



# CONNECT

CCAM TRUST & RESILIENCE

## Never trust, always verify

CONTINUOUS AND EFFICIENT  
COOPERATIVE TRUST MANAGEMENT  
FOR RESILIENT CCAM

### Message from the Coordinator

Since June 2024, the CONNECT project has made significant strides toward delivering a secure, trustworthy, and dynamic framework for Cooperative, Connected, and Automated Mobility (CCAM) systems. Our work has focused on advancing the technical foundation of the CONNECT architecture, refining key components, and validating their performance through real-world use cases. The results so far demonstrate the potential of our framework to address complex challenges related to trust, security, and resilience in CCAM environments.

As we enter the final eight months of the project, we are committed to ensuring that our research results are widely accessible to stakeholders across industry, academia, and policymaking. To this end, we will be organizing a series of events and workshops that will showcase our progress and highlight the practical impact of the CONNECT framework. We look forward to engaging with all of you in the coming months and sharing the final outcomes of our work. Together, we are paving the way for a more secure and connected future in mobility.

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### Technical Lead

Thanassis Giannetos  
Ubitech

### Scientific Lead

Frank Kargl  
UULM

### Project Coordinator

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### Budget

€ 5.7 Million

100% EU-funded



### Consortium

16 Partners

8 countries



### Duration

36 Months

09/2022 - 08/2025



Figure 1: Integration Meeting in Munich (July 2024)

## Integration meeting in Munich

During the Integration Meeting of the CONNECT project, held from July 2nd to 4th, 2024, at the Huawei Munich Research Center, project partners focused on integrating the CONNECT technical components through intensive

developer collaboration. The meeting successfully laid the groundwork for the robust implementation of the CONNECT framework, marking an important step forward in the project's progress.

## Presentations at conferences

In mid October, Francesca Bassi of our use case provider IRT SystemX delivered an insightful presentation titled "Navigating Trust and Data Privacy Contradictions in the Age of Autonomous Cars" at this year's ETSI Security Conference in Sophia Antipolis, France. Francesca's ex-

pertise shed light on the critical balance between trust and privacy in the rapidly evolving landscape of autonomous vehicles. Her thoughts on building trust while ensuring data protection are essential as we move forward in this transformative era.



Figure 2: Francesca Bassi at the ETSI Security Conference 2024

In late October, Thanassis Giannetsos, CONNECT’s technical leader, represented our project at this year’s edition of the “IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks” (CAMAD, 21-23 October 2024). He participated in the special session on “Physical & digital infrastructure (PDI) and communication developments as CCAM enablers” chaired by ICCS and ERTICO and gained interesting insights into the current CCAM landscape.



Figure 3: Thanassis Giannetsos at CAMAD 2024



Figure 4: CONNECT representatives at escar Europe

The CONNECT project consortium was proud to contribute to escar Europe 2024, held on November 19th - 20th in Dortmund, Germany. As a leading conference on automotive cybersecurity, the event brought together experts, researchers, and industry leaders to discuss secure mobility systems.

Prof. Frank Kargl from the University of Ulm, our scientific coordinator, co-organized the event, ensuring a dynamic and engaging program. CONNECT collaborators Anna Angeloggiani and Nikos Fotos from Ubitech delivered an insightful talk on trust and privacy in Connected, Cooperative, and Automated Mobility (CCAM). Their session highlighted key challenges in building secure and trustworthy CCAM systems and sparked valuable discussions among participants.

## Technical progress

The CONNECT project has made notable advancements in its efforts to develop a secure and trustworthy framework for Cooperative, Connected, and Automated Mobility (CCAM) systems. The “Operational Landscape and Reference Architecture” report (D2.2) marks a significant milestone by presenting the finalized framework architecture and its key components. This report focuses on addressing critical challenges such as dynamic trust evaluation and secure data exchange, which are essential for ensuring security, privacy, and trustworthiness in CCAM environments. The framework integrates trust modeling mechanisms that enable dynamic, evidence-based trust assessments tailored to the needs of CCAM services. A comprehensive threat analysis based on the STRIDE model has been carried out, identifying and mitigating risks specific to CCAM systems to enhance resilience against emerging security threats.

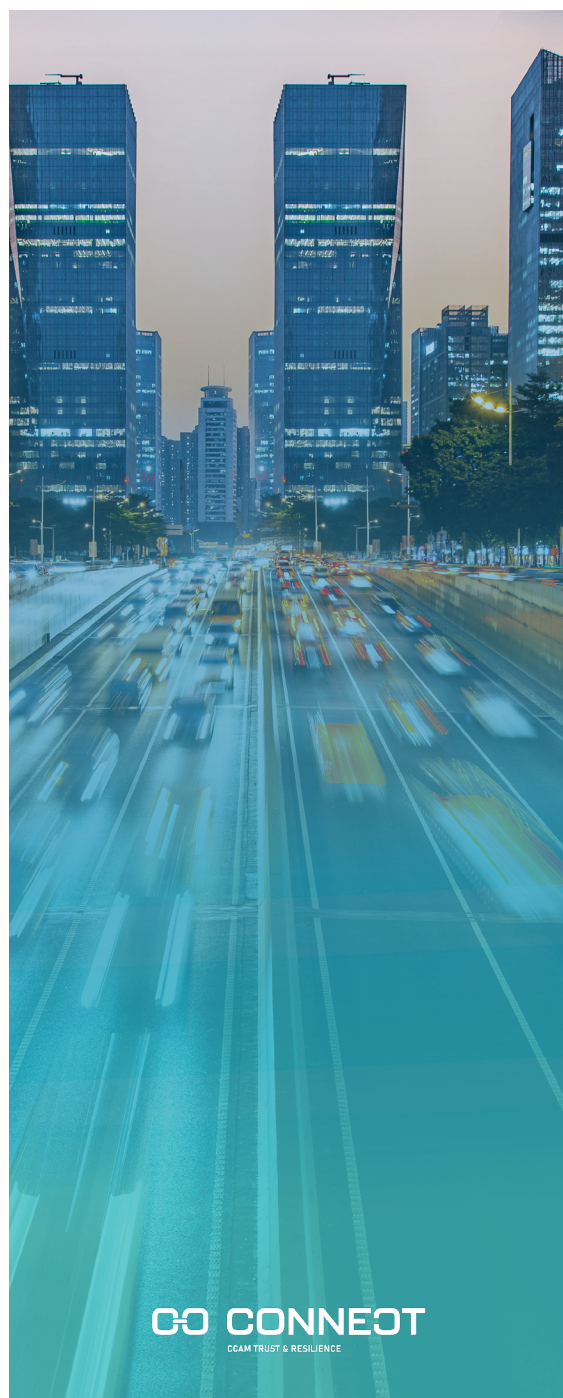
Furthermore, the report builds upon the initial framework release by refining workflows, components, and operational pipelines. These updates include the integration of synchronous and asynchronous processes, which improve the framework’s ability to support dynamic and secure operations. Future steps will focus on the adoption of Distributed Ledger Technology (DLT) for trust policy enforcement and evidence management, as well as the use of Digital Twins to enable trust-task offloading. By addressing both technical and ethical considerations, the

CONNECT project ensures that its framework aligns with societal and regulatory expectations while maintaining a strong focus on security and privacy.

The “Integrated Framework and Use Case Analysis” report (D6.1) highlights the progress achieved in developing and validating the CONNECT framework’s components through real-world use cases. This deliverable provides an overview of the initial release of the framework, which focuses on trust assessment workflows and the integration of components such as the Trusted Computing Base (TCB), Trusted Execution Environment Guard Security Extensions (TEE-GSE), and Distributed Ledger Technology (DLT). The framework has been successfully validated in three use cases: Intersection Movement Assistance and Misbehavior Detection, Cooperative Adaptive Cruise Control, and Slow Moving Traffic Detection. These use cases demonstrated the operational capabilities of the framework and its ability to address security and trust challenges in CCAM ecosystems.

In addition to validating the core components, the report presents benchmarking results that confirm the robustness of the framework’s synchronous and asynchronous communication pipelines. The results demonstrate the flexibility and adaptability of the system when applied to dynamic CCAM environments. The next phase of the project will involve extending trust assessments to Multi-access Edge Computing (MEC) systems, incorporating

dynamic updates to trust models using DLT, and implementing Digital Twin-based trust functionalities. This progress marks a significant step toward the CONNECT project’s goal of delivering a scalable, secure, and trustworthy framework for CCAM.





## Past Events

### IEEE Intelligent Vehicles Symposium

2<sup>nd</sup>-5<sup>th</sup> June 2024

@Jeju Island, South Korea

### International Conference on Information Fusion

7<sup>th</sup>-11<sup>th</sup> July 2024

@Venice, Italy

### ETSI Security Conference

14<sup>th</sup>-17<sup>th</sup> October 2024

@Sophia Antipolis, France

### IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)

21<sup>st</sup>-23<sup>rd</sup> October 2024

@ Athens, Greece

### 22nd escar Europe

19<sup>th</sup>-20<sup>th</sup> November 2024

@ Dortmund, Germany

### Workshop on CCAM Trust Assessment for Safety & Security

11<sup>th</sup> December 2024

@ Ulm, Germany



## Upcoming Events

### RTR Conference

11<sup>th</sup>-13<sup>th</sup> February 2024

@Brussels, Belgium

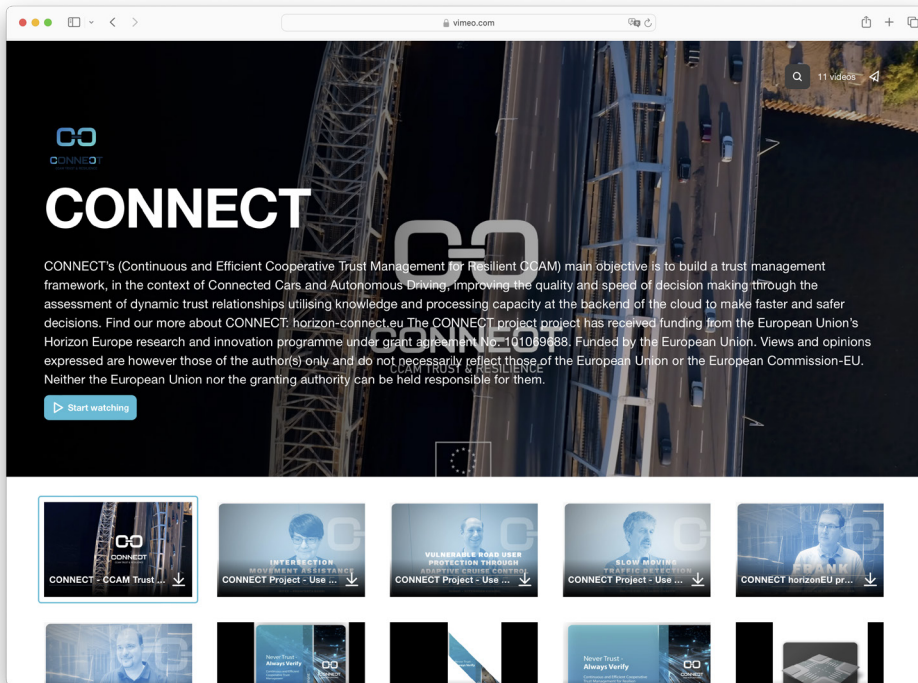
All past and upcoming events can be found on the CONNECT website:

[horizon-connect.eu/events](https://horizon-connect.eu/events)

# Media & Papers

## CONNECT Videos:

All project-related videos are now showcased on Vimeo: [\[link\]](#)



## CONNECT scientific publications

All project-related scientific publications are available on the project website: [\[link\]](#)

## Project Facts

**Consortium:** 16 partners (8 countries)

**Project Coordinator:** Klaus-Michael Koch (Technikon)

**Technical Leader:** Thanassis Giannetsos (Ubitech)

**Scientific Leader:** Frank Kargl (University of Ulm)

**Project number:** 101069688

**Project website:** [\[link\]](#)

**Project start:** 2022-01-09

**Project end:** 2025-31-08

**Duration:** 36 Months

**Total cost:** EUR € 5 656 643.75

**EC contribution:** EUR € 5 656 643.75

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