



## **45<sup>TH</sup> ASECAP STUDY & INFORMATION DAYS 2017**

# **C-ITS interfaces and Traffic Management Plan via DATEX II: Italian motorways experiences and ongoing developments**

*Pullman Paris Montparnasse Hotel*  
29-31 May 2017

[www.asecapdays.com](http://www.asecapdays.com)



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# Autostrade / Atlantia Group network



## I NUMERI DI:

	Autostrade per l'Italia	Società controllate
Km di rete	2.854,6	110
Caselli	232	24
Aree di Servizio	216	11
Aree di parcheggio	120	5
Punto Blu	63	10
Dipendenti	5.807	2.972 <sup>[1]</sup>
Clienti al giorno (milioni)	4,2	0,5
Veicoli al giorno (milioni)	2,5	0,4

[1] Dato riferito alle società concessionarie e alle società operanti sul territorio italiano controllate da Autostrade per l'Italia.

- **9 operated + 4 owned TCCs**
- **1 TIC**
- **2.9 million vehicle per day on 2,964 km network**
- ✓ Road Operator
- ✓ Institutional Service Provider
- ✓ abroad controlled

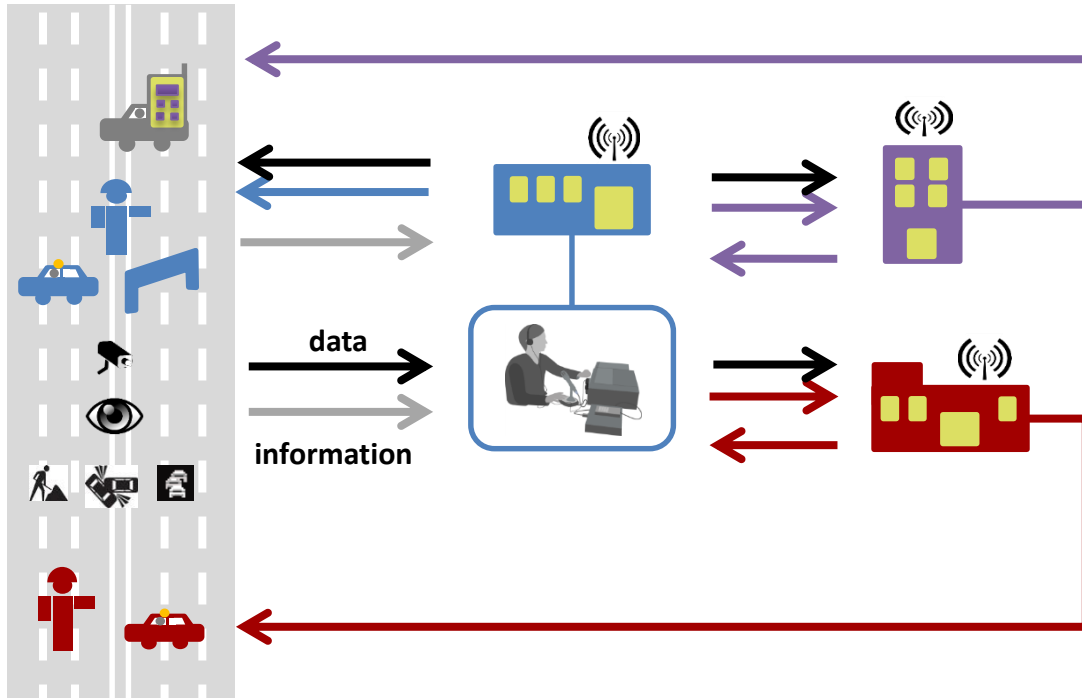


# Overview

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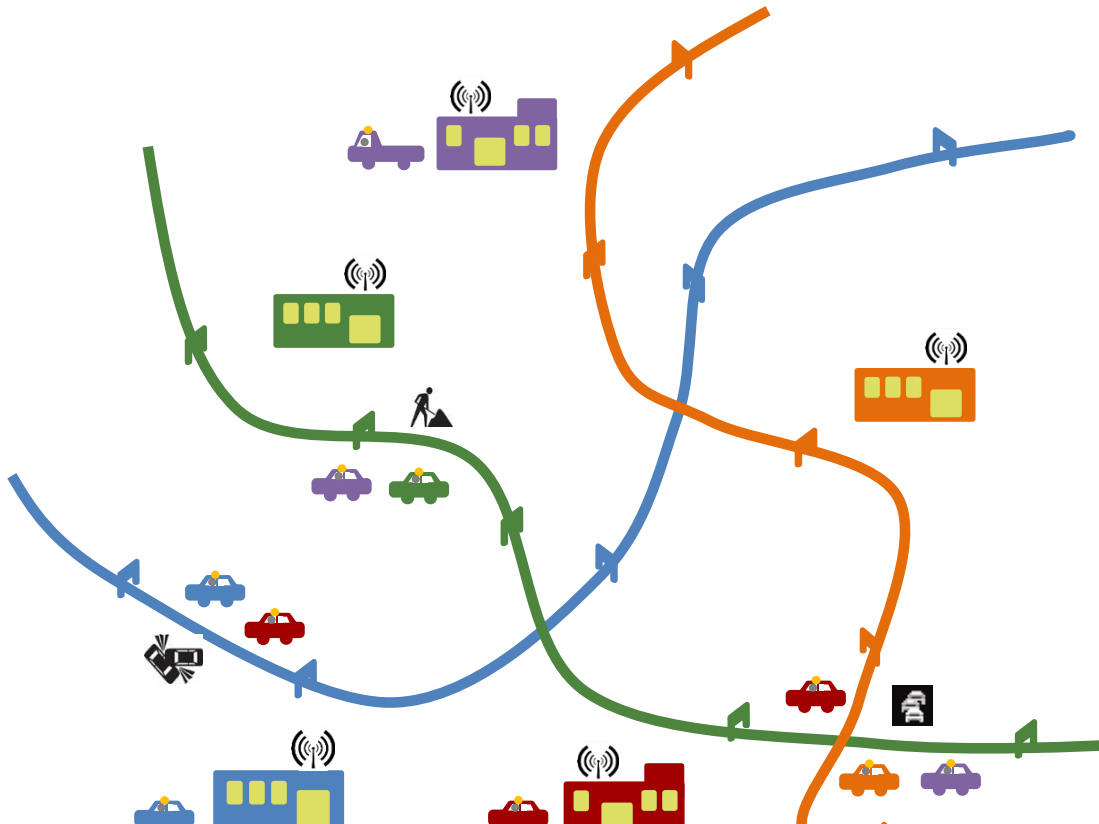
- ITS Services for Motorway Operators
- DATEX System in Autostrade per l'Italia
- Traffic Management via DATEX
- DATEX Enabling C ITS Day 1 Services Applications:
  - DATEX vs C-ITS: Protocol and Services interoperability
  - ETSI Plugtest Implementation for Safety Delivery DENM

# ITS Scenarios : Road Operation



- Road Operator
- Traffic Control Center
- Data and information collecting
- Internal Communication
- Patrol Management
- Rescue Services
- Authorities
- SP Information Delivery Services

# Collaboration in Road Management



- Road / Motorway Operators
- Authorities
- Emergency Operators

Composite Situations Occurrences

- Service Providers Role as
  - Data Source
  - Delivery

# Data Exchange for Motorway Operators



**Information Delivery**  
What happens ?



**Enabling ITS Services Interoperability**



*Semantic  
Exchange reliability*

[www.datex2.eu](http://www.datex2.eu)  
CEN TS 16157

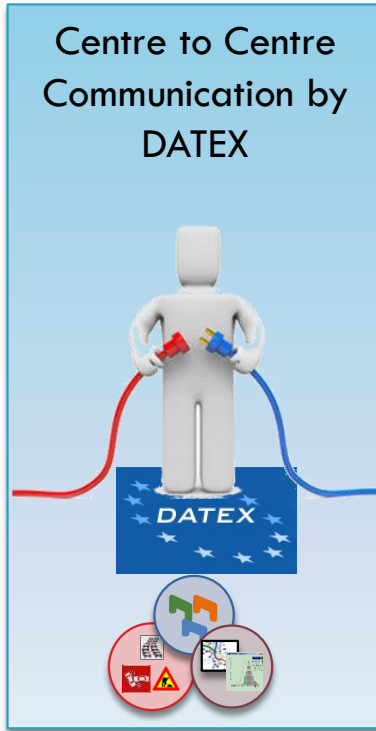
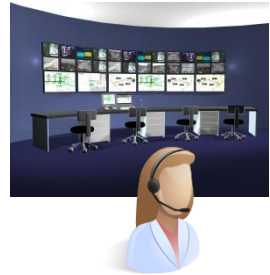


**Traffic Management**  
Improving Safety, Travel times,  
Environment, Comfort

*Triggering ITS  
Services*

# Autostrade DATEX II Plug & Play Supervisor and Road Management

Main goal: Exchange Information to Manage Road Operation



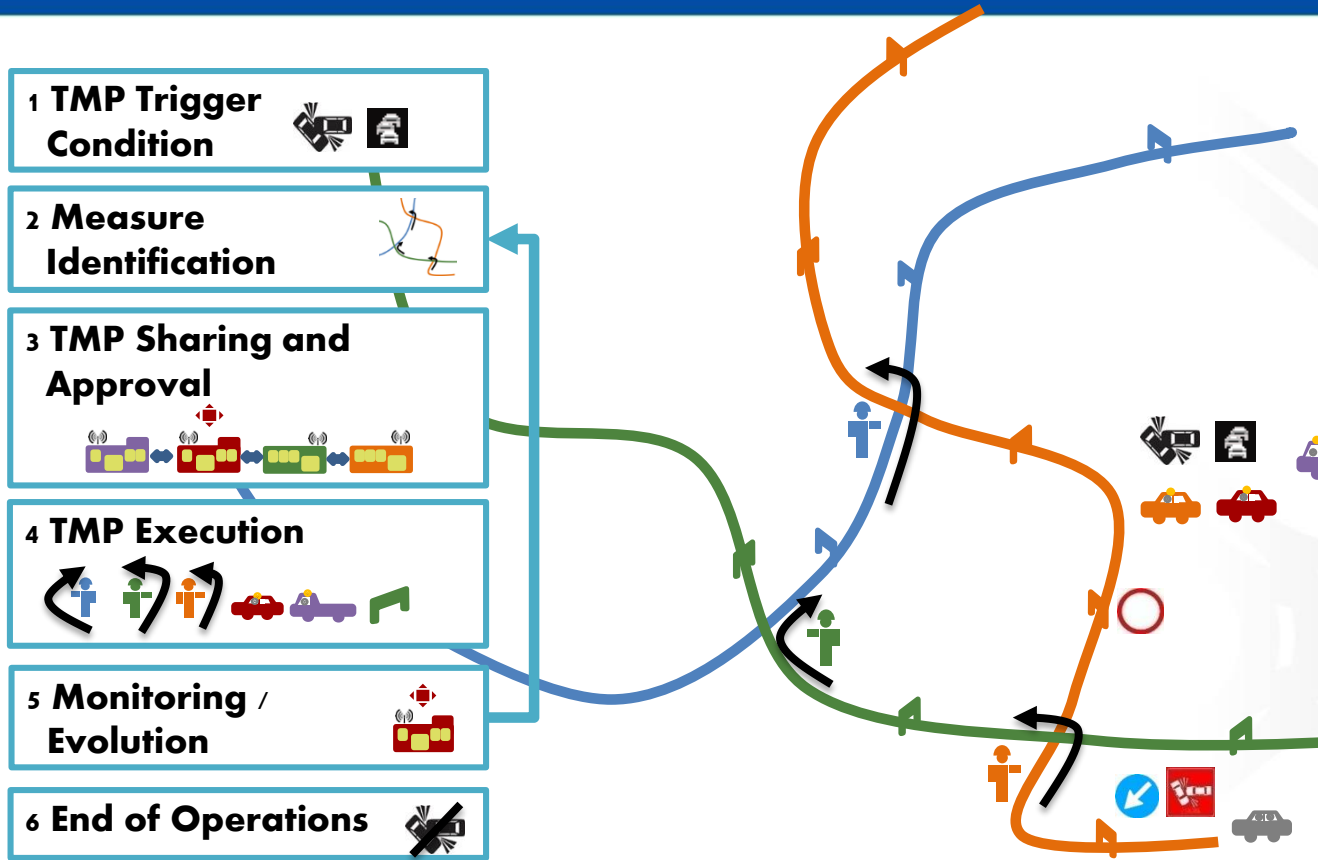
Legacy TCC  
system



Legacy TCC  
system

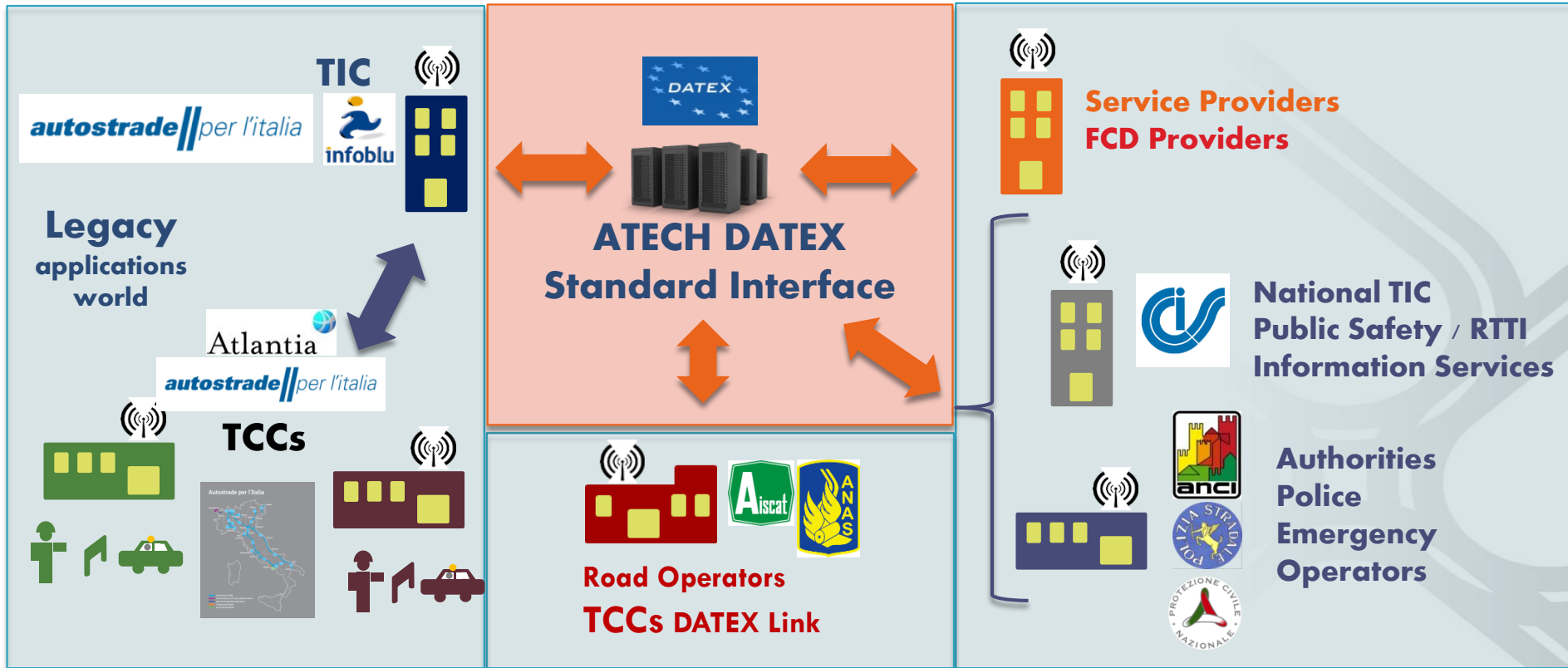


# Traffic Management Plans by DATEX Collaborative ITS Service (CIS)





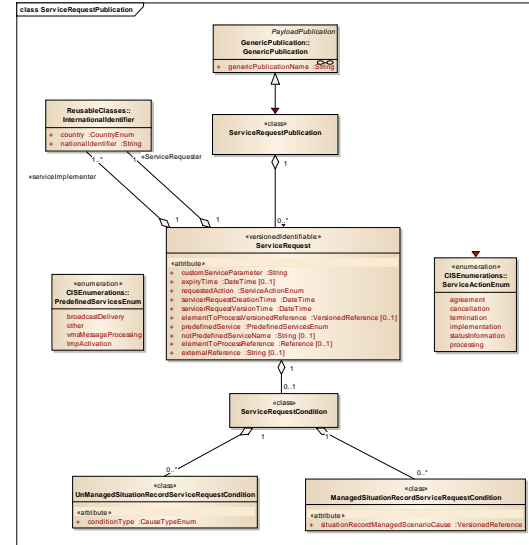
# Legacy System Standard Interface via DATEX in Autostrade per l'Italia group



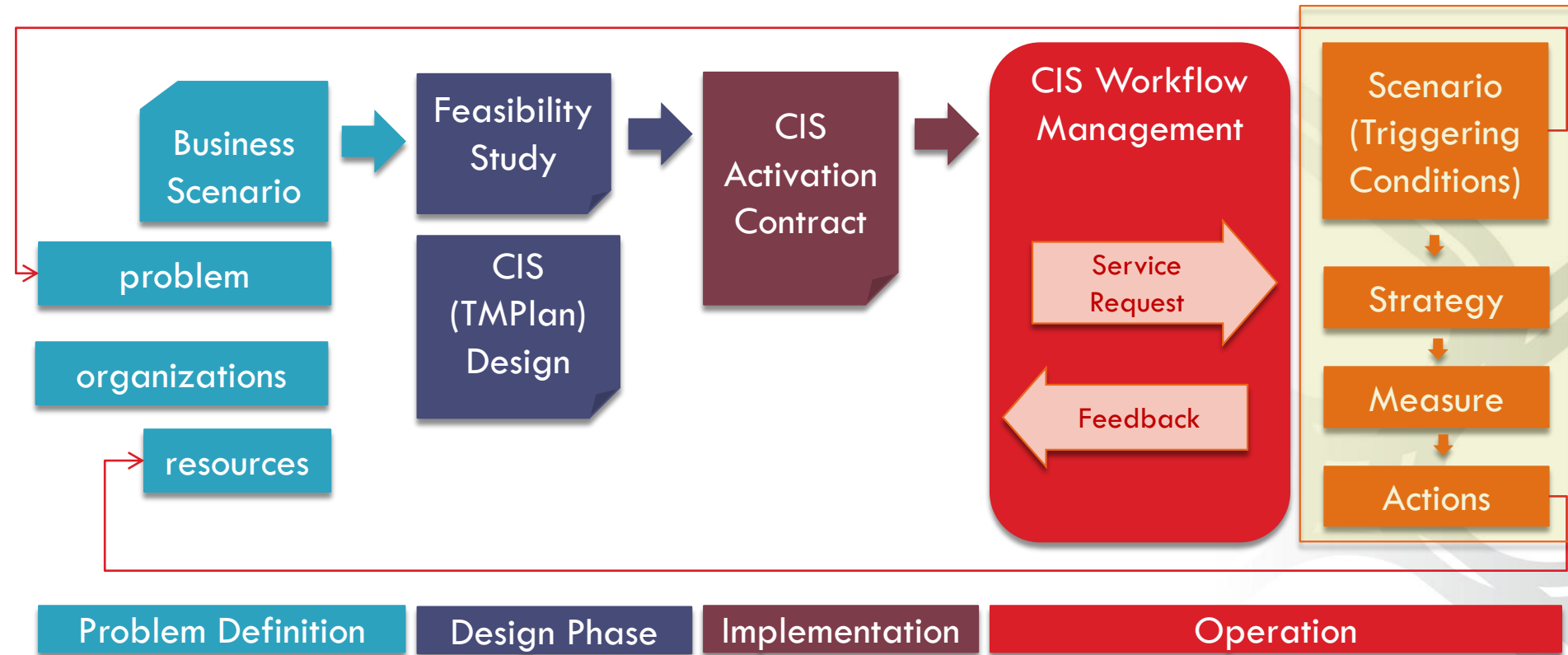
# CIS and TMPlan Model on DATEX website

- Work based on several inputs:
  - ▣ **EU ITS Platform Deployment Guidelines,**
  - ▣ **FR-ES experience,**
  - ▣ **AISCAT** working group for VMS Management and High Impact Situation Management
  - ▣ Specific Prototype developed in **Early Warning Project for Landslide Emergency Management** in Calabria run by Autostrade Tech
- CIS Exchange task within EU DATEX group combined other Member States input:
  - ▣ Documentation available on DATEX website:

<http://www.datex2.eu/content/datex-collaborative-its-services-and-traffic-management-plans-extension>

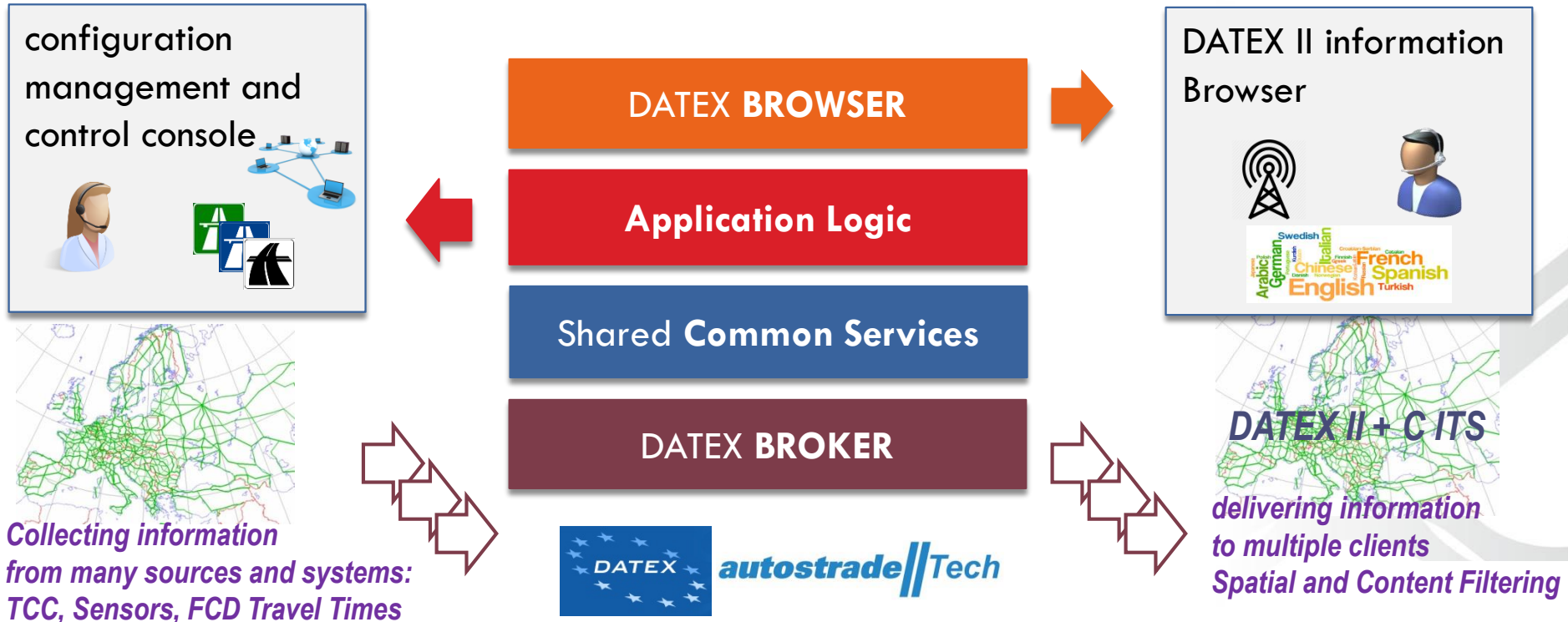


# TMPlan / CIS modeling and operating



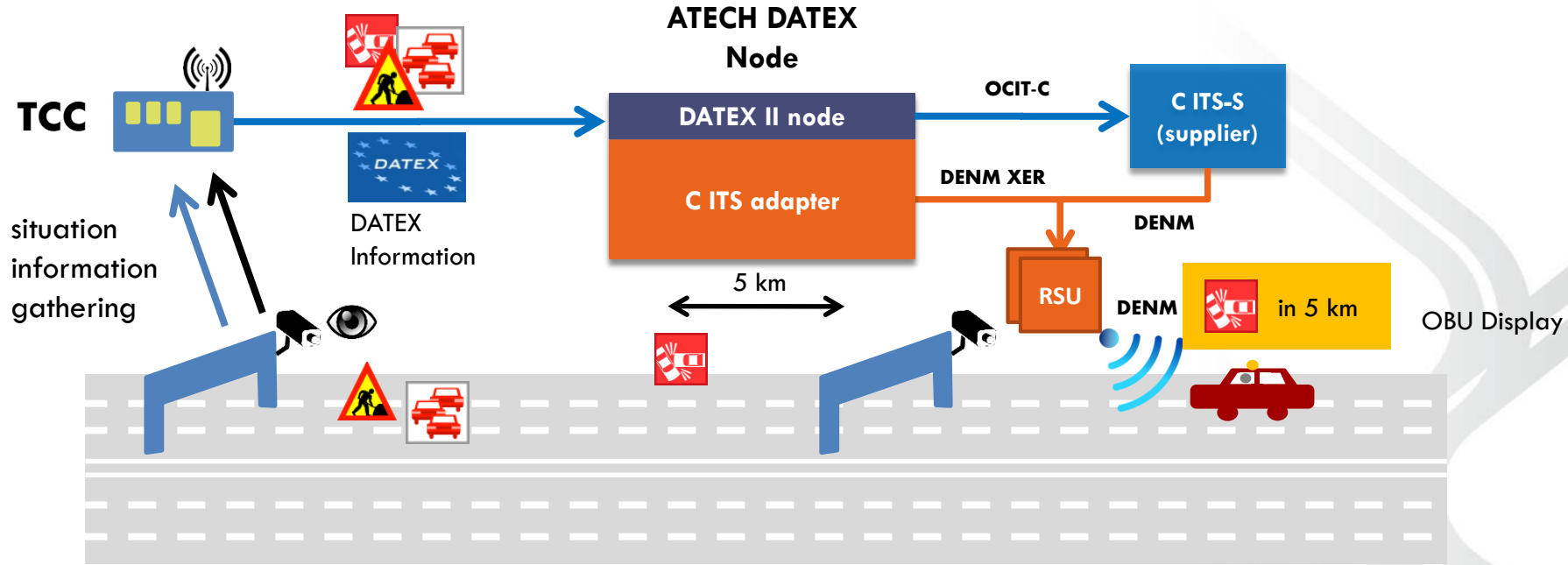
# Autostrade Tech DATEX Broker & Browser

## Data Collecting, Visualisation, Delivery



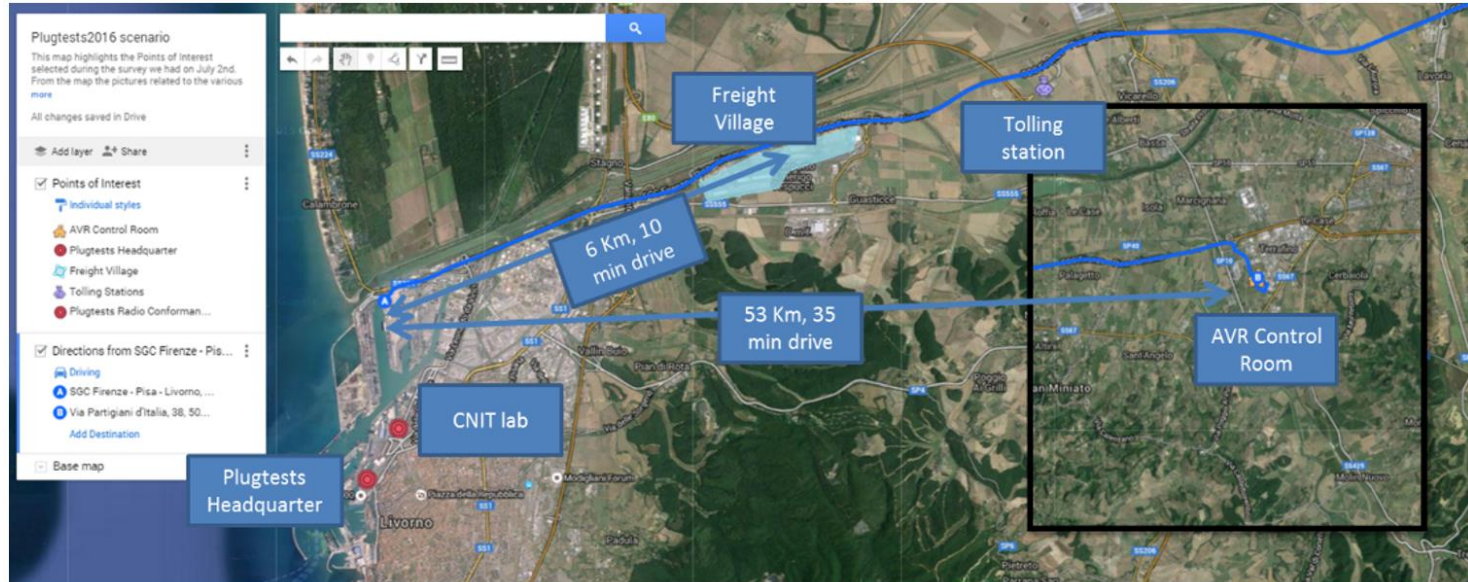
# DATEX to C ITS adapter

## Local Hazard Warning DENM Use Case



# DATEX versus C ITS interfaces

## Testbed for the ETSI C-ITS Plugtest 2016



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INFORMATION at

[www.etsi.org/news-events/events/1054-plugtests-2016-itscms5](http://www.etsi.org/news-events/events/1054-plugtests-2016-itscms5)



Thank you for your attention

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