



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

Expected Outcome

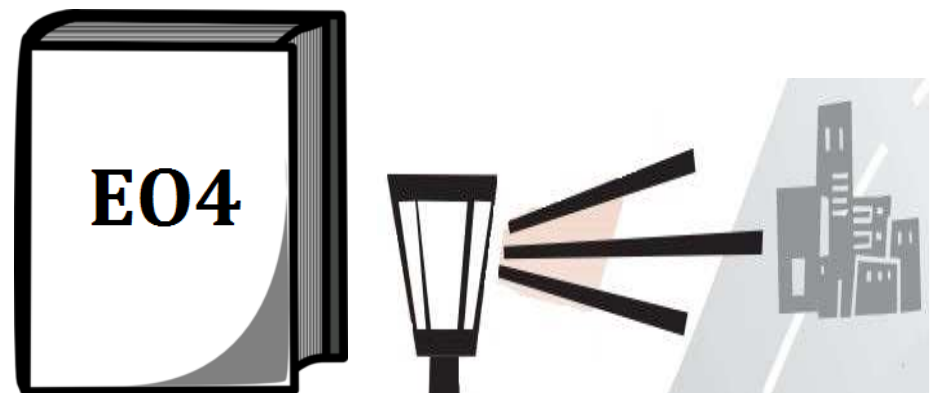
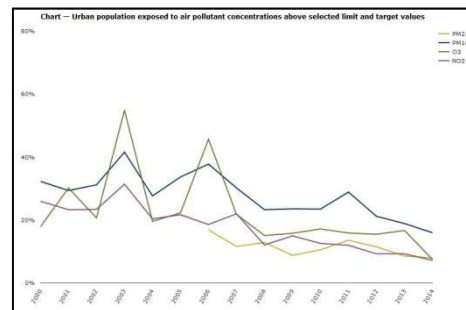
MSc. Orestis Speyer,
National Observatory of Athens (NOA), Greece

Overall Ambition

- Improve the quality of life of citizens
- Enhance cities' resilience wrt air pollution, natural and manmade disasters, utilizing smart urban solutions, taking into account rates of urban growth, and long standing impacts on health and newly rising pressures like migration
- Overcome the currently fragmented status of EO , bring together a vast array of partners of a high degree of expertise in EO under the smart city banner

Tangible Deliverables (1)

- Portfolio of Smart Urban Solutions
- Essential Urban Variables and indicators
- EO4migration and EO4health white papers
- Training material, replication guidelines for follower cities



Tangible Deliverables (2)

OBJ	Target Outcome	Key Performance Indicators (KPIs)	#
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OA3	Utilise the potential of Copernicus in EO solutions for urban pressures	No of Copernicus data and services types incorporated in the EO solutions	5
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OA4	Foster EO-based SDG implementation and monitoring	No of solutions that enable effective monitoring of SDGs	5
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OB5	Increase the arsenal of authorities in tackling perplexed urban pressures	No of health and migration case studies employing EO	5
OC1	Create smart urban solutions fusing multiple EO platforms	No of smart urban solutions created by synergy of more than 2 EO platforms	12
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OC3	Maximize interoperability and compliance with GEOSS of urban-related datasets	No of compliant datasets linked to GEOSS portal	50
OC5	Empower citizens by triggering their involvement and environmental awareness and cultivate Smart Citizens	No of Citizen Observatories (COs) implemented	3
OC6	Establish a future reference point for the EO smart city domain	No of future projects building on SMURBS results	30
OC7	Target a wide range of audiences and increase visibility	- No. of articles in journals, confer. and media	20
		- Unique website visitors (end of project)	2k
		- Printed brochures distributed to stakeholders	250
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Smart Urban Solutions in a ready-for-uptake status and open access datasets

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Adopted SMURBS-based solutions in the implementation of national policies

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Solutions that enable effective monitoring of SDGs

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Citizen Observatories (COs) implemented

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Advancement in the state-of-the-art: Policy and Social Sectors

- Adjustment to urban scales of the currently fragmented EO – Integration of EU activities
- Informed decision making
- Smart Citizens



Advancement in the state-of-the-art: Science and Technology

- In situ component
 - Remote sensing techniques
 - Modeling approaches
 - Innovative platforms and synergies
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- Integration of AQ platforms
- Spatial variability and near-real- time distribution and analysis
- Fact-based decision making
- New parameters for standard monitoring, including indicators of oxidative stress
- 2D/3D mapping for pre/post assessment of disasters

Advancement in the state-of-the-art: Science and Technology

- In situ component
- Remote sensing techniques
- Modeling approaches
- Innovative platforms and synergies

- Satellite data integrated with ancillary information
- Prototype system of a knowledge-driven integration of multi-source EO data (&COs)
- EODESM system expansion to LU maps
- Customization of existing PSI techniques for monitoring critical infrastructures
- Dynamic integration of S1 imagery, for ground velocity maps provision

Advancement in the state-of-the-art: Science and Technology

- In situ component
- Remote sensing techniques
- Modeling approaches
- Innovative platforms and synergies

- Bridge regional, city-scale models, CAMS and other tools
- Emission inventories based on dedicated observations on the intra-urban scale
- Extend number of pollutants addressed, physico-chemical representation of processes or new sources

Advancement in the state-of-the-art: Science and Technology

- In situ component
- Remote sensing techniques
- Modeling approaches
- Innovative platforms and synergies

- Exploit the framework of COs, low-cost, micro-scale sensors to design and develop participatory strategies and sensing technologies
- Geofence-driven approach to maximise the potential of involving citizens
- Ingestion, processing and fusion of multimodal EO data along with information from crowdsourcing and participatory sensing

Advancement in the state-of-the-art: Science and Technology

- In situ component
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Interoperability, Semantics

Impact as per the work programme

- Reinforce European Leadership within GEO post-2015
- Empower informed decision making
- Build resilience of societies living in cities
- Trigger economic benefits and growth
- Support the implementation of the SDGs



- Goal #11 "Make cities and human settlements inclusive, safe, resilient and sustainable"
- but also goals # 3, 9, 15, 16
- SDGs indicators possible support

GEO/GEOSS/Copernicus advancement

- Pursue Strategic Objectives 1,2 and 3
- Address SBAs of Sustainable Urban Development, Public Health Surveillance, Disaster Resilience
- Capacity Building
- Support several GEO Core Functions
- Bring past or ongoing projects closer to GEO and the GEOSS vision and principles
- Broaden Copernicus user base
- Uptake from CLMS, CAMS & EMS and validate

Maximise Impact

Dissemination

Communication

Exploitation

Maximise Impact

Dissemination

Communication

Exploitation



Publications



**Conferences/
Workshops**



**Targeted
/Dedicated
Events**



**Summer
Schools**



Maximise Impact

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**Decision
makers**



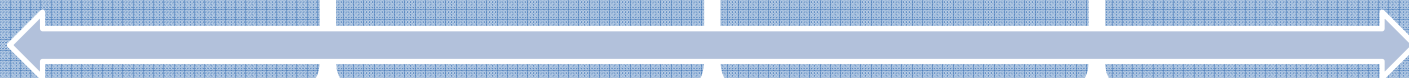
**Research and
Academia**



EO Industry



**End-Users of
EO services**



**Smart cities
initiatives**



Media



Public



Maximise Impact

Dissemination

Communication

Exploitation

- Targeted communication aimed at specific stakeholder groups
- Multiplier and network effects will be leveraged to maximise the impact of communication activities
- Pilot users and early adopters will become showcases for the purposes of communication
- Communication tools to be used will be tailored to the needs of our specific audiences

Maximise Impact

Dissemination

Communication

Exploitation

Scenario 1: Uptake of SMURBS tools and services by partner cities and relevant agencies

Scenario 2: Export of SMURBS tools and services to the outer world including non-EU cities

Scenario 3: Scientific and technological follow ups

Scenario 4: Introduce individual portfolio elements into the EO marketplace

Scenario 5: White paper for EO exploitation in EY policy in sensitive priority topics

Thank You!