



## **PROBA-V, the small satellite for global vegetation monitoring**

Bart Deronde, Iskander Benhadj, Dennis Clarijs, Wouter Dierckx, Jan Dries, Sindy Sterckx, Tom van Roey, and Erwin Wolters

Belgium (bart.deronde@vito.be)

PROBA-V, the small satellite for global vegetation monitoring

Bart Deronde, Iskander Benhadj, Dennis Clarijs, Wouter Dierckx, Jan Dries, Sindy Sterckx, Tom Van Roey, Erwin Wolters (VITO NV)

Exactly one year ago, in December 2013, VITO (Flemish Institute for Technological Research) started up the real time operations of PROBA-V. This miniaturised ESA (European Space Agency) satellite was launched by ESA's Vega rocket from Kourou, French-Guyana on May 7th, 2013. After six months of commissioning the mission was taken into operations. Since mid-December 2013 PROBA-V products are processed on an operational basis and distributed to a worldwide user community.

PROBA-V is tasked with a full-scale mission: to map land cover and vegetation growth across the entire planet every two days. It is flying a lighter but fully functional redesign of the 'VEGETATION' imaging instruments previously flown on France's full-sized SPOT-4 and SPOT-5 satellites, which have been observing Earth since 1998. PROBA-V, entirely built by a Belgian consortium, continues this valuable and uninterrupted time series with daily products at 300 m and 1 km resolution. Even 100 m products will become available early 2015, delivering a global coverage every 5 days. The blue, red, near-infrared and mid-infrared wavebands allow PROBA-V to distinguish between different types of land cover/use and plant species, including crops. Vital uses of these data include day-by-day tracking of vegetation development, alerting authorities to crop failures, monitoring inland water resources and tracing the steady spread of deserts and deforestation. As such the data is also highly valuable to study climate change and the global carbon cycle.

In this presentation we will discuss the in-flight results, one year after launch, from the User Segment (i.e. the processing facility) point of view. The focus will be on geometric and radiometric accuracy and stability. Furthermore, we will elaborate on the lessons learnt from the operational day-to-day activities. Data acquisition, input data quality, instrument programming, image processing and data distribution are some of the topics that will be highlighted. Finally, the synergy with other European missions like the Copernicus Sentinel 3 satellite will be handled.