



# Lorenzo Mantero

## AMT

### iRoute Use Case

MobiSpaces Webinar  
31° January 2023



Funded by  
the European Union



# MOBISPACES USE CASE 1



 **Genova, Italy**



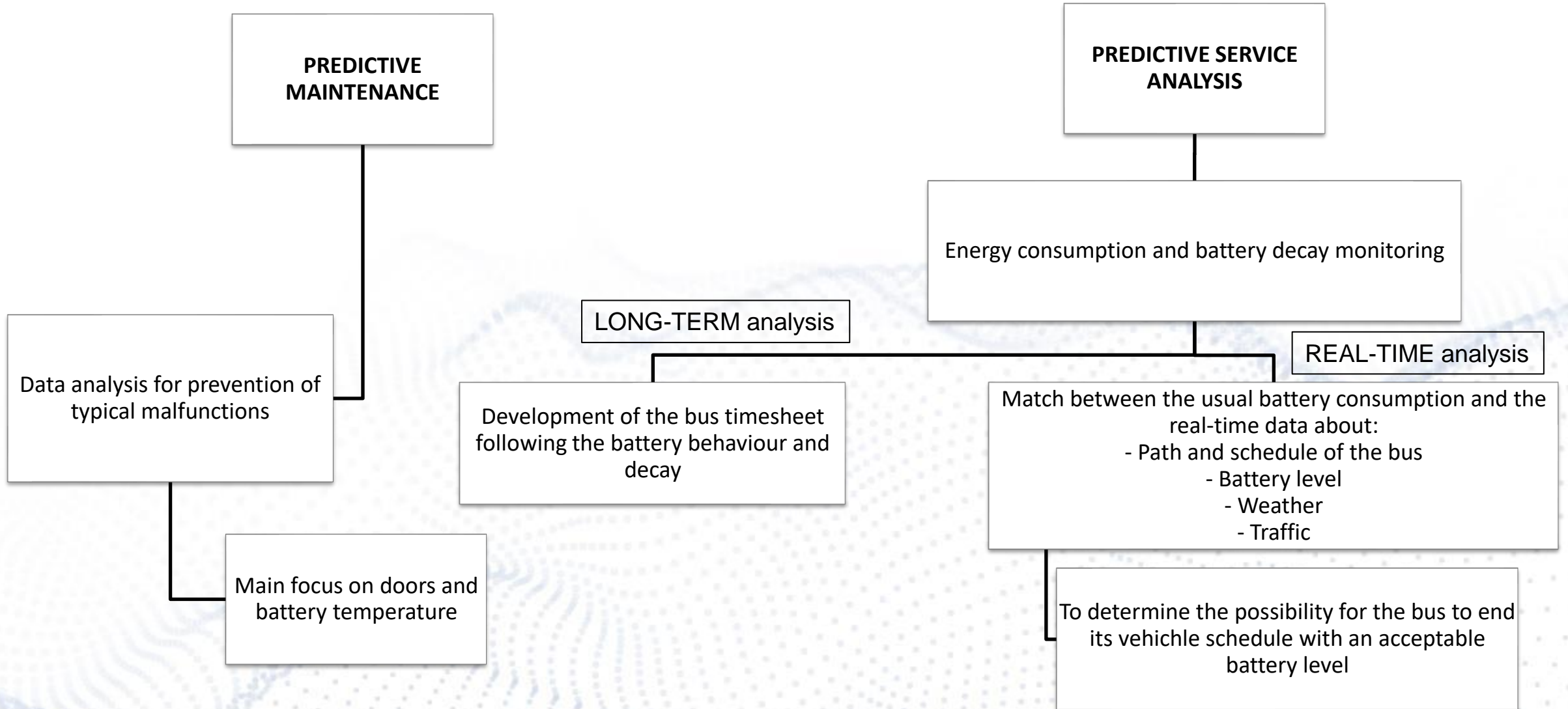
Use Case topic:  
**E-bus fleet management:**  
predictive maintenance and service analysis



Use Case Leader:  
**AMT, Genova Public Transport Operator**



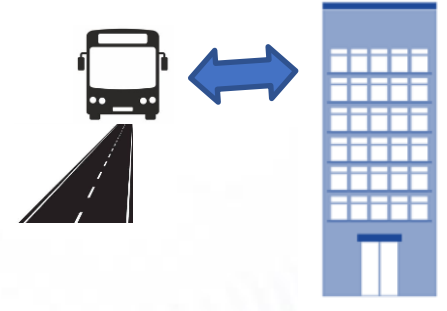
# MOBISPACES USE CASE 1





- **AVM Data**

AVM Data allow to know what every bus made and is making during its service. Some data are collected by the Bus Control Center, other data are sent to the center once a day, when the bus come back to the depot.



- **GTFS and GTFS-RT**

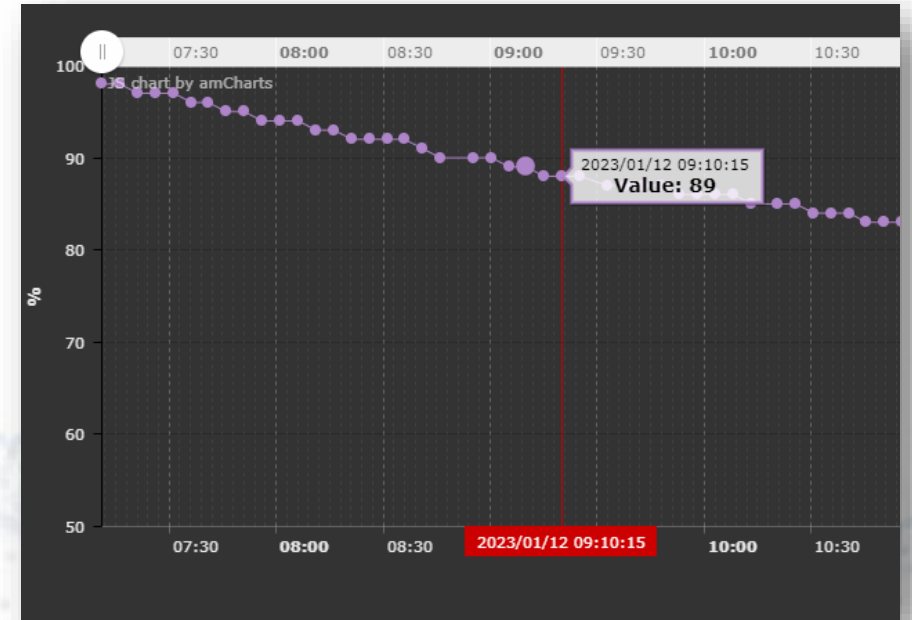
GTFS Data allow to know AMT programmed service.

GTFS-RT Data show the position of the bus, updated every 30 seconds.



- **CanBus**

CanBus data show some functional parameters of the bus and the status of some bus systems, such as battery level.

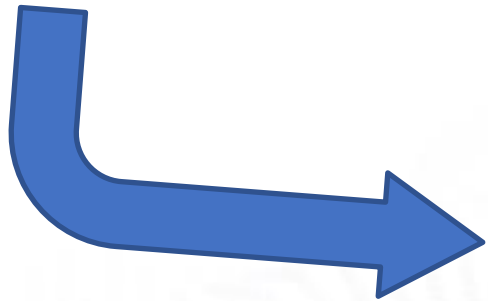


- **External data**

External data such as weather and traffic data are used to correlate the behaviour of bus systems with the external conditions



INPUT



Data analysis and artificial intelligence



OUTPUT



- **SHORT-TERM PREDICTION ON BATTERY LEVEL**

To determine in advance possible problems during service and manage promptly a potential bus change.



- **NEW E-BUS SCHEDULES**

Optimized on the basis of the LONG-TERM analysis on battery levels and decay

- **PREDICTION OF MALFUNCTION**



ART Genova G, Bus grande BUS ticket 483029 scrivi art.pdf

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	10.40 10.47 10.56	11.08 11.17	11.28 11.36 11.44		
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# RESULTS



Better performance in scheduling e-bus timesheets



Optimization of e-bus monitoring and prevention of problems related to low batteries



Optimization of maintenance/repairing services  
Reduction of malfunctions



Reduction of bus waiting for end users/Bus punctuality



Better travel  
experience for AMT  
passengers



# THANKS!



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