

**ASECAP DAYS**



**MILANO 2024**

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**Autostrada del Brennero SpA  
Brennerautobahn AG**



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# **THE DIGITAL TRANSFORMATION OF THE BRENNER MOTORWAY IN THE SERVICE OF SAFETY**

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# WHAT ARE DIGITAL ROADS?

Roads in which the use of information technology, data and connectivity allows changes to the way roads are designed, built, managed and used

Roads able to provide future services to improve transport planning and management

Roads able to deliver wider community benefits





## THE EU SUPPORT

“Digital technologies have the potential to revolutionise the way we move, making our mobility smarter, more efficient, and also greener”

Adina Vălean, Commissioner for Transport

# The Brenner Motorway

## Average Daily Theoretical Vehicles

2023



13,798 / day → 30.4%

+



31,642 / day → 69.6%

=



+



44,440 / day → 100.00%

**+2.8% compared to 2022**



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# Sustainability, Innovation and Digitization

The main areas of investment for the transformation of the A22 into a Smart Highway are:



ENVIRONMENTAL  
SUSTAINABILITY  
AND DECARBONISATION  
OF TRANSPORT

DIGITISATION AND SAFETY

INNOVATION  
OF SERVICES



# Change of mindset



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# Private and public commitment and investments



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# Different technological elements can help the digitization of the infrastructure

**The goal is always one**

**To achieve a safer and more  
sustainable road network**





# IoT and AI to manage traffic flows

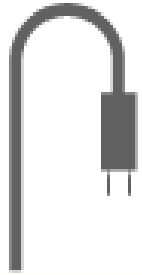
**Real-time data collection  
and analysis**

**Sensors designed to assist  
drivers, enabling them to  
take safer decisions (V2X)**

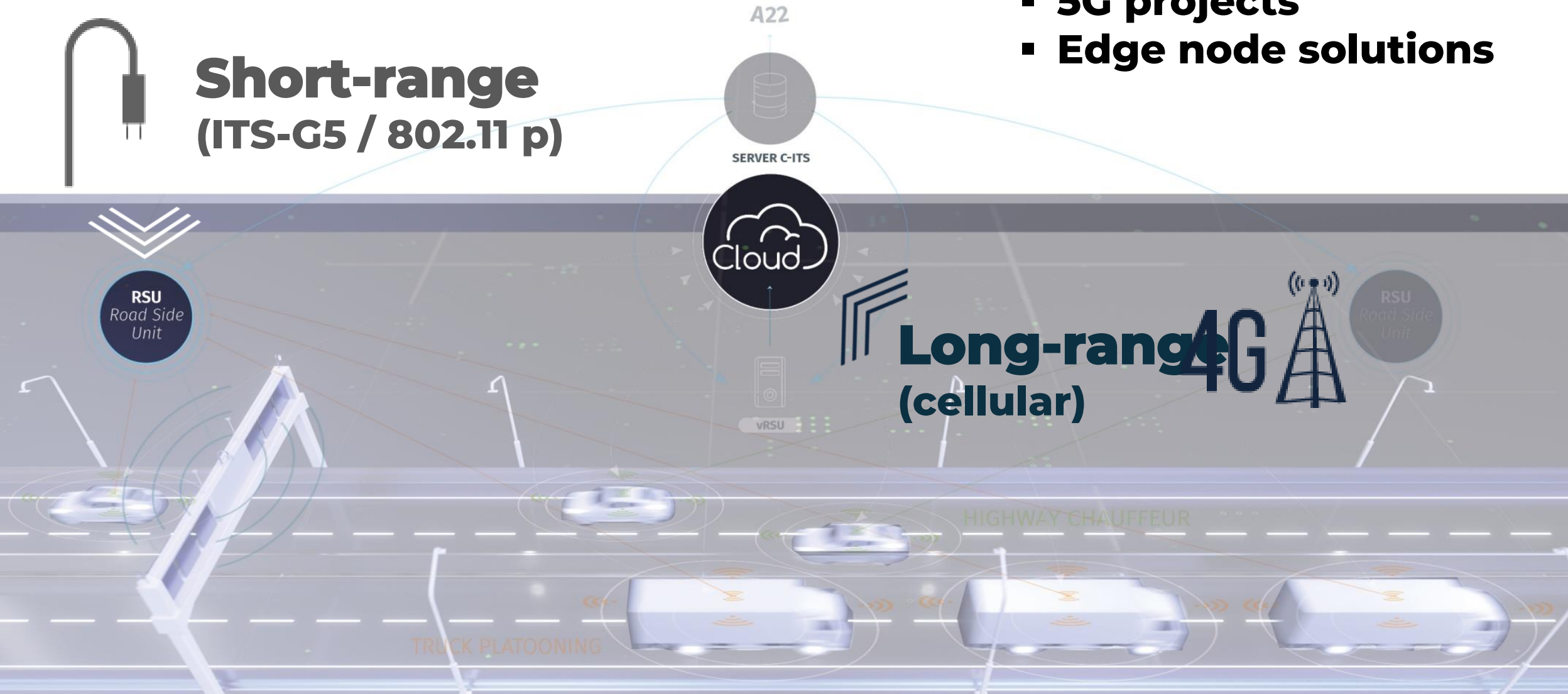


# Our experience – V2X

- **Connectivity in tunnels**
- **5G projects**
- **Edge node solutions**



**Short-range**  
(ITS-G5 / 802.11 p)



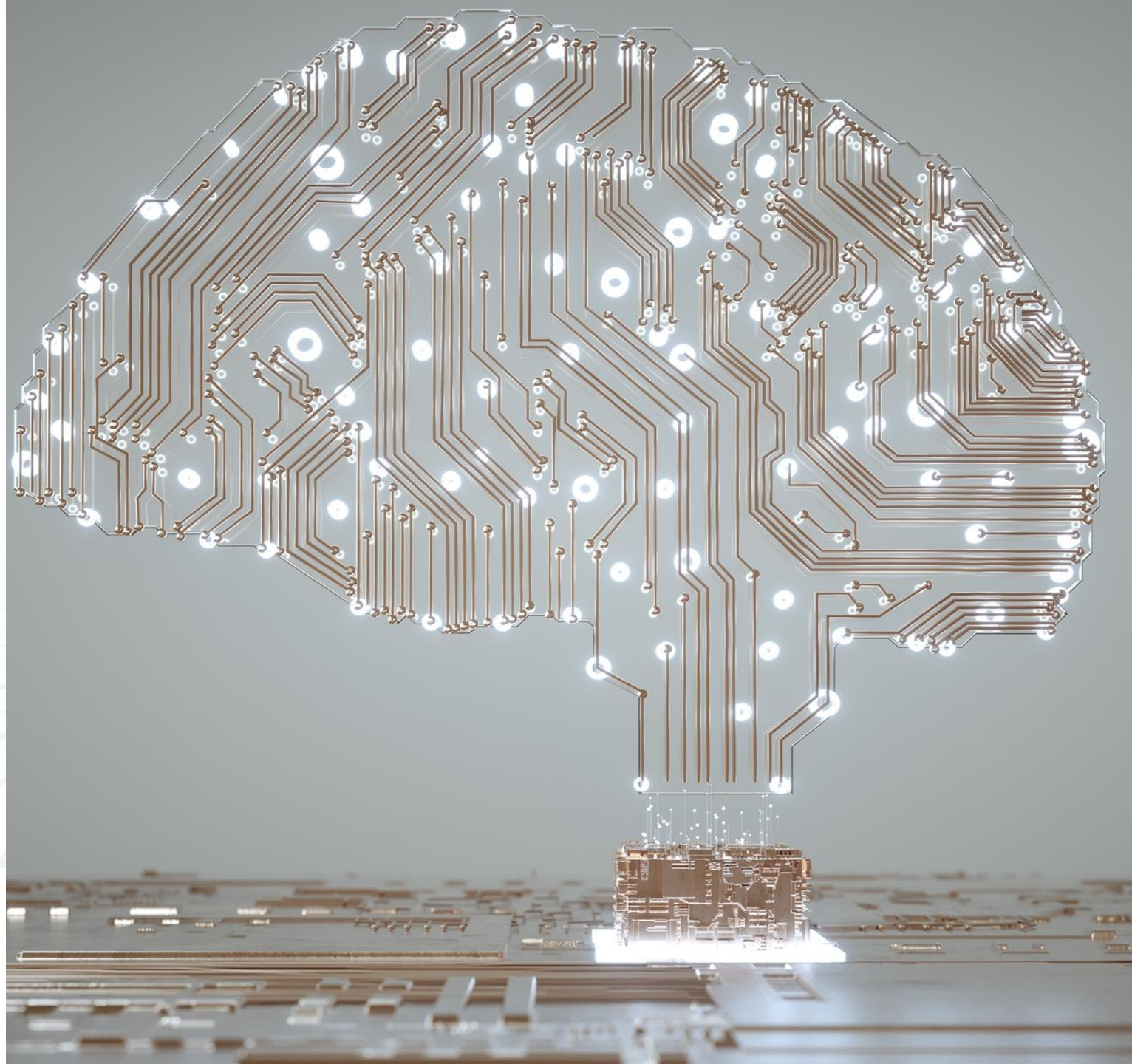
# IoT and AI in infrastructure monitoring

 **AUTOMATED DEFECT DETECTION**

 **SMART SENSORS**

 **INTERNET OF THINGS (IOT)  
IMPLEMENTED IN THE CLOUD AND  
BRIDGE MANAGEMENT IN AN  
INTEROPERABLE PLATFORM (BRIDGE  
MANAGEMENT SYSTEM)**

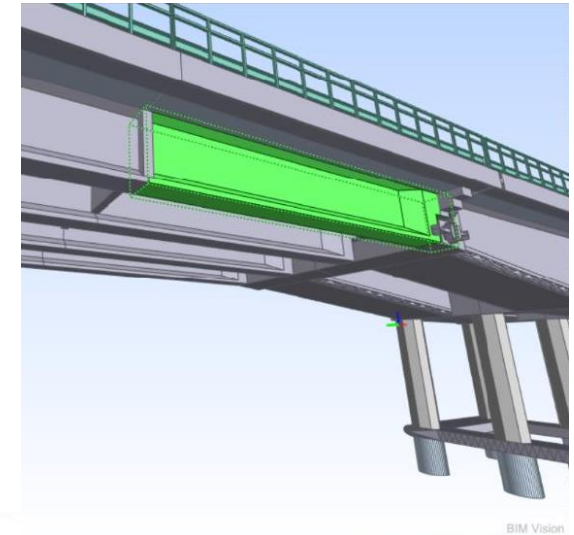
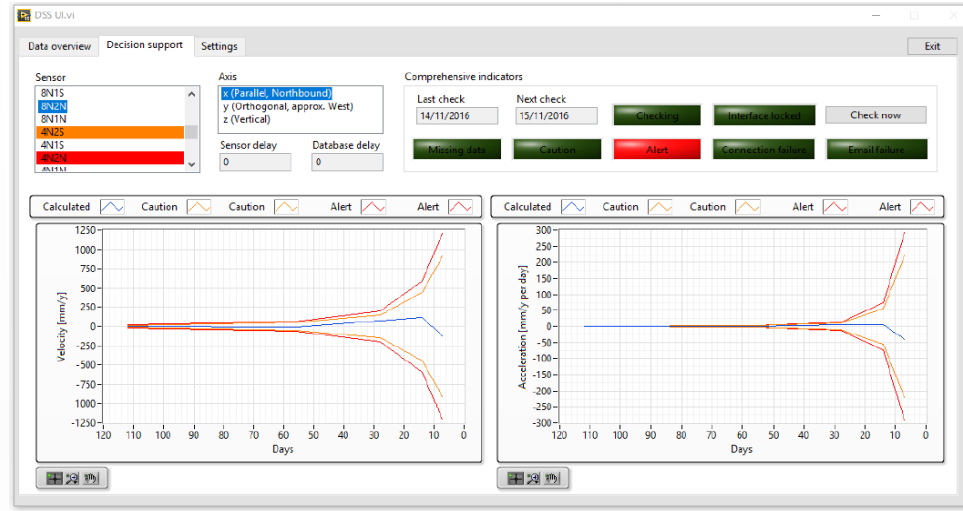
 **AUTOMATED PLATFORM  
REPRESENTING THE INFRASTRUCTURE  
IN A DIGITAL TWIN MODEL**

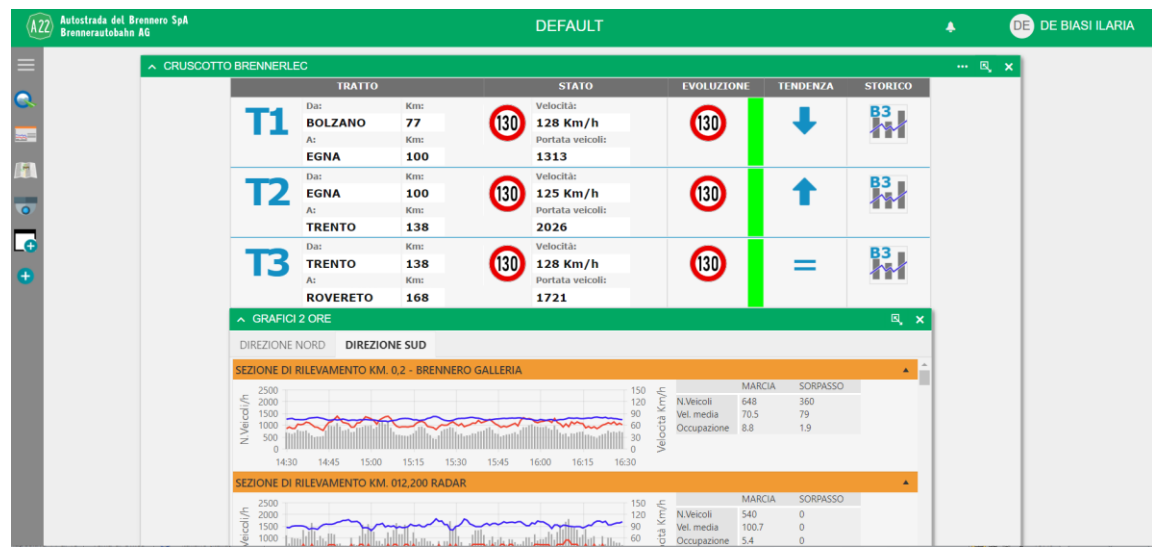


# Our experience – Infrastructure monitoring

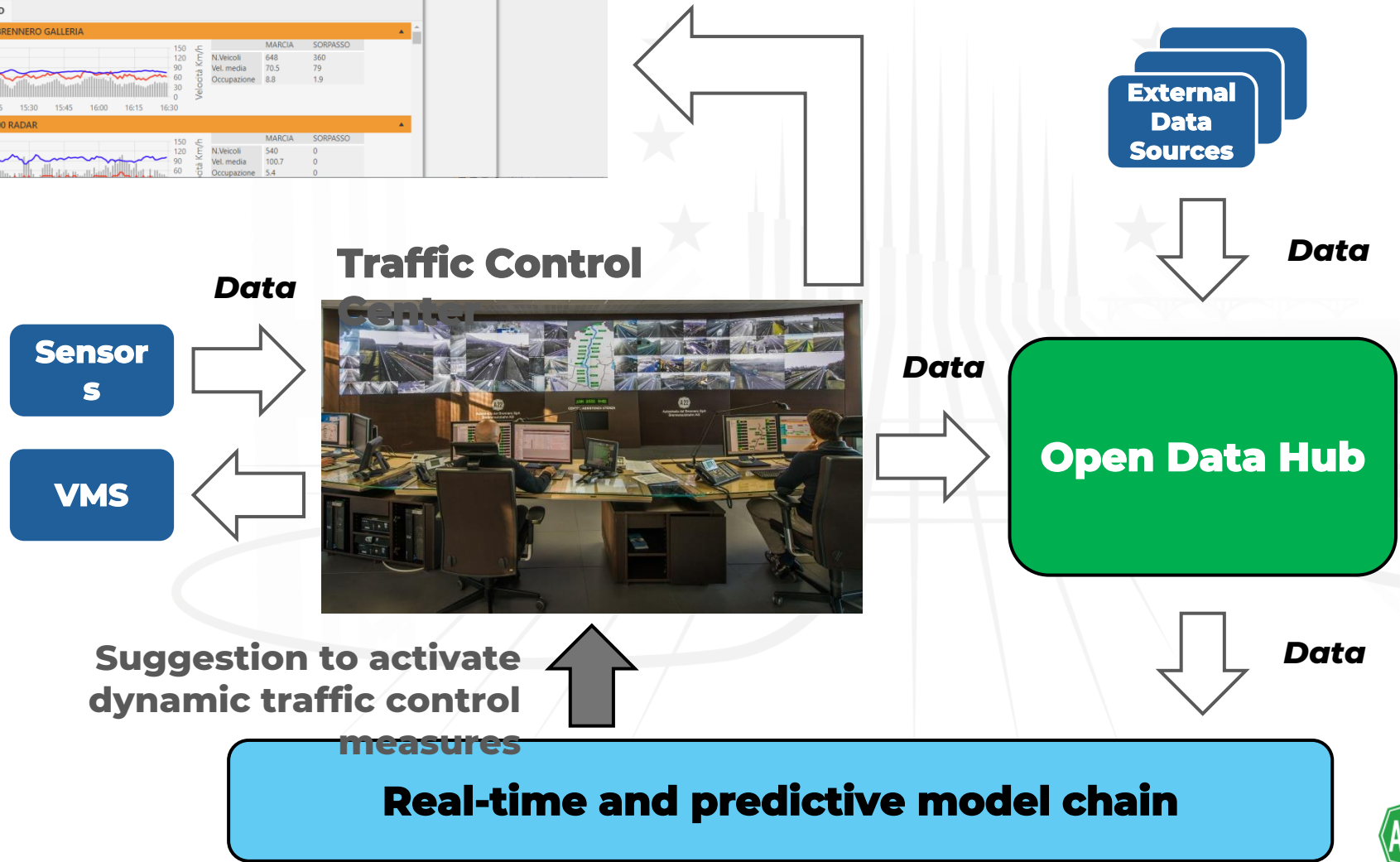
## Structural Health Monitoring through use of:

- **BIM, FEM and Digital Twin**
- **Decision Supporting System**
- **Smart systems for bridge monitoring**
- **Dynamic weighing system**





# Our experience – traffic flows management



## Our experience – MaaS project

**With a single search, the user will access a single mobility service that will consider all forms of transport and a single mode of payment**

**Autostrada del Brennero will develop a Mobility-as-a-Service concept to create a digital European corridor combining infrastructure and services**



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# THANK YOU

**GRAZIE**

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