CCAM

CONNECTED, COOPERATIVE
& AUTOMATED MOBILITY

INFORMATION AND NETWORKING EVENT ON WORK PROGRAMME 2025 TOPICS

25 March 2025

ccam.eu

CCAM

CONNECTED, COOPERATIVE
& AUTOMATED MOBILITY

OPENING REMARKS BY CHRISTIAN MERKT, CCAM ASSOCIATION CHAIRMAN

FOMAT OF THE EVENT FOR EACH TOPIC:

1. Presentation of the topic by the authors in plenary format (09:05-10:00)
2. Further Q&A and discussion with the authors in the breakouts (10:15-11:20 & 11:45-12:50)
3. Presentations of members' interest, using the common template, was shared with the members in advance of the meeting by email & will again be shared after the meeting

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

CCAM WORK PROGRAMME 2025

CCAM Cluster	Topic title	Type of action	Budget (EUR million)	# of projects expected to be funded
Cross-cluster	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs – Societal Readiness Pilot	RIA	12	2
1	Preparing for large-scale CCAM demonstrations – *Societal Readiness Pilot*	CSA	4,5	1
2	Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity	RIA	8	2
3	Integration of human driving behaviour in the validation of CCAM systems	RIA	5	1
5	Approaches, verification and training for Edge-AI building blocks for CCAM Systems	RIA	4	1
7	Federated CCAM data exchange platform	IA	4	1

The total indicative budget is 37,5 M€. The call will open in 3rd or 4th quarter of 2025

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	6
Number of projects	2
Budget	12
Synergies	-

Cross-cluster topic

Cluster 4 – Integrating CCAM into the transport system

Cluster 6 – Societal aspects and people needs

Advancing remote operations to enable the smart and sustainable mobility of people and goods based on operational and societal needs

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	6
Number of projects	2
Budget	12
Synergies	-

Cross-cluster topic:

Advancing remote operations to enable the smart and sustainable mobility of people and goods based on operational and societal needs

Definition	‘Remote operations’: (“Rem-Op’s”) **remote monitoring, assisting, operating** the ADS of Level 4 vehicles by a **person located externally, who can intervene if needed**.
Motivation Why this now?	Can be critical to the application of CCAM in mobility, in a variety of environments, through extension of ODD**.** To cover the knowledge gaps in Rem-Op’s for CCAM. To take a **comprehensive approach** in **understanding remote operations requirements**, from technical, integration, human factors, policy, and social point of views.

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	6
Number of projects	2
Budget	12
Synergies	-

Cross-cluster topic (Clusters 4 – Integrating CCAM into the transport system & 6 – Societal aspects and people needs)

Advancing remote operations to enable the smart and sustainable mobility of people and goods based on operational and societal needs

Expected outcomes

(projects expected to contribute to ***all)***

- Comprehensive set of **principles and guidelines** for remote operations that clarify the operational complexities and establish a **standardised approach** to extend the Operational Design Domain (ODD) of CCAM solutions.
- **Infrastructure prerequisites** that are critical for the successful implementation of Rem-Op capabilities, outlining the technical standards and investments necessary for seamless integration.
- **Safety validation methodologies** extended to Rem-Op's, favouring responsiveness & trust of road users
- **Economic feasibility study** of business cases for Rem-Op's extending the ODD of CCAM solutions, analysing the economic costs & benefits, market potential, scalability factors, and providing a clear value proposition
- **Understanding human factors, legal requirements & working conditions** for remote operators. Establishment of key conditions for job quality, safety, competence, & societal responsiveness of working conditions in diverse cultural contexts.
- Analyse and develop supporting actions to advance the **societal readiness** of remote operations by ensuring CCAM aligns with societal needs.
- **Policy & governance** recommendations in view of establishing new or updating existing legislation,
- Responsiveness to a deeper understanding of **needs & concerns of diverse social group** potentially affected

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	6
Number of projects	2
Budget	12
Synergies	-

Cross-cluster topic (Clusters 4 – Integrating CCAM into the transport system & 6 – Societal aspects and people needs)

Advancing remote operations to enable the smart and sustainable mobility of people and goods based on operational and societal needs

Scope (1)

- Exploring **operational & societal conditions & prerequisites** for complementing ODD of CCAM solutions through Rem-Op's
- "Rem-Op's" is defined as **remote monitoring, assisting, & operating** the Automated Driving System (ADS) by a **person located externally, who can intervene if needed**. The vehicle operates with a high degree of automation (Level 4)

.

- Explore **use cases** focusing Rem-Op's
  - on **urban and rural public roads** and/or **confined areas**, AND
  - for transport of **people, goods,** and/or **combination of the two**.

- **Operational and societal aspects** must be evaluated **in terms of** business models, infrastructure needs, safety assurance, legislation, operator's skills, performance and work cultures, as well as situational awareness of the remote operator.

- This topic aims to understand all the different components of the **complex 'system-of-systems'**, combining **technological advancements** (e.g.infrastructure support, communications, cyber-security) with a focus on **human-centred design and societal needs** (e.g. working conditions and inclusive engagement of stakeholders) and implications.

- Engage **Stakeholders** to build **awareness and trust**; can include user groups, public advocacy organisations, mobility companies, technology providers, public agencies, planners, community groups, industry associations, first responders, workforce representatives.

- The **safety assurance** of remote operation will require the development of a corresponding validation methodology.

Societal-Readiness Pilot!
Use interdisciplinary approach!
SSH expertise in consortium!
RRI! (Responsible Research & Innovation)

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	6
Number of projects	2

Cross-cluster topic (Clusters 4 – Integrating CCAM into the transport system & 6 – Societal aspects and people needs)

Advancing remote operations to enable the smart and sustainable mobility of people and goods based on operational and societal needs

Scope (2)

- The dimensions of **Responsible Research and Innovation (RRI)** - reflection, inclusion, anticipation, and responsiveness - should guide the exploration of these components involving relevant **Social Sciences and Humanities (SSH) disciplines**.
- This topic is a **Societal-Readiness pilot** and proposals must follow the specific requirements. They entail the use of an **interdisciplinary approach**. This topic *requires* inclusion of SSH experts in the consortium. Specifically, SSH expertise is expected to facilitate the socio-technological interface.
- International cooperation is encouraged (Japan, USA, other relevant strategic partners in third countries)

CCAM WORK PROGRAMME 2025

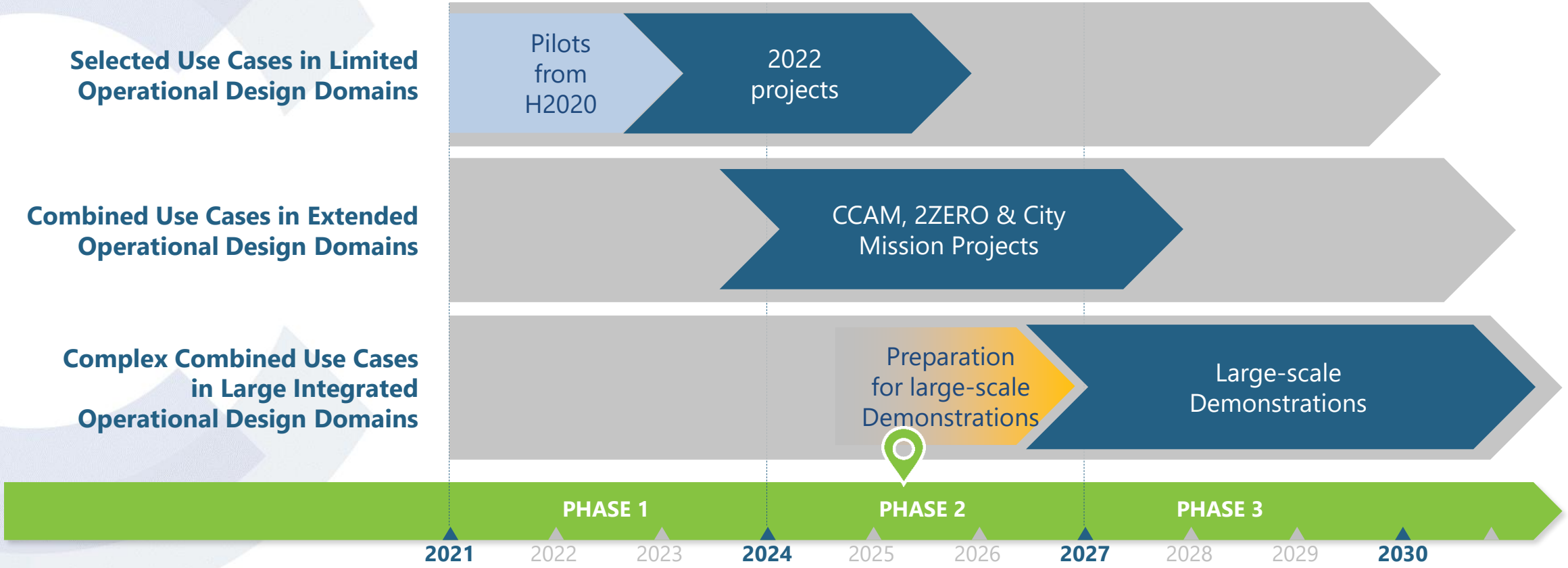
CCAM Cluster	Topic title	Type of action	Budget (EUR million)	# of projects expected to be funded
Cross-cluster	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs – Societal Readiness Pilot	RIA	12	2
1	Preparing for large-scale CCAM demonstrations – *Societal Readiness Pilot*	CSA	4,5	1
2	Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity	RIA	8	2
3	Integration of human driving behaviour in the validation of CCAM systems	RIA	5	1
5	Approaches, verification and training for Edge-AI building blocks for CCAM Systems	RIA	4	1
7	Federated CCAM data exchange platform	IA	4	1

The total indicative budget is 37,5 M€. The call will open in 3rd or 4th quarter of 2025

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

CCAM SRIA: Focus

Cluster 1: Large-scale Demonstrations



Type of action & year	CSA (2025)
TRL	N/A
EU contribution per project	4M€
Number of projects	1
Budget	4M€
Synergies	

Cluster 1: Preparing for large-scale CCAM demonstrations

Expected outcomes

- Pave the road for forthcoming CCAM deployment and **deliver a comprehensive large-scale demonstration plan** for CCAM vehicles across Europe;
- **Ensure the engagement of key stakeholders** across the value chain in transport and mobility, including required industrial partners (such as OEMs and suppliers) and a range of end users and service providers;
- Establish the **foundation for future use case specific projects in different domains**, such as public and private road transport and logistics, alongside the large-scale demonstrations;
- Outline a **CCAM promotion strategy**, supporting elevated public engagement and awareness;
- Responsiveness to a deeper understanding of the needs and concerns of diverse social groups involved in or potentially affected by the R&I development, thereby increasing the potential for beneficial societal uptake, and building trust in results and outcomes.

Motivation

The CCAM SRIA: The objective of Cluster 1 is to ensure that the results of all other Clusters are capitalized and implemented into Large-scale Demonstrations in Pilots, FOTs and Living Labs to support deployment readiness and a final impact assessment. Leverage previous and ongoing projects at European and national levels on demonstration activities

CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	CSA (2025)
TRL	N/A
EU contribution per project	4M€
Number of projects	1
Budget	4M€
Synergies	

Cluster 1: Preparing for large-scale CCAM demonstrations

Scope

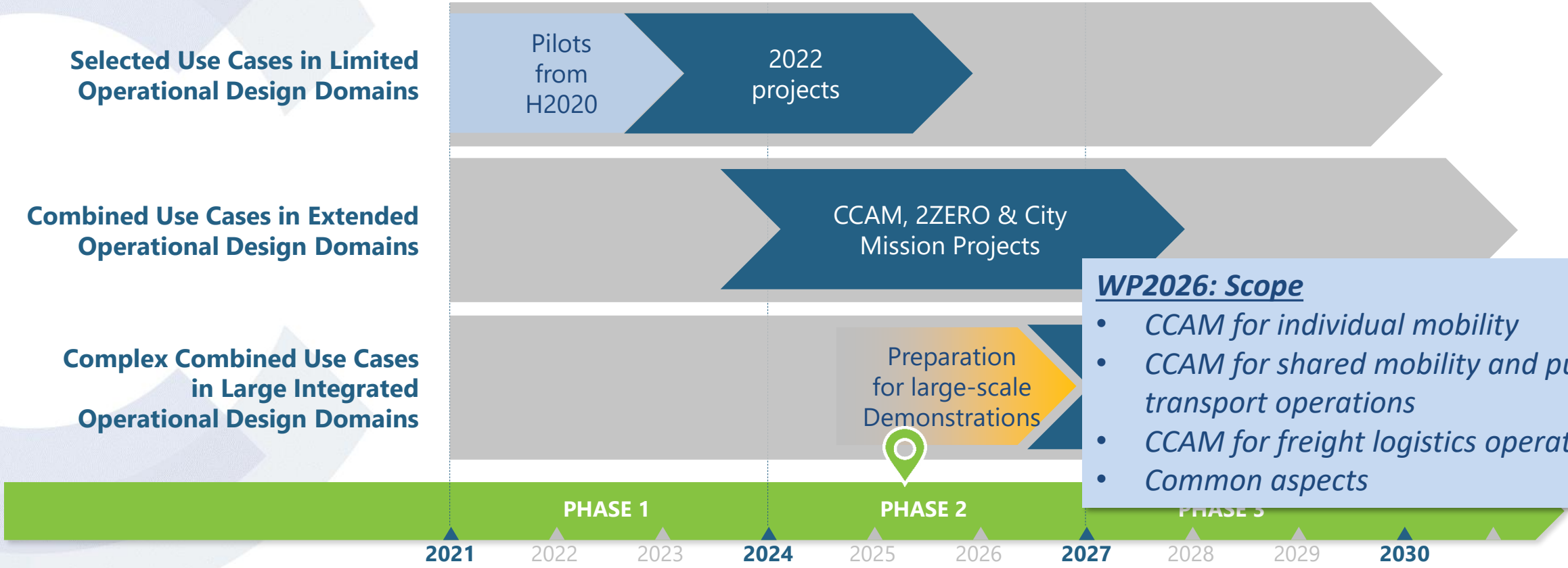
- **Define the prerequisites for performing large-scale demonstration projects**, considering vehicle technology maturity and other technical enablers, physical and digital infrastructures, as well as approval frameworks for public road testing;
- **Prepare and refine methodologies, test procedures and tools** for the execution of field tests and efficient data management;
- **Identify test and demonstration sites** across Europe for CCAM functions, considering the extension of Operational Design Domains (ODDs), using vehicular communication technologies (V2X) that enables Traffic Management Systems (TMS) for improved traffic flow and operational efficiency;
- **Initiate a cross-sector stakeholder forum** for the definition of use case relevant projects in different domains and their implementation.

The proposed action shall foster the collaboration between public and private stakeholders to achieve common objectives and assess societal impacts. Engagement of key stakeholders, such as mobility and transport users, , public transport, shared mobility and logistics operators, infrastructure providers, traffic managers, public authorities, and research institutions must be ensured.

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

CCAM SRIA: Focus

Cluster 1: Large-scale Demonstrations



WP2026: Scope

- *CCAM for individual mobility*
- *CCAM for shared mobility and public transport operations*
- *CCAM for freight logistics operations*
- *Common aspects*

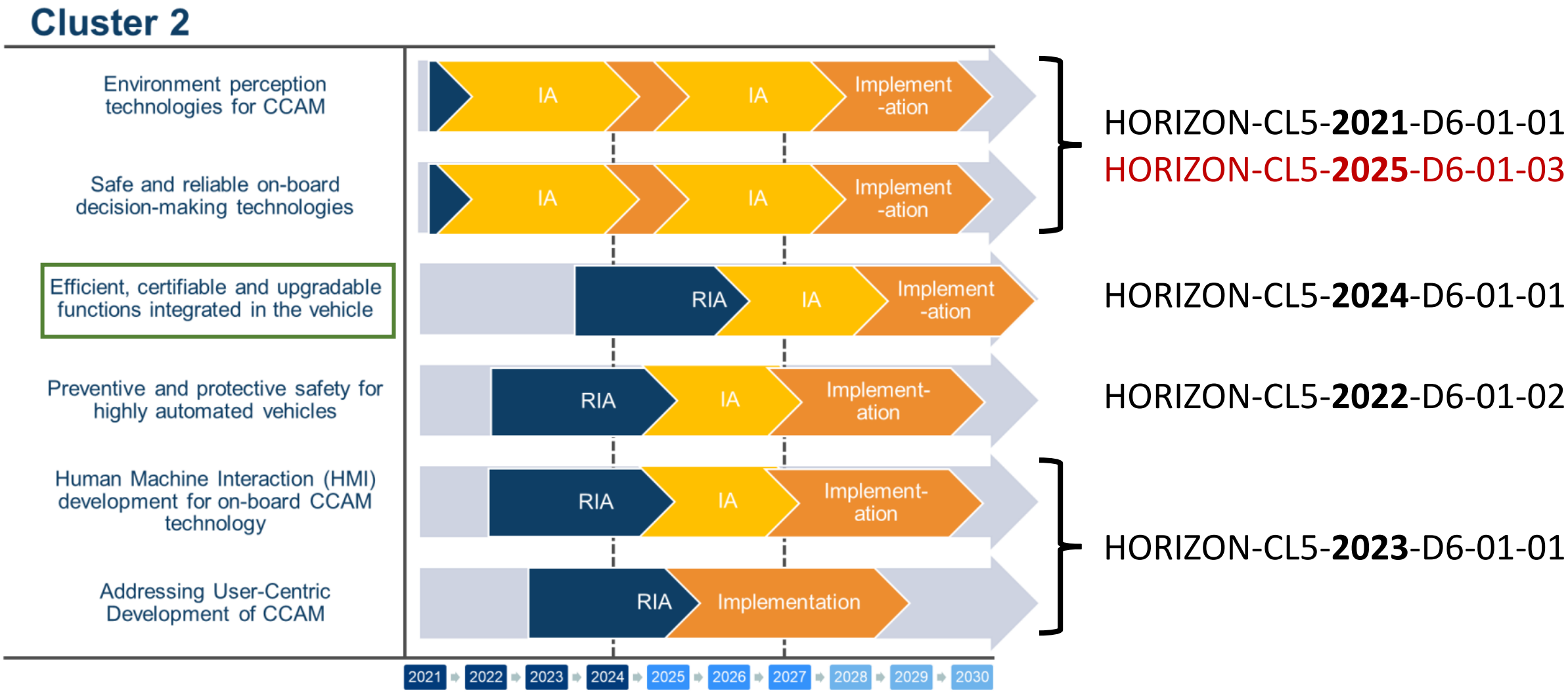
CCAM WORK PROGRAMME 2025

CCAM Cluster	Topic title	Type of action	Budget (EUR million)	# of projects expected to be funded
Cross-cluster	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs – Societal Readiness Pilot	RIA	12	2
1	Preparing for large-scale CCAM demonstrations – *Societal Readiness Pilot*	CSA	4,5	1
2	Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity	RIA	8	2
3	Integration of human driving behaviour in the validation of CCAM systems	RIA	5	1
5	Approaches, verification and training for Edge-AI building blocks for CCAM Systems	RIA	4	1
7	Federated CCAM data exchange platform	IA	4	1

The total indicative budget is 37,5 M€. The call will open in 3rd or 4th quarter of 2025

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Cluster 2: SRIA Actions & Call Topics to Date



Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4M€
Number of projects	2
Budget	8M€
Synergies	

Cluster 2: Vehicle Technologies

HORIZON-CL5-2026-01-D6-03:

Next-generation environment perception for real-world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity

Motivation

- **The initial deployment of Level 4 automated vehicle services in urban and other complex settings has encountered significant challenges with respect to environmental perception and decision-making**.
- This has led to occasional remote assistance calls, blockages and accidents that have **impacted public trust**.
- At the same time, the **increasing computing power demand** implies limiting usage of **energy and resources** to meet **sustainability requirements**.
- Thus, emerging large-scale demonstrations of automated vehicles must be accompanied by objective-oriented research aimed at **addressing these challenges** directly while targeting improvements in **performance, accuracy, reliability, and cyber-security**.

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4M€
Number of projects	2
Budget	8M€
Synergies	

Cluster 2: Vehicle Technologies

HORIZON-CL5-2026-01-D6-03:

Next-generation environment perception for real-world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity

Expected outcomes

Project results are expected to contribute to **all** of the following outcomes:

- Availability of validated prototypes of next-generation vehicle and infrastructure-based **environment perception technologies** for robust, reliable and trustworthy CCAM operations to anticipate and avoid foreseeable risks and **unexpected safety-critical situations in complex real-world conditions** (e.g. at pedestrian crossings, in construction sites, during interactions with emergency vehicles, etc.)
- Understanding the degree (and limits) to which automated CCAM perception systems can **anticipate, process, and respond to on-site 'early-warnings'** (e.g., street design, sounds, smells and other signals from the environment, intentions of pedestrians, cyclists, and other active mobility users, etc.);
- **Improvement of the energy-efficiency** of the sense-think-act systems of CCAM considering the vehicle, the infrastructure, the cloud at-the-edge, while at the same time increasing the performance to **guarantee security and error-free reliability**; these developments will contribute to the reduction of the potential climate and environmental footprints of CCAM systems;
- **Standardisation and adoption of modular, reusable, and upgradable SW and HW platforms**, investigating scalable deployment concepts that lead to **cost reduction** and improved affordability while adopting a **circular, eco-design approach** (including efficient materials use, reduced waste, and the repair and reuse of components where feasible).

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4M€
Number of projects	2
Budget	8M€
Synergies	

Cluster 2: Vehicle Technologies

HORIZON-CL5-2026-01-D6-03:

Next-generation environment perception for real-world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity

Scope

Focus on:

- **Advancements in all steps of the sense-control-act process** for both vehicle- and infrastructure-based smart sensor systems and networks, controllers, and actuators to ensure safety and trustworthiness of CCAM;
- **Utilisation of digital enabling technologies** including, for example: AI at-the-edge, machine learning, data spaces with reference scenarios and suitable software architectures;
- **Adoption of modular, reusable, and open SW platforms** supporting the environment perception for CCAM while ensuring transparency of operation, verification, and safety assessment to build trust, with respect to authorities, decision makers and the public via direct performance explainability;
- **Energy efficiency, circularity, and eco-design** of the environment perception systems by decreasing potential energy and resource consumption in both production and operation as well as facilitating reusability, reparability and upgradability while further enhancing the performance;
- **Reduction of potential costs** of environment perception systems through scalability, modularity and standardisation, making technologies financially viable for widespread implementation;
- **Support remote assistance** as a stepping-stone towards higher levels of autonomy and vehicle automation in wider Operational Design Domains (ODD).

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4M€
Number of projects	2
Budget	8M€
Synergies	

Cluster 2: Vehicle Technologies

HORIZON-CL5-2026-01-D6-03:

Next-generation environment perception for real-world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity

Also to be taken into account

Solutions are expected to **integrate electronic hardware architectures and software stacks in a co-design approach**. Hence, it is strongly encouraged that solutions use, as far as possible**, building blocks and tools from projects of the Software-Defined Vehicle of the Future (SDVoF) initiative** under the Chips Joint Undertaking, e.g., on the hardware abstraction layer and SDV middleware and API framework.

Results from projects funded under HORIZON-CL5-2024-D6-01-04 (“AI for advanced and collective perception and decision making for CCAM applications”) and complementarities with projects funded under Horizon Europe Cluster 4 “Digital Industry and Space” should also be considered, where appropriate.

As the activities should demonstrate feasibility and their full potential for real-world applications, proposals should foresee exchanges with other relevant EU or national projects for e.g., coordinated validation, transport systems integration and large-scale piloting.

Collaboration should also be sought with projects funded under HORIZON-CL5-2024-D6-01-01 (“Centralised, reliable, cyber-secure & upgradable in-vehicle electronic control architectures for CCAM connected to the cloud-edge continuum”) and other directly relevant call topics.

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4M€
Number of projects	2
Budget	8M€
Synergies	

Cluster 2: Vehicle Technologies

HORIZON-CL5-2026-01-D6-03:

Next-generation environment perception for real-world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity

Also to be taken into account

In view of the relevance of environment perception and decision-making of automated vehicles for the responsiveness of the innovation to diverse societal interests and concerns, accessibility, inclusiveness as well as regulation, proposals should consider societal, ethical, socio-economical and/or legal aspects as far as feasible in the requirements of the technical solutions to be developed. This could involve the engagement of institutional users as well as citizen-science approaches, e.g. in collaboration with projects CulturalRoad and Diversify – CCAM.

To achieve the expected outcomes, **international cooperation is highly relevant, considering the lessons learned (for example, from robo-taxi trials in the US and China).**

Activities should foster links between the European ecosystem and relevant stakeholders around the world, in particular with Japan and the United States but also with other relevant strategic partners in third countries, while taking into account the legal, cultural, historical, and social aspects in Europe as well as other specificities of the European road network and cities (including: traffic rules, user behaviour, diverse user groups considering gender, age, disability, socio-economic status, etc., streets morphology, and the structure and condition of roads in rural areas).

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

CCAM WORK PROGRAMME 2025

CCAM Cluster	Topic title	Type of action	Budget (EUR million)	# of projects expected to be funded
Cross-cluster	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs – Societal Readiness Pilot	RIA	12	2
1	Preparing for large-scale CCAM demonstrations – *Societal Readiness Pilot*	CSA	4,5	1
2	Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity	RIA	8	2
3	Integration of human driving behaviour in the validation of CCAM systems	RIA	5	1
5	Approaches, verification and training for Edge-AI building blocks for CCAM Systems	RIA	4	1
7	Federated CCAM data exchange platform	IA	4	1

The total indicative budget is 37,5 M€. The call will open in 3rd or 4th quarter of 2025

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2024)
TRL	TRL5
EU contribution per project	5
Number of projects	1
Budget	5

CLUSTER 3 – Validation

Integration of human driving behaviour in the validation of CCAM systems

Expected outcomes

Project results are expected to contribute to all of the following outcomes:

- **Validated human behavioural models** representing the variety of human driving behaviour in **safety-relevant scenarios**, shared through a **common repository** […]
- **Application of such human behavioural models in the virtual safety validation** of CCAM systems to realistically represent the behaviour of human-driven vehicles […]

Motivation

- … CCAM systems will have to show **safe and human-like driving behaviour**, so that their decisions and actions can be anticipated easily by other road users […].
- This will require validated models of […] human driving behaviour to design and validate such system behaviour. These **models will be needed in closed loop simulations** of CCAM systems in mixed traffic to realistically represent the reactions of human drivers in other vehicles to the behaviour of a CCAM system.
- Models representing human driving behaviour shall be developed by the projects **i4Driving** and **BERTHA** for selected fields of application, i.e. they will be calibrated for a limited number of scenarios [only].

Type of action & year	RIA (2024)
TRL	TRL5
EU contribution per project	5
Number of projects	1
Budget	5

CLUSTER 3 – Validation

Integration of human driving behaviour in the validation of CCAM systems

Scope (shortened)

- Bringing together and building upon the results of i4Drivng and BERTHA, research is needed to **extend the fields of application** that these projects are addressing with a focus on representing driver behaviour in a multitude of safety-critical scenarios.
- Detailed **calibration and parameterisation** is necessary, as driver behaviour depends on a multitude of factors.
- Proposed actions must also **validate the models for their extended fields of application**, going well beyond the applications and degrees of validation accomplished by the above-mentioned projects. Proposed actions shall thus raise the technology readiness of these models from **TRL 4 to TRL 5**. Data for parameterisation and validation should be captured by monitoring real human drivers in driving simulators and/or real traffic.
- Proposed actions shall **integrate** the validated models in the virtual validation and verification approaches as developed in the projects HEADSTART and SUNRISE. Successful integration needs to be demonstrated in various safety-relevant scenarios as provided by SYNERGIES. Models should be **shared** via the federated data exchange platform for CCAM to be developed by an action under HORIZON-CL5-2025-D6-06.
- Expertise from SSH is expected. The topic is open for INCO and for collaboration with the JRC.

CCAM WORK PROGRAMME 2025

CCAM Cluster	Topic title	Type of action	Budget (EUR million)	# of projects expected to be funded
Cross-cluster	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs – Societal Readiness Pilot	RIA	12	2
1	Preparing for large-scale CCAM demonstrations – *Societal Readiness Pilot*	CSA	4,5	1
2	Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity	RIA	8	2
3	Integration of human driving behaviour in the validation of CCAM systems	RIA	5	1
5	Approaches, verification and training for Edge-AI building blocks for CCAM Systems	RIA	4	1
7	Federated CCAM data exchange platform	IA	4	1

The total indicative budget is 37,5 M€. The call will open in 3rd or 4th quarter of 2025

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4
Number of projects	1
Synergies	AI4CCAM, AITHENA, SYNERGIES

C5: Key Enabling Technologies

Approaches, verification and training for Edge-AI building blocks for CCAM Systems

Expected outcomes

Project results are expected to contribute to all of the following outcomes:

- CCAM solutions with reduced power consumption, latency, and improved speed and accuracy;
- Enhanced levels of safety, (cyber) security, privacy and ethical standards of data-driven CCAM functionalities;
- Approaches for well-balanced distributions of AI calculations for expanding use cases (e.g. collective perception, decision making and actuation). Balanced mix of edge, cloud, vehicle-central AI calculations. Balancing speed and latency, energy use, costs, data sharing and storage needs and availability;
- Validated approaches incorporating edge-AI solutions into the action chain from perception and decision-making up to actuation of advanced CCAM functionalities (on-board, at infrastructure) for systemic applications (e.g. traffic management, remote control). Tools and approaches for training of such functionalities.

Motivation

Why is this topic necessary now?

- Contextual development of Edge AI applications
- Limit data transfer, esp in safety critical applications (latency)
- Limit privacy and cyber security risks (less transfers → less openings for breaches)
- Advances on HW & SW need to go hand in hand
- General approaches to develop Edge AI building blocks for CCAM are missing, as are tools for training and verification
- Need to reduce cost of calculation, energy usage

Type of action & year	RIA (2025)
TRL	TRL5
EU contribution per project	4
Number of projects	1
Synergies	AI4CCAM, AITHENA, SYNERGIES

C5: Key Enabling Technologies

Approaches, verification and training for Edge-AI building blocks for CCAM Systems

Scope

- Huge AI applications need to fit into limited hardware. Devices with limited computational resources challenge deploying large and complex AI models → need to develop and reshape approaches and building blocks for CCAM solutions, viable to be run on edge-hardware.
  - Use cases (approaches, building blocks); focus on time-critical applications (such as the chain from (collective) perception, decision making and actuation of functionalities), can link to AI4CCAM and AIthena.
- Develop & demonstrate optimised edge-AI algorithms (applicability, scalability), using real-world CCAM scenarios (e.g. from SYNERGIES). The development and demonstration use case should include in-vehicle perception and understanding. Decision making and actuation of countermeasures is to be included.
- Optimisation of models for edge deployment, incl e.g. adjusting the size and complexity of models to run them on the relevant edge devices; include training and verification approaches. Over-the-air (OTA) updates can be used to manage and update models across a fleet of devices efficiently.
- Develop tools and approaches for edge-AI model monitoring → ensure these models/systems continue to operate as expected & to ensure resilience to failure conditions or attacks.

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

CCAM WORK PROGRAMME 2025

CCAM Cluster	Topic title	Type of action	Budget (EUR million)	# of projects expected to be funded
Cross-cluster	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs – Societal Readiness Pilot	RIA	12	2
1	Preparing for large-scale CCAM demonstrations – *Societal Readiness Pilot*	CSA	4,5	1
2	Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity	RIA	8	2
3	Integration of human driving behaviour in the validation of CCAM systems	RIA	5	1
5	Approaches, verification and training for Edge-AI building blocks for CCAM Systems	RIA	4	1
7	Federated CCAM data exchange platform	IA	4	1

The total indicative budget is 37,5 M€. The call will open in 3rd or 4th quarter of 2025

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

Type of action & year	IA (2026)
TRL	TRL6-7
EU contribution per project	4
Number of projects	1
Budget	4
Synergies	Clusters 3, 4 & 5

Cluster 7 - Coordination

Federated CCAM data exchange platform

Expected outcomes

Project results are expected to contribute to all the following outcomes:

- Overview of **CCAM-specific limitations of current data exchange solutions and existing dataspaces** related to interfaces, harmonised ontologies and taxonomies, standards, formats, monetisation / compensation
- Mapping of **information and reference data needs for KPIs collected by MS and AC** (where relevant and to the extent possible), related to impacts of CCAM technologies and solutions;
- Federated sustainable CCAM Data Exchange Platform facilitating sharing of data for LSDs and deployment (including but not limited to **Digital Twins, digital scenario representations, safety assurance & validation, ADS regulation monitoring, driver behaviour, AI model training, collection of national/EU statistics and KPIs**);
- Proposed **governance structure** for the Data Exchange Platform with **sustainability plan & viable business model**

Motivation

- The Mobility Data Space facilitates sharing of data related to mobility patterns, traffic flow & other macroscopic aspects
- For research, testing & deployment of CCAM for automotive and infrastructure there is a need for a dedicated data space demanding more granular and extensive arrays of data to cater to the needs of Tier X suppliers, OEM, traffic managers & infrastructure providers
- Several data spaces exist or are being developed in Europe for CCAM in specific R&I initiatives
  - FAME CCAM Data Sharing Framework (DSF) 2.0 describing best practices in data sharing and CCAM Federated Data Space PoC to facilitate exchange of research and test data
  - Federated scenario database by projects SUNRISE and SYNERGIES
- Significant enhancements required to achieve full Data Space functionality: developing connectors, APIs and protocols for seamless data exchange, user profile management systems, contractual framework´s for data access and usage rights (link with DSSC, deployEMDS
- Need to incorporate datasets for DMS, perception systems, decision making algorithms, sensors

Type of action & year	IA (2026)
TRL	TRL6-7
EU contribution per project	4
Number of projects	1
Budget	4
Synergies	Clusters 3, 4 & 5

Cluster 7 - Coordination

Federated CCAM data exchange platform

Scope

- Identify how to **further evolve the data spaces for CCAM applications**, connecting existing dataspaces and bridging data gaps;
- Identify **harmonisation and standardisation needs** for taxonomies, interfaces, and data formats to push CCAM data exchange and extend and implement the CCAM taxonomies in the CCAM Test Data Space;
- Identify **information needs and reference data for KPIs collected from Member States and Associated Countries** (where relevant and to the extent possible) of i.e. high-level socio-economic statistics, accidents, infrastructure, vehicles;
- Establish a **Federated CCAM Data Exchange Platform with tools and governance**, including a viable business model to ensure the durability of the platform, which facilitates sharing of data for industry, social partners, authorities and academia that are supporting specific use cases related to: LSDs, generation and maintenance of digital twins and representation of scenarios (for development or validation), performance and safety assessment, driver behaviour data from real and synthetic driving conditions, ADS regulation monitoring, AI model training, and common information source for national/EU level statistics and KPIs;
- Identify and **describe methods/algorithms/processes** to refine and use data for the specific use cases tackled by the Platform
- Identify the **effects of the EU General Data Protection Legislation** (GDPR) on AI learning workflows and possible mitigation measures.

A strong alignment is required with **EMDS** and related projects, links with **FAME, EDIC, SRG**. Importance of interoperability standards for data sharing within & across data ecosystems & FAIR data principles
International cooperation encouraged with Japan and US and other relevant strategic partners

BREAKOUT EXPLANATION

- Cross Cluster: 6th floor, Room 6.2
- Cluster 1: 5th floor, Room 5.3
- Cluster 2: 5th floor, Room 5.5
- Cluster 3: 6th floor, Room 6.5
- Cluster 5: 5th floor, Room 5.2
- Cluster 7: 5th floor, Room 5.1

6 breakouts in parallel

4 timeslots of 30 minutes each

Everyone will be able to attend 4 breakouts in total:
- 2 in the first timeslot 10:15-11:20
- 2 in the second timeslot 11:45-12:50

Free floating
Please select a different breakout if it is too crowded

In breakouts:
- Q&A and discussion with the authors
- Members interest

Captured by moderators on flipcharts

Flipcharts will be documented and shared with members

THANK YOU!

Contact: marzena.jougounoux@ccam.eu

twitter.com/CCAM_EU linkedin.com/company/ccam-association

ccam.eu