Smart Tourism statistics: improving the range of service offering in Rome

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Smart Tourism statistic in Rome: the stakeholders

ISTAT

- is involved in several experiments on Smart Statistics and is interested to approach projects Smart Cities oriented
- a collaboration with the Rome Municipality and Italian Digital Transformation Team has been started in June 2018

ROME MUNICIPALITY

- January 2018 - has signed an agreement with Ericsson for the implementation of 5G network (ICT service provider)
- February 2018 - turn on the first 5G antenna
- May 2018 – has become one of the European pilot cities for Smart City applications
- September 2018 - has signed a Memorandum of understanding with Fastweb (MPD provider) to start an experimentation, aimed at developing of definition on some projects in the context of Smart City and IoT

Smart Tourism statistic in Rome: the stakeholders

Italian Digital Transformation Team

- Is born to build the "operating system" of the country, a series of fundamental components on top of which we can build simpler and more efficient services for the citizens, the Public Administration and businesses, through innovative digital products (Data Analytics Framework, Public Digital Identity System, Electronic Identity Card, API Ecosystem, etc.)
- in this project it provides the Data Analytics Framework (DAF) with the goal of improving and simplifying the interoperability and exchange of data between Public Administrations, promoting and improving the management and usage of Open Data, optimizing activities of analysis and knowledge generation.

Smart Tourism statistics in Rome: the project idea

THE OBJECTIVE

- Evaluate the supply and demand of museum services based on the nationality of the tourists, using the mobile phone data.

DATASETS TO USE:

- Official Statistics on Tourism (source: Istat)
  - Statistics on Museums (describes the structural features, the services offered, the activities carried out and the use of museums)
  - Statistics on tourist accomodation
- Data on the daily tickets sold in the museums (source: Rome Municipality)
- Mobile Phone Data (source MPC provider)
  - Data on the presence in Rome of tourists, divided by nationality, gender, age, etc.

Smart Tourism statistics in Rome: the project idea

The Use Case

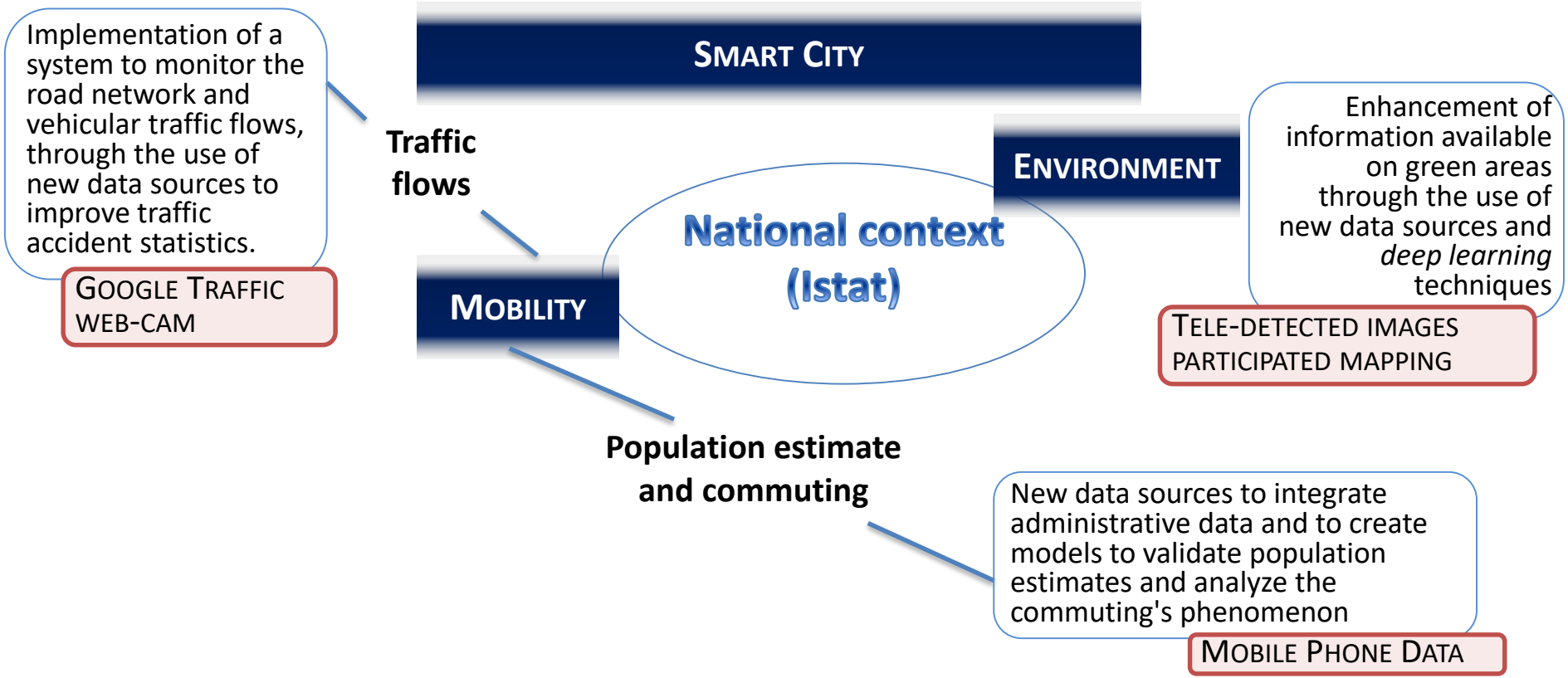
- **Supply** of museum services divided by each museum (ticket office, assistance in the hall, audio/video guide (in English, French, German, Spanish, Japanese, Chinese, …), coffee bar, Card Rome Pass 48 hours, didactics, vending machines for food and drink, wardrobe, organization of events and/or exhibitions, small point of sale of editorial products related to the museum, etc.)
- **Demand** of museum services: integrate the data available (MPD, tourist accomodation, daily tickets sold), with the aim to profile the demand of services, based on nationality, age group, gender, type of accomodation, etc.
- **Analysis** of the supply and demand of museum services, using data analytics techniques (e.g. data visualization) to assess whether the services offered are adequate to the demand. The aim is to provide (smart) statistics at Rome Municipality to make decisions on the services to propose in the museums**.**

Analysis supply and demand of museum services

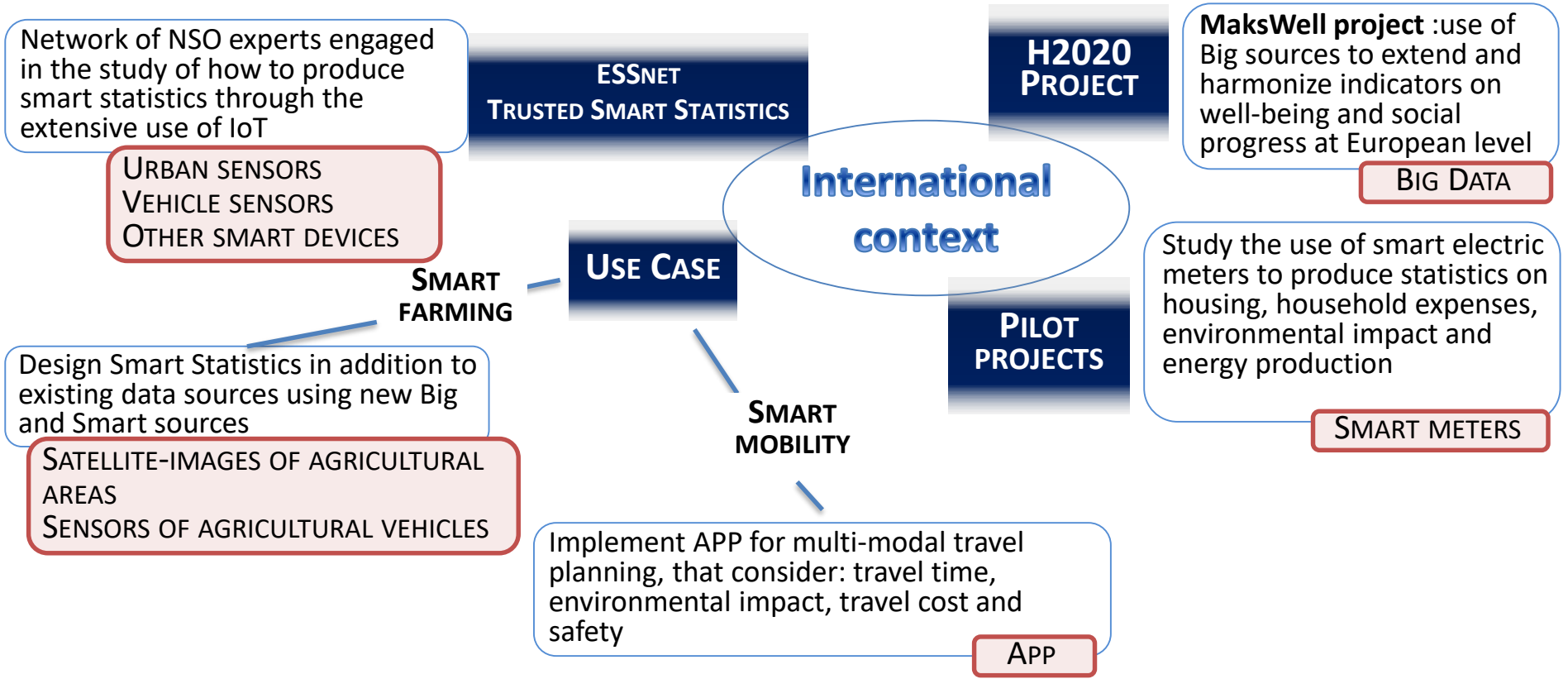
	SUPPLY OF MUSEUM SERVICES	DEMAND OF MUSEUM SERVICES
DATA SOURCES	OFFICIAL STATISTICS ON MUSEUMS (Istat)	MOBILE PHONE DATA (MPD Provider) TICKET SOLD DATA (Rome Municipality) OFFICIAL STATISTICS ON ACCOMODATION (Istat)
DATA PROCESSING	***Data Analytics***	***Data Visualization*** DATA ANALYTICS FRAMEWORK (Digital Transformation Team)

SMART STATISTICS FOR ROME MUNICIPALITY

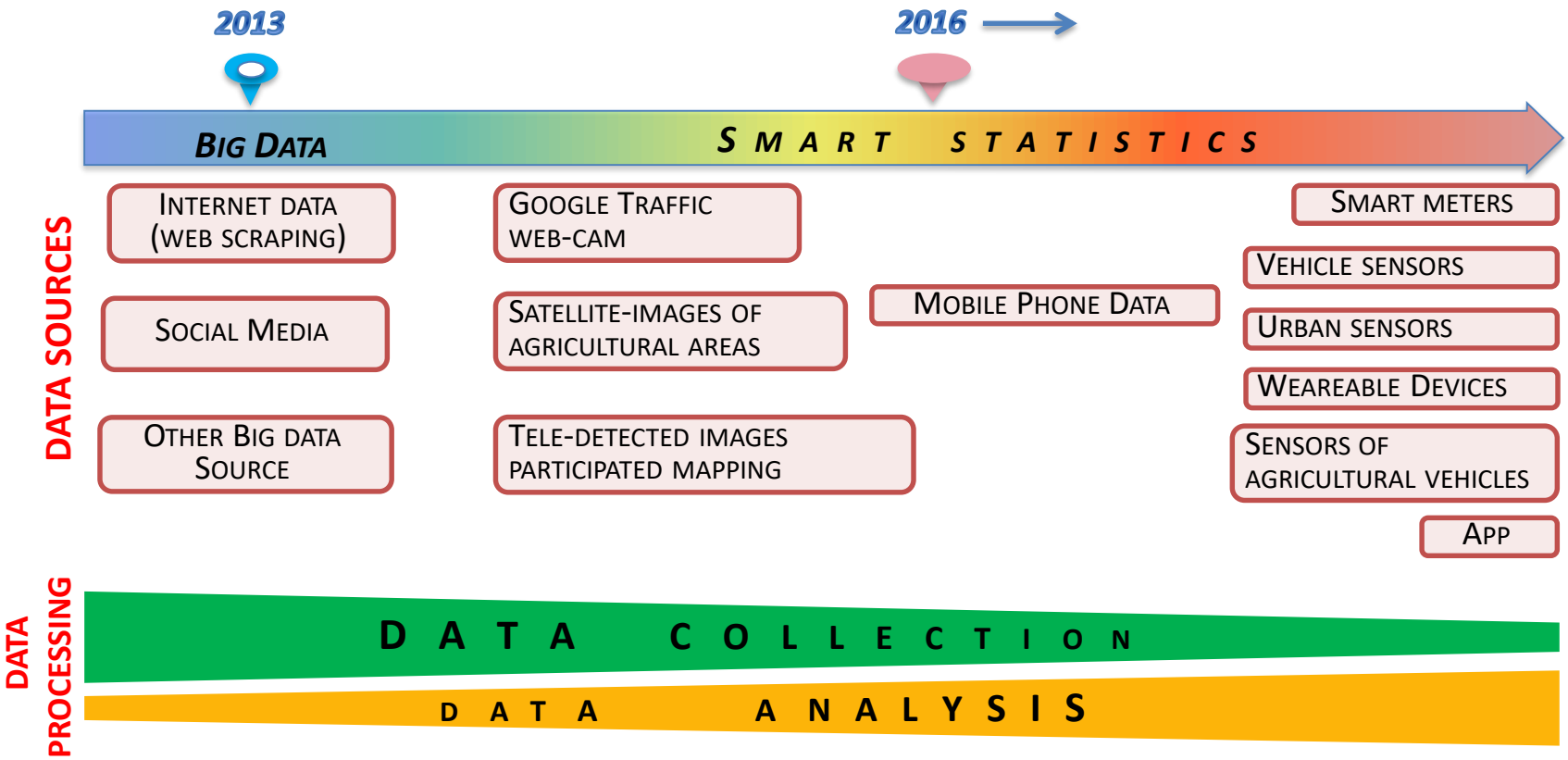
Experiments and projects on Smart Statistic – National Context – Istat Participation



Experiments and projects on Smart Statistics - International context
Istat participation



How do data-sources and data-processing are changing in Istat's experimental projects ?



First results

WHAT WE HAVE ALREADY LEARNED

- New domains
- Interaction and integration between sources
- Multiple use of the same sources for different domains
- Investigation and continuous "discovery" of new possibilities of analysis

WHAT WE HAVE ALREADY GOT

- Acquisition of experience
- Wareness of the potentials and limitations of the IoT
- Specific skills on generalized tools for processing / analyzing large data sources (Cloudera, machine / deep learning techniques)
- Closer relations with other public and private entities

New challange and outstanding problems

New challeng and next activities

- Continue activities on ongoing projects, with the aim of overcoming criticalities and improving quality
- Extend already used data sources to new statistical domains (e.g. mobile data for tourism statistics)
- Extend the field of IoT technologies used for statistical purposes (e.g. wearable devices for statistics on wellness and quality life)

Outstanding problems

- external sources are not always "available and open"
- constraints of the privacy guarantor on the use of data (e.g. mobile telephony)
- territorial data (e.g. mobile telephony) don’t reflect the administrative subdivision of the territory (e.g. municipal level) used in traditional surveys
- Production times can not be easily estimated (even for reasons outside the NSO)
- The border between official statistics, experimental statistics and *trusted smart statistics* is not yet easy to feel

Thanks for your attention

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