



## ***Integrated Multimode mobility Coordination***

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## ✓ Multimodal mobility

✓ Multimodal ecosystem

✓ Our approach to multimodal orchestration

✓ Q&A

# Orchestrating future mobility



**We all have a reason  
to move**

**And we all have our  
journey stories**



# My worst multimodal trip



Perturbations  
Murphy's law day  
1h 30 mn by transport



# Multimodal mobility

## User's choice

Availability

Security

Time

Cost / affordability

Comfort



## Transport Authorities objectives





Provide efficient mobility

Congestion & pollution  
reduction

Optimize utilization of Public  
space

Modal share targets

# Transport modes efficiency – 10km urban trip / Paris area

Mode		CO2 Emission (Kg/month)	Cost (€/month)	Time Per trip (mn)	Public space utilization
CAR		58	195	30 / 70 (Congested)	++
PUBLIC TRANSPORT		2,3	73	25	-
BICYCLE		0	3	35	-
E-Bicycle		0	5	20	-

**Coupling high capacity & quality of service Public Transports to new mobilities (shared, on demand, electrical) can help reducing drastically the congestion and the pollution by shifting the transport to more efficient and less polluting modes**

- ✓ Multimodal mobility
- ✓ **Multimodal ecosystem**
- ✓ Our approach to multimodal orchestration
- ✓ Q&A



# Multimodal ecosystem



Public Transport

E buses

People flow data  
(GPS & Telco)



MaaS apps

New modes &  
ride sharing

ITS Road



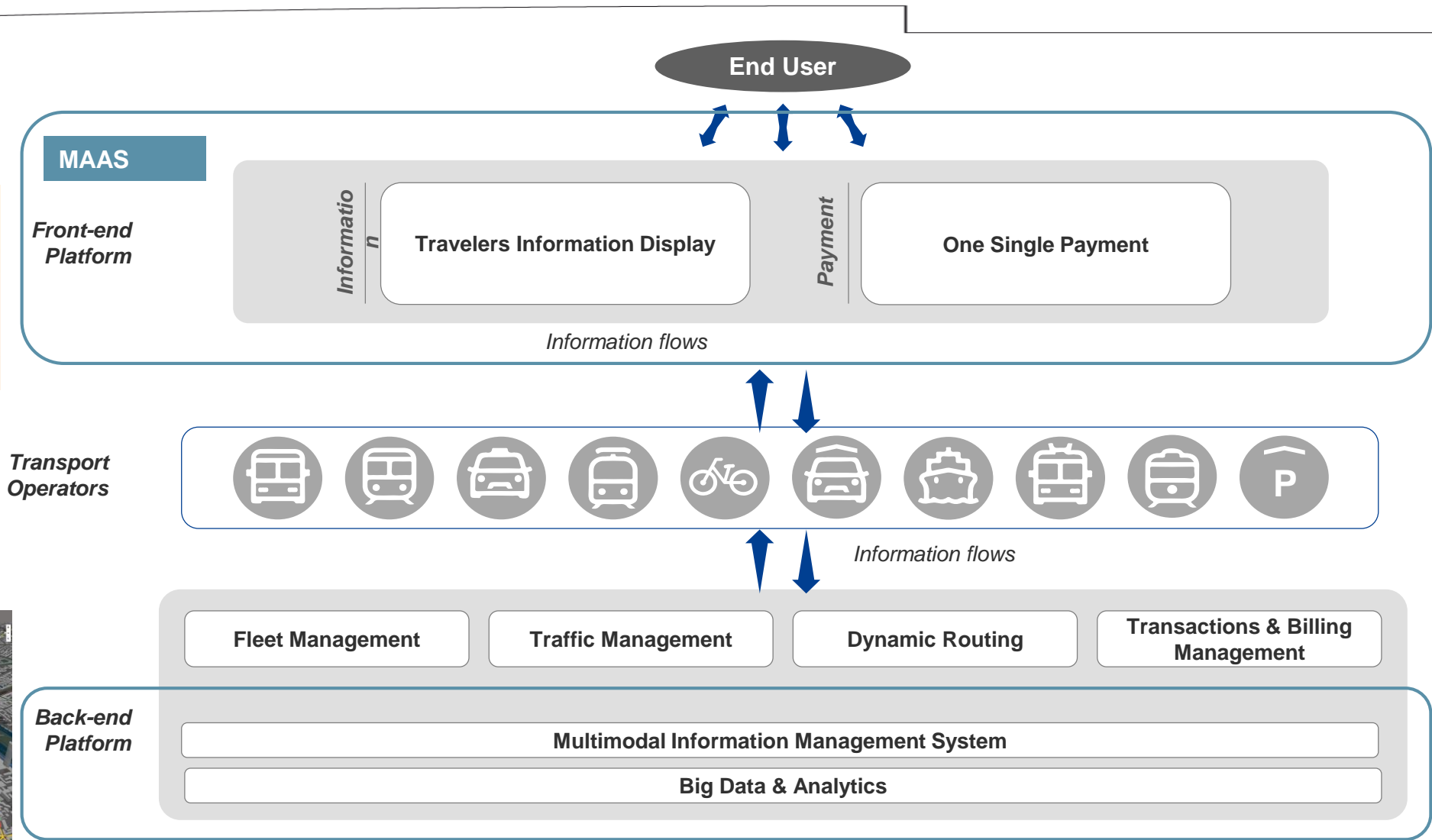
Parking



Public Transport  
Backbone &  
Active  
Data  
Electrical  
Shared  
Autonomous  
On Demand  
MaaS



# Ecosystem - MaaS



# Mobility data analytics & Modelisation



**Data is the new driver**

**People flow monitoring & forecasting**  
**Monitoring mobility efficiency & users satisfaction**

**Better planning investments**  
**Better monitoring new modes**

- ✓ Congestion & Multimodal optimisation
- ✓ Multimodal ecosystem
- ✓ **Our approach to multimodal orchestration**
- ✓ Q&A

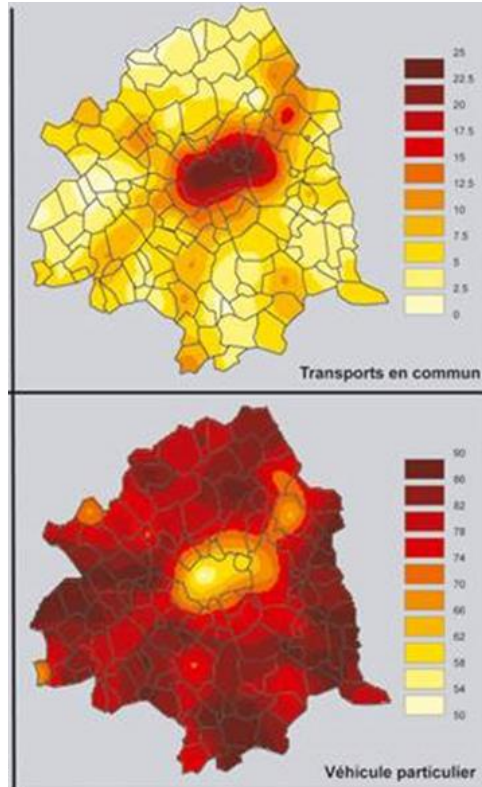


# Some of the main challenges of public transport in the next decades



Urbanization  
Congestion  
Pollution & global warming

# City center / Suburban mobility

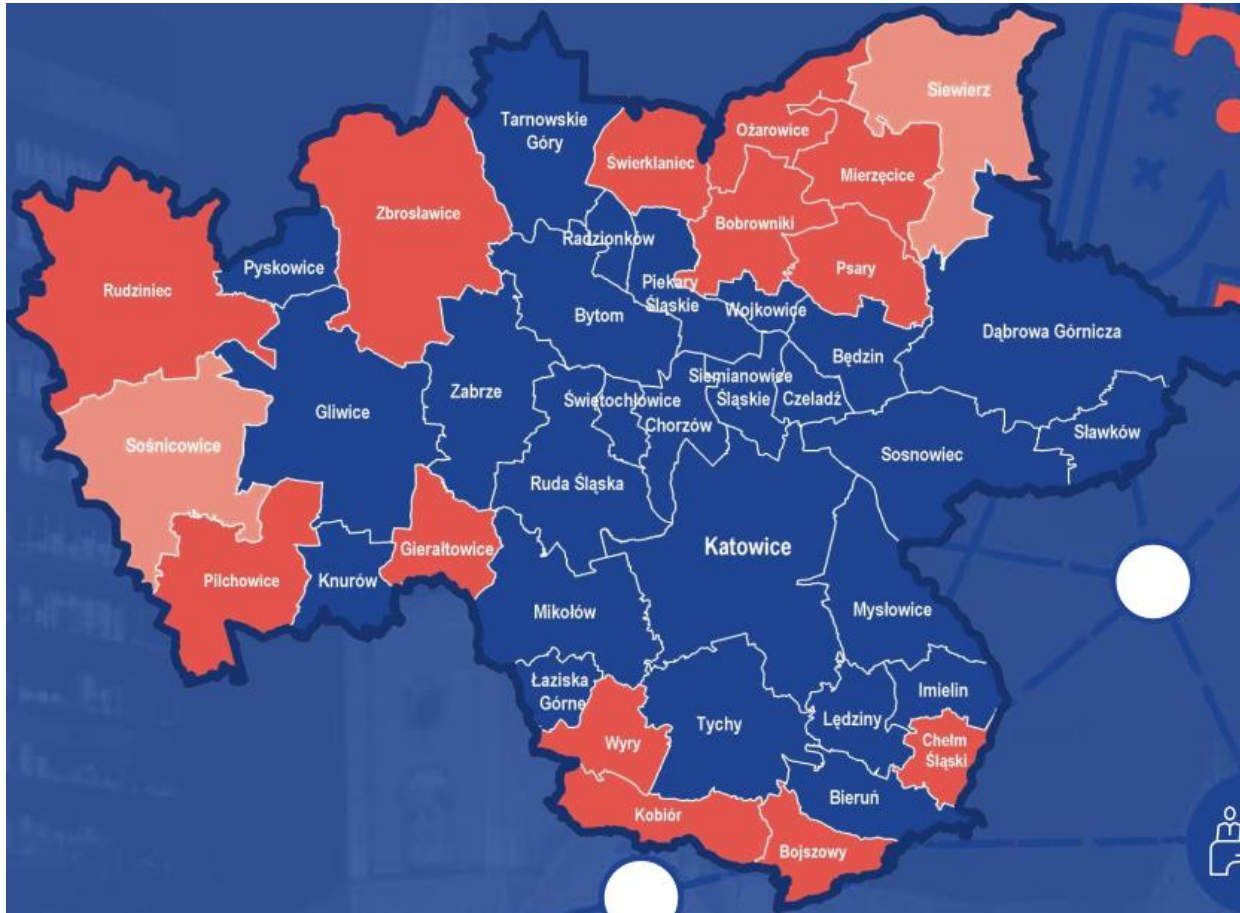


## Mobility modes

Suburban mainly by car

City center mainly PT & alternative modes

# Regional / cross border mobility



## Regional coordination

Multiple cities & transport authorities

Multiple Public & private operators



# Our approach to multimodal orchestration



## Orchestrating future mobility

**Integrated view on mobility flow**

**KPIs : efficiency, congestion, modal share,  
customers satisfaction**

**Capability for PTA to decide actions to improve the  
KPIs**

- Capacity adaptation to demand
- Mobility improvement with multimodal orchestration
- Simulating impact of changes

**(timetable, infrastructure, prices and external  
factors (incidents, planned events, weather &  
pollution))**

# Our pilot Projects – Florence



## Stakeholders

Tuscany Region &  
Florence City

University of Florence

Urban planning  
agency

Smart mobility &  
Parking cie

Telecom cie

## Multimodal mgt

Trains, Trams, buses & road

Touristic buses & parking

Hub management & people  
flow (airport, train stations)

Network state evolution



# Our pilot Projects – Paris la Défense



## Some Stakeholders

RATP

IRT System X

Cosmotech

## Multimodal mgt

Suburban train, metro, tram,  
buses, mainline train

Traffic simulation

Network state evolution

People flow monitoring and  
forecasting



# Take away

**User's choice**

**Orchestration**

**Transport  
authorities  
objectives**

**New mobility  
service providers  
& last mile  
solutions**

**Mastria,  
Multimodal  
Orchestrator**

**MaaS**

**Public Transport  
backbone efficiency**



# Multimodal orchestration – Q&A



You can download our White paper  
at :

<https://www.alstom.com/whitepaper-orchestrating-future-mobility>

Multimodal orchestration – THANK YOU !



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