

# EARSC

European Association  
of Remote Sensing  
Companies



## EO Services Industry Ecosystem in Europe

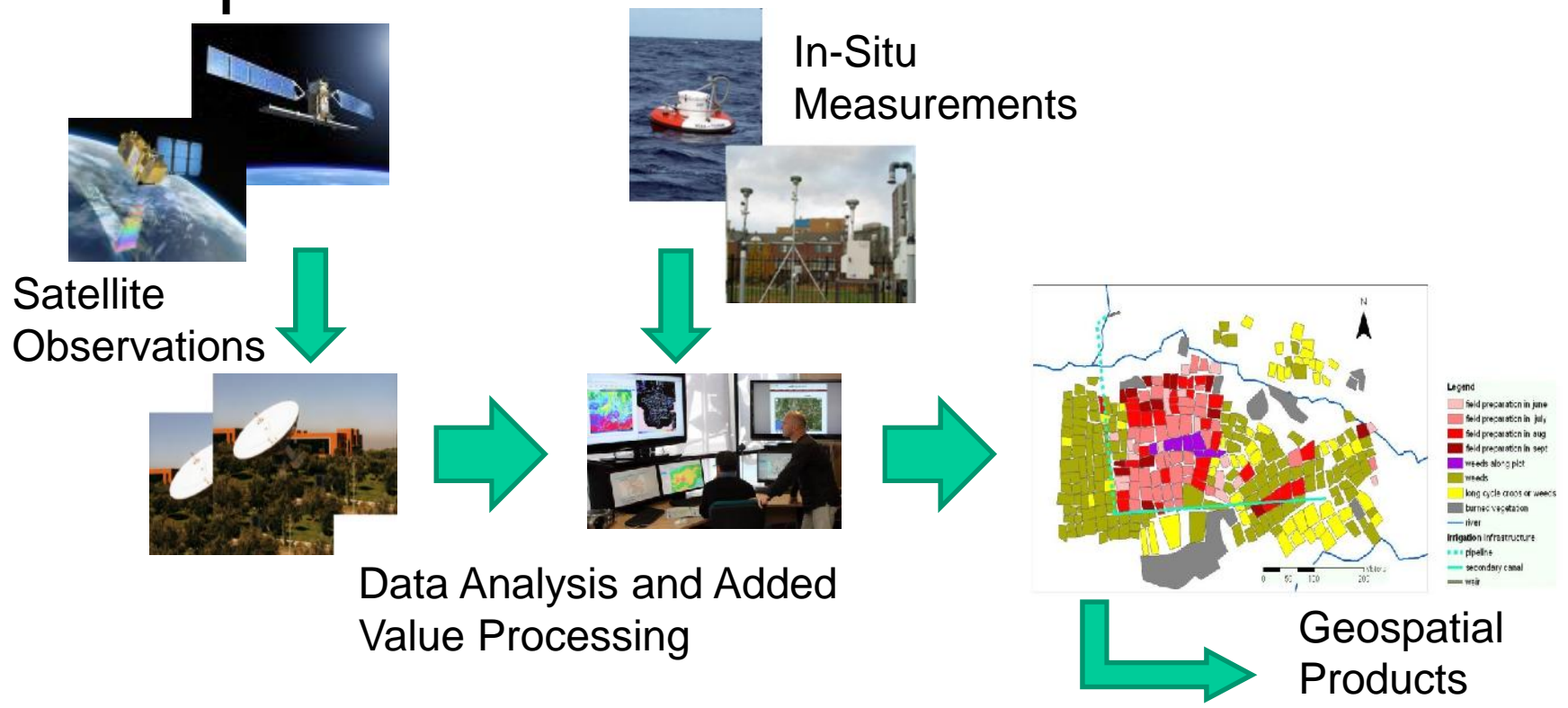
**Geoff Sawyer: EARSC Secretary General**



# European EO Services Industry

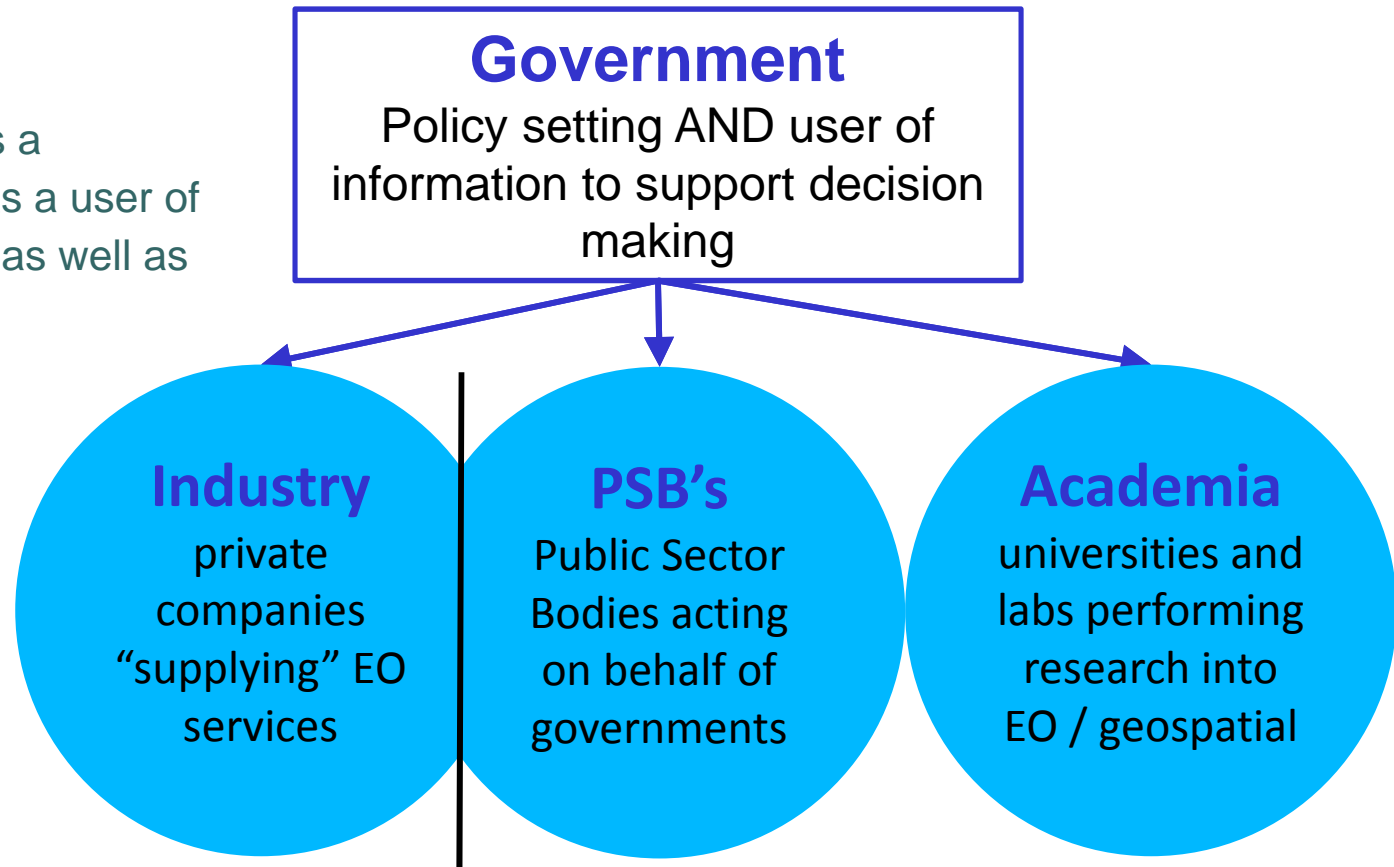
- Ecosystem view is based on the EARSC survey of the European EO Services Industry:
- First survey in 2013 (2012 data) and second survey (2015) data-gathering has just been completed.
- For EARSC to represent the industry it is essential to understand:
  - Employees & revenues
  - Composition of companies
  - Views on key issues eg Certification
  - Markets & Trends
  - Copernicus adds a dimension which needs to be understood (2017 audit)
    - impact of the programme on the downstream sector
    - impact of the free and open data policy

# EO Services Value Chain



# EO Services Ecosystem

- Government plays a determining role as a user of data / information as well as setting policies.
- Public sector bodies act on behalf of their governments.
- Industry can include internal service departments
- Overlap between public sector bodies and industry causes unfair competition, uncertainty and leads to reduced investment in new products and services



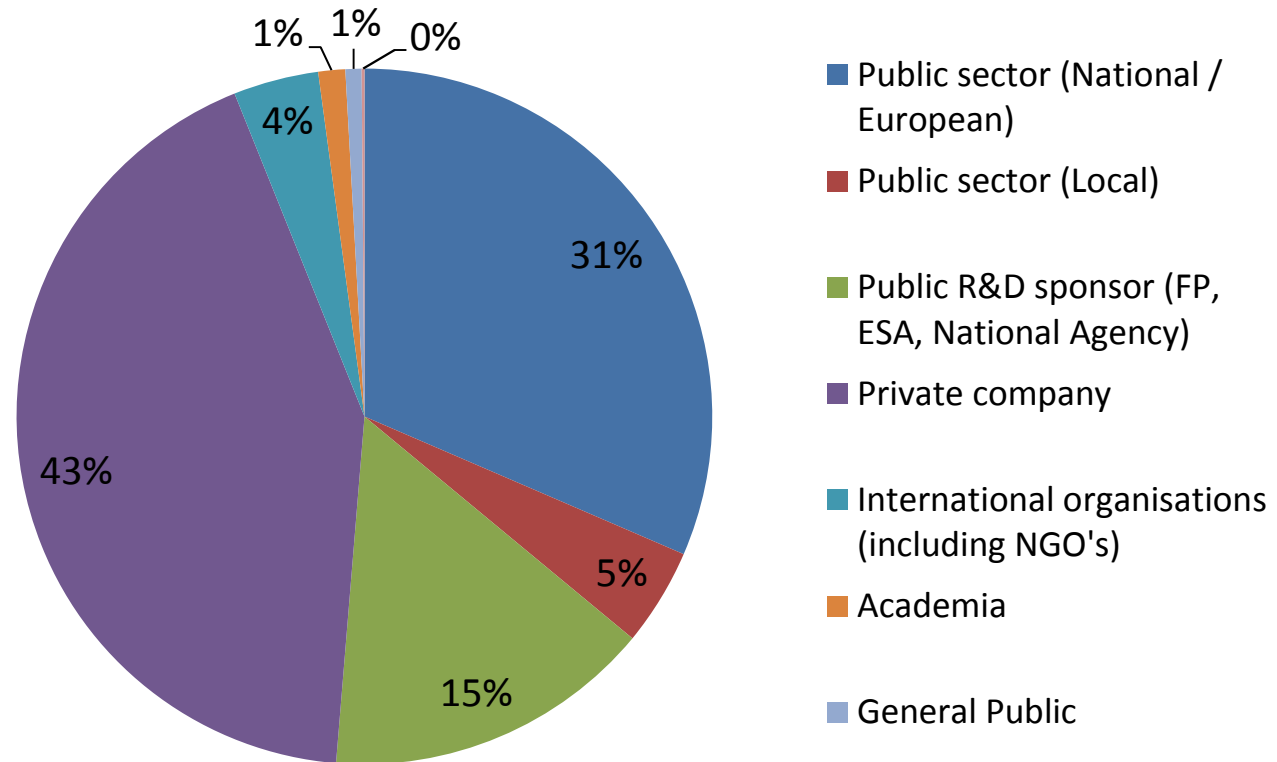


# Types of Customer (2012)

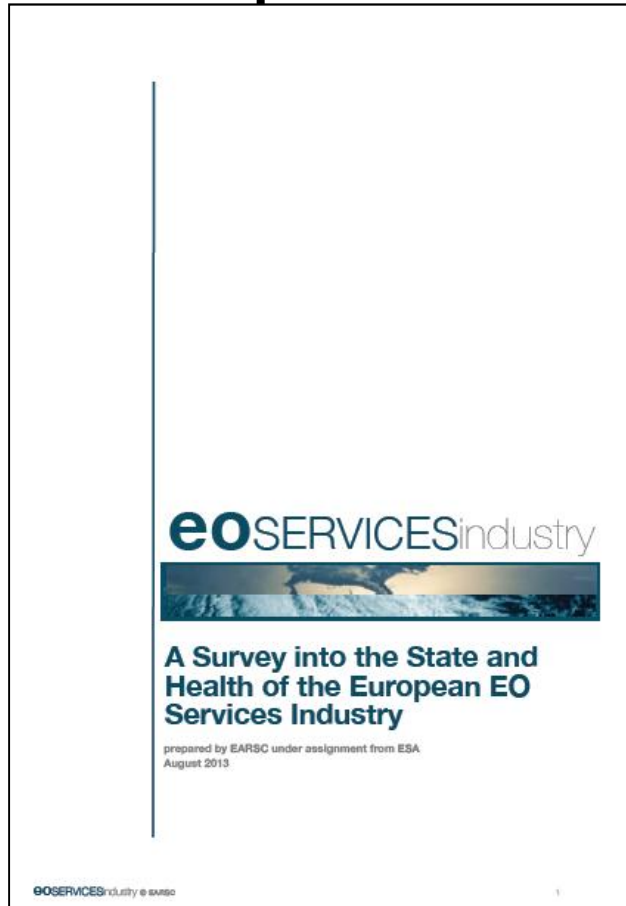
Over 50% of revenues are coming from public sector customers at different levels.

Around 4% comes from International organisations.

The share of sales to commercial companies has doubled since 2006 from 22% to 43% which is 4 times in revenues.

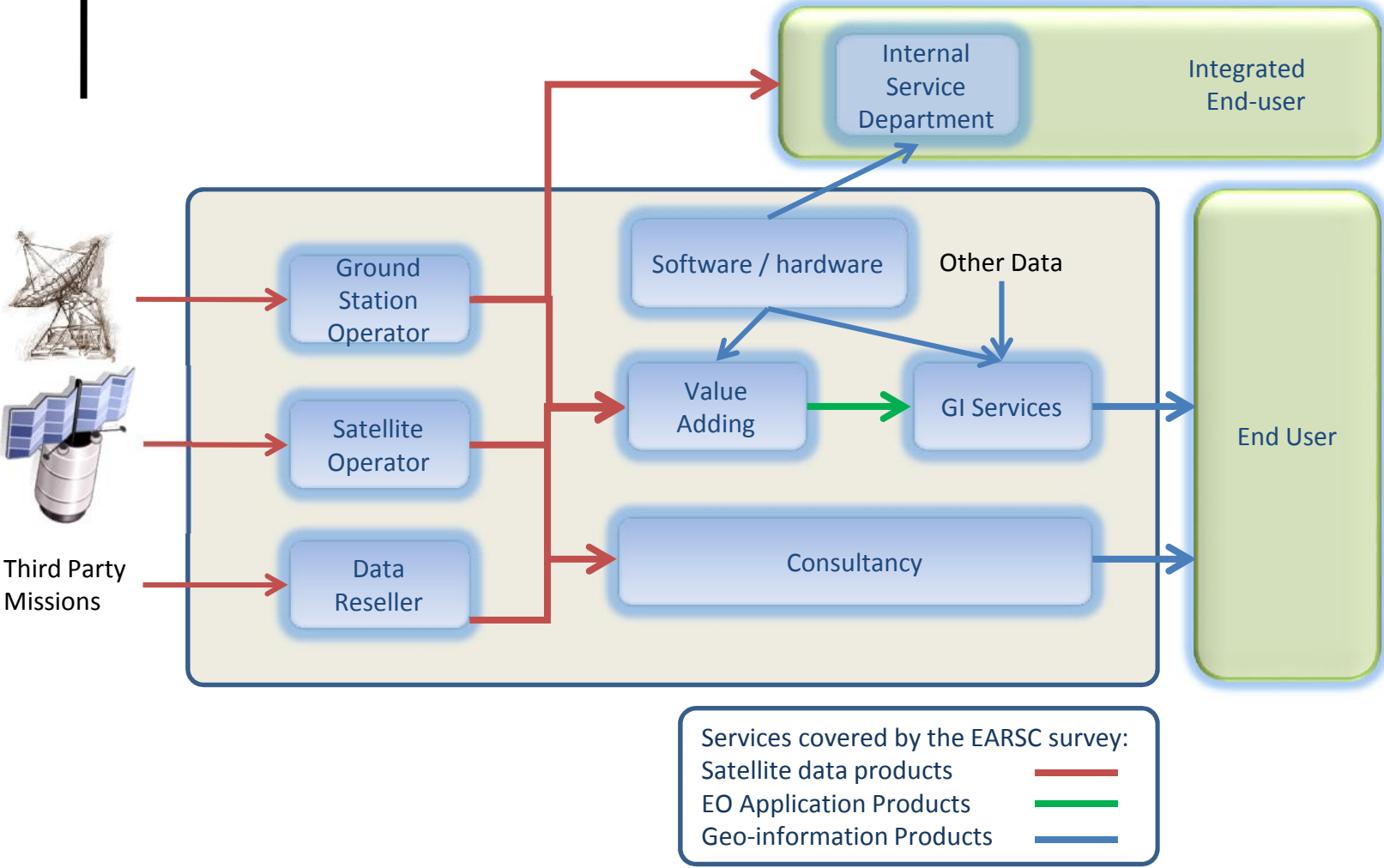


# European EO Services Industry



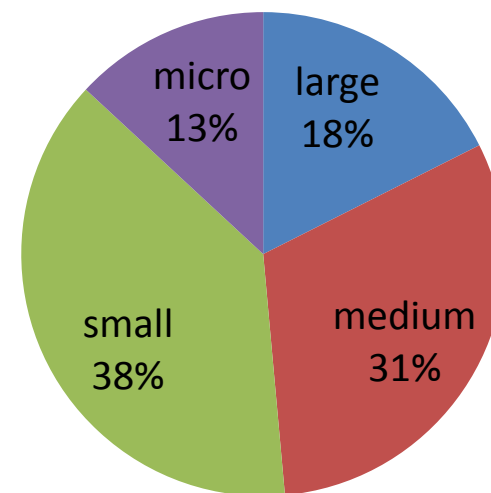
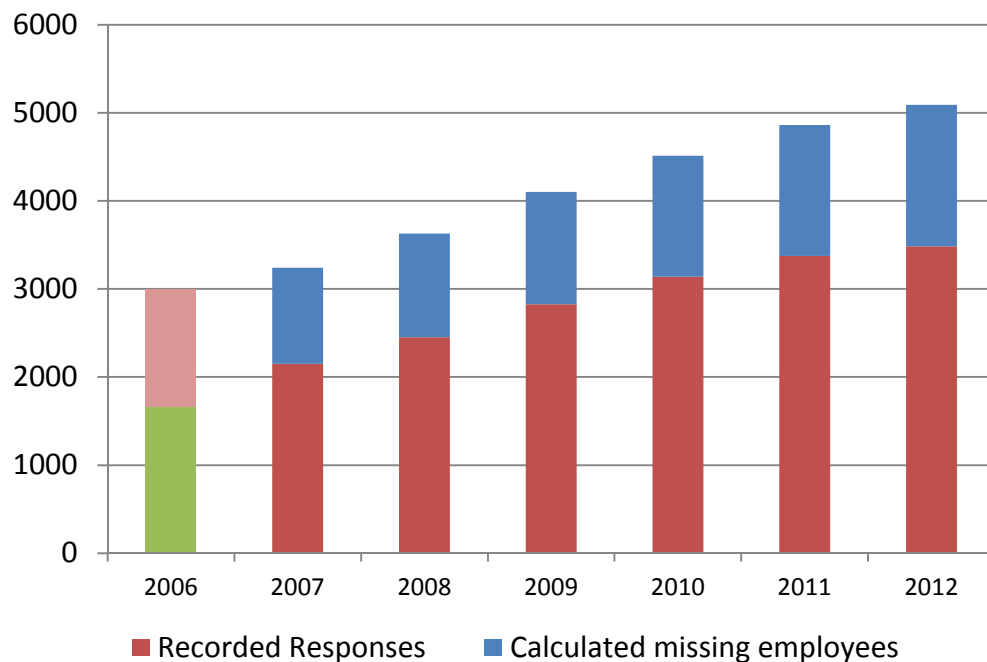
- Last survey based on our database of 365 companies across Europe and Canada.
- New survey launched to provide update on the state and health of the industry; our database now holds over 500 companies in Europe.
- Extend coverage to include all sector employment in Europe and the projected use of Copernicus data and information
- Include international figures linked to Copernicus.
- Survey results expected in June 2015.
- In future, we plan an annual update with limited but key data.

# Value Chain



# Industry Employment Profile (2012)

Policy makers look at the number of jobs



Number of employees has grown from 3000 in 2006 to over 5000 in 2012

Growth rate of around 10% p.a.

Large and medium companies employee 50% of the workforce



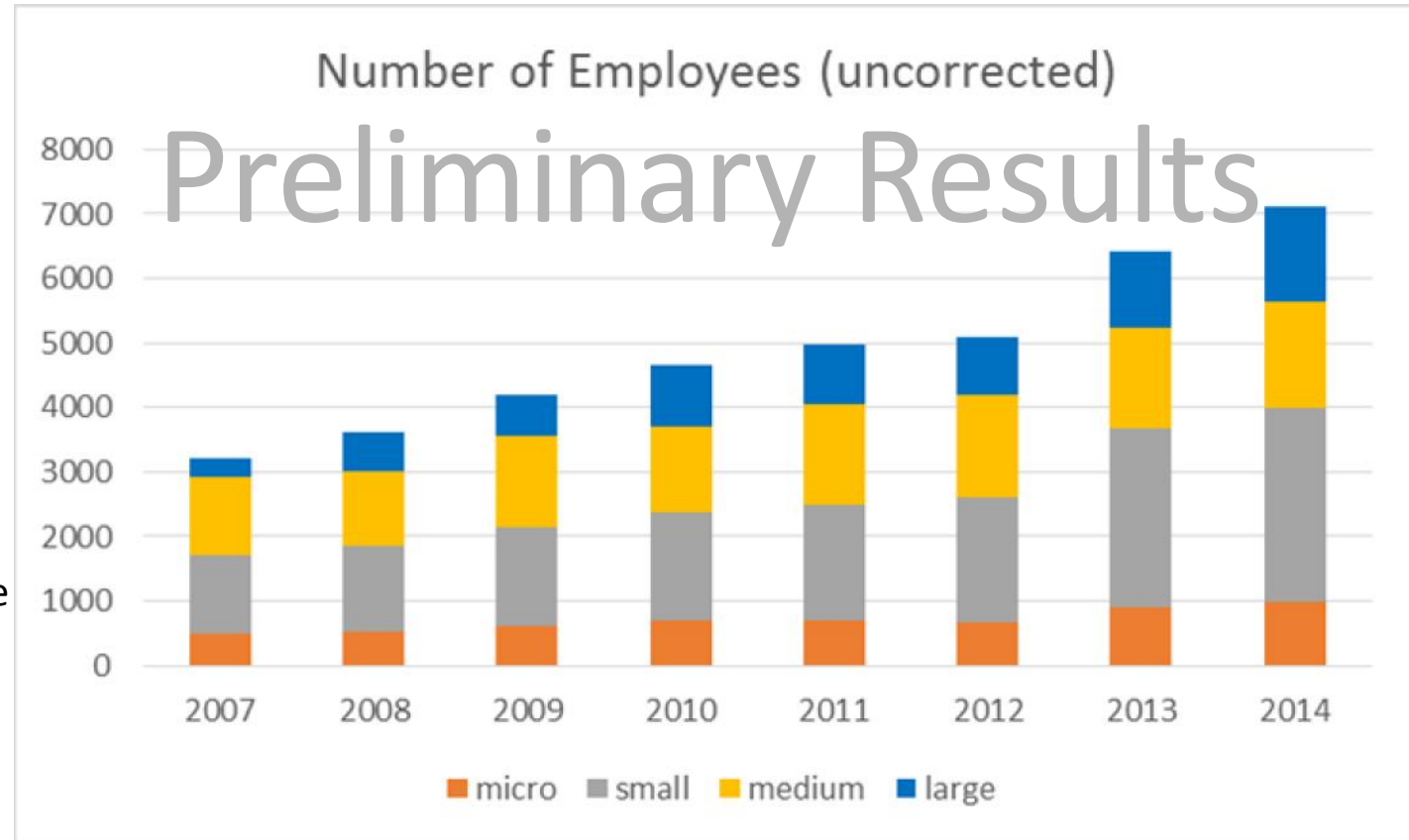


# Industry Employment Profile (2014)

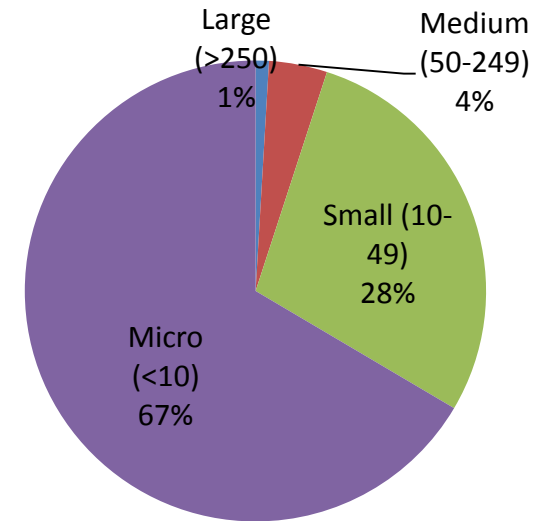
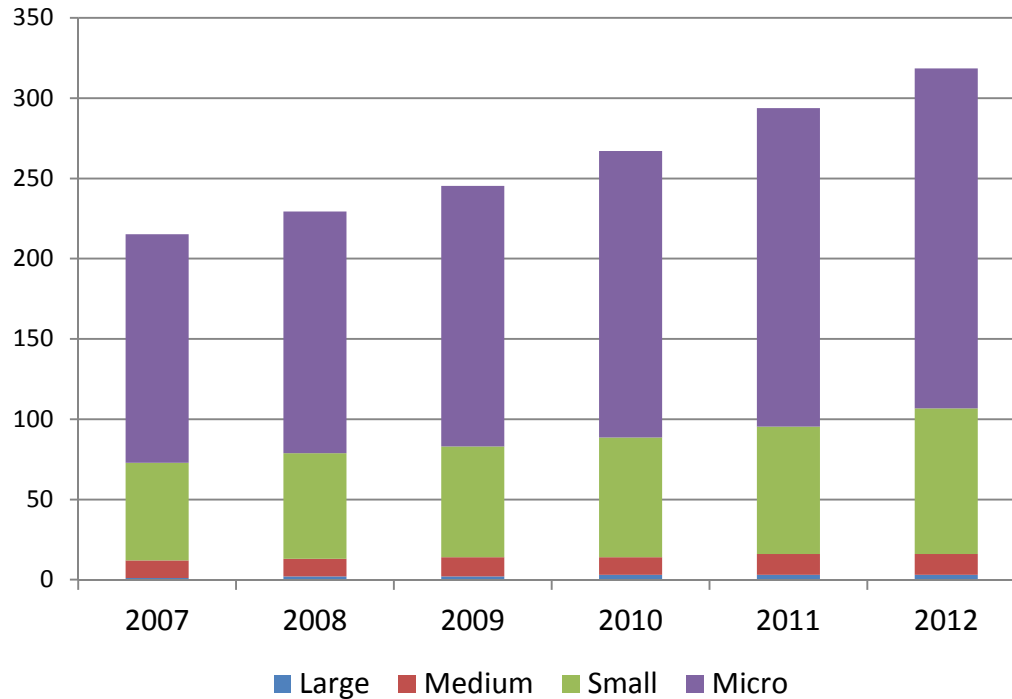
The number of employees has risen from 5070 in 2012 to 7000 in 2014;

Number of companies has also increased in that time from 319 to 450.

Based on calculated rate of increase of companies,



# Number of EO Service Companies in Europe and Canada (2012)



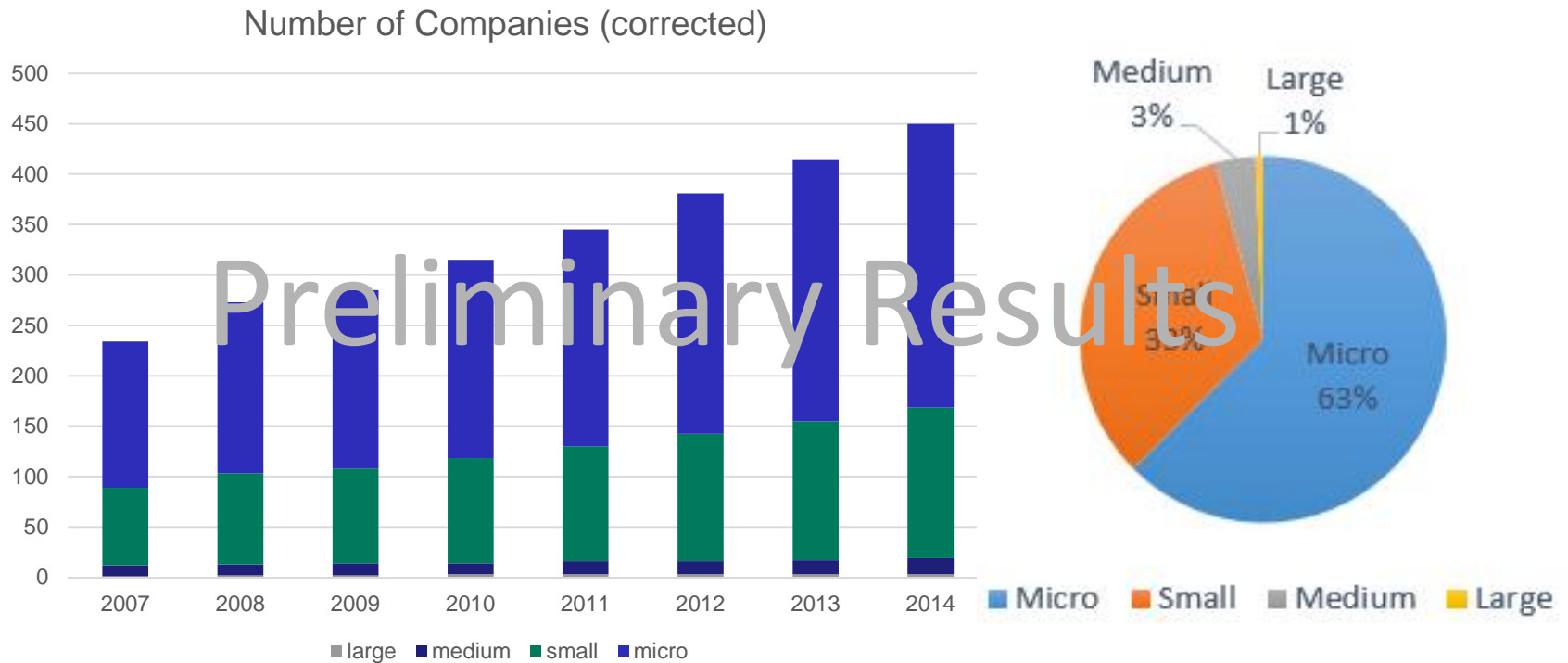
Number of companies is growing at around 8% p.a.

less than 5% of companies have more than 50 employees

Over 60% have less than 10 employees.

67% are micro enterprises with less than 10 employees

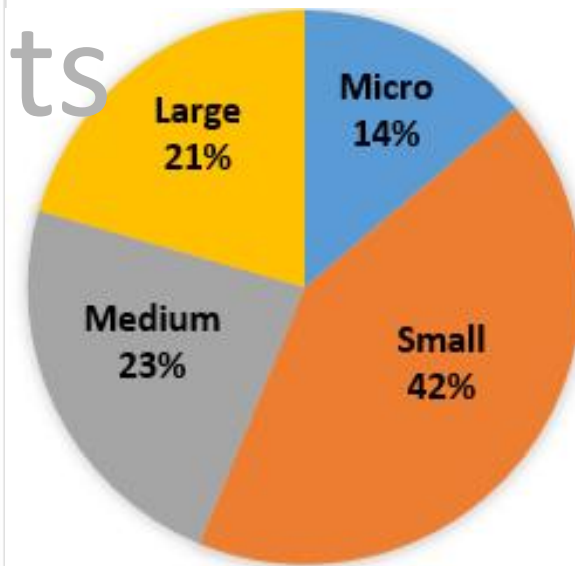
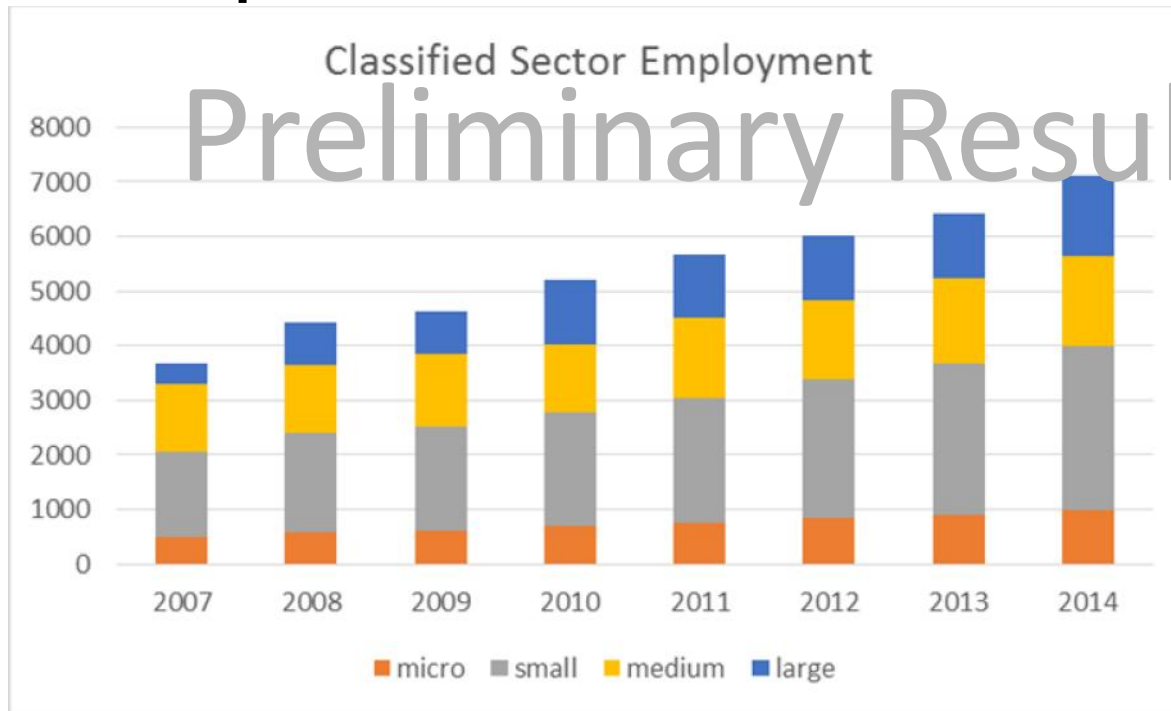
# Number of EO Service Companies in Europe and Canada (2014)



Correct for greater number of companies in the survey in 2015

- Back-in-time projection based on company rate of formation.

# Industry Employment Profile (2014) - Corrected

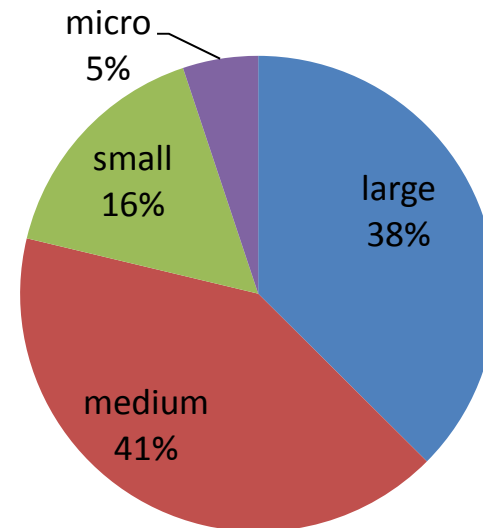
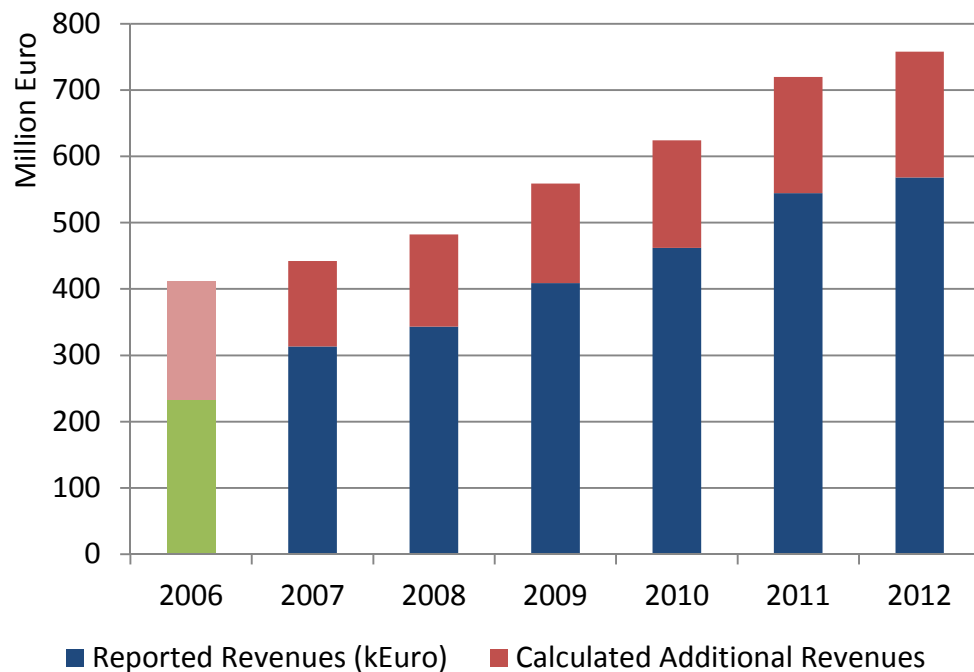


2014

Number of employees corrected for the increased number of companies in 2014



# Industry Revenue Profile

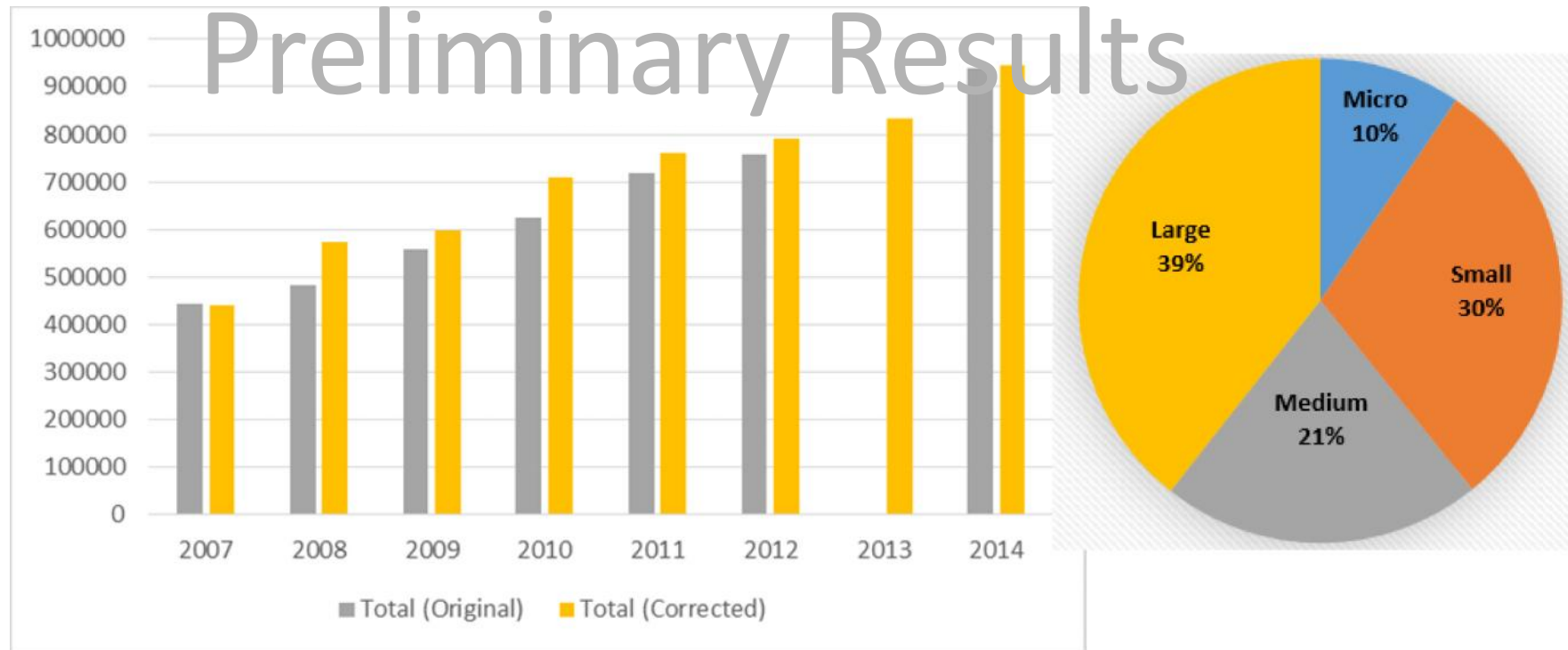


Total revenues for the sector has grown from €412m in 2006 to over €750m in 2012

Growth rate of around 10% p.a.

Large and medium companies make 80% of the sales

# Industry Revenue Profile (2014) - Corrected



Revenue growth and profile corrected for increased number of companies in 2014



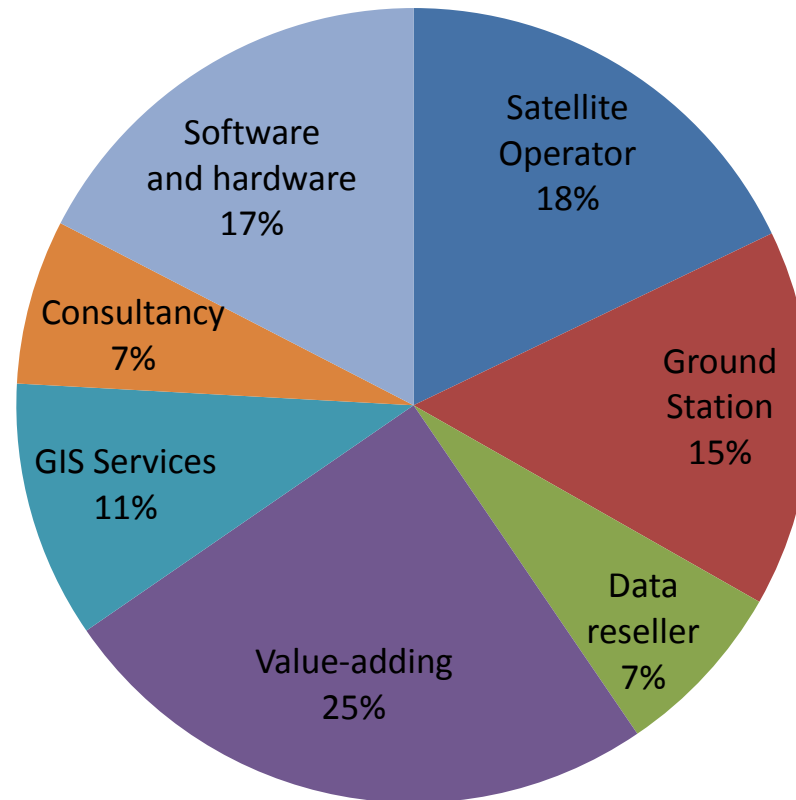
# Percentage Revenues by Activity (2012)

Data selling activities represent a 40% share of the market at €306m.

The rate of increase since 2006 has been around 17.3%.

The information services part of the business represents 42% of the market or €320m.

The rate of increase since 2006 has been around 8.1%





# EO Economic Value Chains

- EARSC study (for ESA) into the benefits of EO / geospatial information extend beyond the immediate EO services supply chain.
- Translation of data into information, knowledge and fact-based decisions.
- Previous studies have been broad-based top-down; take a product and trace its impact through the extended value-chain.
- Start by researching 3 cases where EO data is being (or has been) used in an operational process
  1. Winter navigation in the Baltic
  2. Forests management (in Sweden)
  3. Tunnelling operations for new metro system (in Florence)





# Winter Navigation in the Baltic

SAR imagery is used to observe ice conditions in the Baltic

1. Finnish Met Office produce daily maps of the ice conditions
2. Maps (and imagery) is used by icebreakers to keep sea-lanes and ports open; “Motorways of the Sea”.
  - icebreakers use imagery because they can ground truth the local ice as a reference
3. Icebreakers guide ships to the ports so reducing transit time, fuel use, damages to ships (ice collisions) etc.
4. More precise arrival time allows ports to improve their planning of operations
5. Logistics companies, factories (paper mills / steel mills / oil refineries can improve their planning

# Winter navigation – Value Chain

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
		<b>Emergency Support services</b>			
		<b>Environmental Protection: agencies .....</b>			
		<b>Support services: insurance, ship repairs, ship design</b>			
	<b>Primary Service Provider</b> FMI	<b>Ice - breakers</b>	<b>Logistics</b> Stevedores Agents Logistics haulage	<b>Businesses</b>  Steel mills Paper mills Timber/forestry Commerce Oil & Gas	<b>General Public</b> Food in the shops Petrol in the petrol stations
		<b>Shipping:</b> Cargo ships Ferries Tourist ships Oil tankers Coastguard, navy			
		<b>Ports &amp; Harbours</b>			
Type of Service Being used	Satellite imagery	Imagery & Ice-charts	Ship arrival & transit times Shipping roster / schedules	Goods arrival or departure time	Consumer goods & services



# Primary Benefits – imagery/maps

1. Icebreakers no longer need helicopters on-board
2. Wider, synoptic image from satellites allows better route planning – estimated savings 3hours per transit time
3. Reduced transit time reduces fuel costs and CO2 emissions
4. Improved route planning reduces collisions and ship damage: less repair time and costs.
5. Fewer accidents reduces insurance costs
6. Ice maps also contribute to climate change studies and situation awareness.



# Secondary Benefits - time

1. Better knowledge of the ship arrival time allows better planning of port operations / logistics and factory supply chain management
2. Less storage at the port, less stand-by time for stevedores and equipment
3. Improved efficiency of haulage operations
4. Less stock and reduced resources / storage at factories ie steel mills, paper mills and oil refineries etc.
5. Commerce is also more reliable allowing reduced stock-holding
6. Even consumers benefit by better confidence that petrol in the stations goods and food will be in the shops!



## For more Information

For Information on EARSC:

[www.earsc.eu](http://www.earsc.eu) / [www.eomag.eu](http://www.eomag.eu) / [secretariat@earsc.org](mailto:secretariat@earsc.org)

For more information on the remote sensing industry:

[www.eopages.eu](http://www.eopages.eu)

For information on EO applications:

[www.earsc-portal.eu](http://www.earsc-portal.eu)

For links to the O&G Community

[www.ogeo-portal.eu](http://www.ogeo-portal.eu)