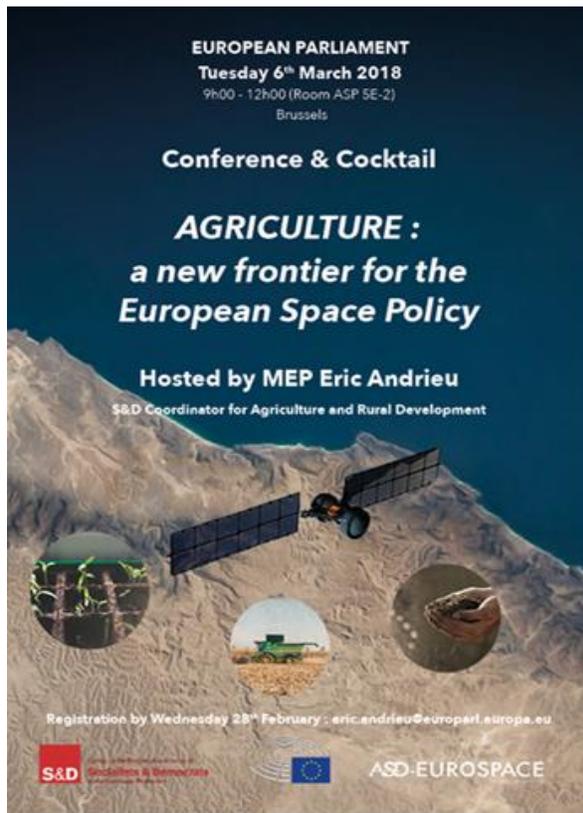

KEY POINTS FOR DISCUSSION AT THE CONFERENCE

“AGRICULTURE: A NEW FRONTIER FOR THE EUROPEAN SPACE POLICY”

Tuesday 6 March 2018
European Parliament, Brussels



Agriculture is recognized to be one of the sector for which the benefit of space services is the most promising. Data and services derived from space systems offer credible solutions to meet with future needs of farmers, as well as with opportunities and challenges the agricultural sector is facing due to the increased pressure on environment, the digitalization of economy, the deployment of connectivity in rural areas and the emergence of big data.

The revision of CAP post-2020 offers the opportunity to release the full potential of space technologies and services to address future CAP objectives in terms of modernisation, simplification, monitoring and greening, while maximizing the socio-economic and environmental impacts of EU resources allocated to the CAP.

In this context, Eric Andrieu, MEP and S&D coordinator for Agriculture and Rural Development, took the initiative to organize with Eurospace, trade association of the European manufactured space industry, a panel conference on this very timely and crucial topic for the future of agriculture.



Welcome messages



MEP **Vincent Peillon** apologized on behalf of **Eric Andrieu** for not being able to attend the conference and welcomed all participants, emphasizing **how important the timing is in the context of the preparation of MFF post-2020**

and the future CAP. Mr Peillon then recalled the potential of space to achieve objectives of the CAP and to address new challenges surrounding agriculture in terms of climate change, productivity and change of agriculture model.

After welcoming participants on behalf of Eurospace, **Lucas Buthion** (Head of Eurospace Brussels Office) stated that this conference aims at stimulating exchanges between the agriculture and the space communities so as to identify opportunities for synergies between both sector and to best address specific constraints of rural areas and future needs of farmers.

Key note speech



Pierre Delsaux, Deputy Director General at DG GROW, briefly introduced EU space programmes EGNOS, Galileo and Copernicus highlighting that their systems are operational and already

provide very high-quality services. He also emphasized that data and information provided by these programmes are free, transparent and accessible to all.

P. Delsaux then recalled some specific features of the space sector in Europe. First, as stressed in the Space Strategy for Europe, **space is supporting growth in Europe** (some 10/15% of economic activity in Europe depends of space) but this potential is not sufficiently well-known in Europe. Secondly, space is a strategic sector and **Europe must maintain its investment efforts in space to support European independence**, especially regarding the US, China, Russia and Japan massive investments in space and defence.

Turning to synergies between space and agriculture, P. Delsaux indicated that, **while the**

potential of space solutions has not yet been fully exploited, space already offers some very high-quality services to the agriculture sector:

- EGNOS and Galileo provide enhanced precision to improve the navigation of tractors, to locate the livestock and to measure surface areas.
- Copernicus data provide essential information on the state of the crops, on seeds and to the forestry sector.

Mr Delsaux also recalled that space is not the only available source of information for farmers since hybrid systems combining data from different sources (drones, IT, etc.) can also be used.

Concluding his speech, Pierre Delsaux provided an update on the **future of EU space programmes Galileo and Copernicus:**

- Galileo: the European Commission agreed with Member States to increase the precision of Galileo to 20 cm for the beginning of 2019.
- Copernicus: DIAS will be put in place by summer 2018 to address the massive amount of data and information collected by Copernicus. In addition, the EC plans to expand the programme to address climate change issues after 2020.

Panel discussion



Hervé Pillaud (farmer, author and expert in digitalization of agriculture) called for the agricultural sector to enter in the transition toward digitalization. He also pointed out that agriculture is a pivotal sector to address the following global challenges - feeding the planet, energy transition from substantial use of fossils fuels toward renewable energy and climate mitigations.

H. Pillaud then identified **farmers' needs that emerged from the digitalization of agriculture:**

- It is essential to build the capacity for digitalizing the expertise (Artificial Intelligence) and to accompany farmers with appropriate decision-making tools.
- Need to better take forecasting and risk-management into account in the future CAP, especially as it helps
 - predict yields and therefore to stabilize the market;
 - measure the consequences of natural disasters and to support farmers in their requests for financial compensations.



Maurice Borgeaud (Head of Science, Applications, and Future Technologies Department at ESA) presented the key features of **Copernicus Sentinels 1 & 2**, highlighting that Sentinels offer a total coverage of the Earth, high precision (10 meters) and short revisit times.

M. Borgeaud then presented some agricultural services that ESA is financing in Europe and worldwide, such as:

- crops monitoring in Ukraine at 10 meters resolution to follow the growth of the plants on the ground;
- assessment of rice growth in Vietnam.

M. Borgeaud finally emphasized that satellite imagery can **facilitate the control of information reported by farmers under the CAP** and that integrating **combined data from Galileo and Copernicus in agriculture equipment** such as tractors can help to better spray pesticides.

Gerard Dedieu (representative of CNES, principal investigator at CESBIO) identified some **challenges related to the increased amount of data and information collected by satellites:**

- Access to pre-processed data that can be used for delivering services;
- Long term availability of data;
- Aggregation of space data, weather data, data from drones and from farmers;

- How to identify the owner of the data and what types of owner-rights are related to data.

G. Dedieu then identified some future innovations space could bring to the agriculture sector such as **GNSS controlled tractors and driverless tractors**. He also pointed out that Copernicus data are used as a **foreign policy tool** by the European Commission.



David Hello (General manager and CEO of TerraNIS) introduced his speech by presenting TerraNIS. The company is offering decision-making services to farmers (Pixagri) and winegrowers (Enoview) based on satellite imagery. TerraNIS acquires images from various sources incl. satellites (Sentinel-2 and commercial satellites providers), processes the images and deduces information about the situation on the field which is then processed to provide decision-making services to farmers and winegrowers.

D. Hello stressed that **partnerships** with the EU, ESA, national public institutions and other businesses are essentials for TerraNIS. In this respect, the network of EO SMEs (European Group of Enterprises for a Network of Information Using Space) which jointly deploy services to public and private customers at local and regional levels was mentioned.

D. Hello noted that, while **services deployed are now mature and operational**, it is important to use the massive amount of data available to **develop new viable services**.

David Hello also called for **political backing to incentivize farmers in using services derived from space technology**.



Interactive session with MEP and the audience

MEP **Clare Moody** suggested the idea of developing a “**space check**”, i.e a screening of EU major legislative and non-legislative proposals, to make sure that the benefits space can bring are taken into account.



P. Delsaux agreed that “space check” is a very interesting idea, which is also stressed in the Space Strategy for Europe.

Questions and remarks expressed by **the audience**:

- **Increasing competition from the GAF A**
 - P. Delsaux indicated that the European Commission plans to use all EU resources available to allow SMEs to develop new services and to hold their own in the balance of power with the Americans.
- Having **hyperspectral instruments** in the future Copernicus programme will provide greater precision and valuable information to farmers (identification of the type of

plants and grains, assessment of the quantity of water contained in the plants).

- **Need to raise the awareness of end-users on space technology and services** during agriculture events.
 - P. Delsaux informed participants that DG GROW will participate to the Belgium agricultural trade fair and insisted on the need to develop more intensive contacts with the agriculture community, for instance at the occasion of dedicated space or agriculture events.

- **Need to strengthen regulation** to better identify the positive contribution of space to agriculture and to encourage innovation.
- **Identified obstacles in using services from space:**
 - amount of data available is quite broad;
 - data aggregation: need to develop compatible national platforms;
 - problems in getting a qualified staff.
 - For SMEs: while it is essential to offer innovative services based on a viable economic model to retain customers, resources available to finance long-term R&D are limited.



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