The European EO Services Industry

Geoff Sawyer: EARSC Secretary General

EARSC @ Polish space sector Forum – 9th March 2016

What is EARSC?

EARSC is a trade association (non-profit Belgian company), founded in 1989, which represents European companies: *providing services (including consultancy) or supplying equipment in the field of remote sensing.*

Our mission is:

- to foster the development of the European Geo-Information Service Industry
- to represent European geospatial-information providers, creating a sustainable network between industry, decision makers and users

Our focus is on the use of remote sensing from space-based platforms (satellites) and we have members from the full value-chain including aircraft and RPAS operators.

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European Association
of Remote Sensing
Companies

Network

67 full members, 9 observers
From 22 countries in Europe

Members: any commercial company providing services (including consultancy) or supplying equipment in the field of remote sensing shall be eligible for full membership. based in a European country which contributes to the European Space Agency or which is a member of the European Union

Observer: any organisation engaged in the supply or use of Remote Sensing which does not qualify to become a full member of the Association

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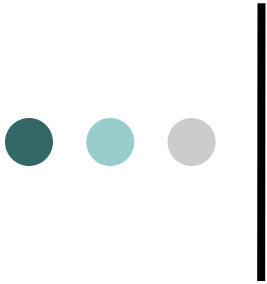European Association of Remote Sensing Companies

What does EARSC do?

1. Provide information to our members on programmes, policy and the sector; (business intelligence)
2. Maintain a knowledge of the industry, i.e. statistics, market information, etc.
3. Promote professional standards within the industry (certification)
4. Promote the industry and its capabilities by:
   - Creating links between EO services sector and other business sectors, e.g. oil & gas, insurance, public institutions e.g. the World Bank
   - Organising events offering networking opportunities as well as focused information
   - Advocacy towards policy makers on issues of concern
   - Awareness and media. e.g. eomag, OGEOZine, etc.

EARSC focus is on enabling the development of new business

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The European EO Services Industry

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EARSC EO Services Industry Survey

2013

2015

eoSERVICESindustry

A Survey into the State and Health of the European EO Services Industry

prepared by EARSC under assignment from ESA
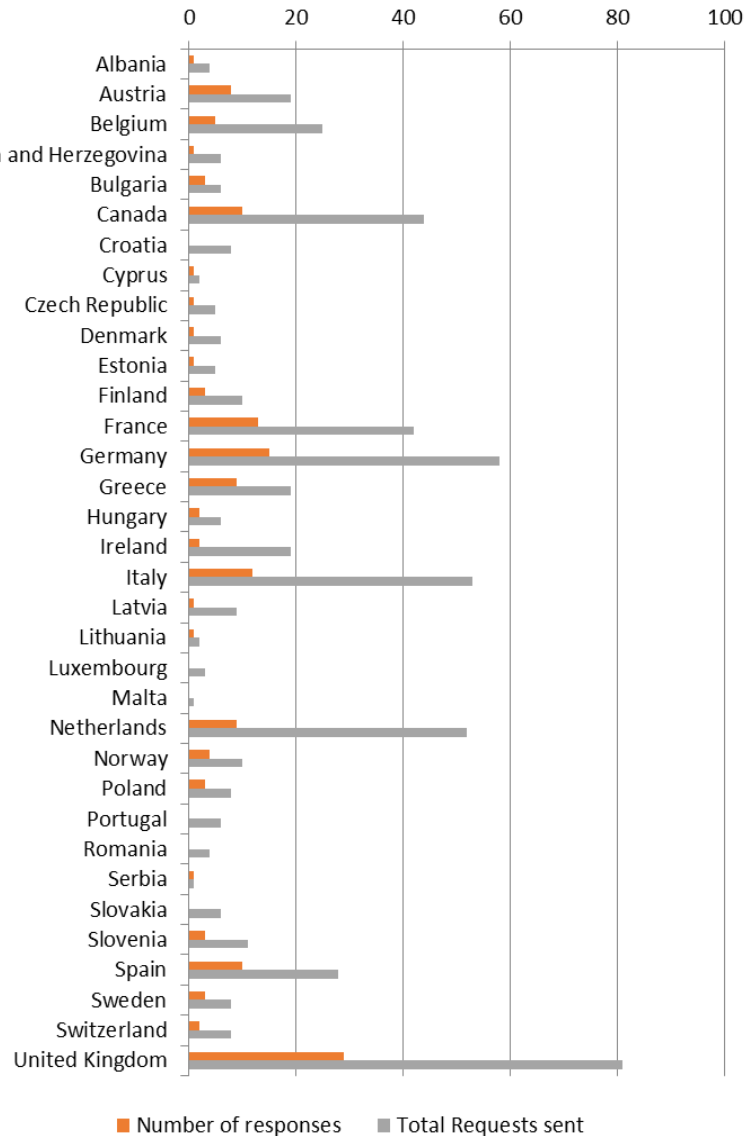September 2015

Second survey conducted by EARSC

Provides a comprehensive view of the European EO Services Industry

Covers the full range of EO service activities from satellite operators to value-adding and GI companies
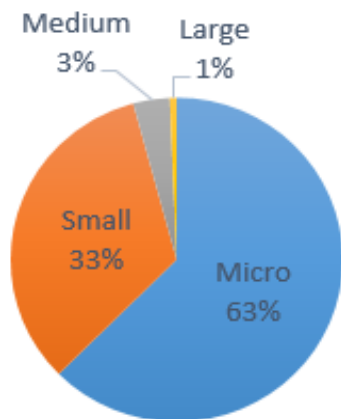
Coverage of Europe and Canada

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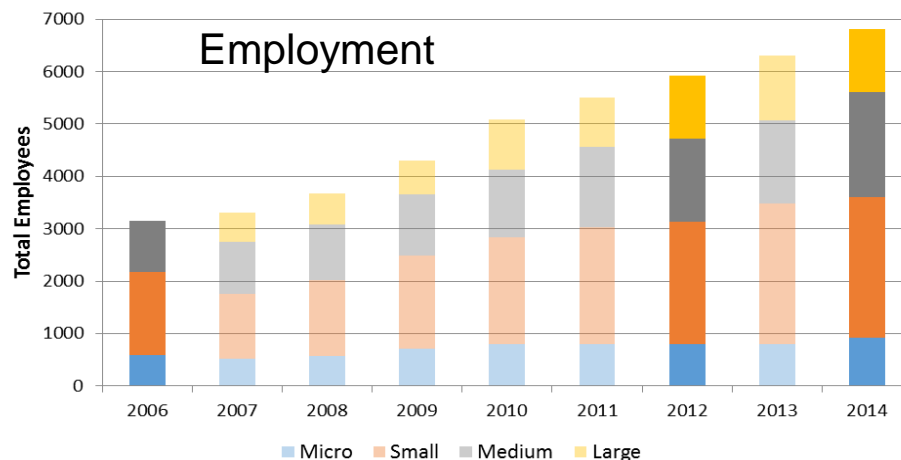Companies

Geographical distribution

- Companies are distributed throughout europe with 10 countries having 20 or more companies

- This is a strength to serve local needs but is not a good position from which to address the global market

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Industry profile

Pie chart:
- Micro 63%
- Small 33%
- Medium 3%
- Large 1%

Legend: Micro, Small, Medium, Large

Employment — Total Employees (2006–2014), stacked bar chart with Micro, Small, Medium, Large

Revenues — Total Revenues (€m) (2006–2014), stacked bar chart with Micro, Small, Medium, Large

>450 companies in Europe
6811 direct employees
€910m revenue

Growth rate >8% p.a.

63% companies < 10 EO employees:
96% companies < 50 employees

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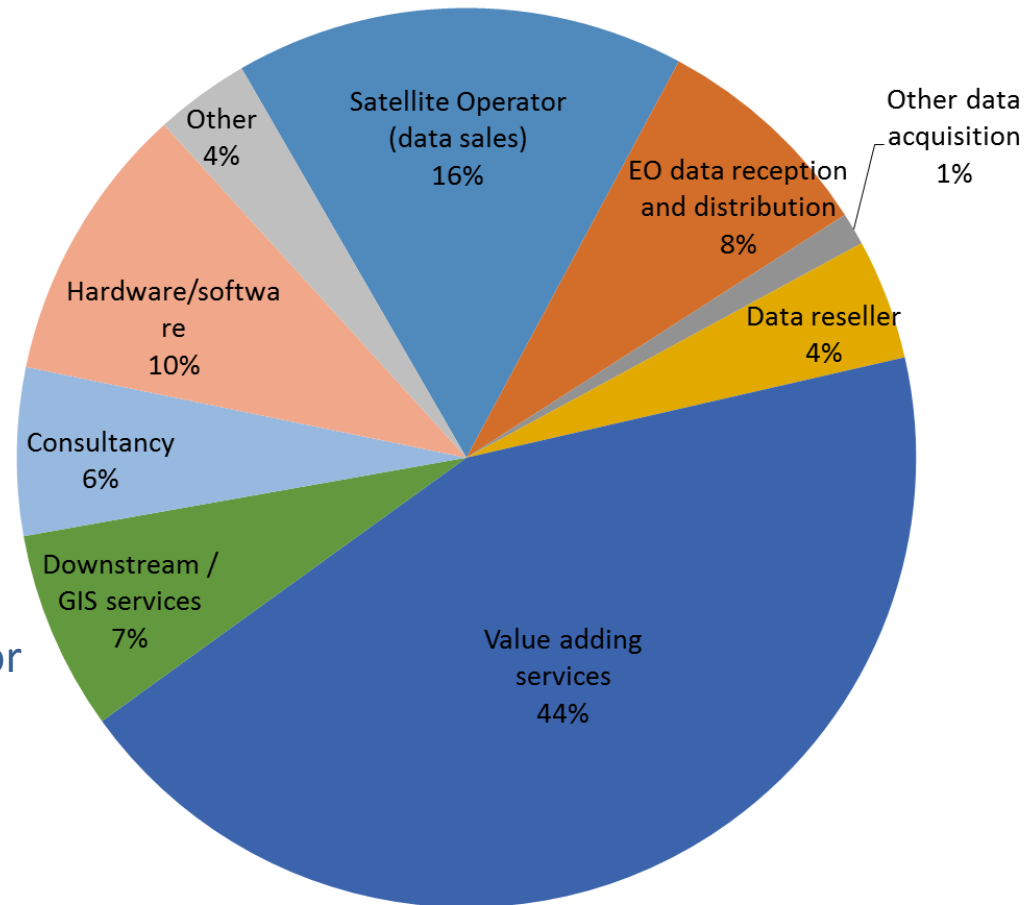Companies
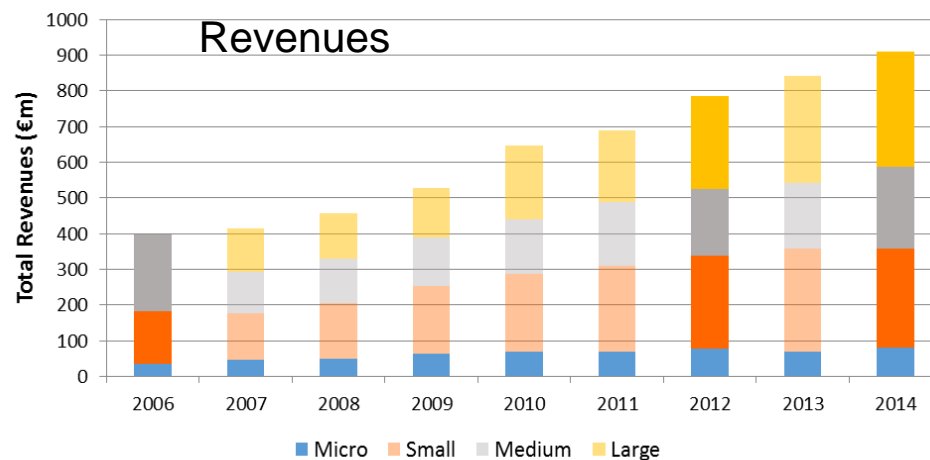
Percentage Revenues by Activity

European Companies are active throughout the value chain

Data selling activities represent a 29% share of the market at €270m.

This represents a growth of 5% since 2012

The information services part of the business represents 51% of the market or €462m.

This represents a growth of 72% since 2012 (31% per annum).

Pie chart: Percentage Revenues by Activity
- Satellite Operator (data sales) 16%
- EO data reception and distribution 8%
- Other data acquisition 1%
- Data reseller 4%
- Value adding services 44%
- Downstream / GIS services 7%
- Consultancy 6%
- Hardware/software 10%
- Other 4%

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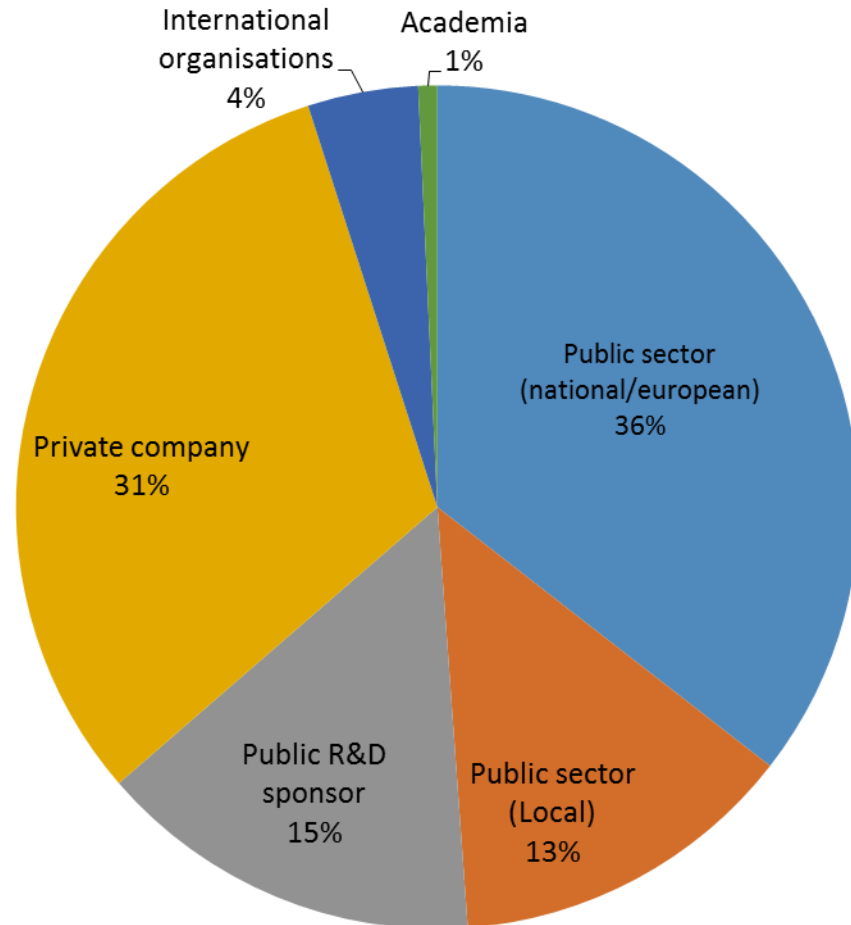of Remote Sensing
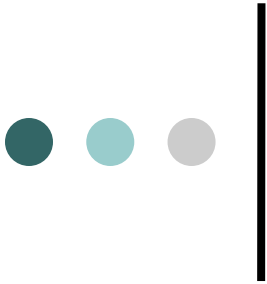Companies

Types of Customer

50% of revenues are coming from public sector operational customers at different levels (plus 15% R&D).

Around 4% comes from International organisations.

Around 30% of revenues is coming from sales to other industrial customers.

This shows an aggregate picture of 2012 & 2014 as a few large contracts are changing the year-to-year picture quite significantly.

International organisations 4%
Academia 1%
Public sector (national/european) 36%
Private company 31%
Public R&D sponsor 15%
Public sector (Local) 13%

The Economic Value of EO Services

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Satellites Benefiting Citizens

Study on behalf of ESA

Look at the Economic Value created through the use of Satellite data.

Bottom up approach working through the value chain

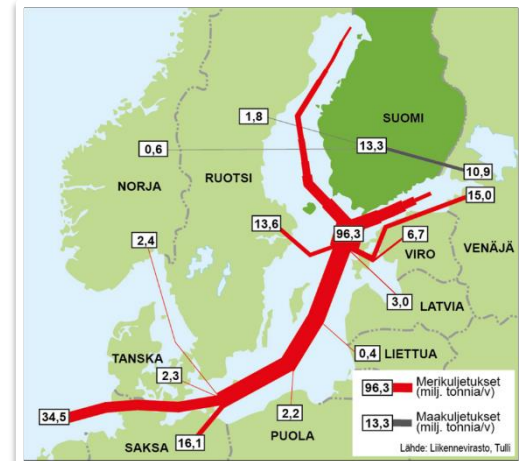3 cases under study of which 2 are now published.

Geoff Sawyer & Marc de Vries

From the Copernicus Economic Benefit Study performed under an assignment from the European Space Agency

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THE GREEN LAND

esa

The case of Finland
• Winter Navigation

Suomen tuonnin, viennin ja transiton määrä ja kohdemaat vuonna 2013 (milj. tonnia). Transitoa oli 7,5 milj. tonnia.

- *"Finland is an island!"* : over 90% of Finnish imports and exports travel by sea.

- Decision in 1971 that all major Finnish ports (25) should be kept open through the winter

- In 2003, decision to use Satellite imagery to replace helicopters on board ice-breakers

- Whilst helicopters provide an instant view; conditions change under bad weather conditions when they may not be able to fly

- Satellite imagery provides a synoptic view of the whole of the Baltic which allows icebreaker captains to plot a route right through the ice fields

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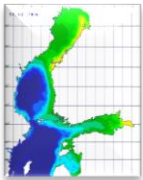of Remote Sensing
Companies

From Satellites to Supermarkets

The Economic Benefits

The Study shows that the Finnish & Swedish economies benefit from the use of satellite imagery coming from Copernicus;

Between **€24m and €116m** of economic benefit is made each year.

Icebreakers use imagery to find the best routes through the ice

€2.3m pa

Ships save fuel and time

€2.1-€3.3m pa

Ports are able to operate more efficiently

€5.8-€9.4m pa

Factories are able to operate all year round

€6.3-€63m pa

Citizens can be sure that the supermarkets (and petrol stations and pharmacies) are stocked.

€3.5-€17.5m pa

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The case in Sweden
- ## Forest Management

- Satellite optical imagery has been used since 2000 to monitor clear-cut mapping in Sweden.

- Swedish Forest legislation is very light

  – Keeps industry costs low; encourage competitiveness

  – Develop forest stocks as national, exploitable asset

- Swedish Forest Agency implement and monitor the act; satellite imagery is most cost-effective tool.

- Knowledge of clear cutting and forest management allows SFA to promote best practise to the 300,000 private owners of forest land.
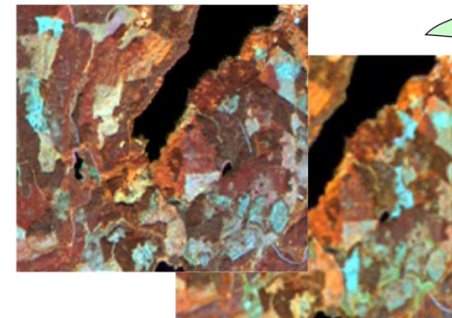

New Image - Old Image = *Difference*
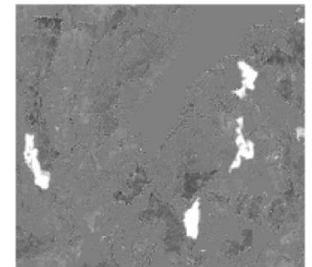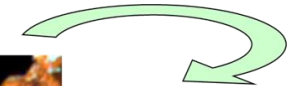
Change detection image where light areas shows areas where cuttings has been performed and dark areas indicates fast growing forest

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Managing Forest Assets

- Lifecycle of the forest is on average 80 years:

- Management best practise:

  - Planting immediately after clearing,

  - Pre-commercial thinning (twice) in first 10 years

  - Commercial thinning at 30 years and 55 years

  - Clear-cut after 80 years
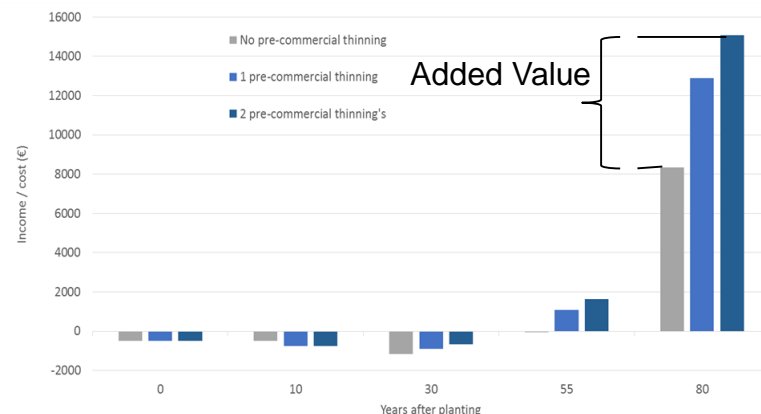
	10%	20%
Saving by SFA compared to information equivalence	€9.5m	€9.5m
Benefit to stocks from (% of owners each year) • early replanting • pre-commercial thinning	€3.07m €2.43m	€6.14m €4.86m
Citizen benefits	€1m	€1m
Colateral benefits (re-use of open data)	€0.13m	€0.13m
TOTAL	**€16.1m**	**€21.6m**

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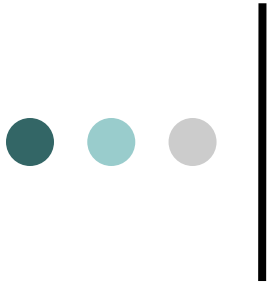
The Strategic Context for the EO Services Industry

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The way to achieve European non-dependence?

THE EARSC NEWS

www.earsc.org   The Industry's Favourite Network   **December 2015**

Google Economic Impact

The web is working for American businesses. We're helping.

Explore the impact of Google's search and advertising tools below.

Can't we offer our companies an alternative?
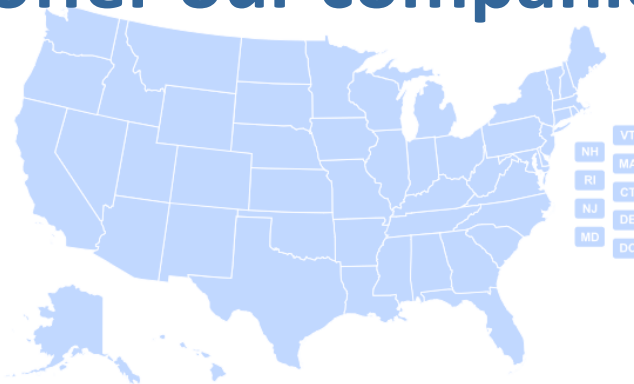
$131 billion
of economic activity Google helped provide nationwide for businesses, website publishers and non-profits in 2014.

1.8 million
nationwide businesses and non-profits benefitted from using Google's advertising tools, AdWords and AdSense, in 2014.

government and

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Europe has the capability
- we are just not working as one

World-leading programme

An industry growing @ 8-10% p.a.
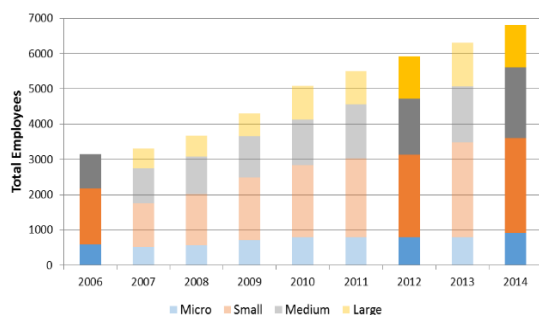
National Imaging Capabilities

Excellent Science & Technology base

Offer Companies a Choice : Create European Alternatives to Google & AWS

Others are moving fast : we need to act NOW.

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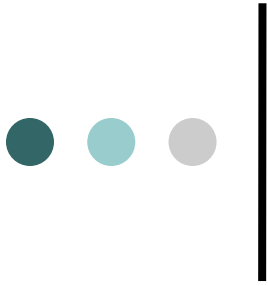
Creating a Marketplace for EO Services

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Creating an EO Services Marketplace

European public sector Market

Commercial Market

Export Market

EO Services from Europe

Amazon Web Services

Google

INFOaaS Providers
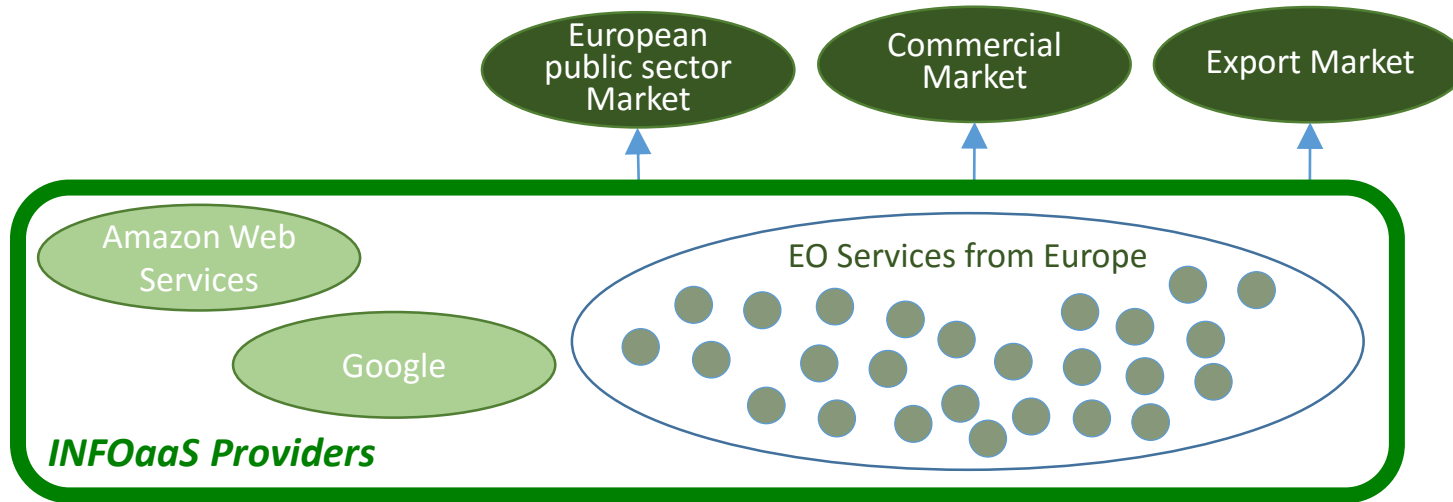
- European EO service providers are too small and fragmented to address the new market opportunities

- ………. Without help they will become exposed to the business models of Google, Amazon, Microsoft and maybe others (?)………

Creating an EO Services Marketplace

European public sector Market

Commercial Market

Export Market

Amazon Web Services

Google

EO Services from Europe

Marketplace Alliance

INFOaaS Providers
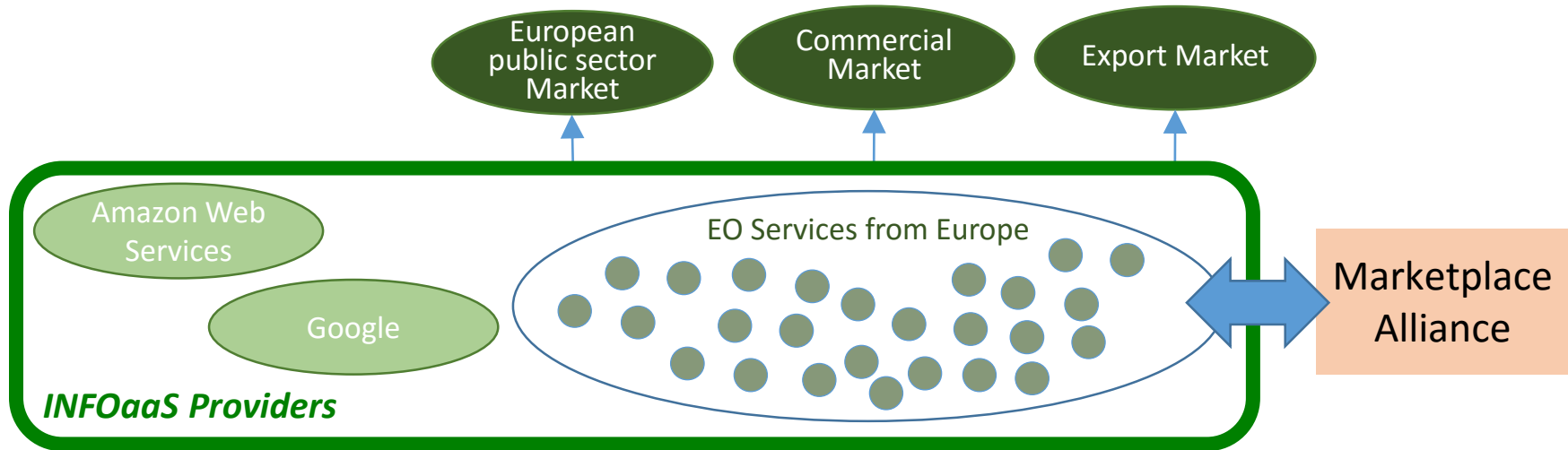
- Create a Marketplace Alliance as a "co-operative" of EO service providers.

- Combine public and private data and information to create new EO services

- Business is done by the EO service providers not the Alliance.

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EO Marketplace & Supporting Infrastructure

European public sector Market

Commercial Market

Export Market

INFOaaS Providers

Amazon Web Services

Google

EO Services from Europe

Marketplace Alliance

Infrastructure as a Service

Public Data

Other public (open) data

Science Data

Copernicus Services

GEOSS

Collaborative Ground Segment (MS)

Ground Segment (ESA)

Ground Segment (Eumetsat)

Other ESA (science) missions

Contributing missions

Sentinels

Eumetsat Missions

Commercial Data

Other commercial data

EO Satellite data

UAV Systems data

Other diverse datasets EMBL, ELIXIR etc.

Private Mission

Private Mission

Private Mission

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Creating a Marketplace Alliance

Position paper setting out the problem and steps to find a solution.

EARSC will enable the industry to :

- Set up a new Marketplace Alliance (new legal entity)

- Define the technical requirements for a Marketplace(s)

- Work with European institutions to implement the solution and to deliver required products and services.

- Promote a single identity where buyers can find European EO services and products of all kinds.

Creating a
European Marketplace
for Earth Observation Services

Position Paper prepared by EARSC
February 2016

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eoSERVICESIndustry © EARSC

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The Marketplace Alliance will:

- Offer customers a single identity for finding products and services supplied by European companies.

- Ensure a fair and equal access to the Market for EO service providers, brokers, platform as a service and Infrastructure as a service providers

- Enable investments in technical, financial and reporting to be mutualised at the European level including Service Level Agreement, IPR protection.

- Enable the gathering of market information to the benefit of all users of the Marketplace platform.

- Ensure that products and services offered through the Marketplaces meet defined quality requirements.

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What will EARSC do?

1. **Organise the EO Marketplace Alliance** providing a common voice for the EO Services sector

2. **Define requirements for platform(s)** giving access to data and services and which could apply / host the marketplace

3. **Develop markets through links** with other commercial sectors and work with ESA to develop the market with International public bodies.

4. **Ensure public needs are met** by working with DG Grow, DG Connect and DG RTD to align the platform services for Copernicus and for GEOSS

5. **Engage with the GEOSS community** to bring the results of EU R&D activity onto the platform(s) and to promote EU capabilities into GEOSS

6. **Actively promote the Marketplace** and the services offered.

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For more Information

For Information on EARSC:

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

For more information on the remote sensing industry:

www.eopages.eu

For information on EO applications:

www.earsc-portal.eu

For links to the O&G Community

www.ogeo-portal.eu

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