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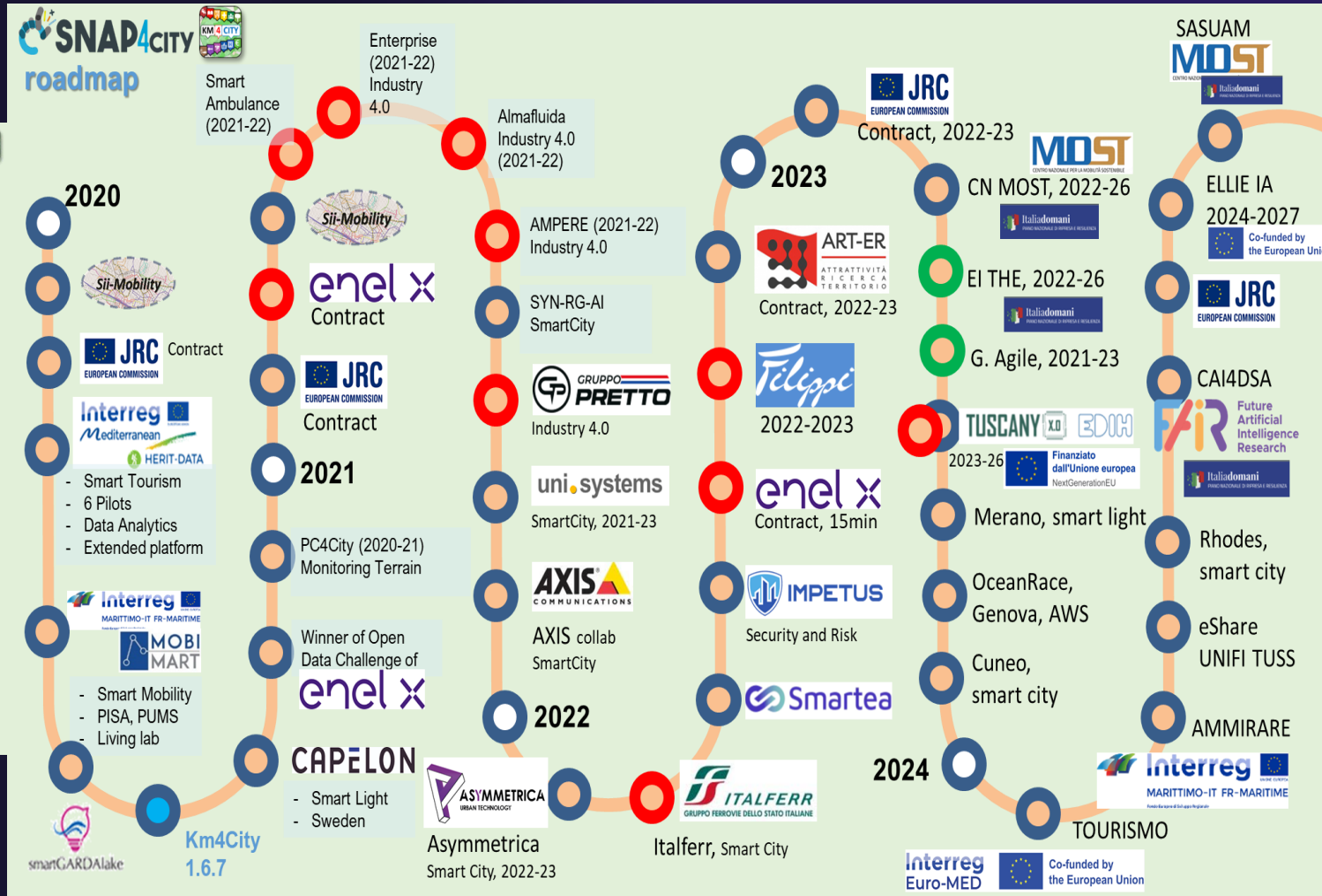
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A Digital Twin Platform, Global and Local for Decision Support Systems

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- Controlling Status management & and operation
- Making plan: tactic and strategic medium and long term
- Be ready for Unexpected Unknowns



Platform track:

Main actors: DISIT Lab, Snap4 srl, DAI srl, ..



Powered by
FIWARE

FREE TRIAL

PEN Test Passed

EU GDPR COMPLIANT

Appliances and Dockers Installations

EUROPEAN OPEN SCIENCE CLOUD

Node-RED

JS Foundation

E015
digital ecosystem

NVIDIA



Smart Solutions and Decision Support Systems

CONTROL ROOMS - DECISION SUPPORT SYSTEMS - WHAT-IF ANALYSIS - BUSINESS INTELLIGENCE - SIMULATIONS - SMART APPLICATIONS



DASHBOARDS - VISUAL ANALYTICS - SYNOPTICS - DIGITAL TWIN - GRAPHICAL WIDGETS - ANALYTICS - GUI CUSTOM STYLES - VISUAL PROGRAMMING



DASHBOARDS, WIDGETS TEMPLATES **PREDICTION - ANOMALY DETECTION - CLUSTERING - ROUTING - SENTIMENT NLP - TRAFFIC FLOW PEOPLE FLOWS - SDG - 15 MIN CITY INDEX - KPI - HEATMAPS - ORIGIN DESTINATION - ETC...** **API - MICROSERVICES - GIS - BPM VIDEO - REPORTS - MAPS - 3D ...**

ANY: DATA, BROKER, NETWORK AND VERTICAL

<p>EXPERT SYSTEM, KNOWLEDGE BASE SEMANTIC REASONING SMART DATA MODEL IOT DEVICE MODELS, STORAGE</p>	<p>BIG DATA ANALYTICS, ARTIFICIAL INTELLIGENCE EXPLAINABLE AI, MACHINE LEARNING OPERATIVE RESEARCH, STATISTICS</p>	<p>VISUAL PROGRAMMING, ADAPTERS DATA FLOWS, WORKFLOWS PARALLEL DISTRIBUTED PROCESSING EVENT DRIVEN</p>
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Native and External Smart Applications

Mobility & Transport	
Light & Energy	
Waste	Environment
Building	Tourism
Asset Management	
Security and Safety	
Social Media	



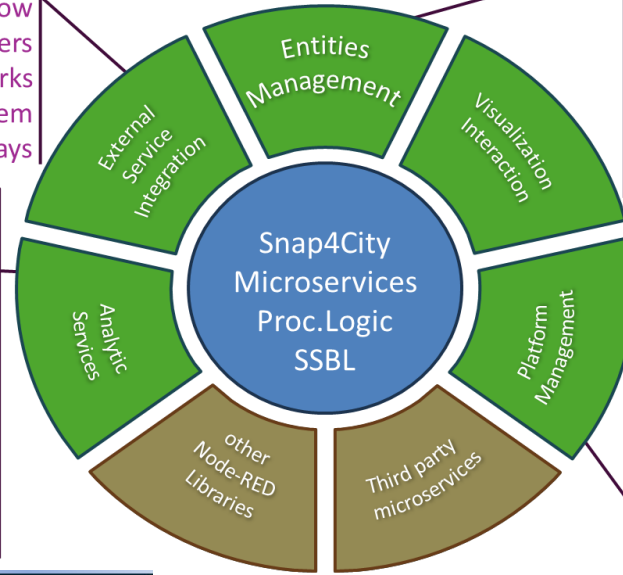
METHODOLOGIES LIVING LABS COURSES AND COMMUNITY DEVELOPMENT TOOLS



Visual programming Scalable, modular Open, open source

Open Data CKAN
Ticket Management, workflow
BIM Servers
Social Networks
Video Management system
Gateways

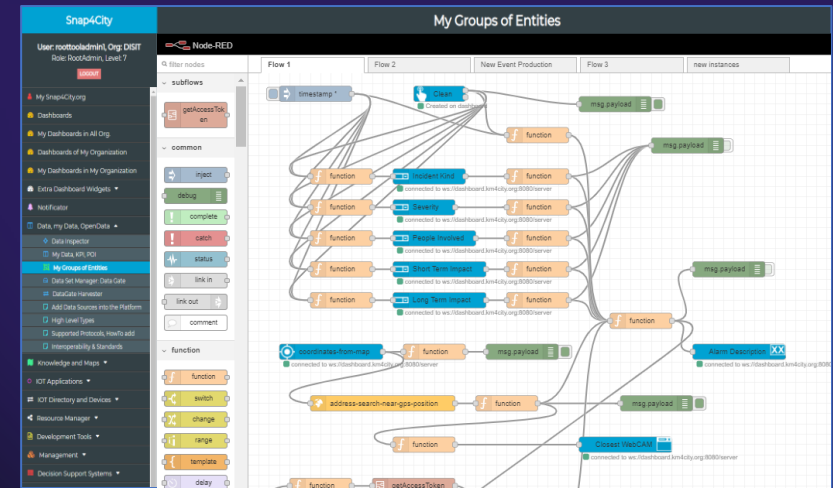
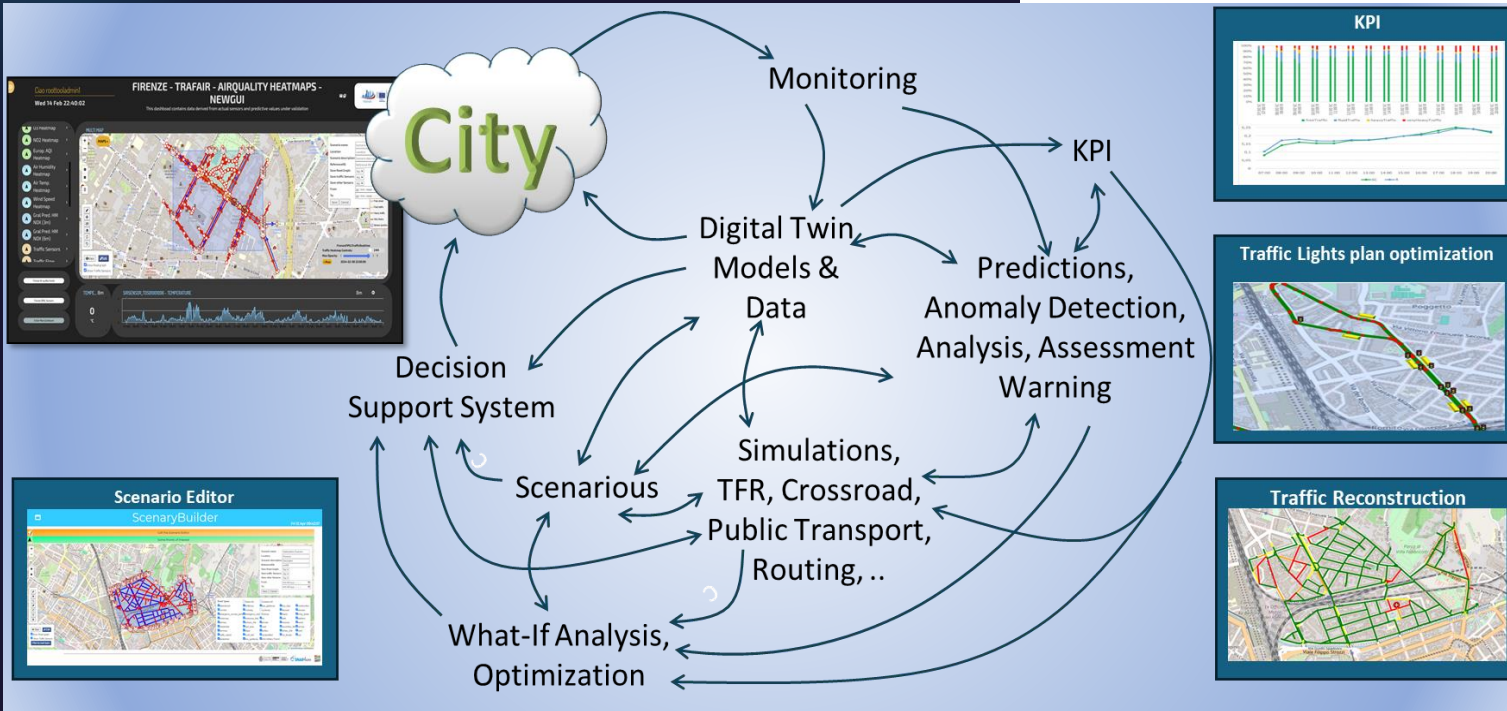
Data Analytics
Statistic, Optimization
Simulation
Artificial Intelligence
What-if Analysis Support
Geo Utilities Support
Routing & Traffic Flow
MLOps support
Python support
R Studio Support



Data Load / Search / Retrieval
KPI, POI, GIS Data, Scenarios
Time Series, Public transport
High Level Types: heatmaps, ODM,...
IoT / Entity Discovery
Delegation Management
Data Mapping

Dashboards
Widgets: Graphic Libraries
Interactive Widgets
Maps, 3D representations
Synoptics, External Content
Micro Web App

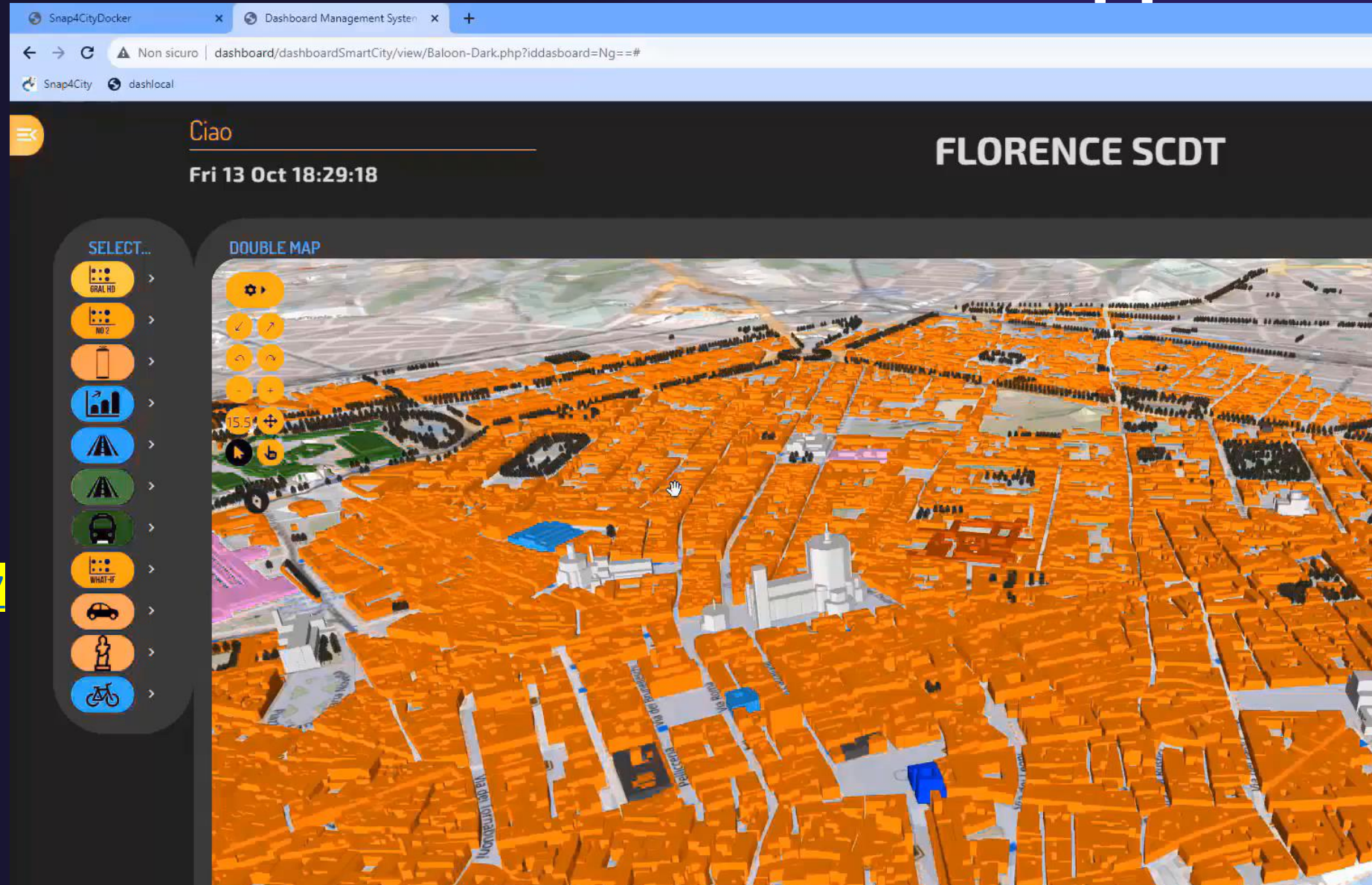
IoTApp Management
Data Logs, A&A, Security
Ownership Management
VPN remote access



More than **80** Available Solutions & **300 AI** applic.

- **Mobility and Transport**
- **Environment, Waste, ...**
- **City Users Behaviour**
- ...
- **Energy and Control**
- **Tourism and People**
- **Industry applications**
- **Security and Safety**
-

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Mobility and Transport Domain (2024)

- **Goals:**
 - Decongestion
 - Accessibility to services
 - Security/Safety of city users
- **Solutions for Operation (monitoring, managing, mobile apps, digital signages, control rooms)**
 - Monitoring traffic, parking, people flow, services, boats, ports, beaches, etc.
 - Early detection/warning of critical conditions: traffic, congestion, security/safety
 - Managing Smart Parking, transportation services, fines, etc.
 - Managing fleets: personal, sharing, waste collection, maintenance, etc.
 - Managing E-sharing, pooling services, MaaS, etc.
 - Managing entrances in city areas: restricted areas, touristic busses, etc.
 - Production of suggestions, recommendations, nudging
 - Computing predictions of any kind
- **Solutions for Planning (optimization and what-if analysis)**
 - Reduction of traffic congestion, via optimization: semaphore cycles, viability, routing
 - Reduction of Pollutant Emissions, via optimization: semaphore cycles, viability
 - Optimization of transportation offers wrt multimodal mobility demand
- **Algorithms and computational solutions, see next slide**



My Groups of Entities

User: root@redhat.com, Org: DSGT

Flow 1

Flow 2

Flow 3

Event Registration

Insert Alarm Data

Name:

Kind:

Severity:

People Involved:

Impact:

Description:

Creating Event

Save

device	severity	timestamp	lat	lon	actions
...



Cabinets On Stockholm By Capelon

12

Time Trend

Ispra Site, Buildings And Services

883

Ispra - Occupancy

Ispra - Occupancy Bm

Scenario Selector

Stop panel

Scenario Selector

Change a scenario: Actual scenario

Actual scenario: Describes the current status of the public transportation network.

Stockholm

ISPRA JRC

Merano

Air Quality

PM10: 16.829 µg/m³

PM2.5: 4.807 µg/m³

NO2: 26.173 µg/m³

Helvetic ADI: 1.399

AD Effluve Pred.: 1

PM10 Effluve Pred.: 1

PM2.5 Effluve Pred.: 0.552 µg/m³

PM10 GRAL Pred.: 1.774 µg/m³

NOx: 0-10, 11-25, 26-35, 36-60, 61-75, 76-90, 91-105, 106-125, 126-150, >151

Visualizzazione dati

2020-12-26 15:00:00

Non Attivo

Non Attivo

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- 🏠 Home
- 🌐 Global
- 🏙️ City
- 🚦 Traffic
- 🌫️ Air Quality
- 🚗 Car
- 🚲 Bike



Select A City / Location

Where to go

[Amsterdam](#) [Barcelona](#) [Bari](#) [Berlino](#) [Bruxelles](#) [Firenze](#) [Genova](#) [Helsinki](#) [London](#)
[Milano](#) [New York](#) [Paris](#) [Pisa](#) [Prato](#) [Rome](#) [Tokyo](#) [Torino](#)

Air Quality FI-BASSI -



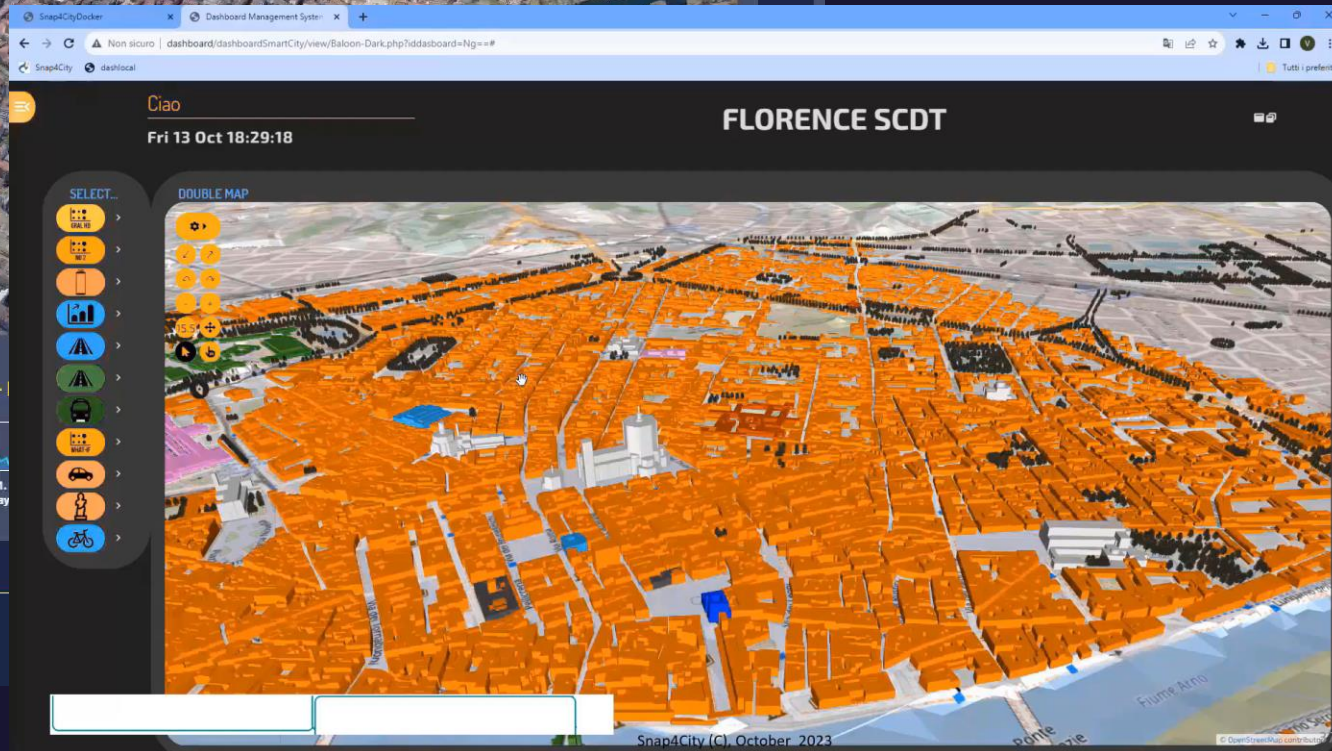
Traffic

FirenzeFIPILITrafficRealtime

Traffic Controls:

Max Opacity:

2024-06-14 21:55:00



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