



# Movalia

Stefano Pino – Innovation Architect



# Harmonizing the diversity in C-ITS Services



Co-funded by  
the European Union



# Who we are



Movalia is an Italian SME, born in 2015 as an innovative start up and strongly committed to design, develop, implement and manage added-value ITS solutions based on the latest ICT technologies available on the market.

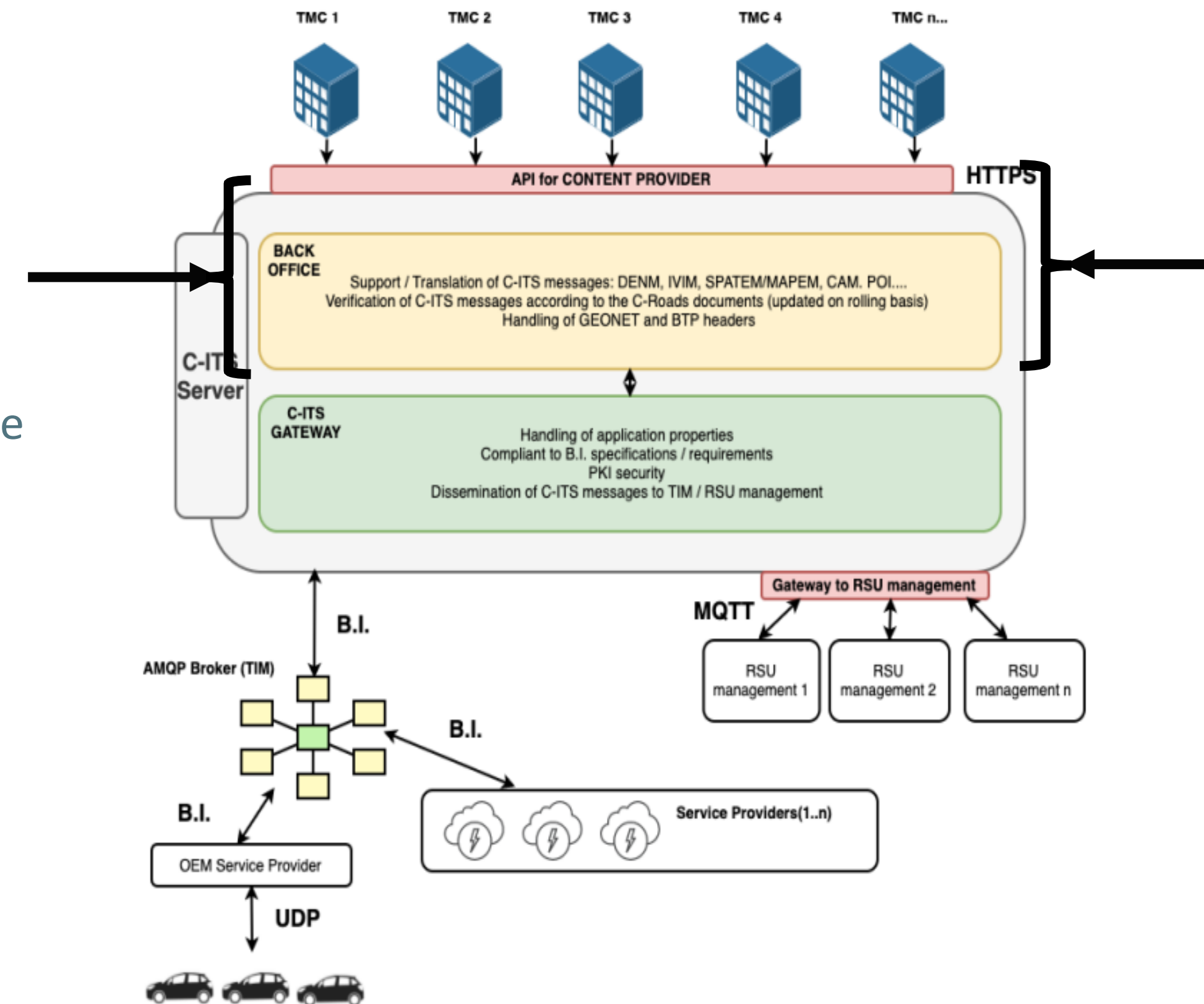
Movalia provides scalable and modular software solutions for smart mobility and local public transportation service, based on state of-the-art technologies, customizable to the specific needs of each customer, attracting minds and professionals in order to develop state of the art technical solutions.

Since 2022, Movalia has been part of Altea Federation, a Companies group that ranks among the largest Italian system integrators, consisting of more than 1,600 professionals and with a 2023 turnover exceeding € 170 Mln.



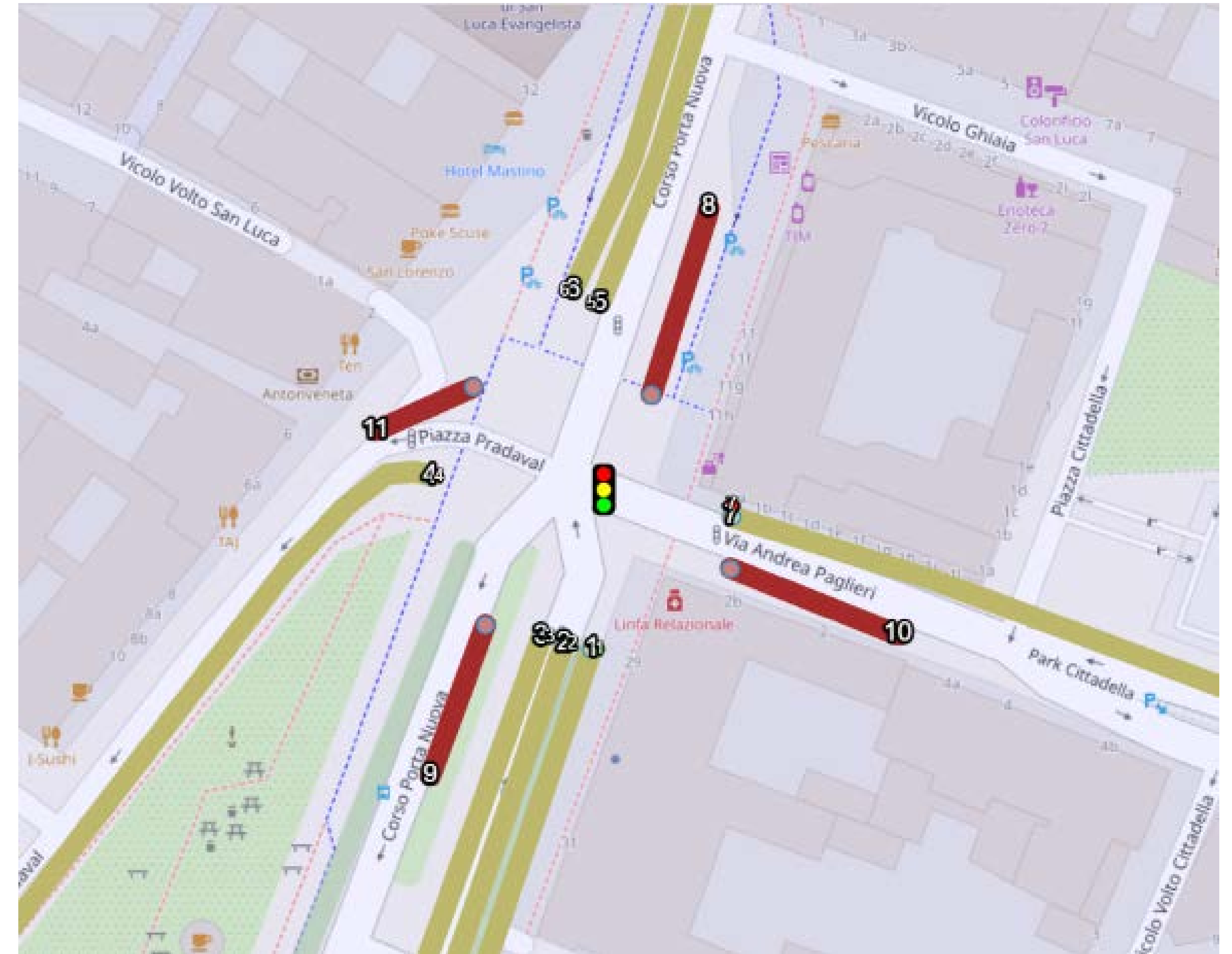
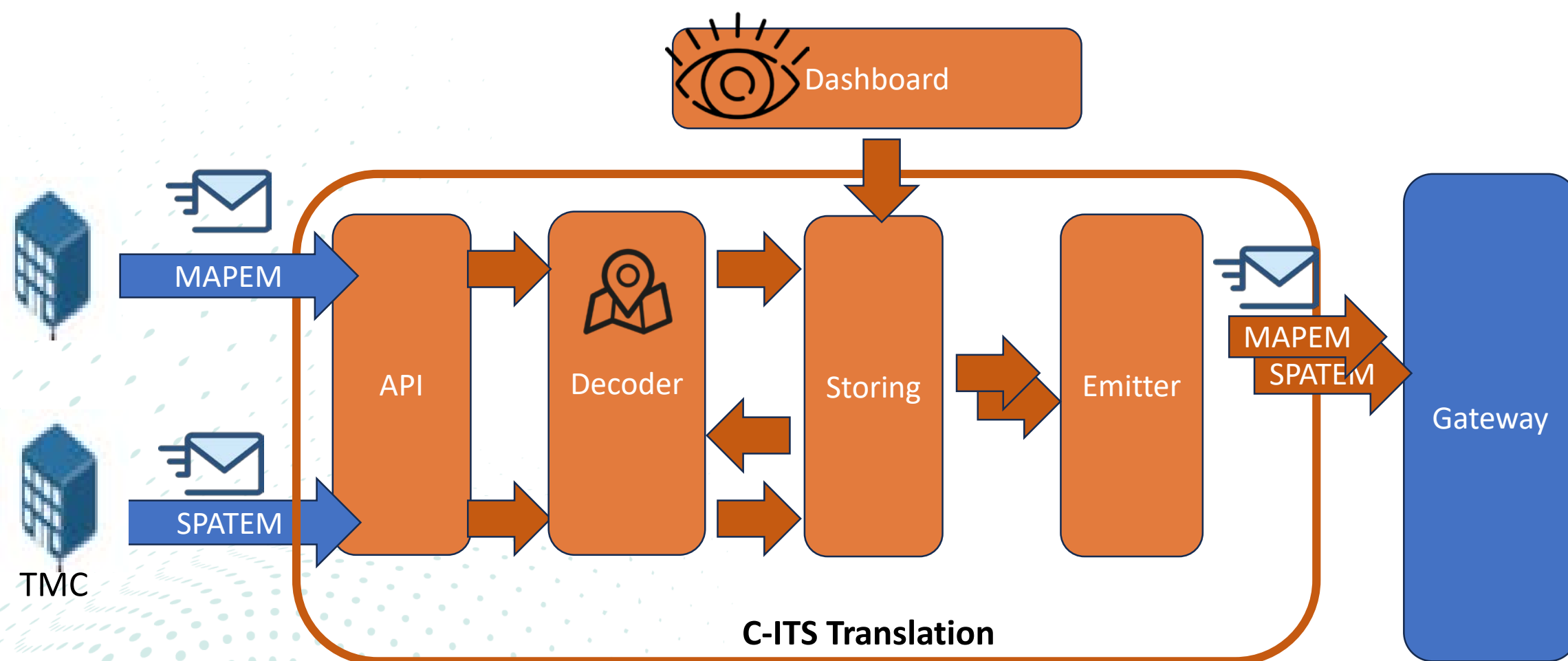
# Where we are located in this project

- Between Traffic Control Centers and the dissemination layer.
- Fast Onboarding and supporting TMCs in order to integrate them in the C-ITS Architecture
- Integration Hub into the Croads Italy 2 Domain.
- Processing complex geographical information into C-ITS compliant messages (DENM/IVIM/SPATEM/MAPEM/POI/SREM/SSEM)



# Use Cases – Signalized Intersections

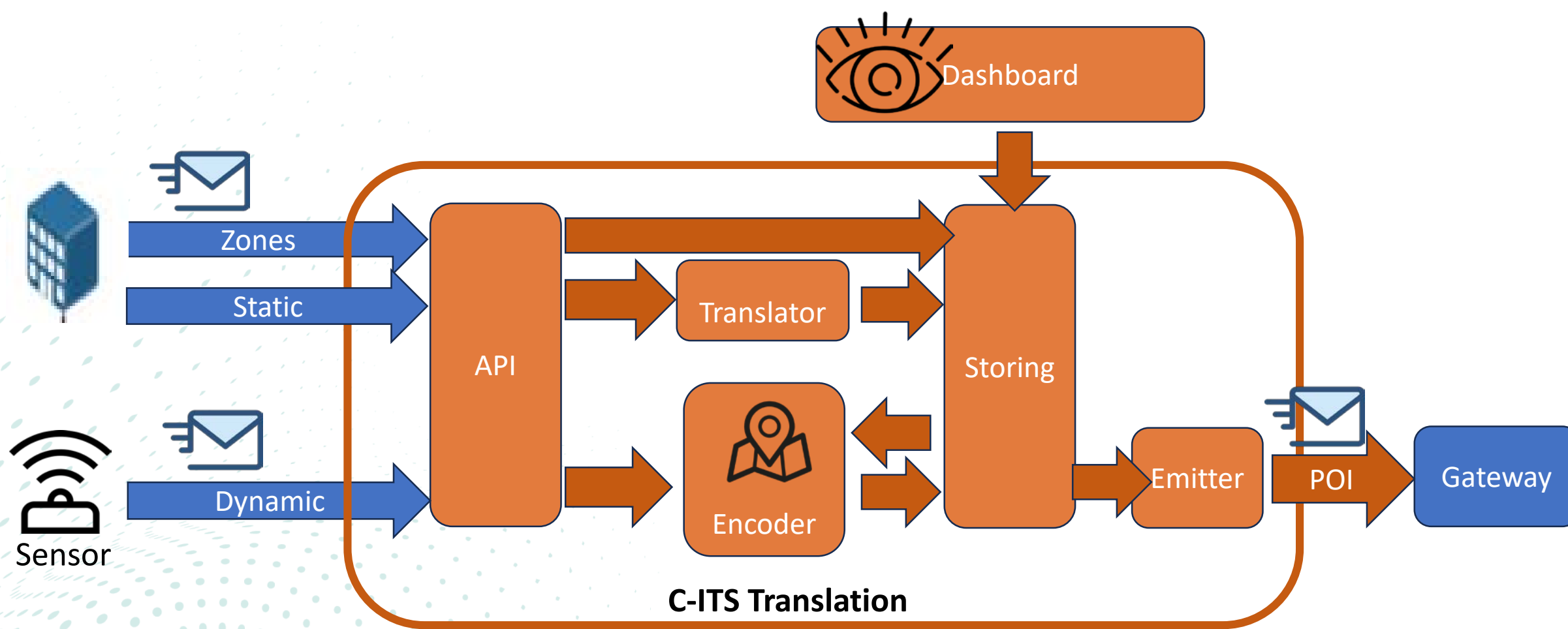
**Movalia Contribution:** receiving and decoding SPATEM MAPEM messages from TMC, visualizing in Movalia Dashboard, troubleshooting and then emitting SPATEM/MAPEM C-ITS messages with the right timing





# Use Cases – Parkings and custom data clustering

**Movalia Contribution:** supporting TMC in the definition of source messages, receiving information about static and dynamic parking data together with the definition of the area where parking slots belongs to. Visualizing parkings and occupancy in each area in the Movalia Dashboard and then emitting POI C-ITS messages.

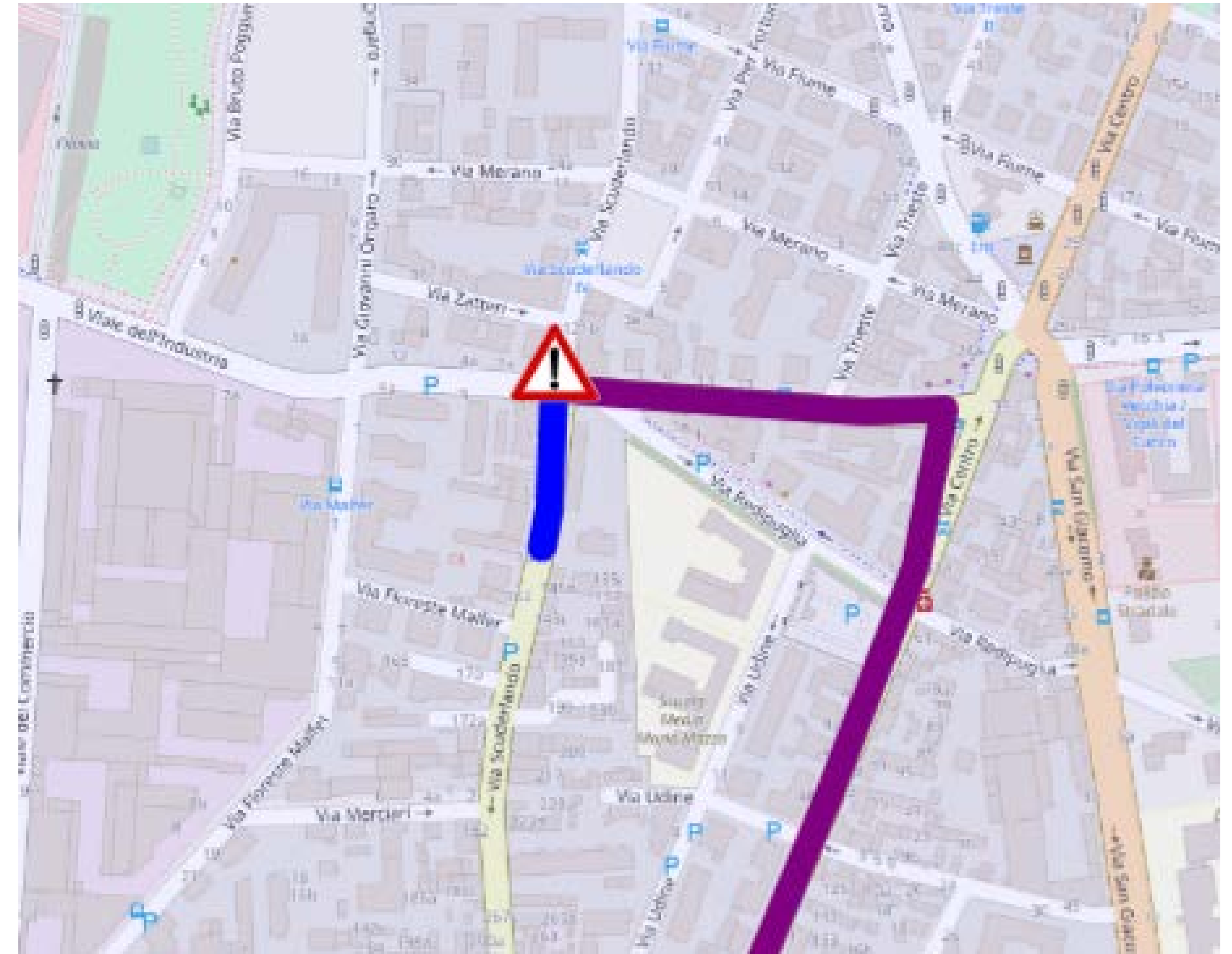
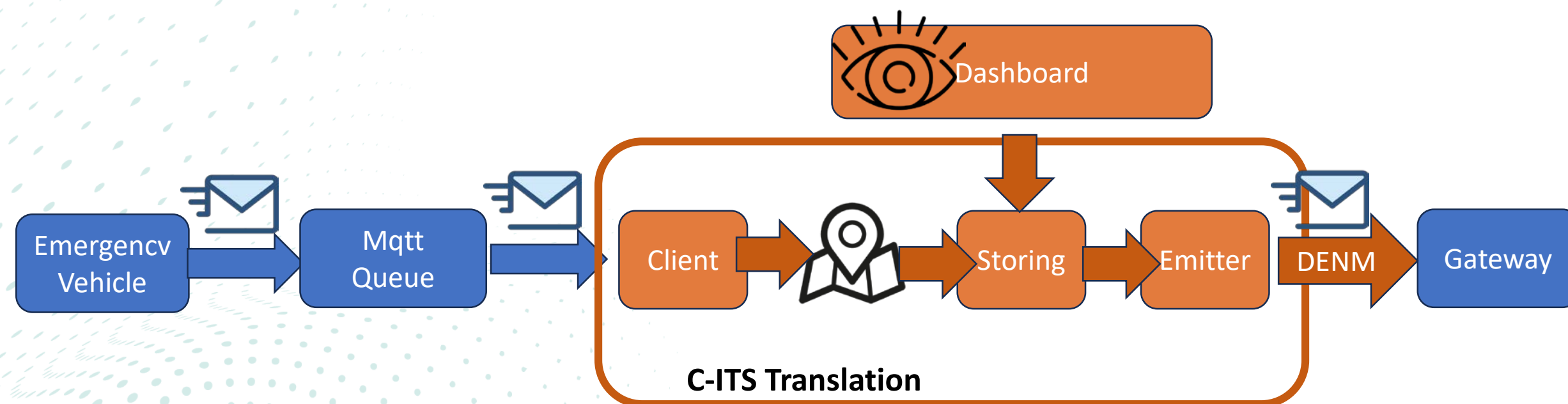


OnStreetParking Use Case



# Use Cases – Emergency or Prioritized Vehicle Approaching

**Movalia contribution:** supporting TMCs in the definition of the emergency message, reception of messages from MQTT queues, geographic calculation for the quick construction of DENM C-ITS messages, to be issued every 2 seconds, with prediction of where emergency vehicles will be in the next two seconds.



# Challenges and Lesson Learnt

## Challenges

- Understand deeper the road and the differences between urban and motorway networks (e.g cornercases, roundabouts, ambiguous ref. points)
- Reduce the p2p delay to the minimum
- Learn to scale the Infrastructure because messages scale exponentially
- Work with the best professionals at international level

## Lesson Learnt

- More e2e test not just p2p
- Never assume, always ask
- More dashboard less log (see the big picture) and be ready to be surprised.





**Thank you**

Stefano Pino



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