



**SMart URBan
Solutions
for air quality,
disasters and city
growth**

Smart City pilots and case studies

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WP5 - „The showcase of SMURBS“

Objectives:

- Test and implement smart urban solutions in selected cities by exploiting portfolio of products/platforms developed in WP3&WP4
- Integrate EO platforms/services and KETs for city scale applications (WP6)
 - assess feasibility
 - receive feedback
- Pursue active involvement and synergistic cooperation among various stakeholders (WP7)
 - networking
 - training
- Pave the way for easy replication (WP7)

Overall work plan/tasks



- Pilots selection (*Lead: JSI*)
 - Criteria for selection
 - Levels of implementation
- Implementation of pilots and case studies (*Lead: ISPRA*)
 - Cities and citizens engagement
 - Infrastructure set-up
 - Pre-operational system, test and demonstration
 - Feedback to WP3 and WP4
- Specific case studies (*Lead: CNR & MU*)
 - Health impact assessment
 - Migrant crisis and other social inequalities in human exposure
- Training and replication (*Lead: NSCR - Demokritos*)

Pilots selection

Approach:

- User needs identification and gap analysis (WP2) as a starting point
- Setting the criteria for pilots selection and design
- Detailed information on candidate cities summarized in a structured way (*City dossiers*)
- Clustering of needs (considering hierarchy of urban pressures and resources available) and the optimum issue-to-solution correspondence (WP3&4)
- Refinement of city candidates

Pilots – levels of implementation

- PC - Pilot City: implementing an integrated plan of a series of solutions to one or more of the pressures addressed
- TB - Test Bed: testing or demonstrating specific, targeted solutions
- FL – Follower City: observing, interacting and contributing to the exploitation of the smart city concept of SMURBS
- CS - Case Study: conducted to address complicated and high-priority EU issues based on past data or case wise approaches (*health and migration*)

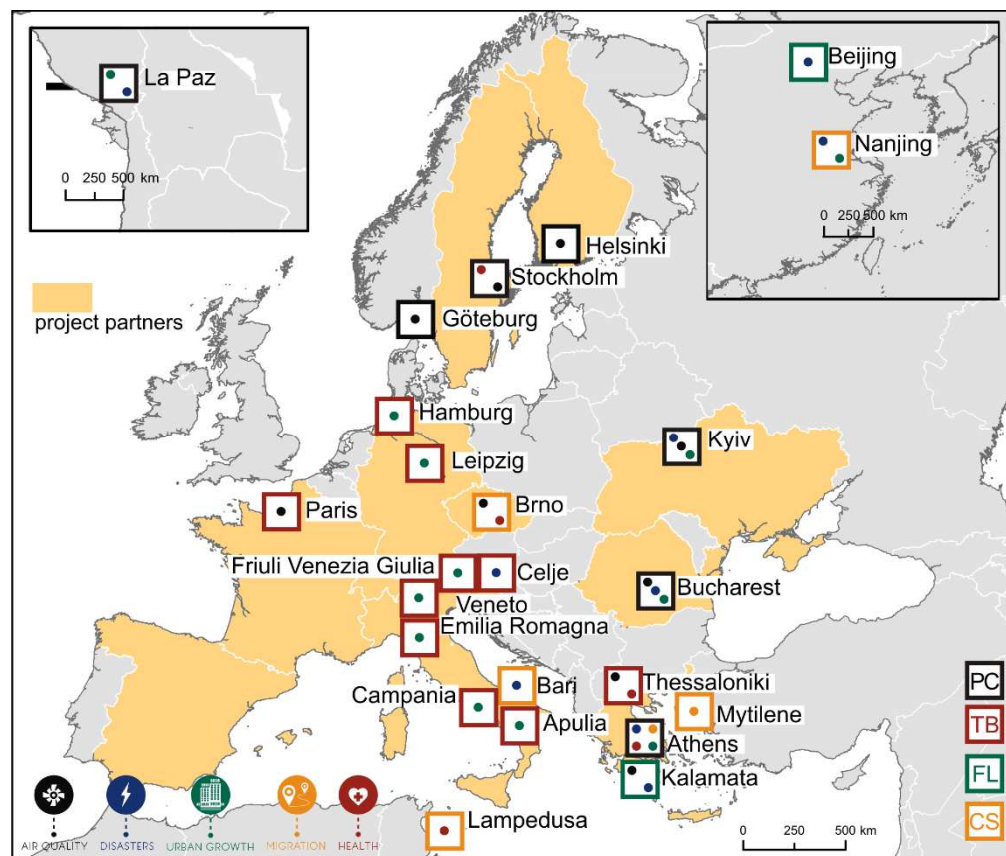
Pilots selection - criteria

- *City dossiers*
 - geographical features
 - pressures
 - local assets (hazard identification, risk assessment, available EO methods and platforms, citizen initiatives)
 - city vision and strategy
- Criteria for selection/classification
 - *city-specific pressures hierarchy,*
 - *issue-to-solution feasibility (portfolio of products available),*
 - *capacity to integrate several solutions,*
 - *local assets – „smartness“ (governance, living, environment, people, economy...)*
 - ...
- Multi-Criteria Analysis
 - Identification of indicators
 - Criteria/indicators evaluation

Pilots candidacies

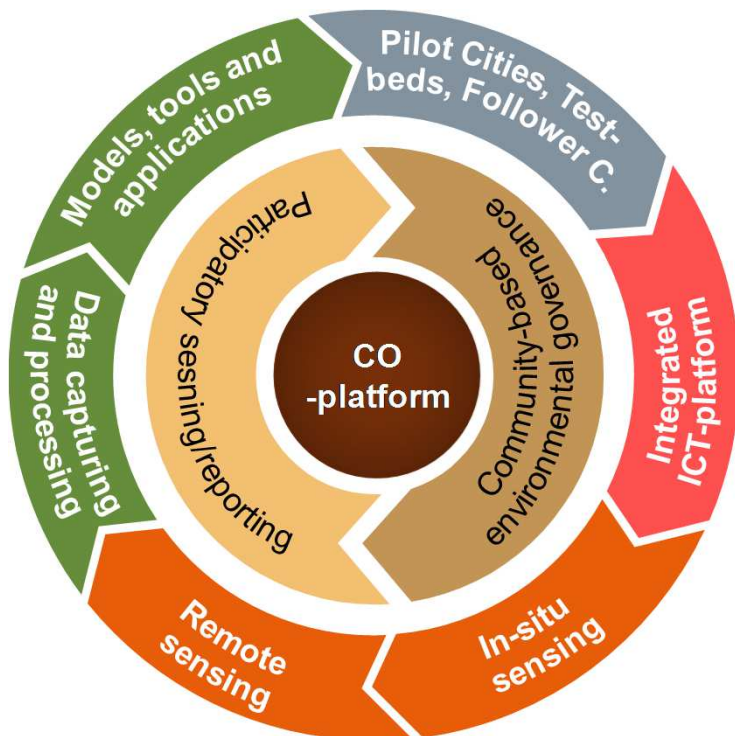
Location	Type*	Pressure/Study focus					Observation method/platforms				
		AQ	Disasters	Urban growth	Health	Migration	Satellites	In-situ	Modeling	Sensors/UAVs	Citizen Observ.
Athens, GR	PC	X	X		X	X	X	X	X	X	X
Thessaloniki, GR	TB	X			X			X		X	
Kalamata, GR	FL	X	X				X	X			X
Mytilene, GR	CS/FL					X	X	X			
Hamburg, DE	TB	X						X	X		
Leipzig, DE	TB	X						X		X	
Stockholm, SE	PC	X			X			X	X		
Paris, FR	TB	X						X			
Beijing, CN	FL	X						X			
La Paz, BO	PC/FL	X			X			X	X		
Celje, SL	TB		X				X				X
Lampedusa, IT	CS					X	X	X			
Bari, IT	CS			X		X	X	X			
Bucharest, RO	TB	X	X	X			X		X		
Helsinki, FI	PC	X						X	X		
Naijing, CN	CS/FL	X			X			X	X		
Brno, CZ	TB/CS	X			X			X		X	
Göteborg, SE	PC	X						X	X	X	
Kyiv, UA	PC	X	X	X			X	X			X
Emilia Romagna, IT	TB			X			X	X			
Campania, IT	TB			X			X	X			
Friuli Venezia Giulia, IT	TB			X			X	X			
Veneto, IT	TB			X			X	X			
Apulia, IT	TB			X			X	X			

Pilots candidacies



- 24 cities
- 12 countries
- 3 overseas cities (La paz, Beijing, Nanjing)
- Pressures/Study focus:
 - AQ: 15
 - Disasters: 5
 - Urban growth: 8
 - Health: 6
 - Migration: 4

CO -Citizen Observatories



Fusion of multimodal EO data with information from crowdsourcing and participatory sensing



Implementation of pilots/case studies

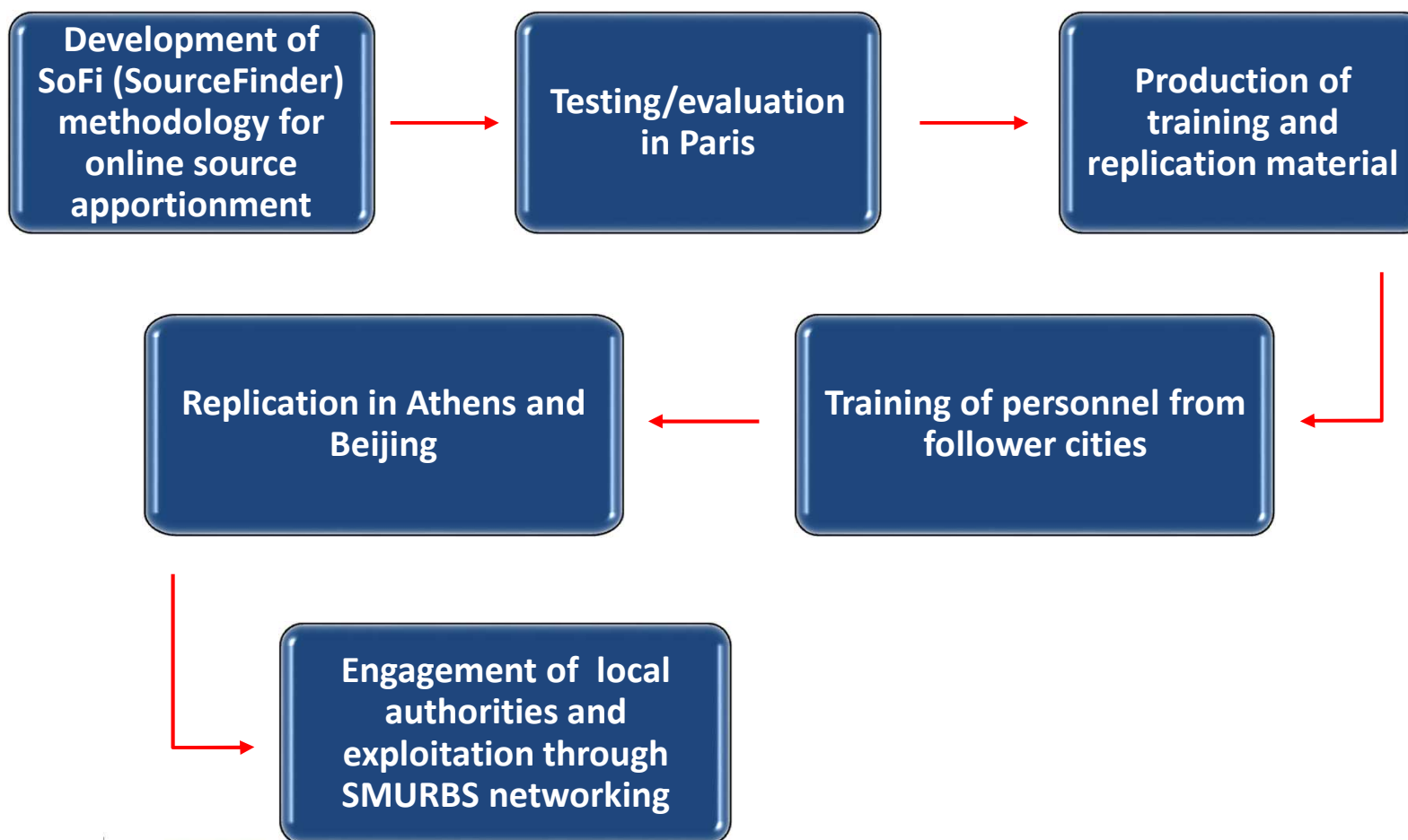
- Citizens engagement
 - one partner responsible per city
 - interactions with city authorities and citizen communities
- Infrastructure set-up
 - virtual ERA-PLANET platform (T6.1/6.3)
 - services: Web-based data services, open archives, scientific models, crowd sourcing platforms
- Pre-operational system
 - Outputs testing and demonstration of their potential
- Feedback to WP3 and WP4
 - Feasibility/usefulness assessment (barriers, delays, best practices...)
 - collection of feedback from stakeholders
 - finalisation of portfolio

Training and replication

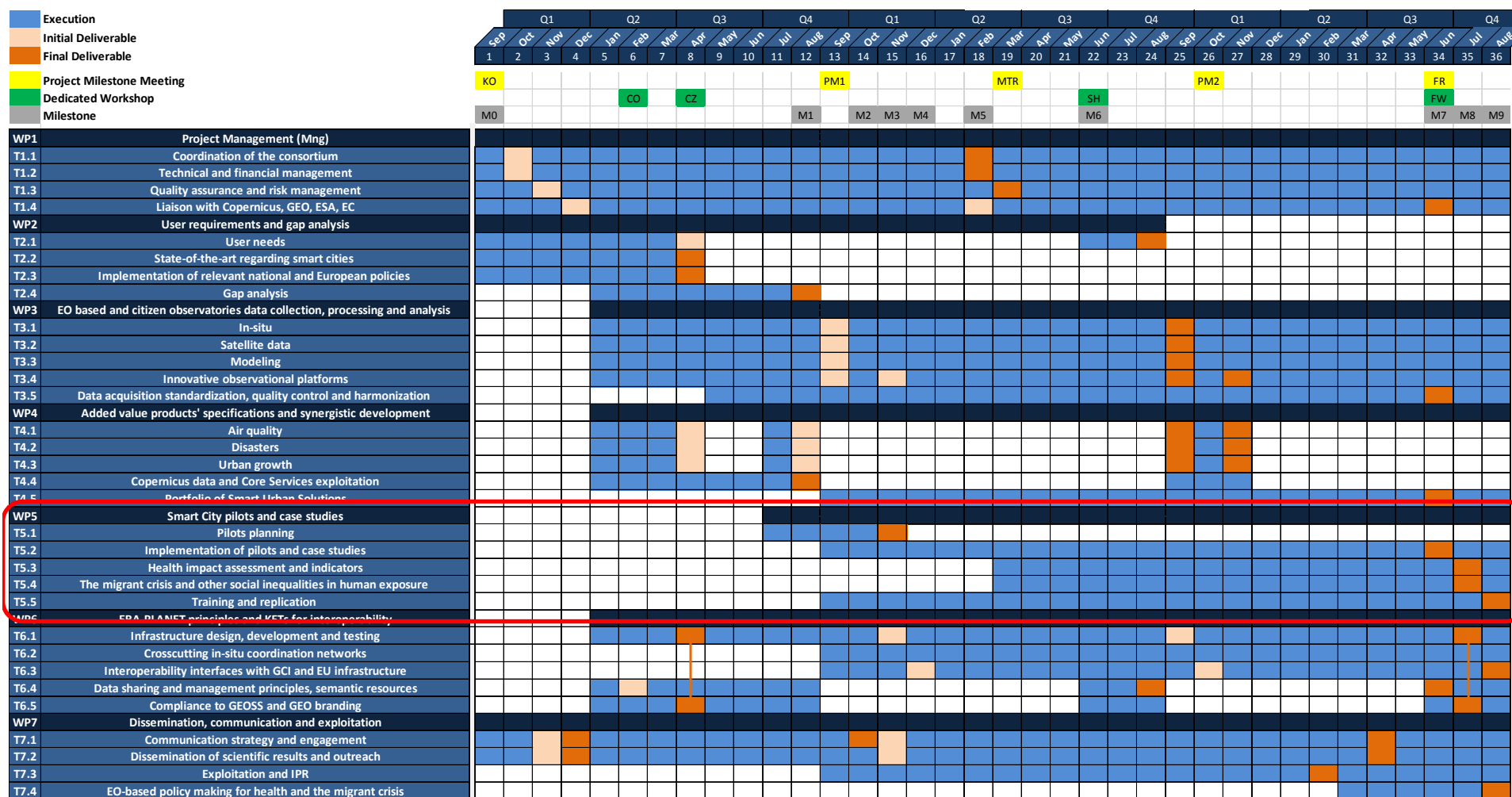
- Documented processes and methods
 - standardization, quality control, harmonization of EO data (input from WP3)
 - SOPs, manuals, training materials and replication guidelines
- Training of all levels of stakeholders (pilot implementers, end-users, followers)
 - dedicated open info-training days (Researcher's night, relevant MSc courses, info days related to Smart Cities)
 - 5 summer schools for students (NOA, JSI, ROSA, MU, SRI)
 - two-way exchange visits, thematic workshops and group training for follower cities
- Replication amplified by targeted communication of outcomes, dissemination of results and exploitation scenarios (WP7)

Training and replication

Replication sequence example



Timing and deliverables



Timing and deliverables

Deliv. N°	Deliverable name	Delivery	Brief description
D5.1	Selection and design of pilots	M15	Selection of pilot cities, test beds, follower cities and case studies; pilots' implementation plan outlining the who, the what and the how; specific emphasis on cross-pilot collaboration.
D5.2	Pilots execution	M34	Outline results from the pilots for each city; report on successes and failures, weaknesses, inhibitors and achieved tangible outcomes; present improvement opportunities that occurred during iterative pilot implementation
D5.3	EO in health case studies	M35	Outline results from the health case studies; report on EO synergies with existing health studies to address health aspects
D5.4	EO in migration case studies	M35	Outline results from the migration case studies; report on successes and failures, weaknesses, inhibitors and achieved tangible outcomes
D5.5	Training materials and replication guidelines	M36	Training materials and replication guidelines for follower cities to use

“Take-home” message

- Strong interaction with all WPs needed since the very beginning
- WP5 critically supports WP3 & WP4 (portfolio finalization)
- Interactions with locals is crucial – important role of partners responsible for individual city
- Overall WP5 outcome:
 - network of smart cities,
 - a mass of partners/authorities/citizen associations... integrated under SMURBS
 - reference point for future smart city initiatives.