



SPACE FOR CITIES

Grazia M. Fiore, Eurisy User Programme Coordinator

Copernicus for Future Cities Workshop, 9 November 2018, Brussels

Eurisy is an association formed under French law in 1989 for the International Space Year in 1992



*Acting
collectively to
bridge space
and society*

Eurisy is an association formed under French law in 1989 for the
International Space Year in 1992



Communicate on
operational satellite-based
services



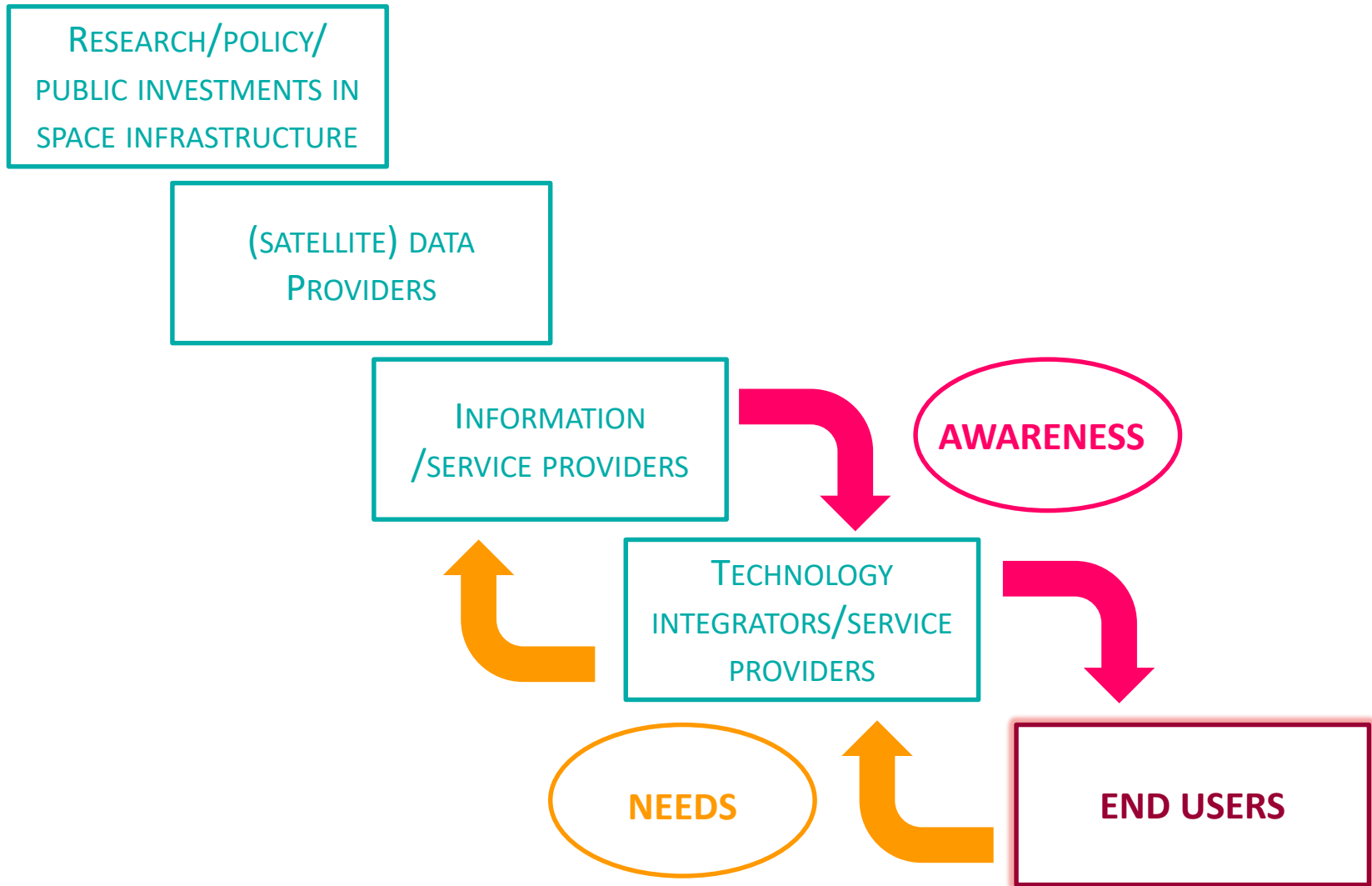
Understand needs,
challenges and motivations
of final users



Give feedback to decision-
makers to facilitate the transfer
of the benefits of space to
society



Eurisy works to put users at the core of the Space Value-adding Chain



Eurisy's Methods

USER-CENTRED APPROACH

**DIRECT TESTIMONIALS
EXCHANGE OF EXPERIENCE**
Public administrations – SMEs - NGOs



**ONLINE DATABASE OF
TESTIMONIALS**
www.eurisy.org

**EVENTS &
CONFERENCES**

**PUBLICATIONS
& SURVEYS**



GOALS

- ★ SUCCESS STORIES BY CITIES
- ★ EXCHANGE OF EXPERTISE

- ★ CHALLENGES
- ★ NEEDS
- ★ RECOMMENDATIONS



SPACE FOR CITIES

SAFE & RESILIENT CITY



DISASTERS & SECURITY

- Management of natural disasters
- Coordinated emergency and rescue services
- Critical infrastructure monitoring
- Oil spills detection and removal
- Monitoring of hazardous goods' transportation
- Analysis of crime incident patterns
- Infringements' reporting



SOIL & WATER

- Soil morphology and moisture
- Soil cover and use
- Inland and sea water quality and temperature
- Remote control of water reservoirs
- Hazardous materials management
- Sustainable urban agriculture

CLEAN CITY



AIR

- Air quality and temperature
- Traffic, industry and airport emissions
- Air quality modelling and management



ENERGY

- Solar energy systems' assessment
- Wind maps for wind power stations
- Remote monitoring of hydropower stations
- Synchronised power grid systems
- Remote detection of power outages



GREEN AREAS

- Urban forest and biosphere maps
- Balanced green and built-in spaces
- Vegetation cover monitoring and management



WASTE

- Optimised bin collection
- Detection of illegal dump sites
- Hazardous waste tracking

HEALTHY & INCLUSIVE CITY



HEALTH

- Coordinated emergency medical services
- Remote health check-ups
- Pollution peaks alerts
- First aid apps



ENGAGEMENT

- Apps enhancing civic e-participation
- City management based on mobile behavioural data
- Apps fostering sustainable lifestyles
- City open data



CULTURE

- Monitoring of historical buildings
- Augmented reality and historical city maps
- Tourism and city guides
- Geolocated outdoor serious games



URBAN PLANNING

- Land cover classification
- Land use monitoring and management
- Cadastral maps
- Urban sprawl monitoring
- Property tax evaluation
- Identification of illegal buildings
- Urban 3D planning



TRANSPORT & MOBILITY

- Real-time transport information
- Bike and car sharing
- Intermodal transport
- Urban traffic modelling and analysis
- Optimisation of public transport and traffic lights
- Mobility support for persons with impaired mobility
- Parking apps



BUILDINGS & INFRASTRUCTURE

- Monitoring of pavements, buildings and critical infrastructure
- Planning of constructions and transport infrastructure
- Adapt construction materials to climate changes
- Road condition and traffic safety improvements
- Mapping of buried optic fibre, gas and electric lines
- Soil subsidence maps to prioritise maintenance works

6
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SPACE FOR GHENT Belgium





Services based on Earth observation data are today proving their added-value to monitor infrastructure, pollution and risks in cities.

**Lyon (FR)
EO to monitor
solar energy
production**

**Lemvig (DK)
Managing
pipelines and
wastepipes with
the support of
satellite data**

**Ghent (BE)
EO and the
Region's Image
Processing Chain
to boost solar
energy**

**Amsterdam (NL)
EO to monitor
the structural
integrity of
bridges**



Data collected in cities have a strategic role to play to foster cities' efficiency and sustainability. Nevertheless, it is not technology what makes cities smart; but smart people making smart use of technologies.



"Data collected in cities are 'digital commons', which must be shared and put to use through the collaboration among all stakeholders, including government, academia, the industry and city residents, which are not mere 'end-users' but co-creators of the social change".

Karl-Filip Coenegrachts, Strategy Manager, City of Ghent



To address the challenges of urbanisation, stakeholders should not work “in silos”.



"EO is an extraordinary tool. However, in order to fully benefit from it, EO experts need to work jointly with other scientific disciplines and closely with the local authorities in order to have all the elements to address the complex challenges of urbanisation".

Mario Hernandez, Special Consultant, UNESCO



OPEN DATA PORTALS

MULTISCIPLINARITY

GENERATE IDEAS ON HOW TO USE SATELLITE DATA

COORDINATED NEEDS AMONG DIFFERENT CITY DEPTS

REDUCE COSTS

MAXIMISE THE USEFULNESS OF THE DATA COLLECTED



"I have learned that there are so many uses of satellite-data. But I also learned that we need to exchange and collaborate with other countries. Right now, we need user stories to communicate on the uses of satellite data in cities and get other public administrations interested".

Lars Holmegaard, Lemvig Water and Wastewater Company



Online portals are making Earth observation data more accessible to local managers. However, using the data still requires technical skills.

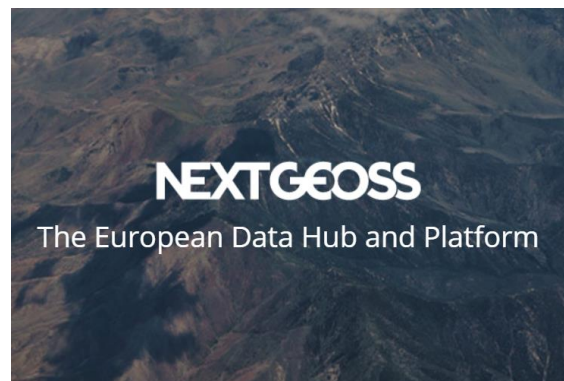


"A useful comment we bring home to the Land Monitoring Portal is the overall accessibility of data. Currently, the portal still serves data in a straightforward but traditional way. Access is easy for viewing and download, but access to services still requires expert knowledge. We are working towards improving this latter aspect in the next generation of the portal, which should become a one-stop-shop for accessing and analysing Copernicus land data".

Ludvig Forslund, Copernicus Land Monitoring Service



Creating different data portals might seem redundant, but competition and emulation could accelerate the creation of increasingly intuitive portals.





The “big data challenge” for satellite imagery is to move towards smarter systems for city managers to access and understand the information.

For politicians and public managers to understand the possible uses of satellite-based services, it is fundamental that the information delivered is as intuitive as possible.

Increase dialogue opportunities among data providers, ITs, and the “potential users”

Embed Earth observation data in cities’ open data portals

Standardisation and processing of Earth observation data

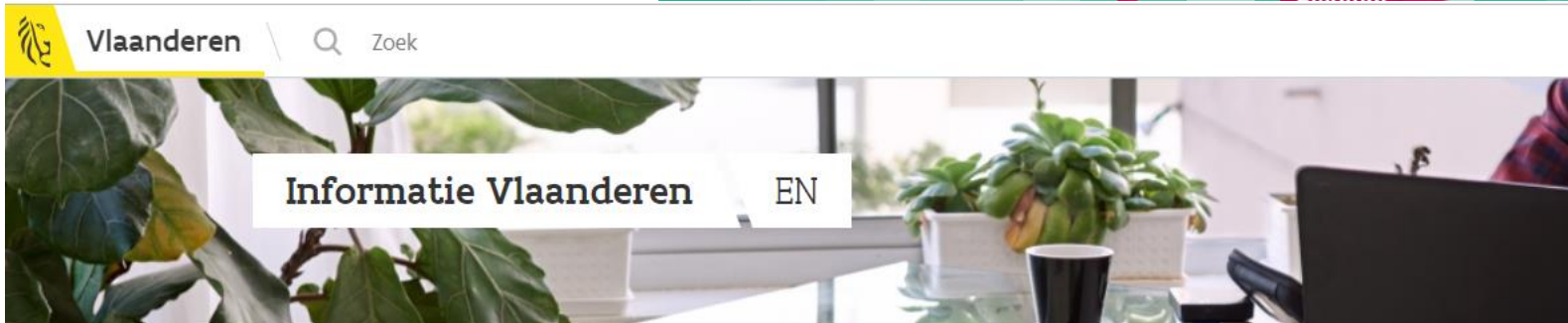


Image processing chain (IPC)

Together with partners, Informatie Vlaanderen is building a sensor-generic and modular image-processing chain (IPC). Through this image processing chain, the area covering unprocessed remote sensing data concerning Flanders is centrally archived and made available online. The IPC system also ensures on-demand processing of this source material into new geographical information for SDI Flanders partners and third parties.

At the same time, the image processing chain is a building block for [Flanders Radically Digital](#).



Local administrations have a crucial role to play to foster innovation.

44% of public investments in the EU-28

Local administrations can also foster the use of existing satellite-based services and boost the development of new services through their **procurement** policies.



"The real challenge is to make the whole urban ecosystem aware of the potential of Earth observation data to improve quality of life in their city".

Nicolas Beaugendre, General Manager, KERMAP

SATELLITE APPLICATIONS FOR HISTORICAL CITIES, CULTURAL HERITAGE, ARTS AND CREATIVITY



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Thank you



**Contact us to know more
about Eurisy's activities
and exchange your
experience**

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