International Networking Event

Horizon Europe – Missions

ADAPTATION TO CLIMATE CHANGE & CLIMATE -NEUTRAL AND SMART CITIES



Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

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Projects Record

- Herit-Data, <u>https://herit-data.interreg-med.eu/</u> Interreg
- MOBIMART, <u>http://interreg-</u> maritime.eu/web/mobimart/home
- Snap4City PCP of Select4Cities, which has generated the Snap4City platform https://www.snap4city.org
- REPLICATE EC H2020 SCC1 Lighthouse project https://replicate-project.eu/
- RESOLUTE EC H2020 DR7 project <u>http://www.resolute-eu.org/</u> Resilience of Urban transport System
- TRAFAIR CÉF, <u>https://trafair.eu/</u> for the implementation of predictive models for pollutant, environmental data
- MOSAIC smart mobility solutions, models and tools for: (i) the analysis and matching between the offer of transportation and demand of mobility based on census data, tourism, city facilities, etc.; (ii) connected drive solutions; (iii) prediction on parking and multimodal hubs;
- Agile Justice: NLP for text understanding and decision making support

DISIT Recognitions

• Snap4City Infrastructure in Europe and more

- Snap4City Impact Story on FIWARE: https://fiwarefoundation.medium.com/snap4city-fiware-poweredsmart-app-builder-for-sentient-cities-acfe24df49d5
- Powered by FIWARE Solution and Platform
- DISIT Lab is certified
 - FIWARE Training Services
 - FIWARE Consultancy Services
 - 2 Certified Experts: P. Nesi, P. Bellini
- Smart City Control Room in Florence Metro City
- Installed on ISPRA JRC of European Commission
- EOSC, European Open Science Cloud
- Node-RED Library on Smart City
- Twitter Vigilance
- LOD, Linked Open Graph: <u>https://log.disit.org/service/</u>
- Member of Center of Big Data AI in Tuscany
- Member of National PhD course on AI
- etc..













Our skills and interests

Data modelling and management: climate, energy and mobility

- Data discovery and data surrogates/replacements
- Big data management and provider
- GIS data management, Digital Twin: local and global
- satellite Copernicus data processing for smart city and industry
- IoT interoperability, edge, fog and cloud
- Data interoperability, data aggregation and semantic processing

AI, Data Analytic, Visual Analytic: climate, energy and mobility

- Explained AI, XAI, Trustworthy AI
- Cognitive reasoning, ontology development, Natural Language Processing
- Al for: predictions, anomaly detection, clustering, suggestions, simulation, fluid dynamics, for: CO2, NO2, GHG, traffic, parking, etc.
- Al on different contexts: mobility, environment, energy, terrain sliding, smart city, industry, human behaviour,
- Modelling and computing KPI
- What-if analysis: mixing simulation and AI

Publications: <u>http://www.disit.org/5487</u>







2022: DISIT Numbers

Mobility, energy, climate, people flow, environment, Industry 4.0, tracking, smart-bed, smart ambulance, Tourism, smart light, culture, cultural heritage etc...

- 5 running installations
- 13 projects, 12 pilots on 9 Countries

On the largest deploy

- 17 Organizations / tenant
- > 4800 users on <u>https://www.Snap4City.org</u>.
- > 1200 Dashboards
- > 15 mobile Apps
- > 2 Million of structured data per day
- > 500 IoT Applications/node-RED /Docker
- > 680 web pages with training
- > 40 videos, training videos

Main Organizations/areas

- Antwerp area (Be)
- Capelon (Sweden: Västerås, Eskilstuna, Karlstad)

- DISIT demo (multiple)
- Dubrovnik, Croatia
- <u>Firenze area (I)</u>
- Garda Lake area (I)
- Helsinki area (Fin)
- Livorno area (I)
- Lonato del Garda (I)
- Modena (I)
- Mostar, Bosnia-Herzegovina
- <u>Pisa area (I)</u>
- Pont du Gard, Occitanie (Fr)
- <u>Roma</u> (I)
- <u>Santiago de Compostela (S)</u>
- Sardegna Region (I)
- SmartBed (multiple)
- <u>Toscana Region (I), SM</u>
- Valencia (S)
- Venezia area (I)
- <u>WestGreece area (</u>Gr)

Last minute:

- Installation in Israel
- Training in Japan in July
- Coverage of all Greece is coming







Environment and Quality of Life Cities of: Firenze, Pisa, Livorno **Air Quality Predictions**

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PM 10

NO2

65.135ug/

a o

19.744µg/m

Multiple Domain Data

Traffic Flow data, Pollutant: NOX, CO2, PM10, PM2.5, O3,

3D City structure, weather, Copernicus satellite data ...

Multiple Decision Makers

Pollutant Predictions: NOX, NO2, ... City officers, energy industries Dashboards, What-IF analys Traffic Flow Reconstruction. 15minutes City Index

Historical and Real Time data

Billions of Data **Services Exploited on:**

Dashboards, Mobile App Since 2020







NAP4city

KM 4 CITY

Adaptation to Climate Change & Climate-Neutral and Smart Cities – SELECTED CALLS

- HORIZON-MISS-2021-CIT-02-01: Urban planning and design for just, sustainable, resilient and climate-neutral cities by 2030
- HORIZON-MISS-2021-CIT-02-02: Unleashing the innovation potential of public transport as backbone of urban mobility
- HORIZON-MISS-2022-CIT-01-01: Designing inclusive, safe, affordable and sustainable urban mobility
- HORIZON-CL5-2022-D4-02-02: Solutions for the sustainable, resilient, inclusive and accessible regeneration of neighborhoods enabling low carbon footprint lifestyles and businesses (Built4People)
- HORIZON-CL5-2022-D4-02-03: Sustainable and resource-efficient solutions for an open, accessible, inclusive, resilient and low-emission cultural heritage: prevention, monitoring, management, maintenance, and renovation (Built4People)









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