

**CCAM
PARTNERSHIP**
PERFORMANCE ASSESSMENT
AND PROJECTS MONITORING
**2024
2025**

Summary report



fka GmbH

Automated Driving

Final Report

**CCAM PARTNERSHIP PERFORMANCE ASSESSMENT
AND PROJECTS MONITORING
2024 -2025**

Project Number

245490

Customer

Connected, Cooperative and Automated Mobility Association - CCAM A.i.s.b.l.

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1. Introduction

The Connected, Cooperative and Automated Mobility (CCAM) Partnership is a coprogrammed Public Private Partnership that is running in the frame of Horizon Europe, between the European Commission and the private side represented by the CCAM Association. The CCAM Partnership's work is to collaborate with the European Commission's services in defining CCAM's Horizon Europe calls for proposals, disseminating information about the partnership and calls, and promoting the results of all CCAM research projects.

The main goal of the CCAM monitoring study is to monitor and evaluate the CCAM Partnership's projects. The study distinguishes between the monitoring of project activities, such as tracking deliverables and the achievement of operational milestones, and the assessment of real progress towards actual deployment and tangible societal impact. It is to be evaluated to what level the CCAM Partnership's operational, specific and general objectives have been or will be achieved and to ensure that the means to reach those objectives are consistent and contribute to the partnership's wider objectives (in accordance with the SRIA). This will include stakeholder consultations with CCAM project coordinators, the [FAME](#) and [CCAMBassador](#) projects and others.

In order to achieve the study goals a project structure is implemented, which is organised in the following work packages:

- ▶ WP1: Project monitoring and evaluation of scope, progress and impacts
- ▶ WP2: Interaction with the [FAME/CCAMBassador](#) projects
- ▶ WP3: Support of RTR Conference
- ▶ WP4: Final report

In order to pursue the study objectives, bilateral meetings and interviews are organised between the contractor and the CCAM Association (secretariat and some members of the administration board and the executive group) including relevant stakeholders (e.g. representatives of the [FAME](#) project) as well as all CCAM project coordinators. In order to align the work of all work packages with the CCAM Partnership a regular exchange on the progress of the work and available results is foreseen.

For a major part of the project and especially in the context of WP1, the work consists of information collection and analysis related to key performance indicators (KPI), which are defined for all objectives of the CCAM partnership. These KPIs are categorized to ensure a clear separation between activitybased indicators (outputs) and impactbased indicators (societal and deployment progress). Sources for the KPI analysis are interviews, discussions and desktop research.

¹ While this report primarily refers to FAME, it also encompasses activities undertaken within the CCAMBassador project from July 2025 onward. For readability, however, we continue to use the term 'FAME' as that was the project with which fka coordinated its activities.

The time schedule for the project is shown in Figure 1-1. In the first two quarters of the project the main focus was on the preparation of the project interview questionnaires, which are based on the required information of the KPI analysis. In Q4 2024 the first test interviews were conducted and the interviewing process started in Q1 2025.

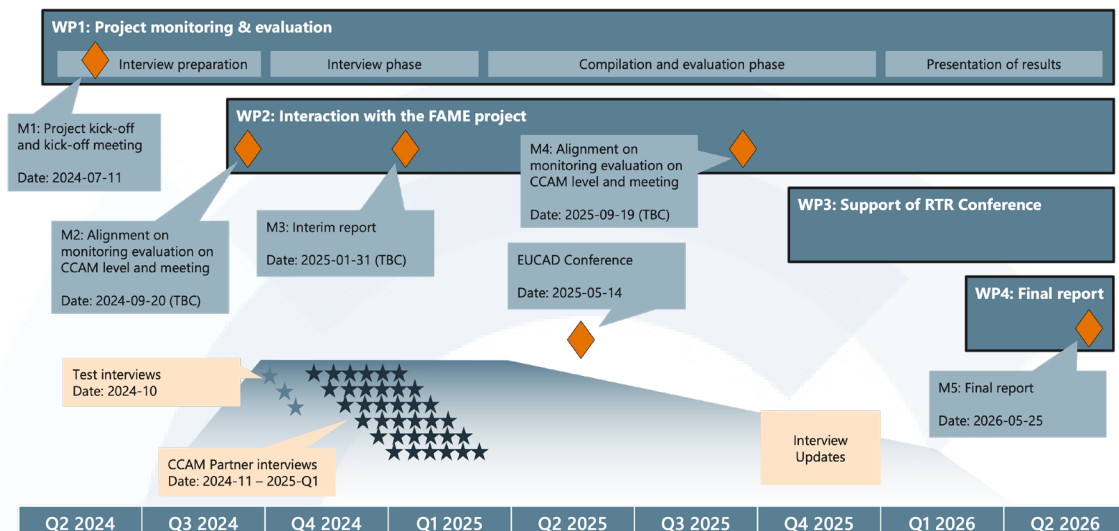


Figure 1-1: CCAM Project Monitoring and Evaluation project overview

This final report provides a summary of all the work conducted in the monitoring study.

2. WP1: Project monitoring and evaluation of scope, progress and impacts

The first work package consists of the monitoring and evaluation of the impacts of the CCAM Partnership's projects. A total of 38 collaborative projects are being and have been conducted as part of the CCAM Partnership. These projects have undergone monitoring and analysis to assess their results in relation to the Partnership's objectives. Details regarding the goals, results, challenges, remaining open issues and gaps, and lessons learned have been provided. While some projects are still ongoing, the monitoring and evaluation phase is now complete.

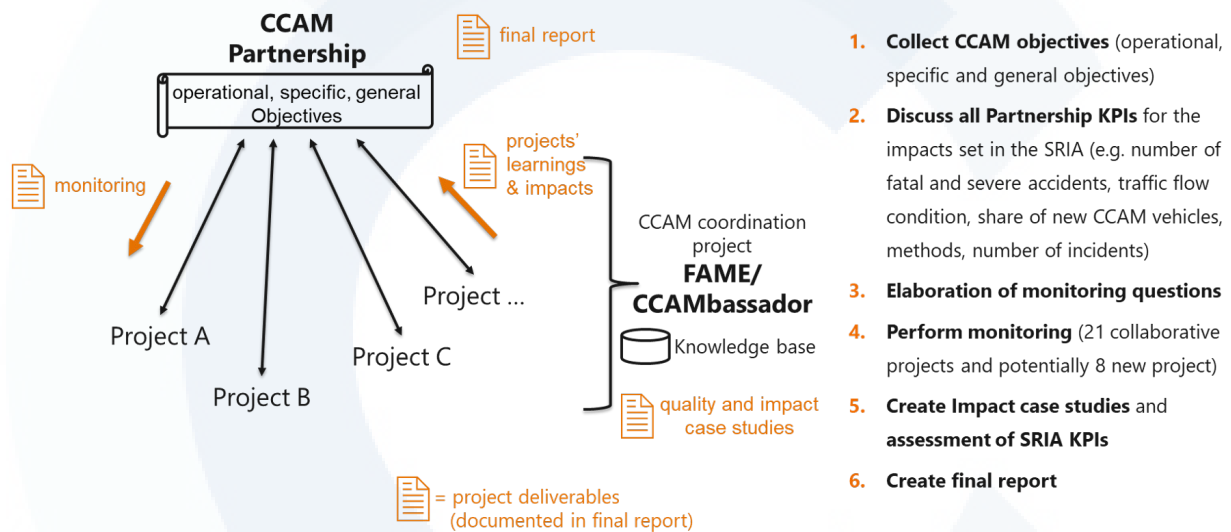


Figure 2-1: WP1 methodology: CCAM monitoring approach

The overall methodology of the project is provided in Figure 2-1. At the beginning all CCAM objectives documented in the SRIA were collected and analysed. A thorough discussion with the CCAM Partnership on KPI level for each objective promoted a deep understanding and agreement among the objectives and related KPIs. Following this, information sources for each objective were determined, with project monitoring identified as a key source. A monitoring questionnaire was elaborated to effectively address the KPIs. The questionnaire was then tested on selected projects, refined based on the feedback, and subsequently applied throughout the interview process.

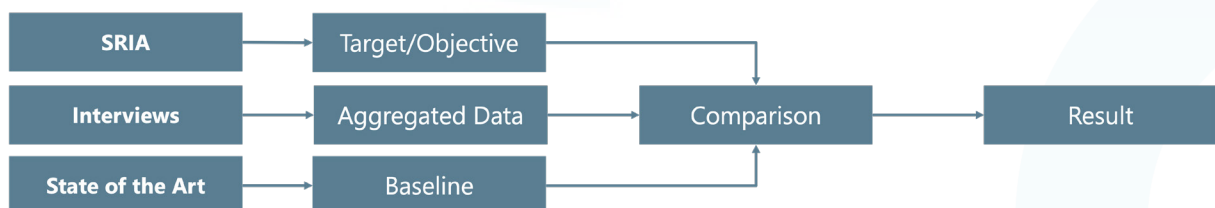


Figure 2-2: Schematic workflow of KPI evaluation

To ensure the reliability of the findings, the data collected through interviews and self-reporting was subjected to a structured quality assessment. Recognizing that interviews and self-reporting can be subject to bias, the collected data is not taken at face value but is evaluated based on three critical dimensions: evidence strength (the level of documentation and verification available), maturity (the results are weighed against the project's stage of development and Technology Readiness Levels (TRL) to ensure that claims of "success" are proportionate to the project's maturity) and independence (the degree of objectivity is evaluated by cross-referencing self-reported data with external information on project websites or published deliverables where available). This ensures that the final assessment of the KPIs reflects a realistic and objective view of the Partnership's progress.

Overall, WP1 is structured in the following way:

WP1: Project monitoring and evaluation of scope, progress and impacts

- ▶ Task 1: Analysis of CCAM Partnership objectives and KPIs and overall methodology
- ▶ Task 2: Project monitoring
- ▶ Task 3: CCAM Partnership's progress
- ▶ Task 4: Impact case studies and assessment of SRIA KPIs

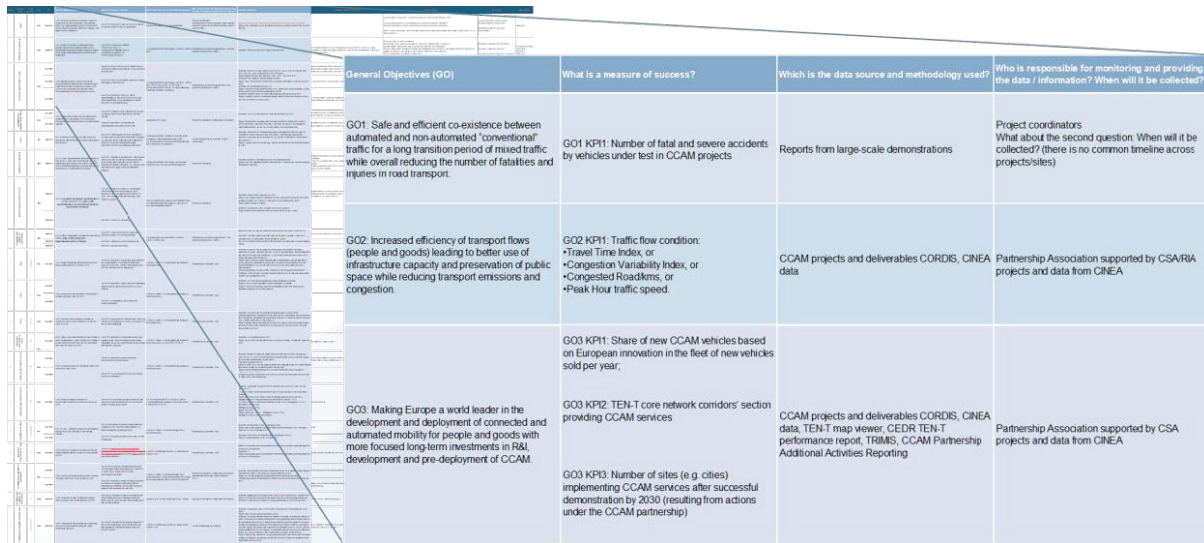
Task 1 provides a detailed insight into the analysis of CCAM Partnership objectives and KPIs up to the application of the questionnaire. Task 2 provides the status of the monitoring process. Tasks 3 and 4 build upon the analysis of the monitoring results.

2.1. Task 1: Analysis of CCAM Partnership objectives and KPIs and overall methodology

Initially, CCAM objectives and KPIs were collected and discussed to ensure mutual understanding among all stakeholders regarding the assessment criteria. Following this, the KPIs underwent thorough analysis and were further discussed with partnership representatives to refine evaluation focus areas, ensuring alignment with overall goals. The primary objective of this assessment was to measure the alignment of current initiatives and projects with the predefined benchmarks. This process aimed to pinpoint strengths, identify gaps, and highlight areas for enhancement.

Figure 2-3 provides an overview of the outcome of the targeted objectives and KPIs (see Appendix 8.1 for the full set). The schematic diagram illustrates an exemplary set of main objectives, linking them to specific KPIs that quantify success, along with the data source and methodology employed.

All objectives and related KPIs are provided (see Appendix 8.1 for details). A related data source was identified for each objective and KPI, along with instructions on how to retrieve the necessary data to answer each KPI. The responsible entity (project, association, representatives) was designated for data retrieval. A baseline or target was defined for each KPI, and comments from discussions with the CCAM were compiled for internal analysis. This table served as the basis for the interview questionnaire described in section 8.3.



General Objectives (GO)	What is a measure of success?	Which is the data source and methodology used?	Who is responsible for monitoring and providing the data / information? When will it be collected?
GO1: Safe and efficient co-existence between automated and non-automated "conventional" traffic for a long transition period of mixed traffic while overall reducing the number of fatalities and injuries in road transport.	GO1 KPI1: Number of fatal and severe accidents by vehicles under test in CCAM projects	Reports from large-scale demonstrations	Project coordinators What about the second question: When will it be collected? (there is no common timeline across projects/sites)
GO2: Increased efficiency of transport flows (people and goods) leading to better use of infrastructure capacity and preservation of public space while reducing transport emissions and congestion.	GO2 KPI1: Traffic flow condition: •Travel Time Index, or •Congestion Variability Index, or •Congested Roadkms, or •Peak Hour traffic speed.	CCAM projects and deliverables CORDIS, CINEA data	Partnership Association supported by CSA/RIA projects and data from CINEA
GO3: Making Europe a world leader in the development and deployment of connected and automated mobility for people and goods with more focused long-term investments in R&D, development and pre-deployment of CCAM.	GO3 KPI1: Share of new CCAM vehicles based on European innovation in the fleet of new vehicles sold per year; GO3 KPI2: TEN-T core network corridors' section providing CCAM services GO3 KPI3: Number of sites (e.g. cities) implementing CCAM services after successful demonstration by 2030 (resulting from actions under the CCAM partnership)	CCAM projects and deliverables CORDIS, CINEA data, TEN-T map viewer, CEDR TEN-T performance report, TRIMS, CCAM Partnership Additional Activities Reporting	Partnership Association supported by CSA projects and data from CINEA

Figure 2-3: Exemplary set of CCAM Partnership Objectives and KPI analysis

To gather insights effectively, a strategic decision was made to use interviews rather than of-fline questionnaires. This choice favoured a more direct and personal approach that would minimise evasion of critical questions, allowing for deeper exploration into each KPI's implications and challenges. Therefore, specific interview questions were developed to probe deeply into stakeholders' understanding and perspectives regarding CCAM objectives and their performance against identified KPIs. The core questions and KPIs underwent restructuring to create a coherent set of interview items with logical sequencing, ensuring that interviews flowed smoothly and covered all necessary areas comprehensively.

Despite the depth provided by this approach, it is noted that interview-based evidence is subject to certain limitations. Specifically, the results may reflect subjective perspectives and are dependent on the project coordinators' individual interpretations of progress and performance. This subjectivity is an inherent trait of qualitative data collection.

Next to the interviews, other sources of information were identified to collect the necessary input for the defined KPIs. This information was gathered via desktop research, utilizing publicly available CCAM-related data e.g. from accident research, opinion polling, research papers etc. with a focus on international data, particularly from Europe.

2.2. Task 2: Project monitoring

With the framework in place, the interview process commenced, enabling the active collection of data and insights directly from stakeholders. The first phase of interviews was expertly conducted to gather valuable insights. This initial phase provided firsthand information on views, experiences, achievements, and expectations regarding CCAM targets and performance indicators. The first round of interviews for all current projects concluded successfully at the end of March 2025.

Building on these positive initial impressions, a second phase was planned to continue and deepen the data collection process. Chapter 2.2 is structured along these phases. After the description of the initial interview scope the data update of phase II is provided. The goal of the data update is to receive the latest developments of the project content for this report in these projects, which are still running and producing outputs (see Figure 2-4 for timeline). The status of all project durations and the time of the interview are given in section 2.2.3. based on the data the analysis process as conducted.

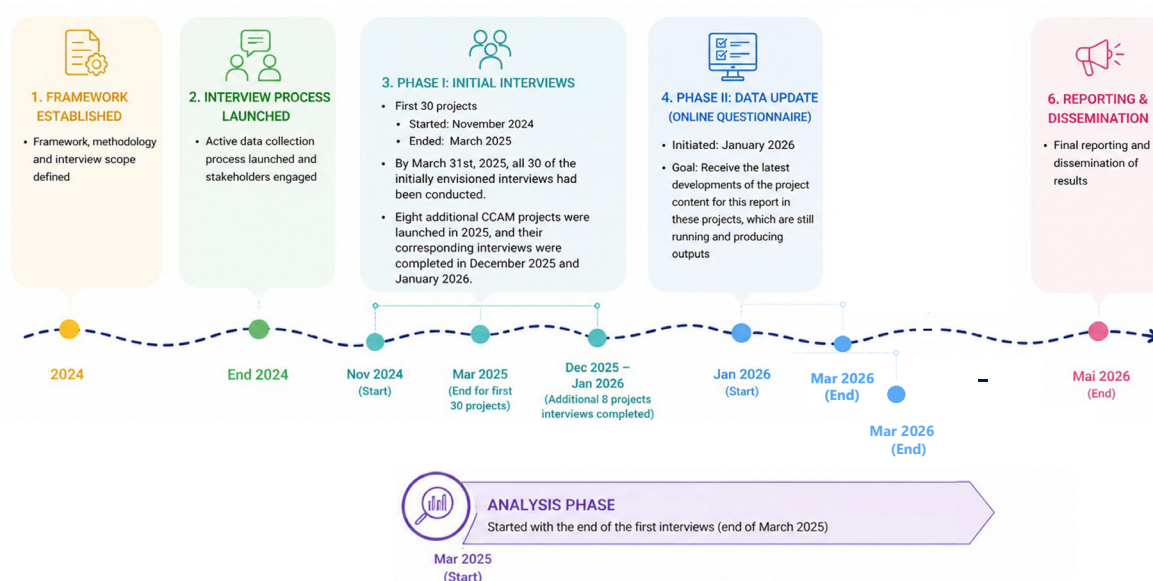


Figure 2-4: Interview and analysis process timeline: from framework setup to results

Within the course of the monitoring study, a wide range of questions has been compiled from the basic set of KPIs. Further questions received from the [FAME](#) project have been included and incorporated into the interview questionnaires.

2.2.1. Interview scope (phase I)

In terms of monitoring key areas through interviews, questions were designed to cover several important aspects. The respective interview questions were aligned with specific KPIs and assigned to them. This allocation ensures that each question addresses at least one relevant indicator. In the following, the

structure of the interview questionnaires is summarised – each heading introduces a certain set of questions which is further explained below.

In phase I the initial interviews of the projects took place. During the interview phase in the beginning of 2025 not all CCAM had yet commenced. Additional to the initial 30 projects, 8 more projects were interviewed at a later stage.

Project monitoring

- ▶ **Project Progress and Schedule:** The questions focus on assessing current progress against planned timelines and identifying any potential or actual delays affecting project schedules.

Impact area and project work

- ▶ **Impact Areas:** Determines which of the eighteen impact areas mentioned in the EU Common Evaluation Methodology (CEM) are addressed by the project, encompassing technical development, user experience, safety improvements, traffic efficiency, and sustainability efforts.
- ▶ **Societal Impact Assessment:** Verifies whether societal impacts are being assessed and describes the methodologies used for such evaluations.
- ▶ **Emerging Fields:** Explores the investigation of new fields like artificial intelligence, cybersecurity, or next-generation communication technologies.

Evaluation and testing

- ▶ **Testing and Demonstrations:** Identify whether testing of technology or demonstrations have taken place, detailing the locations, types, vehicles involved, and any incidents during these activities.
- ▶ **Involvement with Regional Authorities:** These questions describe the level of interaction with local and regional authorities in implementing the project.
- ▶ **Public Authority Involvement:** Assessment of how public authorities are involved or engaged in CCAM activities.
- ▶ **Safety Standards and Methodologies:** Investigates any new safety standards developed or methodologies for safety validation within the CCAM context.

Acceptance and trust

- ▶ **Acceptance of CCAM Solutions:** Captures whether public acceptance and adoption, focusing on positive effects such as changes in fleet composition or improved transportation performance are addressed by the projects.
- ▶ **Trustworthy Interaction Development:** Determines whether there have been successful demonstrations of functionalities addressing trustworthy interactions between automated systems and humans.

Methods, tools and data

- ▶ Use of Existing Methods/Tools/Taxonomy: Intended to determine whether existing methods, tools or taxonomies are used in the project or whether reference is made to them in order to rationalise processes and adapt to established standards.

CCAM Partnership

- ▶ Enhanced Collaboration: Expectations for improved interaction among CCAM projects and with the CCAM Partnership.
- ▶ Expectations regarding **FAME**: Expectations regarding, for example, support, participation in activities such as workshops, matchmaking events to connect with stakeholders and invitations to future **FAME** events to facilitate collaboration and learning

Publications

- ▶ List of publications: Establish a list of publications beyond the projects' scheduled Deliverables. Especially scientific papers and theses, conference contributions and patents that emerge from the project.

Summary and Outlook

- ▶ Contribution to CCAM goals: Outlines how the project contributes to overarching goals such as competitiveness, road safety, environmental impact reduction, and inclusiveness within mobility services.

A detailed version of the interview questionnaire is available in the Appendix (see section 8). Furthermore, all items are mapped to their corresponding KPI (if applicable) in section 8.3.2).

2.2.2. Data update (phase II)

At the time of the first interviews (Q1 of 2025), all of the initial 30 CCAM projects were active and running. About a third of the projects had just started while the rest was already delivering first results. The interview questionnaire was generated in a generic form to fit all projects in different progress of work. Naturally, not all questions could be answered by the interviewees at the time of the interview. In particular, final project results, derived lessons learned, and success stories were of significant interest but could not be fully addressed at that stage. Therefore, the overall methodology foresaw a second round of data collection at the end of the dedicated project or latest at the end of 2025/beginning of 2026.

Phase II was initiated in January 2026 and conducted as an online questionnaire (see Appendix 8.4 for the survey). In terms of updating key areas touched through interviews, questions are designed to cover several important aspects. The interview process was complemented by a structured set of questions designed to both update previously collected information and address thematic areas that were not sufficiently covered during earlier interviews. In particular, the questionnaire captures updates on key indicators such as testing statistics (e.g. number of test vehicles, incidents), as well as

achievements, publications and lessons learned, thereby ensuring a more comprehensive and up-to-date evidence base. In the following, the structure of the online questionnaire is outlined, with each heading corresponding to a specific group of questions, as further detailed below.

Project Monitoring

- ▶ **Project Progress and Schedule:** The survey begins by assessing current project progress against the original plan, identifying any delays (stated in months) and requesting a clear indication of whether the project is on, ahead, or behind schedule.

Impact Area and Project Work

- ▶ **Societal Impact Assessment:** Projects are asked to confirm whether they are conducting a societal impact assessment, and if so, to briefly describe the methodology used and how the results will be applied.

Evaluation and Testing

- ▶ **Testing and Demonstrations:** Explores whether projects have conducted or are planning to conduct technology testing and/or demonstrations. More detailed information is requested regarding location(s), testing environment type, duration, vehicles involved, distance travelled (total, baseline, automated), driving mode, budget and objective of the test(s).
- ▶ **Incidents and Accidents:** Projects are asked to report any new accidents or incidents that occurred during testing, including the number and root cause.
- ▶ **Post-Demonstration Implementation:** Gather information on whether test sites (cities, regions) are adopting or implementing CCAM vehicles or services demonstrated during the project.
- ▶ **Traffic Flow Monitoring:** Projects are questioned about monitoring traffic flow during research, simulations, or tests, including the specific indices used (e.g., travel time, congestion).

Acceptance and Trust

- ▶ **Public Acceptance:** Ask for an update if projects have conducted surveys to assess public acceptance of CCAM services and vehicles, requesting a brief summary of the results and the type of CCAM service surveyed.
- ▶ **Safety Standards and Methodologies:** Projects are asked if they have developed, tested, or demonstrated new safety validation methods or tools, and whether these align with or contribute to existing CCAM safety standards. The survey also probes for perceived gaps in existing safety standards and any contributions to new standards.

Methods, Tools and Data

- ▶ **Use of Existing Resources and CEM Alignment:** Identify whether projects are utilising pre-existing methods, tools, or taxonomies from other CCAM projects or the Partnership and if they reference or build upon the CEM in their methodology.
- ▶ **Data Availability:** Captures the plan projects have for making datasets available, both within the project consortium and publicly. Details on data exchange are requested.

CCAM Partnership & Publications

- ▶ **Publications:** Establish a list of publications, the number of planned project reports, conference presentations, scientific papers, and theses emerging from the project.
- ▶ **References to CCAM Resources:** Addresses the statistics of references made to pre-existing CCAM methods, tools and taxonomy in reports and publications.

Summary and Outlook

- ▶ **Key Achievements & Lessons Learned:** Projects are again invited to highlight key achievements, success stories, and lessons learned that could benefit the wider CCAM community.
- ▶ **Long-Term Benefits:** The question explores the potential for long-term benefits and applications of project successes beyond the project's duration.

This survey, combined with the previously conducted interviews, will provide a robust and up-to-date overview of the CCAM project landscape, enabling accurate and informative reporting to the European Commission.

2.2.3. Interview progress, response and direct feedback

By March 31st, 2025, all 30 of the initially envisioned interviews had been conducted. Eight additional CCAM projects were launched in 2025, and their corresponding interviews were completed in December 2025 and January 2026. An overview of the schedule for all project interviews is provided in Figure 2-5. This section details the two-pronged approach to data collection used to monitor CCAM projects and describes the feedback received. The approach included both in-depth interviews and a follow-up online questionnaire, with each component making a unique contribution to the overall understanding of the projects' status and impact.

Order	Project	Project end date	Interview status	Coordinator
1	Move2CCAM	30.06.2025	Done 20250219	Hector Canas
2	SELFY	31.05.2025	Done 20241218	Fanny Breuil Aymami
3	FAME	30.06.2025	Done 20250320	Stephane Dreher
4	CONNECT	31.08.2025	Done 20241220	Thanassis Giannetsos
5	EVENTS	31.08.2025	Done 20250307	Bill Roungas
6	SINFONICA	31.08.2025	Done 20250207	Guilia Renzi
7	SUNRISE	31.08.2025	Done 20250124	Stefan de Vries
8	i4Driving	31.03.2026	Done 20250218	Maria Rodrigez
9	PoDIUM	30.09.2025	Done 20250225	Vasilis Sourlas
10	Althena	31.10.2025	Done 20250220	Oihana Otaegui Madurga
11	AWARE2ALL	31.10.2025	Done 20241128	Oihana Otaegui Madurga
12	CONDUCTOR	31.10.2025	Done 20250221	Flavien Massi
13	IN2CCAM	31.10.2025	Done 20250219	Maria Pia Fanti
14	AI4CCAM	31.12.2025	Done 20250205	Arnaud Gotlieb
15	AUGMENTED CCAM	31.12.2025	Done 20250328	Thierry Goger
16	MODI	31.03.2026	Done 20241206	Ragnhild Wahl
17	CCAM-ERAS	31.07.2026	Done 20250320	Arnaud Burgess
18	ROADVIEW	31.08.2026	Done 20250311	Eren Erdal Aksoy
19	ULTIMO	30.09.2026	Done 20250307	Lars Abeler
20	BERTHA	31.10.2026	Done 20250312	Begona Mateo Martinez
21	AutoTRUST	30.04.2027	Done 20250304	Konstantinos Votis
22	CulturalRoad	30.04.2027	Done 20250311	John Paddington
23	Diversify – CCAM	31.05.2027	Done 20250130	Anna Anund
24	FRODDO	31.05.2027	Done 20250318	Nikolaos Tsampieris
25	SYNERGIES	31.05.2027	Done 20250129	Jordi Pont
26	OptiPEX	31.10.2027	Done 20250318	Johanna Kallio
27	metaCCAZE	31.12.2027	Done 20250328	Tamara Djukic
28	MOBILITIES FOR EU	31.12.2028	Done 20250319	Julia Vicente Gómez
29	RESKILLING	31.12.2027	Done 20250314	Matina Loukea
30	iEXODDUS	30.11.2027	Done 20250312	Selim Solmaz
1	CHORUS	31.12.2028	Done 20260123	Angelos Amditis
2	CERTAIN	31.05.2028	Done 20260113	Oana Moldovan & Nuria Parera
3	CARMONY	30.04.2028	Done 20260129	Simon Genser
4	CCAMBassador	31.05.2028	Done 20260122	Stephane Dreher
5	EEA4CCAM	31.05.2028	Done 20251217	Georg Stettinger
6	AIGGREGATE	30.04.2028	Done 20260109	Marcos Nieto Doncel
7	HIDDEN	30.06.2028	Done 20260108	Angelos Amditis
8	UP2DATE4SDV	30.06.2028	Done 20260121	Gregor Nitsche

Figure 2-5: Project interview schedule overview

The interview process within the CCAM partnership was efficiently managed, with satisfactory scheduling and participant availability for sessions of up to two hours. Some participants, however, noted challenges in preparing for these sessions due to competing project demands, which occasionally resulted in incomplete responses or a lack of detailed information. Despite this, participants generally expressed a willingness to engage with the CCAM Partnership and openness towards future interactions with FAME. While the structured approach yielded rich, nuanced qualitative insights into project progress, highlighting key issues such as data sharing inconsistencies and difficulties in cross-project communication. These perspectives were instrumental to the monitoring process, allowing the analysis to move beyond surface-level progress and identify specific areas for improving collaboration. To supplement these qualitative findings and broaden the database, a targeted online questionnaire was distributed to all CCAM project coordinators. While initial response rates were slower and required prompting from CCAM members, the effort ultimately yielded a strong return of 35 responses out of 38 projects, including valuable input from recently launched projects. This ensured the inclusion of up-to-date information and a representative sample of the CCAM portfolio.

The contrasting experiences with the two data collection methods highlight key considerations for future monitoring tasks. Interviews proved highly effective in gathering detailed, contextual information and facilitating open dialogue, while the questionnaire provided a standardized, efficient means of collecting quantifiable data across all projects. Based on these observations, a mixed-methods approach is one effective strategy for comprehensive monitoring, combining the depth of insight offered by interviews with the breadth and standardization of questionnaires. However, feedback indicated that the current process could be further streamlined to better accommodate participants. It was noted that the two-hour interviews and the technical depth of the questionnaire required considerable effort, which coincided with other critical deadlines, such as project reporting and consortium meetings.

To address this, future monitoring should prioritize interviews to ensure data quality and depth, but utilize shorter, more frequent sessions focused on incremental progress. These should be supplemented by targeted, streamlined questionnaires to maintain broad statistical coverage. Furthermore, closer collaboration with the CCAM Partnership is recommended to better align these efforts with the objectives of the Mission call. By refining this mixed-methods approach, the monitoring process will provide a more robust and up-to-date overview of the CCAM project landscape.

2.2.4. Data analysis

All answers to the interview and online questions have been collected and entered into a database for evaluation and processing. As one approach to evaluation, a comprehensive mind map was systematically created from condensed answers to facilitate data clustering and analysis. Mind maps proved beneficial for collecting and analysing qualitative information from the interviews, particularly for evaluating the gathered insights (Wheeldon & Ahlberg, 2019). A work-in-progress illustration of this mind map is given in Figure 2-6.

By visually representing the data, mind maps improve clarity and focus on key topics and allow the information gathered during the interviews to be categorised and prioritised. They also facilitate the efficient synthesis of large amounts of data into coherent patterns or themes and make it possible to recognise important findings and recurring patterns from the interview responses (Wheeldon & Ahlberg, 2019).

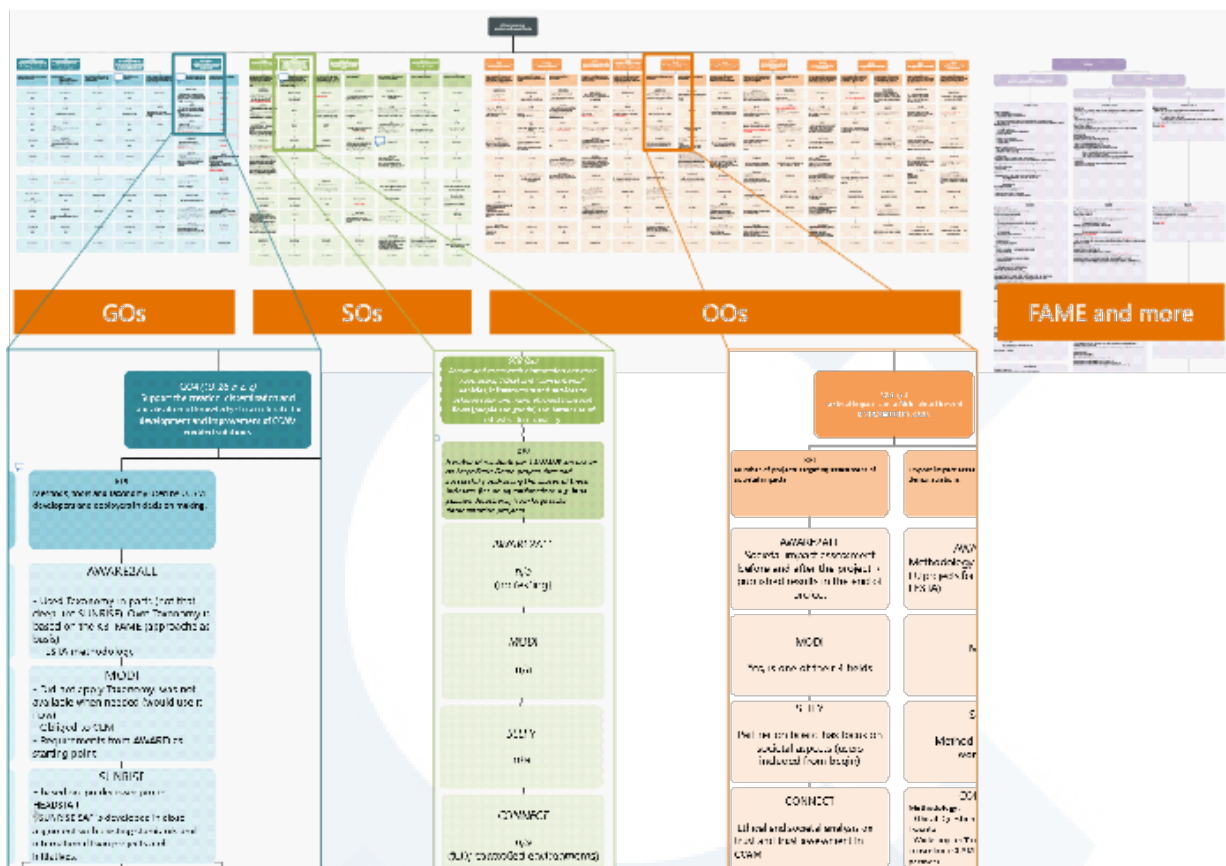


Figure 2-6: Mind map approach for data clustering and evaluation (illustration taken from work in progress material)

During the process, data collected from interviews and questionnaire were systematically or-ganised according to key performance indicators (KPIs) and associated questions. This process facilitated the simplification and abstraction of answer sets, enabling the formation of meaningful clusters that highlighted underlying trends and identified potential areas lacking information, i.e. “white spots”. The interactive nature of this method allowed for dynamic engagement with the data; information could easily be added, removed or reorganised as new connections were discovered during analysis. This flexibility is beneficial when analysing qualitative information, fostering continuous refinement of understanding and adaptation to emerging themes.

As previously mentioned, all responses and collected data sets were evaluated in parallel through various analytical methods to ensure a robust and thorough understanding. By implementing a multi-modal evaluation strategy – combining traditional methods with cutting-edge AI techniques – a comprehensive understanding of the project monitoring efforts was achieved. Specifically, AI was

deployed to standardize data from sources with varying levels of structure. For the interview process, AI was utilized first for the transcription of recordings and subsequently to extract and synthesize answers for the interview and KPI questions from these transcriptions; this ensured that the unstructured nature of the interviews was brought to a comparable and analysable standard. Additionally, general desktop research was conducted and enhanced through AI supported information aggregation.

To ensure maximum data privacy and security, all mentioned AI steps were conducted using a locally hosted AI instance. This ensured that the process remained entirely isolated from the internet, with no data being transmitted to commercial servers or external cloud services. The integration of AI enhanced analytical precision and revealed previously obscured trends and areas for improvement, yielding enriched insights expected to inform future strategies, refine the CCAM project landscape, and optimize subsequent project calls, paving the way for more innovative and effective implementations.

2.3. Task 3: CCAM Partnership's progress

Task 3 aimed to understand the overall CCAM Partnership's progress through analysis of the CCAM landscape at a higher level.

During the interviews, notes were taken simultaneously to gather initial insights as part of the data collection effort. Additionally, the interviews were recorded with participant consent to obtain further detailed information.

Concurrently with conducting the interviews, experts aggregated the responses as part of a continuous evaluation process. This was achieved through a structured approach, compiling the clustered responses on a mind map (see also Figure 2-6). This visual structure facilitated the grouping of related information across projects, enabling real-time assessment and analysis of project progress and outcomes.

2.3.1. Project landscape

To understand the general project landscape, i.e. the different projects, their coverage, progress and limitations, a general overview on the current activities was established. Figure 2-7 provides an overview of all CCAM project runtimes and timeframes as of April 2026.

The differences in time and phasing of the current projects are of course partly caused by organisational reasons. However, as some projects partly rely on outcomes from each other, the landscape is characterized by a sequence of interdependencies. In practice, this handover typically occurs through the sharing of standardized deliverables, joint workshops, and the integration of specific technical modules developed in foundational research projects into subsequent implementation projects. Consequently, not all of them are set to start and end at the same time.

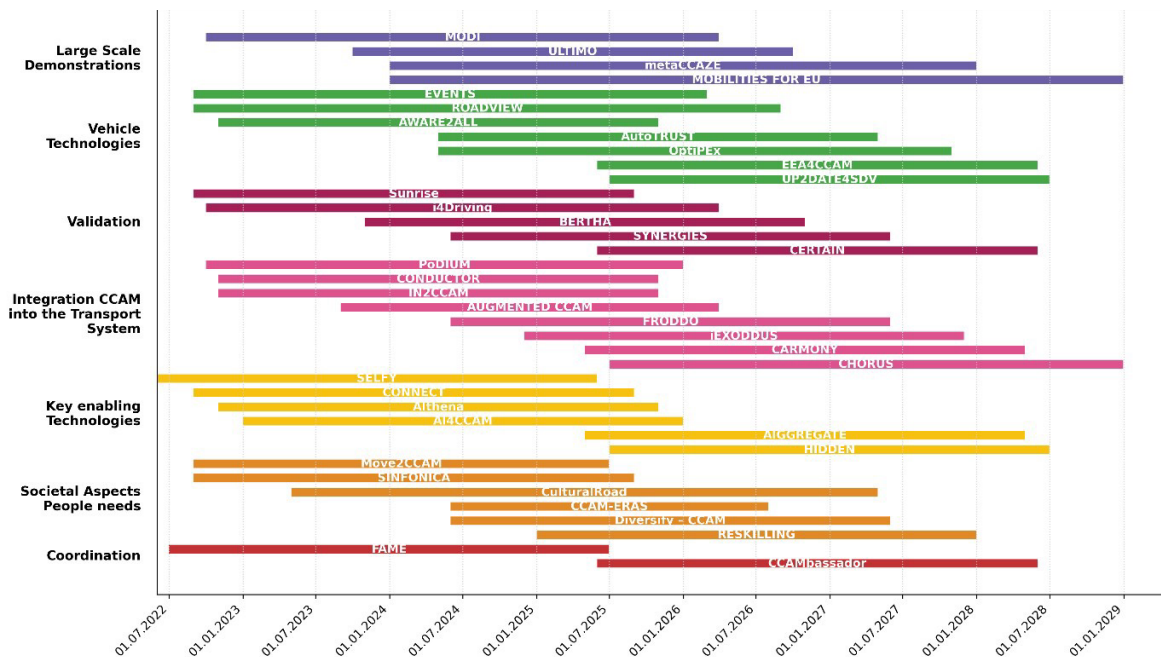


Figure 2-7: CCAM Project runtime overview as of April 2026

Furthermore, all CCAM projects are grouped into Clusters, defined in the SRIA (CCAM Partnership, 2023, p. 45):

Cluster 1: Large-scale Demonstration. The objective of Cluster 1 is to continuously implement results of all other Clusters into Large - scale Demonstrations in Pilots, FOTs and Living Labs supporting deployment readiness and a final impact assessment.

Cluster 2: Vehicle technologies. This Cluster aims to deliver the most efficient and effective future solutions which have been proven to be safe and reliable. For Europe's future mobility and transport system, significant technical research and innovation challenges must be overcome since tomorrow's highly automated vehicles will rely on advanced solutions to "sense-think-act", enabling safe interaction with other road users and providing protection in the case of emergency, while also ensuring the wellbeing of the vehicle occupants.

Cluster 3: Validation. This Cluster will provide the procedures, methodologies and tools which are needed for validating, verifying and rating CCAM systems, in terms of both technology itself and human factors handling the technology. This will include suitable metrics and references for system behaviour and performance.

Cluster 4: Integrating CCAM in the transport system. The research and innovation projects in this Cluster will advance the physical and digital infrastructure support for CCAM vehicles and improve connectivity and cooperation between actors, which will support the integration of CCAM vehicles in the overall transport system so that fleet and traffic management systems can be enhanced.

Cluster 5: Key enabling technologies like Artificial Intelligence, Big Data, cybersecurity and Edge computing will support the whole mobility system consisting of vehicle technologies, integrating the vehicles in the transport system, as well as the validation of all aspects of the entire system. Cluster 5 is embedding the “Key enabling technologies” with technical details, contributions, requirements and risks for Cluster 2, 3 and 4.

Cluster 6: Societal aspects and people needs. This Cluster delivers the framework for understanding and taking into account user and citizen needs, and societal aspects of mobility to all other Clusters. Methods and measures for societal impact assessment will be developed and applied when executing the final societal impact assessment from Cluster 1 results.

Cluster 7: Coordination. This Cluster is coordinating all CCAM stakeholders and activities, facilitates knowledge exchange und enables lessons learned.

Each project shown in Figure 2-7 and Figure 2-8 is coloured according to its research cluster. Figure 2-8 provides an additional overview, not only of the projects and their corresponding clusters, but also regarding alignment with “sister projects” that share a significant portion of their topic and goals.



Figure 2-8: CCAM Project overview according to clusters (see also Figure 2-7)

Arranging the different projects in this way immediately demonstrated how the clusters align within the broader context. CCAM projects cover a wide area of CCAM research topics as defined in the SRIA. Analysis reveals all 7 clusters are equally represented with successful projects delivering high quality results. However, a distinction must be made between this broad research coverage and actual deployment readiness. While the project landscape ensures that the vast majority of thematic and technical research gaps are addressed (research coverage), this does not automatically translate into scalable deployment. The transition from successful, isolated project outcomes to a harmonized, Europe-wide rollout depends on the ability to scale these results beyond the pilot phase, addressing systemic barriers such as regulatory fragmentation and infrastructure standardization.

CCAM projects have built a strong, balanced foundation, positioning Europe as a leader in validation, safety, and inclusiveness. This strength is reflected in focused research areas including assurance of Machine Learning/Artificial Intelligence on-board at runtime, standardized HMIs with benchmarks across demographics, and full integration of safety assurance methodologies into existing and

upcoming regulations. Societal considerations are also well represented, with projects addressing human factors validation, cross-cultural transferability, and the long-term social impact of CCAM technologies.

Despite this strong foundation, significant structural gaps persist that hinder the transition from demonstration to implementation. Current projects tend towards short-term demonstrations rather than long-term deployment, with limited vehicle numbers hindering scalability. There is a notable focus on passenger cars, with limited exploration of freight, logistics, and last-mile delivery solutions at scale. Furthermore, identifying viable business models remains a challenge for many companies involved. The running and finished projects, while comprehensive in relation to the SRIA, reveal gaps beyond its objectives, necessitating further research work informed by comparison with the SRIA and the current state of the art. Deployment and integration efforts should prioritize scalability and explore new business models. Addressing these challenges will be critical to move beyond technology demonstration towards large-scale deployment and cross-sector integration. Global alignment is also essential, requiring harmonization of standards and operations beyond European borders.

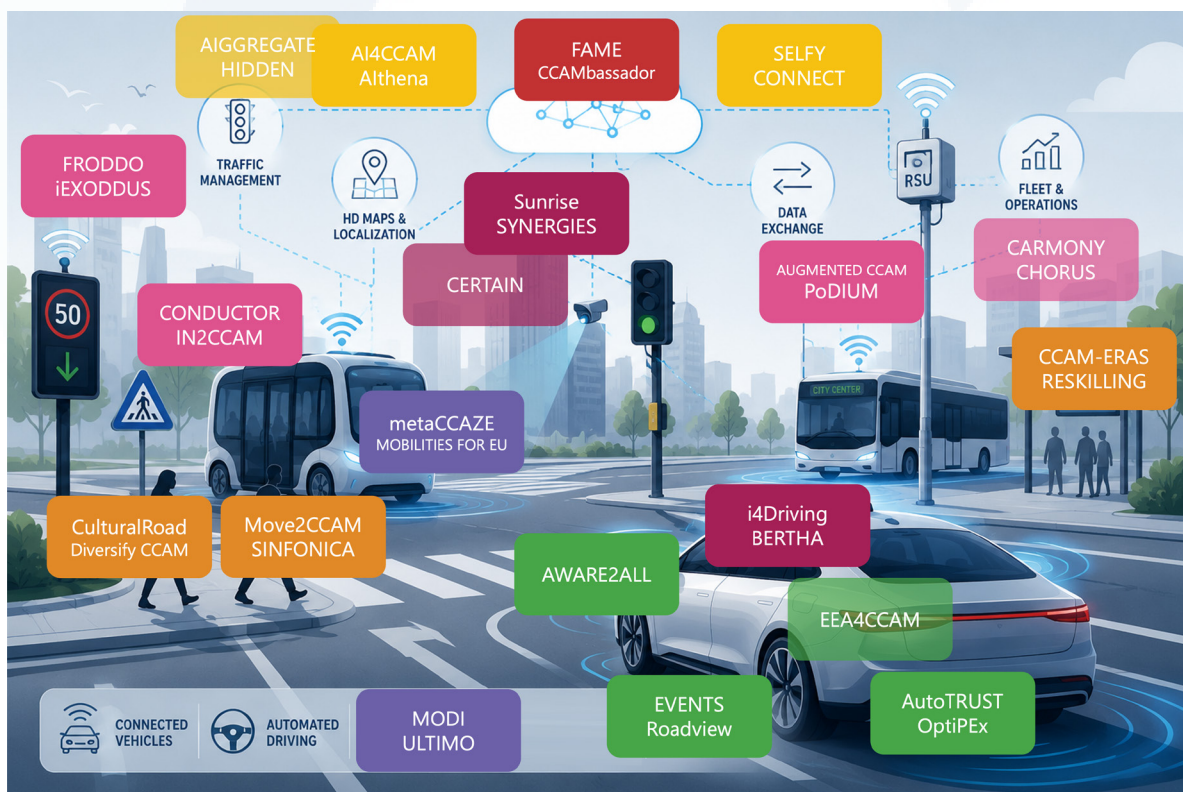


Figure 2-9: Project landscape visualised (abstracted)

Furthermore, emerging trends such as End-to-End Automation, fully digital Human-Machine Interfaces (HMIs), and Software-Defined Vehicle (SDV) architectures receive limited resources as they fall outside the initial scope of the SRIA. While the portfolio shows a degree of balance in its attention to technical, societal, and system integration challenges – particularly regarding trust, safety, validation, and inclusiveness – this balance is insufficient to address the overarching structural deficiencies.

Specifically, critical "white spots" remain in the areas of long-term business models and scalability of services, the early-stage integration of CCAM with energy, climate, and urban planning goals, and the deployment of systems under mixed traffic and adverse conditions at scale. Addressing these structural gaps is paramount for the successful real-world integration of CCAM.

Figure 2-9 gives an abstracted overview on the CCAM landscape based on the first 30 projects. For an overview on distribution on European Research and especially testing activities, please see section 3.2.1, Demonstrations and Test Sites (FG3).

2.3.2. Technology readiness levels

Technology Readiness Levels (TRLs) are a standardized metric used across multiple industries - including automotive - to assess the maturity of technologies. TRLs provide a framework for evaluating technological development stages from basic research to full-scale deployment. The scale ranges from 1 to 9 based on Horizon 2020 (European Commission, 2014):

- ▶ TRL 1: Basic principles observed.
- ▶ TRL 2: Technology concept formulated.
- ▶ TRL 3: Proof-of-concept through experiments or simulations.
- ▶ TRL 4: Component/system validation in a lab environment.
- ▶ TRL 5: Validation in relevant environment (industrially relevant environment in the case of key enabling technologies).
- ▶ TRL 6: Prototype demonstration in relevant environments (industrially relevant environment in the case of key enabling technologies).
- ▶ TRL 7: System prototype demonstration in operational environment.
- ▶ TRL 8: Actual system completed and qualified through testing.
- ▶ TRL 9: Proven technology in operational environment.

TRLs help stakeholders understand technological maturity, identify risks, guide investment decisions, and facilitate communication across organizations by providing a common language for describing technological progress. However, it is important to distinguish whether a TRL refers to the overall system, individual components, specific methods, or a particular demonstration. A high TRL for a single component does not necessarily imply that the integrated system has reached the same level of deployment maturity.

The surveyed projects exhibit diverse levels of technological maturity, as indicated by their TRLs. A substantial number have targeted or achieved TRL 6 or 7, which involve prototype demonstrations in relevant and operational environments (see Figure 2-10). Additionally, some elements within these projects are progressing towards TRL 8 and 9, signifying further development and testing phases.

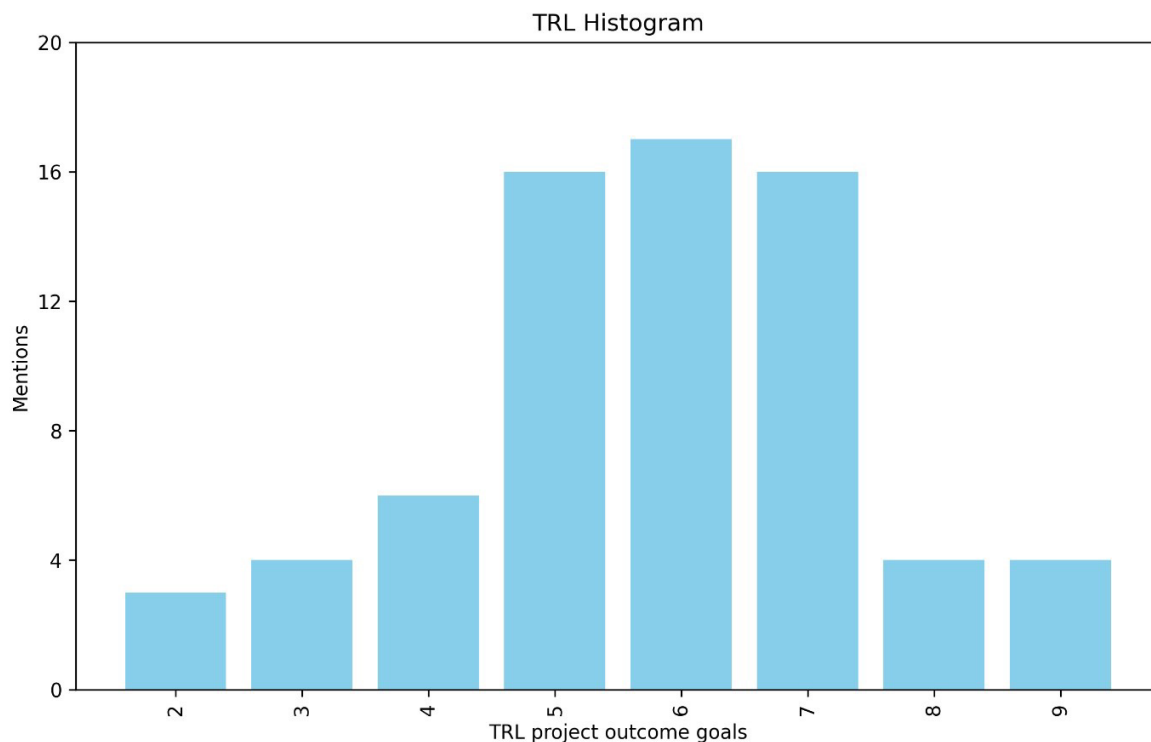


Figure 2-10: Technology Readiness Level(s) addressed by CCAM projects according to interviews (N = 38 projects with 4 n/a). Multiple TRL references per project possible.

Projects such as [BERTHA](#) aim to achieve TRLs ranging from 2 to 6. Specifically at the component level, components like the driver behaviour model and hub platform progress from TRL 2 to TRL 4, while the maturity of data collection methods advance up to TRL 5, and driver characterizations reach TRL 6. Another project has achieved TRL 2 through socio-economic modelling and analysis without operational demonstration.

Several projects are progressing towards higher TRLs, with some aiming for TRL 7 or beyond. For instance, one project plans to move from TRL 5 to TRL 6 after live testing and aims for TRL 7 for specific components like the Trust Assessment Framework and trust computing technologies.

The [CONDUCTOR](#) project is at an overall TRL of 7, although individual technologies within the project ranging up to TRL 9. Similarly, [IN2CCAM](#) has implemented system prototypes in operational environments and plans to expand to larger fleets, targeting system level TRLs between 7 and 8. The [MOBILITIES FOR EU](#) project includes individual software or hardware solutions ranging from TRL 7 to TRL 9.

ULTIMO stands out with its current achievement of a Technology Readiness Level between 7 and 9 for its primary deliverables, aiming to reach TRL 9 by the end of its timeline. Additionally, **PoDIUM** has achieved an overall TRL of 7, with some components, such as connectivity parts, reaching TRL 9.

These findings highlight the diverse stages of technological development across projects, with a notable emphasis on advancing towards higher readiness levels. It should be noted, however, that the reach toward TRLs 8 and 9 often applies to isolated components rather than the fully integrated CCAM system, which signify near-commercial deployment and operational success.

2.3.3. Lessons learned beneficial to other projects

The collective experience from numerous, offers a wealth of valuable insights for future initiatives. This section distils key lessons and best practices, moving beyond preliminary observations to provide a comprehensive and actionable guide. Successful CCAM deployment demands a holistic strategy encompassing technical rigor, robust collaboration, a human-centered approach, and proactive problem-solving (see Figure 2-11 for a broader overview).

Foundational to success is robust infrastructure enabling scalable deployment, requiring close collaboration between OEMs and infrastructure providers to facilitate integration and address regulatory hurdles. Effective CCAM projects begin with a clear understanding of the broader ecosystem, engaging stakeholders across the entire value chain – from initial research and development through to innovation and end-user acceptance – to foster strong partnerships and ensure long-term sustainability. Prioritizing collaboration with cities, mobility providers, and regulatory authorities during the early design phases, as demonstrated by **AI4CCAM**, is crucial. The principle guiding these efforts should be to accelerate existing plans and transitions, rather than introducing isolated, unsustainable pilots.

Building a robust and trustworthy technical foundation is paramount. Embedding Trustworthy AI principles from the outset – integrating transparency, traceability, and explainability throughout the AI lifecycle – mitigates risks related to compliance, safety, and public acceptance. Projects should prioritize:

- ▶ **Structured Documentation:** Implementing systematic use of data and model cards to enhance communication and understanding of model limitations.
- ▶ **Data Governance & Privacy:** Prioritizing data utility while adhering to regulations like GDPR, leveraging innovative techniques like Generative AI for privacy-preserving data processing, and adhering to FAIR data principles (Findable, Accessible, Interoperable, Reusable). Utilizing standardized data formats (ROSbag, JSON, CSV, CPM) facilitates data sharing.
- ▶ **Robust Validation:** Combining real-world pilots with simulation to increase robustness, transferability, and reduce costs. Emphasizing tightly coordinated workflows for data collection, modelling, and validation, and leveraging probabilistic modelling of human behaviour. Expanding testing to unpredictable real-world scenarios is essential.

- ▶ **Infrastructure Integration:** Prioritizing infrastructure-led approaches for scalable deployment and actively working towards harmonizing PDI terminology and classification.

Effective collaboration is vital, and actively seeking opportunities for cross-project collaboration, sharing methodologies and insights – as demonstrated by [BERTHA](#)’s work with sister projects – is key to addressing common challenges. This requires fostering open communication, attending joint events, and proactively addressing potential barriers to data sharing, even when it demands significant effort. Engaging stakeholders – including industry actors, transport professionals, policymakers, and training providers – from the outset, as highlighted by [RESKILLING](#), ensures analytical frameworks are grounded in real-world contexts. Strong project governance, with clear task definitions and dedicated coordinators, is essential for maintaining momentum and maximizing impact. Genuine acceptance and trust in automated mobility require a relentless focus on the human element. Prioritizing early and continuous integration of human factors, accessibility, ethics, privacy, and social interaction into the technical design ([AutoTRUST](#)) is vital. This necessitates:

- ▶ **Co-Design with Diverse Users:** Conducting structured co-design processes with diverse user groups, translating their needs into tangible requirements and KPIs.
- ▶ **Explainable AI:** Combining explainable perception architectures with situation awareness mechanisms to build trust and provide semantic rationales for AI decisions.
- ▶ **Societal Engagement:** Employing participatory approaches to reach under-represented populations, communicating benefits objectively, and utilizing prototypes to convey complex concepts.

Even with careful planning, challenges will inevitably arise. Projects must proactively address common hurdles, including regulatory and administrative delays (requiring early engagement with authorities and clear safety validation), data access and sharing limitations (necessitating clear incentives and frameworks), cross-border testing complexities (demanding proactive engagement with local authorities), and data gaps (requiring identification and addressing of limitations in available datasets).

To maximize impact in future CCAM projects, proposals should consider including detailed plans for data management, accessibility, and sharing, ensuring adherence to FAIR data principles. Proactive engagement with relevant public authorities – including cities and regulators – from the project’s inception is also highly encouraged, with a clear outline of collaborative approaches and plans to address potential regulatory hurdles. A comprehensive evaluation framework incorporating both quantitative and qualitative metrics, and clearly defined KPIs for assessing societal impact and user acceptance, will strengthen project proposals. Finally, a clear strategy for sustaining results beyond the project’s lifespan – through standardization, dissemination, and pathways toward potential commercialization or integration into existing infrastructure – is vital for long-term success.

Finally, ensuring long-term impact requires developing strategies for sharing results beyond the project lifespan, starting standardization and harmonization activities early, and adopting an iterative approach to continuous improvement.

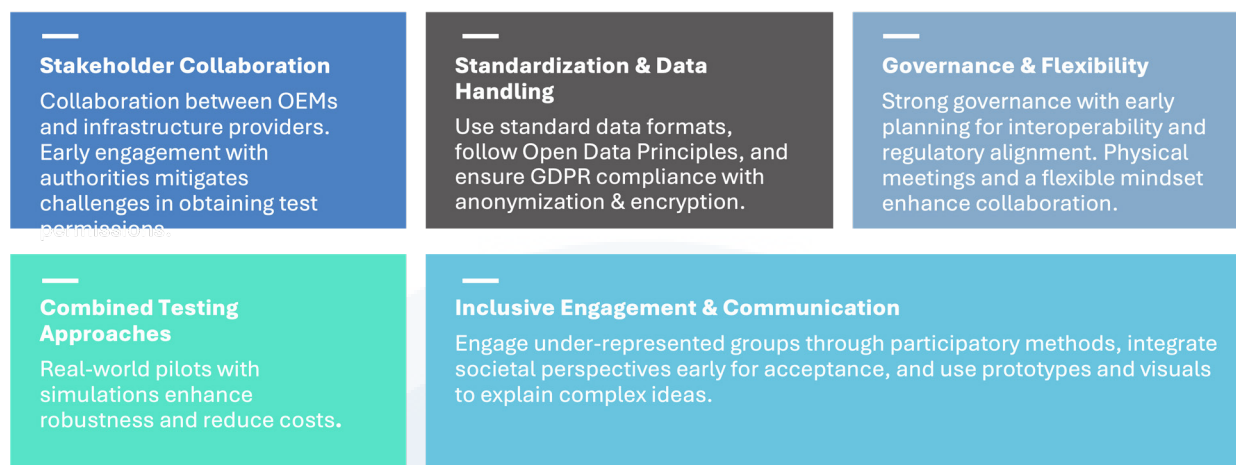


Figure 2-11: Summary of lessons learned beneficial to other projects (previously presented during a session in Brussels on March 05, 2026)

By embracing these principles and best practices, future CCAM projects can navigate the complexities of automated mobility and contribute to the development of safe, reliable, and user-centered solutions that benefit all stakeholders. Continuous monitoring, adaptation, and knowledge sharing will be critical to success in this rapidly evolving field.

2.3.4. Key achievements and potential for success stories

This section provides a first insight into the retrieved key achievements and general success stories from the interviewed CCAM projects at the stage of the reporting period (see also chapter 2.4.2), demonstrating significant progress towards EU objectives in connected, cooperative, and automated mobility across areas like societal acceptance, cybersecurity, infrastructure readiness, and safety validation. Numerous key achievements and general success stories have emerged across various initiatives. The projects not only deliver tangible results but also illuminate critical success factors for future innovation.

Significant progress has been made in establishing a robust foundation for CCAM development. Projects have successfully facilitated cross-border collaboration on automated driving permits, garnering international attention – including reporting by CNN – and conducting vital stakeholder workshops to harmonize practices between North America and Europe. This work on harmonizing international regulations presents a readily reusable model for future cross-border initiatives and requires continued engagement with international standards bodies. Furthermore, strong collaborations with key standardization groups have resulted in impactful protocols and trust assessment frameworks, like that developed by the [CONNECT](#) project, which is actively influencing broader industry standards and warrants further uptake and implementation.

Technical innovation has been a cornerstone of the CCAM Partnership's success. Projects like [BERTHA](#) established foundational elements with a robust driver behaviour model and open data hub, creating a valuable resource for researchers and developers. [SYNERGIES](#) is strengthening regulatory preparedness through a federated Scenario Dataspace for AI-supported validation, a crucial step towards enabling robust and reliable validation methodologies. This emphasis on data integration and validation is echoed in the probabilistic modelling framework developed by [i4Driving](#), enhancing the credibility of virtual safety assessments, and [AWARE2ALL](#)'s proactive broadening of scenario definitions to encompass diverse road users. Addressing a critical barrier to widespread deployment, [SELFY](#) delivered a comprehensive cybersecurity toolbox, a validated solution that can be readily integrated into CCAM systems. Progress in infrastructure and connectivity is also evident, with [PoDIUM](#) validating reliable CCAM service operation in real-world settings and [FRODDO](#) enhancing perception capabilities in challenging weather conditions. [AUGMENTED CCAM](#) has provided practical tools for assessing infrastructure readiness, allowing cities and transport authorities to proactively identify areas for improvement. [CONDUCTOR](#) has demonstrated the potential for significant CO₂ reduction and economic benefits through AI-powered multi-modal coordination.

Recognizing the crucial role of trust and security, projects like [CONNECT](#) and [AITHENA](#) have developed frameworks for cost-effective certification and trustworthy AI modules, ensuring transparency and compliance with emerging EU regulations. These efforts are translating into tangible economic and regulatory advancements, with [CARMONY](#) anticipating substantial reductions in travel time and associated economic gains, and [SUNRISE](#) taking a crucial step towards enabling Type Approval and certification of highly automated vehicles, requiring action from regulatory authorities to integrate these advancements into existing certification processes. Beyond the technical realm, the CCAM Partnership prioritized societal acceptance and inclusion. [SINFONICA](#) successfully demonstrated the feasibility of engaging vulnerable groups in the design process, generating valuable insights for inclusive CCAM solutions, a commitment mirrored by [OptiPEX](#)'s co-creation of passenger-aware public transport services. [RESKILLING](#) focused on understanding and mitigating the socio-economic impacts of CCAM on the workforce, developing a taxonomy of CCAM-related skills to support workforce readiness, a resource vital for future training and upskilling programs.

Throughout these projects, strong collaboration was paramount. Partnerships were carefully selected to cover the entire value chain, from research to innovation, fostering excellent interaction and maintaining low turnover within consortia. Demonstrations were effectively planned and executed, ensuring participant engagement and on-schedule delivery of outcomes. Harmonization of terminology across different domains improved testing coordination, and efficient data collection highlighted regulatory challenges, emphasizing the gap between vehicle readiness and urban integration frameworks. The resulting collective effort has not only advanced the state-of-the-art in CCAM but has also laid the groundwork for a safer, more efficient, and sustainable future for mobility in Europe and beyond.

2.4. Task 4: Impact case studies and assessment of SRIA KPIs

Task 4 developed “impact case studies”, which are success stories that can be used to highlight prominent results or lessons learned from specific projects (see chapter 2.4.2) or highlight follow-up opportunities for the future.

2.4.1. CCAM Partnership key performance indicators

In the following, Key Performance Indicators (KPIs) as defined in the SRIA will be described and presented.

2.4.1.1. General Objectives

General Objectives (GO) are about what the CCAM Partnership aims at contributing to in the longer term. These are the wider effects on society (incl. the environment), the economy and science enabled by the outcomes of R&I investments (long term). They demonstrate the link with the relevant EU priorities and strategies and targets (SRIA, p. 31)

2.4.1.1.1. G01

Safe and efficient coexistence between automated and non-automated “conventional” traffic for a long transition period of mixed traffic while overall reducing number of fatalities and injuries in road transport (SRIA, p. 31).

Baseline:

Prospective effectiveness analysis on fatal and severe accidents.

Target:

Zero fatal and severe accidents caused by vehicles under test in CCAM projects.

Result:

Target reached. (*Disclaimer: not all field tests have been completed yet.*)

Progress towards ensuring safe and efficient coexistence between automated and conventional traffic and reducing fatalities and injuries in road transport is demonstrably positive. The target of zero fatal and severe accidents caused by vehicles under test in CCAM projects has been achieved.

Despite the lack of a comprehensive EU-wide crash database for CCAM vehicles, data collected from projects that are active in demonstration and testing activities indicates that, to date, there have been zero fatal accidents and zero severe accidents involving vehicles under test. This positive outcome has been achieved across a fleet of approximately 135 vehicles participating in various CCAM projects, accumulating around 115,000 kilometres of testing. The average number of test vehicles per site is around 7, with most projects operating between 1-6 vehicles and larger demonstrations potentially utilizing 20 or more (see Figure 2-12).

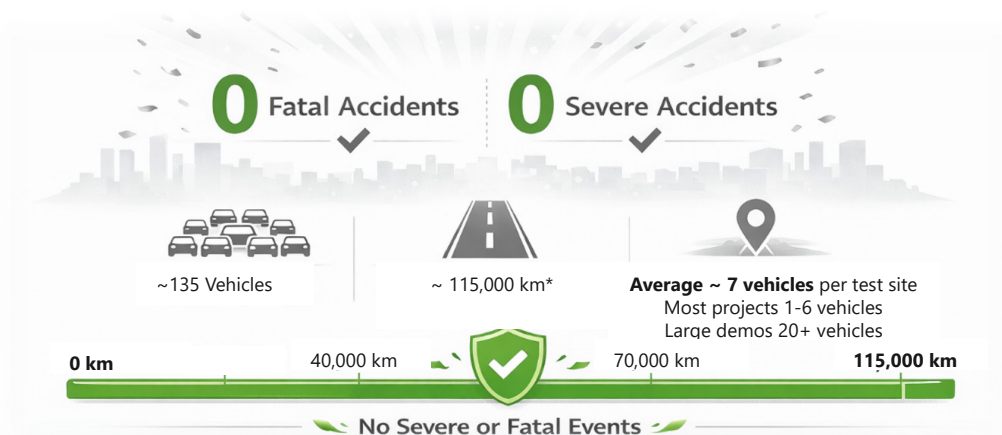


Figure 2-12: KPI achievement: zero fatal or severe accidents reported during over 115,000 km of CCAM project testing, * Kilometres are based on stated distance travelled on the fka survey

It is crucial to acknowledge that this positive safety record is based on controlled testing conditions and does not represent a definitive proof of system safety. Testing has primarily occurred with safety drivers present, within defined Operational Design Domains (ODDs), and in relatively less complex traffic scenarios. Exposure levels – the total distance travelled relative to broader traffic volumes – have been limited. Furthermore, reporting consistency across projects has varied. While testing crash numbers are generally rare and often publicized in the media (as seen with incidents involving companies like Uber ATG, Tesla, Cruise, and Waymo), the absence of fatal or severe accidents within the scope of these CCAM projects is a significant achievement within these specific parameters.

It is important to note, however, that not all field tests have been completed as of this reporting period. Nevertheless, the current data strongly supports the conclusion that the target has been met, demonstrating a commitment to safety throughout the development and testing phases of CCAM technologies.

2.4.1.1.2. G02

Increased efficiency of transport flows (people and goods) leading to better use of infrastructure capacity and preservation of public space while reducing transport emissions and congestion (SRIA, p. 31).

G02 KPI1: Traffic flow condition:

- ▶ **Travel Time Index, or**
- ▶ **Congestion Variability Index, or**
- ▶ **Congested Road/kms, or**
- ▶ **Peak Hour traffic speed.**

Baseline:

N / A

Target:

Improvement

Result:

Inconclusive

Out of all surveyed CCAM projects 13 out of 38 stated to actively monitor traffic flow conditions during simulations and tests (see Figure 2-13). These projects utilize a diverse range of indexes, or metrics, to assess various aspects of traffic efficiency and infrastructure utilization. While a wide variety of metrics are employed – many appearing only once – the most frequently mentioned focus on travel time and congestion. These metrics are central to enhancing traffic flow by minimizing delays and optimizing vehicle movement through road networks, with repeated emphasis on achieving reductions in both congestion and travel time. Other commonly monitored indexes include waiting time (reduction), speed, and queue length.

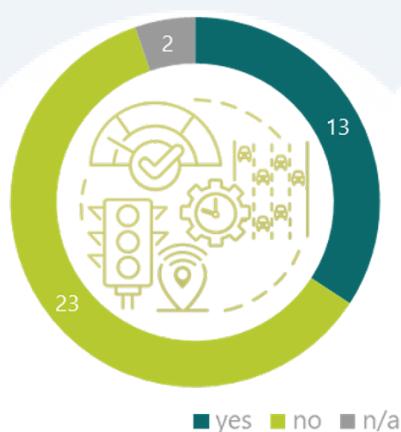


Figure 2-13: Number of projects that report monitoring traffic flow conditions.

These indexes can be broadly categorized into three key themes. Traffic Flow and Efficiency metrics, such as throughput, average speed, congestion reduction, travel time reduction, and queue length decrease, directly assess how effectively vehicles move through the road network, prioritizing the minimization of delays and optimized road usage. Traffic Management and Optimization focus on strategic elements like waiting time, number of vehicles, and number of stops to enhance overall system efficiency, supporting improved fleet management, route optimization, and more effective infrastructure capacity utilization. Finally, Traffic Metrics and Measurements encompass detailed assessments – including speed, queue length, travel time reduction, congestion reduction, and peak hour traffic speed – providing precise evaluations of traffic system performance and capacity.

While efficiency metrics are prevalent, observation of safety parameters remains relatively rare. Projects like [IN2CCAM](#) and [CONDUCTOR](#) have demonstrated measurable improvements in both traffic flow efficiency and emission reduction. However, other projects prioritize system readiness, orchestration, and scalability, which, while laying the groundwork for future efficiency gains, can reduce the immediate visibility of quantitative impacts (see Figure 2-14).

Quantifiable Impact	Transition Phase	System Readiness
• IN2CCAM • CONDUCTOR	• MODI • PoDIUM • CARMONY	• AIGGREGATE • FRODDO • CHORUS • metaCAZE
Clear Measurable KPIs	Focus Shift: Scale & Orchestration	
• -10 – -20% Travel time • -5 – -15% CO2 Emissions • +10 – 25% Flow Efficiency	• Limited Quant Data • Focus on Infrastructure & Pilots	• Few KPIs Published • Emphasis on Scalability & Integration
Measurable Gains	Framework Building	Future Potential

Figure 2-14: Towards more efficient transport: CCAM projects are progressing from measurable improvements in flow and emissions towards a scalable system optimizing infrastructure and minimizing congestion.

Ultimately, by monitoring these indexes, projects aim to draw conclusions regarding traffic flow efficiency and infrastructure capacity utilization. The consistent focus on reducing congestion and travel time underscores a strong commitment to optimizing existing road networks, which not only enhances traffic conditions but also supports sustainable urban development through improved utilization of current infrastructure resources. However, it remains unclear if the target is reached because only 13 projects are working on this topic and only two projects provide measurable improvement. Given the importance of this objective, and the current limited conclusive evidence, it is suggested that exploring a more harmonized approach to measuring traffic flow and network performance across CCAM projects could be beneficial. This could help facilitate better comparison of results and strengthen the overall evidence base for future development in this area. A common set of minimum indicators might be a useful step towards achieving this goal.

2.4.1.1.3. G03

Making Europe a world leader in the development and deployment of connected and automated mobility for people and goods with more focused long-term investments in R&I, development and pre-deployment of CCAM (SRIA, p.31).

G03 KPI1: Share of new CCAM vehicles based on European innovation in the fleet of new vehicles sold per year

Baseline:

EU, 2021 fleet: ~5% L2, ~0% L3, ~0% L4.
US & Japan, 2021 fleet: broadly similar shares (L2 single digits; L3/L4 ~0%).

Target:

Higher shares of CCAM vehicles in fleet than US and Japan for the years 2023 thru 2029.

Result:

Target not reached yet.

Efforts to position Europe as a global leader in connected and automated mobility are ongoing, although challenges remain in meeting the target regarding the share of new CCAM vehicles based on European innovation compared to the US and Japan for the period 2023-2029. While significant advancements are being made in vehicle automation technology, the transition to a fleet dominated by CCAM vehicles is progressing in a different pace in Europe than in other key markets.

As of today, the vast majority (85-99%) of new vehicle sales still fall into automation levels 0-2. While Level 3 automation is gaining traction in Europe with manufacturers like Mercedes-Benz and BMW, and Level 4 automation is becoming more prevalent globally (with companies like Waymo, Zoox, Pony.AI and Baidu Apollo), the overall market share remains low.

As of 2025, current estimates indicate that Level 4 automation represents approximately 0% of the fleet, Level 3 is at 0% in Europe and Japan, and less than 3% in the US. Level 2 and Level 2+ automation account for approximately 20% in Europe and Japan, and less than 30% in the US (see Figure 2-15).

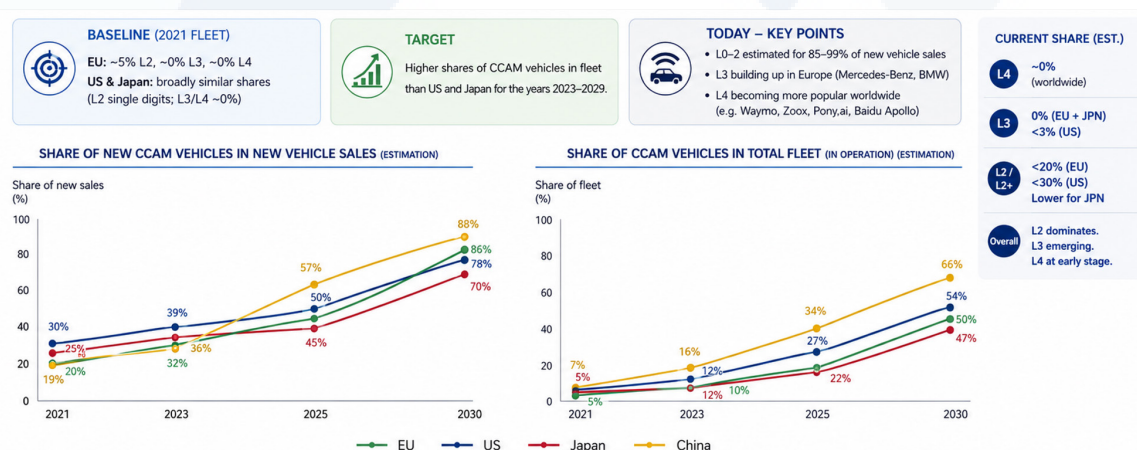


Figure 2-15: Approximate and estimated numbers of fleet shares and annual sales of CCAM vehicles in international markets based on various sources (e.g., P3, World Economic Forum)

Fleet shares and annual sales rates estimations are highly dependent on many factors and assumptions such as replacement rates, interpretation of regulations as well as market conditions and attitudes. However, current fleet share estimates reveal that the US currently holds a slight lead among the baseline candidates.

These demonstrate that non-EU markets such as the US (and China) are currently achieving higher shares of CCAM vehicles in their fleets. Therefore while progress in European development is evident, the target of surpassing both the US and Japan in immediate market share has not yet been reached.

However, it is important to distinguish between short-term commercial market shares and the long-term strategic development of a CCAM ecosystem. While the US and China have seen rapid deployment of specific automated services, they lack a comprehensive, systemic CCAM ecosystem approach similar to the one being pursued in Europe. The contributions of the CCAM Partnership in R&I and pre-deployment provide the essential technical and regulatory foundations for future deployment. While

the link between these R&I projects and immediate market share is indirect - as commercial success depends on broader industrial trends, consumer adoption, and market dynamics - these efforts, combined with the EU's GSR2 mandate (preparing future vehicles with L1/2 hardware), are crucial for establishing a sustainable and safe leadership position in the long term.

G03 KPI2: TEN-T core network corridors' section providing CCAM services

Baseline:

No corridors with operating sections.

Target:

All 9 core network corridors have sections providing CCAM services by 2030.

Result:

Target not reached yet but improvement of 33%.

Progress towards establishing CCAM services along the TEN-T core network corridors is underway, though the target remains unmet. The baseline of zero operating sections with CCAM services has seen initial improvement, with a few projects demonstrating progress towards the 2030 target of all nine core network corridors providing such services. However, it is worth noting that the deployment of CCAM services along these corridors is not solely a project-driven technical challenge, but a complex governance and operational issue. Successful implementation depends on the active engagement of infrastructure owners and road authorities, as it requires the establishment of clear operational responsibilities and regulatory alignment.

Currently, CCAM testing and demonstration activities are taking place on sections of the North Sea-Baltic Corridor (Almelo region, Netherlands), the Atlantic Corridor (Basque region, Spain), and a corridor connecting Rotterdam to Oslo. This represents an improvement of 33% from the initial baseline (see Figure 2-16).

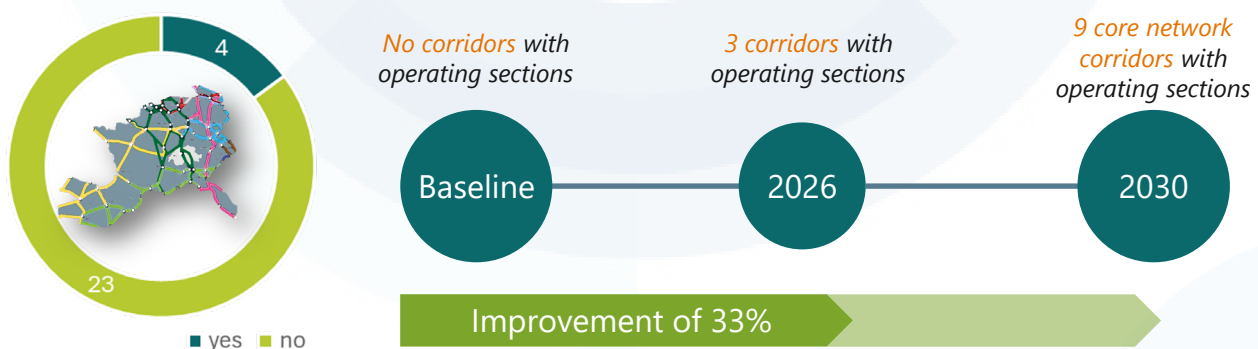


Figure 2-16: Progress towards the 2030 target for operating on 9 core network corridors

Out of 27 projects actively engaged in testing and demonstration activities, four are specifically focused on TEN-T corridors, indicating a growing, though still limited, focus on deploying CCAM solutions within this critical infrastructure network. The transition from project-led pilots to corridors offering CCAM services requires a shift in focus toward the institutional level, ensuring that the authorities responsible for the TEN-T network are integrated into the planning and operational phases.

While significant progress has been made, further acceleration is needed to achieve the 2030 target. This acceleration will probably depend less on the number of projects and more on the creation of robust governance structures and operational agreements with the road authorities and infrastructure owners.

G03 KPI3: Number of sites (e.g. cities) implementing CCAM services after successful demonstration by 2030 (resulting from actions under the CCAM partnership)

Baseline:	Target:	Result:
No demonstration sites yet.	At least 30 demonstration sites (e.g. urban nodes) implementing CCAM services after successful demonstration by 2030.	Target not reached.

Progress towards the objective of establishing Europe as a world leader in the development and deployment of connected and automated mobility for people and goods with more focused long-term investments in R&I, development and pre-deployment of CCAM – specifically measured by the number of sites implementing CCAM services – is currently not fully on track to meet the 2030 target (see Figure 2-17). While several pilot sites are transitioning beyond demonstration phases, the scale of deployment remains limited. Currently, 11 cities have either implemented or are actively planning to integrate CCAM services into real-world urban contexts following project activities.

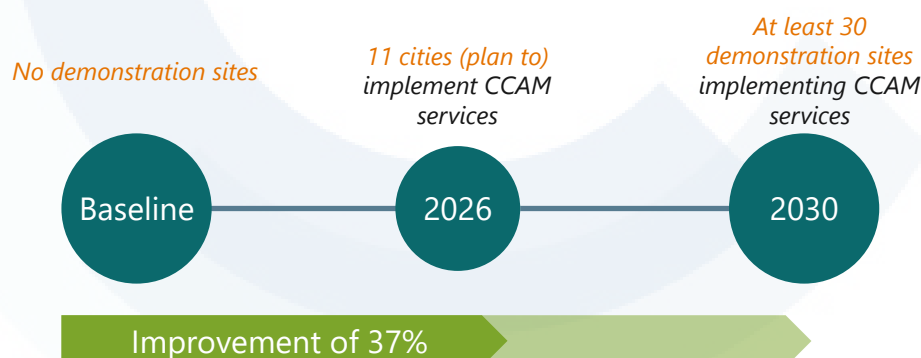


Figure 2-17: Progress towards the 2030 target of at least 30 sites implementing CCAM services

Positive momentum is evident in cities like Tampere and Geneva, where CCAM services are expected to be implemented following successful pilot demonstrations. Tampere is planning to evaluate fully autonomous buses within its public transport system by June 2025 (through the [IN2CCAM](#) project), and Geneva intends to integrate autonomous vehicles into its tpgFlex on-demand service (via the [ULTIMO](#) project). Other cities, such as Herford and Oslo, have demonstrated promising use cases and are actively exploring long-term integration of CCAM technologies; however, these plans remain largely in the planning or evaluation phase.

For example, Herford is considering a line-based public transport service dependent on the performance of new vehicles, while Oslo is developing a scaling strategy for a large-scale, Level 4 autonomous on-demand service using MOIA shuttles. Despite these promising activities, the current number of cities with confirmed, permanently adopted CCAM service structures falls short of the necessary progress to achieve the 2030 target. Continued monitoring and support will be crucial to accelerate the transition from pilot projects to widespread, sustainable CCAM deployment across Europe.

2.4.1.1.4. G04

Support the creation, dissemination and capitalisation of knowledge to accelerate the development and improvement of CCAM enabled solutions (SRIA, p. 31).

G04 KPI1: Methods, tools and taxonomy used by CCAM developers and deployers in decision making.

Baseline:

Use of CCAM methods, tools and taxonomy in 2021.

Target:

Substantial increase in use of CCAM methods, tools and taxonomy.

Result:

Target reached.

Progress has been made towards supporting the creation, dissemination, and capitalisation of knowledge to accelerate the development and improvement of CCAM enabled solutions.

Specifically, the target for increased adoption of methods, tools, and taxonomy (MTT) by CCAM developers and deployers has been achieved in terms of ecosystem alignment and awareness.

Evidence from interviews and bilateral exchanges indicates a growing use of MTT, driven by their increased existence, availability, and collaborative development. This has translated into a substantial increase in uptake – from 11 projects utilizing these resources in 2023 to 32 projects in 2026. This represents a threefold increase and encompasses approximately 84% of the total identified project portfolio of 38 projects (see Figure 2-18).

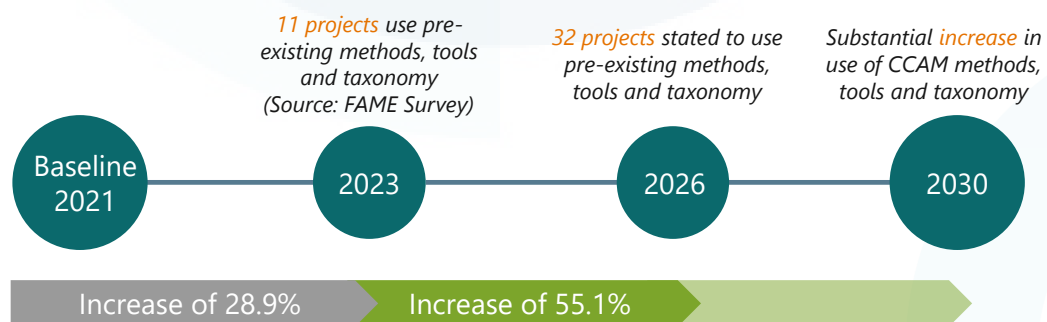


Figure 2-18: Progress towards the 2030 target to an increased use of CCAM MTT.

This widespread adoption is further evidenced by the frequent referencing of pre-existing CCAM MTT within project reports, conferences, and publications – with 20 projects referencing these resources at least once, and an average of 17.75 references overall (see Figure 2-19). However, a qualitative assessment indicates that the depth of this adoption varies across the MTT pillars. While the CCAM Taxonomy is actively utilized for high-level decision-making and deployment planning, the application of Methods and Tools is currently more prevalent in documentation than in operational execution.

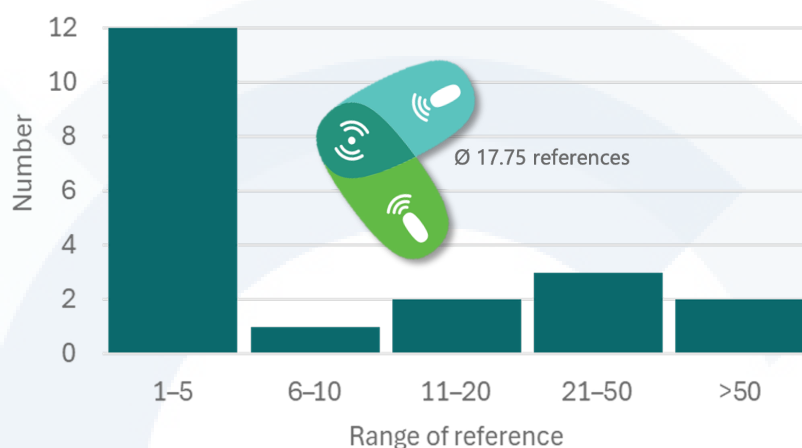


Figure 2-19: Reference to pre-existing CCAM MTT in reports and conferences/publications (n =20 projects)

Specifically, while Methods are increasingly embedded in validation planning and KPI definition, the final technical validation and type approval processes still rely mostly on legacy industry standards, suggesting that the MTT is currently serving as a framework for harmonization rather than a primary technical driver for certification.

The successful adoption of these standardized approaches demonstrates a positive shift towards more informed and efficient decision-making within the CCAM landscape, marking a critical transition from theoretical referencing toward full operational integration, effectively supporting the objective of accelerating innovation and improvement in CCAM solutions.

G04 KPI2: Number of CCAM projects participating in conferences and events

Baseline:

N / A

Target:

Best practice sharing at the Results from Road Transport Research (RTR) conference and at the EUCAD Conference by all HE CCAM projects. Substantial increase in use of CCAM methods, tools and taxonomy.

Result:

Target reached.

Significant progress has been made towards supporting the creation, dissemination, and capitalisation of knowledge within the CCAM domain, successfully reaching the target for KPI2 – participation in key conferences and events. To ensure the quality and relevance of the shared knowledge, projects are typically invited to present their findings at two key milestones: midterm and upon project completion. A significant 79% of CCAM projects (30 out of 38) actively presented their research and innovations at the latest RTR conference and the EUCAD conference, fostering vital knowledge exchange across Europe. As newer projects (e.g. [CHORUS](#) or [HIDDEN](#)) are still in their early stages, they have not yet reached the maturity level required to present significant results (at the time of EUCAD25 or RTR2026). However, the overall level of engagement demonstrates a commitment to sharing best practices and accelerating the development and improvement of CCAM-enabled solutions.

Analysis of 32 out of 38 CCAM projects reporting data demonstrates active engagement in sharing research and innovation through key channels. This dissemination activity is further supported by a substantial output of 761 public project reports and 519 scientific papers and academic theses, along with contributions to the development of relevant patents and standards (38 contributions). Across the 32 projects included in this analysis, an average of 23 deliverables were produced per project, alongside an average of 16 scientific papers. Contributions to patents and standards are growing, with over 10 contributions originating from 2 projects, and a further 8 projects reporting an average of 4-5 contributions each.

Project results have been disseminated through a wide variety of events covering major international and European conferences such as the Transport Research Arena (TRA), ITS World Congress, EUCAD, IEEE Intelligent Transportation Systems Conference, and RTR, as well as other EU mobility and CCAM-related events. In addition, projects have contributed to specialised conferences and workshops including SafeComp, AMWE, ICITT, HyCHA, DAS, IEEE IV, AutomotiveUI, the Driving Simulation Conference, ADAS/AD Testing Expo, Applied Human Factors and Ergonomics, and events focused on 5GAA, testing, and validation. Dissemination has also taken place at other notable gatherings such as [CCAMBassador](#)'s events, various IEEE conferences, the FISITA World Congress, and numerous national and regional workshops and stakeholder events.

Several projects have already presented results at several events and plan to continue dissemination at upcoming conferences. Altogether, this demonstrates the success of the CCAM Partnership in fostering a collaborative and knowledge-driven ecosystem.

2.4.1.2. Specific Objectives

Specific Objectives (SO) are about what the CCAM Partnership will deliver concretely, where it is to make a difference based on the diffusion and use of the results that will be delivered (SRIA, p.31).

2.4.1.2.1. S01

Validated safety and security, improved robustness and resilience of CCAM technologies and systems (SRIA, p. 31).

S01 KPI1: Methodology for safety validation of CCAM systems agreed by stakeholders along the CCAM value chain, authorities and certification bodies to set safety standards for highly automated vehicles operating on public roads.

Baseline:

HEADSTART methodology based on national efforts (PEGASUS, VVMethods, MOVE/MOSAR and Street-Wise), international cooperation (SIPAdus, SAKURA) and EU projects (e.g. L3Pilot, ENSEMBLE, Hi-Drive and SHOW).

Target:

Agreement on methodology, input to standards by relevant stakeholders by 2026.

Result:

Target on track.

Progress has been made towards establishing a robust methodology for the safety validation of CCAM systems, aligning with the target of agreement on a methodology and input to standards by 2026. Building upon the foundational work of HEADSTART – leveraging national efforts (PEGASUS, VVMethods, MOVE/MOSAR and StreetWise) and international cooperation (SIPAdus, SAKURA) and EU projects (e.g. L3Pilot, ENSEMBLE, Hi-Drive and SHOW) – the [SUNRISE](#) project has successfully developed a comprehensive Safety Assurance Framework (SAF) for highly automated and connected vehicles.

This SAF, benchmarked against existing international frameworks, is designed to meet the needs of all key stakeholders and pave the way for Type Approval and certification. Crucially, the framework aligns with relevant international standards and regulations and has been positively received by the CCAM community. A survey conducted at the [SUNRISE](#) Final Event in June 2025 revealed that 90% of target users anticipate utilizing the SAF in future projects, demonstrating strong potential for widespread adoption and unlocking safe, large-scale deployment of CCAM systems on European roads.

The [SUNRISE](#) SAF's impact extends beyond the project itself. Contributions have been made to discussions at the UNECE GRVA, informing the development of forthcoming Automated Driving System (ADS) interpretation documents. At the EU level, input was provided to the interpretation document of Regulation 2022/1426, and national Type Approval Authorities (RDW, KBA, VCA) are exploring its integration into scenario-based type approval processes. Standardisation bodies (ISO, ASAM, BSI, SAE) have acknowledged [SUNRISE](#)'s contribution to refining key standards (including ISO 34502, ISO 34503, and ASAM's OpenX suite), particularly in areas of scenario quality, coverage, and simulation interoperability. Furthermore, Euro NCAP and other NCAPs have expressed interest in leveraging SAF methods for virtual testing within consumer safety assessments.

Looking ahead, the **SUNRISE** SAF will continue to mature and be implemented through several avenues. The **SUNRISE** Data Framework will be further developed within the **SYNERGIES** project, while the **CERTAIN** project will elaborate on the framework's application to human vehicle interaction safety assessment. The SAF is also expected to be applied within the EU's forthcoming large-scale cross-border testbeds for autonomous vehicles (due in 2026).

While the development of the SAF and its acceptance in principle by stakeholders represent a major milestone, the target is not yet fully reached in operational terms. A framework is a prerequisite for safety standards, but full achievement of this KPI depends on demonstrated use in real-world deployment contexts and formal uptake by certification bodies as a recognized standard for Type Approval. Therefore, while the foundational work is complete and the trajectory is positive, the transition from a "promising framework" to a "demonstrated and applied methodology" remains the final and most critical step.

2.4.1.2.2. S02

Secure and trustworthy interaction between road users, CCAM and "conventional" vehicles, infrastructure and services to achieve safer and more efficient transport flows (people and goods) and better use of infrastructure capacity (SRIA, p. 31).

S02 KPI1: Number of incidents per 1.000.000 km driven on Large Scale Demo project sites and successfully addressing the causes of these incidents (including malfunctions e.g. false positive detections) from large scale demonstration projects.

Baseline:	Target:	Result:
Number of incidents observed in current projects.	10% less annually reported incidents per 1.000.000 km driven in projects compared to baseline.	Inconclusive.

The S02 KPI1 measures incidents rate (incidents per 1,000,000 km driven) on Large Scale Demo project sites, with a focus on addressing the root causes, including malfunctions such as false positive detections. Out of 38 projects surveyed, 11 were not actively involved in testing. The projects actively involved in testing vehicles include a range of methods such as simulation environments, living labs, demonstrations and data collection activities.

While the target is a 10% annual reduction in reported incidents per 1,000,000 km driven in demonstration projects compared to the baseline, establishing a reliable baseline and tracking distance travelled consistently has proven difficult. Projects vary significantly in their scope, operational design domains, and data collection practices, making a standardized comparison of incident rates unreliable. Critically, without comparable data on exposure (distance driven), Operational Design Domains (ODDs), and consistent definitions of what constitutes an 'incident', the incident rate is not a robust indicator

of safety performance.

Currently, very few (<10) incidents have been publicly reported across all projects, with none resulting in injuries. However, neither current nor past projects provide a consistent measure of distance driven under test conditions, hindering accurate incident rate calculation.

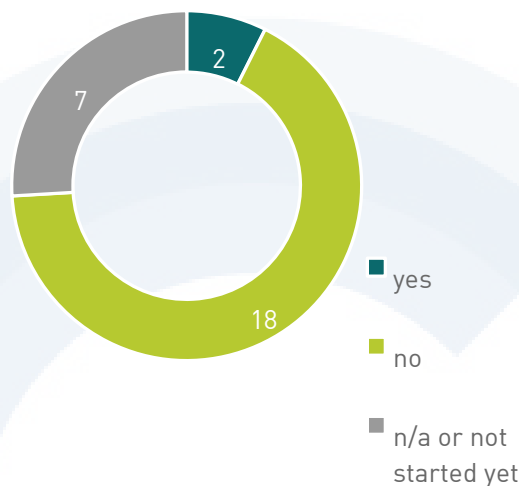


Figure 2-20: Number of reported incidents during testing activities.

Within the subset of projects actively engaged in vehicle testing, two minor incidents were documented, and no reported accidents thus far (see Figure 2-20). The reported incidents include manual driving intervention during parking, delays in traffic light data sharing due to outdated technology, and instances where two company-operated vehicles touched each other while turning.

These findings underscore the potential of CCAM systems to enhance road safety. However, they also underscore the need for ongoing technological improvements and integration efforts. The resolution of issues such as sensor accuracy, real-time data exchange, and vehicle coordination algorithms is crucial to preventing minor incidents from escalating into more severe events.

Despite the limited data and lack of consistent metrics, the low number of reported incidents suggests a positive trend. While conclusive evidence is lacking, a cautious assumption of continuation of this trend allows for reasonable optimism regarding the potential for CCAM systems to contribute to safer and more efficient transport flows. The challenges in assessing this KPI highlight valuable lessons for the formulation of future KPIs, emphasizing the need for standardized data collection and consideration of project variability. Further efforts are needed to establish consistent data collection and reporting standards to accurately measure progress against the KPI target. The current limitations regarding exposure data, ODD descriptions, and incident definitions necessitate caution when interpreting the KPI results.

2.4.1.2.3. S03

High public acceptance and adoption of CCAM solutions by 2030 with a clear understanding of its benefits and limits as well as rebound effects (SRIA, p. 31).

S03 KPI1: Impact of CCAM use on surrogate effects such as fleet composition (of CAV), number of CAV occupants carried, number of CAV VKT (vehicle kilometres travelled), load factors for goods.

Baseline:

Status of MS data from in 2021.

Target:

30% improvement of surrogate effects compared to baseline (Baseline available during 2022, choice of surrogate effects starting with states representative group meeting).

Result:

Inconclusive.

Progress towards achieving high public acceptance and adoption of CCAM solutions by 2030 – specifically regarding the impact on key surrogate effects like fleet composition, vehicle occupancy, vehicle kilometres travelled (VKT), and freight load factors – is currently inconclusive and not on track. While a 30% improvement in these surrogate effects compared to the 2021 baseline was established as the target, data collection and direct measurement remain limited.

Of the 38 CCAM projects analysed, only approximately 21% directly address system level mobility outcomes related to these surrogate effects (see Table 2-1). Most projects focus on areas such as AI perception, vehicle technology, safety validation, and societal acceptance, rather than directly measuring changes in fleet size, VKT, or occupancy. Consequently, impacts are often inferred through metrics like traffic efficiency, vehicle utilization, and service deployment.

Indicator	Projects
Fleet composition (CAV share/type)	metaCCAZE, MOBILITIES FOR EU, ULTIMO, MODI, IN2CCAM, CONDUCTOR, CHORUS
CAV occupants carried	metaCCAZE, ULTIMO, MOBILITIES FOR EU, CONDUCTOR, IN2CCAM
CAV VKT	CONDUCTOR, IN2CCAM, CHORUS, CARMONY, metaCCAZE, MOBILITIES FOR EU, ULTIMO
Freight load factors	MODI, metaCCAZE, MOBILITIES FOR EU, CONDUCTOR

Table 2-1: Projects affecting system-level mobility outcomes like fleet size, occupancy, VKT and freight loads.

However, projects like [metaCCAZE](#), [ULTIMO](#), and [MODI](#) demonstrate a shift towards mixed fleets incorporating automated shuttles and freight vehicles, particularly within shared mobility and logistics services. These services show potential to increase vehicle occupancy through ridesharing and ride-parcel pooling, and to improve freight load factors through consolidation and automated logistics. Pilot results indicate positive trends, with 10-40% travel time reductions and 812% emission savings achieved through improved traffic and fleet management. Despite these encouraging findings, the limited scope of projects directly measuring the targeted surrogate effects hinders a conclusive assessment of progress towards the 2030 target. Further efforts are needed to prioritize and implement direct measurement of fleet composition, VKT, occupancy, and load factors within a larger proportion of CCAM projects to accurately evaluate their impact and demonstrate progress towards achieving the desired improvements.

S03 KPI2: Survey on acceptance.

Baseline:

Acceptance survey results from H2020 projects.

Target:

Increased acceptance in the two next surveys (2025, 2030).

Result:

Under further investigation.

Assessing public acceptance and adoption of CCAM solutions by 2030 – as measured through acceptance surveys – remains under further investigation. While baseline data from prior H2020 projects provides a starting point, complete survey results for the 2030 target are not yet available. Currently, 21 out of 38 CCAM projects stated to conduct acceptance surveys (see Figure 2-21). However, preliminary findings suggest a positive trend, with projects consistently reporting increased acceptance and confidence following hands-on demonstrations and real-world testing of CCAM technologies. However, it's important to note that stated acceptance doesn't necessarily translate to actual usage.

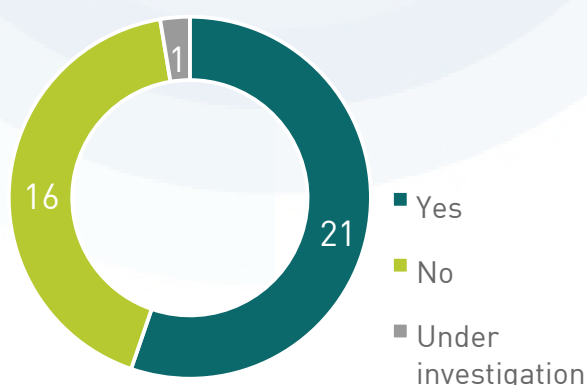


Figure 2-21: Number of projects that stated to conduct acceptance surveys on CCAM systems

Current survey data indicates a significant majority (around 63%, as shown in the [SINFONICA](#) survey) express an intention to use CCAM services, with this willingness often amplified after experiencing the technology firsthand. While initial surveys gauge general willingness, a more nuanced understanding of acceptance is needed. Key drivers of acceptance include perceptions of road safety, reliability, cleanliness, security, sustainability, and comfort. Accessibility, barrierfree access, and fair pricing are also identified as essential factors.

Despite this encouraging outlook, a substantial portion of the population remains hesitant. Between 18 - 30% of respondents currently express a lack of confidence or intention to utilize CCAM, while an additional 26 - 30% remain undecided. To gain a more comprehensive understanding, several ongoing surveys are exploring factors such as the value placed on time, specific acceptance measures, and the influence of cultural, geographical, and policy contexts. However, current assessments focus on general willingness rather than acceptance tied to specific scenarios. Analysis of these studies is underway, and full results are anticipated to provide a clearer picture of public acceptance and inform progress towards the 2030 objective. To ensure a robust and actionable understanding of public acceptance, future surveys should prioritize assessing acceptance in relation to concrete use cases (e.g., automated shuttle services, autonomous trucking), service quality expectations, safety perceptions, accessibility needs, cost considerations, and trust in the operating entities. Further insights from the [SINFONICA](#) survey can be found at <https://sinfonica.eu/the-sinfonica-online-survey-first-insights-into-ccam-mobility-needs/>.

2.4.1.2.4. S04

Better coordination of public and private R&I actions, large-scale testing and implementation plans in Europe (SRIA, p.31).

S04 KPI1: Active involvement of public and private members of CCAM Partnership

Baseline:

N / A

Target:

To be measured as:
Members of CCAM association involved in LSDemos.

Result:

The involvement of Member States is significant and multi-faceted. However, full-scale, operational coordination across Europe remains to be achieved.

Member State involvement is central to the CCAM Partnership, demonstrably contributing to better coordination of public and private R&I actions, large-scale testing, and implementation plans across Europe. This involvement is facilitated through the States Representatives Group, serving as the primary interface between the Partnership and national authorities.

Member States actively advise and support the Partnership’s objectives, ensuring alignment with national policies and priorities. Crucially, they provide vital information regarding national and regional activities, including deployment measures, dissemination efforts, and workforce training initiatives. This two-way communication allows Member States to not only inform the Partnership of their own progress but also to propose actions and provide opinions to the Partnership Board on progress, impacts, and the scaling of results.

To translate this strategic alignment into operational reality, the CCAM Partnership has funded a portfolio of collaborative projects. These projects serve as the primary vehicle for the active involvement of both public and private members of the CCAM Association. Currently members of CCAM association are involved in several projects with demonstration activities. The involvement of Association members in a Large-Scale Demonstration project will happen in October 2026 in the EC Call Horizon-CL5-2026-10-D6-01 (“LSDemo”). Currently the project proposal and partner selection is ongoing. The involvement of CCAM Partnership members cannot be evaluated until the proposal is submitted and selected.

The strategy of involvement is integral to the success and relevance of the Partnership. However, while significant progress has been made in establishing this collaborative framework, full-scale, operational coordination across Europe remains a key challenge to be addressed.

S04 KPI2: Number of cross-border projects

Baseline:

N / A

Target:

N / A

Result:

Marginal cross-border testing but **MODI** sets a good example with the world’s first autonomous cross-border freight transport.

Progress against the KPI measuring the number of cross-border CCAM projects remains limited. Cross-border testing serves as a key proxy for the level of coordination between national authorities. The current marginal activity in this area suggests that regulatory and legal hurdles remain a significant deterrent to the seamless deployment of CCAM solutions. Consequently, the limited number of cross-border projects should be viewed not merely as a projectlevel shortfall, but as a critical indicator of the current state of governance and regulatory readiness in Europe.

While initial planning indicated potential for wider deployment, cross-border testing activity is currently marginal, primarily confined to corridors such as Rotterdam – Oslo, Germany – Luxembourg, and connections between Norway, Sweden, Germany, and the Netherlands. Despite a significant number of projects (27 out of 38) actively engaged in testing and demonstration activities, only a small fraction – three projects in total – are currently planning cross-border testing (see Figure 2-22). This concentration of activity within national borders highlights a systemic lack of regulatory systemic lack of regulatory harmonization, which remains a primary barrier to the cross-border scalability

of CCAM solutions. Several projects, such as [CARMONY](#), have planned cross-border activities but are only at the initial stages of implementation. Others, including [PoDIUM](#), face challenges related to securing necessary permissions for cross-border testing. These challenges transcend simple administrative friction; they point to a fundamental need for harmonized governance and standardized procedures to ensure the seamless transition of vehicles across different regulatory environments.

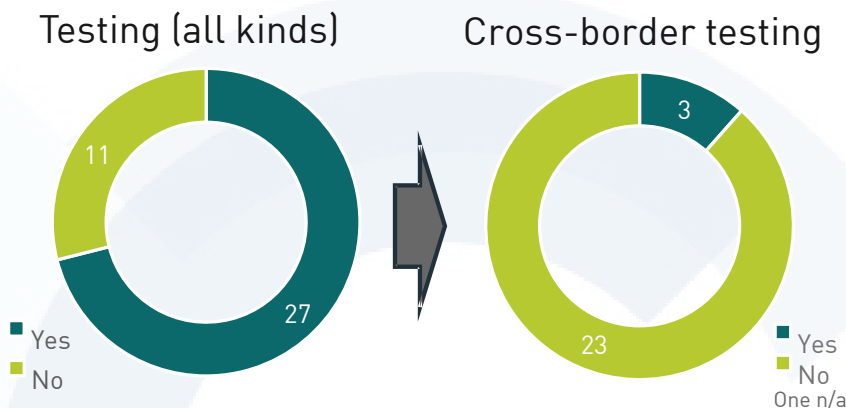
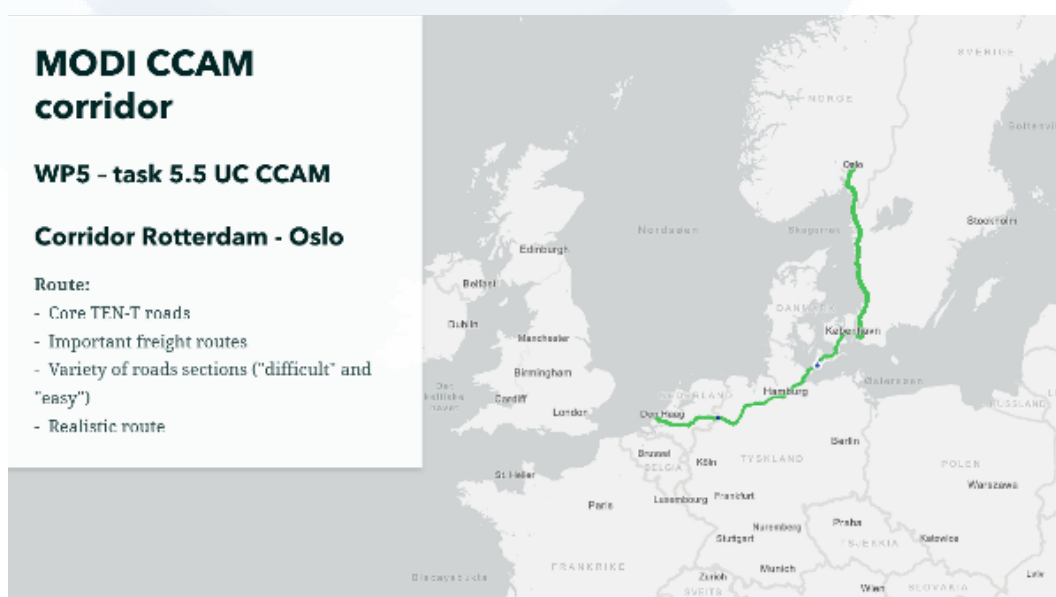


Figure 2-22: Proportion of CCAM projects engaged in cross-border testing that indicated to be involved in demonstration and testing activities

The [MODI](#) project serves as a strategic blueprint in this regard, rather than just a positive example. By successfully demonstrating the world's first autonomous cross-border freight transport (see Figure 2-23), [MODI](#) proves that the logistics and freight sector can provide a concrete and viable deployment pathway for CCAM. However, this achievement also highlights the stringent prerequisites necessary for scaling such solutions: it requires not only technical feasibility but also harmonized approval processes, infrastructure readiness across borders, and clearly defined operational procedures. [MODI](#) thus provides a roadmap for how other CCAM services can transition from domestic pilots to cross-border testing, provided the underlying governance is in place.

Figure 2-23:
Successful
demonstrated
autonomous
cross-border
freight transport
on the MODI CCAM
corridor (Source:
[Screenshot](#))



The fact that 23 out of 27 projects actively engaged in testing remain confined to domestic environments underscores the difficulty of replicating the **MODI** experience without a unified policy framework. The limited engagement in cross-border testing reflects a combination of logistical challenges and a lack of coordinated strategic priorities between national authorities.

In conclusion, while **MODI** sets a crucial precedent, the overall lack of cross-border activity confirms that technical success is insufficient without regulatory alignment. Further efforts must move beyond solving individual permission challenges and instead focus on streamlining regulatory processes and establishing the harmonized operational standards necessary to meet the KPI target and enable a truly connected European transport network.

S04 KPI3: Involvement of MS

Baseline:

18 States (Member States and Associated Countries) in the first meeting of the CCAM States Representatives Group.

Target:

75% of EU member states actively involved in the CCAM States Representatives Group.

Result:

Target on track.

The baseline for this KPI was established with the participation of 18 States (EU Member States and Associated Countries) in the first meeting of the CCAM States Representatives Group (SRG). The target set for this KPI is the active involvement of at least 75% of EU Member States in the SRG.

As of 2026, a total of 29 States (EU Member States and Associated Countries) are involved in the CCAM SRG, demonstrating a significant expansion compared to the baseline. In terms of active participation, between 16 and 19 countries were represented at the SRG meetings held in 2024 - 2025. Considering that the EU currently counts 27 Member States (see), the participation range corresponds to approximately 59 - 70% of EU Member States attending the meetings.

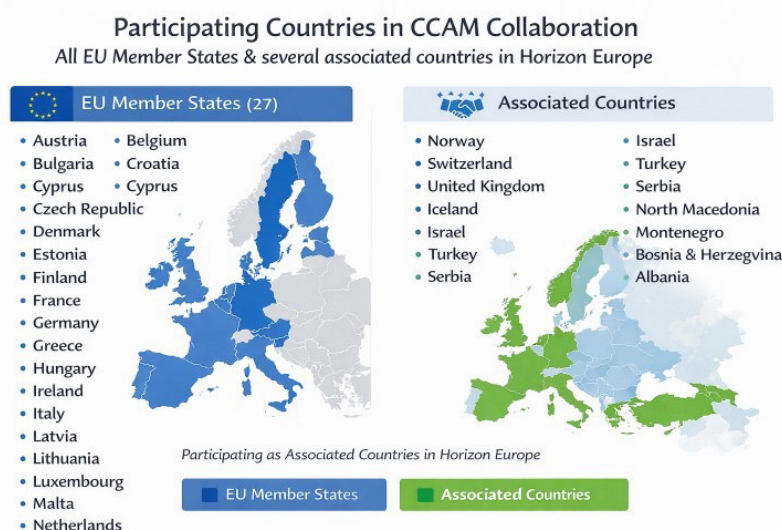


Figure 2-24: Participating countries in CCAM collaboration (AI generated picture)

However, a distinction must be made between nominal participation in the SRG and operational involvement in R&I activities. While the number of states attending meetings is rather high, the actual impact on aligned R&I activities remains limited. True operational involvement - characterized by the provision of infrastructure, permits, and active co-creation - is currently concentrated in a small number of Member States. Specifically, Spain, Austria, and the Netherlands stand out as the primary drivers of operational engagement.

Consequently, while the KPI is nominally on track from a numerical perspective, there is a gap in the depth of involvement across the majority of Member States. To move beyond nominal participation, future efforts must focus on transitioning more states from “meeting attendees” to “operational partners” who provide the necessary assets and permits for large-scale deployment.

2.4.1.3. Operational Objectives

Operational Objectives (OO) in the CCAM Partnership are about what is to be delivered during the lifetime of the Partnership, the concrete short-term results of the activities performed/ projects funded. The Operational Objectives are used in the CCAM Partnership to assess the progress over time towards 2030 contributing to Specific Objectives (SRIA, p. 31).

2.4.1.3.1. 001

Enable trustworthy interaction between all traffic participants and CCAM by 2028 (SRIA, p.32).

001 KPI1: Number of successfully demonstrated new functionalities for trustworthy interaction between road users, vehicles, infrastructure and services delivered by CCAM projects

Baseline:

Results of H2020 projects (TrustVehicle, ADAS&ME, Mediator, AutoMate, SU-aaVE, interact, BRAVE, VIDAS?) to build upon, considering latest advances in science and technology, e.g. in human behavioural models, use of virtual and augmented reality etc.

Target:

Three or more vehicle-internal and/or external new HMI functionalities successfully demonstrated in various traffic scenarios and enabling safe and efficient interplay of CAVs with other road users incl. pedestrians and two-wheeler riders.

Result:

Target reached.

Significant progress has been made towards enabling trustworthy interaction between all traffic participants and CCAM systems by 2028, as demonstrated by the successful development and implementation of new Human-Machine Interaction (HMI) functionalities. The target of demonstrating at least three new vehicleinternal and/or external HMI functionalities in various traffic scenarios has been not only met but significantly exceeded.

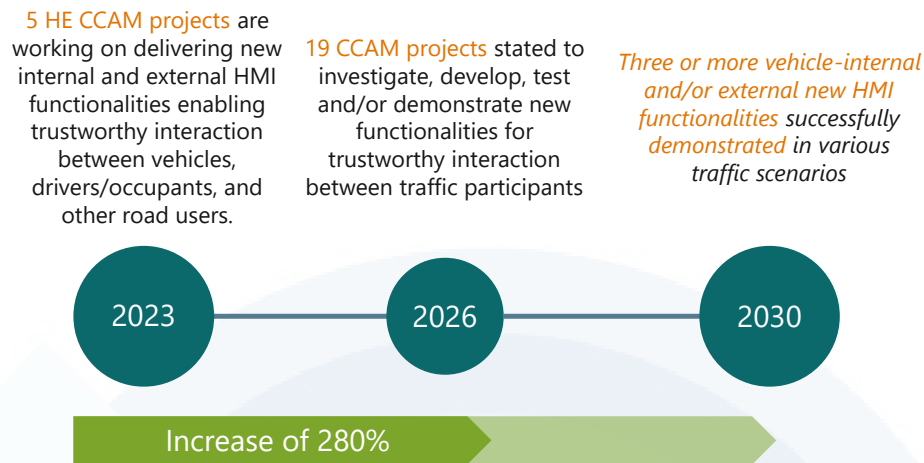


Figure 2-25: Progress towards the 2030 target to demonstrate at least three new vehicle-internal and/or external HMI functionalities successfully

Across the portfolio of 38 CCAM projects, 19 specifically investigated, developed, tested, and/or demonstrated these new functionalities (see Figure 2-25). More than ten distinct internal and external HMI solutions have been successfully demonstrated in experimental trials, simulation environments, and real-world pilot deployments. These innovations address both the interaction within automated vehicles – between the system and drivers/occupants – and the interaction between automated vehicles and vulnerable road users (VRUs) like pedestrians and cyclists.

Vehicle-internal functionalities, demonstrated by projects such as [i4Driving](#), [SELFY](#), and [FRODDO](#), include driver state monitoring, adaptive takeover requests, and trust-aware feedback mechanisms designed to support safe transitions between automated and manual driving. Simultaneously, projects like [AI4CCAM](#), [CulturalRoad](#), [Diversify](#), and [SINFONICA](#) have focused on external interaction mechanisms, including pedestrian intention detection, automated vehicle communication with pedestrians via external HMI concepts, and inclusive interaction strategies tailored to diverse user groups.

These functionalities have been rigorously tested in a variety of traffic scenarios, including urban intersections, mixed-traffic environments, automated shuttle services, and controlled pilot environments. Demonstrations have focused on key aspects of trustworthy interaction, such as transparency of automated vehicle behaviour, anticipation of pedestrian actions, and safe cooperation with cyclists and other vulnerable road users. In this context, "successfully demonstrated" refers to the technical realization and functional testing of HMI concepts within specific experimental or pilot scenarios. It should be noted that these demonstrations primarily serve as proofs-of-concept; they do not necessarily constitute a comprehensive validation of long-term behavioural impact, a quantified increase in user trust, a proven overall safety improvement, or immediate readiness for large-scale industrial implementation. Consequently, the CCAM portfolio provides strong evidence of substantial progress towards enabling safe and trustworthy interaction between connected and automated vehicles and human road users, clearly fulfilling the established KPI target.

2.4.1.3.2. 002

Accepted safety standards for automated mobility on public roads by 2027 (SRIA, p. 32).

002 KPI1: Number of large-scale demonstrations applying safety standards prepared by CCAM projects.

Baseline:

No directly applicable safety standards available.

Target:

Three or more large-scale demonstrations until 2028 apply safety standards.

Result:

Target not reached (yet).

The 002 objective of the CCAM partnership is the establishment of accepted safety standards for automated mobility on public roads by 2027. Currently, there is a gap between the development of safety-related standards and their actual application in large-scale public-road demonstrations. While the CCAM portfolio has made significant strides in the former, the latter has not yet been realized. Consequently, the target of three or more large-scale demonstrations applying these standards remains unmet.

As of now, 37% of projects with testing or demonstration activities report investigating, developing, testing, and/or demonstrating features and functionalities aligned with new safety standards. These projects are actively contributing to the evolution of safety frameworks, focusing on areas such as C-ITS, V2X communication, and functional safety. Testing and demonstration activities are occurring across a range of environments, including real-world pilots in open traffic, controlled test tracks, and simulation environments, with TRL assessment procedures incorporating independent expert review – as demonstrated by projects like [AugmentedCCAM](#).



Figure 2-26: Progress towards the 2028 target of 3+ large scale demonstrations applying safety standards

Several projects are demonstrating practical application of emerging standards. **PoDIUM** for example applied existing CCAM safety-relevant standards such as ETSI TC ITS (CAM, DENM, CPM, CPS), ETSI MEC, and 3GPP V2X, while also contributing to their evolution through change requests to ETSI TS 102 894 (CDD) and inputs to ETSI TC INT on 5G Network Application validation. Specifically, the Modena HAura and Bursa ATTs pilots implemented ETSI ITS-G5/DSRC security for V2X messages, utilizing signed, replay-protected CAM/BSM messages over ITS-G5 in real urban testbeds and signed V2V messages for intersection management and safety-critical coordination (i.e., **FRODDO**). Furthermore, **FRODDO** aligned with ISO/SAE 21434-type cybersecurity concepts and ITS security frameworks in their security architecture, ensuring privacy-by-design, encryption, and access control in data collection and integration with Digital Twins (DT), Decision Support Systems (DSS), and Early Warning Systems (EWS), in accordance with GDPR and EU ethical requirements. Furthermore, **SYNERGIES** applied UNECE VMAD scenario-based validation principles, ISO 26262/21448 data robustness concepts, and SAE ODD-based taxonomy structures, using ASAM-compatible scenario exchange formats and AI Act/GDPR traceability requirements within its scenario methodology, data qualification framework, federated dataspace architecture, and KPI-based validation system.

While these efforts demonstrate considerable progress in developing and testing safety-relevant functionalities, the transition to large-scale demonstrations remains a key challenge. There is a clear distinction between “alignment with standards” and “application in large-scale demonstrations.” The projects mentioned above have demonstrated that these standards can be integrated into specific use cases and controlled testbeds; however, this has not yet transitioned to the large-scale, public-road deployments required by the KPI.

The transition from controlled pilots to large-scale demonstrations is the primary challenge. To achieve the 002 target by 2028, the focus must shift from the development and testing of safety-relevant functionalities to the actual implementation of these standards in comprehensive, real-world deployments on public roads. Without this shift, the foundational work remains theoretical and does not yet translate into the “accepted safety standards” required for widespread automated mobility.

002 KPI2: Availability of safety standards recommendations.

Baseline:

2021, no directly applicable safety standards available.

Target:

2026, safety standards recommendations available.

Result:

Target reached.

Analysis of the CCAM project portfolio reveals that more than half of the projects (approximately 55%) identified gaps in existing safety standards. These projects collectively provide key recommendations for advancing safety in automated mobility. Crucially, these recommendations emphasize the need to address deficiencies in infrastructure-based perception, improve the handling of confidence values for road-sensor data, and validate Mobile Edge Computing (MEC)-enabled CCAM services. Establishing harmonized frameworks for cross-border automated driving testing is also considered essential.

Beyond these core areas, recommendations highlight the critical importance of standardizing cybersecurity across the entire CCAM ecosystem – extending beyond just vehicles – and focusing on harmonized scenario-based validation, AI-driven system assurance, interoperability of scenario databases, and robust mixed-traffic safety validation methodologies to support Europe-wide deployment. This work fulfils the target of having safety standards recommendations available by 2026, contributing to the overall objective of accepted safety standards for automated mobility on public roads by 2027. Building from a 2021 baseline where no directly applicable safety standards existed, these recommendations provide a solid foundation for developing comprehensive and effective safety standards.

2.4.1.3.3. 003

Common methodologies available to validate the safe system function of CCAM use cases by 2026 (SRIA, p. 32).

003 KPI1: Application of methodologies and tools for the safety validation of CCAM, as developed in the CCAM Partnership

Baseline:

H2020 results on validation methodologies: HEADSTART methodology based on national efforts (PEGASUS, VVMethods, MOVE/MOSAR and Street-Wise), international cooperation (SIPAdus, SAKURA) and EU projects (e.g. L3Pilot, ENSEMBLE and Hi-Drive).

Target:

All relevant CCAM projects beyond 2026 apply common methodologies and tools for the safety validation of CCAM systems accepted by the relevant stakeholders by 2026.

Result:

Inconclusive.

Efforts to establish common methodologies for validating the safe system function of CCAM use cases by 2026, as measured by the application of methodologies and tools developed within the CCAM Partnership, are currently considered inconclusive. The current lack of a universally adopted validation methodology represents an implementation issue. While building upon H2020 results and existing frameworks like HEADSTART, progress towards universal adoption of a single, accepted methodology remains limited. If a common validation framework is to be the cornerstone of CCAM safety, its uptake across the portfolio must be actively managed rather than merely monitored.

The [SUNRISE](#) project has been instrumental in developing a new CCAM Safety Assurance Framework (SAF) intended to meet the needs of all key stakeholders, completing a draft version in August 2025.

However, data collected indicates that, of the 16 projects actively developing, testing, or demonstrating safety validation methods or tools, only 4 explicitly state they are utilizing the **SUNRISE** SAF. This adoption rate (approximately 25%) reveals a fragmented landscape where diverse, non-standardized approaches prevail, undermining the strategic objective of establishing a common, stakeholder-accepted methodology.

Beyond the **SUNRISE** SAF, projects are employing a variety of complementary validation techniques. These include scenario-based and simulation-driven validation (using tools for ODD scenario creation, virtual testing, and co-simulation), AI-focused validation methods (such as metamorphic testing and trustworthy AI validation), human-centric and behavioural validation (evaluating HMI design, human-likeness, and realistic behaviour modelling), KPI-driven and pilot-based validation (using real-world pilots and harmonized KPIs), safety metrics and risk indicators (like Time-to-Collision), monitoring and operational safety validation (through in-service monitoring and anomaly detection), and adherence to established safety standards like SOTIF and HARA.

While the recent completion of the **SUNRISE** SAF explains the current low adoption, this gap cannot be addressed through monitoring alone. If a common validation framework is to be central to the safety and scalability of CCAM, its uptake must be actively managed rather than left to voluntary adoption. To ensure consistency and safety across the ecosystem, it is necessary to implement governance mechanisms. This includes the possibility of requiring alignment with agreed-upon validation methods as a prerequisite in future project calls and funding requirements. It is recommended to foster further alignment of methodologies and implementation of these in future upcoming projects.

2.4.1.3.4. 004

Large-scale demonstration of user-oriented and well-integrated CCAM solutions for mobility of people and goods in at least 30 demonstration sites across Europe by 2030 (SRIA, p. 32).

004 KPI1: Number of demonstration sites with explicit results on user orientation and mobility integration as well as explicit results on new freight and logistics concepts.

Baseline:

0 CCAM projects in 2021.

Target:

30 or more demonstration sites for people mobility, freight and logistic by 2030.

Result:

Target reached.

The objective of demonstrating user-oriented and well-integrated CCAM solutions for mobility of people and goods in at least 30 demonstration sites across Europe by 2030 has been reached from a quantitative perspective. The CCAM portfolio has substantially expanded the planned demonstration landscape, currently reaching 43 test sites across Europe – surpassing the original target by approximately 43% (see Figure 2-27).

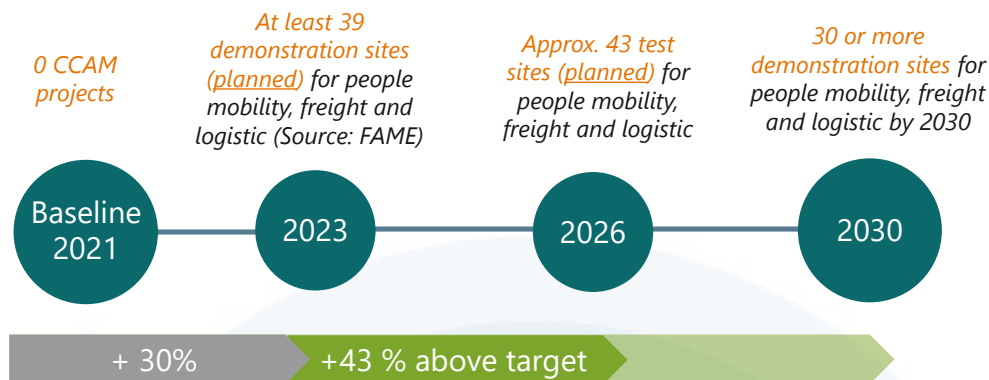


Figure 2-27: Progress towards the 2030 target of at least 30 demonstration sites for people mobility, freight and logistics.

A FAME survey indicates that at least 39 demonstration sites were planned as of 2023. In 2026, approximately 43 demonstration sites are planned for both people's mobility and freight/logistics applications. While 55% of projects concepts (see Figure 2-28) with planned demonstrations focus on either user orientation and mobility integration or new freight and logistics concepts, the portfolio is heavily skewed towards passenger mobility, representing around 80 - 85% of all planned pilots. These passenger mobility demonstrations showcase technologies such as automated shuttles, robotaxis, last-mile autonomous transport, and integration with Mobility-as-a-Service (MaaS) across approximately 32 - 36 sites.

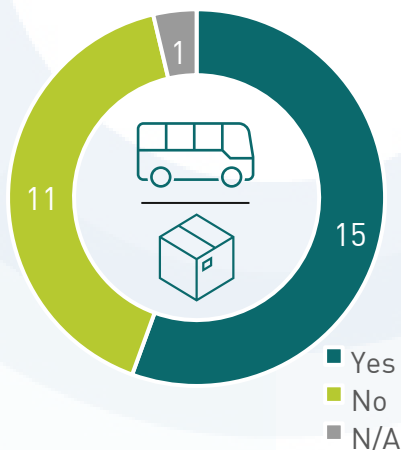


Figure 2-28: Number of projects with planned demonstrations that stated to focus on either user orientation and mobility integration or new freight and logistics concepts

Freight and logistics demonstrations account for the remaining 10 - 15% of sites, largely driven by the MODI project – the primary initiative focused on this sector. MODI is responsible for an estimated 5 - 7 freight-focused demonstration sites, exploring applications like automated truck platoons, port-to-hub freight corridors, and automated logistics hubs.

While the numerical target has been exceeded, it is recognized that the number of sites serves as a primary proxy for progress. To fully determine the societal impact and technical maturity of these solutions, the focus must extend beyond the count of sites to include an assessment of their operational scale, the complexity of the operational conditions, and the depth of actual user involvement. Furthermore, the long-term continuity of these sites beyond the project funding period is a critical factor for ensuring sustainable integration into the European transport landscape. Consequently, the success of these demonstrations is not measured solely by whether projects "target" user orientation, but by the extent to which they implement credible measurement frameworks to quantify actual societal benefits. This combination of passenger and freight-focused deployments demonstrates a broad and successful implementation of CCAM solutions across diverse mobility sectors, confirming the achievement of the established target, providing a foundation for the achievement of the established target.

2.4.1.3.5. 005

Societal impacts are sufficiently addressed and assessed by 2030 (SRIA, p. 32).

005 KPI1: Number of projects targeting assessment of societal impacts.

Baseline:

Number of projects addressing societal impacts in the Knowledge Base in 2021: 7 out of 16 characterized as addressing "socio-economic impact assessment/ sustainability" by ARCADE.

Target:

All demonstration projects of CCAM Partnership show completed mapping of these aspects.

Result:

Target likely reached.

Progress towards adequately addressing and assessing societal impacts of CCAM by 2030 indicates the target is likely reached, though with some caveats. The number of projects actively targeting assessment of societal impacts has increased significantly, demonstrating a growing commitment to understanding the broader implications of CCAM technologies.

In 2021, only 7 out of 16 projects were characterized as addressing socio-economic impact assessment or sustainability, according to the ARCADE Knowledge Base. However, recent data shows a substantial increase, with 27 out of 38 projects (76%) now stating they target an assessment of societal aspects. Notably, 6 out of the 27 projects stated not to be directly involved in testing or demonstrations (e.g., [Reskilling](#), [Diversify](#), [Sinfonica](#)).

Focusing on the 27 projects actively conducting testing and demonstrations, a strong 74% address societal impacts. This represents an approximate 30 percentage point increase from the 2021 baseline, growing from 44% (7/16 projects) to 74% (20/27 projects; see Figure 2-29).

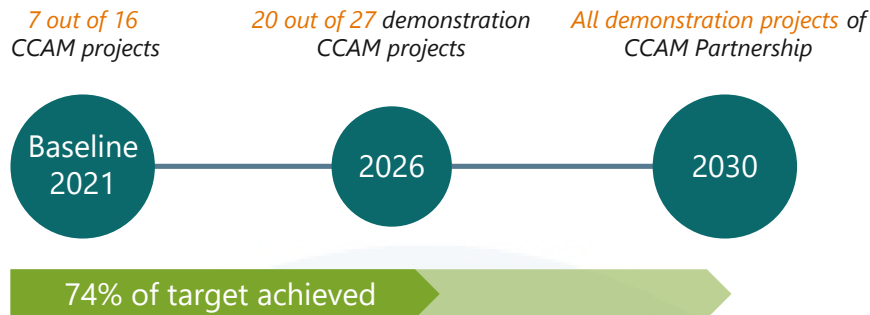


Figure 2-29: Progress towards the 2030 target that all demonstration projects are targeting the assessment of societal impacts

It must be noted, however, that as no large-scale demonstrations have been completed to date, a comprehensive ex-post impact assessment is not yet possible. Consequently, many of the current impact claims and assessments remain provisional until these large-scale demonstrations are fully executed and evaluated.

While not all demonstration projects are currently assessing societal aspects, the significant increase in projects prioritizing these considerations suggests the target of having all demonstration projects map these aspects is likely to be met by 2030. Continued monitoring will be crucial to ensure comprehensive assessment of societal impacts across the entire CCAM demonstration landscape.

005 KPI2: Ex-post impact assessment at large-scale demonstrations.

Baseline:

Number of projects addressing societal impacts in the Knowledge Base in 2021: 7 out of 16 characterized as addressing “socio-economic impact assessment/ sustainability” by ARCADE.

Target:

All impact aspects defined are assessed by 2030 (Ex-post impact assessment of large-scale demonstrations)

Result:

Target not reached (yet).

A key priority for the CCAM Partnership is ensuring that societal impacts are sufficiently addressed and assessed throughout the research and innovation lifecycle. Building upon the baseline established in 2021, where 7 out of 16 projects in the Knowledge Base were characterized as addressing “socio-economic impact assessment/sustainability” by ARCADE, the Partnership aims to ensure all impact aspects are assessed by 2030, with a particular focus on ex-post impact assessments of large-scale demonstrations.

Currently, progress towards this target is ongoing, but not yet fully realized. To date, no large-scale

demonstrations have been completed that would allow for a comprehensive ex-post impact assessment. Further updates will be provided as large-scale demonstrations are completed and corresponding impact assessments become available. However, preparations are underway, and information regarding planned demonstrations and associated impact assessment methodologies will be available in future reports.

2.4.1.3.6. 006

Increased public awareness of demonstrated benefits for users and society by 2030 (SRIA, p. 32).

006 KPI1: Evolvment of public awareness and perceived benefits with the help of assessment reports of large-scale demos

Baseline:

Surrogate measures from Eurobarometer 496 2019 and L3 Pilot survey 2021.

Target:

By 2030: Public awareness: 100%; Willingness to use: 75%; Willingness to buy: (56% (=doubling)).

Result:

Target not reached (yet).

Current indicators suggest that public awareness of the benefits of CCAM is not increasing at the rate required to meet the 2030 target. Crucially, this gap between current public perception and the targets represents a risk to the successful deployment of CCAM solutions. Public awareness and acceptance are not merely the result of information campaigns; they are fundamentally dependent on concrete experience, perceived usefulness, trust, safety, and the actual quality of the services provided. If the public does not perceive a clear benefit or feel a high level of safety, the technology risks being technically viable but socially rejected, which would effectively stall large-scale deployment.

Current indicators suggest that public awareness is not increasing at the rate required to meet the 2030 target. While baseline data from Eurobarometer 496 (2019/2020) indicated 60% awareness and 47% willingness to use fully automated and connected vehicles, and the L3Pilot survey (2021) showed 60% willingness to use and 28% willingness to buy level 3 vehicles, the ambitious targets of 100% awareness, 75% willingness to use, and 56% willingness to buy by 2030 have not yet been achieved.

Efforts to gather more current data are increasing, with the number of projects planning or conducting surveys on public awareness and willingness to use CCAM services rising significantly from 6 in 2023 to 21 in 2026 (see Figure 2-30). Around 10 of these surveys have already been completed, revealing generally positive but conditional acceptance of CCAM technologies. The findings confirm that adoption is not a matter of “awareness” but of trust and reliability; key factors influencing the transition from awareness to actual use include safety, accessibility, and clear user interfaces, while perceived safety concerns and digital exclusion remain critical barriers to deployment.

However, a direct replacement for the comprehensive data provided by Eurobarometer 496 is currently unavailable. While recent EU surveys offer insights into public attitudes toward digitalization and artificial intelligence – suggesting generally high levels of technological acceptance – they do not specifically address CCAM with the same level of detail. Furthermore, the current data does not yet demonstrate that willingness to use and buy CCAM solutions has reached the targeted levels of 75% and 56% respectively.

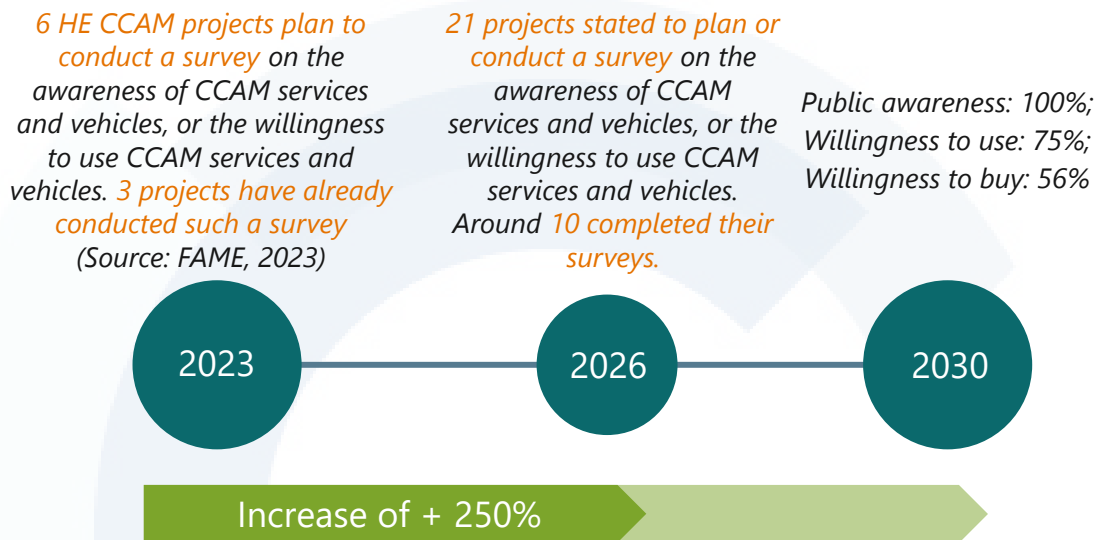


Figure 2-30: Progress towards the 2030 target to increase public awareness of CCAM services and vehicles and the willingness to use them

Therefore, while the increase in survey activity is a positive step, it is insufficient on its own. To mitigate the risk of deployment failure, the focus must shift from simply increasing "awareness" to providing the public with concrete, positive experiences of CCAM services. Achieving the 2030 targets will require a systematic effort to demonstrate tangible value, ensure high service quality, and build trust through real-world interaction rather than theoretical communication.

2.4.1.3.7. 007

In 2021. establish a long-term coordination framework for R&I and large-scale testing activities (SRIA, p. 32).

007 KPI1: Number of projects making datasets available or use data from other projects (e.g. linked through the Knowledge Base)

Baseline:

Best practices from Knowledge Base.

Target:

All CCAM projects make test data and other datasets (e.g. scenarios, edge cases, etc.) available by 2027.

Result:

Target not reached yet.

The current state of data sharing within the CCAM portfolio reveals a significant structural weakness. While a collaborative spirit exists and many projects express a willingness to share, the lack of a systematic, mandatory, or incentivized framework for data exchange prevents the creation of a truly shared data ecosystem. Consequently, efforts to establish a long-term coordination framework are falling far short of the target of having all CCAM projects make test data and datasets available by 2027.

This represents a strategic risk: without stronger incentives, standardized formats, and clear governance, the CCAM Partnership risks losing the benefit of cumulative learning across projects. In the absence of a unified data strategy, knowledge remains fragmented, increasing the likelihood that projects redundantly solve the same technical challenges, thereby reducing the overall efficiency and impact of European R&I investments.

The monitoring data underscores this fragmentation. Of the 38 projects surveyed, 18 stated they plan to utilize data from other projects, while 20 do not (see Figure 2-31).

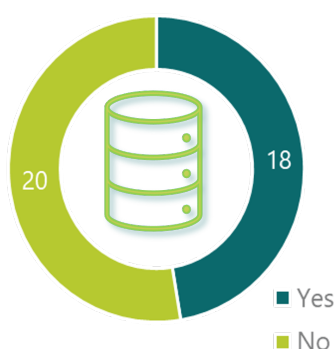


Figure 2-31: Number of projects that reported to use data from other projects

Even fewer projects are actively making data available; only 17 indicated plans to share datasets publicly or with other projects, with 7 planning to and 14 stating they would not. This indicates that a substantial portion of the CCAM portfolio is not yet contributing to a shared data ecosystem (see Figure 2-32).

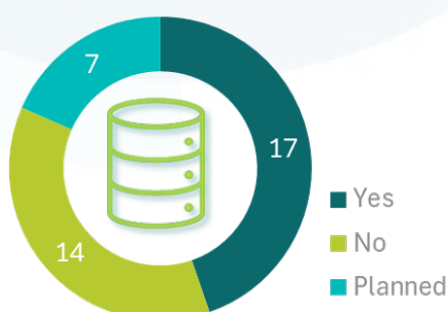


Figure 2-32: Number of projects that reported to plan to make their datasets available (public/for other projects)

A key challenge lies in the fact that while many projects express intent to share, a significant portion have only provided non-binding statements, and some have declined to share data altogether – even considering legitimate reasons like proprietary concerns, legal restrictions, or copyright. Furthermore, privacy restrictions are causing some projects to withhold portions of their datasets. Approximately 10 projects currently limit data sharing to internal use only.

While 17 projects have expressed interest in reviewing external data, and many demonstrate connections with “sister projects,” this proactive stance is not yet translating into widespread data contribution. The existence of these barriers confirms that voluntary collaboration is insufficient. To avoid the loss of cumulative knowledge and to ensure the scalability of CCAM solutions, it is imperative to move beyond non-binding intent and establish a robust governance framework that mandates and incentivizes complete data sharing within the CCAM community.

007 KPI2: Regularly updated SRIA of the CCAM Partnership.

Baseline:

SRIA and CCAM Partnership established in 2021.

Target:

Regular updates of the CCAM SRIA.

Result:

Target reached.

Following the establishment of the CCAM Partnership and its Strategic Research and Innovation Agenda (SRIA) in 2021, a key priority has been to ensure its ongoing relevance and effectiveness as a long-term coordination framework for R&I and large-scale testing activities.

Significant progress has been made in meeting this objective (see Figure 2-33). The SRIA has been comprehensively updated in 2023 to incorporate recent advancements and evolving needs within the field of CCAM. The updated SRIA received formal approval from the CCAM General Assembly on December 13, 2023, and subsequent endorsement by the Partnership Board on the same day, demonstrating strong consensus and commitment to its direction. While considered final unless major breakthroughs necessitate further adjustments, this regular update process ensures the SRIA remains a dynamic and effective tool for guiding R&I efforts and fostering collaboration across the CCAM ecosystem.



Figure 2-33: Implementation timeline of the KPI ensuring regular updates of the SRIA.

To maintain this flow, monitoring results are systematically captured to feed back into SRIA priorities and future programming. Progress is measured using operational objectives, performance indicators, and deployment readiness criteria, which identifies which technologies, validation methods, societal approaches, or deployment concepts are progressing as expected and where gaps remain. Simultaneously, the Partnership evaluates technological advances, regulatory developments, market evolution, societal needs, and emerging risks to highlight areas requiring additional research or a change in emphasis. These insights are then translated into future R&I priorities. Specifically, inputs from project monitoring are used by the seven CCAM Clusters to formulate recommendations for future Horizon Europe call topics and additional partnership activities, ensuring that research investments remain aligned with emerging needs and deployment readiness.

2.4.1.3.8. 008

Improved synergies for public and private implementation plans to deploy CCAM solutions by 2027 (SRIA, p. 32).

008 KPI1: Involvement of regional and local authorities

Baseline:

0

Target:

50 regional and local authorities and their associations participating in at least one CCAM project.

Result:

Target not reached yet.

Progress towards improved synergies for public and private implementation plans to deploy CCAM solutions by 2027 is showing positive momentum, though the target of involving 50 regional and local authorities and their associations in CCAM projects has not yet been fully met. Starting from a baseline of zero in 2020, engagement has increased significantly (see Figure 2-34).

By 2023, 15 regional and local authorities were participating in initial CCAM projects, and this number has grown to approximately 40 by 2026. Analysis of the project portfolio reveals that 24 projects actively involve regional or local authorities, encompassing 28 local authorities and 12 regional authorities. These authorities, including cities like Vienna and Oslo, and regions like the West Midlands in the UK, represent broad geographical coverage across Europe and are contributing to CCAM planning, pilot programs, and policy development.

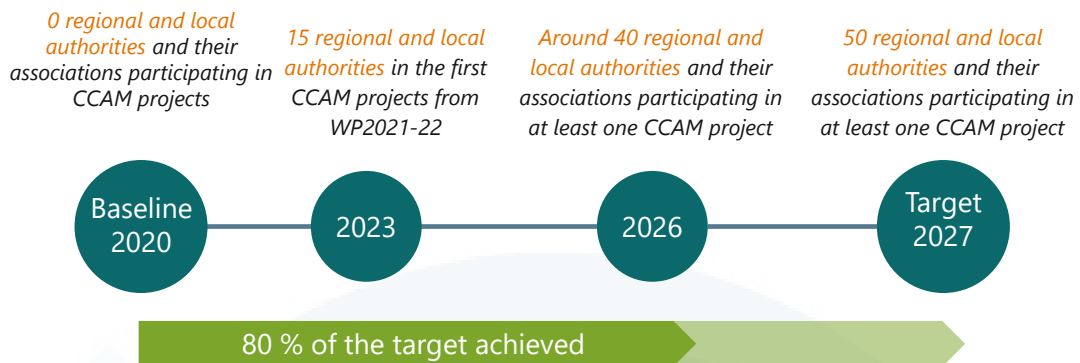


Figure 2-34: Progress towards the 2027 target that 50 regional and local authorities participate in at least one CCAM project

While this growth demonstrates increasing engagement, the current participation level also highlights an important deployment-readiness challenge for the CCAM ecosystem. Regional and local authorities, as well as road authorities, are not only stakeholders in CCAM projects but will ultimately act as key implementers, operators, regulators, and owners of the infrastructure and public assets required for large-scale deployment. Their early and systematic involvement is therefore essential to ensure that technological developments are aligned with operational realities, regulatory requirements, infrastructure planning, public acceptance considerations, and long-term maintenance needs.

The fact that a substantial share of projects still does not involve regional or local authorities suggests that opportunities remain to strengthen co-creation and deployment planning from the earliest project stages. Increasing public authority participation would support a smoother transition from research and demonstration activities towards large-scale implementation and help reduce barriers to future market uptake across European regions and cities.

However, with 14 projects reporting no participation from regional or local authorities, the current level of engagement falls short of the 2027 target. To bridge this gap and accelerate the involvement of public authorities, the CCAM Partnership has launched several strategic initiatives. This includes a dedicated Call for Expression of Interest for cities and regions to collaborate with the CCAM Partnership Association, designed to broaden the network of participating local entities (see: <https://www.ccam.eu/call-for-expression-of-interest-for-cities-regions-to-collaborate-with-ccam-partnership-association/>). Furthermore, significant work is ongoing in collaboration with POLIS and the CCAMBassador initiative to develop a CCAM Urban Deployment Roadmap. Through a series of workshops, these efforts are focused on translating a shared vision into concrete building blocks for real-world implementation, ensuring that regional and local authorities are central to the deployment process (see: <https://www.ccam.eu/ccam-association-first-in-a-series-of-workshops-with-polis-towards-the-ccam-urban-deployment-roadmap/> - <https://www.ccam.eu/ccam-urban-deployment-roadmap-workshop-2-from-vision-to-building-blocks/>). These continued efforts are essential to fully achieve the desired synergy between public and private sectors in the deployment of CCAM solutions.

2.4.1.3.9. 009

A common evaluation framework fostering exchange and reuse of R&I results by 2024 (SRIA, p. 32).

009 KPI1: Common evaluation methodologies (CEM) implemented and building up a common evidence base using CEM for CCAM demonstration activities.

Baseline:	Target:	Result:
CEM ready for implementation by 2024.	N / A	Target reached.

The objective of establishing a common evaluation framework to foster exchange and reuse of R&I results by 2024 has been successfully achieved. The European Common Evaluation Methodology (EU-CEM) for CCAM was published in 2025, meeting the target of having a CEM ready for implementation.

The EU-CEM serves as a comprehensive guide for professionals involved in evaluating CCAM projects, emphasizing robust evaluation planning from the proposal stage to maximize societal benefits. Structured around project phases – proposal writing, initiation, and completion – the methodology offers guidelines and best practices for various evaluation activities. While acknowledging the importance of professional expertise, the EU-CEM provides a standardized framework for assessing CCAM initiatives.

Further demonstrating its impact, the initial version of the EU-CEM has been cited by approximately 66% of ongoing projects as of 2026, indicating widespread adoption and utilization within the CCAM community. The methodology is designed to evolve over time, with the next update planned for 2028, ensuring continuous improvement and incorporation of new learnings. This widespread implementation confirms that a common evaluation framework is now in place, fostering exchange and reuse of R&I results as intended.

009 KPI2: Number of projects making reference to common evaluation methodology (CEM) in their methodology definition, also beyond European projects after finalisation of the CEM.

Baseline:	Target:	Result:
Good practices from the Knowledge Base on evaluation methodologies.	10 or more projects making reference to common evaluation methodology in their methodology definition, also beyond European projects by 2027.	Target reached.

A key driver for maximizing the impact of CCAM research and innovation is the adoption of a common evaluation framework. Building upon good practices identified within the CCAM Knowledge Base and the finalization of the CEM in 2024, efforts have been focused on increasing the number of projects incorporating the CEM into their methodology definitions.

The target of 10 or more projects referencing the CEM by 2027 has been successfully achieved. As of 2026, 66% of the analysed projects reference the CEM in their methodology definitions. This represents 150% achievement of the initial target and reflects a strong uptake of standardized evaluation practices within the CCAM community (see Figure 2-35).



Figure 2-35: Progress towards the 2027 target for referencing the CEM in project methodologies (left); Number of interviewed projects that stated referencing the CEM.

Specifically, the assessment of 38 current projects reveals that 26 projects stated to actively referencing the CEM in their methodology definitions. This represents a significant uptake and showcases the effectiveness of ongoing dissemination efforts. However, 11 projects indicated they do not currently utilize it. One newly initiated project is pending confirmation, due to the ongoing implementation phase and current non-use of CEM within their initial workplan.

This strong uptake of the CEM demonstrates a growing commitment to standardized evaluation practices within the CCAM community, facilitating comparability of results, enhancing the robustness of findings, and ultimately accelerating the development of solutions. For future impact assessment, it is crucial to focus not only on the number of projects referencing the CEM, but also on the extent to which it is consistently and rigorously applied in their methodologies. Incorporating a metric to assess the quality of CEM application, in addition to the number of projects referencing it, could ensure its impact on CCAM research and innovation.

2.4.1.3.10. 0010

Exploit new and emerging knowledge fields for large scale demonstrations in 2027 (SRIA, p. 32)

0010 KPI1: Number of projects developing and implementing new and emerging knowledge fields, such as cyber security, data sharing and AI, into CCAM solutions.

Baseline:

Mapping of knowledge fields of the Cosmos project in 1. Quarter 2022.

Target:

15 Horizon Europe projects addressing new and emerging knowledge fields like AI and cyber security in CCAM applications by 2027 (no baseline).

Result:

Target reached.

Based on the interviews undertaken, it became evident that most CCAM projects are active in a variety of new and emerging knowledge fields. This assessment builds upon the baseline established by the mapping of knowledge fields within the COSMOS project in Quarter 1 of 2022. The CCAM project portfolio demonstrates a growing and increasing strategic engagement with new and emerging technological fields. Building on the 12 HE CCAM projects active in these areas as reported in the 2023 [FAME](#) report, a significant 76% of projects (n = 29, as of 2026) are now actively pursuing innovation in fields such as (trustworthy) AI, cybersecurity, edge computing, and data sharing. This activity aligns with the cluster of emerging and strategic knowledge fields identified by the COSMOS initiative, particularly in AI & Data Analytics (encompassing applications like autonomous mobility and predictive maintenance) and Connectivity & Telecom (including 5G and V2X communication). This focus reflects a clear strategic direction towards digitalisation and advanced communication technologies crucial for connected and automated mobility.

The CCAM projects exhibit moderate coverage in areas vital for system integration, including Cyber-Physical & Embedded Systems (focused on reliability, safety, and performance), Smart Systems Integration (leveraging IoT and connectivity modules), and System-of-Systems Engineering (addressing integration across vehicles, infrastructure, and cloud platforms).

However, key areas for future development are apparent. Semiconductors & Nanoelectronics (including power electronics, sensors, and advanced chips) and Clean & Sustainable Technologies (focusing on electrification and energy efficiency) remain notably under-represented. This gap is strategically beyond the scope of thematic project coverage. Advanced semiconductor technologies and related hardware components constitute critical enabling technologies for CCAM systems, underpinning sensing, computing, communication, and vehicle control functions. Strengthening capabilities in these areas would contribute to Europe's broader competitiveness and technological sovereignty objectives by reducing dependencies on external suppliers and increasing the resilience of critical mobility value chains.

Similarly, greater integration of clean and sustainable technologies is essential to align CCAM innovation with the European Green Deal, the transition towards climate-neutral mobility, and increasing energy efficiency requirements. The convergence of automation, connectivity, electrification, and sustainable energy systems is expected to play a key role in delivering both environmental and economic benefits. Expanding project activity in these knowledge fields would therefore not only enhance the technological completeness of the CCAM ecosystem but also support Europe's strategic priorities related to industrial resilience, energy transition, and longterm global competitiveness.

This highlights gaps in hardware innovation and the integration of sustainability principles, crucial for long-term viability and environmental impact reduction. Expanding project activity in these knowledge fields would therefore not only enhance the technological completeness of the CCAM ecosystem but also support Europe's strategic priorities related to industrial resilience, energy transition, and long-term global competitiveness.

The coverage of CCAM projects across the COSMOS emerging knowledge fields is visually represented in Figure 2-36.

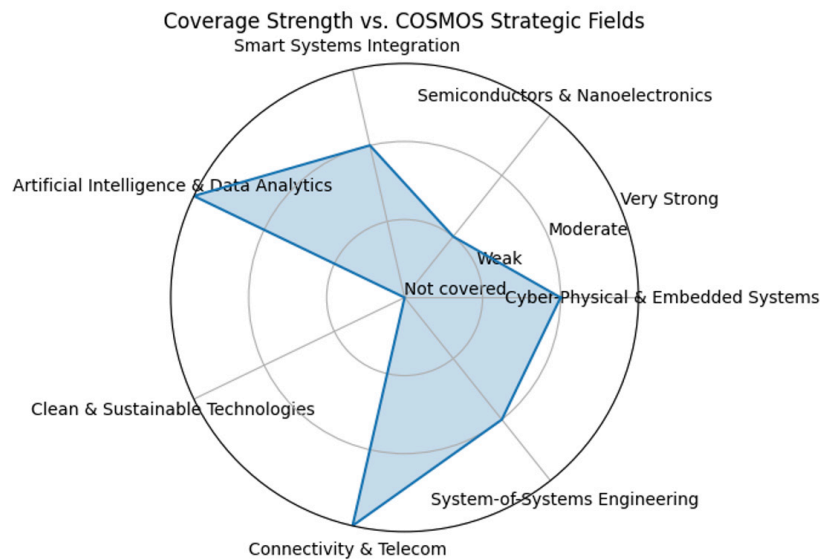


Figure 2-36: Spider graph that shows the coverage of CCAM projects across the COSMOS emerging knowledge fields

A complementary word cloud (Figure 2-37) further illustrates all referenced knowledge fields where word size reflects the frequency of mentions across projects.



Figure 2-37: New and emerging knowledge fields in which the surveyed projects are actively engaged (n = 29 CCAM projects)

With 29 projects currently active in new and emerging fields, the CCAM portfolio has already surpassed the target of 15 Horizon Europe projects addressing these areas by 2027. Overall, the CCAM projects are strongly software- and data-driven, with opportunities to strengthen hardware and green transition dimensions.

2.4.1.3.11. 0011

Expand and disseminate the knowledge base on CCAM solutions during the entire Partnership duration (SRIA, p. 32).

0011 KPI1: Number and regularity of updates of the CCAM Knowledge Base with projects and high qualitative content providing results and lessons learned

With 29 projects currently active in new and emerging fields, the CCAM portfolio has already surpassed the target of 15 Horizon Europe projects addressing these areas by 2027. Overall, the CCAM projects are strongly software- and data-driven, with opportunities to strengthen hardware and green transition dimensions.

Baseline:

Knowledge base in 2020 with 300 projects (covering projects as of 1996).

50% (all Eastern European countries, Portugal, Luxembourg, Ireland) of all the 26 European countries with projects are significantly under-represented in the Knowledge Base in 2021 with involvements in less than 8 projects. Eastern countries in particular are involved in average in 3 projects. With few exceptions (US and Japan), no project from outside EU is included in 2021. In 2021, the KB includes initiatives from EU, Norway, Switzerland and UK and very few initiatives involve US, Brazil, Canada, China, Japan, New Zealand, South Korea).

Target:

400 or more projects in total by 2030.

Increase the number of CCAM related projects from all Eastern European countries, Portugal, Luxembourg, Ireland and from non-European countries in the Knowledge Base by 2030.

Result:

Target reached.

The CCAM Knowledge Base (KB) serves as a central repository for connected and automated mobility research and innovation projects, facilitating knowledge sharing and collaboration. Since 2020, the KB has demonstrated significant growth and expansion, with an initial portfolio of 300 projects dating back to 1996, the KB has demonstrated significant growth and expansion. The KB currently lists 480 CCAM R&I projects (<https://www.connectedautomateddriving.eu/about/>), successfully reaching the target of 400+ projects by 2030 (see Figure 2-38). This represents a substantial increase in documented initiatives and a vital resource for the CAM community.

However, simply increasing the number of projects within the KB is insufficient to demonstrate its full value. Future assessments should move beyond quantifying project entries and focus on understanding how the KB is being used and its impact on the CCAM community. This could include investigating user demographics, frequency of access, the purposes for which the KB is consulted (e.g., project design, policy development, procurement decisions, deployment planning), and whether it demonstrably supports informed decision-making within these areas. Gathering this data will be crucial to fully evaluate the effectiveness of the KB as a key resource for accelerating CCAM innovation.

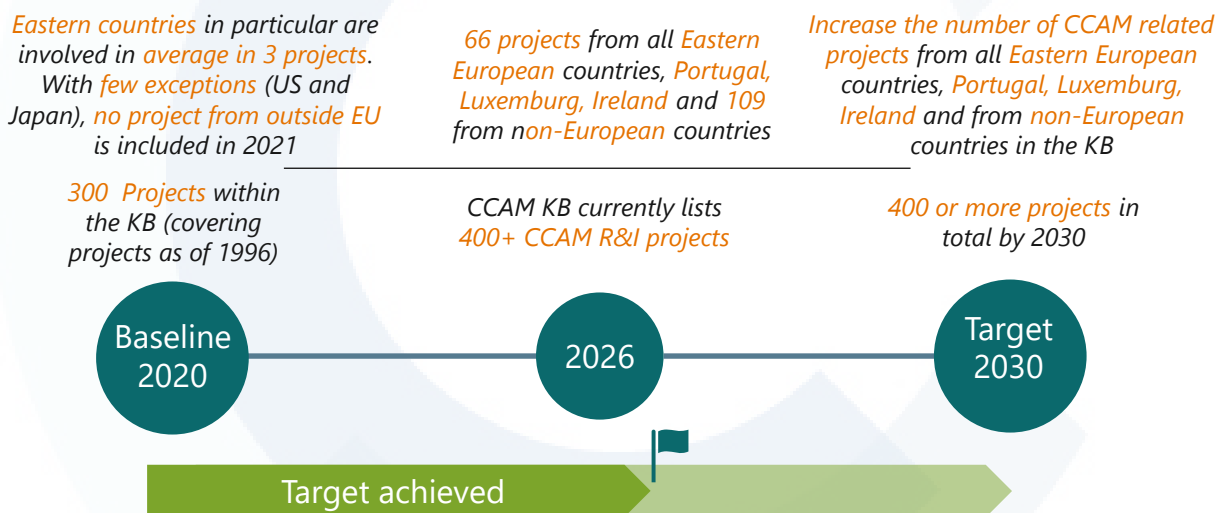


Figure 2-38: Progress towards the 2030 target to include 400 and more projects in the KB and the increase of countries that are under-represented within in the KB.

Addressing a previous imbalance in geographical representation, the KB has actively worked to broaden its scope beyond core European nations. In 2021, a significant under-representation was identified in Eastern European countries, Portugal, Luxembourg, and Ireland, with an average of only 3 projects per Eastern European nation documented. This target has been substantially met, with the KB now listing 66 projects involving initiatives from these regions, representing an average of approximately 19 projects per Eastern European country in 2026. Furthermore, efforts to include projects from non-European countries have yielded positive results, with 109 projects with listed test sites originating from outside the EU now included in the KB.

Detailed analysis reveals active participation from key non-EU nations including Norway (16 projects), Switzerland (20 projects), the UK (71 projects), and emerging involvement from countries like China (2 projects), Brazil (1 project), and Japan (1 project). While further expansion is continuously sought, the current composition of the KB demonstrates an improvement in global coverage and a commitment to fostering international collaboration in the field of connected and automated mobility. The results are based on the “Find a project” section of the KB website (<https://www.connectedautomateddriving.eu/projects/findproject/>) that provides detailed information of included projects.

2.4.2. Success stories

In response to the question about important achievements or success stories that demonstrate the impact of the various CCAM projects, a collection of exciting outcomes has been compiled and summarized. See also chapter 2.3.4 for a more general overview with less focus on possible follow-up opportunities for the future.

Regarding cooperation and the potential for implementation, **SUNRISE** signalled the interest of a European vehicle authority in applying the Safety Assurance Framework (SAF), indicating a promising direction.

The authority for road safety and the regulation of vehicles on the Dutch public roads has asked us to or proposed us to apply our framework by themselves. [...] They're an external entity, but they're so much interested in our framework that they offer to apply our framework to see how that works out for them and give us feedback on that. [...] It's a very interesting collaboration in which we apply our framework within one of our main target users.

Safety Validation & Standards: Several projects are building foundational resources for improved safety validation. **BERTHA**'s empirically grounded Driver Behaviour Model and opensource data hub, alongside **AWARE2ALL**'s extended scenario catalogues and annotated datasets, are contributing to a growing European data ecosystem. **CERTAIN**'s methodologies are poised to influence international standards impacting automated vehicle approval across 56 countries. **FAME** achieved significant progress by harmonizing testing regulations, garnering high visibility from EC DG GROW.

[...] I think this harmonization of testing regulations is for me really a success story. it went well because there was a high visibility and engagement from the member states and that's what I really, I was really surprised by the level of engagement of the member states that they really realized that it's important to do that and that they were really positive in working with us on that and then also I was really also quite positively surprised by the good work we did with the commissioners of the Joint Research Center [...]

Infrastructure Readiness: **Augmented CCAM** demonstrates the potential of physical and digital infrastructure to enhance vehicle capabilities, offering a scalable solution for evaluating smart road infrastructure. **PoDIUM**'s demonstration of reliable CCAM infrastructure provides reusable methods for city deployments and cross-border cooperation.

Data Sharing & Federated Platforms: **SYNERGIES** is establishing a federated scenario-based validation platform, designed to support upcoming Horizon Europe projects.

[...] think that it's reusing and continue developing this federated scenario based validation platform. [...] So I think that this is something that will ensure that the interoperability in helping these European companies to remain competitive on the market.

i4Driving's virtual validation framework and EVENTS' hybrid testing infrastructure further facilitates data sharing and accelerated development. FRODDO develops a federated digital twin platform for data visualization and network monitoring.

FRODDO will develop tools and methods [...] for accurate vehicle positioning, yeah? This will enhance the reliability of ODDs. This will increase also the competitiveness of CCAM solutions. Moreover, we'll develop a federated digital twin platform. This will enable data visualization, information flow, network monitoring. This will also improve further the effectiveness of CCAM services

Public Acceptance & Inclusive Design: RESKILLING and SINFONICA have focused on establishing co-creation frameworks, yielding replicable models for engaging diverse stakeholders in the design of inclusive CCAM solutions

Cross-border Operation: MODI is working towards a joint approval process between Nordic authorities for cross-border driving, potentially extending beyond the project's scope

[We are] getting the Norwegian and Swedish authorities to agree on a process for approving the permits for cross-border driving together. So we still need to get the official approval from both sides, but they will or have agreed to do that in kind of a joint process. So that is one thing that holds value, I think, not only in Europe, but at least the feedback from our stakeholder board group is that that is kind of a major achievement that is interesting also from the US perspective with driving across states and such.

Deployment Pathways & Competitive Advantage: Several projects contribute to CCAM's competitiveness. ROADVIEW develops innovative perception technologies for AVs in harsh weather. AI4CCAM and Althena advance AI research for automated driving.

So, I think that Althena can help towards the adoption of AI in the in the CCAM sector and this would really help the competitiveness of this sector in comparison to other regions, so I think that this is for me the more important contribution of the of the project

CONNECT provides a trust assessment framework impacting standards in 5GAA. MetaCCAZE tests autonomous vehicles and parking/charging technologies. SELFY develops cybersecurity solutions applicable to CAVs. CONDUCTOR's electrification initiatives in Madrid contribute to long-term decarbonization.

[...] think that it's reusing and continue developing this federated scenario based validation platform. [...] So I think that this is something that will ensure that the interoperability in helping these European companies to remain competitive on the market.

While these examples represent interim results or ambitious goals, a consistent message emerges regarding the potential for lasting impact and wider application. Projects are not only focused on technological innovation but also on establishing a robust foundation for sustained progress and scalability. The collaborative spirit within the CCAM Partnership is expected to amplify these long-term benefits, solidifying Europe's leadership in the field. Even projects in early stages, like HIDDEN, are laying the groundwork for future contributions.

3. WP2: Interaction with the FAME project

The CCAM project [FAME](#) has a central role within all European CCAM activities. The project provides support, stakeholder activities and a variety of thematic meetings and workshops. [FAME](#) also maintains the Knowledge base, a central space with taxonomy, tools and data space for CCAM.

1. Project Name
2. Start and end year of the project
3. Main contact person - full name
4. Main contact person - e-mail
5. Project website
6. Which tools are you using/developing in the project?
7. Do you have any plans/interests for international cooperation? Did you identify organisations to cooperate with? Did you start concrete cooperation activities and under which format (bilateral meetings, workshops, common activities like papers, MoU, ...)? Which topics is the cooperation addressing?
8. Please list the test sites of the project, indicating for each site:
 - ▶ location (name and coordinates)
 - ▶ type of testing environment (public road, corridor, cross-border, test track, simulator)
9. What are your expectations towards the interaction between
 - ▶ CCAM projects
 - ▶ your project and FAME (CSA supporting the CCAM Partnership)
 - ▶ your project and the CCAM Partnership?"
10. Contact person in the project for evaluation & impact assessment - full name & e-mail
11. Do you foresee a need for support in planning the evaluation methodology for your project?
12. Do you use/plan to use the European Common Evaluation Methodology for CCAM in your project? (EU-CEM Handbook, draft published in May 2024, final version by June 2025, see: <https://www.connectedautomateddriving.eu/methodology/common-evaluation-methodology/>)
13. Which of the 18 impact areas covered by the EU-CEM are in the scope of your project? [...]
14. Do you use/plan to use the Taxonomy for CCAM in your project? - (<https://taxonomy.connectedautomateddriving.eu/>)
15. Are you interested in providing input to the Taxonomy for CCAM?
16. Do you plan to make datasets available or use data from other projects?
17. Are you interested in using or exchanging data with the FAME federated data platform (CCAM Test Data Space developed by FAME)?
18. Contact person in your project to discuss data related aspects with?
19. Have you used the Knowledge Base so far (<https://www.connectedautomateddriving.eu/>)?
20. For which purposes did you use the Knowledge Base?
21. How can the Knowledge Base best support your planned work?
22. Do you agree that your project website will be "crawled" to relay news in the Knowledge Base News and Events page?
23. Do you agree to be consulted by FAME for providing feedback on the content produced by the project for the "EU Framework for testing [of CCAM] on public roads" and the Knowledge Base?
24. Which kind of support would you like to receive from the FAME project?
25. In which kind of engagement activities are you interested?
26. Would you be interested in a match making session/event to engage with other stakeholders?
27. Would you like to be invited to future events of FAME (workshops, dialogues, ...)?

Table 3-1: Additional questions by FAME as of 16th of October 2024

All additional questions have been merged with the main set of interview questions and can be found in the Appendix (see sections 8.2 for completeness and 8.3, items marked by “FGx” and “FDx”).

3.1. Feedback towards FAME, CCAM Project Partners and CCAM Partnership

The following sections provide summarized answers from the projects on questions regarding the expectations towards CCAM project partners, the CCAM Partnership and the FAME project. To ensure these findings lead to tangible improvements, the following sections translate these expectations into specific recommendations for FAME, the CCAM Partnership, and the participating projects.

The following sections refer to FAME question no. 9 and sub elements, as shown in Table 3-1. In the main interview questionnaire, these questions are referred to as Item 25-25b and tagged as FG4 (“FAME Generic 4”), see Appendix 8.3.

3.1.1. Expectations towards other CCAM projects (Interview Item 25, FG4)

CCAM projects universally express a strong desire for robust interaction, envisioning a connected community where collective strengths drive progress and accelerate innovation (see for a summary Figure 3-1). These expectations extend beyond simple information exchange, encompassing a comprehensive approach to collaboration, knowledge sharing, and synergistic development. To move beyond symbolic gestures and high-level interactions, projects should shift toward genuine collaboration between experts, prioritizing the active exchange of expertise and results in real-time to avoid redundant efforts.

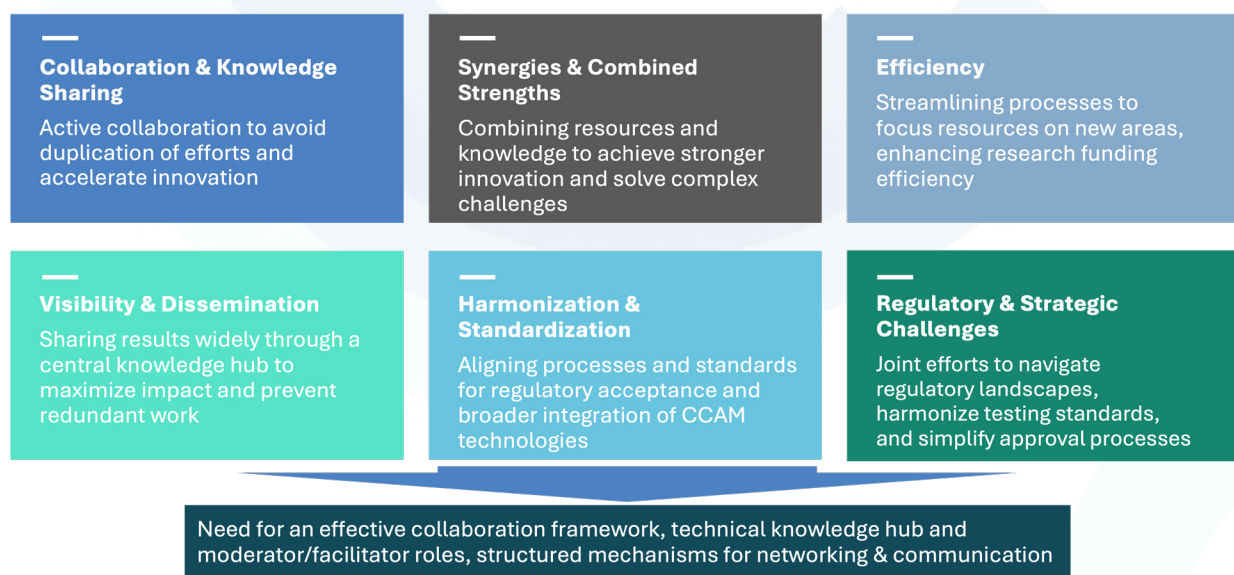


Figure 3-1: Summary of expectations regarding other CCAM projects (previously presented during a session in Brussels on March 05, 2026)

This requires a commitment from project partners to deepen engagement beyond sharing experiences at conferences and to actively integrate feedback from a broad range of stakeholders - including public authorities, research systems, users, and private companies - to enhance project outcomes.

To facilitate this, the CCAM organizations and the European Commission should establish structured collaboration mechanisms. This includes the funding and development of both formal structures - such as workshops, webinars, and working groups - and informal avenues like dedicated online platforms. Furthermore, the provision of a technical knowledge hub, a shared database, and a dedicated moderator or facilitator is recommended to streamline these efforts. Beyond technical support, joint efforts should be prioritized to address regulatory and strategic challenges, particularly in harmonizing testing standards and navigating complex approval processes, thereby maximizing the impact of research funding.

3.1.2. Expectations towards CCAM Partnership (Interview Item 25a, FG4)

The responses gathered from the project monitoring interview regarding expectations towards the CCAM Partnership reveal several key insights into stakeholder engagement, sharing responsibilities, visibility, learning opportunities, and areas for improvement. CCAM projects consistently express a strong desire for a dynamic and collaborative relationship with the CCAM Partnership (see Figure 3-2 for a summary).

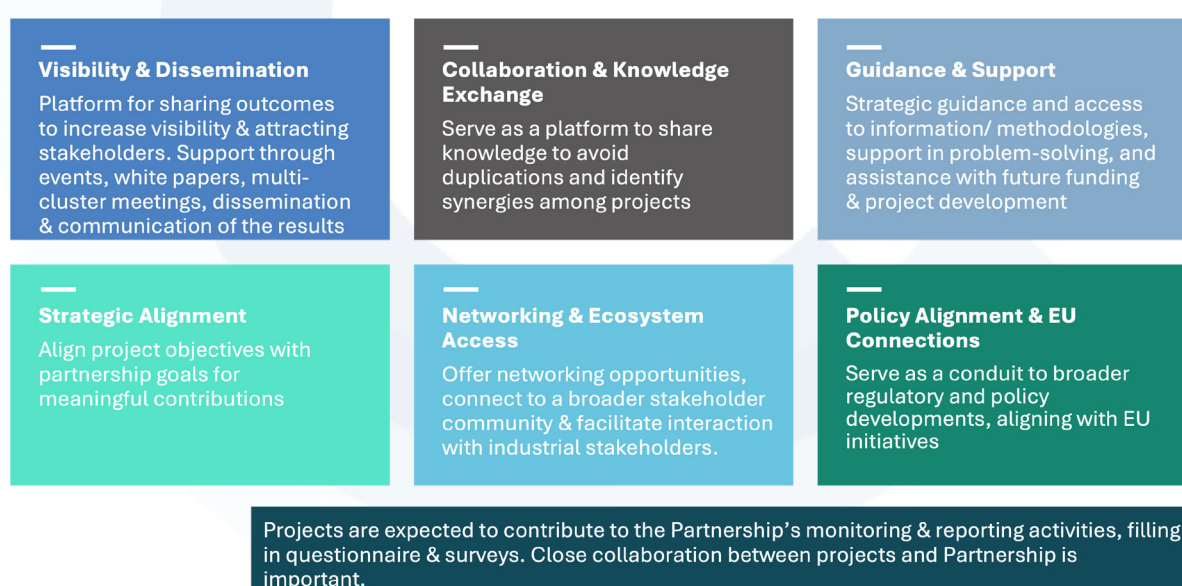


Figure 3-2: Summary of expectations towards CCAM partnership (previously presented during a session in Brussels on March 05, 2026)

The monitoring findings show that the CCAM Partnership already plays an important coordination role and has supported knowledge exchange, visibility and alignment across the CCAM project portfolio. Building on this existing role and the achievements to date, there is scope to further strengthen the Partnership's function as an active platform for structured knowledge exchange, cross-project learning and deployment-oriented coordination. This could help reduce fragmentation, improve the

uptake of common methods and tools, and support projects in moving from individual results towards broader implementation pathways.

Specifically, the Partnership can further enhance the visibility of project outcomes by providing a more robust platform for showcasing results and attracting stakeholders through events, publications, and multi-cluster meetings. While existing channels like the ‘Project in the Spotlight’ are positive, there is an opportunity to further develop a proactive and structured approach to collaboration, characterized by transparent expectations and dedicated mechanisms for ongoing dialogue. Additionally, the Partnership should continue to act as a catalyst for technical interaction by facilitating exchanges on specific overlaps – such as simulation and interoperability – and ensuring that projects have clear, timely access to the roadmap and KPIs to align their work with broader CCAM goals.

In return, CCAM projects are encouraged to adopt a more reciprocal relationship, actively offering their expertise, data, and deliverables to inform the Partnership’s agenda. By transforming the Partnership into a vibrant hub for shared knowledge and strategic alignment, the ecosystem can ensure that individual project successes are systematically translated into ecosystem-wide progress.

3.1.3. Expectations towards FAME (Interview Item 25b, FG4)

This section compiles responses from stakeholders regarding their expectations of the [FAME](#) project, which plays a central role in supporting CCAM initiatives alongside the CCAM Partnership. The feedback highlights [FAME](#)’s (the CSA supporting the CCAM Partnership) importance as a central hub for knowledge and data management across various projects (see Figure 3-3 for a comprehensive summary). To maximize its impact as a central hub for knowledge and data management, [FAME](#) should focus on three primary areas: visibility, collaboration, and evaluation.



Figure 3-3: Summary of expectations towards CSA like FAME (previously presented during a session in Brussels on March 05, 2026)

First, [FAME](#) should provide a comprehensive platform that not only showcases project results and datasets but also actively supports exploitation by introducing projects to relevant stakeholders. Second, [FAME](#) must act as a moderator and networker, facilitating deep-level technical interactions and establishing a shared knowledge base to prevent the duplication of effort. Third, [FAME](#) should ensure that its evaluation methodologies, such as the CEM and innovation radar, are robust and easily accessible, allowing

projects to accurately assess their impact. This role is further extended through the [CCAMBassador](#) project, which should be leveraged to bridge the gap between innovation and implementation, ensuring technical results are translated into operational services across EU Member States.

To support these objectives, projects should proactively contribute their datasets, tools, and methodologies to [FAME](#)'s registry. By fostering this reciprocal exchange, [FAME](#) can better serve as a catalyst that enhances the overall competitiveness and development of CCAM in Europe.

3.1.4. Feedback on FAME KB and CEM

There are mixed responses regarding the [FAME](#) Knowledge Base (KB) and Common Evaluation Methodology (CEM). The feedback indicates a gap between the provided resources and the practical needs of projects, suggesting that [FAME](#) must improve the timing, usability, and specificity of its outputs. Some respondents indicated that they were well-acquainted with either the KB and/or CEM but noted that these resources were not always applicable to their specific needs. Others mentioned that they found the timing of publication of the databases and guidelines too late for them to be useful. Additionally, a group expressed concerns that the content was not specific enough to meet their requirements.

Specifically, it is recommended that [FAME](#) optimize the timing of the publication of databases and guidelines to ensure they are available early enough to be useful for project planning. Furthermore, the content of the KB and CEM should be refined to be more specific and granular, moving away from generalities to meet the unique requirements of diverse project contexts. [FAME](#) should also develop these tools to be more adaptable, allowing projects to tailor the methodology to their specific circumstances without losing the benefit of a common framework. Addressing these challenges will ensure that [FAME](#) resources are viewed as practical assets rather than administrative requirements.

3.2. Analysis of Interview Findings Based on FAME Monitoring and Evaluation Questions

Following the data collection efforts outlined in the previous sections, this chapter presents an analysis of findings from the interview questions included in the [FAME](#) monitoring and evaluation process. It provides a summary of testing and demonstration activities across the CCAM Partnership and highlights the impact areas covered by individual projects.

3.2.1. Demonstrations and Test Sites (FG3)

This section summarizes the testing and demonstration activities undertaken across the CCAM Partnership, drawing on data from numerous projects. Out of 38 projects considered, 27 reported conducting testing and demonstration activities (see Figure 3-4). The focus is on providing a high-level overview of the scale, scope, and key outcomes of these efforts.

The partnership made use of a wide variety of testing environments, with a strong emphasis on real-world conditions. Public roads, both urban and interurban, represented the most common setting, complemented by test tracks, simulators such as urban traffic and driving simulators, and specialized facilities including motorway corridors and depots. Testing consistently followed a mixed-traffic approach, integrating automated and connected vehicles with conventional vehicles in order to assess interaction, safety, and system robustness in realistic conditions.

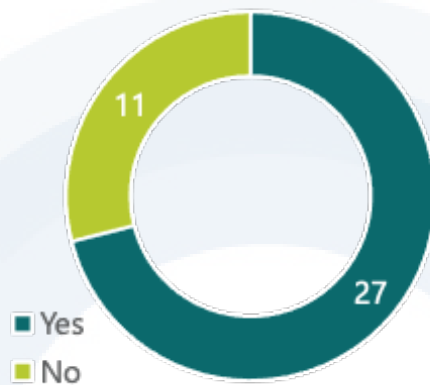


Figure 3-4: Number of projects that stated to be involved in active testing (N = 27).

Across these environments, projects collectively accumulated several thousand kilometres of testing, with a significant share focused on Levels 2 to 4 automation, covering functionalities from assisted driving to conditional automation. While simulation played an important role in development and validation, a substantial proportion of testing - estimated at approximately 115,000 kilometres - was conducted in real-world scenarios, generating valuable insights into system performance under complex and variable conditions. A significant budget was dedicated to testing and demonstration activities, with major investments directed toward pilot demonstrations, equipment, and personnel. Individual project budgets varied widely, ranging from around 10,000 euros to more than seven million euros, reflecting differences in project scale, technical complexity, and demonstration scope.

Testing activities were driven by a set of core objectives that included validating CCAM concepts in operational environments, enhancing safety for all road users including vulnerable road users and emergency vehicles, optimizing traffic management to improve efficiency and reduce congestion, assessing user acceptance and usability of technologies, and evaluating infrastructure readiness for broader deployment. These objectives translated into recurring themes across projects, such as the development and testing of perception and decisionmaking systems for object detection and safe navigation, the validation of connectivity and vehicle-to-everything communication, the exploration of automated fleet management and logistics solutions, and the assessment of human-machine interaction to ensure usability, comfort, and trust.

Testing was carried out across a wide range of locations, with prominent sites in Germany, Spain, France, Italy, and Greece, including both urban environments and dedicated testing corridors. The vehicle types involved reflected this diversity, ranging from passenger cars and buses to shuttles, trucks,

and delivery robots, with an increasing emphasis on electric and connected vehicle platforms. Overall, the ongoing testing and demonstration activities are generating valuable data and insights, contributing to the advancement of CCAM technologies and supporting the development of safer, more efficient, and sustainable transportation systems. The diverse range of testing environments, coupled with a rigorous approach to data collection and analysis, is enabling a comprehensive understanding of the challenges and opportunities associated with CCAM deployment.

3.2.2. Impact Areas (FG8)

An **impact area** covered by the EU-CEM handbook is defined as: “a field of study addressed under impact assessment activities” (EU-CEM Handbook, p. 19). The impact areas within CCAM projects can be systematically categorized into four main evaluation levels - vehicle, human, transport system, and society level - each addressing distinct aspects. Figure 3-5 visually represents these findings. In this graphical depiction, the size of each word corresponds to its frequency of mention by the surveyed projects - the larger the word, the more frequently it was cited.

The project monitoring interview responses reveal a diverse engagement with various impact areas. A notable emphasis is placed on **technical** aspects, which consistently emerge across multiple projects. This focus encompasses safety, trust, software development, and technical functionality, underscoring its pivotal role in the scope of these initiatives.

Driving behaviour is another prominent area, indicating efforts to understand or influence driving patterns for improved outcomes. Similarly, **user-centric** considerations are frequently highlighted, reflecting a strong emphasis on understanding user needs and experiences through validation processes.

People mobility is often discussed alongside **accessibility**, suggesting an effort to enhance movement for diverse populations, including vulnerable road users. This focus aligns with broader goals of inclusivity and equitable access within transportation systems.

Traffic safety stands out as a critical impact area, frequently linked with technical advancements and user behaviour modifications. Projects seem dedicated to enhancing safety through various interventions, highlighting its importance across different contexts.



Figure 3-5: Impact areas of surveyed projects (N = 38)

The themes of **equity** and **socio-economics** are also recurrent, pointing to initiatives aimed at fostering social inclusivity, economic activity, employment opportunities, and overall willingness to adopt new services or systems. These areas reflect a commitment to addressing broader societal impacts alongside technical advancements.

Sustainability is another key area of focus, with projects aiming to reduce traffic emissions and promote environmentally friendly practices. This concern aligns with global sustainability goals and reflects an ongoing effort to integrate ecological considerations into project outcomes.

Efforts to improve **traffic flow efficiency** are noted in contexts involving data collection and simulation applications, indicating a strategic approach to optimising traffic management systems.

While areas such as **quality of life, goods logistics, energy and environment**, and others like **liveability** and **economic activity** are also mentioned, they appear less frequently compared to the primary focus areas and in some cases explicitly excluded from discussions. Nonetheless, they contribute to a comprehensive understanding of how projects aim to address various facets of transportation and mobility. These variations show that, while these areas are not completely disregarded, they may not be central to the projects' current objectives or focus.

Overall, the responses reflect a project setting with a strong technical foundation, an emphasis on safety and user impact, and a commitment to inclusivity and socio-economic benefits.

Building on these observations, the distribution of impact areas shows a strong alignment with the overarching objectives defined in the CCAM SRIA (see 2.4.1). In particular, the high frequency of technical, user-related and safety-oriented aspects reflects a clear contribution to the CCAM priority of achieving safe, user-centred mobility systems. Similarly, the prominence of traffic flow efficiency, people mobility and service-related aspects supports the objective of improving the overall performance and efficiency of the transport system. Environmental and sustainability-related impacts are moderately represented, indicating that ecological benefits are often considered as co-benefits of optimisation rather than primary drivers. Conversely, aspects related to land use and liveability remain less visible, suggesting that longerterm systemic and urban transformation effects are not yet fully integrated into current project perspectives. Overall, the findings indicate a strong alignment with CCAM objectives on safety, inclusiveness and efficiency, while highlighting potential gaps in the consideration of spatial and long-term societal impacts.

4. WP3: Support of RTR Conference and other activities

4.1. RTR Conference

The RTR Conference in 2025 was highly praised for its exceptional organization and accessibility. Attendees appreciated the well-structured event, free access ensuring full participation, and the venue in Brussels, which enhanced the experience with excellent food arrangements. The conference excelled in fostering valuable discussions and networking among key CCAM stakeholders, unmatched by other events.

The event showcased a wide range of CCAM projects across Europe, emphasizing societal aspects like [SINFONICA](#)'s inclusive mobility solutions for vulnerable groups and [Cultural-Road](#)'s focus on regional equity. Technical innovations were highlighted through projects such as [SUNRISE](#) and [SYNERGIES](#), which advanced safety assurance frameworks and scenario databases for automated driving systems. Vehicle technology advancements from [OptiPEX](#) and [AutoTRUST](#) demonstrated AI-driven solutions to enhance passenger experience and trust in automated vehicles.

Despite these strengths, attendees noted that many presentations lacked novelty, with content feeling repetitive and lacking groundbreaking updates. This highlighted the need for future events to prioritize fresh insights and innovative results over general project overviews.

To improve future conferences, suggestions included using icebreaker questions to engage participants, maintaining reasonable participation fees if introduced, and adjusting the three-day format or incorporating poster sessions to manage the overwhelming schedule and diversify content. Incorporating poster sessions could provide a platform for less critical topics, allowing for more targeted and meaningful discussions. Poster sessions would not only diversify the types of content presented but also create additional networking opportunities as attendees interact around displayed work in a less formal setting than traditional talks.

The output of this work package for the RTR Conference of 2026 was a detailed project overview to support the moderators. They provided a comprehensive overview of CCAM projects, organized into clusters such as Societal Aspects, Vehicle Technologies, Validation, Integration into Transport Systems, and Coordination. Projects like [SINFONICA](#) emphasized inclusivity, while [SUNRISE](#) and [SYNERGIES](#) focused on safety validation and scenario-based testing. The [FAME](#) project highlighted efforts to harmonize CCAM testing methodologies across Europe.

Key milestones included the development of inclusive decision-making tools, pilot site establishments for testing, and frameworks for trust management in AI-driven systems. These initiatives underscored Europe's commitment to advancing sustainable, safe, and equitable mobility solutions through innovative research and collaboration.

4.2. Others

The CCAM Multi-Cluster meeting in October 2024 provided a first opportunity to introduce the project's monitoring activity and work to the CCAM members. First discussions and first interview arrangements could be performed. fka received a first insight into CCAM project content and was able to retrieve first project information for the KPI analysis.

Furthermore, fka supported the CCAM partnership in the optimization of the IKA reporting request 2025 by providing guidance on the formulation of the addressing contact mail based on the psychological expertise on conducting customer clinics and general questionnaire studies.

fka's support within this project also involved presenting the approach, steps and (interim) results of the CCAM partnership monitoring study on several occasions.

Pointing out the presentation in May 2025 at the EUCAD Conference in Ispra where initial findings from the CCAM Monitoring Study were shown. This covered an overview of the partnership's objectives – general, specific, and operational – and presented early analysis based on interviews with 30 projects and desktop research. fka highlighted emerging methodologies and early potential success stories, outlining the ongoing nature of the study with expected completion in Q2 2026.

The October 2025 presentation, delivered at the CCAM Multi-Cluster meeting in Brussels, provided a System-level Review of the CCAM Partnership. This built on the May findings, incorporating and extending data from interviews of 30 projects. The presentation detailed activity across key areas such as demonstrations, technologies, and societal impact, showcasing advancements in areas like testing regulations and cross-border testing. This presentation also identified gaps in research and suggested organizational improvements for the partnership.

Finally, the March 2026 presentation at the CCAM networking event (Information and Networking event on Work Programme 2026 topics) provided an update on the near-finalized CCAM Monitoring Study. With the upcoming Pre-LSDemo efforts in mind, this focused on the scale and scope of the partnership – partner locations, project sizes, and output metrics like deliverables and publications. The presentation reported on increased adoption of CCAM methods and the Common Evaluation Methodology, and identified key success factors observed across the projects, concluding the study confirmed alignment with strategic objectives and valuable knowledge exchange.

5. Project lessons learned (CCAM Partnership Monitoring Study)

In addition to insights from several CCAM projects, this monitoring study itself also generates notable lessons learned. In conducting research involving project representatives, several insights have emerged regarding data collection methods. This monitoring study employed a mixed-methods approach to gather comprehensive insights into the CCAM project portfolio. Initially, exploratory interviews were conducted with project representatives to gain a nuanced understanding of their experiences and challenges. These individual appointments proved highly effective in facilitating open dialogue and collecting detailed, contextual information, with representatives responding positively to the personalized approach. The personalized nature of these interactions likely contributed to the favourable response, as participants felt taken seriously and valued, fostering open communication and leading to more constructive feedback. In contrast, initial attempts at data collection using offline questionnaires revealed challenges, with respondents reporting stress and discomfort – feedback observed during the [FAME](#) questionnaire sessions and introductory meetings designed to mitigate this.

These contrasting experiences highlight key considerations for future monitoring tasks. While questionnaires provided a standardized, efficient means of collecting quantifiable data across all projects, interviews proved significantly more effective in gathering detailed, contextual information and facilitating open dialogue. Based on these observations, a mixed-methods approach is recommended for comprehensive monitoring, combining the depth of insight offered by interviews with the breadth and standardization of questionnaires. For future monitoring tasks, prioritizing interviews is advisable to ensure data quality and facilitate detailed understanding, while acknowledging the value of questionnaires for collecting statistical data and ensuring broad coverage. This combined approach, leveraging both qualitative and quantitative data, will provide a robust and up-to-date overview of the CCAM project landscape.

Furthermore, experience across the CCAM portfolio highlights the critical importance of strategic alignment and collaborative practices for project success. Projects benefit significantly from aligning with the SRIA, particularly when utilizing standardized methods, tools, and evaluation frameworks to ensure sustainability and impact. The CCAM ecosystem fosters valuable knowledge and data exchange between projects, demonstrating that sharing best practices and lessons learned avoids redundant effort and unlocks synergies. Effective communication and teamwork, facilitated by platforms enabling data interoperability, are also essential. The support provided by the CSA and CCAM Partnership – access to existing knowledge, data and methods – further amplifies these benefits. This reinforces the value of leveraging collective experience within the CCAM community to maximise project outcomes.

6. Conclusion

This monitoring study, undertaken on behalf of the CCAM Partnership, provides a comprehensive overview of the landscape of ongoing connected and automated mobility research and innovation projects within the Horizon Europe framework. Through detailed interviews, extensive data collection, and rigorous analysis, the study has been able to assess progress, identify key achievements, and highlight areas for continued development and refinement. The findings consistently demonstrate a vibrant and ambitious ecosystem, driven by a commitment to safety, sustainability, and user-centric design. Projects are actively pushing the boundaries of technology in areas like AI, cybersecurity, and data sharing, whilst simultaneously focusing on real-world implementation through testing, demonstration, and engagement with public authorities. However, the study also reveals critical structural gaps that must be addressed to move from isolated pilots to scalable deployment, specifically in the areas of freight and last-mile logistics, viable business models, hardware innovation, and the integration of green transition goals.

The monitoring study confirms a strong alignment between individual project objectives and the broader strategic goals outlined in the CCAM SRIA. The collaborative spirit within the community is evident, with many projects actively seeking synergies and sharing knowledge to accelerate progress. All projects are positive to enhance collaborative efforts in the future, particularly in fostering more systematic data exchange and creating truly interoperable solutions. The CCAM Partnership has the role to align upcoming projects and to ensure delivery of core results in a harmonised structure.

Looking forward, several key steps will be vital to sustaining the momentum and achieving the full potential of the CCAM Partnership. Firstly, continued prioritization of knowledge sharing and collaboration is essential. The Partnership should foster more technical-level interactions, such as auxiliary meetings attached to cluster meetings, to facilitate deep-level knowledge exchange. Secondly, to ensure the scalability of future results, the lessons learned from this study should be converted into practical requirements for future project calls. These should include: (i) mandatory data-sharing plans adhering to FAIR principles and standardized formats, (ii) required proactive engagement with public authorities and regulators from the project's inception, (iii) comprehensive evaluation designs that mandates both quantitative and qualitative metrics, with clearly defined KPIs for societal impact and user acceptance, (iv) mandatory early-stage engagement and co-design processes with regional and local authorities to ensure results are grounded in operational realities and (iv) clear strategies for postproject exploitation and commercialization pathways.

Additionally, the Partnership must prioritize the harmonization of cross-border regulatory environments to overcome the current stagnation in international testing.

The identified lessons learned and best practices will be disseminated throughout the CCAM community, fostering a continuous cycle of improvement and innovation. This monitoring effort represents not just a review of past achievements, but a foundation for shaping the future of connected and automated mobility in Europe, driving towards a safer, more sustainable, and more equitable transportation system for all. The momentum generated through collaborative research and innovation within the CCAM Partnership is considerable, and by embracing these concrete, actionable next steps, we can ensure that this momentum translates into lasting and scalable impact.

7. References

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CCAM Partnership, Strategic Research and Innovation Agenda (SRIA), European Leadership in safe and sustainable road transport through automation, 2023

8. Appendix

8.1. List of CCAM Partnership Key Performance Indicators

G01 KPI1:	Number of fatal and severe accidents by vehicles under test in CCAM projects.
G02 KPI1:	Traffic flow condition: ▶ Travel Time Index, or ▶ Congestion Variability Index, or ▶ Congested Road/kms, or ▶ Peak Hour traffic speed.
G03 KPI1:	Share of new CCAM vehicles based on European innovation in the fleet of new vehicles sold per year.
G03 KPI2:	TEN-T core network corridors' section providing CCAM services.
G03 KPI3:	Number of sites (e.g. cities) implementing CCAM services after successful demonstration by 2030 (resulting from actions under the CCAM partnership).
G04 KPI1:	Methods, tools and taxonomy used by CCAM developers and deployers in decision making.
G04 KPI2:	Number of CCAM projects participating in conferences and events.
S01 KPI1:	Methodology for safety validation of CCAM systems agreed by stakeholders along the CCAM value chain, authorities and certification bodies to set safety standards for highly automated vehicles operating on public roads.
S02 KPI1:	Number of incidents per 1.000.000 km driven on Large Scale Demo project sites and successfully addressing the causes of these incidents (including malfunctions e.g. false positive detections) from large scale demonstration projects.
S03 KPI1:	Impact of CCAM use on surrogate effects such as fleet composition (of CAV), number of CAV occupants carried, number of CAV VKT (vehicle kilometres travelled), load factors for goods.
S03 KPI2:	Survey on acceptance.
S04 KPI1:	Active involvement of public and private members of CCAM Partnership.
S04 KPI2:	Number of cross-border projects.
S04 KPI3:	Involvement of MS.
001 KPI1:	Number of successfully demonstrated new functionalities for trustworthy interaction between road users, vehicles, infrastructure and services delivered by CCAM projects.

002 KPI1:	Number of large-scale demonstrations applying safety standards prepared by CCAM projects.
002 KPI2:	Availability of safety standards recommendations.
003 KPI1:	Application of methodologies and tools for the safety validation of CCAM, as developed in the CCAM Partnership.
004 KPI1:	Number of demonstration sites with explicit results on user orientation and mobility integration as well as explicit results on new freight and logistics concepts.
005 KPI1:	Number of projects targeting assessment of societal impacts.
005 KPI2:	Ex-post impact assessment at large-scale demonstrations.
006 KPI1:	Evolvment of public awareness and perceived benefits with the help of assessment reports of large-scale demos.
007 KPI1:	Number of projects making datasets available or use data from other projects. (e.g. linked through the Knowledge Base)
007 KPI2:	Regularly updated SRIA of the CCAM Partnership.
008 KPI1:	Involvement of regional and local authorities.
009 KPI1:	Common evaluation methodologies (CEM) implemented and building up a common evidence base using CEM for CCAM demonstration activities.
009 KPI2:	Number of projects making reference to common evaluation methodology in their methodology definition, also beyond European projects after finalisation of the CEM.
0010 KPI1:	Number of projects developing and implementing new and emerging knowledge fields, such as cyber security, data sharing and AI, into CCAM solutions.
0011 KPI1:	Number and regularity of updates of the CCAM Knowledge Base with projects and high qualitative content providing results and lessons learned.

8.2. Questions incorporated from the FAME project

Questionnaire to CCAM projects

1. Project Name
2. Start and end year of the project
3. Main contact person - full name
4. Main contact person - e-mail
5. Project website
6. Which tools are you using/developing in the project?
7. Do you have any plans/interests for international cooperation? Did you identify organisations to cooperate with? Did you start concrete cooperation activities and under which format (bilateral meetings, workshops, common activities like papers, MoU, ...)? Which topics is the cooperation addressing?
8. Please list the test sites of the project, indicating for each site:
 - ▶ location (name and coordinates)
 - ▶ type of testing environment (public road, corridor, cross-border, test track, simulator)
 - ▶ ...
9. What are your expectations towards the interaction between
 - ▶ CCAM projects
 - ▶ your project and [FAME](#) (CSA supporting the CCAM Partnership)
 - ▶ your project and the CCAM Partnership?"
10. Contact person in the project for evaluation & impact assessment - full name & e-mail
11. Do you foresee a need for support in planning the evaluation methodology for your project?
12. Do you use/plan to use the European Common Evaluation Methodology for CCAM in your project? (EU-CEM Handbook, draft published in May 2024, final version by June 2025, see: <https://www.connectedautomateddriving.eu/methodology/common-evaluation-methodology/>)
13. Which of the 18 impact areas covered by the EU-CEM are in the scope of your project?
 - ▶ Technical
 - ▶ Driving behaviour
 - ▶ User
 - ▶ People mobility
 - ▶ Quality of life
 - ▶ Services and operation
 - ▶ Goods logistics
 - ▶ Transport activity and fleet composition"
 - ▶ Traffic safety
 - ▶ Traffic flow efficiency
 - ▶ Energy and environment

- ▶ Liveability
 - ▶ Equity
 - ▶ Economic activity and employment
 - ▶ Socio-economics
 - ▶ Sustainability
14. Do you use/plan to use the Taxonomy for CCAM in your project? - (<https://taxonomy.connectedautomateddriving.eu/>)
 15. Are you interested in providing input to the Taxonomy for CCAM?
 16. Do you plan to make datasets available or use data from other projects?
 17. Are you interested in using or exchanging data with the **FAME** federated data platform (CCAM Test Data Space developed by **FAME**)?
 18. Contact person in your project to discuss data related aspects with?
 19. Have you used the Knowledge Base so far (<https://www.connectedautomateddriving.eu/>)?
 20. For which purposes did you use the Knowledge Base?
 21. How can the Knowledge Base best support your planned work?
 22. Do you agree that your project website will be “crawled” to relay news in the Knowledge Base News and Events page?
 23. Do you agree to be consulted by **FAME** for providing feedback on the content produced by the project for the “EU Framework for testing [of CCAM] on public roads” and the Knowledge Base?
 24. Which kind of support would you like to receive from the **FAME** project?
 25. In which kind of engagement activities are you interested?
 26. Would you be interested in a match making session/event to engage with other stakeholders?
 27. Would you like to be invited to future events of **FAME** (workshops, dialogues, ...)?

8.2.1. Generic questions (FAME Generic)

ID Question

FG1	Which tools are you using/developing in the project?
FG2	Do you have any plans/interests for international cooperation? Did you identify organisations to cooperate with? Did you start concrete cooperation activities and under which format (bilateral meetings, workshops, common activities like papers, MoU, ...)? Which topics is the cooperation addressing?
FG3	Please list the test sites of the project, indicating for each site: ▶ location (name and coordinates) ▶ type of testing environment (public road, corridor, cross-border, test track, simulator) ▶ - ..

FG4	What are your expectations towards the interaction between ▶ CCAM projects ▶ your project and FAME (CSA supporting the CCAM Partnership) ▶ your project and the CCAM Partnership?
FG5	Contact person in the project for evaluation & impact assessment - full name & e-mail
FG6	Do you foresee a need for support in planning the evaluation methodology for your project?
FG7	Do you use/plan to use the European Common Evaluation Methodology for CCAM in your project? (EU-CEM Handbook, draft published in May 2024, final version by June 2025, see: https://www.connectedautomateddriving.eu/methodology/common-evaluation-methodology/)
FG8	Which of the 18 impact areas covered by the EU-CEM are in the scope of your project? ▶ Technical ▶ Driving behaviour ▶ User ▶ People mobility ▶ Quality of life ▶ Services and operation ▶ Goods logistics ▶ Transport activity and fleet composition" ▶ Traffic safety ▶ Traffic flow efficiency ▶ Energy and environment ▶ Accessibility ▶ Land use ▶ Liveability ▶ Equity ▶ Economic activity and employment ▶ Socio-economics ▶ Sustainability
FG9	Do you use/plan to use the Taxonomy for CCAM in your project? - (https://taxonomy.connectedautomateddriving.eu/)
FG10	Are you interested in providing input to the Taxonomy for CCAM?
FG11	Do you plan to make datasets available or use data from other projects?
FG12	Are you interested in using or exchanging data with the FAME federated data platform (CCAM Test Data Space developed by FAME)?
FG13	Contact person in your project to discuss data related aspects with?
FG14	Have you used the Knowledge Base so far (https://www.connectedautomateddriving.eu/)?
FG15	For which purposes did you use the Knowledge Base?

FG16	How can the Knowledge Base best support your planned work?
FG17	Do you agree that your project website will be “crawled” to relay news in the Knowledge Base News and Events page?
FG18	Do you agree to be consulted by FAME for providing feedback on the content produced by the project for the ‘EU Framework for testing [of CCAM] on public roads’ and the Knowledge Base?
FG19	Which kind of support would you like to receive from the FAME project?
FG20	In which kind of engagement activities are you interested?
FG21	Would you be interested in a match making session/event to engage with other stakeholders?
FG22	Would you like to be invited to future events of FAME (workshops, dialogues, ...)?

8.2.2. Data-related questions (FAME Data)

ID	Question
FD1	Do you plan to make datasets available or use data from other projects?
FD2	Do you plan to organize sharing of data within your project?
FD3	If yes, can you provide a short description on how to exchange which type of data with whom?
FD4	Are you interested in using or exchanging data with the FAME federated data platform (CCAM Test Data Space, developed by FAME)?
FD5	Contact person in your project to discuss these data related aspects with?

8.3. Interview structure (Phase I)

Internal information for reference:

- ▶ General Objectives (GOx)
- ▶ Specific Objectives (SOx)
- ▶ Operational Objectives (OOx)
- ▶ **FAME** Generic (FGx)
- ▶ **FAME** Data (FDx)
- ▶ Other: (extra)

Question supplements (grey text) are for interview conduction purposes and not meant to be sent out to the interviewees in advance.

8.3.1. Short Introduction

Brief introduction of fka (interviewer)

fka is an Aachen, Germany-based engineering company with focus on research and advanced engineering. As a partner in the automotive industry, fka GmbH offers innovative solutions and engineering services. Understanding the vehicle as a complete physical, energetical and informational system, fka develops solutions relating to the key themes of energy efficiency, safety and driving pleasure - driving innovations.

Corresponding to its main areas of work, fka comprises ten departments: body, vehicle concepts

chassis, drivetrain, acoustics, electric/electronics, automated driving, thermal management, user experience as well as strategy & consulting. This wide range of competencies enables analysing and optimising the vehicle as a whole paying attention to the complex interactions between its individual subsystems. fka has long term experience in European activities especially with focus on vehicle automation.

About this interview

This interview is embedded in a CCAM partnership-initiated work to monitor quality and impact of ongoing CCAM project in the Horizon Europe framework and developed quality and impact case studies as well as the SRIA strategic roadmap. The main purpose of this monitoring is to understand the project outcomes, to build the state of the art and lessons learned and to promote the results of the CCAM Partnership's ongoing research projects. A key element to reach the goals is to collect information by means of this interview with all CCAM project coordinators. The CCAM partnership is obliged to report to the European Commission predefined KPIs on the status on a two-year basis. This interview supports the KPI data collection and the analysis of the SRIA objectives and is therefore mandatory for all CCAM projects.

The interview consists of around 30+ questions seeking detailed answers, which partly needs to be prepared in advanced and will be discussed in an interview style.

Each interview is planned to be conducted by one or more representatives from the project of interest, most likely the project coordinator, and two representatives from fka (to cover both, interview host and recording notes). CCAM partnership representatives may join during all interview sessions.

Questionnaires and instructions will be distributed in advance. Interviews will be conducted in accordance with the prepared questions but are not limited to these. Notes taken during the interviews will remain fka-internal until further post-processing.

8.3.2. Project monitoring

1	Please introduce your project briefly and summarise your progress and achievements.	extra
1a	What progress has been made so far in the project in relation to the schedule/project plan .	
1b	Are there any (foreseeable) delays now or in the future?	
1c	What types of results have been generated so far? (e.g. Demonstrators, Prototypes, Pilots).	

8.3.3. Impact area and project work

2	Which of the 18 impact areas covered by the EU <u>Common Evaluation Methodology</u> (CEM) are in the scope of your project? ▶ Technical ▶ Driving behaviour ▶ User ▶ People mobility ▶ Quality of life ▶ Services and operation ▶ Goods logistics ▶ Transport activity and fleet composition ▶ Traffic safety ▶ Traffic flow efficiency ▶ Energy and environment ▶ Accessibility ▶ Land use ▶ Liveability ▶ Equity ▶ Economic activity and employment ▶ Socio-economics ▶ Sustainability <i>EU-CEM Handbook, draft published in May 2024, final version by June 2025, see: https://www.connectedautomateddriving.eu/methodology/common-evaluation-methodology/</i>	FG8
3	Does your project include or target an impact assessment of societal impacts? ▶ If yes, have you set up the methodology to assess the societal impacts already at the beginning of the project? ▶ Please describe the applied/planned methodology to assess the social impact? ▶ How do/did you (intend to) use the outcomes of this impact assessment?	005

4 Is your project active in **new and emerging fields**? Corresponding examples are AI research and applications, cybersecurity, data privacy and data protection, edge computing, brain platform architectures, next-G/6G-communication, cross-domain collaboration, data sets and accessibility, processors and operation systems etc.

- ▶ **If yes**, which fields are being explored and implemented?
- ▶ **If yes**, is this done in a sustainable and reusable way so that there will be benefits from your efforts even after the project is finished?
- ▶ If possible, please elaborate on the exploitation of new and emerging knowledge fields for large scale demonstrations in 2027.
- ▶ **If no**, please explain.

8.3.4. Evaluation & Testing

5	In the scope of your project, did you do any testing of technology and/or test-driving demonstrations? If yes, please list the test sites of the project, indicating for each site: ▶ Location (name and coordinates) ▶ Type of testing environment (public road, corridor, cross-border, test track, simulator) ▶ Number of test vehicles/systems/repetitions ▶ Further details on tested/demonstrated systems	FG3
5a	If yes, did any accidents occur during testing of technology or test-driving demonstrations? <i>(A road traffic accident is any accident involving at least one road vehicle in motion on a public road or private road to which the public has right of access, resulting in at least one injured or killed person (United Nations, European Union and the International Transport Forum at the OECD, 2019). https://www.undrr.org/understanding-disaster-risk/terminology/hips/tl0052</i> ▶ If yes, please provide the number of accidents that occurred during testing or demonstration (absolute and relative to number of test runs, travel time and distance under test) ▶ Please report if any fatal or severe accident was caused by vehicles under test. Note: “severe accidents” can be defined with a MAIS (Maximum Abbreviated Injury Scale) score of 3 or more (MAIS3+). ▶ If yes, specify the (root) causes of this/these fatal or severe accidents(s)	G01 S02

5b	If yes, did any incidents (excludes “accidents” but includes malfunctions and false positive detections etc.) occur during testing of technology or test-driving demonstrations? ▶ If yes, please provide the number of incidents that occurred during testing or demonstration (absolute and relative to number of test runs, travel time and distance under test) ▶ If yes, specify the (root) causes of these incidents ▶ If yes, did you address the causes of these incidents and how?	FG3
5c	In any case: Were there any close calls or other relevant situations worth mentioning or with an impact to the outcome of your project?	
6	Did you already conduct or are you planning on any demonstrations ... ▶ focusing on user orientation and mobility integration ... ▶ or new freight and logistics concepts? If yes, please specify (e.g., number of test sites, type of CCAM solution, number of vehicles, use-cases, distance, ...).	004
7	Is your test site set up on one of the Trans-European Transport Network (TEN-T) corridors? ▶ If yes, please describe which corridors and which CCAM technology/service has been applied ▶ After your demonstration, did/will the site keep or implement some or all CCAM vehicles and/or services that you demonstrated? ▶ If yes, how many sites are concerned? ▶ If no, please elaborate on reasons for discontinuation If no, are/were you planning or considering doing so (in the future)?	G03
8	Does your project involve cross-border testing and/or demonstrations? ▶ If yes, please specify. ▶ If yes, does your demonstration include cross-border use cases and which ones? ▶ If no, are there any cross-border or similar relevant testing activities planned?	S04
9	Do you monitor the condition of traffic flow in simulations and/or during your test(s) and what do you conclude regarding efficiency and better use of infrastructure capacity? Provide data before and after the test. ▶ To do so, which index do you use? (Do you measure for e.g. travel time, congestion variability, congested roads/kms, peak hour traffic speed, etc.?) ▶ If other, which one? ▶ If no, do you see chances to do so in the future? Please keep in mind that the monitoring, simulation and estimation of traffic flows provides huge benefits to research and the communities.	G02

10	Did you investigate, develop, test and/or demonstrate features or functionalities applying any/new safety standards developed within the CCAM context? ▶ Did your demonstration(s) apply safety standards prepared by [CCAM projects that are developing recommendations]? [from 2026 onwards + Add reference/details] ▶ Does your work feed into any large-scale demonstration in the future?	002
11	Do you see any gaps in terms of available existing safety standards for auto- mated mobility on public roads? ▶ (If yes,) Do you have any remarks or (additional) recommendations?	002
12	How would you describe the involvement and interactions of regional and local authorities in your project? How would you describe the involvement and support of members state authorities?	008
13	From your perspective, do you see any active or improved involvement of public authorities, private companies, members and/or Member States in CCAM activities? (e.g., R&I actions, large-scale testing and implementation plans in Europe)	S04 008

8.3.5. Acceptance & Trust

14	How did you assess and assure the safety and security of CCAM systems and technologies, as well as in terms of robustness and resilience?	S01
14a	What are the outcomes and lessons learned (in process and in the results)?	S01
14b	Did you investigate, develop, test and/or demonstrate any/new methodologies and tools for safety validation developed within the CCAM context?	S01
14c	Was your methodology or process aligned with or incorporated by CCAM members and stakeholders? [e.g. safety validation of CCAM systems as defined in SUNRISE project (scenario database, simulation, proving ground)]	003
15	Did you assess and assure the public acceptance, awareness of, and willingness to use CCAM services (e.g. shuttles, delivery robots) and vehicles? ▶ If yes, how was this addressed and what are the outcomes (i.e., the perceived benefits)? ▶ If no, are you planning on any kind of impact assessment?	006
16	Did you assess and assure the acceptance and adoption of CCAM solutions in terms of beneficial effects on fleet composition, traffic performance etc.? ▶ If yes, how was this addressed? ▶ If no, are you planning on any kind of impact assessment?	S03

16a	Do you plan or did you conduct a survey on acceptance , awareness of, and willingness to use CCAM services (e.g. shuttles, delivery robots) and vehicles? ▶ If yes, what is the outcome of this survey? Please also provide a link to the survey	S03
17	Did you investigate, develop, test and/or demonstrate new functionalities for trustworthy interaction between traffic participants? ▶ In terms of interaction between CCAM systems and humans? ▶ Internally, e.g., vehicle to driver/occupants? ▶ Externally, e.g., vehicle to other road users? ▶ In terms of interaction between vehicles, infrastructures and services? [see examples, such as BMW view confirmation of lane change or reliable infrastructure data delivered to vehicles] ▶ Were these functionalities successfully demonstrated in various traffic scenarios? ▶ If yes, please specify. ▶ If no, are there any plans to do so?	001

8.3.6. Methods, Tools & Data

18	Do you foresee a need for support in planning the evaluation methodology for your project?	FG6
19	Do you or are you planning to use pre-existing methods, tools or taxonomy (coming from a CCAM project or from the Partnership) in your project? ▶ If yes, which ones? [Reference to FAME taxonomy (December 2023), FAME tool inventory (to be ready by mid-2024?), pre-existing taxonomies, e.g. L3-Pilot (used by Hi-Drive), other taxonomies e.g. Sinfonica (soon), or national projects] ▶ If no, please describe the reasons for neglectation	G04
19a	Does your project reference to or build on the CEM , established by the CCAM Partnership, in the definition of your own methodology? Specify: Do you use/plan to use the EU-CEM for CCAM in your project?	009 FG7
19b	Are you planning on a continuation of application of the CEM after the project and or in a different scope/context?	009
20	Do you use/plan to use the Taxonomy for CCAM in your project? (https://taxonomy.connectedautomateddriving.eu/) Are you interested in providing input to the Taxonomy for CCAM?	FG9
21	Have you used the CCAM Knowledge Base (KB) by FAME so far? (https://www.connectedautomateddriving.eu/) Is your project exchanging information with the CCAM KB ?	FG14 0011

	▶ If yes, for which purposes did you use the Knowledge Base? ▶ As a contributor? (And for which purposes?) ▶ As a requestor? (And for which purposes?) ▶ If not, please explain.	FG15
21a	How can the KB best support your planned work?	FG16
21b	Do you agree to be consulted by FAME for providing feedback on the content produced by the project for the “EU Framework for testing [of CCAM] on public roads” and the Knowledge Base?	FG18
21c	Are there any cross-sectoral (from other modes of transport, other EU partnerships etc.) or international stakeholders involved in the project that could be included in the knowledge base managed by FAME ?	extra
21d	Which tools (in terms of the tool repository of the KB) are you using/developing in the project?	FG1
	Are there any tools developed that could be included in the FAME Tools Inventory?	extra
22	Do you plan to make datasets available or use data from other projects ?	007
	▶ If yes, to what extent? ▶ If no, please explain why this is not planned or possible?	FD1
22a	Do you plan to organise sharing of data within your project?	007
	If yes, can you provide a short description on how to exchange which type of data with whom?	FD2
22b	Are you interested in using or exchanging data with the FAME federated data platform (CCAM Test Data Space, developed by FAME)?	FD4
		FG12
23	Does your project feed into other projects ? (learnings, know how, methods etc.)	007
	If no , please why this does not apply?	
24	Can you provide the contact of the person in your project for evaluation & impact assessment (full name & e-mail)?	FG13
		FD5
	Can you provide the contact of the person in your project to discuss data-related aspects with?	FD6

8.3.7. CCAM Partnership

25	What are your expectations towards the interaction between CCAM projects ?	FG4
25a	What are your expectations towards the interaction between your project and the CCAM Partnership ?	FG4

25b	What are your expectations towards the interaction between your project and FAME (CSA supporting the CCAM Partnership)? ▶ Which kind of support would you like to receive from the FAME project? ▶ In which kind of engagement activities are you interested? ▶ Would you be interested in a match making session/event to engage with other stakeholders? ▶ Would you like to be invited to future events of FAME (workshops, dialogues, ...)?	FG4
25c	Are there any challenges or successes in stakeholder networking and involvement in the project that could be picked up by the FAME project or the future Cluster 7 Work Programme?	extra

8.3.8. Publication(s)

26	What publications have been and will be created by the project? Specifically, ...	G04
26a	How many public project reports (deliverables etc.) are scheduled within your project?	G04
26b	At which conferences and/or events are/will project results being presented (independent from project reporting)?	G04
26c	How many scientific papers or academic theses are scheduled emerging from your project?	G04
26d	Are or will the project contribute to any patents or standards ?	extra
26e	Where did you make a reference to pre-existing CCAM methods , tools and taxonomy in reports and conferences/publications?	G04

8.3.9. Summary and Outlook

27	What step in technology readiness level (TRL) has been or shall be achieved by the project? TRL specification (according to " <u>EU Technology readiness levels (TRL); Ex-tract from Part 19 - Commission Decision C(2014)4995</u> "): 1. Basic principles observed 2. Technology concept formulated 3. Experimental proof of concept 4. Technology validated in lab 5. Technology validated in relevant environment 6. Technology demonstrated in relevant environment 7. System prototype demonstration in operational environment 8. System complete and qualified 9. Actual system proven in operational environment	extra
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28	What plans are in place to ensure the sustainability of the project outcomes?	extra
29	Could you describe one or more key achievements or success stories that demonstrate the impact of this project? ▶ What specific challenges did you overcome in this achievement? ▶ Who were the primary beneficiaries or stakeholders impacted by this success? ▶ Can you describe any measurable outcomes (e.g., efficiency improvements, cost savings, or scientific breakthroughs)?	extra
29a	Could you briefly explain the background or context that led to this success? ▶ What initial goals or objectives did this success story aim to address? ▶ Were there any notable partnerships, collaborations, or innovations involved?	extra
29b	How did you measure the impact of this success? ▶ If possible, please share any data, metrics, or testimonials that highlight the significance of this success story. ▶ Are there any testimonials or quotes from beneficiaries that could illustrate this achievement?	extra
29c	What lessons did your team learn from this success that could be beneficial to others? ▶ Are there best practices you would recommend based on this experience? ▶ How has this success informed or shaped future work on this project?	extra
29d	Do you anticipate that the success described will have Long-Term benefits or applications beyond this project? ▶ How will this success story contribute to future projects or collaborations? ▶ Do you see any potential for scaling this success to other regions or sectors?	extra
30	What best practices and lessons learned can be derived from the project for the continuous improvement of the CCAM partnership?	extra
31	How would you describe the contribution of your project to CCAM and CCAM's overall goals in terms of ... ▶ Competitiveness ▶ Road safety ▶ Impact on environment ▶ Inclusiveness?	extra

Thank you!

8.4. Survey structure (Phase II)

8.4.1. Introduction

This survey is **embedded in a CCAM partnership-initiated work to monitor quality and impact of ongoing CCAM projects in the Horizon Europe framework** and developed quality and impact case studies as well as the SRIA strategic roadmap. The **main purpose of this monitoring is to understand the project outcomes, to build the state of the art and lessons learned and to promote the results of the CCAM Partnership's ongoing research projects.** A key element to reach these goals is to collect information by means of this survey with all CCAM project coordinators. The CCAM partnership is obliged to report to the European Commission predefined KPIs on the status on a two-year basis.

To **ensure the accuracy and relevance of the data, this process includes updating the information from the interviews conducted in the first half of 2025 with all CCAM project coordinators.** This current survey serves as an important supplement to the existing information from the interviews and is intended to provide new insights into the progress and success of the projects. **This survey and the interviews conducted serve to collect KPI data and analyse SRIA objectives and are therefore mandatory for all CCAM projects. By combining the survey with the insights gathered from the interviews, we aim to create a comprehensive overview of the current status of the projects,** ensuring that the reporting to the European Commission is both accurate and reflective of the latest developments.

The survey is expected to **take approximately 10 to 15 minutes and can be paused and saved at any time** during the process.

8.4.2. Project monitoring

1. Please state the **name of your project**:
2. Please state **your position or responsibility within the project** (e.g., project coordinator, technical lead):
3. What progress has been made so far in the project **in relation to the schedule / project plan**?
 - ▶ Progress according to schedule (**should**):
 - ▶ Current state of progress (**reality**):
4. Are there any (foreseeable) **delays** now or in the future?
*Please choose **only one** of the following:*
 - ▶ Yes
 - ▶ No

4a. (if 4 was yes)

Please specify **how much delay you expect or currently have (in months)**:

8.4.3. Evaluation & Testing

5. Does your project include or target an impact assessment of societal impacts?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

5a. (if 5 was yes)

Please describe briefly (if possible, **in a single sentence**) the **applied / planned methodology to assess the societal impact**.

5b. (if 5 was yes)

How do / did you (intend to) **use the outcomes of this impact assessment?**

8.4.4. Evaluation & Testing

6. In the scope of your project, did you do or are you planning to do **any testing of technology and / or test-driving demonstrations?**

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

6a. (if 6 was yes)

If applicable, please briefly provide further details in the fields below

- ▶ Location(s) of testing:
- ▶ Type(s) of testing environments in project (e.g., public road, TEN-T, Cross-border, test track, simulator or other):
- ▶ Duration of testing in project (overall in month):
- ▶ Vehicles (type and number):
- ▶ Distance driven total:
- ▶ Distance driven baseline:
- ▶ Distance driven in automated / test conditions:
- ▶ Driving mode (e.g., automated vs non automated driving):
- ▶ Budget (estimation):
- ▶ Objective of test / demonstration (e.g., user orientation and mobility integration, new freight and logistics concepts or other):
- ▶ Comment:

6b. (if 6 was yes)

Did any **accidents or incidents** occur during testing of technology or test-driving demonstrations?
Please choose **only one** of the following:

- ▶ Yes
- ▶ No

6c. (if 6b was yes)

Please provide the number of accidents or incidents that occurred during testing or demonstrations:

6d. (if 6b was yes)

Please specify **briefly the (root) cause** of these accidents or incidents:

6e. (if 6 was yes)

After your demonstration, did / will the test site (e.g. cities) keep or implement some or all CCAM vehicles and / or services that you demonstrated?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

6f. (if 6e was yes)

Please specify what will be kept or implemented and what test site:

7. Do / Will you **monitor the condition of traffic flow in research, simulations and / or during your test(s)?**

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

7a. (if 7 was yes)

Do you measure for example travel time, congestion variability, congested roads/km, peak hour traffic speed etc.?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

7b. (if 7a was yes)

What / Which index do you use? (e.g. travel time, congestion variability, peak hour traffic speed,...)

8. Are you working with regional and local authorities?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

8a. (if 8 was yes)

Which ones (please name)?

8b. (if 8 was yes)

How would you describe **the involvement and interactions of regional and local authorities** in your project (e.g., by providing access to testing sites, permits, or other support)?

8.4.5. Acceptance & Trust

9. Do you plan or did you conduct a **survey on acceptance, awareness of, and willingness to use CCAM services** (e.g. shuttles, delivery robots) and vehicles?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

9a. (if 8 was yes)

What kind of CCAM service? Please describe shortly:

9b. (if 8 was yes)

What is the outcome of this survey? Please describe shortly:

10. Did you develop, test, or **demonstrate any or new safety validation methods or tools** in the CCAM context?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

10a. (if 10 was yes)

What methodology, tools or process do you use for safety validation?

10b. (if 10 was yes)

Was **your methodology or process** aligned with or incorporated by **CCAM members and stakeholders**?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

11. Did / Will you investigate, develop, test and / or demonstrate features or functionalities applying any or new safety standards developed within the CCAM context?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

11a. *(if 11 was yes)*

Please specify which ones and how.

- ▶ Which safety standards:
- ▶ How (in which context):

12. Do you see any **gaps** in terms of available **existing safety standards** for automated mobility on public roads?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

12a. *(if 12 was yes)*

Do you have any remarks or (additional) recommendations? Please specify briefly.

13. Did you **create new or contribute to existing safety standards**?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

13a. *(if 13 was yes)*

Please list the safety standards you create(d) or contribute to:

8.4.6. Methods, Tools & Data

14. Do you (planning to) **use pre-existing methods, tools or taxonomies** (coming from a CCAM project or from the Partnership) in your project?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

14a. *(if 14 was yes)*

Please specify which methods, tools or taxonomies:

14b. *(if 14 was no)*

Please describe the reasons for neglectation:

15. Does your project **reference to or build on the CEM**, established by the CCAM Partnership, in the definition of your own methodology?

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

- 16.** Are you planning on a continuation of application of the **CEM after the project and or in a different scope or context?**

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

- 17.** Do you or do you plan to make **datasets available?**

Please choose **all** that apply:

- ▶ Yes, within the project
- ▶ Yes, outside the project / public
- ▶ No

- 17a.** (if 17 was Yes, within the project)

Please provide a short description on **how to exchange which type of data with whom** (within the project):

- 17b.** (if 17 was Yes, outside the project / public)

Please provide a short description on **how to exchange which type of data with whom** (outside the project / public)

- 18.** Do you (plan) to **use data from other projects?**

Please choose **only one** of the following:

- ▶ Yes
- ▶ No

- 18a.** (if 18 was yes)

What datasets do you use or plan to use, and what are their sources (e.g., from which projects do they originate)? Please list:

8.4.7. Publications

- 19.** How many **public project reports** (deliverables etc.) are scheduled within your project?
- 20.** At which **conferences or events** have/will project results be presented (outside of project reporting)?
- 21.** How many scientific **papers or academic theses** are scheduled emerging from your project?
- 22.** How many **references did you make to pre-existing CCAM methods, tools and taxonomy** in reports and conferences/publications?
- 23.** (optional) Please list the publications of your project:

8.4.8. Summary & Outlook

24. Could you shortly describe one or more key achievements or success stories that demonstrate the impact of this project? (This is a good chance to present your project and achievements among the European stage / audience)

(e.g., Which specific challenges did you overcome in this achievement?, Who were the primary beneficiaries or stakeholders impacted by this success?, Can you describe any measurable outcomes (e.g., efficiency improvements, cost savings, or scientific breakthroughs))

25. What lessons and best practices did your team learn from this success or your project in general that could be beneficial to others?

(e.g., Are there best practices you would recommend based on this experience?, How has this success informed or shaped future work on this project?)

26. Do you anticipate that the success described will have long-term benefits or applications beyond this project?

(e.g., How will this success story contribute to future projects or collaborations?, Do you see any potential for scaling this success to other regions or sectors?)

Thank you for your participation.

We appreciate the time and effort you have taken to complete this survey. The results will be used **in case of questions** regarding the survey or monitoring work of fka GmbH, please feel free to contact **[name] / e-mail.**

Next steps: The collected data will be aggregated and combined with insights from the interviews to create a comprehensive overview of the current status of the projects, ensuring accurate and reflective reporting to the European Commission on the latest developments.

Thank you once again for your valuable contribution.



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Join us on

