

Jahrestagung des Fachausschusses „Urbane Mobilität und Mobility Pricing“ des ITS Germany e.V.



Urban Mobility and Pricing in Italy

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In this presentation...

- Who's Movyon and why we are here
- A brief description of urban pricing in Italy as well as adjacent schemes and their integration with urban pricing
- An explanation of new trends and current programs to support smart cities including urban pricing
- Conclusions



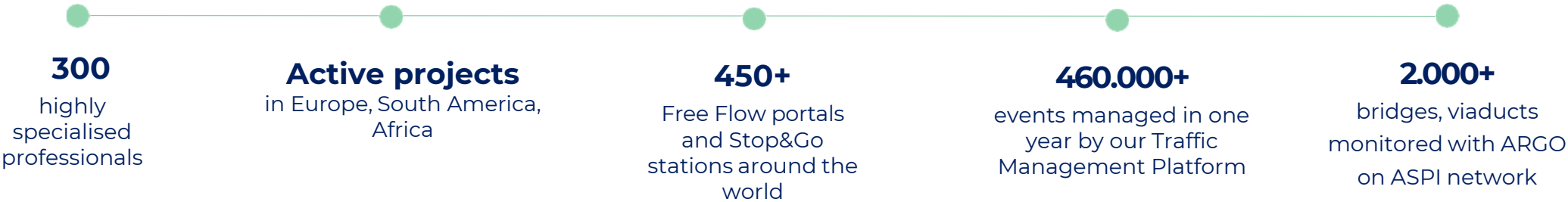
MOVYON

Autostrade per l'Italia Group

DIGITAL ENGINEERING FOR SUSTAINABLE AND SMART MOBILITY

We are a leader in the development and integration of Intelligent Transport Systems solutions and a centre of excellence
for research and innovation of the Autostrade per l'Italia Group

Our numbers



Our Solutions



Tolling



Traffic and Safety Management



Infrastructure Management



Smart Roads



Smart Cities

autostrade *per l'italia*



Technology,
R&D



Engineering and
implementation



Construction and
related services



Energy from
renewable sources



Services for
travellers

Foreword

- Urban pricing schemes have been designed to reduce externalities generated by traffic.
- Main impacts regard:
 - **time loss** due to congestion,
 - local **pollution**,
 - **noise**,
 - contribution to **climate change** caused by emissions of GHGs,
 - **pavement costs** and road damages,
 - increase in **accidents risks**,
 - **extra-fuel** consumption,
 - decrease in **quality of life**.

Moreover, road pricing schemes generate public revenues.

- Urban pricing, born mainly as **Congestion Charging** and **Low Emission Zone**, is becoming more and more integrated with other adjacent applications such as EV charging, refueling, smart parking, etc.
- There are four main experiences of urban pricing in Europe:
 - London (since 2003),
 - Stockholm (since 2007),
 - **Milan** (since 2012) and
 - Goteborg (since 2013).

Since their launch, the schemes have been adjusted in terms of amount of charge, area of application and other features.

Urban pricing/mobility in Italy: Limited Traffic Zones

- Since 1996, **LTZs** (Limited Traffic Zones) flourished in major cities of Italy; here are a few examples of LTZ policies implemented in significant Italian cities:
 - **Rome** divides the city into various zones with restricted access based on the vehicle's emission levels, time of day, and purpose of travel. Some zones are permanently restricted, while others have specific access timings.
 - **Florence** has established the LTZ system, similar to Rome, that restricts access to non-resident vehicles within the historical center. The LTZ operates during certain hours and days. A new extension named *Scudo Verde* (Green Shield) potentially evolved to a pricing zone is going live, soon.
 - **Turin** has introduced an LTZ called Area B, covering the city center. It restricts access to only low-emission and electric vehicles from Monday to Friday during specific hours. Outside these hours, access is allowed without restrictions.
 - **Bologna** has a comprehensive LTZ system which restricts vehicle access based on emission levels, fuel types, and vehicle dimensions. Since 2019, diesel vehicles are entirely banned within the city center, except for those with specific permits.
 - **Milan**: there is a LTZ named Area B and a CC/LEZ named Area C (focus on the next slide)
 - Technology: CCTV, DSRC (obsolete)
- In other Italian towns and cities, the policy is gradually evolving to a hybrid form of urban pricing by requesting LTZ permit holders to pay an annual fee or a pass to enter.



Area C scheme in Milan

- The Area C Urban Pricing Scheme in Milan is a program implemented to **reduce traffic congestion and air pollution in the city center**;
- Introduced in 2012 as part of a broader effort to promote sustainable transportation and improve the quality of life for residents.
- This toll applies on **weekdays from 7:30 am to 7:30 pm** and is applicable to **all types of vehicles**. The charges vary based on the type of vehicle and its emission levels.
- The main objective of the Urban Pricing Scheme is to **discourage private car use in the restricted area and encourage alternative modes of transportation** like public transport, carpooling, and cycling. The revenue generated is reinvested in improving public transportation infrastructure.
- The scheme has **successfully reduced congestion and emissions**, leading to improved air quality and livability.
- Technology: CCTV



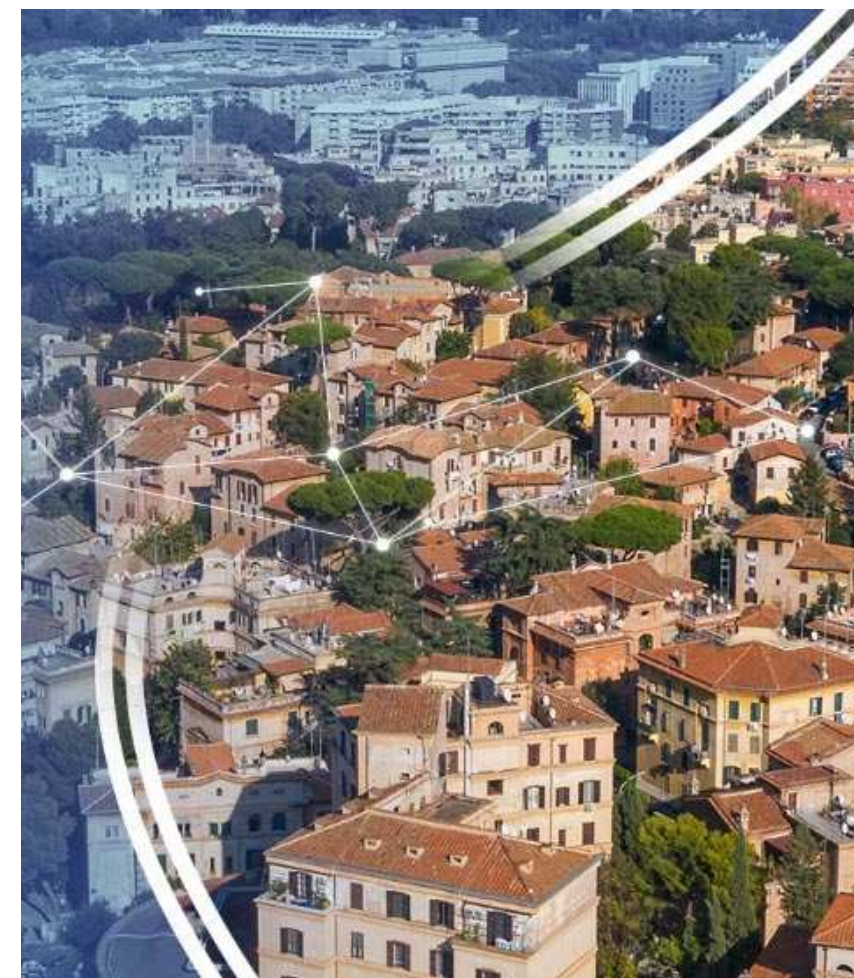
Other Urban pricing/mobility services

- **CTZs** (Controlled Traffic Zones) in major airports; a traffic area where it is permitted to stay for a limited time (es. 7 min.), also known as *Kiss&Go* areas. Every airport in Italy has such schemes
- **Bus/Taxi lanes enforcement**
- **Automatic Parking**, on street and in parking lots (> 1 500 lanes all over Italy)
- **I-BUS** The project, firstly developed by Movyon in the city of Rome, involves the use of GNSS OBUs on all tourist buses with a subscription or carnet for access to the city of **Rome and Florence**.
 - Monitoring compliance with recommended routes and prohibited areas
 - Allowing payment for resources in the city based on their actual use (pay for use)
 - Offer a single tool for accessing and paying for services
 - Making the system interoperable with other Italian cities of art
 - Dematerialising access permits
 - Analysing bus behaviour in the area
- **EV Charging/ Fueling**
- **Smart Logistics** The overall system is aimed at monitoring, controlling and planning the movement of goods within urban centers, especially *last mile*.
- Such new schemes are often integrated in an offer bundle from main mobility providers such as **Telepass, Mooney, UnipolTech**.



Smart City: A rational approach to cities and mobility services

- Smart city: a new way to experience the city
- Technology and **digitization** are making cities increasingly “smart”.
- A **data-driven revolution** that is also affecting mobility: reducing traffic, cutting pollution, and providing new services to the community are goals shared by citizens and infrastructure operators to improve everyone’s lives.
- **Safety, efficiency and well-being**: these are the underlying principles of the smart city philosophy. An innovative concept that is increasingly becoming the focus in contemporary societies.
- In fact, the term refers to the application of new technologies and digital techniques in the context of urban centres **to serve citizens and businesses**: advanced decision-support tools can use data collection and processing to **optimise resources**, prevent waste, and improve everyone’s lives by an aggregation and an optimization of pricing/mobility services into a comprehensive set.



Development of urban mobility and pricing in Italy



1 Maas4Italy program

- **Promoter:** Italian Government – Digital Transformation Department
- **Total Budget:** 57 Mio EUR (funded by Next Generation EU Plan)
- **Purpose of the Program Maas4Italy:**

1. Experimenting MaaS* in the territories:
 - introduction of digital platforms,
 - new business models,
 - data sharing and interaction between the different actors offering mobility services,
 - assessing the impact on the environment and the socio-economic context;
2. To create an open platform ("Data Sharing and Service Repository Facilities - DS&SRF) to guarantee an effective interaction between the various stakeholders and to realise a single national access point to the set of transport and mobility offer data available for the MaaS.
3. Strengthen the digitalization of the public transport enabling digital payment services, user information systems and travel booking services.



<https://innovazione.gov.it/progetti/mobility-as-a-service-for-italy/>

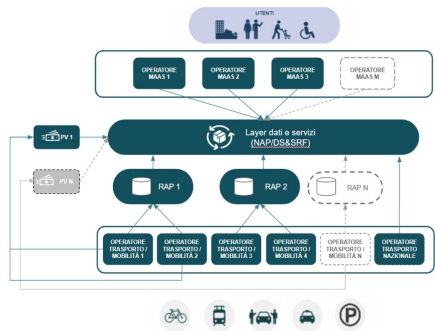
* MaaS is a comprehensive mobility concept that provides for the integration of multiple public and private transport services accessible through a single digital channel.

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Maas4Italy program

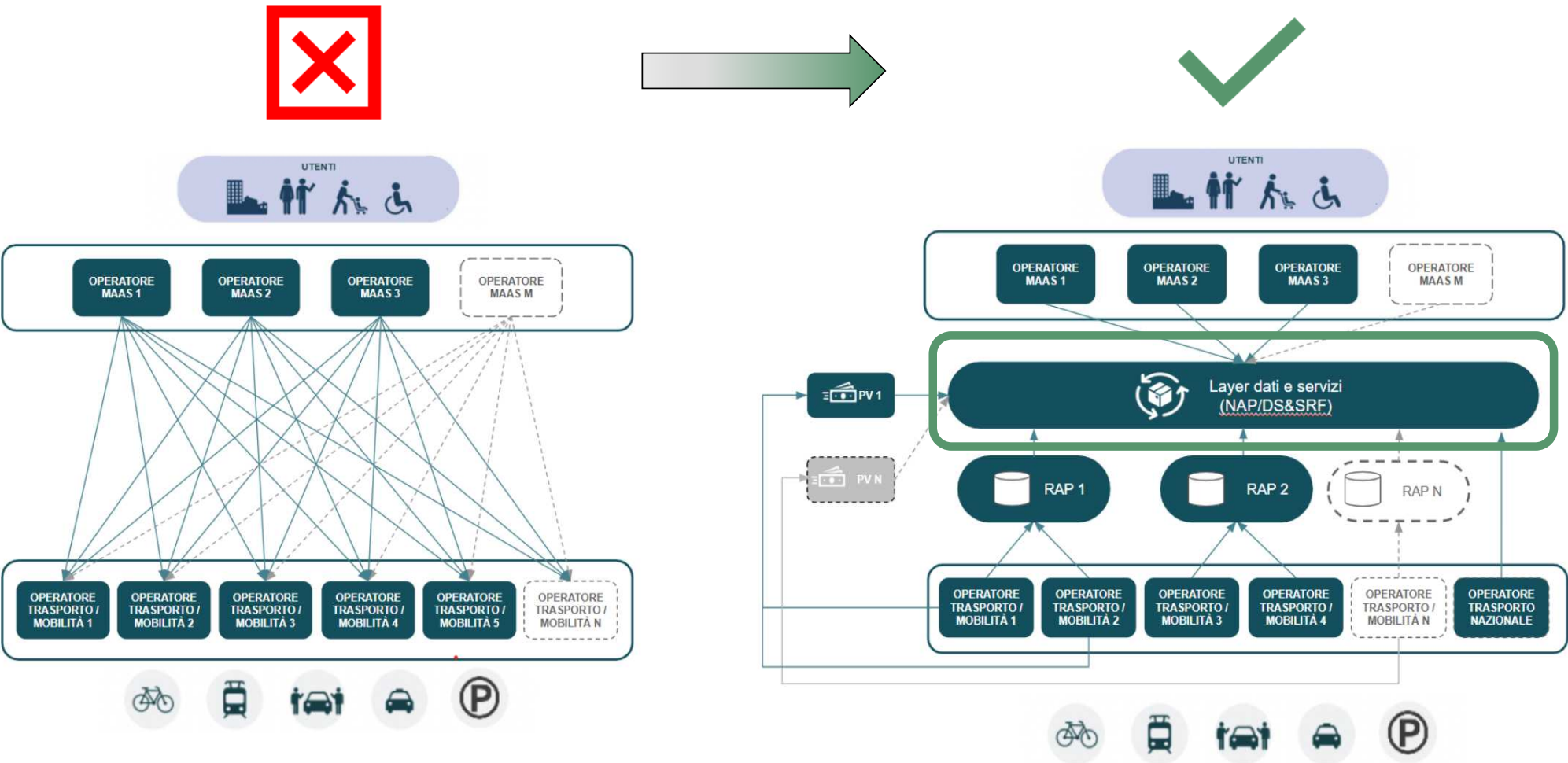


- **Three main phases:**
 - The **first phase** will fund experimentation in technologically **advanced metropolitan cities**, defined as "pilot" cities. **Milan, Naples and Rome were identified** in the first public notice.
 - in the **second phase**, the central government will **extend** the initiative to **three other metropolitan city capitals, Firenze, Bari and Torino**.
 - The **third phase** of the project will involve a selection of **seven territories**, following a multi-territory approach to ensure the continuity of the travel experience between different **cities, territories and regions**
- In a nutshell, the "Mobility as a Service for Italy" program envisages that **the State will act both as:**
 - a **regulator** - for the definition of **rules, obligations, regulations and standards** for the interaction between all the players in the ecosystem - and as
 - an **enabler**, through the **deployment of an open platform**, capable of enabling the effective development of MaaS . To meet this need, in line with European Regulation 1926/2017**, the public sector will finance the creation of an open platform that will be called Data Sharing and Service Repository Facilities - DS&SRF.



** Commission Delegated Regulation (EU) 2017/1926 of May 31, 2017, supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the EU-wide provision of multimodal mobility information services.

DS&SRF (Data Sharing and Service Repository Facilities)



Source: https://assets.innovazione.gov.it/1661781483-indirizzi-per-l-attuazione-del-progetto-maas-for-italy_29-08-22.pdf



2 Smarter Italy program – Smart Mobility

- **Promoter:** AgID – Agenzia per l'Italia Digitale (Italian Digital Agency)
- **Total Budget:** 90 Mio EUR
- **Smarter Italy is composed by 4 sub-programs to be delivered in 23 major and minor cities:**
 - Smart Mobility
 - Smart Logistic,
 - Mobility in Weak Demand Areas,
 - Mobility in Historical Centres and Villages
- **Smarter Italy Program** is a tender for **Research and Innovation Partnership** for developing a National Platform for Smart Mobility favouring the development of sustainable urban mobility by offering functionalities aimed to:
 - the improvement of **ordinary and extraordinary planning and management** of urban mobility, at national level and a subset usable for all local authorities and their aggregations
 - to the **rationalisation and enhancement of the supply of integrated mobility services**, by simplifying and standardising the relevant delivery methods throughout the country
 - supporting the definition and **monitoring of local and national strategies**, plans and interventions in support of sustainable urban mobility, also by central authorities



<https://smarteritaly.agid.gov.it/>

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Smarter Italy program



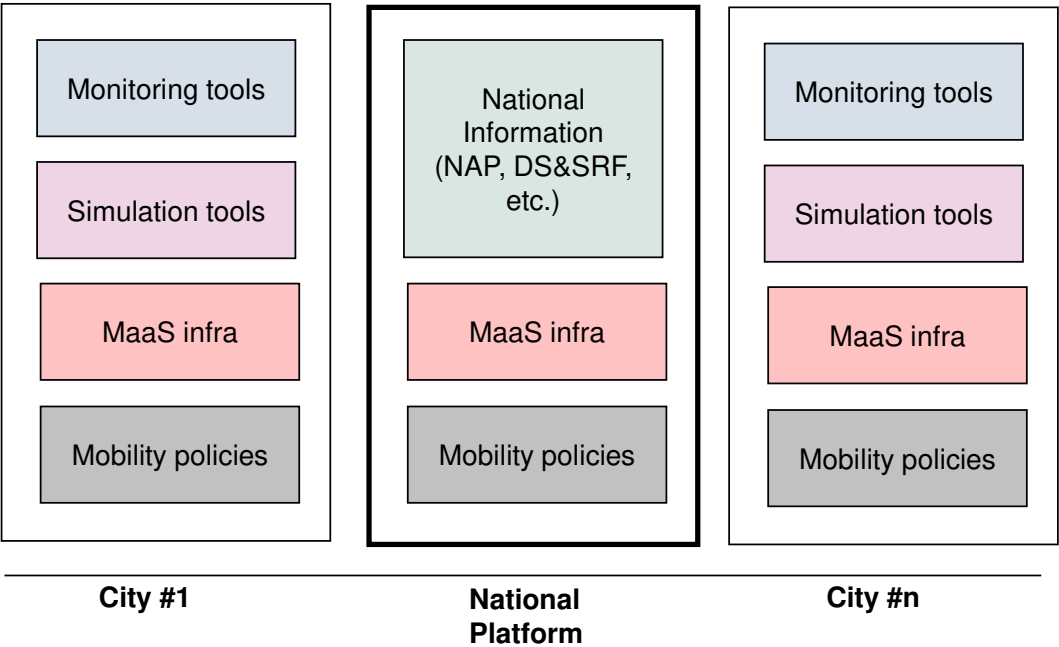
• **Components of the Solution:**

- urban mobility **monitoring and management** tools, locally
- urban mobility **simulation** tools, locally
- **integrated** mobility support tools, **MaaS** (Mobility as a Service) infrastructure, locally and centrally
- tools to support **sustainable mobility policies**, locally and centrally

• **One national platform and 23 sub-instances in cities clustered by number of inhabitants**

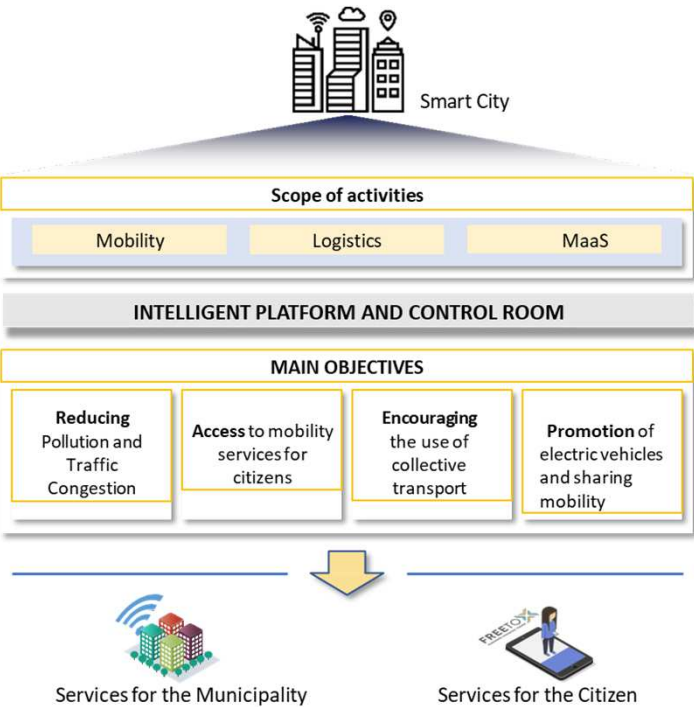
- Cluster #1: >150 000
- Cluster #2: >20 000 and <150 000
- Cluster #3: <20 000

> 150 000	> 20 000 & < 150 000	< 20 000
ROMA	L'AQUILA	SESTRI L.
NAPOLI	MATERA	CONCOREZZO
TORINO	CAMPOBASSO	GROTTAMMARE
GENOVA	ALGHERO	CETRARO
BARI	CARBONIA	PANTELLERIA
CATANIA	GINOSA	OTRANTO
PRATO		BARDONECCHIA
MODENA		PIETRELCINA
CAGLIARI		

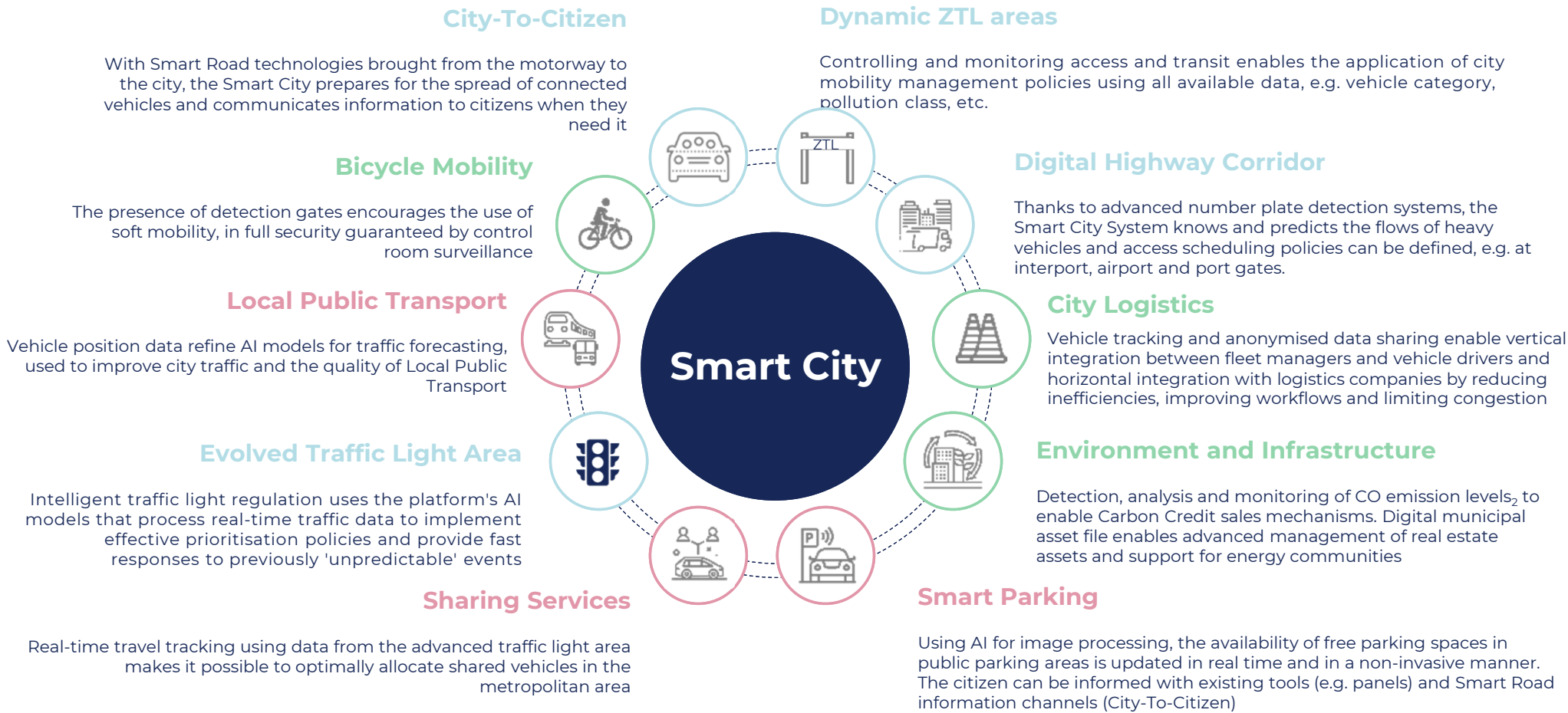


3 Smart Genova program

- **Cilent:** Comune di Genova (Municipality of Genova)
- **Total Budget:** 175 Mio EUR (promoted and funded by Autostrade per l'Italia)
- **Smart Genova is composed by different sub-programs, inter alia:**
 - Smart Mobility
 - Smart Logistic,
 - MaaS
- **Smart Genova** is an **integrated** and **data-driven** urban ecosystem aimed for:
 - Reducing Co2 consumption and improved environmental impact
 - Enhancement of the urban fabric, historical, architectural and landscape heritage
 - Optimisation of mobility service management by the municipality with reduction of urban congestion
 - Increased use of collective transport and soft mobility
 - Increase in the level of services offered to citizens with considerable improvement in the quality of life
 - Equal access to services for all citizens
- **Governance of the project:**
 - Autostrade per l'Italia – Promoter/Funder
 - Movyon – Project Mngt./Supplier
 - Free-To-X – Program Mngt.
 - Technological Partners (national and int'l)
 - Local Technological Partners



3 Smart Genova program - Services offered



Conclusions

- In Italy, mobility pricing is the result of **transition** of access control schemes to congested and/or polluted city centres
- Urban mobility and pricing is becoming a more and more **integration** matter in every Italian cities (major and not)
- **New** programs (tendered and not) are **clustering** many stakeholders (clients, suppliers, providers, operators) to deliver **vertical** solutions supporting such integration
- The **State** shall play a **reglementary** and **enabling** role, cooperation with municipalities, operators, service providers is crucial for the success of programs
- The definition and implementation of National **Data Sharing and Service Repository Facilities** (in combination with the **National Access Point**) plays a major role for the above programs
- **Fully integrated** initiatives in major cities like **Genova** can be **replicated** in other cities



Thank you!



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