



Belgian workshop
Space4Food

Programme

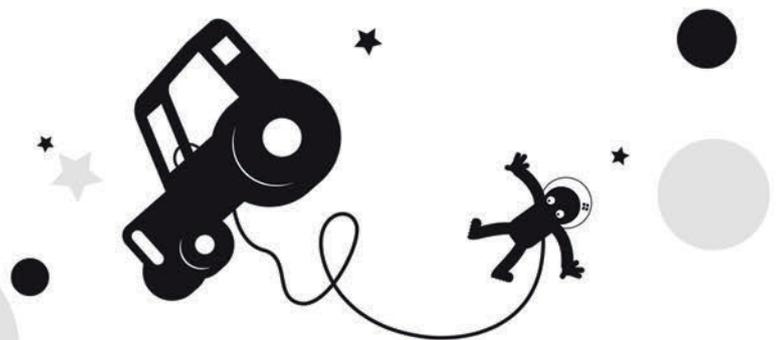
11 June 2015
Expo Milano 2015
“Feeding the Planet, Energy for Life”

Belgian workshop Space4Food

Introduction

The agricultural sector lies at the centre of major challenges such as food security, respect for the environment and socio-economic expansion.

From a planetary level right down to the plot, remote sensing contributes to ever-more efficient monitoring and forecasting tools.



In just a few generations, the agricultural sector has undergone profound changes and faces many challenges. The first one unquestionably is food security. The world population will reach 9.6 billion by 2050. To guarantee sufficient food for everyone, global production must progress by 70 % by then. This will be difficult knowing that rural labour is continuously in decline. In addition, agricultural production depends on the climate, which is growing more erratic and subject to extreme weather conditions.

Secondly, farming practices are key element for the environment. They have a direct impact on soil, air and water quality, but also on the landscape and the habitats necessary for the preservation of biodiversity. And finally, agricultural produce is a major economic commodity, which has even become the subject of speculation in financial markets.

To meet all these challenges, it is essential to improve tools for farming practice monitoring and production forecasting. Many applications have seen the light of day since remote sensing took off last century. These provide information on the state of plants, allow mapping of cultivated areas and help with the estimation of yields and damages after extreme events. In order to ensure food safety, authorities have joined forces on a local and global level to create agricultural monitoring systems.

Today, a growing number of observation instruments on satellites offer a great variety of scales, spectral ranges and acquisition frequencies, thereby providing information for agricultural monitoring from a global scale level to the level of the farms. One of the latest is the Vegetation instrument on board of ESA's Belgian-build and operated PROBA-V satellite.

The advent of hyperspectral instruments and unmanned aerial vehicles (UAVs) with their high spatial resolution greatly benefits precision agriculture: they can help to monitor the need for water, fertilisers or pesticides within a plot thus allowing for a 'precise' approach that optimises quality and yield while limiting the environmental impact.

Source: STEREO II -the Belgian Earth observation programme



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Belgian workshop 'Space4Food' Expo Milano 2015 "Feeding the Planet, Energy for Life"

Objectives

1. Showcase Belgian scientific competences and technologies in the field of remote sensing for agriculture
2. Facilitate networking between representatives of public administrations, industry and research
3. Outline perspectives for future remote sensing based innovation and applications in agriculture

Programme

10h45 Welcoming words by the Ambassador of Belgium in Rome

11h Start of the sessions by chairman: Lieven Bydekerke (EUMETSAT)

11h10 A perspective on global agriculture

Technology in the service of farmers (Video presentation by Olivier De Schutter, UCL)
Challenges to feed the world: role of satellite data for emergencies and early warnings (Inge Jonckheere, FAO)
Space for Food Security (Pierre-Philippe Mathieu, ESA)
Using remote sensing for detecting the global impact of climate extremes on vegetation and improving drought monitoring programs (Nico Verhoest, UGent)

12h20 Agriculture on a continental and regional level

Global mapping of crop area in support to food security analysis using "free and open" high resolution satellite imagery (Guido Lemoine, European Commission, Joint Research Centre)
The use of remote sensing data to monitor the impact of agricultural intensification at global scale (Sven Gilliams, VITO)
Regional crop and irrigation monitoring: some examples of (new) opportunities (Joost Wellens, ULg)

13h20 Lunch



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15h00 Agriculture on a field level

Why tonight will change agriculture monitoring in the world? From JECAM to BELCAM initiatives in preparation to Sentinel-2 (Pierre Defourny, UCL)
IPOT, Industrial Potato monitoring for the Belgian potato sector (Romain Cools, BELGAPOM)
Agro-ecosystems mapping by low cost photogrammetry, based on Unmanned Aerial Vehicles (UAV) (Dries Raeymaekers, USENSE)

16h Coffee Break

16h15 Precision agriculture

Beyond data and maps. Decision Agriculture! (Vincent Tigny, GIM)
Remote monitoring of orchards: possibilities and limitations (Laurent Tits, KULeuven)
Soil moisture mapping using ground-penetrating radar as a pillar to sustainable and optimal environmental and agricultural management (Sébastien Lambot, UCL)

17h15 Panel discussion

Remote sensing in support of tomorrow's agriculture
How can research and technology developments meet users' expectations?

Moderator: Lieven Bydekerke (EUMETSAT)

Composition:

Peter de Drij (Droneport)
Sarah Garré (Agriculture is Life)
Inge Jonckheere (FAO)
Guido Lemoine (European Commission, Joint Research Centre)
Pierre-Philippe Mathieu (ESA)
Koen Mertens (ILVO)
Guy Paternoster (Fevia)
Sébastien Weykmans (SCAM)

17h55 Closing remarks by BELSPO

18h Reception