EARSC

European Association of Remote Sensing Companies

Copernicus & Big Data: A Perspective from the European EO Services Industry.

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What is EARSC?

EARSC is a trade association (NPO), founded in 1989, which represents companies: offering and undertaking consulting and other services or supplying equipment in the field of remote sensing.

Our mission is

- to foster the development of the European Geo-Information Service Industry

We represent European geo-information providers creating a sustainable network between industry, decision makers and users

Our focus is on remote sensing from space-based platforms (satellites) but we also have members which are aircraft operators.

Today we have 72 members from 23 countries in the EU and beyond.

What does EARSC do?

- Provide information to our members on programmes, policy and the sector; (business intelligence)
- Maintain a knowledge of the industry ie statistics, market information etc.
- Promote professional standards within the industry
- Promote the industry and it's capabilities by:
  - Creating links between EO services sector and other business sectors eg oil & gas, insurance as well as public institutions e.g world bank
  - Organising events offering networking opportunities as well as focused information
  - Advocacy towards policy makers on issues of concern

Focus is on enabling the development of new business

Linking Communities - OGEO

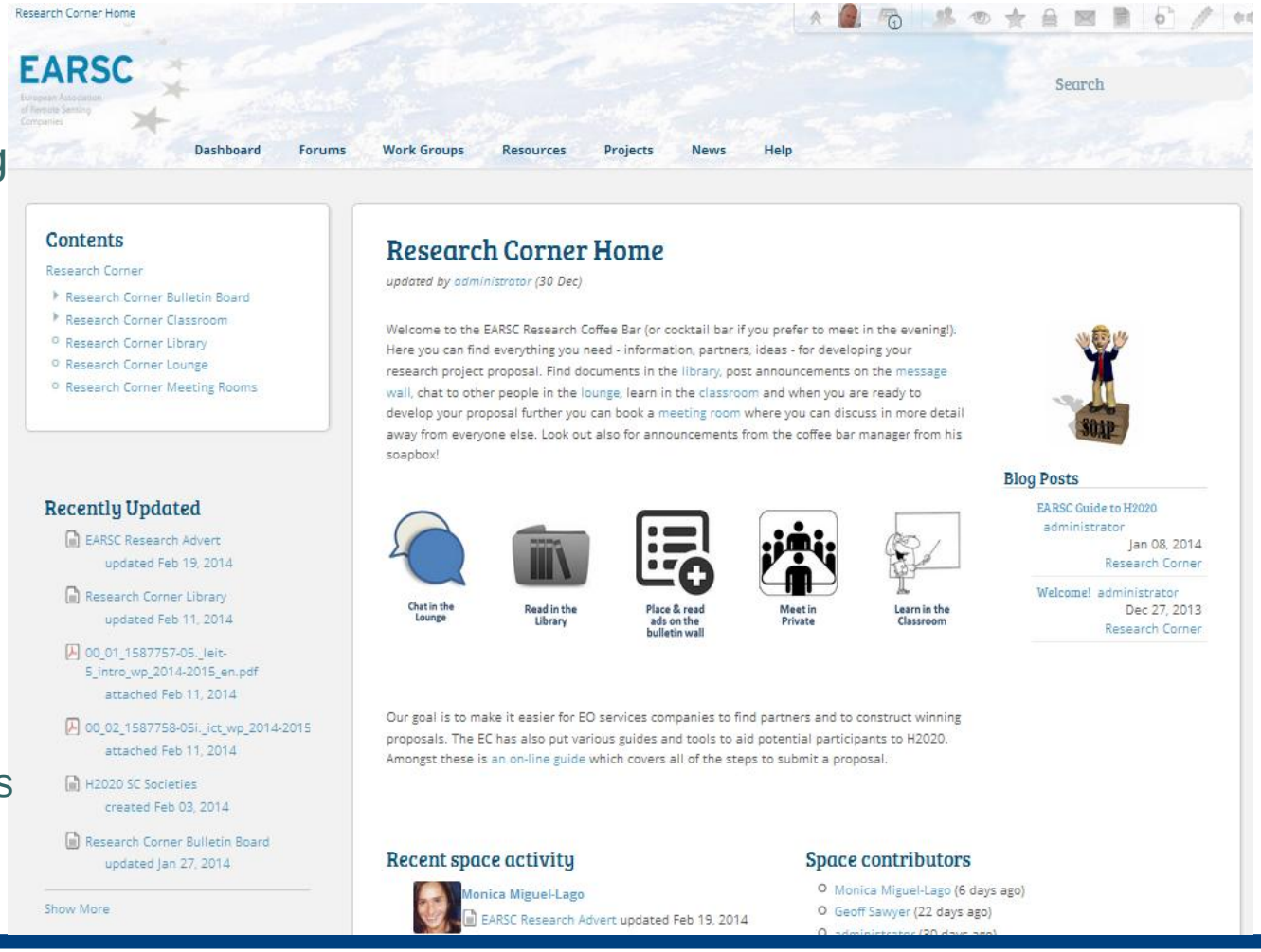
OGEO Portal

- Provides a link with the Oil & Gas Industry
- Offers a forum for exchanging information
- Guidance on EO applications
- Success Stories eg real benefits from EO.
- Industry status eg certification & standards
- Knowledge management e.g documents, meetings etc

Linking Communities – Research Corner

Provides virtual networking and meeting facilities to form R&D (H2020) teams:

- Chat & exchange with other users
- Library of relevant documents
- Advertise partners search
- Book a private meeting room for a project team
- Learn about programmes with guidance and analysis



Copernicus – Key market enabler

Copernicus is a key European public programme to provide information on environment and security to European policy makers and citizens.

Direct funding for EO services is important and will develop new products to be exploited

But more important:

Copernicus provides a strong opportunity as a market driver for EO Services.

- Industry can exploit opportunities using Copernicus products & services in other markets eg. commercial, export and non-EU government.
- with an EU customer base to provide a reference.

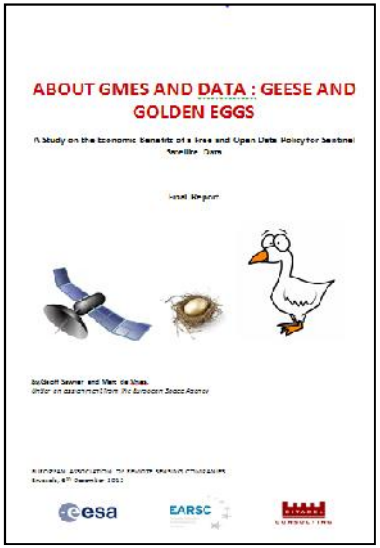
In 2014, the first of the Copernicus Sentinel satellites will be launched generating Terrabytes of data every day.

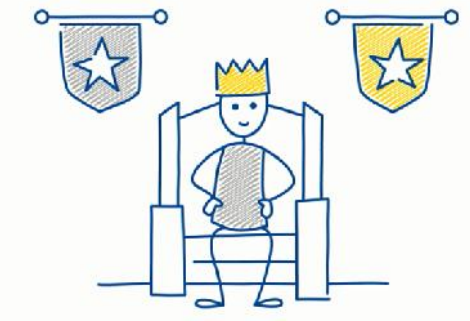
It can be a source of golden eggs creating new tax revenues and jobs.

1. A Free & Open Data Policy

EARSC has supported and promoted the adoption of a free and open data policy for the Sentinel data

- most effective way to develop the downstream market (and generate pull on the upstream)
- Sentinel data is Public Sector Information (PSI) which means data collected by governments for its own purposes.
- PSI-reuse argues that since it is paid for once it should not be sold by public agencies to develop revenues (and not cost-effective)
- It should be given away free to support innovation and private sector development.





WWW.EARSC.EU/

2. Easy access to the data

Even if free, Sentinel data cannot be used if it is not accessible.

EARSC has voiced concerns that industry may not have good and easy access (and has exchanged with ESA).

- Copernicus ground system is based on a limited number of Member State nodes which may not favour industry at large ; depends on national policy
- If capacity becomes limited, first priority correctly is for government (public use), then scientific and international use
- Strong risk that access favours companies which are successful in tenders for Copernicus services (full access guaranteed)
- Where programming of the satellite or instrument is required, industry needs are low priority and cannot be relied on to develop business.

3. Combining different sources of data

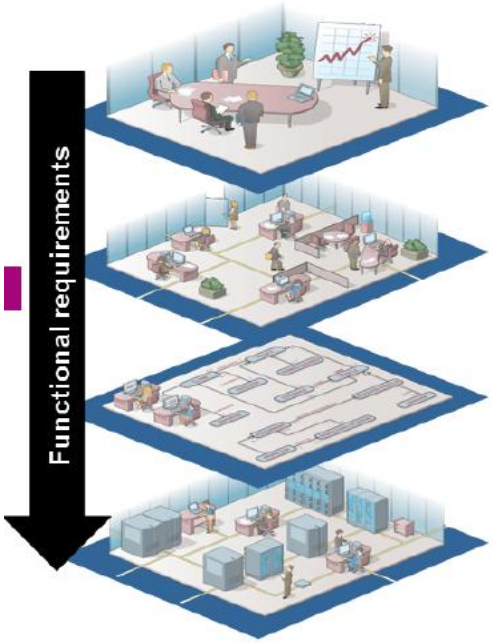
Sentinel data will already be large data-sets (big data)

Effective use will require combination with other data-sets both satellite-derived and ground based (in-situ data)

- access to complementary data is not guaranteed in the same way as is the case for Sentinel data
- combining with other satellite data sets requires new tools and infrastructure (see model)
- Presence of the large US players can be beneficial but presents a strong risk to the open market for European companies
- Need for an effective and open European solution to maintain a healthy competitive environment.

Geospatial World Forum Partners

An Enterprise Architecture



Business Layer — *Innovation and wealth creation*

Processes Layer — *Federate knowledge and user communities*

Applications Layer — *Port core GS applications & create opportunity to invest in new technology*

Intrastructure Layer — *Federate IT & add scalability, link to Big Data*

"Enterprise Architecture"

4. Delivering Information Products

Generating the information products involves applications (applications layer)

Currently, highly crafted and is the core competence of many of the service companies.

Big data sets will change the game and require more automation and new business models

- Cloud or distributed approach seems promising (and likely to succeed).
- TEP's are a new and interesting approach but so far all are thematic oriented and a big opportunity has so far been missed to step into the business layer ie a customer or market oriented platform.
- EARSC with companies seek to create business platforms whereby companies can exploit effective data access with applications development for both public and private customers.

5. Quality !

Services may be delivered, even effectively and efficiently delivered, but are no use unless they are of assured, good and appropriate quality!

- EARSC is promoting the adoption of professional standards within the EO services industry (trend to operational services)
- Encourage industry and its customers to move to standard product specifications to ensure competitive supply and efficient procurement.
  - Projects (ESA-funded) with Oil and Gas industry which is most advanced.
- Consider a further need for greater transparency in both the procurement process and the delivery (annual report on services)
- Ensure industry is challenged to deliver best, appropriate, service at a competitive price.
- Copernicus could become a world-leading brand.

6. Creating the Enterprise Culture

Copernicus is a great opportunity and must be grabbed:

Copernicus procurement policy will be an enormous influence on the emerging geo-information market and in our view should:

- Ensure industry is the de-facto service provider where it has the means or the ambition to be so.
- Maintain competition in the supply chain to allow new entrants and keep EU industry in a global lead to supply quality, geo-information services.
- Foster further R&D activities within academic and public sectors.
- Key skills and knowledge in the public-sector must be available on a non-protected basis to any industrial teams
- Develop the ambition for all Copernicus services will be industry-led by 2020.

For more Information

For Information on EARSC:

www.earsc.eu / www.eomag.eu / secretariat@earsc.org

For information on the Industry:

www.eopages.eu

Report on the State and Health of the EO Services Industry

For links to other Communities:

www.ogeo-portal.eu