InDiD project

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French Ministry of Transport

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InDiD project

4th C-ITS project co-financed in France since 2014

- **Projects financed à 50% by the European Commission**

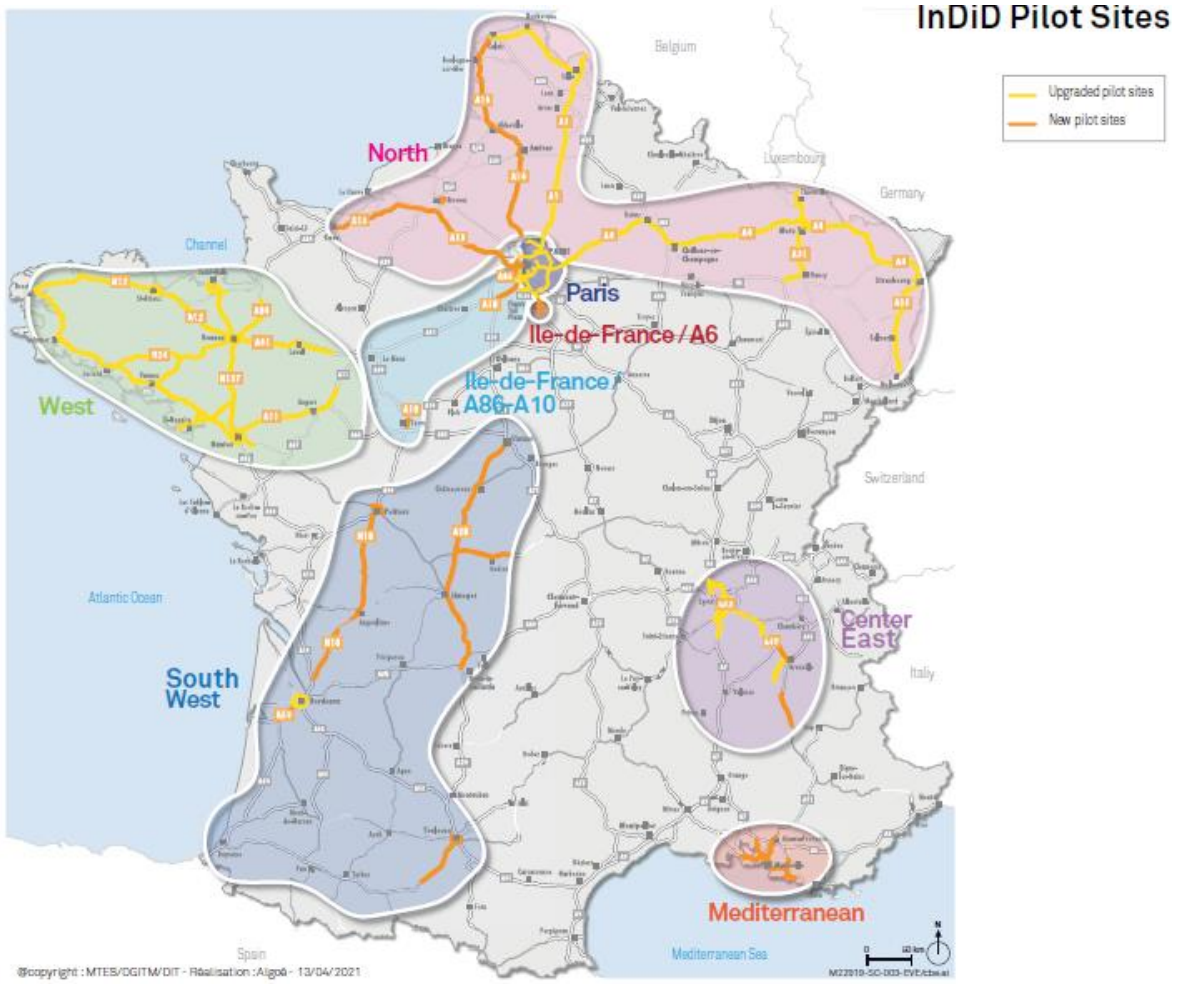
- SCOOP : 2014-2019
  - 1st wave : 2014-2017
  - 2nd wave : 2016-2018

- C-Roads France : 2016-2021
  - Urban use cases
  - European harmonisation
  - Smartphone application

- InterCor : 2016-2020
  - Logistics use cases
  - European harmonisation

- InDiD : 2019-mid 2024
  - Automated vehicles use-cases
  - Enhancement of road operators information systems
  - Industrialisation
  - European deployment

- *SCALE : proposed to the CEF for 2024-2028 period*
  - *Overpassing the last blockages: technological, économical, industrial*
  - *Deployment of Vro for road directions of MTECT*



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C-ITS stakes

•**Improve the safety of users and staff**, thanks in particular to on-board communication systems and driving aids
•**Better manage traffic flows and reduce congestion** by optimising the management of public transport networks and fleets
•**Optimise real-time traffic information** to make the passenger experience more comfortable
•Better connect the networks managed by the various operators, including multimodal networks, in order to encourage environmentally friendly modes of transport, modal transfers and **reduce the impact on the environment**
•**Develop new services for users** and create new business models
•Deploy a road infrastructure that meets the future technological needs of **connected and automated vehicles**

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InDiD project

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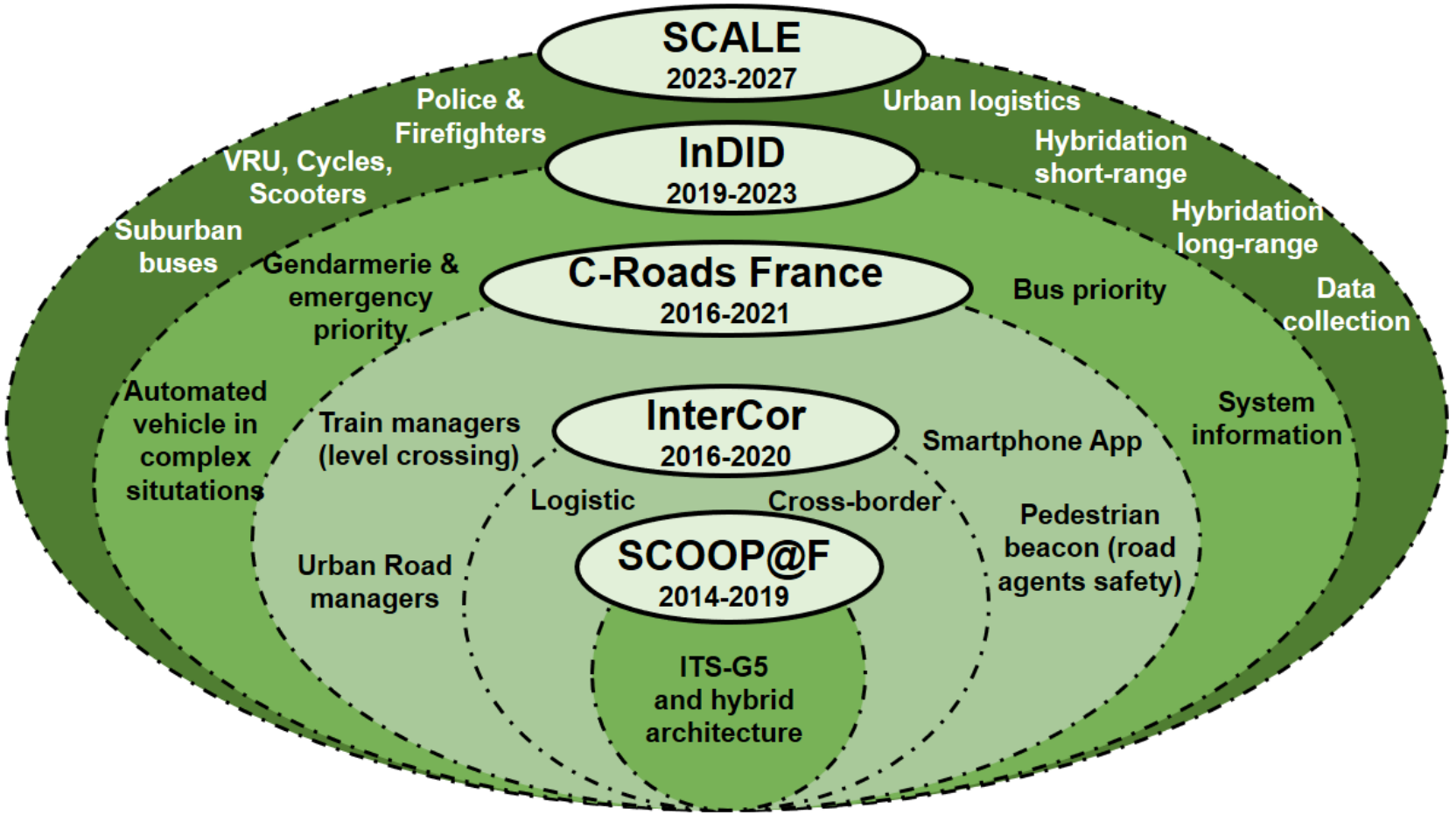

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French project partners

Same as use cases and architectures, an addition of partners step by step

The **Ministry in charge of Transport** (Department of Transport Infrastructure)
Local authorities (Department of Isère; and in association with ITS Bretagne: Department of Côtes d'Armor, d'Ille et Vilaine, Région Bretagne, Saint- Brieuc Agglomération, Bordeaux métropole, Eurométropole de Strasbourg, Métropolis Aix- Marseille Provence, Aix-en-Provence, Ville de Paris, Alsacian European Collectivity)
Managers of the **national road network** (DiRIF, DIRA, DIRO, DIR Nord, DIR Est, DIR CE, DIR Med, DIR CO, DIR SO, SANEF, Vinci autoroutes, APRR)
Car manufacturers (PSA, Renault)
An equipment manufacturer (Valeo)

Universities and research centers (Cerema, University Gustave Eiffel, GIE RE PSA-Renault (LAB), University of Reims Champagne-Ardenne, Institut Mines-Télécom , University Clermont-Auvergne, University Polytechnique des Hauts-de-France, Bordeaux INP, Eurecom, Vedecom, IGN)
A **telecommunication** operator (Orange) and communication network system providers (Green communication, ATC France)
An IT **security specialist** (Eviden)
Logistics specialists (neoGLS, iTrans, MGI)
Mobility laboratories (Transpolis)
A service provider (TOMTOM)
Associated partners: SNCF, OCSTI, Atlandes, Geo-Sat

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4 – Project Management

Pilot : Marie Christine ESPOSITO (DGITM)

4.1 Project Management	4.2 Communication

1 - C-ROADS Platform

Pilot : Marie Christine ESPOSITO (DGITM)

- WG1 – C-ITS organisation
  Eric PILLET (APRR)
- WG2 -Technical aspects
  WG2 / Emilie PETIT (DGITM)
  TF1 / Guillaume RICHARD (Eviden)
  TF2/ Jamel CHAKIR (DGITM)
  TF 3/ Antoine FOULQUIE (for DGITM)
  TF 4 / Hasnaâ ANISS (UGE)
  TF5 / Marwane AYAIDA (UPHF)
- WG3 - Evaluation & Assessment
  Gérard CHALHOUB (UCA)
- WG4 – Urban C-ITS Operation (City forum)
  Fouad BAOUCHE(CEREMA)
- WG5 – Digital Transport Infrastructure
  Renan PERROT (CEREMA)

2 -Studies

Pilot : Emilie PETIT (DGITM)

- 2.1 – Management
  Emilie PETIT (DGITM)/ Anaïs DUCOURNAU (Viveris for DGITM)
- 2.2 – Services definition
  Jamel CHAKIR (DGITM)
- 2.3 – Evaluation and impact studies
  Sophie BOURDY LIEBART (URCA)
- 2.4 – Specifications
  Thiwiza BELLACHE (Viveris for DGITM)
- 2.5 – Development
  Romain MOREL (Viveris for DGITM)
- 2.6 – Validation
  Younes BOUCHALAA (Viveris for DGTIM)
- 2.7 – Transversal Studies
  Emilie PETIT (DGITM)

3 – Pilot Sites

- Site North
- Site Ile-de-France
  Ville de Paris, APRR, Cofiroute, DiRIF
- Site East
  CEA, EMS
- Site West
  Nicolas LE GOFF (DIRO)
- Site North
  Malalatiana RANDRIAMASY (SANEF)
- Site Center-East
  Benoit VUADELLE (APRR)
- Site South-West
  Cyril LAUQUIN (DIR CO)
- Site Méditerranée
  Julien VERDIER (DIRMED)

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Project achievements

- Copil/COCSIC every other months -> unanimity principals
- COCSIC for studies every other months
- Many WG to prepare deliverables

  - 26 Copil/COCSIC between mid 2019 et mid 2024
  - 28 COCSIC for studies

  - Production of deliverables of activity 2 :
    - 3 for 2.2
    - 24 for 2.3 (1 updated)
    - 42 documents updated, 24 new documents for 2.4
    - 3 documents updated, 5 new documents for 2.5
    - 123 for 2.6
    - 23 documents for 2.7

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A complete body of technical specifications

Référence de livrable	Nom
2.4.1_M	n specifications
2.4.1_M_bis	
2.4.1.1_M_Master_V2X	Master technical specifications for V2X use cases
2.4.1.1_M_D12	Common technical specifications
2.4.1.2_M_Master_I2V	Master technical specifications f
2.4.1.2_M_Master_Annex1	Master technical specif e cases – Annex 1 (IVIM roadsign table)
2.4.1.2_M_Master_Annex2	Master techn cases – Annex 2 (CAM-I ASN)
2.4.1.2_M_Master_Annex3	Mas ases – Annex 3 (POI Extended ASN)
2.4.1.2_M_B1aB1b	s : road works enhanced
2.4.1.2_M_C2	: dynamic speed limit
2.4.1.2_M_C3	eVMS
2.4.1.2_M_D	wrong way driving
2.4.1.2_M_E7	ses - Traffic Jam Ahead
2.4.1.2_M_F1	use cases : Parking POI
2.4.1.2_M_G1	ns for use cases : GLOSA
2.4.1.2_M_G1b	ications for use cases : G1b (Time To Green)
2.4.1.2_M_G7	nical specifications for use cases: HD cartography extended services
2.4.1.2_M_H2	n technical specifications for use cases : dynamic trafic ban
2.4.1.2_M_H4	Common technical specifications (I2V)
2.4.1.2_M_H6	Common technical specifications for use cases : HGV overtaking ban (I2V)
2.4.1.2_M_I3	Common technical specifications for use cases I3 – Road worker in the Field
2.4.1.2_M_K1	Common technical specifications for use cases - K1 – Level Crossing status
2.4.1.3	
2.4.1.3_H	
2.4.1.3_H: annexe	
2.4.1.3_H: annexe	Annexe: LogFormat_Communication

Specification of Technical Architecture

From user to infrastructure

Specification of communication profiles and content of messages : CAM, CAM-I, DENM, IVI, SPAT, MAP, SREM, SSSEM, etc.

From infrastructure to users

Specification of logs and their collection method

Référence de livrable	Nom
2.4.1.4_H_Annex5	Datex (Parking) <-> POI Translation
2.4.1.4_M	Specification of DATEX II-2.3 messages
2.4.1.4_M_Annex	
2.4.1.4_M_Annex	
2.4.1.4_M_Annex	
2.4.1.4_M_Annex	
_DATEXIISchema_2_2_3_PFr	
DatexII	xsd between PF and R-ITS-S
2.4.1.4_M_Annex	
2.4.1.5	
2.4.1.6	
2.4.2.1_M	
2.4.2.1_Bis	
2.4.2.2_H	
2.4.2.2_M_Master	
2.4.2.2_M_Bis	Specification of the SCOOP Software for Vro-ITS-S
2.4.2.2_Ter_H	Management of displays on the MMIs of road operator OBUs
2.4.2.2_HYB	Note hybridation UEVg-Nfr
2.4.2.4_H	
2.4.2.5_H	
2.4.3.1_M	
2.4.3.2_M	Road operator Platform specifications
2.4.4.1	Analysis of safety objectives
2.4.4.2_H	Interface Agreement
2.4.4.4	
2.4.4.8	
2.4.4.8_M	
2.4.5.1_M	
2.4.5.1_M_Appen	ix HMI

Specification of Datex II messages related to C-ITS messages

Specification of the technical architecture

Specification of R-ITS-S and V-ITS-S for road operators

Specification of servers

Specification of security features

Specification of the smartphone application

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Agenda of the two days

Day 1

10h00	**Introduction**
10h10	Presentation of InDiD, context, objectives, architectures
10h40	New use cases
12h00	**DEMONSTRATION / LUNCH *(mandatory registration)***
13h30	*Journalists*
14h00	Presentation of evaluations results
16h30	End of the first day
16h30	*Meeting with CINEA*
19h30	**Gala Dinner *(mandatory registration)***

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Agenda of the two days

Day 2

08h45	Welcome coffee

Pilot sites deployments

09h00	Operations set up of pilot sites
09h25	Presentation of pilot sites
12h00	**DEMONSTRATION /** LUNCH ***(mandatory registration)***
14h00	Transversal studies: Benefits of hybridization (ITS-G5 and 5G), HD Map, security in the project and infrastructure enhancement

Table ronde

15h20	Towards C-ITS large scale deployment – blockages and opportunities
16h20	**Conclusion**
16h30	**End of the seminar**

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