

Group 5

Status of preparations in European countries

- **Norway**

- has no CGS for S-2. KSAT has CGS for S-1.
- Norway Digital has a working group to explore the need for a CGS and service centre for S-2 data.
- Norway member of Copernicus programme
- Cost of CGS is unknown and business model is still open.
- Two reports, 2012 and 2014.

- **Sweden**

- Investigation of how to handle S1,2,3 data.
- Working group (two people) with mandate from space agency to explore how services can be organized: where, how, what, when, who?
- No report yet, soon to be published.
- SACCESS government financed data, agencies finance running the archive.

Status of preparations in European countries

Sweden

- SACCESS is licensed for Nordic countries

Switzerland

- No discussion of a CGS at the moment at official level
- Member of Copernicus
- Lack of demand for products based on satellite data
- Mapping and monitoring is covered 95% with aerial imagery (every 3 years, 1/3 every year, 25 cm and 50 cm)
- User survey has been undertaken and report is written.
- Swiss Space Office, coordinate EO activities in Switzerland

France

- Strong interest of S-2 from scientists. LC mapping every year,
- THEIA is the CGS for S-2
- PEPS will be the mirror site, global data for France

Status of preparations in European countries

Business model of CGS?

- How to leverage the investment in the Copernicus programme to benefit states and citizens
- Where to get the data when AOI is outside your country?
- Who are paying for the extra product levels in the MS?

Requirements on services and products from a national satellite data centre

- Baseline is just an archive/mirror of ESA products
- L2A should be Copernicus service
- L3 time composite should also be a Copernicus service
- If Copernicus is not producing this, CGS will have to
- Even inside states DEMs has complications (different versions, qualities, etc.)
- How to organize data to download time series for an AOI, say January the last 5 years.
- Bring the software to the data, because data transfer will be a problem.
- Lack of competence to preprocess and use time series data.
- Monitoring and alarm aspect in NRT.
- Future is on-line processing, algorithm on the server side.
- Client must be able to interpret the results in a good way
- Many type of users, many layers of service are needed. Some needs a dialogue.

Requirements on a data management system

- User requests to the system:
- **Search:**
 - Oriented by data scenes or AOI?
 - Tiles are the «scenes» of S-2
 - Asks for data inside an AOI
 - from specific date
 - Average of cloud free pixels within a defined period
- **Storage**
 - ESA has a rolling archive with 2 months storage on-line
 - Mirror sites download and store data inside national AOI
 - Each country can archive the whole globe
- **Timeliness**
 - Immediate access to the process levels: 1B, 1C, 2A, 3A?

Requirements on a data management system

- **Production mode**

- Systematic, robust, every day, or
- Dynamic on user requests
- (systematic puts less requirements on the data store, e.g. file system vs. data cube)
- Start with a simple system we know will work and is payable, and maybe run an smaller test using data cube (X, Y, T), time layers
- Indexed system to search and find pixels (pixel mining service)
- A basis for advanced data such as time series, change detection
- and for standard data produced on a regular schedule

