



[www.snap4city.org](http://www.snap4city.org)  
[www.snap4solutions.org](http://www.snap4solutions.org)



[www.km4city.org](http://www.km4city.org)

## Strategies for International Exchange and Cooperation in Developing New Urban Type Smart Cities Linked to Global Smart City Platforms

Paolo Nesi  
[Paolo.nesi@unifi.it](mailto:Paolo.nesi@unifi.it)

International Seminar on Global Expansion of Smart City Transit Solution

DIGITAL TWIN SOLUTIONS TO SETUP SUSTAINABLE DECISION SUPPORT SYSTEMS AND BUSINESS INTELLIGENCE



UNIVERSITÀ  
DEGLI STUDI  
FIRENZE

DINFO  
DIPARTIMENTO DI  
INGEGNERIA  
DELL'INFORMAZIONE

DISIT  
DISTRIBUTED SYSTEMS  
AND INTERNET  
TECHNOLOGIES LAB



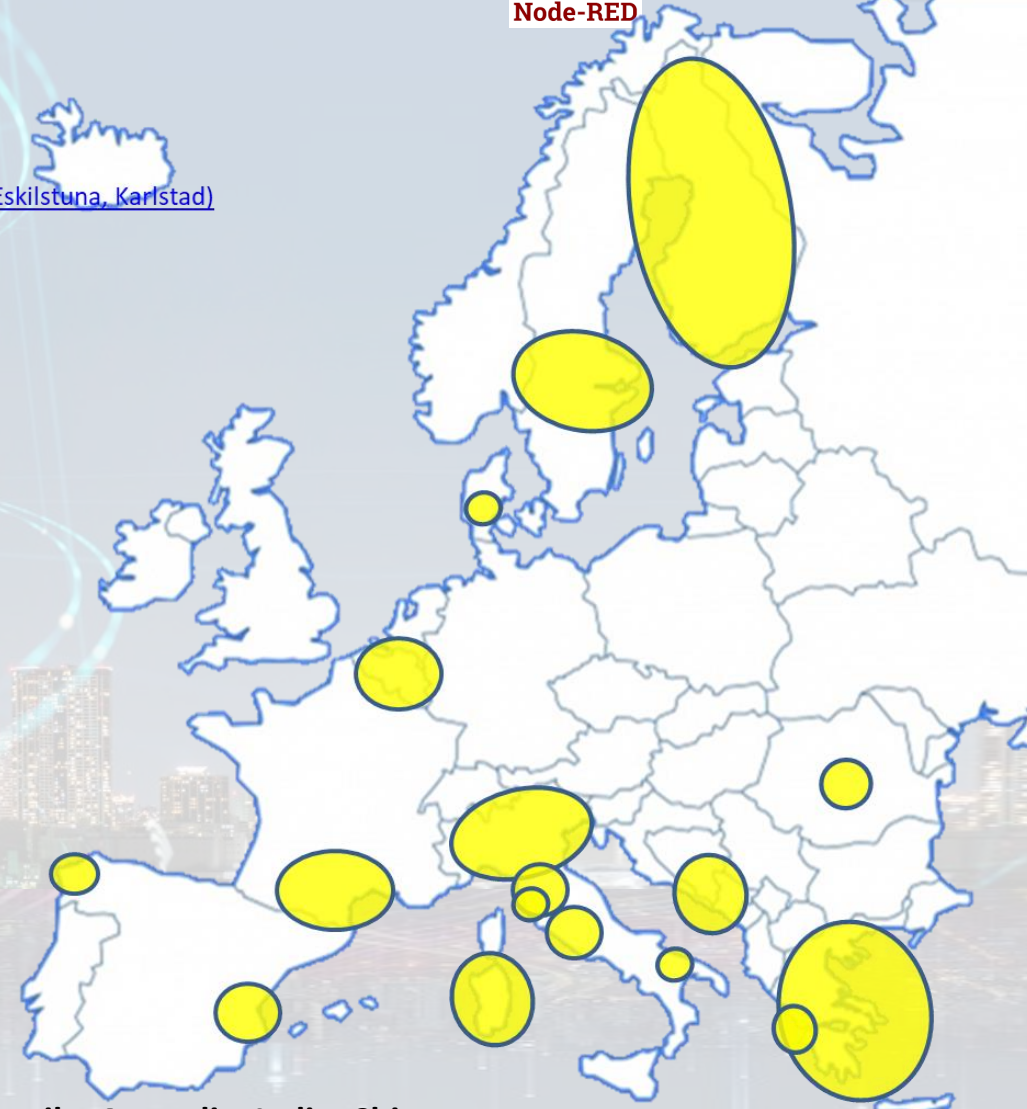


- 12 running installations in Europe
  - Snap4.city.org, Greece, Merano, ...
  - Toscana, Pisa, Sweden, ISPRA, Snap4.eu,
  - Altair, Italmatic, Sweden, Romania, ....
- 16 projects, 12 pilots on 10 Countries
  - >40 cities/area
- **Widest MULTI-tenant deploy has**
  - 19 Organizations / tenant
  - > 8000 users on
  - > 1600 Dashboards
  - > 16 mobile Apps
  - > **2.2 Million of structured data per day**
  - > 520 IoT Applications/node-RED
  - > 700 web pages with training
  - > 70 videos, training videos

#### Main Organizations/areas

- [Antwerp area \(Be\)](#)
- [Bologna \(I\)](#)
- Brasov (Ro)
- [Capelon \(Sweden: Västerås, Eskilstuna, Karlstad\)](#)
- [DISIT demo \(multiple\)](#)
- [Dubrovnik, Croatia](#)
- [Firenze area \(I\)](#)
- [Garda Lake area \(I\)](#)
- [Greece \(Gr\)](#)
- [Helsinki area \(Fin\)](#)
- [Livorno area \(I\)](#)
- [Lonato del Garda \(I\)](#)
- Merano (I)
- [Modena \(I\)](#)
- [Mostar, Bosnia-Herzegovina](#)
- [Oslo & Padova \(Impetus\)](#)
- [Pisa area \(I\)](#)
- [Pistoia \(I\)](#)
- [Pont du Gard, Occitanie \(Fr\)](#)
- [Prato \(I\)](#)
- [Roma \(I\)](#)
- [Santiago de Compostela \(S\)](#)
- [Sardegna Region \(I\)](#)
- [Siena \(I\)](#)
- SmartBed (multiple)
- [Toscana Region \(I\), SM](#)
- [Valencia \(S\)](#)
- [Venezia area \(I\)](#)
- [WestGreece area \(Gr\)](#)

- + Israel, Colombia, Brasile, Australia, India, China, etc.





# Different paths



## • Stage 1:

- Identifying the **missions or goals** of the city, plus KPI, SDG, 15Min City Index, etc.
- Developing a **strategic plan** for Smart City / Smart Area: ICT, Mobility, Energy, Environment, etc.
  - Examples in which we coordinated the strategies are: [Florence Metropolitan Area](#), [Cyprus Ministry](#)
  - Results can be lines of actions, strategies, detailed goals, scheduled plans, instruments to reach them, etc.

## • Stage 2:

- Finding the founts: projects, structural founts, etc.
- 2.1) **Tenders on specific targeted goals / objectives**, PPI, ...
  - Examples actually taken: [Select4Cities \(3 countries\)](#), [Rhodes \(Gr\)](#), ....
  - Results: deploy and operation of the solutions
- 2.2) **Direct Contract, for research and/or development:**
  - Examples actually taken: [ISPRA JRC of European Commission](#), [Merano \(I\)](#), [Cuneo \(I\)](#), [Asymmetrica](#), [EnelX](#), [eShare](#), .....
  - Results: deploy and operation of the solutions
- 2.3) **Collaborative joined projects, PCP, international and national:**
  - Examples are: [Select4Cities](#), [Herit-Data \(6 pilots\)](#), [Turismo \(7 pilots\)](#), [Mobimart](#), [CN MOST](#), ....

## • Stage 3: Operation

- The actual execution in maintenance of the platforms and solutions

# Public Spaces as Critical Infrastructures

- The City is a system of systems for city users
  - Cascading effects
- **Transport** networks
  - Main means for rescue teams, food, water, etc.
- **Communication**, ICT infrastructure
  - TV cam, switches, cyber,
- **Energy** networks
  - power supply for health, cyber systems, etc.
- **Hospitals** networks
- Aggregation areas

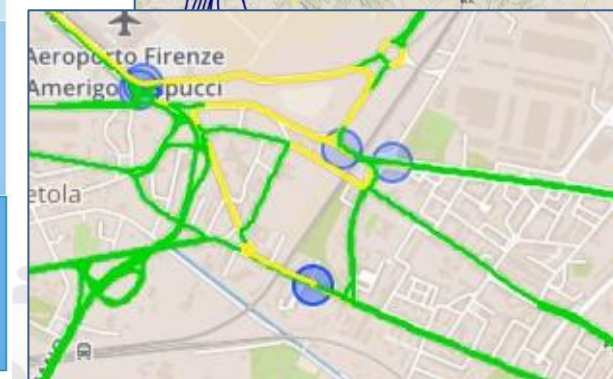
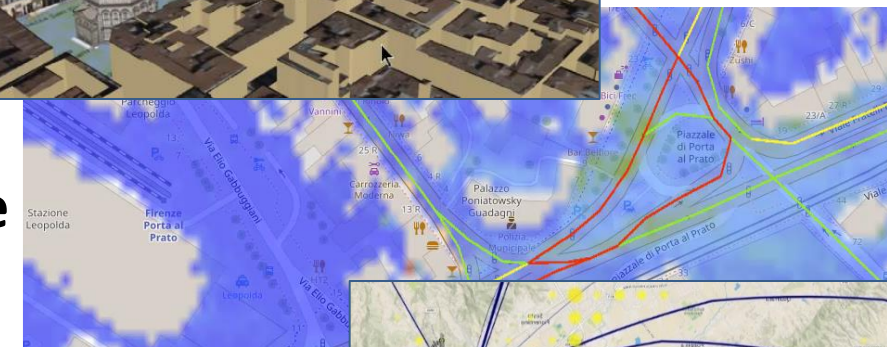


[https://www.snap4city.org/download/video/DPL\\_SNAP4SOLU.pdf](https://www.snap4city.org/download/video/DPL_SNAP4SOLU.pdf)



# Main Tasks

- **Controlling Status:** management, and operational
  - Monitoring via KPI
  - Computing predictions data from the field and KPI
  - Anomaly detection
  - Early warning on critical conditions
- **Making plan: tactic and strategic, medium and long range**
  - Optimisation: Prescriptions, suggestions
  - Risk assessment
  - What-if analysis on scenarios
    - Simulation and predictions
  - Resilience
- **Be ready for Unexpected Unknowns**



# Snap4City tools and Living lab Solution have been Created to satisfy requirements of international organizations as:



- **ENOLL:** <https://www.openlivinglabs.eu/>  
– [European Network of Living Labs](https://www.openlivinglabs.eu/)



- **EIP-SCC:** European Innovation Partnership on Smart Cities and Communities  
– <https://eu-smartcities.eu/>



- **Select4Cities:** Pre-Commercial Procurement Project to develop a data-driven, Internet-of-Everything (IoE) platform for large-scale urban co-creation  
– <https://www.select4cities.eu/>





# Requirements and Objectives

- Serve as a **City Dashboard, App User Interface**, etc.
  - Real time and historical data, any device, sensors and actuators
  - Sensors, KPI, maps, data trends, real time data, charts, etc.
  - Multi domain, smart city + industry 4.0 scenarios
- Referral / **historical data, and Open Data**:
  - shadow, access (API, storage, any protocol), production of OD, export
- **Data Driven Real Time communication & processing**:
  - IOT Applications, IOT edge, multiple operating systems, embedded systems, **MicroServices**
  - in/out data driven from/to the field into: applications, notifications, etc.
- **Data Analytics**: Machine Learning, statistics, reasoning, ...
- **Serve as Living Lab**: open innovation, co-working; collaborative work; sharing: data, processes, dashboard, experiences, solutions, ....
- Experimented on **large scale cases**

**SELECT**  
for Cities



# Non functional requirements

- **Open Source** based 100%
  - Open **Standard** for communication and API for In/Out
- **Interoperability**: protocols, internal API, Smart City API, ca , integrate with legacy conditions in place, modular, reusable,...
  - Open to proprietary protocols as well, any protocol, any format
- **Data driven**, for reading and data analytic
- **Scalable, Robust, Distributed** and Decoupled, modular, Service Oriented, open to external services and data sets, big data
- **Heterogeneous**: any device, private and public, custom and..
- **Security** by Design: HTTPS, TLS, ... compliant with EC
- **User Centric** Design: privacy by Design (and **GDPR**), personalized, personal data management, ...

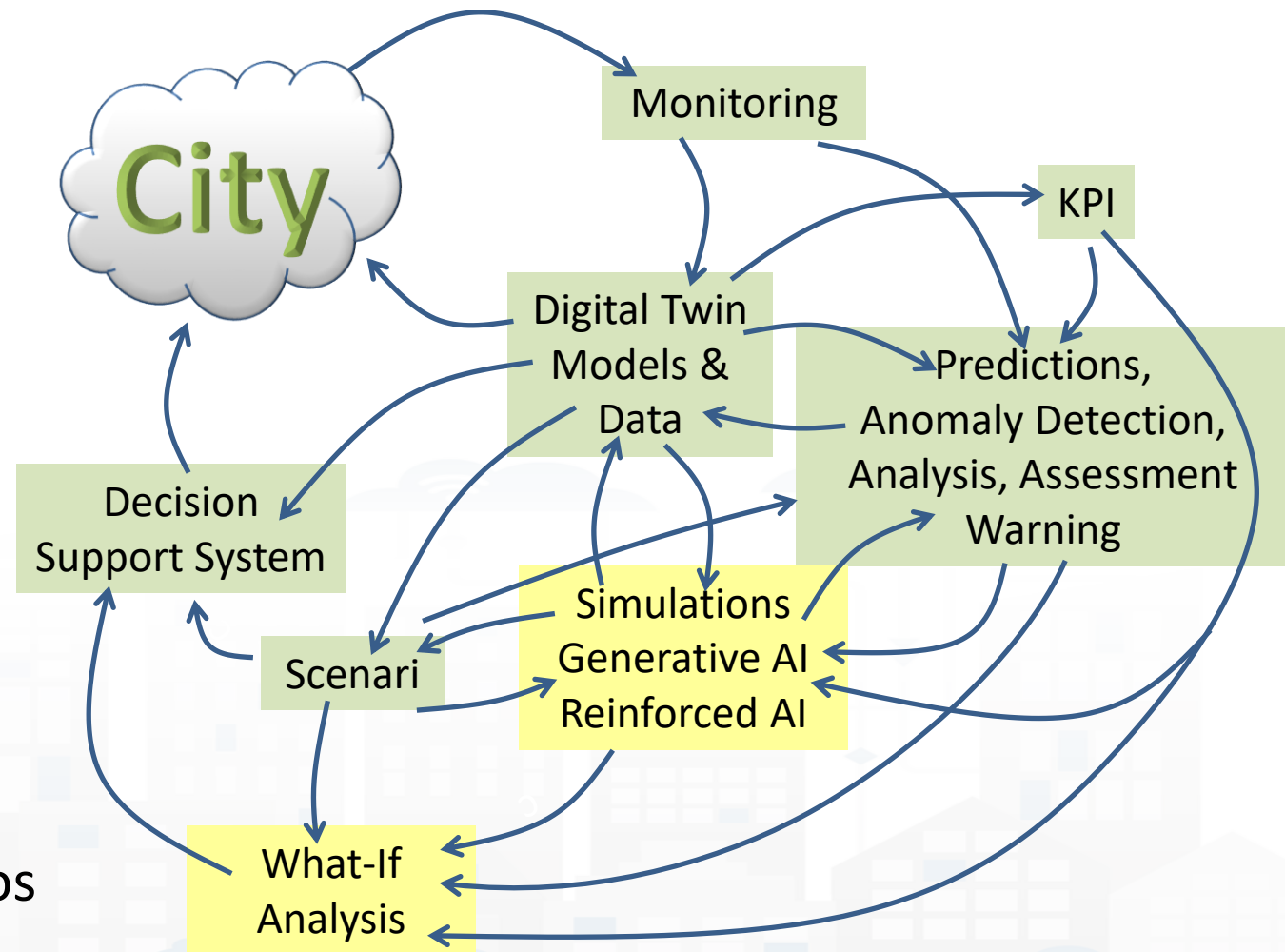


- **Controlling Status: management, and operational**

- Monitoring via KPI
- Computing predictions vs KPI
- Anomaly detection
- Neuro-Symbolic analysis
- Risk assessment
- Early warning on critical conditions

- **Making plan: tactic and strategic, medium and long range, micro/macro**

- Simulation & predictions
- Generative AI Prescriptions, scenarios
- Resilience to Unexpected unknowns
- What-if analysis wrt scenarios





# Context and Life Cycle and Living Lab support

FORGING &  
MANAGING OPEN  
AND FLEXIBLE WEB  
AND MOBILE APPS

STARTUP OF  
BUSINESS

SNAP4CITY  
ARCHITECTURE AND

TWITTER  
VIGILANCE SOCIAL  
MEDIA ANALYSIS

SNAP4CITY





# Aspects of the Living Labs

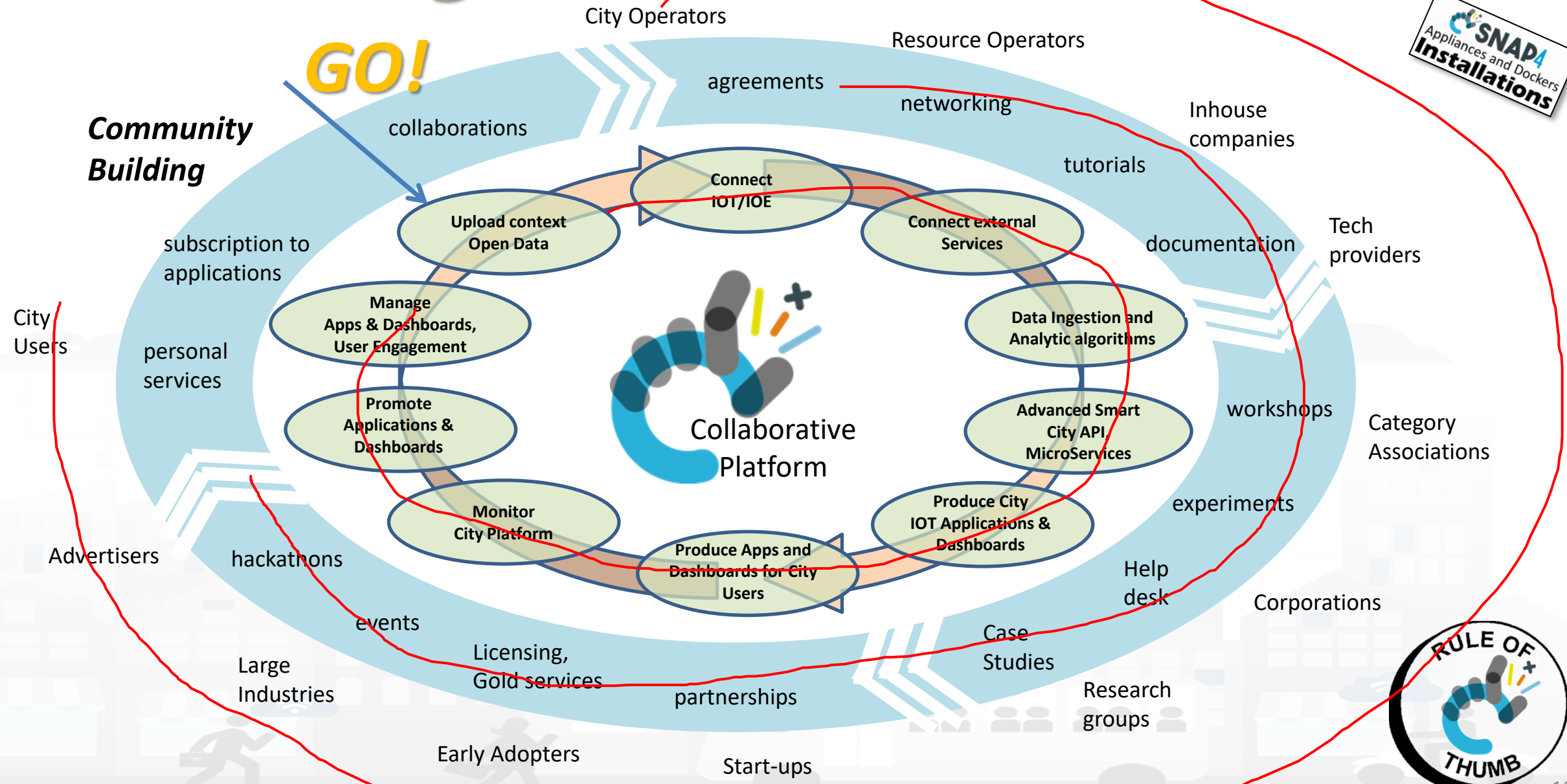
- **Living lab capabilities and supports**
  - Organizations are supported in the user management and persecuting their goals
  - Projects can be launched and targeted with groups, hackathons, tools, etc.
  - Individual (user interaction), are supported by tools and training material
- **Instruments of the Living Lab**
  - **Real-life context:** data and solutions to be taken as examples, from devices to IOT Applications, and Dashboards. A large set of **real scenarios described**
  - **Multi-stakeholder:** mainly apply to organizational, a community from where anybody can take advantage
  - **Multimethod:** the same results can be obtained by using multiple methods
  - **Active user co-creation:** the platform cansupports: collaborative work, supervising by the teachers, sharing and delegation.
  - **Secure:** it is GDPR compliant and passed PENTest and Vulnerability Test

# Accelerating



**GO!**

**Community Building**





TOP

# Referece Architecture

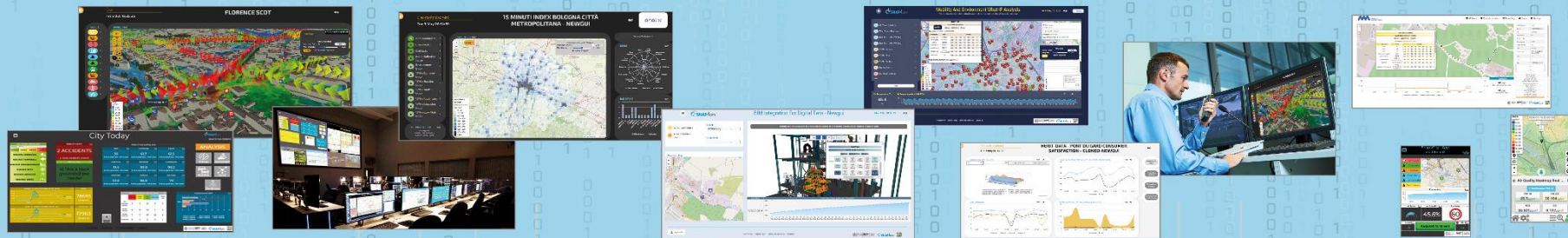




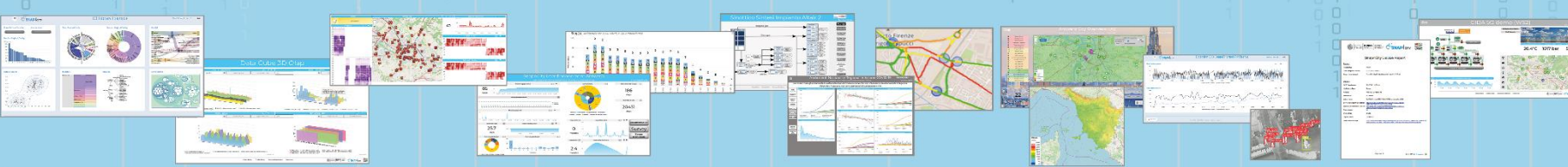


# Smart Solutions and Decision Support Systems

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 ...

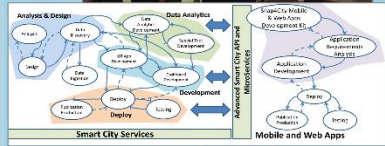
ANY: DATA, BROKER, NETWORK AND VERTICAL

EXPERT SYSTEM, KNOWLEDGE BASE  
SEMANTIC REASONING  
SMART DATA MODEL  
IOT DEVICE MODELS, STORAGE

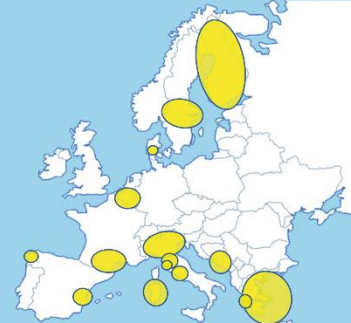
BIG DATA ANALYTICS, ARTIFICIAL INTELLIGENCE  
EXPLAINABLE AI, MACHINE LEARNING  
OPERATIVE RESEARCH, STATISTICS

VISUAL PROGRAMMING, ADAPTERS  
DATA FLOWS, WORKFLOWS  
PARALLEL DISTRIBUTED PROCESSING  
DATA DRIVEN

- Native and External Applications**
- Smart Parking
  - Smart Light
  - Smart Waste
  - Smart Energy
  - Smart Building
  - Smart Tourism
  - Social Media Analysis



METHODOLOGIES  
LIVING LABS  
COURSES AND COMMUNITY  
DEVELOPMENT TOOLS



Powered by  
**FIWARE**

FREE  
TRIAL

PEN Test  
Passed

EU GDPR  
COMPLIANT

SNAP4  
Appliances and Dockers  
Installations

EUROPEAN OPEN  
SCIENCE CLOUD

Node-RED

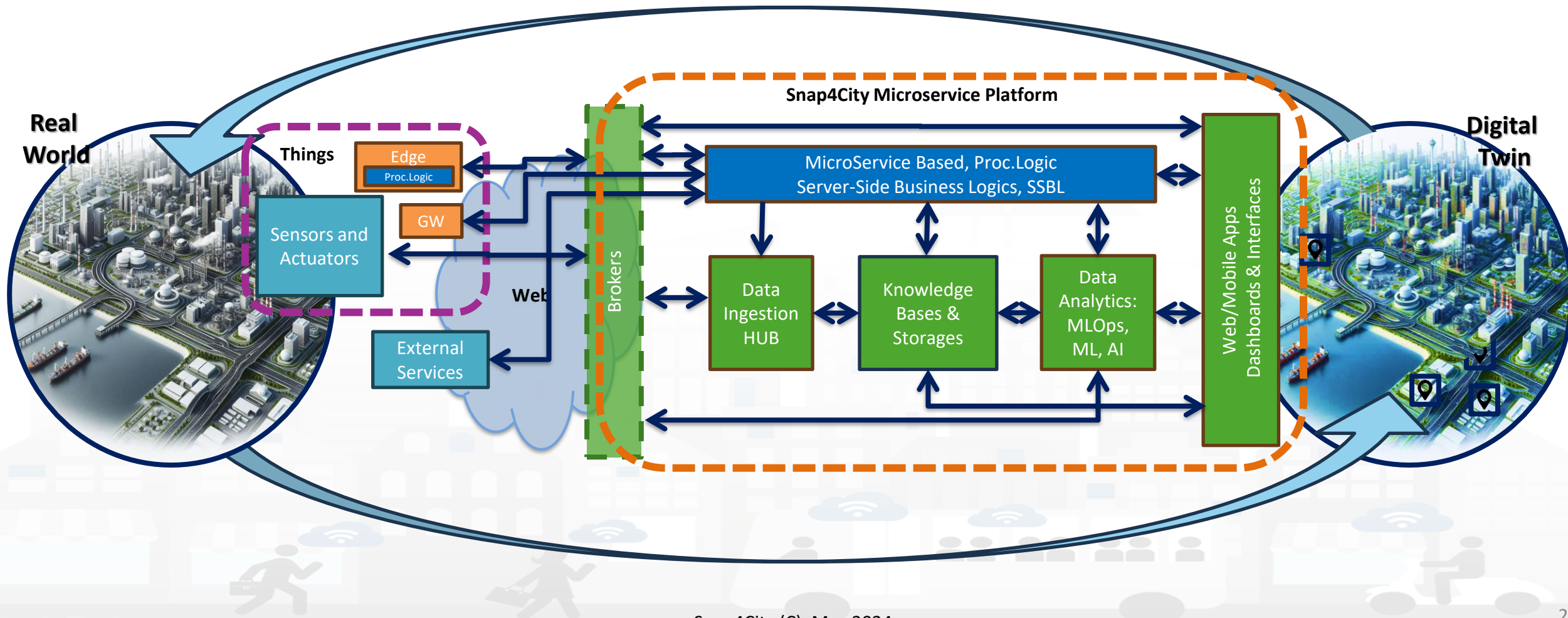
JS Foundation

E015  
digital ecosystem

NVIDIA



# Digital Twin Development Platform

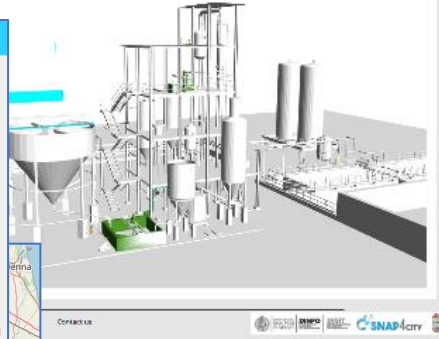
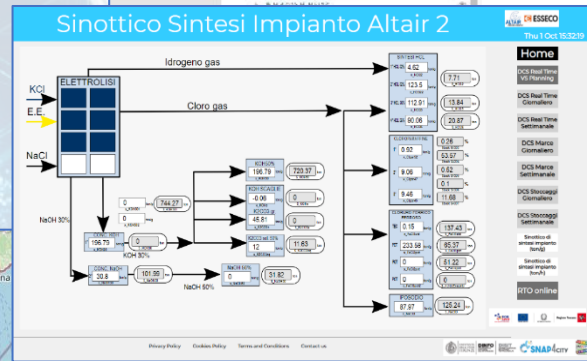
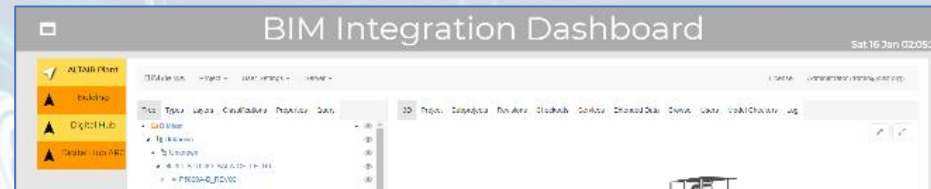




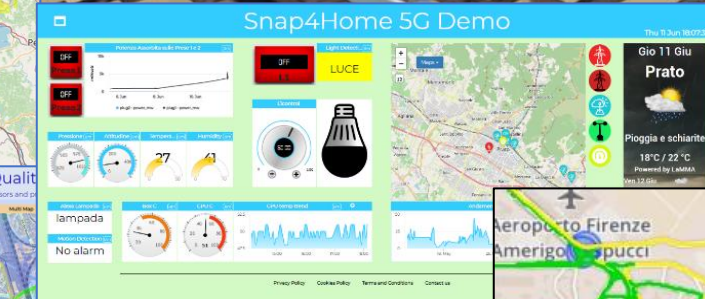
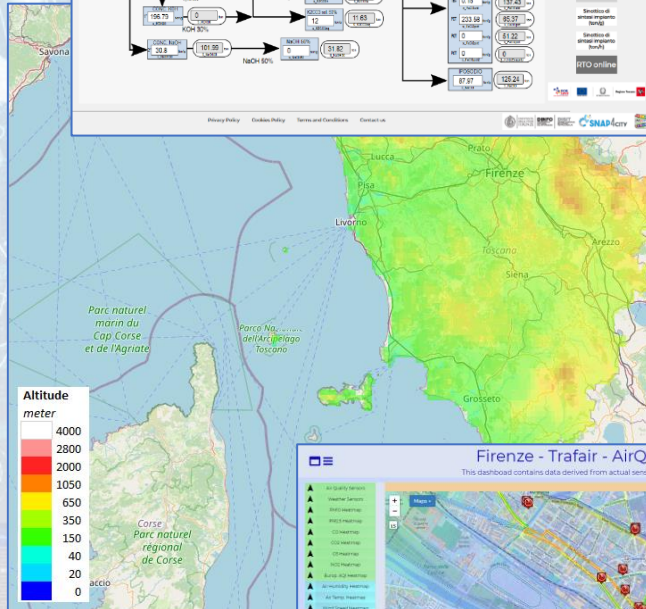
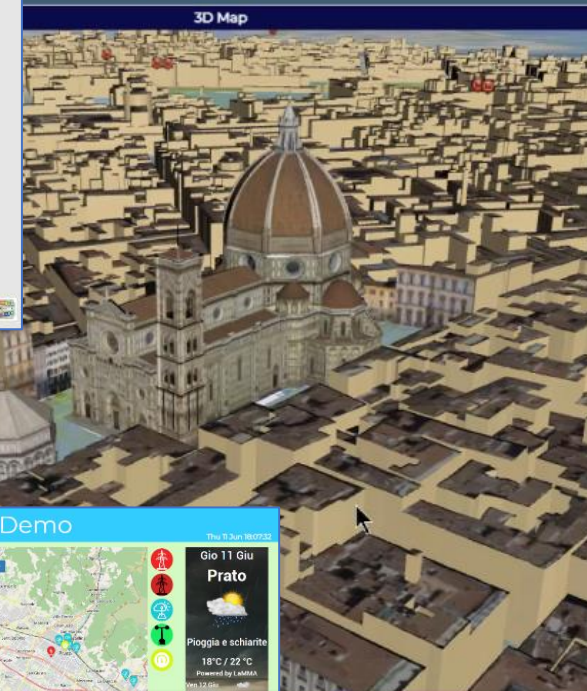
# High Level Types

Snap4City (C), May 2024

- POI, IOT Devices, shapes, ...
  - FIWARE Smart Data Models,
  - IoT Device Models
- GIS, maps, orthomaps, WFS/WMS, GeoTiff, calibrated heatmaps, ...
- Satellite data, ...
- traffic flow, typical trends, ...
- trajectories, events, Workflow, ...
- 3D Models, BIM, Digital Twins, ...
- OD Matrices of several kinds, ...
- Dynamic icons/pins, ...
- Synoptics, animations, ...
- KPI, personal KPI, ...
- social media data, TV Stream, ...
- routing, multimodal, constraints, ...
- decision scenarios, ....
- etc.



**SNAP4CITY**  
- Digital Twin Global - Fire  
demonstrator



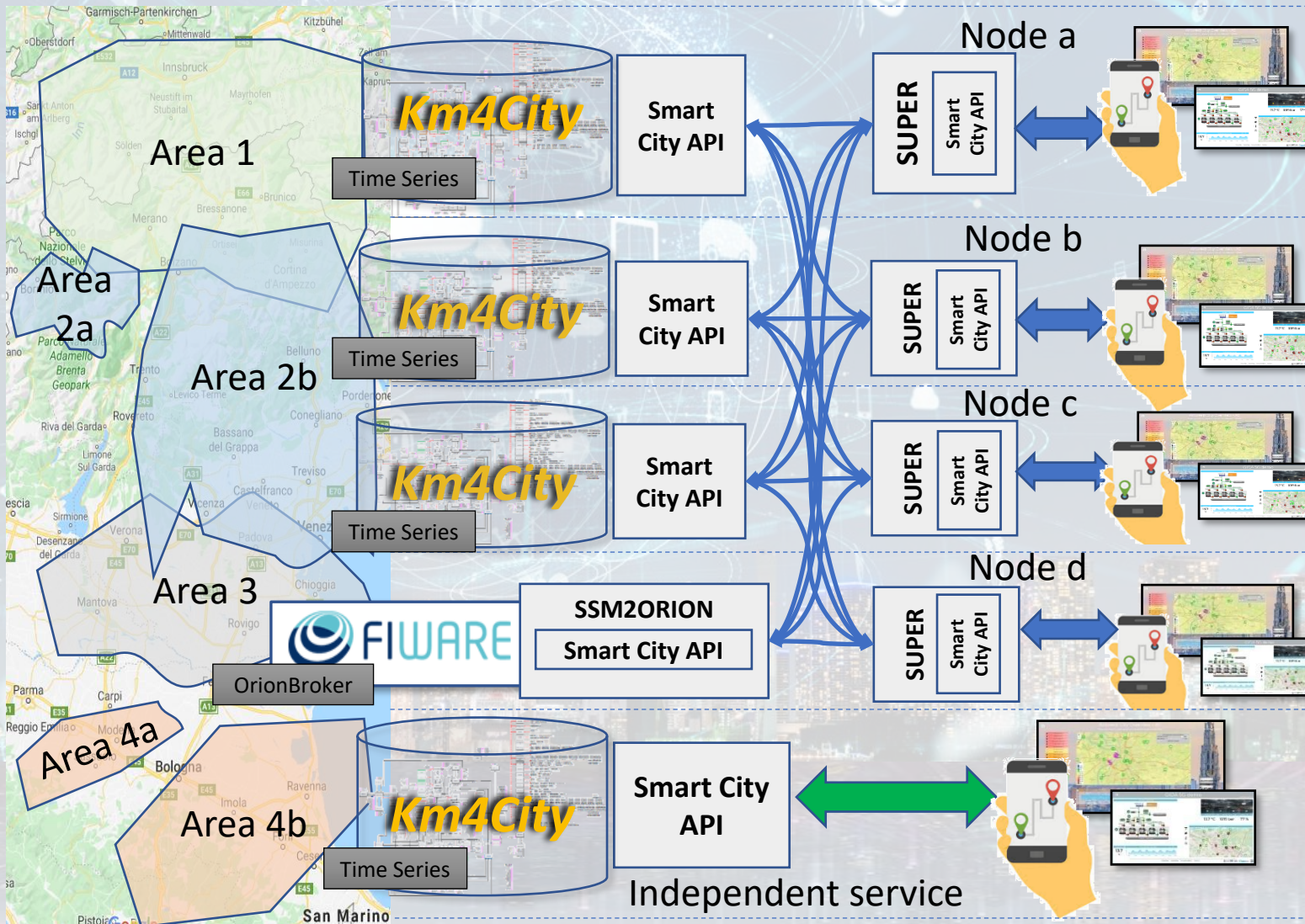
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DIPARTIMENTO DI  
INGEGNERIA  
DELL'INFORMAZIONE

**DISIT**  
DISTRIBUTED SYSTEMS  
AND INTERNET  
TECHNOLOGIES LAB



# Federation of Smart City Services



- **Km4City Semantic Reasoner**
- **ServiceMap interoperability**
- **Seamless for multiple Mobile Apps**
- **Smart City API**
- **Super:**
  - distributed access and sharing services
  - Each city control its own data
  - Final user can pass from one city / area to another in seamless manner: without changing the mobile Apps

# Engagement

- **Finding the right participants to the Living Lab**
  - Campaigns tailored to the right audience according to the role: testing, developers, requirements collections, etc.
    - Finding specific profiles via stakeholders
    - And/OR: Web based recruitments, App Based, etc.
  - Motivation to participate, eventual incentives
- **Inform/educate the Participants about the project:**
  - after and before testing/validations, etc.
- **Protect the Participants privacy**, ask to NDA and provide the NDA, GDPR compliant
- **Support:** during the project, SPOC, Help-Desk, web portal, logistic

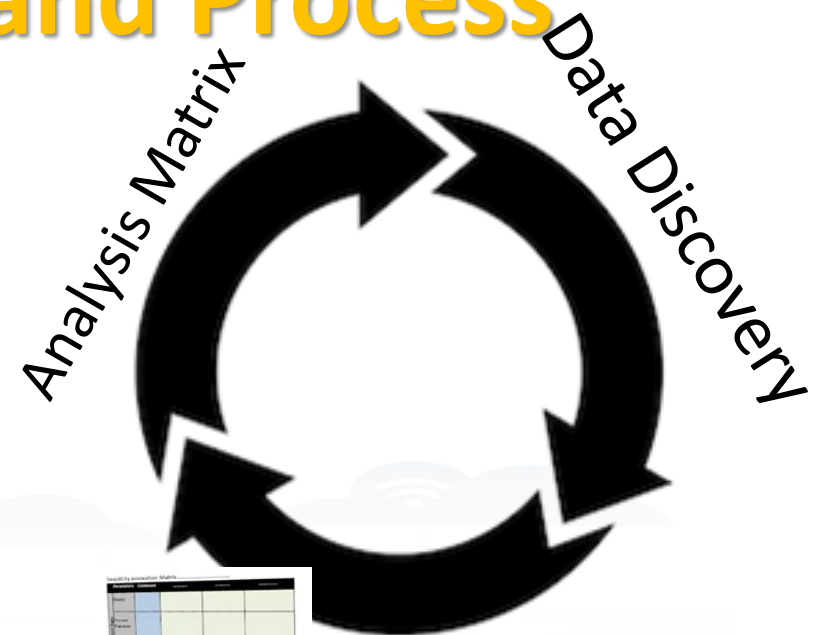


TOP

# *Analysis and Design for Innovation (Co-Creation and Co-Working)*



# Snap4City Innovation Matrix and Process



Snap4City Innovation Matrix

	Parameters	Commons	Operators	360°	Visitors
Current State	Needs	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
	Current Practices	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
	Value proposition (Current)	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
Future State	Value proposition (Future)	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
	Solution	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
	Value Capture	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
	Key Partners	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]
	Barriers	[Sticky notes]	[Sticky notes]	[Sticky notes]	[Sticky notes]

Snap4City Innovation Matrix

	Parameters	Commons
Needs		
Current Practices		
Value proposition (current)		
Value proposition (Future)		
Solution		
Value Capture		
Key Partners		



Design Scenarios



# Analysis & Design for Innovation



- **Analysis**

- The analysis starts with a number of meetings/interviews with stakeholders
- The identification of the target stakeholders/actors/users (target Segments) and their definition/description
- The meetings/workshops are focused on filling the **Snap4City Innovation Matrix** which is an evolution of the INNOVATRIX approach of IMEC
- See the schema of the **Snap4City Innovation Matrix** reported in the next slide, on the basis of the kind of Meeting for example: (a) starting a smart city, (b) starting a smart city Living Lab

- **Data Discovery**

- Production of the Data Table (Snap4City)
- Data discovery is performed on analysis of the: (i) identified scenarios, (ii) data of the stakeholders, (iii) international sources, (iv) Snap4City experience, etc.
- Performed by following the Snap4City guidelines on Data Search on web and world.

- **Design**

- Focused on creating a large number of Use Cases and/or Scenarios for development
- The design starts by taking into account the Snap4City development life cycles and tools. Thus shortening all the boring activities and following the typical Snap4City rapid prototyping described in these slides!!

TOP

# *Recall to Smart City*

## *Development Life Cycle*



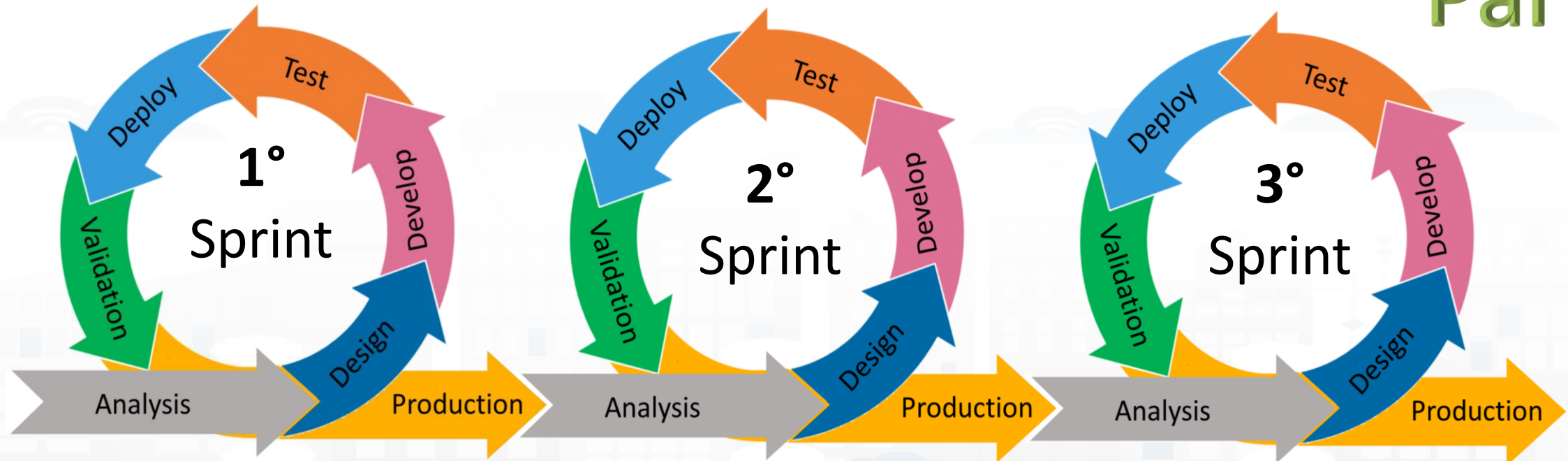


# Agile Development Life Cycle by sprint

## Smart Solutions

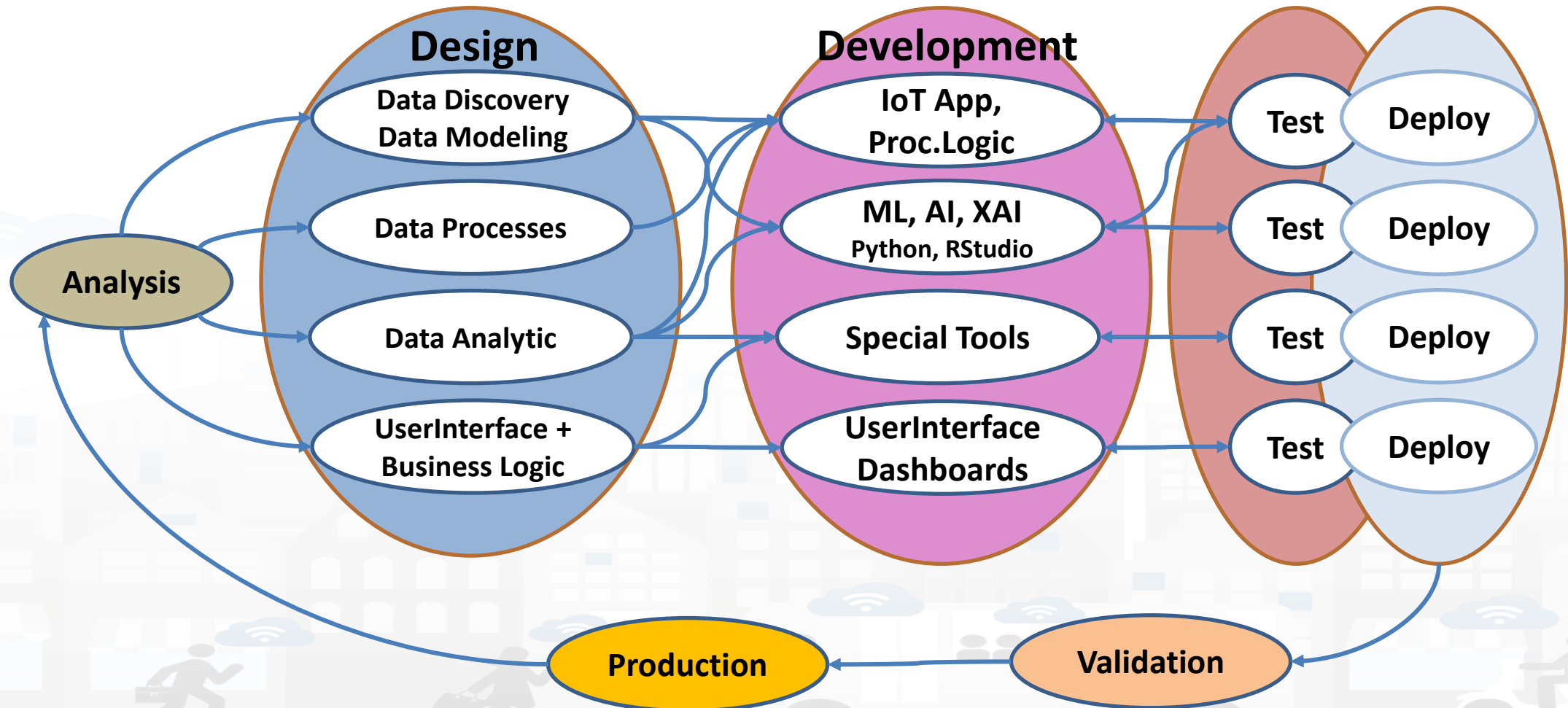


## Part 8



# Development Life Cycle Smart Solutions

## Part 8





TOP

# *Platform and documentation*





Home / Snap4City: Smart aNalytic APp builder for sentient Cities and IOT

# Snap4City: Smart aNalytic APp builder for sentient Cities and IOT

You can't delete this newsletter because it has not been sent to all its subscribers.

Username: paolo.disit

## Search

Search    
-Any-

**WHAT IS Snap4City**

**SMARTCITY EXPO WORLD CONGRESS**  
15 - 17 NOVEMBER 2022  
BARCELONA & ONLINE [GET YOUR PASS](#)

**Articles**

**LATEST NEWS**

**SELECT for CITIES**  
1° Place award to **SNAP4CITY**

**Snap4City Training on Tools and Platform**

**Flyer**

**SNAP4CITY on EUROPEAN OPEN SCIENCE CLOUD MARKETPLACE**

**SNAP4CITY HACKATHON**  
HOLD YOUR APP FOR A CONNECTED CITY

**INDUSTRY 4.0**  
**Snap4Industry**

**SMART**  
**Snap4Home**

**Tutorials**

**Scenarios**

**Organizations**

**Innovations**

**Interoperability**

**Installations**

**API**  
**Smart City API**

**Smart City Ontology**

**Work with Us**

**Training on Tools and Platform**

Powered by **www.km4city.org**

**FIWARE**

**Node-RED**

**Sii-Mobility**

**Organization Groups**

- TECHNICAL OVERVIEW: <https://www.snap4city.org/download/video/Snap4City-PlatformOverview.pdf>
- Development Life Cycle: <https://www.snap4city.org/download/video/Snap4Tech-Development-Life-Cycle.pdf>
- Client-Side Business Logic Widget Manual: <https://www.snap4city.org/download/video/ClientSideBusinessLogic-WidgetManual.pdf>
- Booklet Data Analytics, Snap4Solutions: [https://www.snap4city.org/download/video/DBL\\_SNAP4SOLUTION.pdf](https://www.snap4city.org/download/video/DBL_SNAP4SOLUTION.pdf)

- DISIT
- Developer
  - Operativo

## Updates on



# 2023 booklets



- Smart City



[https://www.snap4city.org/download/video/DPL\\_SNAP4CITY.pdf](https://www.snap4city.org/download/video/DPL_SNAP4CITY.pdf)

- Industry



[https://www.snap4city.org/download/video/DPL\\_SNAP4INDUSTRY.pdf](https://www.snap4city.org/download/video/DPL_SNAP4INDUSTRY.pdf)

- Artificial Intelligence



[https://www.snap4city.org/download/video/DPL\\_SNAP4SOLU.pdf](https://www.snap4city.org/download/video/DPL_SNAP4SOLU.pdf)

# Tech Overview

- <https://www.snap4city.org/drupal/sites/default/files/files/Snap4City-PlatformOverview.pdf>



### Technical Overview

From: DINFO dept of University of Florence, with its  
DISIT Lab, <https://www.disit.org> with its Snap4City solution

Snap4City:

- Web page: <https://www.snap4city.org>
- <https://twitter.com/snap4city>
- <https://www.facebook.com/snap4city>

Contact Person: Paolo Nesi, [Paolo.nesi@unifi.it](mailto:Paolo.nesi@unifi.it)

- o Phone: +39-335-5668674
- o LinkedIn: <https://www.linkedin.com/in/paolo-nesi-849ba51/>
- o Twitter: <https://twitter.com/paolonesi>
- o FaceBook: <https://www.facebook.com/paolo.nesi2>



# Development

<https://www.snap4city.org/download/video/Snap4Tech-Development-Life-Cycle.pdf>



## Development Life-Cycle

<https://www.snap4city.org/download/video/Snap4Tech-Development-Life-Cycle-v1-1.pdf>

### From Snap4City:

- We suggest you to read the **TECHNICAL OVERVIEW**:
  - <https://www.snap4city.org/download/video/Snap4City-PlatformOverview.pdf>
- <https://www.snap4city.org>
- <https://www.snap4solutions.org>
- <https://www.snap4industry.org>
- <https://twitter.com/snap4city>
- <https://www.facebook.com/snap4city>
- <https://www.youtube.com/channel/UC3tAO09EbNba8f2-u4vandq>

**Coordinator:** Paolo Nesi, [Paolo.nesi@unifi.it](mailto:Paolo.nesi@unifi.it)

DISIT Lab, <https://www.disit.org>  
DINFO dept of University of Florence,  
Via S. Marta 3, 50139, Firenze, Italy  
Phone: +39-335-5668674

<https://www.snap4city.org/944>

*On Line Training Material (free of charge)*



1st part	2nd part	3rd part	4th part	5th part	6th part	7th part	8th
Overview	Dashboards	IOT App, IOT Network	Data Analytics	Data Ingestion processes	System and Deploy Install	Smart City API: Web & Mob. App	Design and Develop Smart Solutions






SMART CITIES AND SMART INDUSTRY

## Snap4City: FIWARE powered smart app builder for sentient cities

With the contribution of

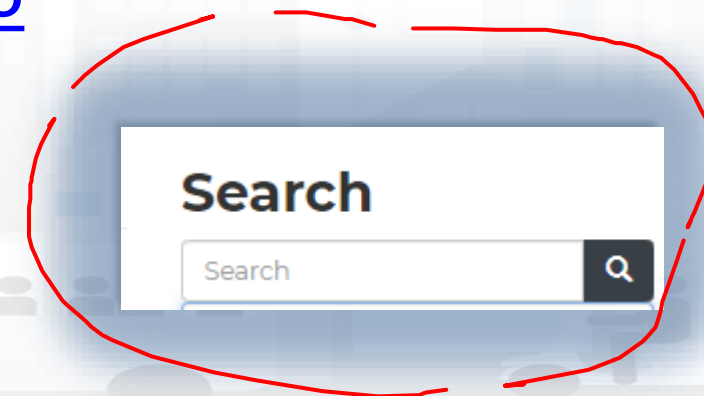


- <https://fiware-foundation.medium.com/snap4city-fiware-powered-smart-app-builder-for-sentient-cities-acfe24df49d5>
- [https://www.snap4city.org/drupal/sites/default/files/files/FF\\_ImpactStories\\_Snap4City.pdf](https://www.snap4city.org/drupal/sites/default/files/files/FF_ImpactStories_Snap4City.pdf)

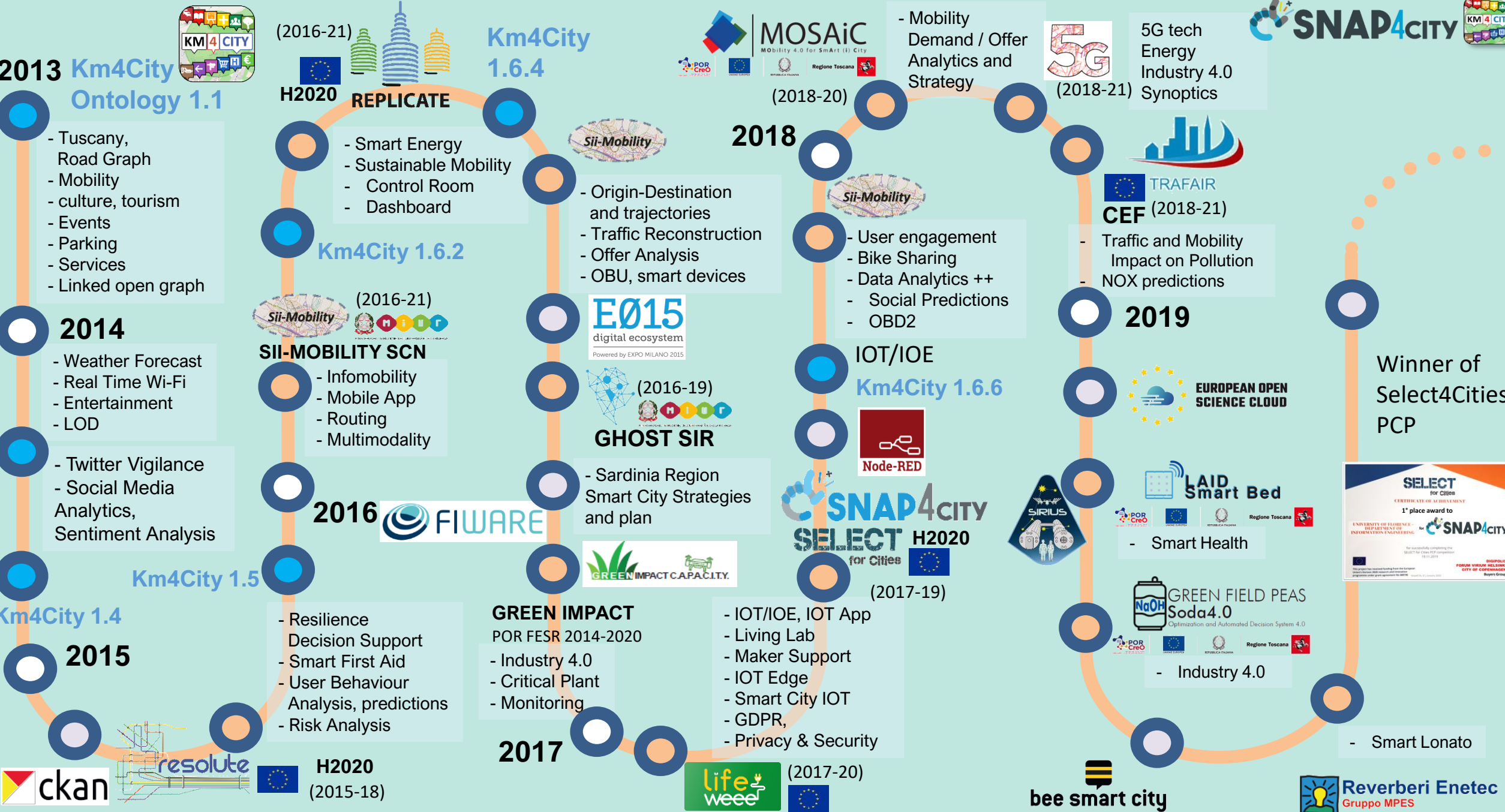


# The Platform

- **Free Registration on Snap4City.org**
  - Please select DISIT ORG to be sure to access at the examples
  - Most of the cities / tenant are private and they do not left much visible
- **What you get** is probably the 10% of what is on the platform 😊
- **Training:** <https://www.snap4city.org/577>
- **Scenariious:** <https://www.snap4city.org/4>
- **Publications:** <https://www.snap4city.org/426>
- **WEB pages:** <https://www.snap4city.org/78>
- ***SEARCH on the right side***







**2013 Km4City Ontology 1.1**

- Tuscany, Road Graph
- Mobility
- culture, tourism
- Events
- Parking
- Services
- Linked open graph

**2014**

- Weather Forecast
- Real Time Wi-Fi
- Entertainment
- LOD

- Twitter Vigilance
- Social Media Analytics, Sentiment Analysis

**Km4City 1.4**

**2015**

- Resilience Decision Support
- Smart First Aid
- User Behaviour Analysis, predictions
- Risk Analysis



**(2016-21) H2020 REPLICATE Km4City 1.6.4**

- Smart Energy
- Sustainable Mobility
- Control Room
- Dashboard

**Km4City 1.6.2**

**(2016-21) SII-MOBILITY SCN**

- Infomobility
- Mobile App
- Routing
- Multimodality

**2016 FIWARE**

- Resilience Decision Support
- Smart First Aid
- User Behaviour Analysis, predictions
- Risk Analysis

**MOSAiC (2018-20)**

- Origin-Destination and trajectories
- Traffic Reconstruction
- Offer Analysis
- OBU, smart devices

**E015 digital ecosystem**

Powered by EXPO MILANO 2015

**(2016-19) GHOST SIR**

- Sardinia Region Smart City Strategies and plan

**SNAP4CITY SELECT H2020 (2017-19)**

- GREEN IMPACT POR FESR 2014-2020**
- Industry 4.0
  - Critical Plant
  - Monitoring

**2017 life weee (2017-20)**

- Smart Waste

**5G tech Energy Industry 4.0 Synoptics (2018-21)**

- Mobility Demand / Offer Analytics and Strategy
- User engagement
- Bike Sharing
- Data Analytics ++
- Social Predictions
- OBD2

**IOT/IOE Km4City 1.6.6**

**Node-RED**

**TRAFAIR CEF (2018-21)**

- Traffic and Mobility Impact on Pollution
- NOX predictions
- Smart Health

**GREEN FIELD PEAS Soda4.0**

Optimization and Automated Decision System 4.0

- Industry 4.0

**bee smart city**

**Reverberi Enetec Gruppo MPES**

**SNAP4CITY**

**Winner of Select4Cities PCP**

**SELECT for Cities**

CERTIFICATE OF ACHIEVEMENT

1<sup>st</sup> place award to **SNAP4CITY**

**Smart Lonato**

**DISIT lab roadmap vs model and tools' usage**



**2020**



- Smart Tourism
- 6 Pilots
- Data Analytics
- Extended platform



- Smart Mobility
- PISA, PUMS
- Living lab



**Km4City 1.6.7**

Smart Ambulance (2021-22)



**2021**

PC4City (2020-21)  
Monitoring Terrain



**CAPÉLON**

- Smart Light
- Sweden

Enterprise (2021-22)  
Industry 4.0

Almafluida  
Industry 4.0  
(2021-22)

AMPERE (2021-22)  
Industry 4.0

SYN-RG-AI  
SmartCity



uni.systems  
SmartCity, 2021-23



AXIS collab  
SmartCity

**2022**



Asymmetrica  
Smart City, 2022-23



Italferr, Smart City

**2023**



Contract, 2022-23



2022-2023



Contract, 15min



Security and Risk



Contract, 2022-23



CN MOST, 2022-26

EI THE, 2022-26

G. Agile, 2021-23



2023-26 Finanziato dall'Unione europea NextGenerationEU



Merano, smart light

OceanRace,  
Genova, AWS

Cuneo,  
smart city

Rhodes,  
smart city

**2024**



TOURISMO



Co-funded by the European Union



TOP



*Be smart in a SNAP!*



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