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SPACE FOR RURAL

DES SOLUTIONS EFFICACES ET ACCESSIBLES !

EURO SPACE CENTER
TRANSINNE, BELGIQUE

MAIN MESSAGES

Organisateurs

Avec le soutien de



Main messages of the conference “Space for Rural: Des solutions efficaces et accessibles”

Euro Space Center, Transinne, 2nd of April 2019

Space applications are now available for everyone; they are not the exclusive realm of engineers! Nevertheless, their potential to support socio-economic development in rural areas is still underexploited.

As stressed by Ms Dominique Tilmans, “space applications are already a part of our everyday life”. In the case of satellite navigation or communication, we often use them without even noticing, while satellite imagery is becoming a precious tool to support decision-making, especially at national and regional scales.

Despite their increasing availability and capabilities, satellite applications are still underexploited in rural areas. To seize the current and potential benefits of space applications and to identify some of the challenges to their full exploitation in rural areas, Eurisy and Idelux organised the one-day conference “Space for Rural: des solutions efficaces et accessibles !”.

In recent years, the “Smart City” topic has emerged as a major policy area in most European countries, and also the space community has been promoting programmes and activities to foster the use of satellite applications to increase quality of life in cities. Indeed, the “Smart City” topic is today included in the programmes of many space agencies aimed at stimulating the uptake of satellite-based services downstream.

At the same time, not enough attention has been paid to rural areas, which socio-economic development is essential to ensure both environmental sustainability and the well-being of the urban areas themselves.

Indeed, only 28% of the European population lives in rural areas, and this percentage is expected to continue decreasing, putting more and more pressure on urban realities.

Satellite-based services can create economic opportunities in rural areas. Satellite data can also help local authorities improve decision-making and land management.

During the conference, local and foreign private companies and public administrations gave account of the added-value of satellite-based services in sectors driving the economy of

rural communities, such as agriculture and forest management. Among the contributing speakers, Marc Tondriaux from TerraNIS SAS mentioned the Pixagri, Farmstar land Oenoview services, providing farmers with information on the soil and plants on their parcels, hence allowing them to optimise water and nitrate use and the harvesting cycles. Martin Vanrykel talked instead about Agroptimize, a similar service sending satellite-based information on soil and plants' needs directly to farmers.

Satellite imagery provides also useful data to improve forest management, an issue that is particularly important in the Luxembourg province, where 30% of the territory is occupied by forests. Philippe Ledent, from the local company SpaceBel, presented a number of services exploitable by forests' private and public managers. To give an example of a concrete case of use of satellite imagery in such domain, Mr Ledent reported on a service provided to a notarial practice to mark the borders of privately owned forests.

Public administrations in rural areas can also profit from the data provided by satellite imagery, such as information on soil, vegetation and habitat status, helping them to identify illegal and clear cuts and to monitor forests' evolution throughout time. Moreover, the same satellite-based maps can provide information on forests and droughts, which have heavily affected Luxembourg in recent years, supporting public administrations to calculate indemnities to forest owners and farmers.

On another topic, Eric Hallot, from the Wallonia Scientific Institute for Public Service (ISSEP), explained that satellite imagery helped them update the inventory of 220 disused sites to be assigned to different purposes by the region. Having access to satellite data allowed the ISSEP to save both the time and human resources that would have been needed to update the inventory with field visits.

Satellite applications can also be successfully used in combination with other surveying techniques, as for the experience of the City of Namur. Here, the Data and Urban Geography Office used aerial images to realise a thermographic map of the roofs of the buildings in town. In this case, the data collected through aerial imagery were geolocated using satellite navigation and used to calculate the solar energy potential of the buildings in Namur also showing the potential energetic output of each PV installation. These data have been integrated into a 3D model of the city and made available to everyone of the Open Data platform of the City of Namur.

Collaboration between private and public organisations and among private companies themselves is crucial to maximise the availability and exploitation of satellite-based services in rural areas.

Small companies can increase their customers' and competence base by joining forces. As an example, TerraNIS is part of EUGenius, a hub including 11 SMEs sharing their competences to offer proximity services based on satellite imagery.

In Wallonia, the EO Regions project gathers and develops the competences of regional actors in the geospatial domain. The project is led by SpaceBel in collaboration with NRB, I-Mage Consult, the Liège University and the Ecole Royale Militaire. Such actors have built a digital platform providing an easy access to Earth observation data and services, including the Copernicus datasets. Within the conference, SpaceBel presented the forestry service of the platform, while I-Mage Consult explained how EO Regions allows for the mapping of floods and soil coverage.

At the national scale, the Terrascope platform – funded by BELSPO – represents the Belgian portal to Copernicus data. The portal, presented during the conference by Jurgen Everaerts from VITO, provides access to satellite data and services free of charge. Among other data, Terrascope offers information on floods, droughts and water quality.

Connectivity is often the first challenge faced by rural areas to fully exploit satellite-based services.

As stressed by Mr George Cottin, Departmental Counsellor of Idelux, “connectivity is the first hurdle to the full exploitation of satellite-based data in rural areas”.

To face such a challenge, the Wallonia region has abolished the tax on pylons, while new regulations allow to integrate optic fibre into the infrastructures. Moreover, 50 million euros are made available by the region to bring connectivity to dead zones.

The European Union is also taking action to bring connectivity everywhere. As reported by Nancy Pascall from DG Connect, through the “Wifi4EU” initiative, the EU is making available 120 million euros to install WiFi connectivity in public spaces. So far, 2 500 coupons – of a value of 15 000 euros each – have been distributed through the initiative, 97 of which in Belgium.

With regard to connectivity, Philippe Compère, from the Agence du Numérique Digital Wallonia talked about the Wallonia Regional Strategy, including four pillars: Giga Region (aiming at extending fix and mobile connectivity on the overall regional territory), Smart Region, e-Health and a Co-working platform.

Satellite communication can of course help connecting areas which are not covered by the fiber network. Purchasing and installing a home satellite connection is relatively simple and inexpensive. Moreover, as explained by Ms Christine Leurquin from SES S.A., satellite communication can also be used as the main source of connectivity and then be coupled with WiFi to extend the coverage to the nearby area. Concerning 5G instead, questions from the audience were raised about its possible negative effects on human health, an issue that will have to be further explored.

The Luxembourg province is ready to profit from space data to boost its attractiveness and competitiveness.

During his welcome speech, Mr Elie Deblire, President of Idelux, announced that the Euro Space Center of Transinne is getting ready for a “refitting”, thanks to an important investment from the Wallonia region. Nearby the Center, Galaxia and the Galileo Centre, together with the ESA Business Incubation Centre hosted by Idelux and the new ESA education centre, will make of Transinne one of the most important space hubs in central Europe.

Furthermore, the Wallonia region is working to increase the impact of digital technologies in its rural areas. Indeed, the Walloon investment plan for the next years puts forward investments in the space sector, which is considered as crucial for the socio-economic development of the region.

Meanwhile, satellite-based data are already exploited by regional and local authorities for topography, soil analysis, agriculture and forestry. In the agriculture sector, satellite imagery allows the region to calculate the indemnities due to farmers damaged by droughts, while satellite-based data on cultivated land is made available to everyone on local administrations’ external services (the region is even planning to start pilot projects involving the farmers themselves). The region has plans to use satellite-based data to map paths in the forests, to boost tourism (through online reservations), and for preventive archaeology, in line with the new Walloon Heritage Code adopted in June 2019.

In addition, in 2016 the Wallonia region created the Walloon Common Working Group (GTCoWAL), a working group aimed, among other, at harmonising the collection of satellite data and to put them to use according to the needs of public administrations. As pinpointed by Nathalie Leboef, from the Walloon Ministry of Economy, Industry, Research and Innovation, the region has a well-established system to collect satellite-based data, while the real challenge today is to distribute them and to create win-win synergies between local economy and territorial needs. To do so, the region needs to develop algorithms, stock the data, manage their access and build an infrastructure for big data management.