Site Pilote A6 IdF

APRR - Benoît Vuadelle - Expert mobilités connectées et automatisées

Co-financed by the Connecting Europe Facility of the European Union

The contents of this publication are the sole responsibility of InDiD Consortium and do not necessarily reflect the opinion of the European Union.

Les concessions autoroutières d'Eiffage en France

APRR	1 890 km
AREA	409 km
ADELAC	19 km
VIADUC DE MILLAU	3,7 km
ALIAE	88 km
LIENOR	150 km

2 560 km DE RÉSEAU

27% DU RÉSEAU CONCÉDÉ FRANÇAIS

2ème ACTEUR AUTOROUTIER

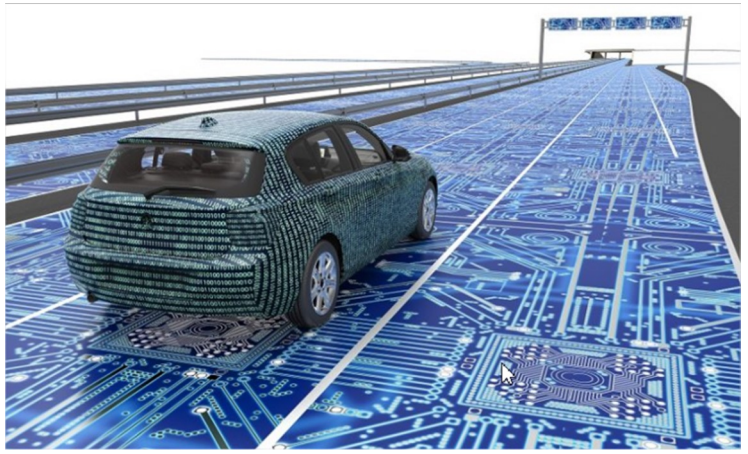
4ème ACTEUR AUTOROUTIER

Co-financed by the Connecting Europe Facility of the European Union

MOTIVATIONS

APRR

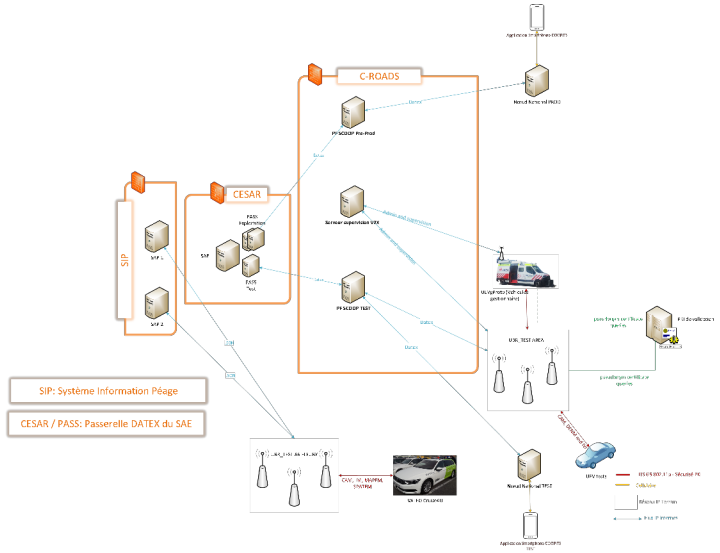
Motivations pour les C-ITS



Préparer une infrastructure autoroutière connectée

- Sécurité des interventions de nos personnels sur le terrain
- Sécurité de nos clients
- Contribuant aux besoins des véhicules automatisés, extension de l'Operational Design Domain (ODD)

Proposer des sites pilotes d'expérimentation C-ITS sur route ouverte

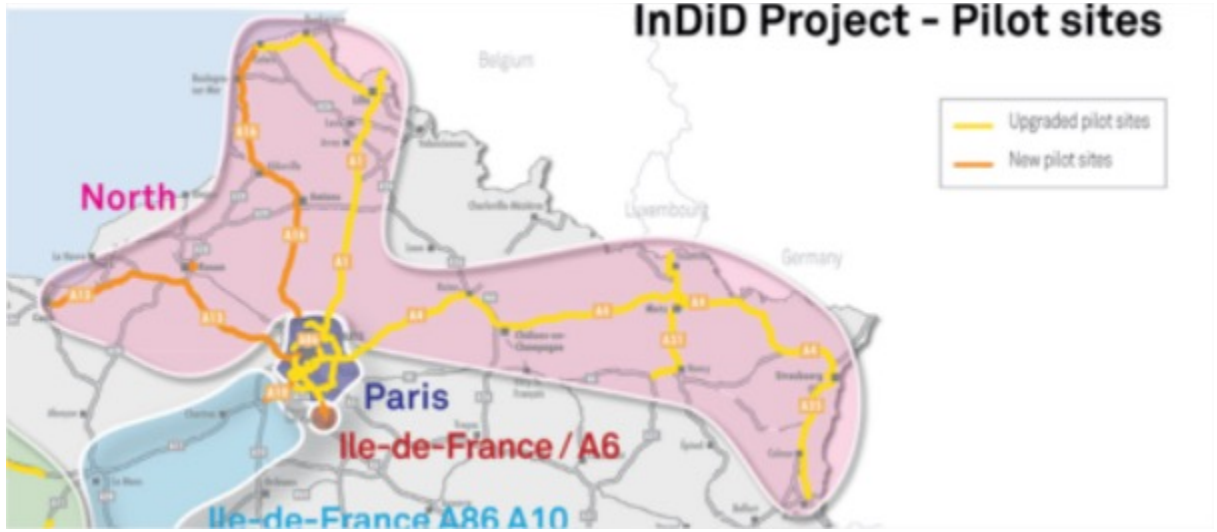


Co-financed by the Connecting Europe Facility of the European Union

Le site pilote A6
Ile de France

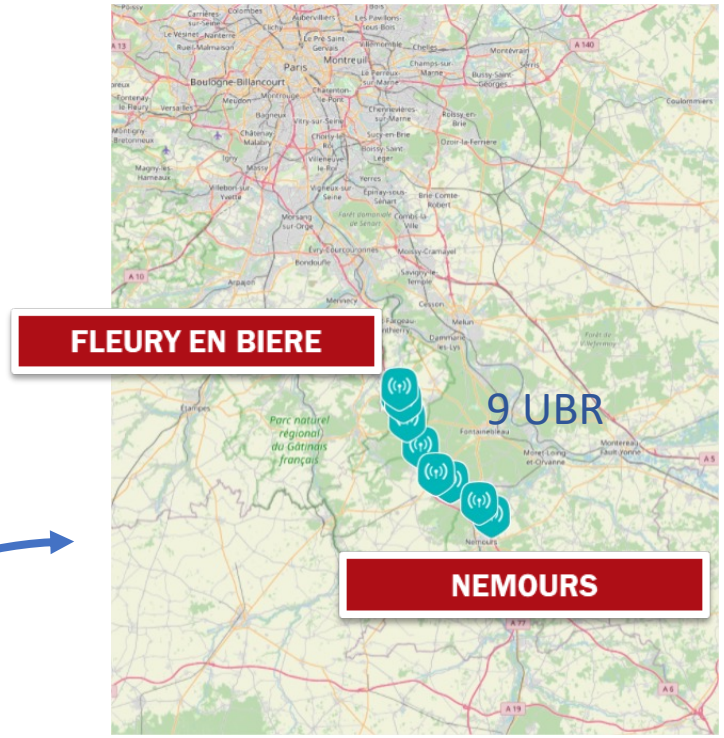
Co-financed by the Connecting Europe Facility of the European Union

Localisation Site Pilote A6 IdF



Localisation Site Pilote A6 IdF

22 km



Co-financed by the Connecting Europe Facility of the European Union

Cas d’usages

Cas d’usages développés

		Developed	
In-Vehicle Signage	Traffic Management / In-Vehicle Signage Traffic Signs (IVS – TS)	/	
	IVS -Embedded VMS “Free Text” (IVS-EVFT)	C3	
	In-vehicle dynamic speed limit information (IVS - DSLI)	C2	
	Toll station approaching: orientation of drivers	C4	
	Toll Barrier Crossing for automated vehicles	C8	
Hazardous Location Notification	Hazardous Location Notification Accident Zone (HLN – AZ)	D5	
	Traffic Jam Ahead (HLN – TJA)	E7	
	Stationary vehicle (HLN – SV)	D4	
	Weather Condition Warning (HLN – WCW)	D6-E6	
	Temporarily slippery road (HLN – TSR)	D1	
	Animal or person on the road (HLN – APR)	D2	Prototypes Only
	Obstacle on the road (HLN – OR)	D3	
	Emergency or Rescue/ Recovery Vehicle in Intervention (HLN – ERVI)	L2	ITS-G5 & Hybid
	Emergency or Prioritised Vehicle Approaching (HLN –EPVA)	D12	
	Railway Level Crossing (HLN – RLX)	K1-K3	
	Unsecured Blockage of a Road (HLN – UBR)	D8	
	Alert Emergency Brake Light (V2V)	D10	
	Alert end of queue	D11	
	Emergency vehicle approaching	D12	
	Alert Slow Vehicle (HLN - SLV)	D14	
	Alert Wrong Way Driving (HLN – AWWD)	D7	
	Public Transport Vehicle Crossing (HLN – PTVC)	/	
	Public Transport Vehicle at a Stop (HLN – PTVS)	I5	
	Alert temporary mountain pass route closure	D9a	
	Alert approaching a closed mountain pass route	D9b	
Road Works Warning	Road Works Warning Lane Closure (RWW – LC)	B1a/AV	
	Road Closure (RWW – RC)	B1b	
	RWW -Road Operator Vehicle Approaching (RWW-ROVA)	B2a	
	RWW -Road Operator Vehicle in Intervention (RWW-ROVI)	B2b	
	Alert operator vehicle in patrol	B2c	
	Alert end of queue by a road operator vehicle	B2d	
	Road Works – Mobile (RWW – RM)	B1c	
	Winter Maintenance (RWW – WM)	B3	
	Dangerous vehicle approaching a road works: warning to the dangerous vehicle	B4/C11	
	Dangerous vehicle approaching a road works: warning to workers	B5	
Signalised Intersections	Signalised Intersections Signal Phase and Timing Information (SI – SPTI)	G1b	
	Green Light Optimal Speed Advisory (SI – GLOSA)	G1a	
	Imminent Signal Violation Warning (SI – ISVW)	G3	
	Traffic Light Prioritisation (SI – TLP)	G2	
	Emergency Vehicle Priority (SI – EVP)	G2	
	In-vehicle signage at a merge for vehicles on the entry slip road	G5	
	In-vehicle signage at a merge for vehicles on the main road	G6	
	HD cartography extended services	G7	

		Developed
Automated Vehicle	Automated Vehicle Guidance SAE Level Guidance (AVG – SAELG)	/
	Platoon Support Information (AVG – PSI)	/
Probe Vehicle Data	Probe Vehicle Data Vehicle Data Collection (PVD – VDC)	A1
	Event Data Collection (PVD – EDC)	A2-A3
	Wrong way users detection	A5
Information Parking	Information on parking lots location, availability and services	F1
	Information P+R in order to modal transfer	F5
	Information on street parking spaces for person with reduced mobility and goods delivery service	F9
VRU	Facilitation and safety of specific pedestrians crossing at urban signalized intersection	G8
	Numerous Pedestrians at Signalized Intersection: warning to vehicles	I1b
	Road workers in the field	I3
	Vulnerable user at a public transport stop	I5
	Pedestrian crossing outside signalized intersection : warning to approaching vehicles	I6
	Cyclists riding contraflow in a one way road	I7
Rerouting	Rerouting	E2
Traffic Management Low Emission Zones	Permanent traffic ban to specific vehicles	H1
	Dynamic traffic ban to specific vehicles	H2
	Dynamic lane management – reserved lane (I2V)	H4
	HGV overtaking ban	H6
	Flooded roads	H9
	Assigning a slot to a given vehicle for cross-channel traffic (New IT / Obsolete in France)	J3
	Information on the site's access conditions / Identification of Loading Area (SP / Obsolete in France)	J4
Law	Stationary law enforcement vehicle	L2
Payment	Payment service at a toll station	M1

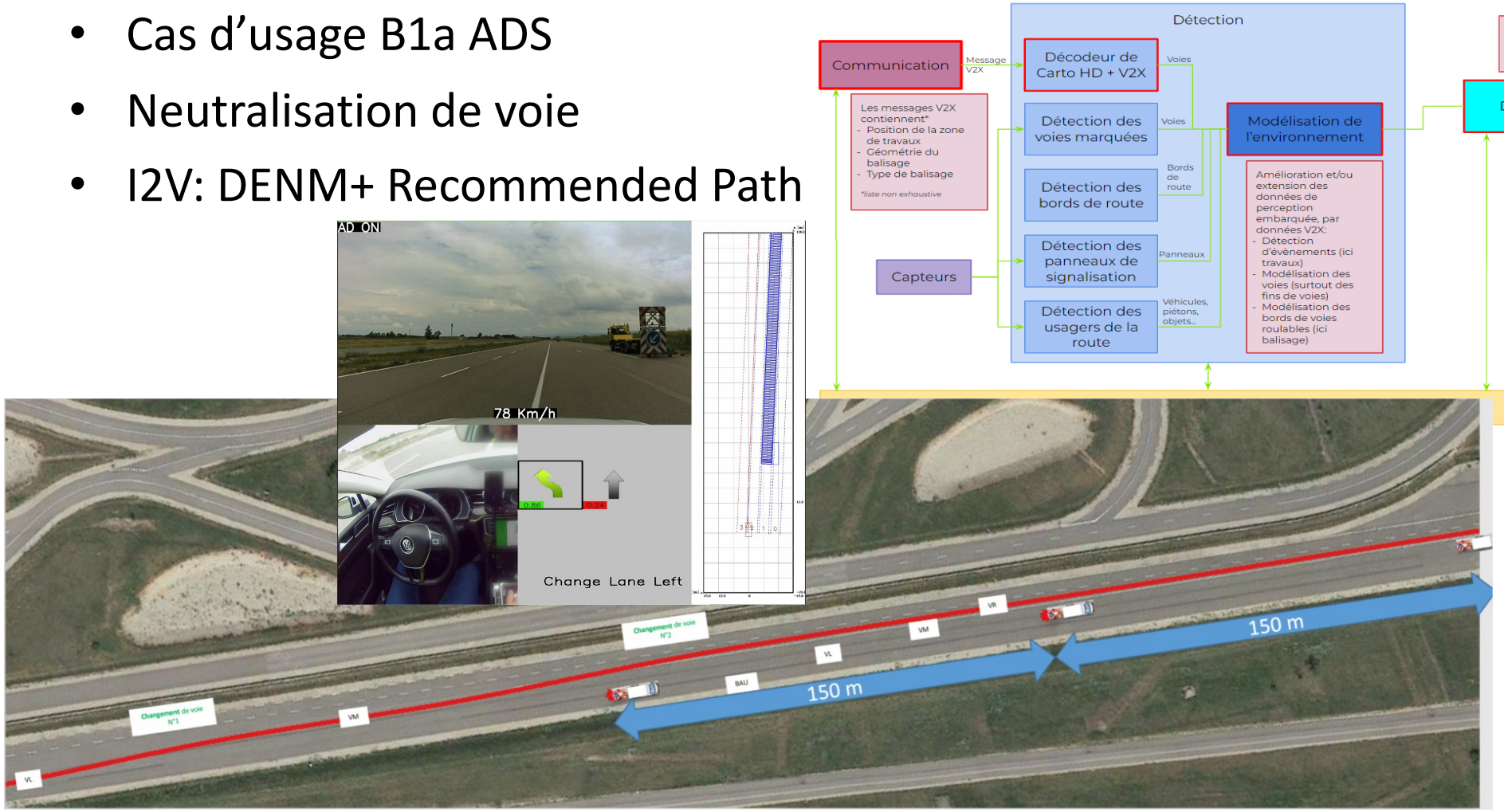
Co-financed by the Connecting Europe Facility of the European Union

FOCUS
Franchissement de balisage par un VA niveau SAE 3-4

Co-financed by the Connecting Europe Facility of the European Union

Franchissement de balisage par un VA

- Cas d'usage B1a ADS
- Neutralisation de voie
- I2V: DENM+ Recommended Path

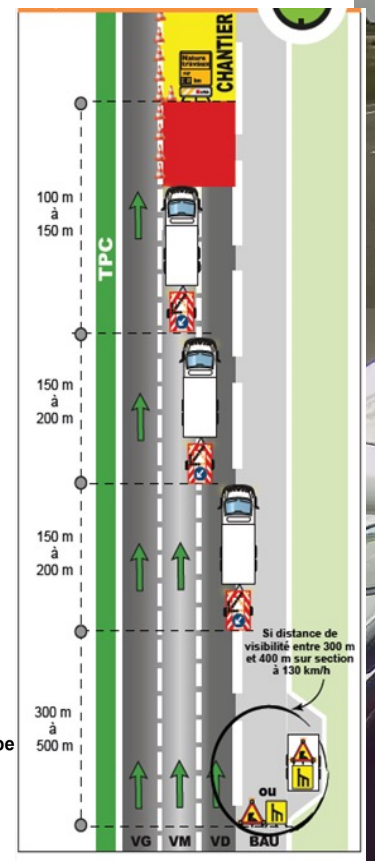


Co-financed by the Connecting Europe Facility of the European Union

Franchissement de balisage par un VA

- Balisage 2 voies droite par FLR
- Résultats des tests livrable:

COCSIC_2.6.3.4-Rapports-de-tests_Franchissement Balisage



Co-financed by the Connecting Europe Facility of the European Union

Réussites / Suites

Réussites et suites

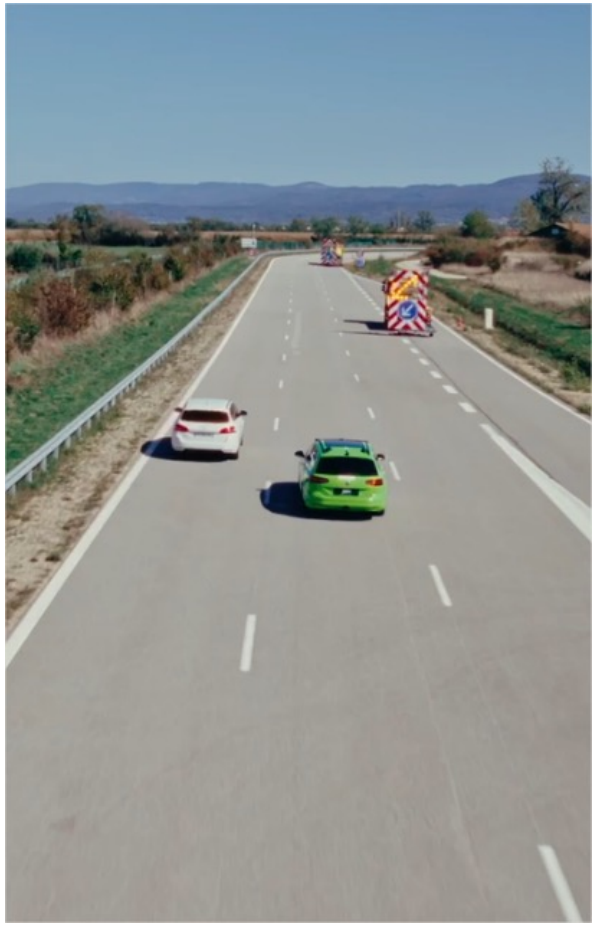
REUSSITES

- Extension de l'ODD du VA pour couvrir deux nouveaux cas d'usage : péage + travaux
- 22 km de site d'expérimentation sur route ouverte incluant une barrière de péage
- Mise en production de l'architecture Hybride COOPITS sur le réseau AREA

SUITES

- *Franchissement de balisage:*
  - *Levé des points de balisage (précision des positions) à standardiser/optimiser*
  - *Etendre le périmètre des types de zone de travaux prises en compte (basculement de chaussée, entrées/sorties, …)*
- *Franchissement d'un péage:*
  - *Amélioration du contrôle basse vitesse en zone proche barrière pour rendre le passage de la voie de péage plus fluide*
  - *Intégration de la redondance des statuts de feux de barrières par perception embarquée*
  - *Gestion de la transition de localisation entre cartographie HD et MAPEM*
- *Evaluer les cas d'usage péage et balisage sur route ouverte*

Co-financed by the Connecting Europe Facility of the European Union



Merci de votre attention

APRR IGN Valeo

Co-financed by the Connecting Europe Facility of the European Union