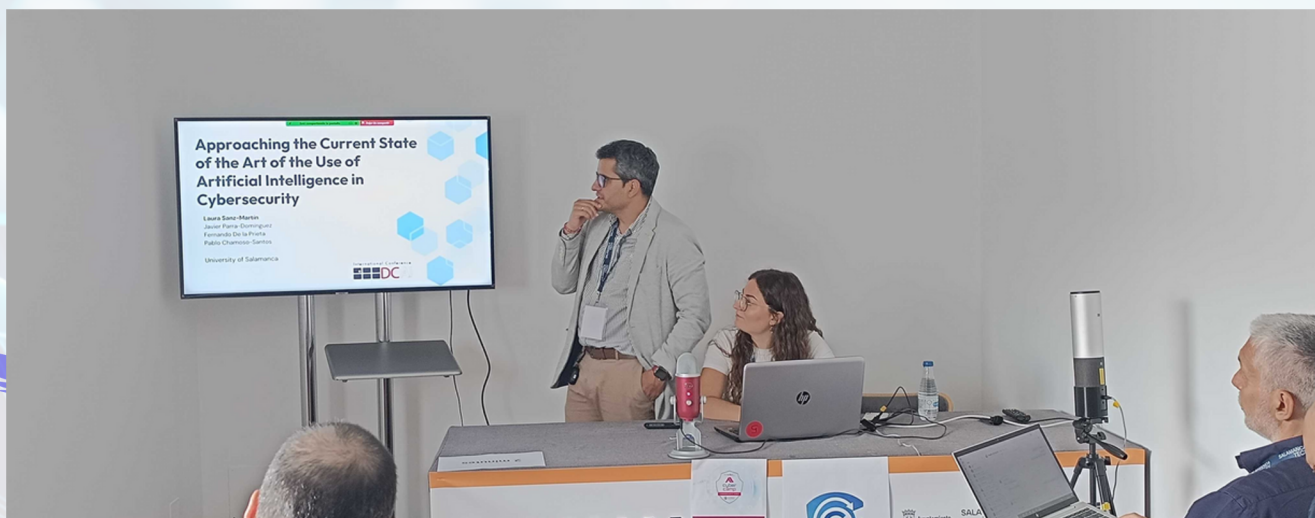
The main focus was on showcasing the device authentication successfully, fast key derivation and signature based on HMAC and setting up device according to the manufacturer's MUD profile. Additionally, it involved showcasing of the IoT device behavior monitoring during bootstrapping. The demonstration is available at <https://youtu.be/7Z7OXMLWqis>.



# SALAMANCA MEETING

## Stakeholder's Meeting

During the Stakeholder Day, we introduced CERTIFY and its lifecycle, followed by showcasing the connected cabin use case. This included demonstrations of device bootstrapping, reconfiguration, and runtime attestation. Additionally, we presented an artwork tracking use case and demonstrated device bootstrapping on an ARM low-end platform, highlighting practical implementations and functionalities. The event gathered 22 potential stakeholders, fostering a diverse and engaged audience.



After an interval, we delved into the smart micro factory use case, covering threat detection and software upgrade. It involved simulating a threat, detecting it using SIEM, forwarding through CTI Sharing for mitigation. Thereafter, a mitigation action was carried out by the manufacturer which included software update using the SUUA.

Two scientific presentations were delivered: one on artificial intelligence in cybersecurity and the other on accounting and cybersecurity. These presentations offered valuable insights into relevant topics, followed by an interactive Q&A session. The event provided a comprehensive overview of our project and facilitated meaningful discussions among participants.

# SALAMANCA MEETING

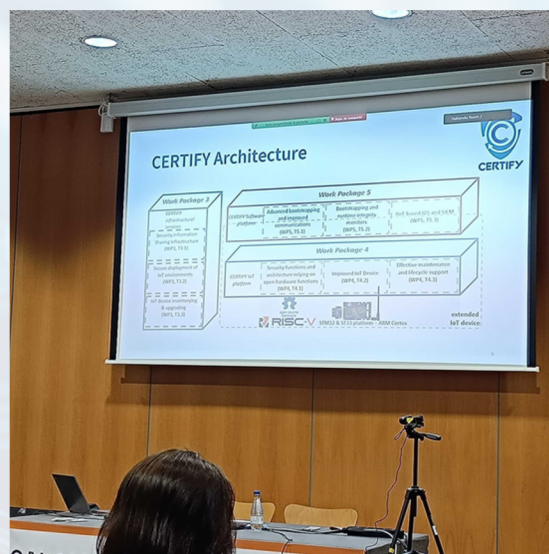
## WISP Conference

The EU Horizon CERTIFY project, jointly with the EU Horizon projects ERATOSTHENES, ENTRUST, TRUSTEE, CROSSCON, COBALT, ENCRYPT, REWIRE, DOSS, PQ-REACT, and CYBERUNITY, organized a special session on Intelligent Internet of Things Security and Privacy (WISP) as part of the DCAI 2024 conference (21st International Conference on Distributed Computing and Artificial Intelligence) held in Salamanca, Spain. The WISP session aimed at fostering knowledge exchange on solutions and approaches for the security and privacy of Internet of Things (IoT) devices applied to a heterogeneous set of use cases.



A total of 9 papers were selected for the special session and were presented in a hybrid format. The CERTIFY consortium actively contributed to the conference success by participating in the Technical Program Committee, and Prof. Antonio Skarmeta (UMU) chaired the session. Two papers, authored by the CERTIFY consortium, have been presented by Stefano Sebastio (Collins Aerospace) and Antonio Skarmeta (UMU).


The two works are entitled: "Cybersecurity Management throughout the IoT Systems Lifecycle - the CERTIFY Approach" and "Active Security for Connected Device Lifecycle: the CERTIFY Architecture" and will be included in the conference proceedings edited by Springer in the Lecture Notes in Networks and Systems (LNNS). Questions raised during the conference fueled discussion and helped in the identification of potential synergies and valuable complementary solutions and approaches fostered by different projects.



# ABOUT US



## aCtive sEcurity foR connectEd devlces liFecYcles

OCT 2022 | SEP 2025 

### Project Partners



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