



EU CAT Initiatives Coordination and Deployment Support

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European Commission Policy Initiatives

COORDINATION, CONNECTIVITY INFRASTRUCTURE AND ARTIFICIAL INTELLIGENCE

Coordination of R&I and Testing activities

- Declaration of Amsterdam, High Level Meetings, GEAR 2030
- Single EU-wide platform for CCAM

Deployment of connectivity infrastructure and services in support of AV

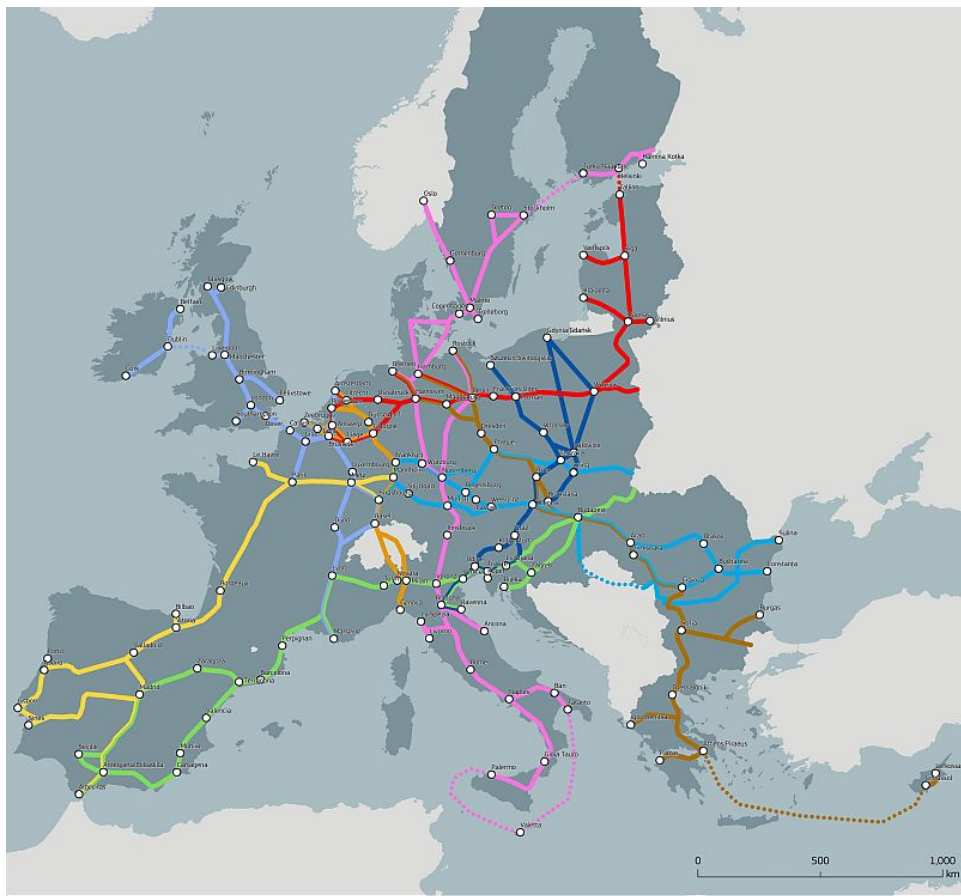
- 5G for Europe: An Action Plan, COM(2016) 588
- European C-ITS Strategy (C-ITT Platform, C-Roads
- A Space Strategy for Europe, COM(2016) 705

EU Strategy on AI & High-Level Expert Group on AI

- Ethics Guidelines for Trustworthy AI
- Policy and Investment recommendations for trustworthy AI
- A Definition of AI: Main Capabilities and Disciplines



Cross-border Corridors



Core Network Corridors

- A (Baltic - Adriatic)
- B (North Sea - Baltic)
- C (Mediterranean)
- D (Orient/East-Med)
- E (Scandinavian - Mediterranean)
- F (Rhine - Alpine)
- G (Atlantic)
- H (North Sea - Mediterranean)
- I (Rhine - Danube)

Enlighten 100, April 2014
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- Testing and pre-deployment
- Indicative 5G corridors for CEF funding



European
Commission

**5G Cross-border Corridors
for Connected and Automated Mobility**

Connectivity Projects



Deploys and tests ICT infrastructure for
Connected & Automated Road Transport

36 months (09/2018 – 08/2021),
10MEuro, 21 partners
4 Test sites (AT, DE, IT, X-Border)



IoT and Big Data enhancing the driving
environment perception and enabling
new mobility services

36 months (01/2017 – 12/2019),
25MEuro, 45 partners
6 Test sites (FI, FR, IT, NL, ES, SK)



Deploys 5G New Radio and Core Networks
with evolved road infrastructure for executing
CCAM Trials at Cross-Border corridors

36 months (11/2018 – 10/2021), 27MEuro,
21 partners
8 Trial sites (FI, FR, DE, NL, CH, SK, X-
Border GR-TU, ES-PT)



Assessing hybrid connectivity technologies.
Contributes to EU-wide interoperability and
continuity of services

Ensures compatibility with C-ITS services

30 months, 20MEuro, 26 partners
5 pilots (NL, BE, FR, GE, SP)

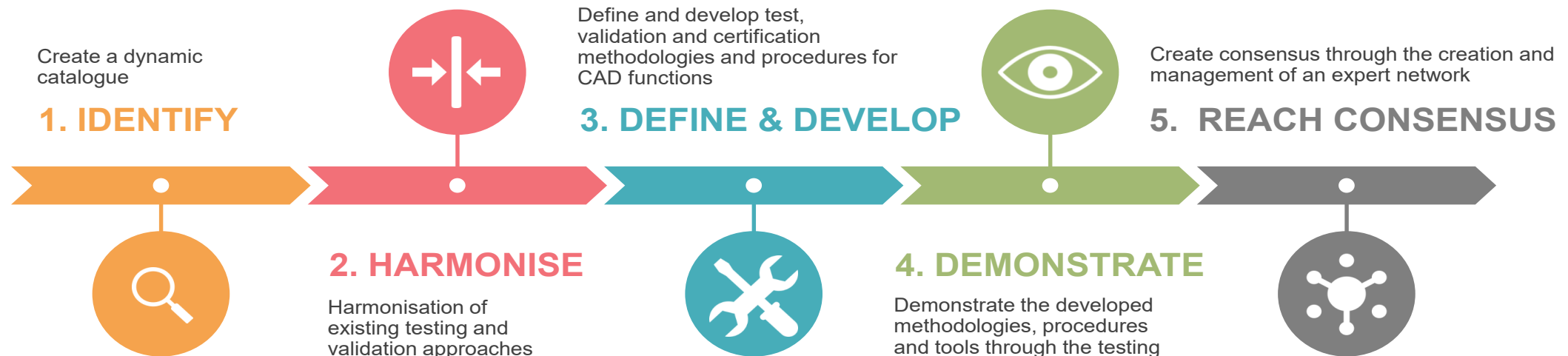
Project's Objectives

PROJECT FACTS

Duration: 01.2019 – 12.2021 (36 months)
Consortium: 17 partners, 9 Member States
Coordinator: Applus IDIADA, Mr. Álvaro Arrue
Website: <https://www.headstart-project.eu>

HEADSTART will define testing and validation procedures of CAD functions including:

- its key enabling technologies (i.e. communication, cyber-security, positioning)
- by cross-linking of all test instances such as simulation, proving ground and real world field tests
- to validate safety and security performance according to the needs of key user groups (technology developers, consumer testing and type approval)



Actions for the Coordination of CAD R&I and Testing

ARCADE COORDINATION AND SUPPORT ACTION



Main Results from the CARTRE CSA

Knowledge consolidation and situation analysis

- Position papers
- EU, national and international projects
- Contribution to EU R&I Roadmaps (ERTRAC CAD, STRIA ART)
- National Roadmaps analysis (> 50 roadmaps and action plans, > 80 Pilots)
- National Testing regulations & licence exemptions (19 EU countries)
- Situation in emerging markets (7 countries)

Methodologies and Guidelines

- FESTA Handbook Update (FESTA, FOT-Net, FOT-Net 2, FOT-Net Data, CARTRE)
- Data Exchange Framework
- Impact assessment framework and KPIs

R&I Projects Concertation

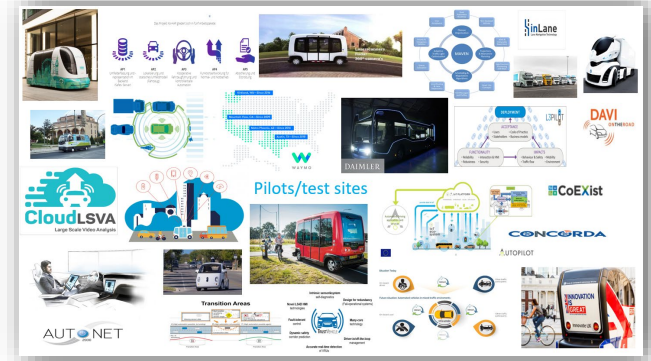
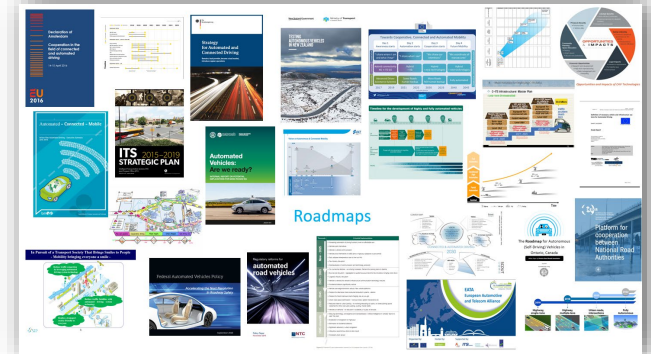
CAD PROJECTS BY THEMATIC AREA

	Technology & Vehicle				Systems & Services				Society & Users			
	In-vehicle enablers	Connectivity	Human Factors	Deployment	Infrastructure	Big Data, AI	New Mobility Services	Freight & Logistics	Safety Validation & Roadworthiness Testing	Policy & Regulatory Needs	User awareness, Ethics	Socio-economic assessment
5G-CROCO												
5G-MOBIX												
ADASTRA												
AUTOCITS												
AUTOMATE												
AUTOPILOT												
AVENUE												
CoEXist												
Dreams4Cars												
Drive Sweden												
Enable-S3												
ENSEMBLE												
FABULOUS												
HEADSTART												
ICT4CART												
INFRAMIX												
InterACT												
L3Pilot												
MANTRA (CEF?)												
MAVEN												
SmartwayZ.NL												
TransAID												
Transforming Transport												
TrustVehicle												
VI-DAS												

Roadmap and Action Plan Analysis

WHAT THEMES DO THE ROADMAPS AND PILOTS ADDRESS?

Normalised by category	Policy and regulatory needs, European harmonisation	Socio-economic assessment and sustainability	Safety validation and roadworthiness testing	User awareness, societal acceptance and ethics	Digital and physical infrastructure	In-vehicle technology enablers	Big data, AI and their applications	New shared and automated mobility services	Human factors	Connectivity
Roadmaps EU countries	63%	37%	63%	26%	37%	16%	37%	5%	11%	63%
Roadmaps non-EU countries	92%	38%	69%	31%	54%	31%	38%	31%	23%	46%
Roadmaps platforms	82%	55%	45%	45%	73%	55%	18%	27%	36%	27%
Roadmaps industry	44%	44%	44%	22%	22%	56%	11%	11%	0%	22%
Average	71%	42%	58%	31%	46%	35%	29%	17%	17%	44%
Pilots EU countries	28%	67%	67%	33%	22%	39%	11%	17%	17%	33%
Pilots non-EU countries	0%	60%	80%	10%	20%	50%	40%	40%	0%	10%
Project	30%	13%	61%	26%	39%	65%	13%	4%	43%	39%
Test sites	12%	16%	64%	12%	20%	24%	16%	24%	12%	40%
Average	20%	33%	66%	21%	26%	43%	17%	18%	21%	34%



Single EU-wide Platform on CCAM Support

WG1

Develop and EU Agenda
for testing

WG4

Road Safety

WG5

Connectivity and digital
infrastructure

WG2

Coordination and
cooperation of R&I and
testing activities

WG3

Physical and digital road
infrastructure

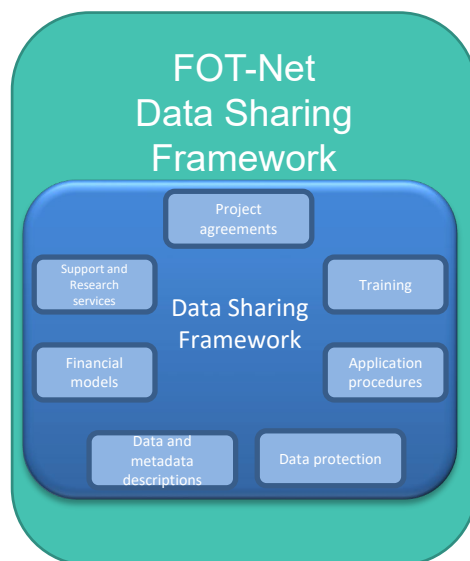
WG6

Access to and exchange of
data & Cybersecurity

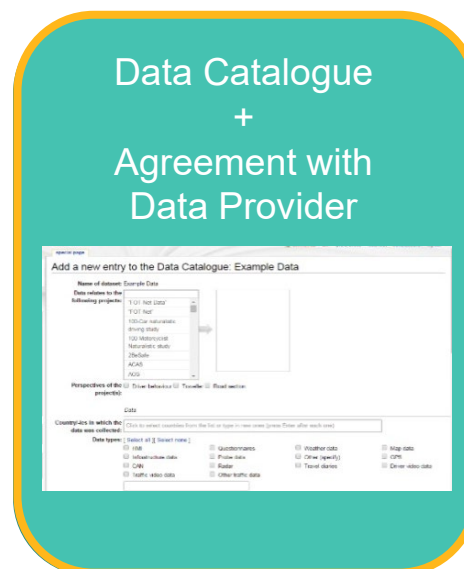
Data Sharing Framework

Revised from FOT-Net DSF adapted to needs from automation pilots (SAE, Driver inside /outside, cooperative messaging) and requirements from the GDPR ((EU) 2016/679)

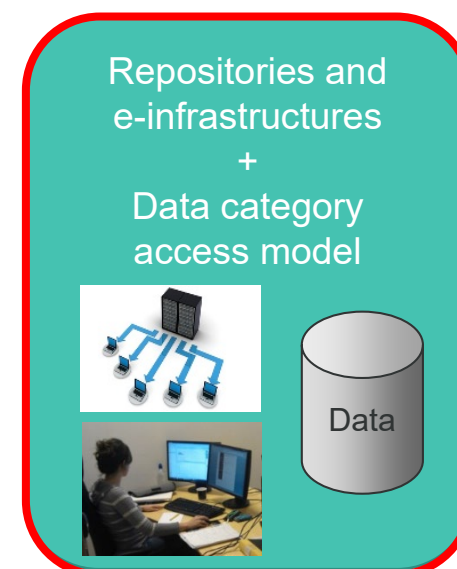
Methodology



Dissemination



Storage and Access



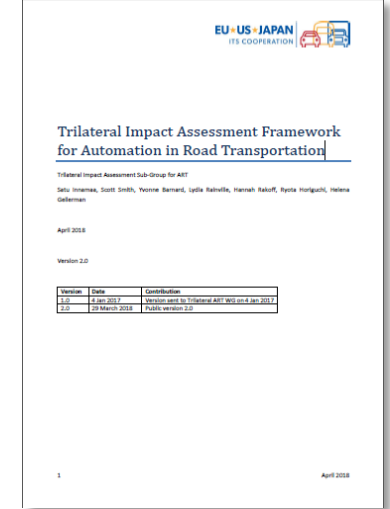
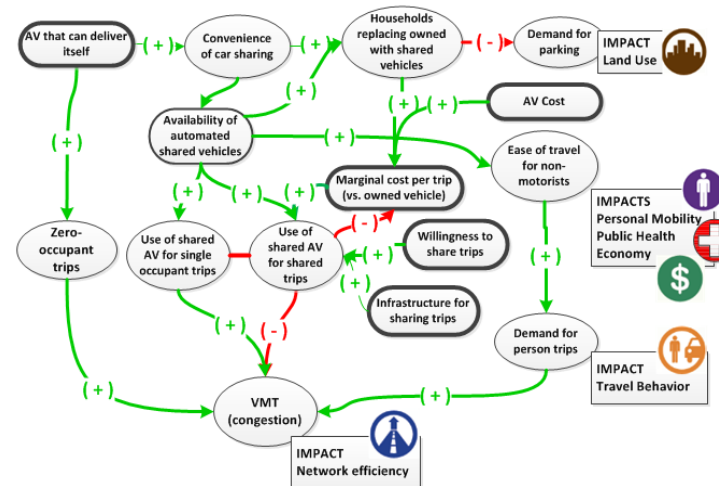
- ✓ Open archives
- ✓ Access models
- ✗ Data provision after end of project

Data Exchange Platform

Trilateral High-Level Impact Assessment Framework

- Classification of evaluated system/service
- Direct and indirect impacts: 12 impact areas
- Impact mechanisms & paths
- Recommendations for experimental procedures
- Recommendations for data sharing
- KPI repository

International survey
on most important KPIS



- Monitor how the framework is used
- Updates based on lessons learned

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