European Framework for coordination of CCAM R&I and Testing

Dr Stephane Dreher ERTICO – ITS Europe

SIP-adus Workshop 2022

11 October 2022
Kyoto, Japan

The need for an EU Coordination Framework

|	
Declaration of Amsterdam HLM GEAR 2030	• Need for a **coherent European framework** for the deployment of **interoperable connected and automated driving** • Need for increased coordination and exchange on lessons learnt during testing on subjects of public interest
CCAM Platform WG2	*"The desire for a **common evaluation methodology** stems from the **need to be able to compare evaluation results** from various tests and projects, allow for **complementing evaluations** and meta-analysis over multiple evaluation studies and assess impacts, also on the systems level, of deploying CCAM technologies and systems. **Several tried-and-tested methodologies are available** – new projects should know about these so **they do not have to start from scratch**"*
CCAM Partnership Specific Objective	• Long-term **coordination framework** for R&I and large-scale testing activities, involving all relevant public and private stakeholders from European, national and regional levels • Expand and disseminate the **knowledge base on CCAM** solutions, stakeholders, R&I programmes and projects, and testing activities

connected automated driving.eu

ARCADE
- Oct 2018 – July 2022
- 23 partners - 11 States
- 60+ associated partners

R&I Projects

Evaluation Methodologies
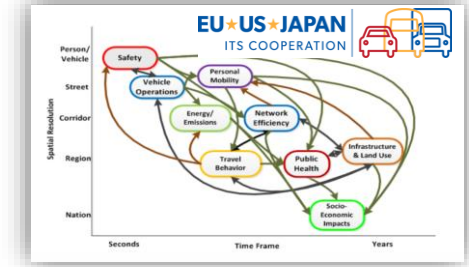
The "one-stop shop" for all CCAM related activities in Europe
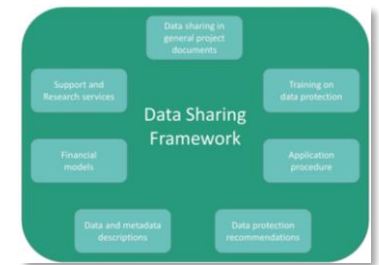
Policies & Regulations

Data Sharing Framework

connected automated driving.eu
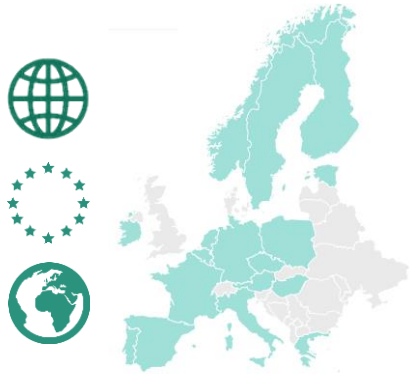
Strategies & Action Plans

News, Events, EUCAD

Standards

SIP-adus Workshop 2022 – EU Framework for CCAM Testing– Kyoto, 11 October 2022

Mapping the European CCAM Testing Landscape

~180 mapped sites from 58 projects

Pie chart:
- Public road 71%
- Test track 15%
- Corridor 6%
- Simulator 5%
- Cross-border 3%

Bar chart:
- Passenger car: 86
- Shuttle: 89
- Truck: 14
- Autonomous delivery robots: 3
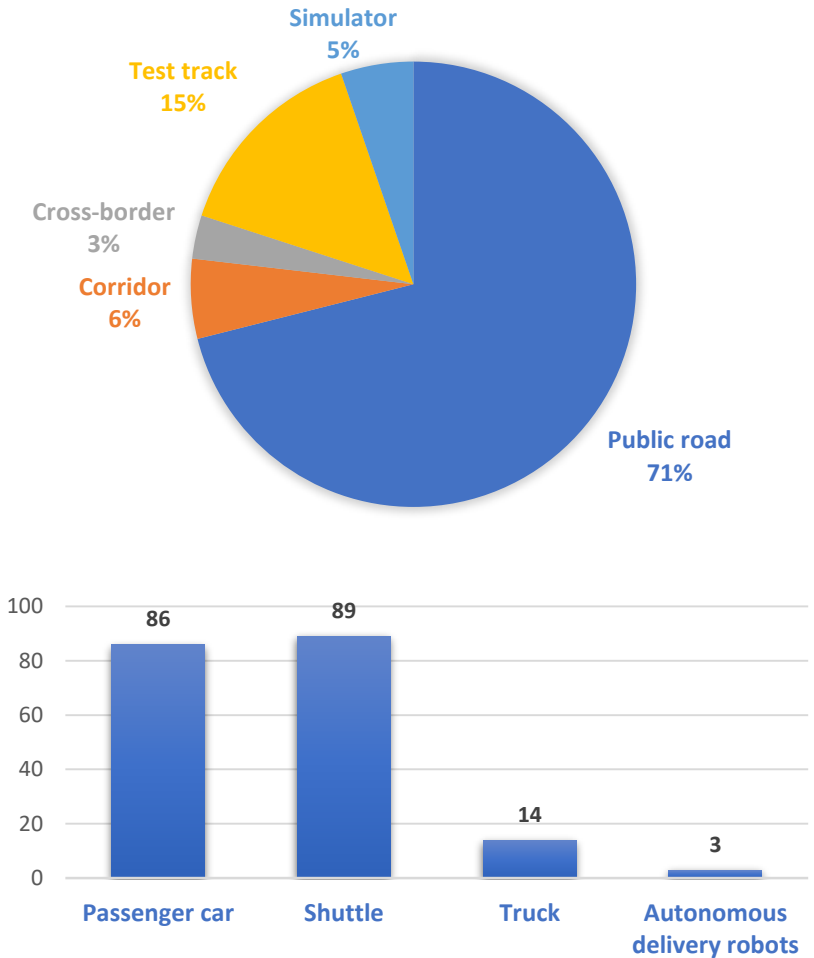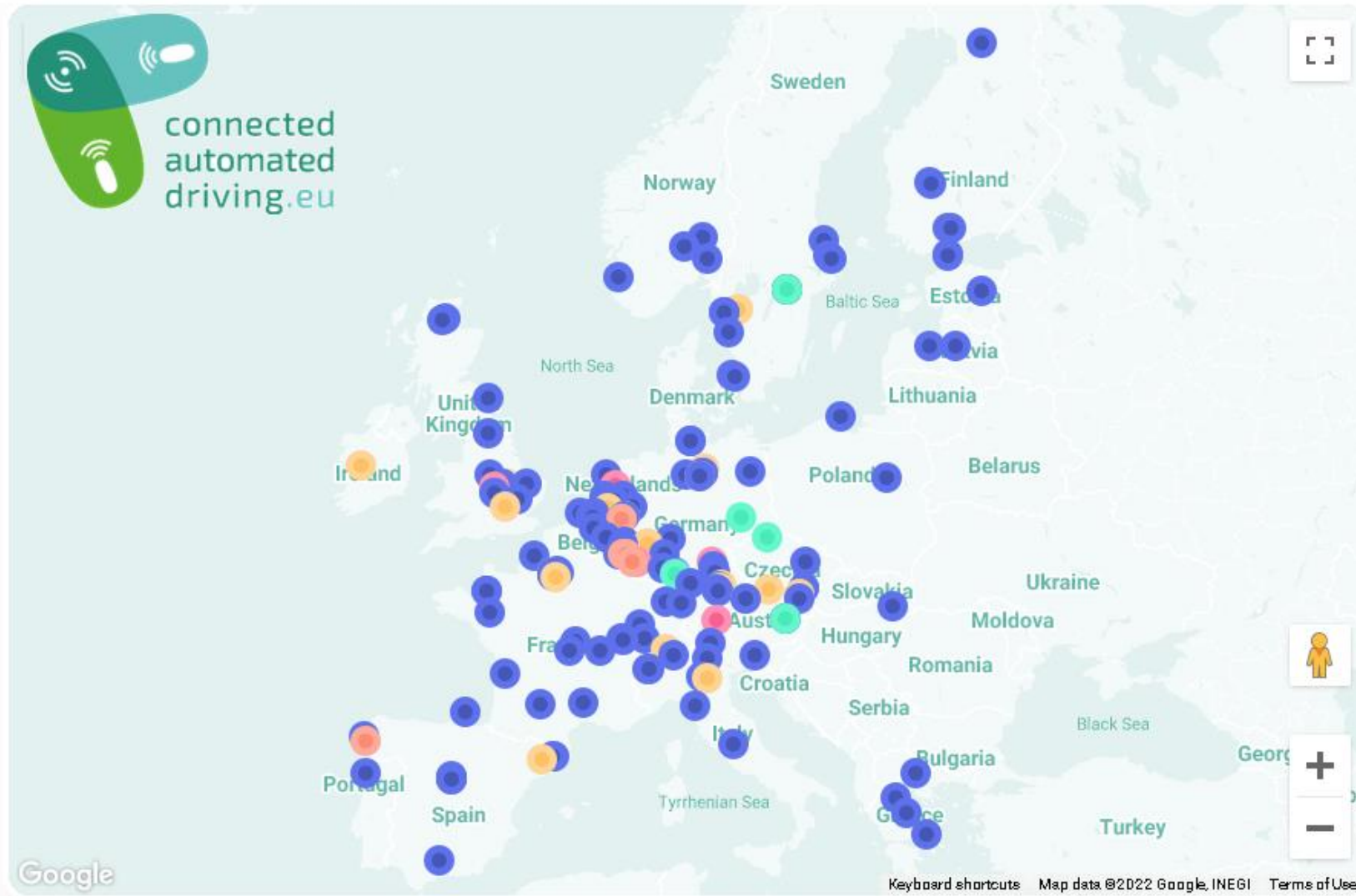
Map legend: Public road, Corridor, Cross-border, Test track, Simulator

Source: FAME Knowledge Base
Status September 2022

/ 4

SIP-adus Workshop 2022 – EU Framework for CCAM Testing– Kyoto, 11 October 2022

European CCAM Hot Spots

Legend:
- > 100
- 50 - 100
- 40 - 50
- 10 - 50
- 5 - 10
- < 5
- 0

- ● > 4
- ● 3
- ● 2

/ 5

connected
automated
driving.eu
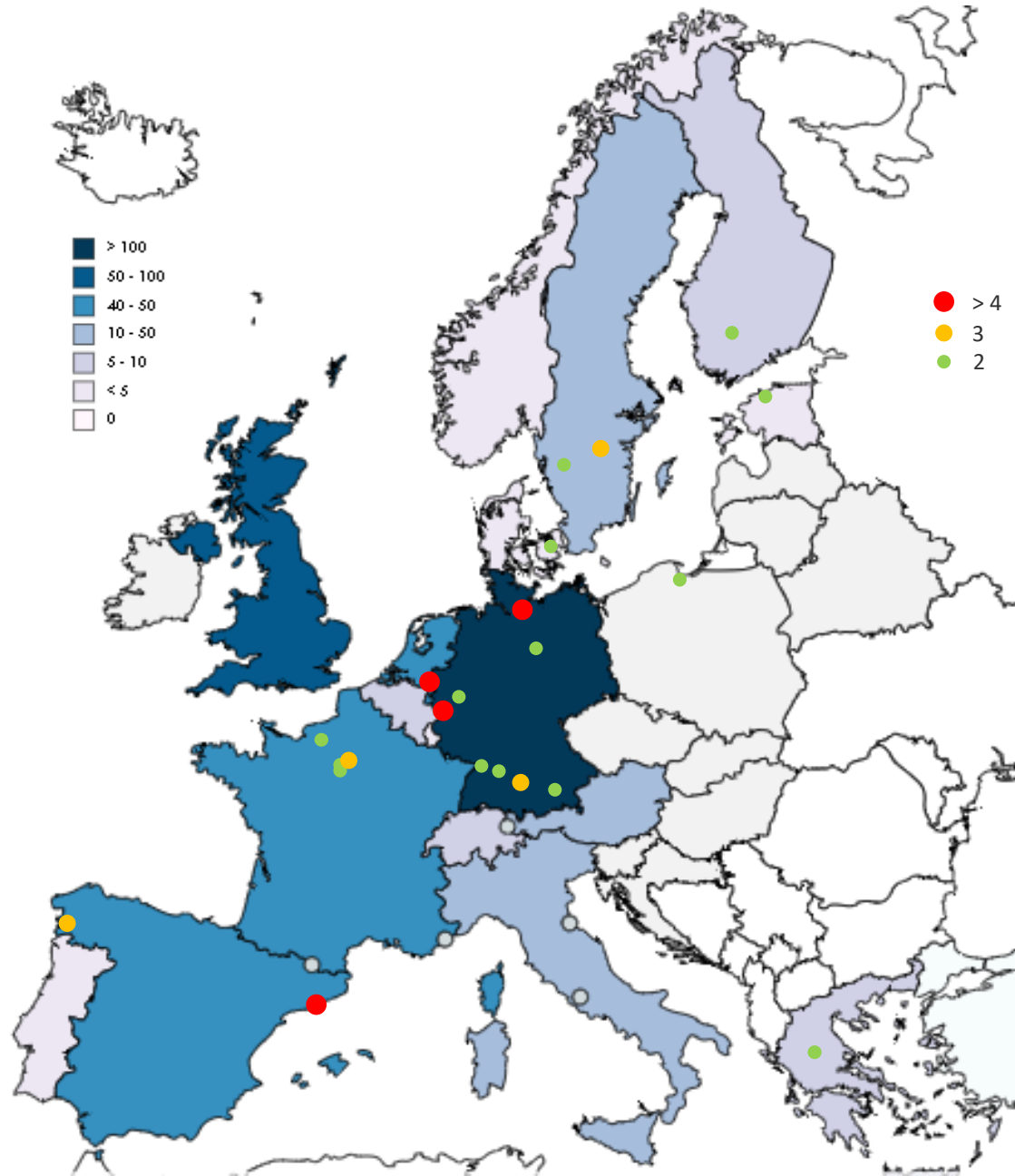
CCAM R&I Projects Analysis

Number of projects addressing CCAM Cluster topics

EU Horizon 2020

Member States

Legend: Ongoing (blue), Ended (orange)

X-axis categories: 1. Demonstrations, 2. Vehicle Technologies, 3. Validation, 4. Infrastructure, 5. KET, 6. Societal & User, 7. Coordination

Driving Environment

X-axis categories: Highway / Motorway, Urban, Rural / Suburban, Mixed Traffic, Intersection, Cross-border

Legend: EU Horizon 2020, Member States
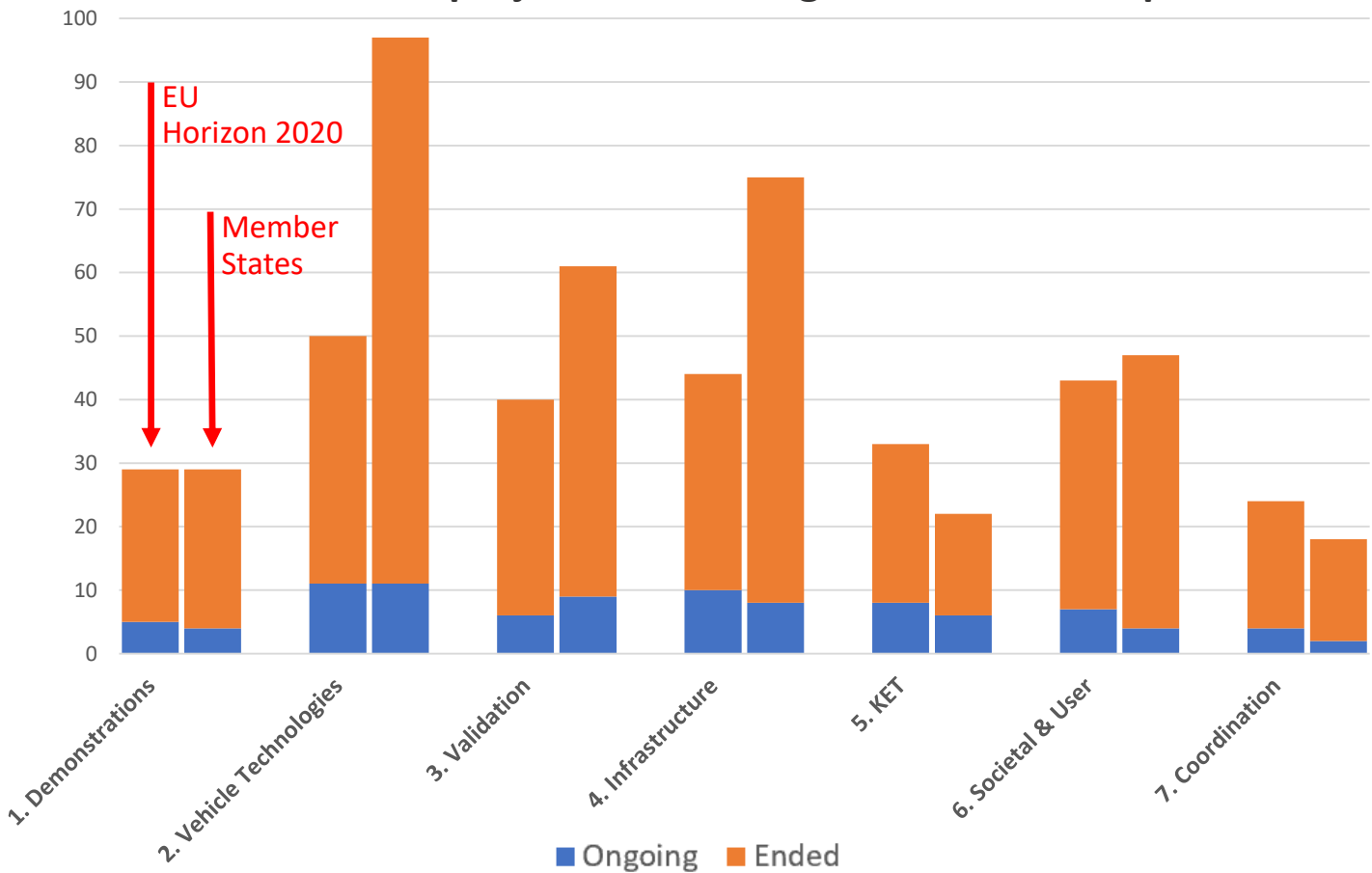
331 Projects as of 30 September 2022
158 from Member States

connected automated driving.eu
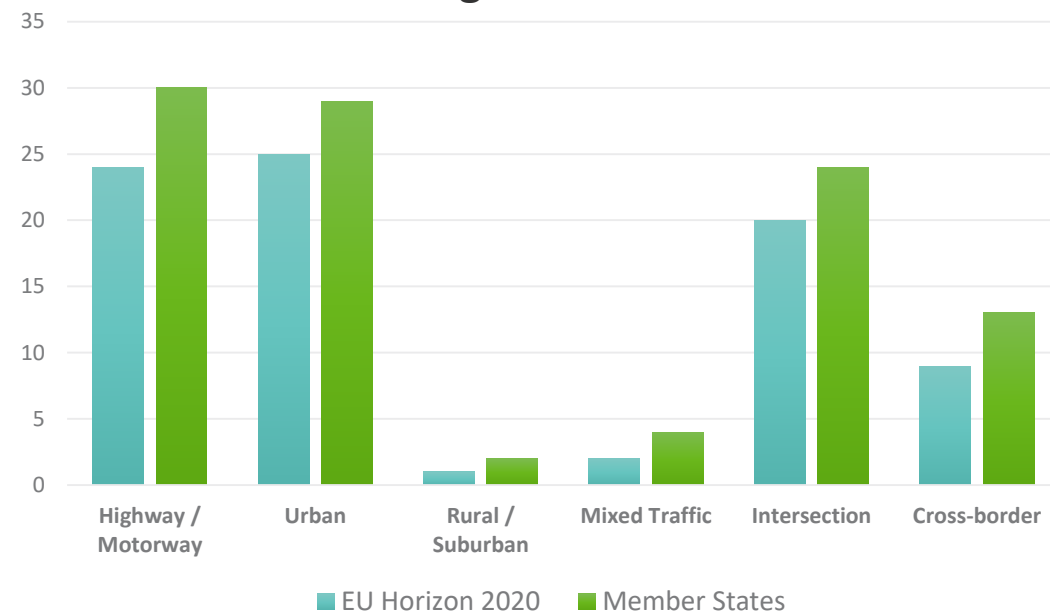
FAME
Framework for coordination of Automated Mobility in Europe

European Commission funded Coordination and Support Actions

VRA
2013 – 2016

CARTRE
2016 – 2018

ARCADE
October 2018 – July 2022
23 partners from 11 States
50+ associated partners
2000 subscribers

FAME
July 2022 – June 2025
23 partners from 12 States

connected automated driving.eu

THE FAME PROJECT IS FUNDED BY THE EUROPEAN UNION HORIZON EUROPE WORK PROGRAMME

SIP-adus Workshop 2022 – EU Framework for CCAM Testing– Kyoto, 11 October 2022

Challenges

Lack of common vocabulary and common evaluation methodology

Different national policy and legal frameworks

Insufficient test data sharing

Fragmentation of R&I and scattered knowledge

Lack of consensus and engagement in knowledge sharing

Objectives

Establish a **European framework for CCAM testing** activities on public road comprising taxonomy, the CEM, CCAM TDS and a legal & ethical framework

Develop a **common evaluation method (CEM)** that provides guidance on how to set up and carry out an evaluation or assessment of direct and indirect (wider socio-economic) impacts directed at different user groups.

Develop a **CCAM test data space (TDS)** to establish trusted data sharing between different types of stakeholders within the CCAM community.

Engage the stakeholder network of the CCAM partnership and enrich it by the broader European and international CCAM stakeholder community for the further development, alignment and exploitation of the content of the Knowledge Base and the development of a common methodology and testing framework

Enhance the **EU-wide Knowledge Base** with an efficient governance mechanism, ensuring continuous contribution from CCAM stakeholders to serve their needs and the CCAM partnership *(SRIA)*

connected automated driving.eu

FAME

EU CAD Conferences and Symposia

Stakeholder Workshops

Policy Dialogue

CCAM
STAKEHOLDER
COMMUNITY/
NETWORK

engage

capitalise

enable

R&I Project & Testing activities
Roadmaps & Strategies
Common Methodologies & Procedures
Standards & Glossary
Knowledge Summaries & Toolkits

Common Evaluation Methodology
Test and Data Exchange Framework

EUROPEAN FRAMEWORK
FOR TESTING ON PUBLIC ROADS
INCLUDING COMMON EVALUATION

EU-WIDE KNOWLEDGE BASE

https://www.connectedautomateddriving.eu/

SIP-adus Workshop 2022 – EU Framework for CCAM Testing– Kyoto, 11 October 2022

Building the EU Framework for Testing

Knowledge Base

R&I Projects	Regulations & Policies	Strategies & Action Plans	Data Sharing Framework	Evaluation Methodology for CCAM

Inventories, Methodologies, Frameworks

European Framework for Testing on public roads

Taxonomy

Harmonized conditions & regulation incl. mutual recognition	Ethics inventory, Ethical checklist & recommendations	Common annotation models, data formats	Common KPIs & guidelines for harmonised evaluation approached

Templates for documenting CCAM Testing activities

CCAM Test Data Space	Taxonomy tool

Support
- R&I Agenda
- Organisation & setup of pilots and demonstrations
- Moving into operations
- Member States alignment

Target groups
- CCAM Stakeholders
- Authorities, Cities
- Decision makers
- Citizens,...

connected automated driving.eu

Save the Date

3-4 May 2023

CONFERENCE
Connected and Automated Driving

Thank you

The Autonomous Spotlight Session – EU funded CCAM R&I in EU