

Big data in the transport sector: needs for standardisation

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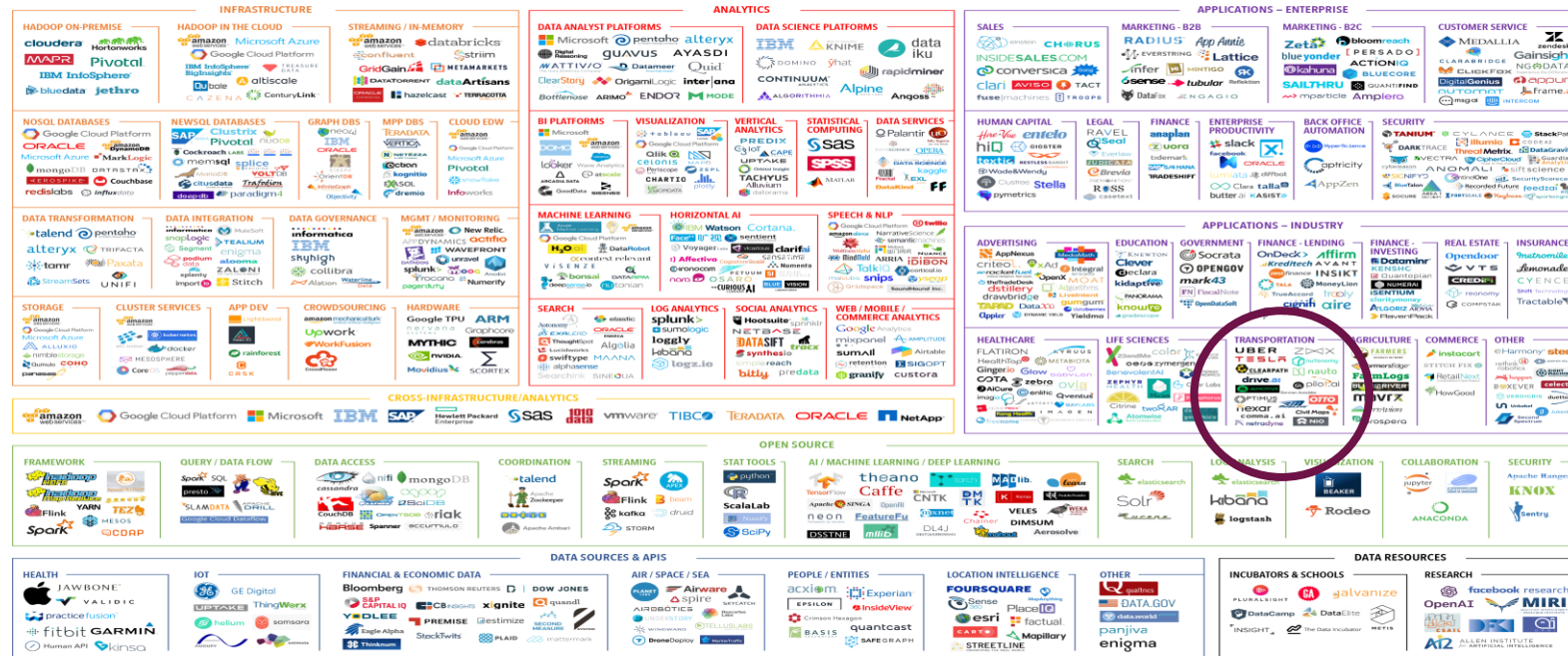
Scientific Committee member at COST

Big Data Landscape 2017

Big Data + AI = The New Stack

Open Science, Open data - Data moving to the Cloud

BIG DATA LANDSCAPE 2017



V2 - Last updated 5/3/2017

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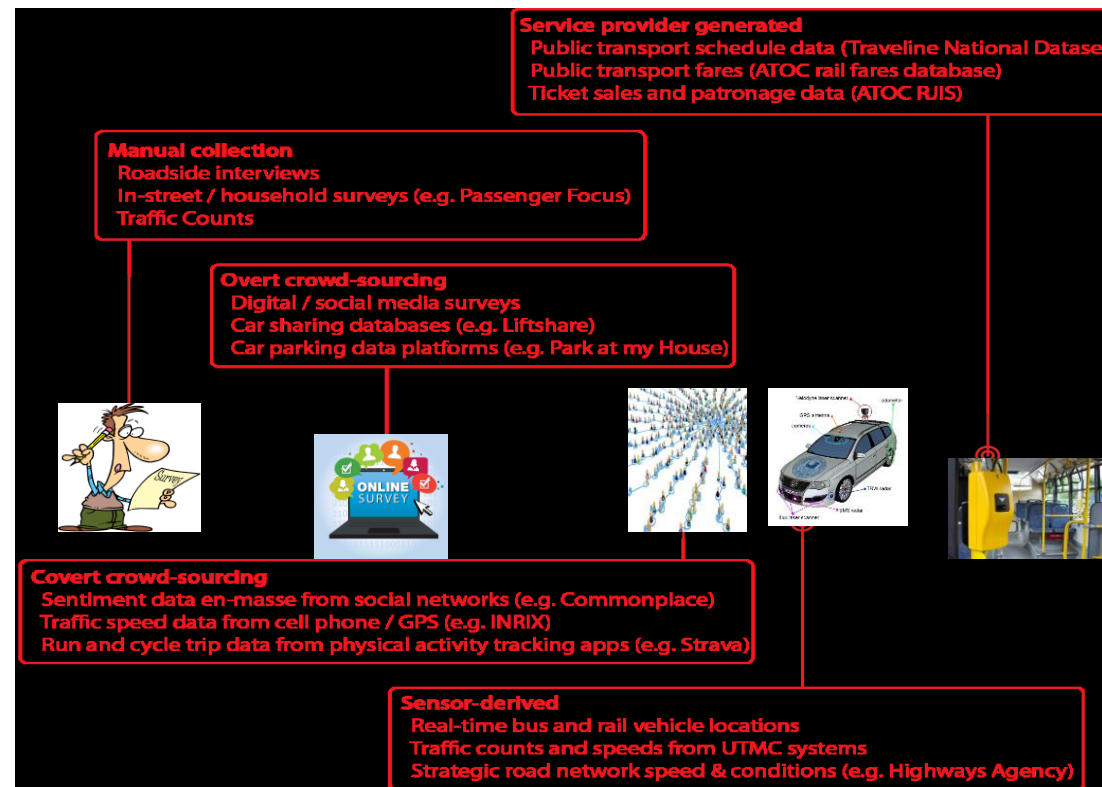
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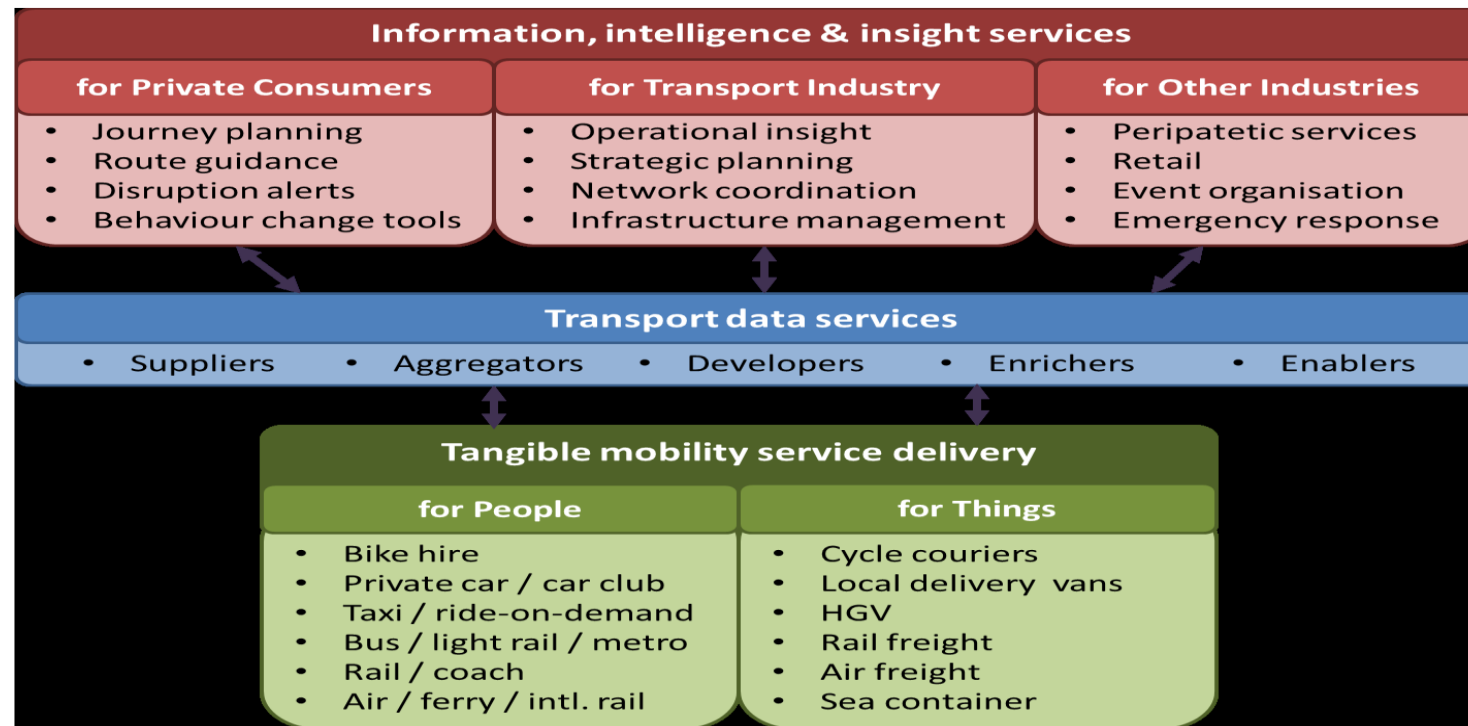
What is specific for big data in transport

- Complex, multilevel topology corresponding to the various aspects of transport research, planning, design and operation
 - **Different transport modes** (road, rail, maritime, air, multi-modal)
 - **Different transport types** (persons/freight, urban/interurban/rural, domestic/international transport, commuting/school/recreational, etc.)
 - **Covering all phases of transport projects lifecycle** (planning, design, implementation, operation and management)
 - **Variety of technologies:** ITS, IoT, CAV, innovative technologies (machine learning, artificial intelligence)
 - **All types of transport data** (sensor generated data, traffic management and traffic control data, user behaviour data, tracking data, ticketing and fare collection systems ...)

Transport data resources and mechanisms for data collection



Typology of mobility service types influenced by transport data



Where/why standardisation of transport data is needed

- **Develop and adhere interoperable (global) data standards**
 - because of the wide range of systems from which these data are created
 - significant challenge to the development of data-driven intelligent mobility services
- **Understand content of data - description of the data available**
 - each data collection is based on harmonised metadata profiles*
 - data elements (description of a dataset in a minimal but adequately way),
 - wordings and semantics,
 - predefined categorisations – **transport specific**
 - data field names,
 - data value type,
 - data field lengths
- **Understand structure of data – description of the technical format of the data sets**
 - following data formats are currently foreseen for different transport domains**
 - DATEX II for road transport data
 - NeTEx and SIRI for public transport data
 - TN-ITS and Inspire for geographical data
 - Data formats currently valid and used for the creation of **traveller information services**
 - Further work required for the formats for **other transport data**

The logo for ESO F 2018 Toulouse is a large red hexagon with the text "ESOF" in white, "2018" in grey, and "TOULOUSE" in white. It is surrounded by several smaller hexagons of various colors (blue, yellow, purple, pink) containing icons representing different scientific fields: a network, a molecule, an atom, a rocket, and a DNA helix. A red molecular structure icon is also positioned to the right of the main logo.

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