



Status and Outlook of CCAM R&I and Demonstrations in EU

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THE | **AUTONOMOUS**

Workshop Spotlight Session
Autonomous Driving and
future mobility trends in R&D
14 September 2023

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Work Programme



Cooperative, Connected and Automated Mobility (CCAM)



CCAM has the potential to:

- Bring us on the path towards near zero road fatalities (vision zero)
- Increase accessibility of mobility services
- Help reduce harmful emissions from transport by making traffic more efficient

European Commission vision

We want CCAM solutions that

- are fully integrated in the transport system, accompanied by the right support measures by the public sector
- **support new mobility concepts, shifting from a driver-centred to mobility-user oriented approach**

European Partnership on CCAM

Ambition:

- Accelerate through research the deployment of innovative CCAM systems and services for passengers and goods

European Partnership objectives:

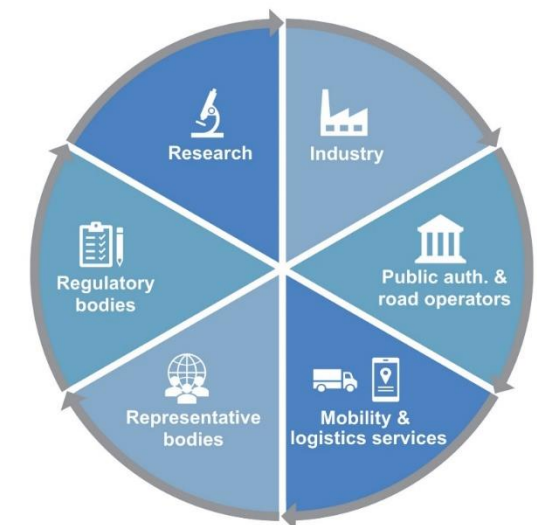
- Better align EU R&I efforts in the field of CCAM
- Develop and implement a coherent long-term agenda to coordinate investments in R&I and pre-deployment
- Implement large-scale demonstrations of inclusive and user-oriented CCAM solutions for people and goods across Europe by 2030.

Budget: 1 Billion € (500 M€ EC contribution)

State of play:

- Strategic Research and Innovation Agenda (SRIA) being updated;
- Projects resulting from first HE Calls started in 2022;
- Call 2023 closed in early September

> 200 member
companies /
organisations





CCAM SRIA – Joint Vision



Initial SRIA finalised in November 2020

Regular update foreseen to reflect major technological advancements, new emerging challenges or evolving societal needs

Update publication foreseen in autumn 2023

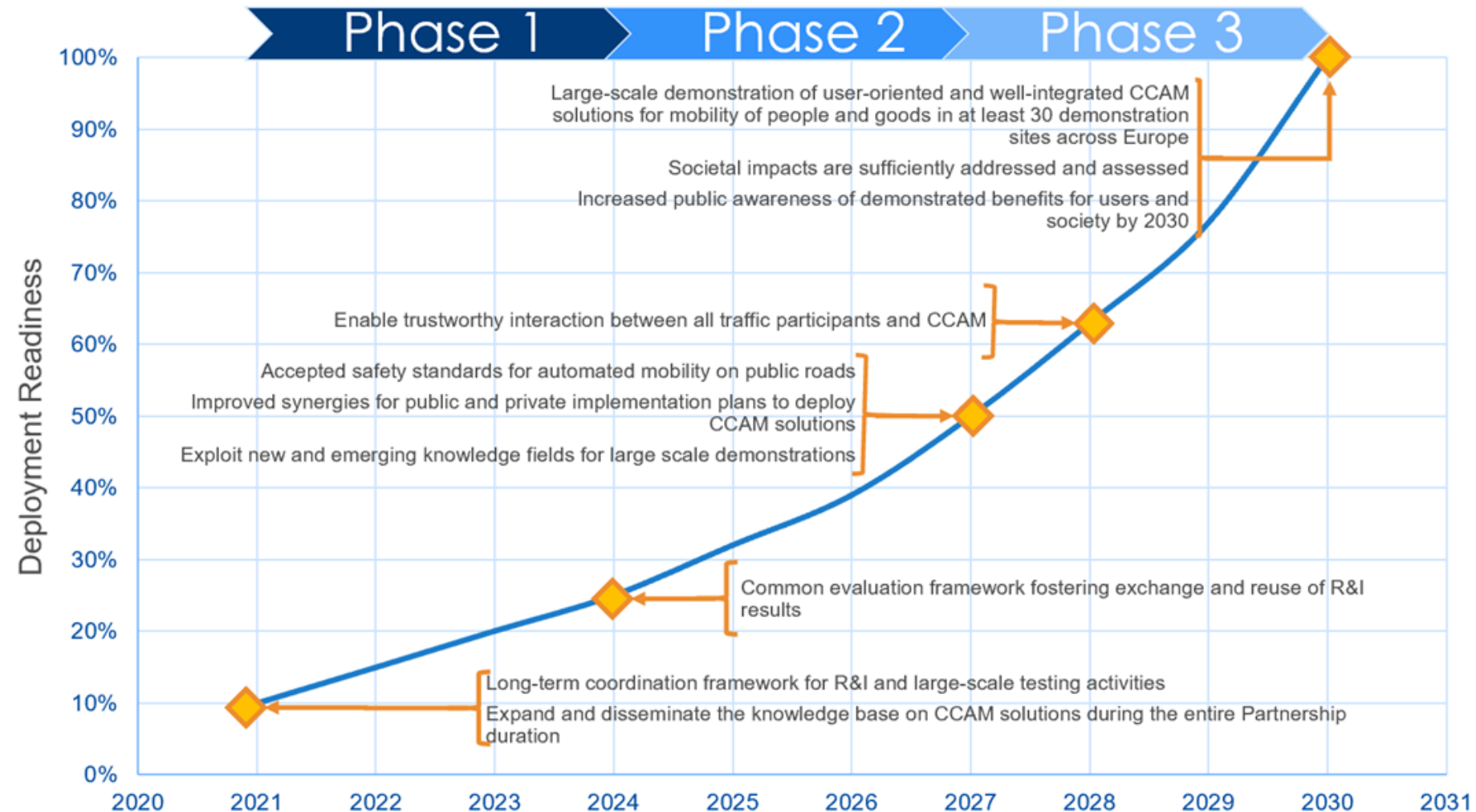
- Updated policy and regulation context
- Enhanced section on international collaboration
- Role of Member States Representatives Group
- Path toward large scale demonstrations

Complementary to Commission Staff Working Document (SWD) on CCAM to be published early 2024 to take stock of the progress



Planning for CCAM implementation 2021-2030

- ❑ Phase 1 – Developing the building blocks
- ❑ Phase 2 – Advancing technical maturity
- ❑ Phase 3 – Trials and living labs all over Europe



Source: CCAM Partnership

Overview of CCAM large scale demonstrations



Preparation of large scale demonstrations

Research / Development / Innovation

Differentiation of use cases for their suitability for Large Scale Demos:

Innovation → clear candidate
Development → possible candidate
Research → specific demos

Connected Services

- assistance for all and everywhere
- Innovation: C-ITS services, e.g. RTTI & SRTI; Fleet management
Carsharing schemes
- Development: Bus auto-follow at stations

Parking and confined areas

- cars, buses and trucks
- Innovation: AVP Type 2
- Development: AVP Type 1,
Bus depot / Truck terminal
- Research: L4 Truck hub-to-hub operation

Highways

- cars and trucks
- Innovation: L3 Traffic Jam
- Development: L3 Commute,
L4 Truck safe auto-follow
- Research: L3/L4 Full Highway

Urban traffic for people and goods

- shuttles and delivery vehicles
- Innovation: Last mile goods and services
- Development: Fixed route shuttle/shared
- Research: Flexible route people and goods



WP2023-24 topics – Destination 6 of Cluster 5

CCAM clusters	HE Cluster 5 Work Programme 2023/2024 - CCAM Topics	Year	Budget	# of projects
Large-scale demonstration	Joint topic in Cities' Mission WP: Co-designed smart systems and services for user-centred shared zero-emission mobility of people and freight in urban areas	2023	50	2
Vehicle Technologies	Centralized, reliable, cyber-secure & upgradable in-vehicle electronic control architectures for CCAM connected to the cloud-edge continuum	2024	12	2
	User-centric development of vehicle technologies & services to optimise the on-board experience and ensure inclusiveness	2023	8	2
Validation	Generation of scenarios for development, training, virtual testing and validation of CCAM systems (3+5)	2023	20	1
	Scenario-based safety assurance of CCAM and related HMI in a dynamically evolving transport system	2024	14	1
Integrating CCAM in the transport system	Infrastructure-enabled solutions for improving the continuity or extension of Operational Design Domains (ODDs)	2023	12	2
	Orchestration of heterogeneous actors in mixed traffic within the CCAM ecosystem	2024	12	2
Key Enabling technologies	AI for advanced and collective perception and decision making for CCAM applications	2024	10	2
Societal aspects & people needs	Integrating European diversity in design, development and implementation of CCAM solutions to support mobility equity	2023	8	2
	CCAM effects on jobs and education, plans for skills that match the CCAM development, and prerequisites for employment growth	2023	2	1
Coordination	Robust Knowledge and Know-How transfer for Key-Deployment Pathways and implementation of the EU-CEM	2024	4	1

https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-8-climate-energy-and-mobility_horizon-2023-2024_en.pdf

- Joint topic published under Cities Mission closed in April 2023;
- CCAM Topics: closed 5 Sep 2023;

R&I Projects



CCAM Knowledge Base

“One-stop shop” for all CCAM related activities in Europe



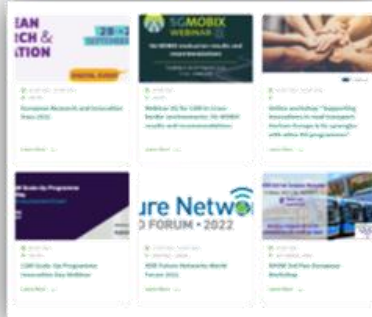
Policies & Regulations



Strategies & Action Plans



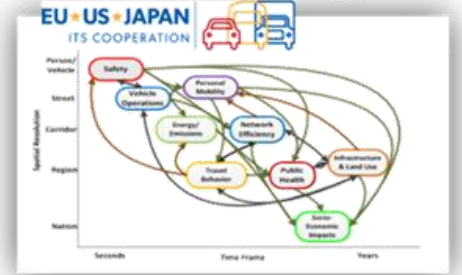
News & Events



EUCAD



Evaluation Methodologies



Data Sharing Framework



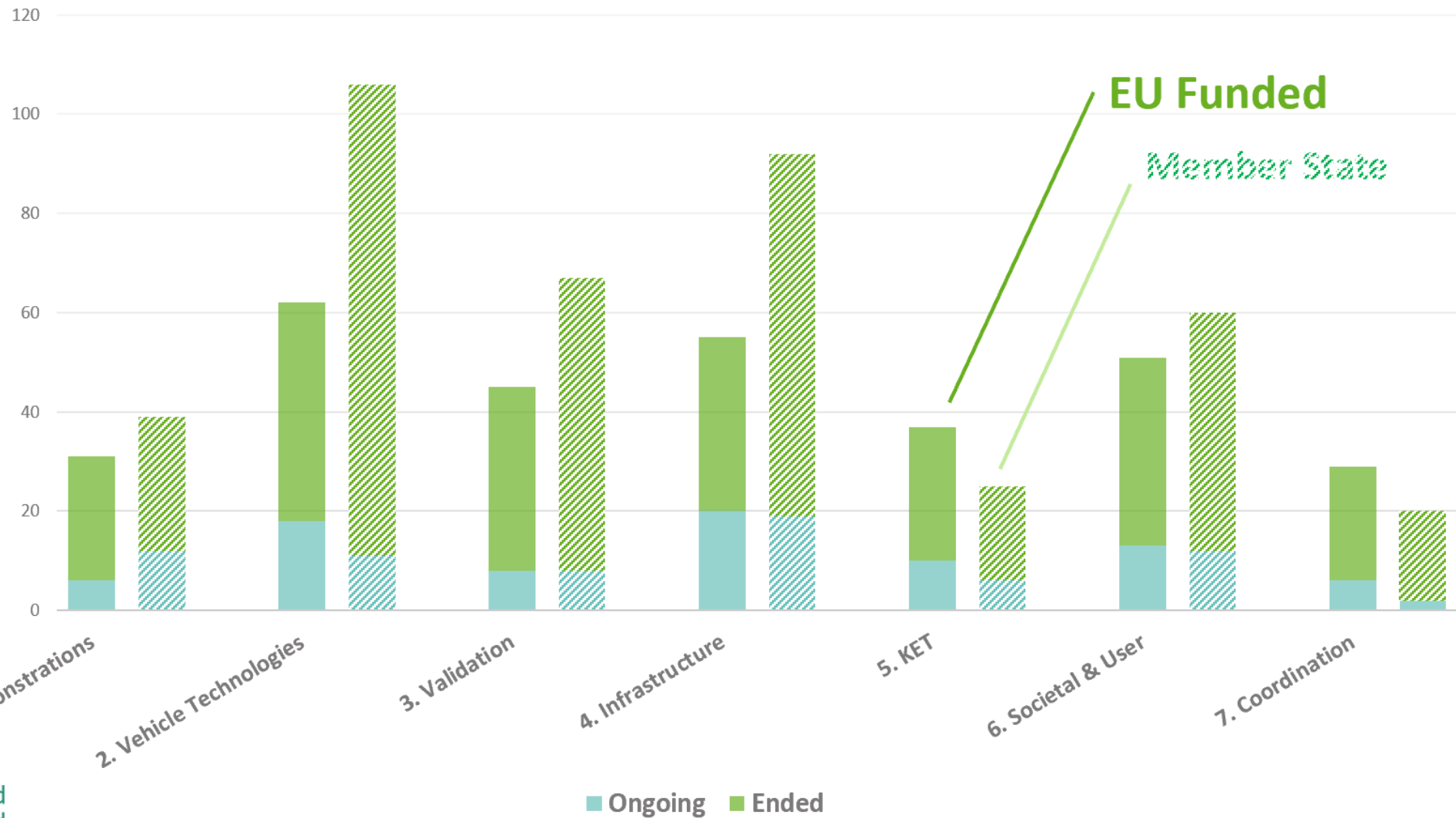
Standards

Standards Collection

Standard	Organization	Year	Status
EN 15253-1	EN	2017	Standard
EN 15253-2	EN	2017	Standard
EN 15253-3	EN	2017	Standard
EN 15253-4	EN	2017	Standard
EN 15253-5	EN	2017	Standard
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EN 15253-9	EN	2017	Standard
EN 15253-10	EN	2017	Standard
EN 15253-11	EN	2017	Standard
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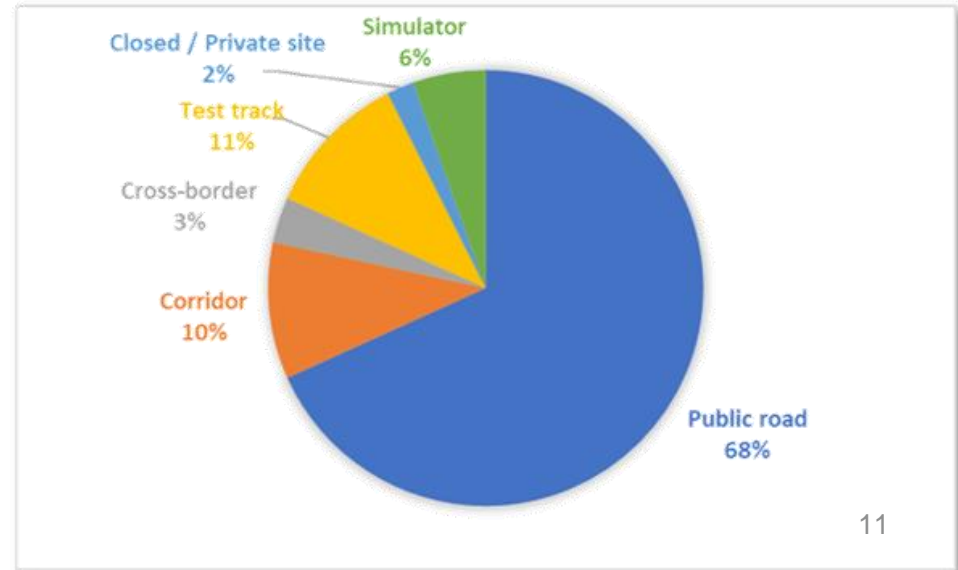
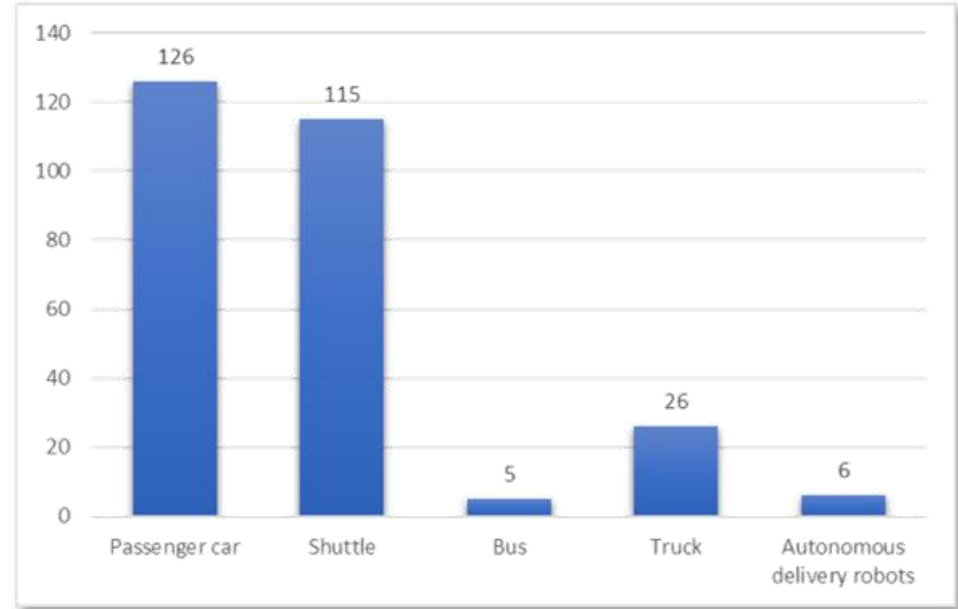
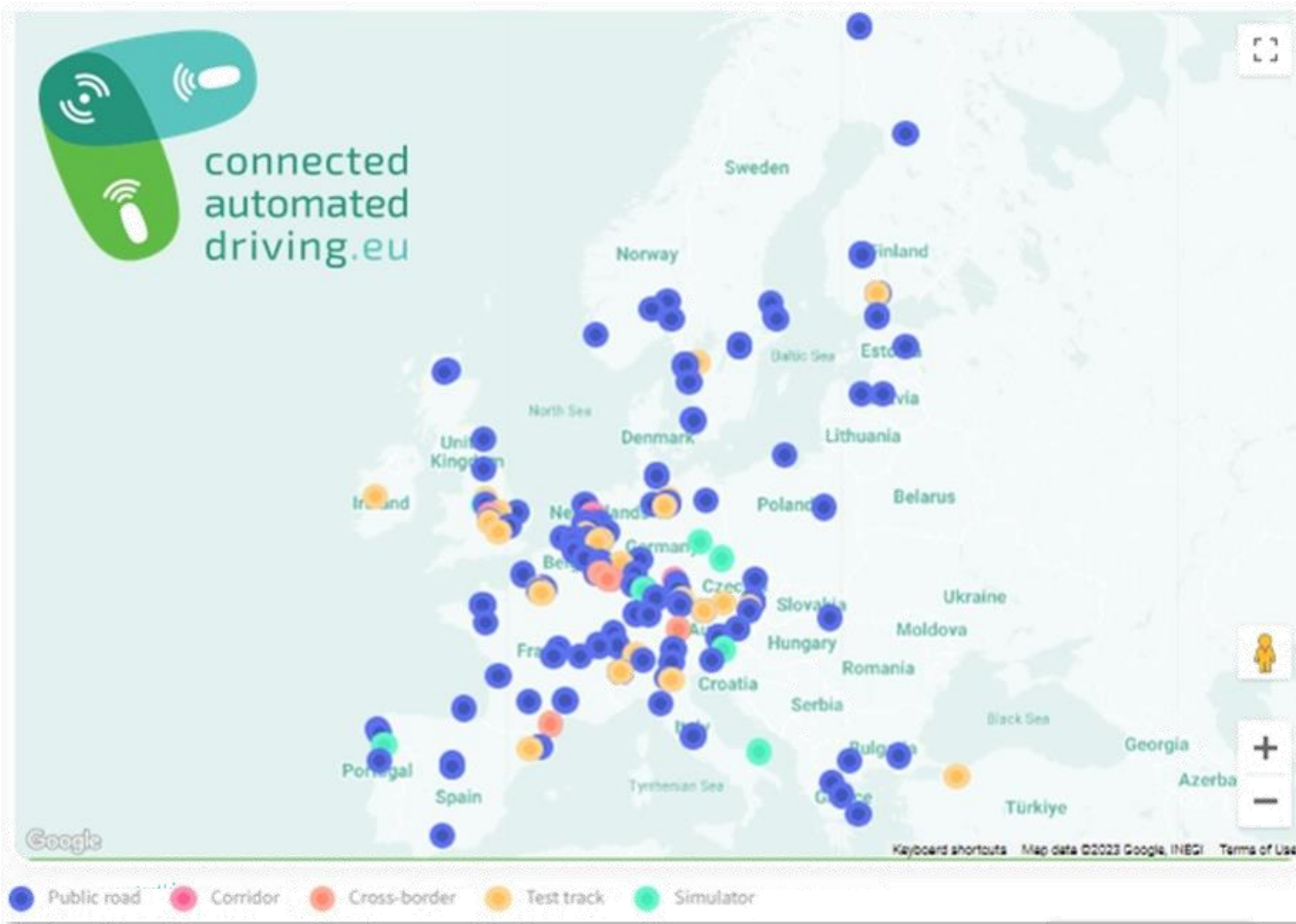
CCAM R&I in Europe by Clusters

EU wide Knowledge Base on CCAM
383 projects (September 2023)
50% Member States



CCAM Tests and Demonstrations in EU

EU-wide Knowledge Base on CCAM
266 Test Sites



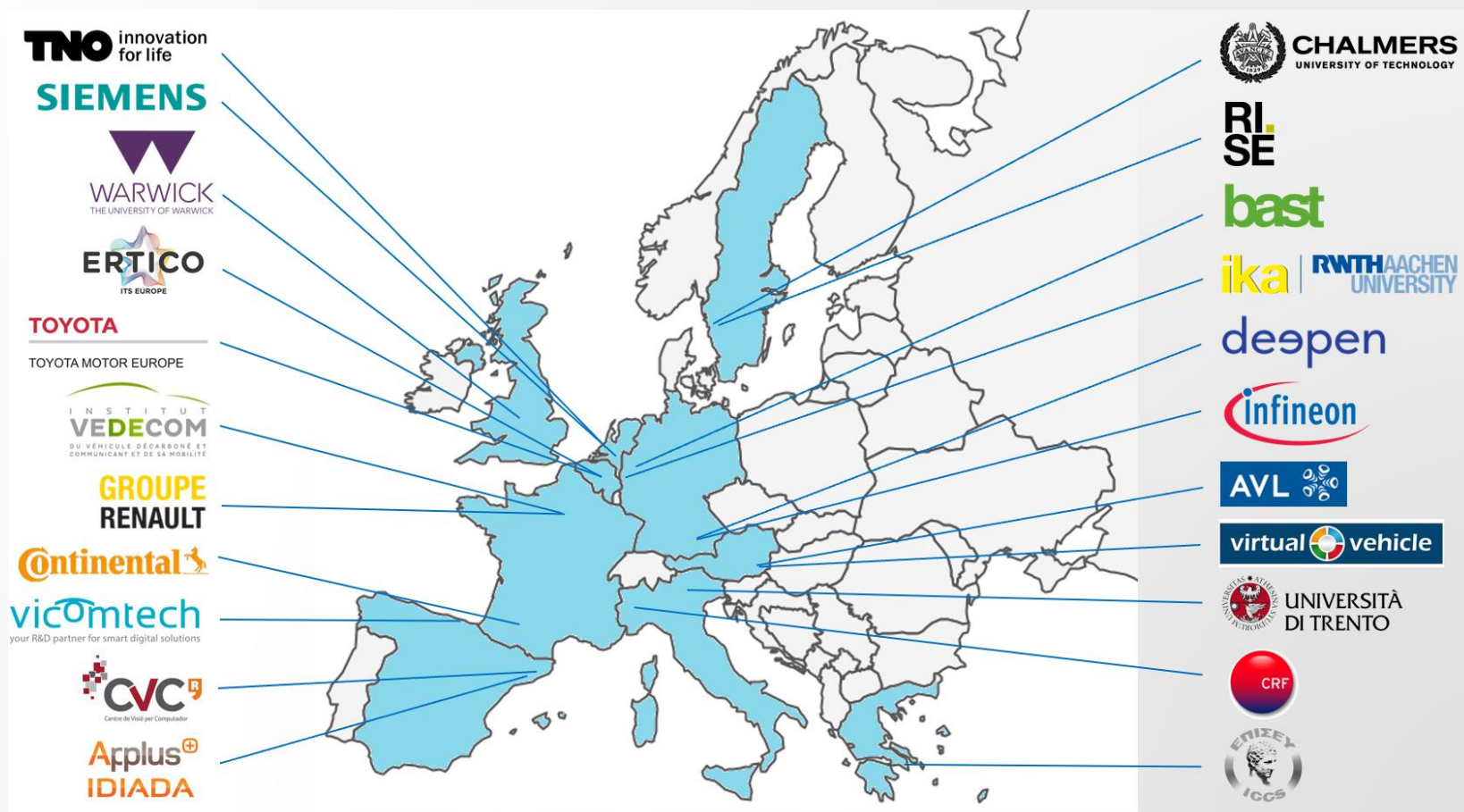
Develop and provide a harmonized and scalable **CCAM* Safety Assurance Framework** that fulfils the needs of different automotive stakeholders, for a continuously evolving number of use cases and scenarios.

Key facts

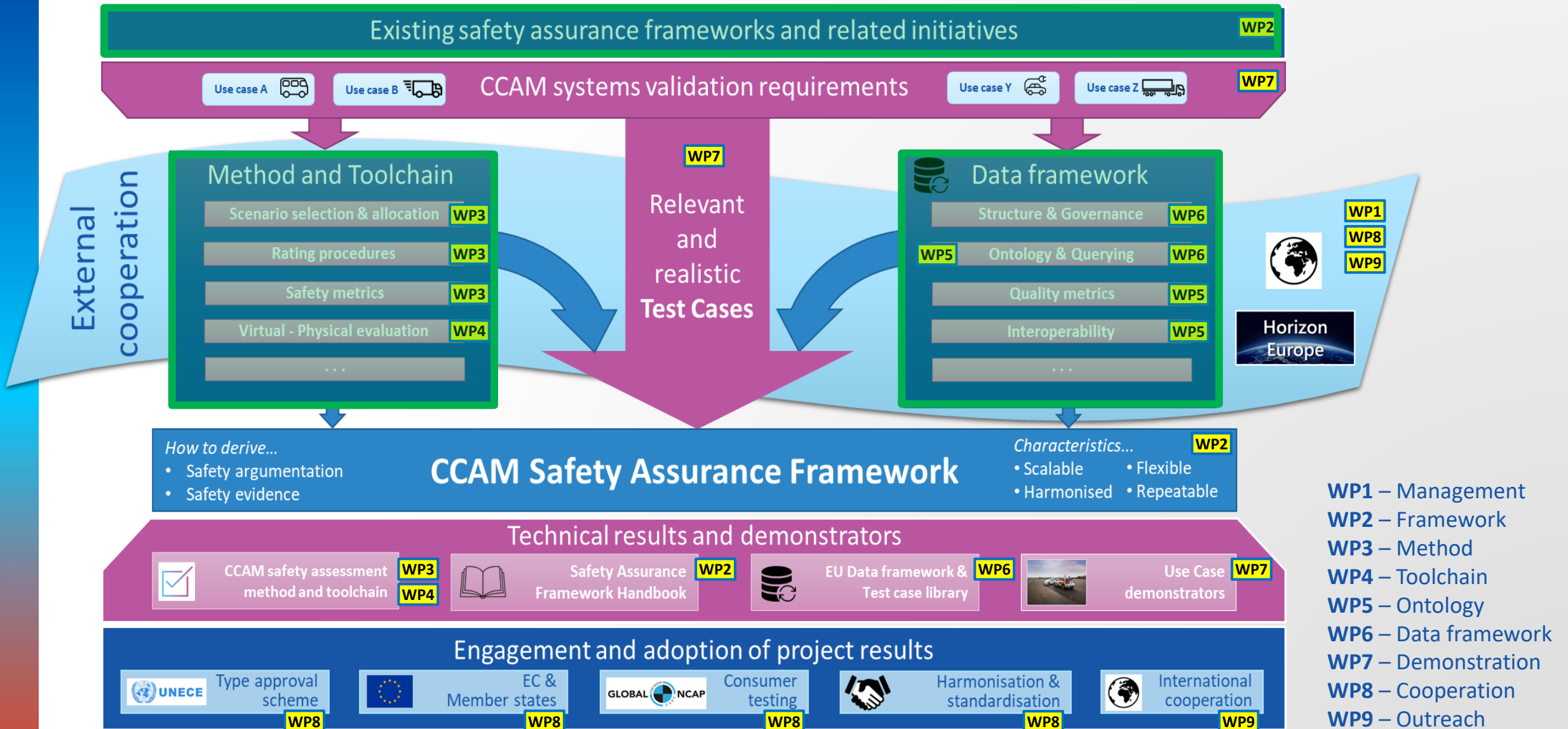
Run time Sep 2022 – Aug 2025

Budget 13.455.866,25 €

22 Partners

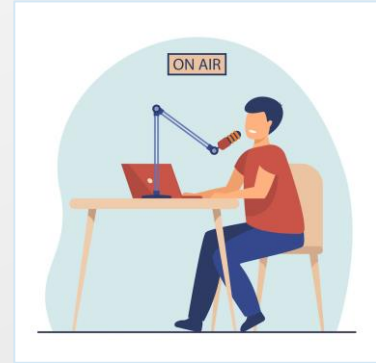


Status & Workplan



- WP1 – Management
- WP2 – Framework
- WP3 – Method
- WP4 – Toolchain
- WP5 – Ontology
- WP6 – Data framework
- WP7 – Demonstration
- WP8 – Cooperation
- WP9 – Outreach

SUNRISE Expert & Cooperation Platforms



Benefits

- Influence on the definition of a European CCAM Safety Assurance Framework, laying the foundation for large-scale deployment.
- Opportunity to join the networks of top players in the field of CCAM safety assurance, and being at the forefront of shaping the future of road safety worldwide.
- Competitive advantage thanks to first-hand information about developments and discussions in the field of CCAM safety assurance.

Online Cooperation Platform

- Cooperation Platform to
- Participate in forum discussions, working groups, webinars and workshops
- Exchange documents and research findings
- Collaborate on joint projects

Connect with us

Registering will only take **5 minutes of your time, allowing you to influence the next 20 years in safety assurance of CCAM systems.**





Save the Date

in conjunction with



18-19 April 2024

EUCAD Symposium

Connected and Automated Driving



DUBAI

ITS World Congress

16-20 September 2024

Mobility Driven by ITS

FAME is funded by
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Work Programme

