

Session 4: Space for Oceans, Environment and Climate

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The distinguished previous speakers from EU Institutions have given several examples where space data is already providing a significant contribution to community projects. As a major service provider to the public sector and industry, Deutsche Telekom/T-Systems is focussing on enabling people, government and industry to be connected to space data for daily life and work. And we believe in innovation through the combination of space data with other information in an intelligent way to speed-up decisions and enable more efficient processes. Hence, space data should become available everywhere, anytime. This means availability in terms of networks but also comfort for the end user – and taking the existing complexity and volumes of space data into account – this is certainly not trivial.

To manage the challenge we have to ensure the desired information can be extracted from the vast information available in an easy way and in real-time in future. E.g. under contract of the EC we are developing together with GAF, DLR and other partners a pilot service for air quality (obsAIRve). Based on space and sensor data and complex scientific models the objective is to provide the first EU-wide air quality index and forecast service as mobile app – similar to a weather report and forecast. Based on experiences made in several major cities we expect citizens to better understand how to deal with air pollution and help companies to set up new services e.g. when planning travel or outdoor events. And that public awareness is increasing can be derived from our web-business. The portal FeelGreen addressing a sustainable lifestyle was launched by Deutsche Telekom in September and achieved already more than 1.7 million visitors in the first month.

That GMES services can be provided in a very user-friendly way, enabling each visitor to provide feedback or get in dialogue with the online community is best demonstrated by the Eye-on-Earth portal of EEA. T-Systems was able to support the Agency to further develop the portal and enable easy

integration of new environmental data e.g. Noise, in addition to Water and Air quality. Even a mobile app has been made available for local verification of noise levels.

In other projects we are planning to develop similar services for industry e.g. for water management, water quality monitoring, deforestation reporting and precision farming. Every single project is providing new opportunities for the challenges which we face in the world, e.g. the growing population and reduction of carbon dioxide.

The mentioned projects demonstrate clearly the need for a powerful and efficient infrastructure. We strongly believe that use of cloud computing technologies will support future dynamic GMES services. Cloud Computing technology is not just a buzz-word but has already developed into a mature platform long before media awareness started. Today, already more than 500 clients in industry use T-Systems private cloud services e.g. to run developer systems, highly dynamic production environments or to convert and archive digital company libraries. Use of cloud computing will enable new services, especially those needed only for certain time intervals. Other promising technologies becoming available from industry are Big Data and In-Memory processing that will change the way how we can extract more valuable information from very large data sets. We appreciate very much the effort the European Commission puts into the development of Cloud Services for Europe and we support very much the approach to underline the advantages European cloud services offer compared to other solutions.

As concrete examples for cloud services in the space sector we are planning cloud-computing based approaches to several areas of space data reprocessing and validation and also - partnering with several Agencies - for the ongoing studies of Geohazards, turning it into a global service covering all relevant sites and events in the world.

Lastly, it is important to continuously foster innovation and actively search for new applications. Innovations are driven by ideas. For this, we are very pleased that under the lead of ESA and managed by AZO the GMES Masters ideas competition was established and conducted for the first time in 2011. The competition follows in the footsteps of the successful Galileo Masters and this year more than 100 new GMES applications were submitted, qualified and awarded in 5 categories called challenges. The overall winner Earthwatchers from the Netherlands empowers citizens in rainforest monitoring, providing mass-analysis of space data, combined with validation by local teams and linking to social media for collaboration. Urthecast from Canada was the winner of the GMES cloud computing challenge – awarded by T-Systems. It plans to provide live-streaming of HD video from space on the internet by mounting cameras on the ISS. It will be interesting to find out how such data can complement traditional satellite imaging and this example also shows the potential relevance of space data – when making intelligent use of cloud computing - for the community in near future. The long-term support of the Parliament, Council and Commission for GMES – in our view - therefore is eminent to secure a sustainable development in industry and secure space data as a unique asset.

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