

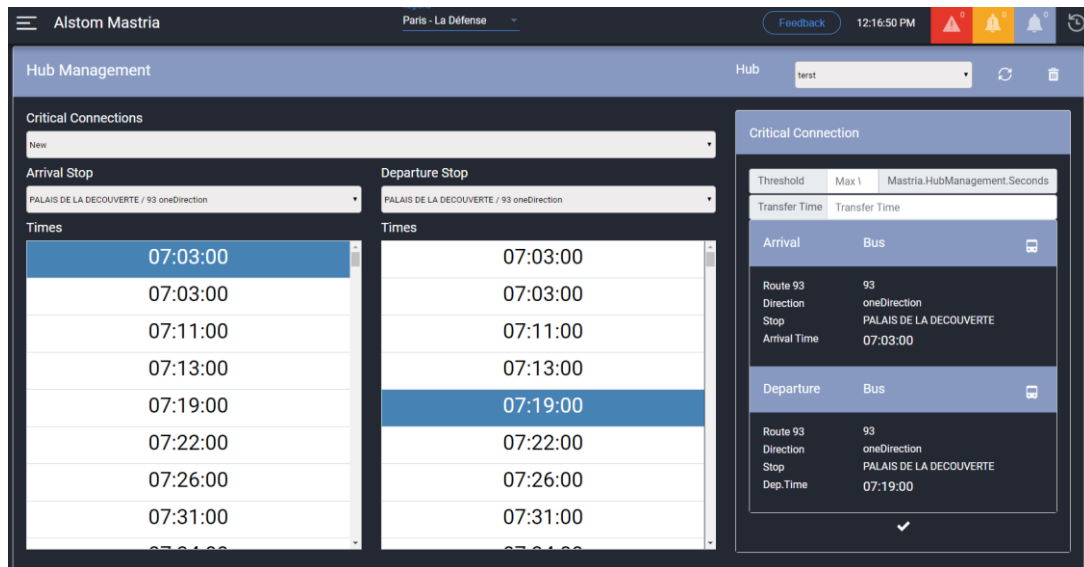
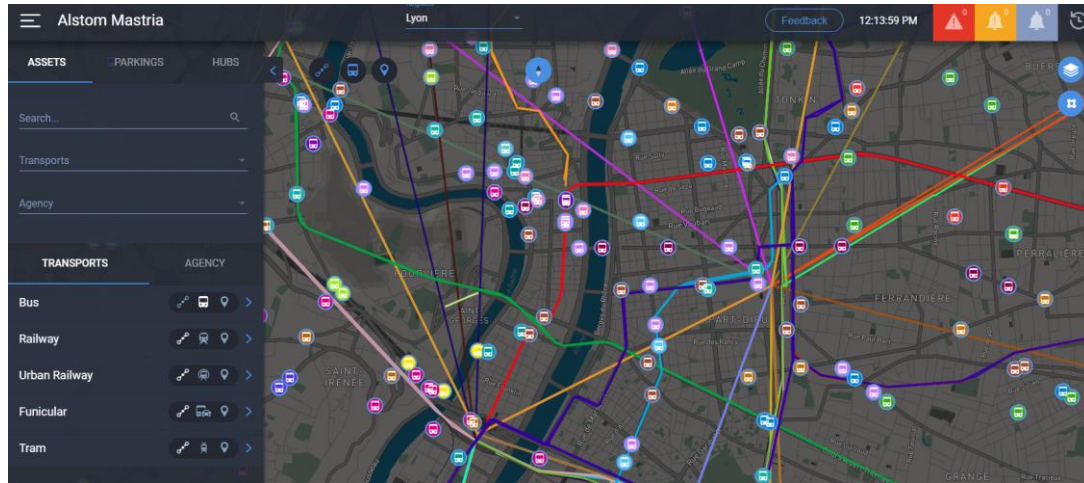
Mastria – customer use cases

Speaker

2019

ALSTOM
Designing fluidity

Example of Projects



Multimodal
Operations Monitoring
Incident Management
Control Center
KPI and Dashboards
Smart HUB
Predictions
People flow
Events & Alerts
Simulation
On Demand
Autonomous

KPIs & Use Cases

Data integration

- GTFS & real time transport data for mainline, urban & private mobility
- Road traffic
- Weather & pollution

CO2 emission modelisation

Origin Destination matrices

Passenger flow data

Interfacing with traffic simulation solutions



KPIs

- Efficiency (timetable adherence)
 - Congestion
 - Modal share
 - CO2 Emissions
 - Users satisfaction

Use Cases

- Mobility flow visualisation
 - Historisation & replay
- Flow modelisation / simulation based on historical data
 - Hubs & critical connection management
 - Incident management / downtime reduction

Added Value

Functionality	Added Value	KPIs
Passenger flow based on historical data & impacts from external factors (weather, pollution, events, incidents, tariffs)	Better demand anticipation for better mobility offer adaptation. Drive modal share objectives	Congestion, travel time, modal share, CO2
Traffic flow based on historical data & interfacing with traffic model	Better mobility service prediction & better passenger information	Forecast & information accuracy
Hub & critical connection management multi-operators (Train / Bus, Bus / Bus)	Availability of a connection for bus or first/last mile	Trip time
Integrated incident digital workflow multi-actors (transport, road control, police, emergency,..)	Minimize downtime due to incidents with faster resolution	Congestion, trip time
Real time visualisation on global mobility, historisation & replay	Better multi-user reactivity and continuous improvement with return on experience	
KPIs (timetable adherence, Congestion, Modal share, CO2 Emissions, satisfaction)	Measure the impact of the transport policy & tariffs	

Toscany (Italy)

Decision Support - Multimodal Dashboards

Regional and Urban transport integration

Dynamic Hubs and critical connections

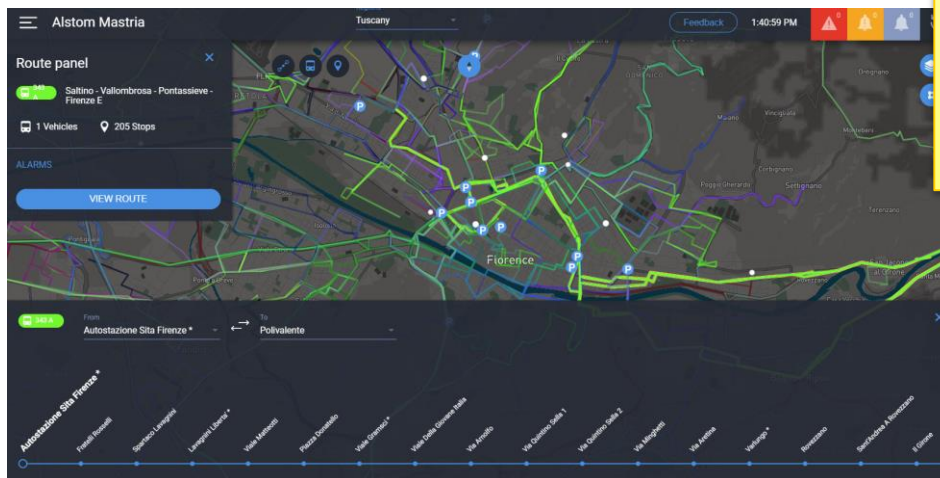
Parking management & integration

People flow (Telco + smart wifi & CCTV)

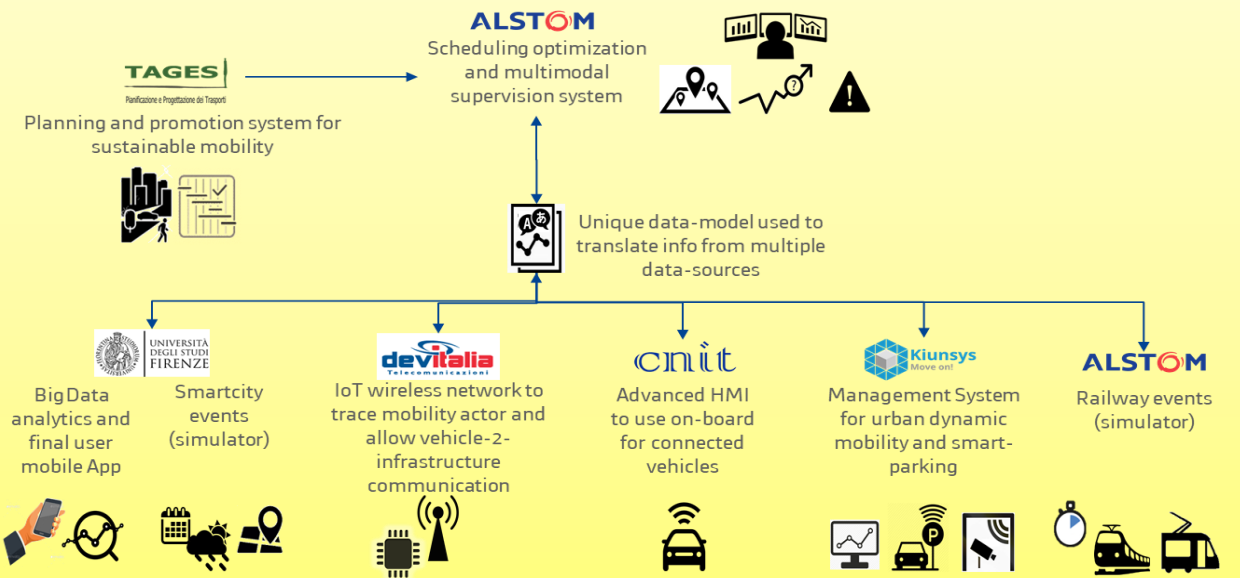
Big Data Analytics / Predictions

Info-mobility data to **connected vehicles**

Mobile apps to promote public transport



Smart City integrated platform to coordinate dynamically multimodal services and promoting sustainable mobility



Paris (France)

Improve the efficiency of multimodal transport
Transport demand anticipation by modeling & measurement by sensors in key areas (CCTV)
Transport Service adjustment & real time monitoring
Simulate and Plan new transport services
Evaluate new services to serve first and last miles

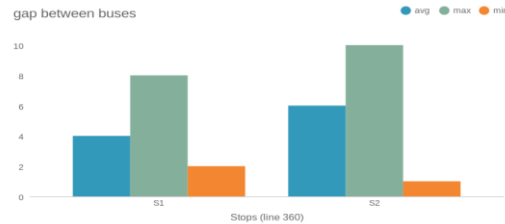
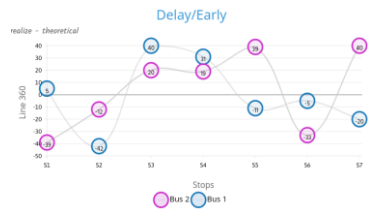
Real Time passenger counting



RT counting solution onboard



Startup counting solution at station

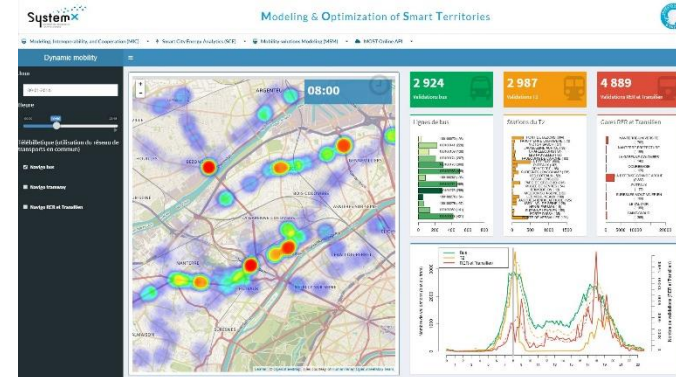


Simulation environment

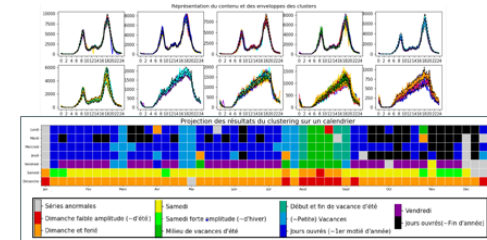
Multiagent simulator

- Forecast current supervision
- Test new scenarios

Passenger flow forecast

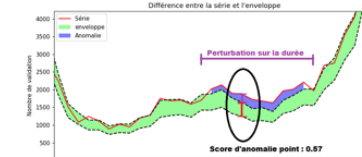


IA technology based on ticketing

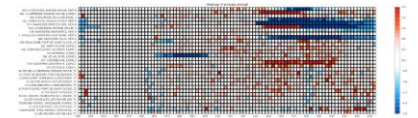


IA technology based on:

- Ticketing
- Internal RATP messages

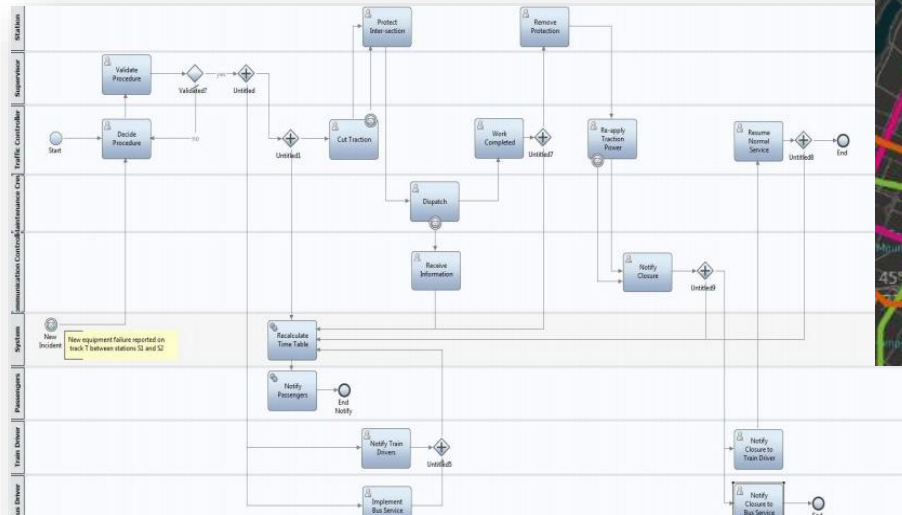


Automatic event detection



Zaragoza (Spain)

Incident Management – **Multi Operators**
Automatic detection of Service disruption
Machine learning
Incident Resolution workflow
Communication between Authority and Operators
Service Level Agreement Monitoring





www.alstom.com

ALSTOM
Designing fluidity