Mobility and Transport:
Tracking veicoli, costruzione di matrici origine destinazione, traiettorie tipiche ricostruzione del traffico, e monitoraggio flotte

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 Mobility and Transport

Smart Ambulance:
- Managing Vehicles with multiple IoT Devices on board
- Routing, Tracking, Logistic
- Connected Drive

Sii-Mobility, Snap4City, Resolute
- Traffic Flow Reconstruction
- Routing, Multimodal Routing
- OD matrices
- User Behaviour Analysis
- Prediction of traffic, parking, ….
- IoT management

Trafair
- Prediction of Pollutant

Traffic Flow Manager on multiple platforms
Snap4City is a Collaborative

No-Coding Platform to build Smart Applications (IoT devices)
Snap4City: Platform Purpose

- **interoperability** processes, data communication protocols, standards,
  - Data aggregation, transformation and integration
  - **Snap4City Library on Node-RED**
  - More than 100 protocols and any formats

- **access control**: 
  - **Snap4City**: GDPR Compliant, PENTest passed

- **semantic normalization**: 
  - **Km4City ontology**: Knowledge Base, expert system
  - Based on Virtuoso

- **data management and analysis**: multi-modal big data, data analytics and AI-based algorithms
  - **Visual Analytics/Dashboards**: Snap4City
  - **Business Intelligence**: Snap4City
  - **Data Analytics**: Rstudio, Python, Keras, TensorFlow,
  - **DataDriven/Stream, RT**: Node-RED, broker based, WebSocket, End-to-end secure, FIWARE Platform
  - **Big Data storage**: Elastic Search, Kibana
**Snap4City Platform Concepts**

- **Dashboards and Apps**
  - **IOT Apps**
  - **Data Flows**
  - **Node-RED**
  - **IOT Brokers**
  - **API, External Services**
  - **Web Scraping**
  - **BIM**
  - **KPI, POI, MyKPI, ...**
  - **Data Analytics, Artificial Intelligence**
  - **GIS**
  - **Big Data**
  - **KB**
  - **LD, LOD**

**Key Technologies and Tools**

- **FIWARE**
- **ckan**
- **openEYE**
- **FI-WARE**
- **BIM**
- **API, External Services**
- **Web Scraping**
- **KPI, POI, MyKPI, ...**
- **Data Analytics, Artificial Intelligence**
- **GIS**
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- **LD, LOD**

**Collaborative Platforms**

- **UNIVERSITÀ DEGLI STUDI FIRENZE**
- **DISIT**
- **SNAP4CITY**
- **FIWARE**
Conclusions on Snap4City

- Type of POC: Platform
- TRL: 8
- Projects (solutions) which are using (have adopted) the platform:
  - SmartAmbulance, RESOLUTE, etc.
  - Sii-Mobility, REPLICATE, Trafair, Mobimart, PC4City, Herit-data,

- Next Steps
  - Continuous improvement of system capabilities in the health domain
    - New Version of the Reasoner for dashboard composition
    - Making simpler and faster the applications production
    - Improving Ontology
  - What-IF analysis
  - NGSI-LD FIWARE

- How to go further
  - Specific domain trials are very important to improve the coverage and capabilities
  - Scaled up with larger trials in terms of users and device kinds
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