NOMAD - European Conclave on MaaS MaaS4Italy italian Project and Use Cases

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The Context
Local and Central mobility governance and data gathering

- Data gathering is becoming more and more crucial to enable new services and analytics.

- A specific architecture has been defined in Italy for EU Del. Reg. 490/2024 implementation, affecting both Local and Central Governments.

- At local level, **RAP** (*Regional Access Poin*) has been defined as unique Regional central informative and governance system, providing:
  - Infomobility services
  - Ensuring data interoperability
  - Enabling MaaS local initiatives
  - Decision Support System based on data analysis
 - Support the local governance of mobility

Local Governance
Regional Access Point for MMTIS

Implements three main functionalities:

1. <u>Local Public Transport</u> that stores all **planned and real-time** transport service data.
2. <u>Electronic Ticketing System</u> devoted to **fare system** and to solve possible clearing disagreements among various operators; it also manages data security.
3. <u>Business Intelligence</u> that is devoted to Public Administration **reporting** and analysis functions
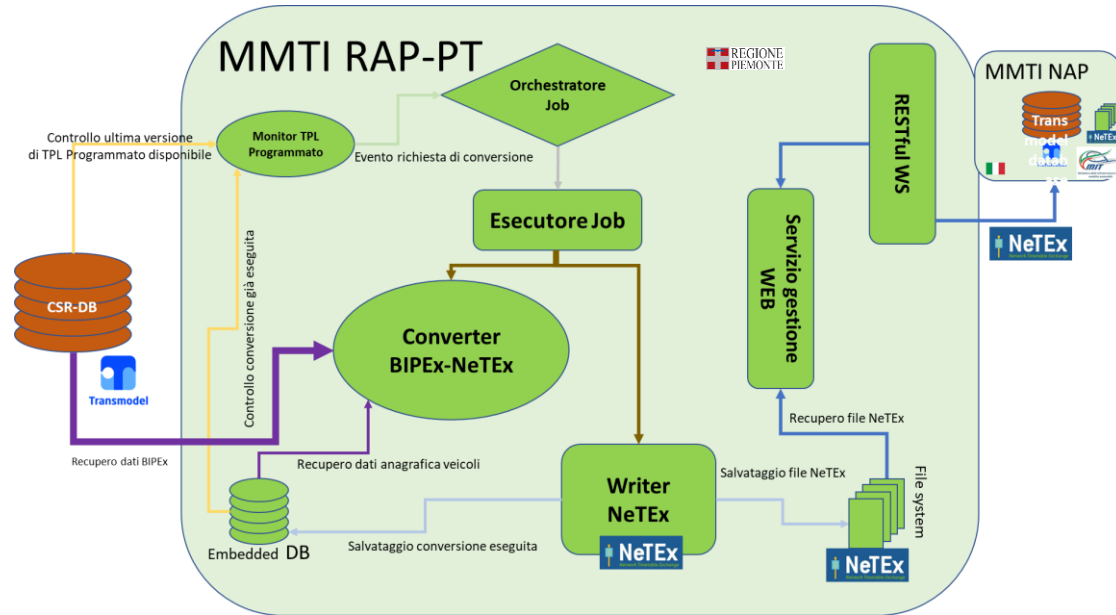
RAP-NAP communication
Data exchange for MMTIS

- NAP gathers up-to-date PT data from RAPs in pull mode;

- PT static data are exchanged using **NeTEx Italian profile**;

- PT real-time data are exchanged using **SIRI Italian Profile**.
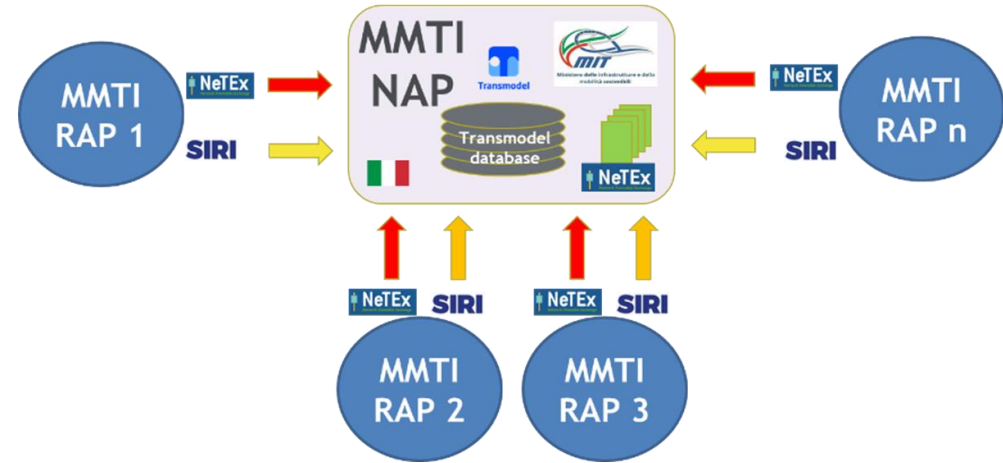
NeTEx italian profile	
L1	EPIP
L2	Contracts
L3	Fares
L4	Alternative Modes
L5	Accessibility

SIRI

- Real-time timetables
- Real-time vehicles positions
- Alert/disruption messages
- Feature monitoring

RAP-NAP
Current status and enabled services

- RAP are under PTAs responsibility and currently 12 are in operation over a total of 20 regions.

- National PTOs, like railways, will be connected directly ti the NAP MMTIS.

- Main enabled services:
    1. National MaaS Services sharing data with *Data Sharing & Repository Facility* Platform.
    2. Cross border interoperability services
    3. Road Safety Information
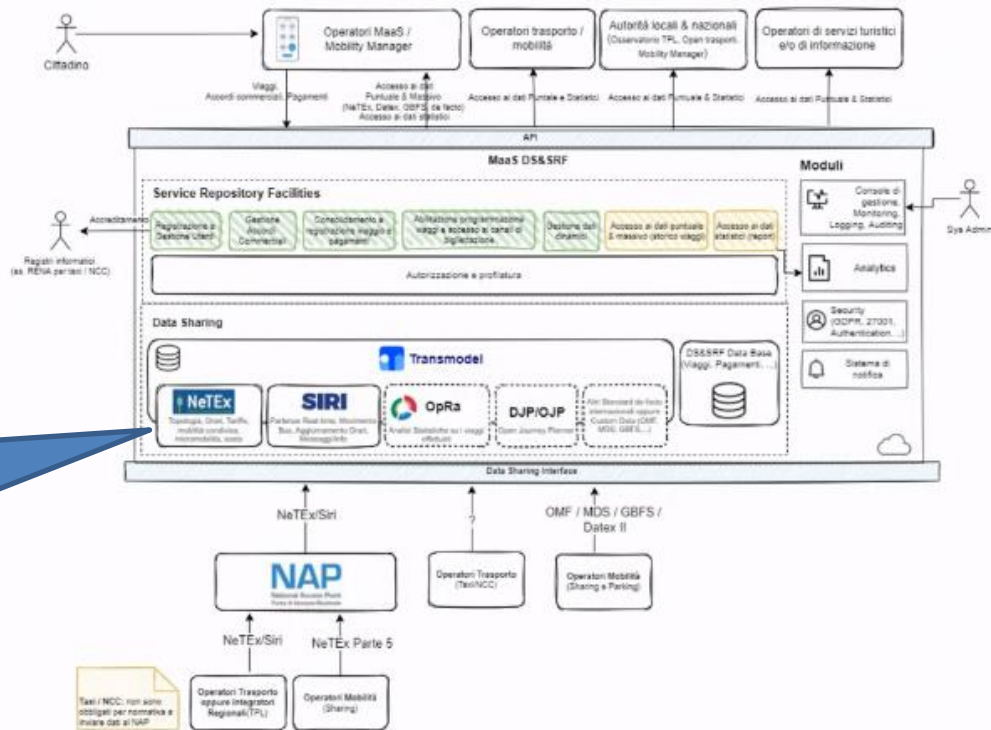   4. Real Time Traffic Information

RAP Operativi
RAP in sviluppo
RAP in definizione
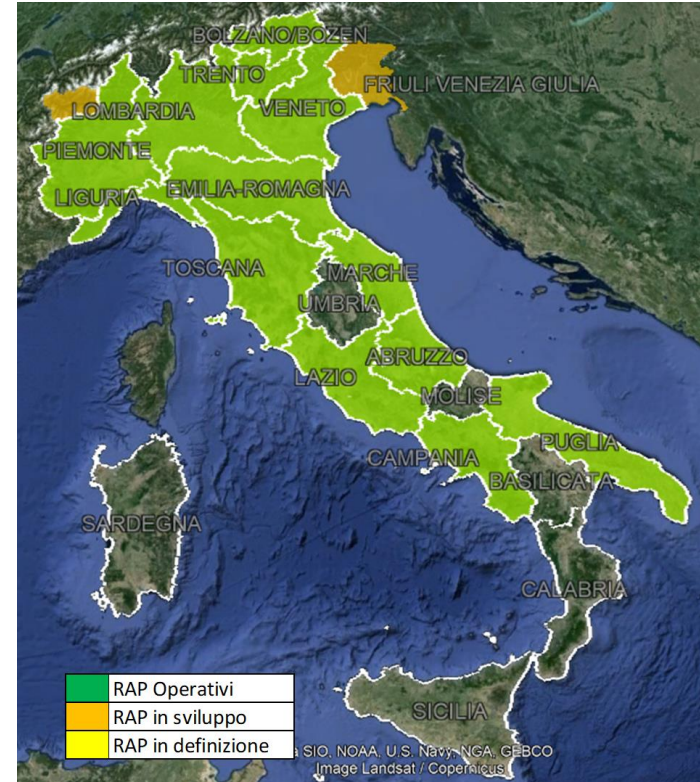
MaaS4Italy
Synergies with NAP MMTIS

NAP and DS&SRF enabling facttors

MaaS4Italy
Functional architecture

Transmodel ecosystem adopeted

Mobility as a Service
Service level classification and standards (*)

4 **Integration of societal goals**
Policies, Incentives, etc.

3 **Integration of the service offer**
Bundling/subscription, contracts, etc.

2 **Integration of booking & payment**
Single trip - find, book, and pay

1 **Integration of information**
Multimodal travel planner, price info

0 **No integration**
Single, separate services

2 Integration of booking & payment: Trans-model, OJP v2, OSDM, TOMP, Lyko, My Corridor, Trafi

1 Integration of information: GBFS, GTFS Schedule, NeTEx, CDS-M, OJP, IUDX, OSLO, DATEX, GTFS Real-time, IXSI 5, SIRI, MDS, OCPI

0 No integration

Color legend: Conceptual data model, Data Exchange format, API Specification, API

(*) From MaaS Alliance White Paper

NeTEx Profile L4 «Alternative Modes»
Data Categories

- Network Topology:
  - Operative area
  - Sharing stations
  - TAXI stations
  - Recharging stations
- Bikes parking
- Digital Vending platforms
- Fares (for *sharing*)

- Italian profile derived from NeTEx Part5 *Alternative Modes*

NeTEx italian profile

L1	EPIP
L2	Contracts
L3	Fares
L4	Alternative Modes
L5	Accessibility

Lesson Learnt and Future perspective

- RAP/NAP architecture and Italian profiles standards a working group has been identified, merging the deep competencies of system integrators, PTOs and PTAs in the definition process.
- RAP/NAP architecture gathers all the mobility data in a scalable way, and it enables further complex mobility projects like the Italian Mobility as a Service one (MaaS4Italy).
- "K.I.S.S. principle" approach adoption in protocol profiles definition (Keep it Simple, Stupid). Simplicity is primary goal: protocols should use only one "way" to define any entity with no redundancies.

- DATEXII message payload has been also reused after an ad-hoc tailoring to feed Cooperative ITS (C-ITS) stations to enable safety and infomobility service for connected vehicles (GLOSA, Virtual VMS, smart routing, smart parking, etc.).

MaaS4Italy
Synergies with European Projects

Start date: 2 January 2020 - End date: 1 January 2024 then enhanced t 30 June 2024 (9 Member States)

PSA Project (CEF Program) to support the technical development of Transmodel, NeTEx and SIRI to fulfil the needs of multimodal travel information service providers and develop common European minimum Profile with dedicated "Validation Tools".

Start date: 2 April 2021 - End date: 30 March 2024 (32 Member States)

PSA Project (CEF Program) for "National Access Point Coordination and organization in Europe". Aimed to plan and develop a future and sustainable long-term governance structure of the NAP, set up a strategic and operational implementation plan for harmonized European wide operation and put overall governance structure in place, considering future management, financing, membership opportunities and connection to external actors.

Start date: 2 January 2019 - End date: 30 June 2022 (6 Alpine Space Countries)

Increased provision and accessibility of "transport data" and "services" to build new services and publishing of CEN Standard for "linking of services" – OJP API implementation.

THANK YOU

See You Next Time

Dr. Fabrizio Arneodo has Computer Sconce degree at Sciences at the University of Turin, with 20+ years of experience in the management of complex software development projects; he currently holds the role of CTO of the 5T company, where he oversees all the technological aspects in the application domain of intelligent transport systems.

For 10+ years he has been working as an expert recognized by UNI in the field of standardization of technologies applied to Public Transport and represents Italy in the steering committee of CEN TC278 / WG3 "ITS for Public Transport", with the role of Chairman of the Standardization Group. European OpRa (Operating Raw Data and statistics exchange).

He has more than 20 publications in national and international scientific journals in the field of vehicular traffic, public transport, infomobility, ticketing and intelligent transport systems solutions.

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