Earth Observation solutions for sustainable development: hands-on e-shape climate services

7 June 2022 9:00 – 16:00 CET ITU Suleyman Demirel Cultural Center Istanbul

Francesca Piatto, EARSC Latest trends and markets development for Earth Observation services







e-shape

EuroGEO Showcases: Applications Powered by Europe

www.e-shape.eu

What's EARSC

Trade (non-profit) association founded in 1989, dedicated to helping **European companies** in the **EO downstream sector**

> 130+ members from **25** countries in Europe

> > **@earsc**

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EARSC

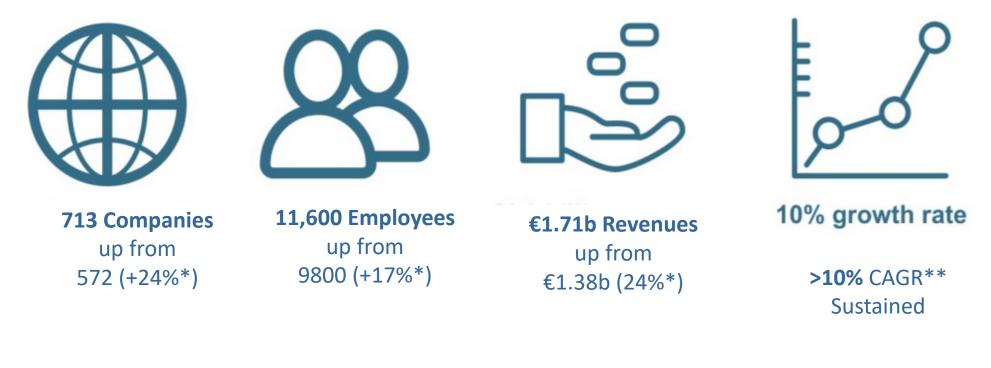


European Industry at a glance

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- 6th survey on the state & health of the EO services industry, prepared by EARSC with the support of ESA
- 2nd survey in new series of annual updates
- Direct research on over 600 companies; survey sample of 150 companies



* Year On year. TUA e-shape workshop, 6-7 June 2022

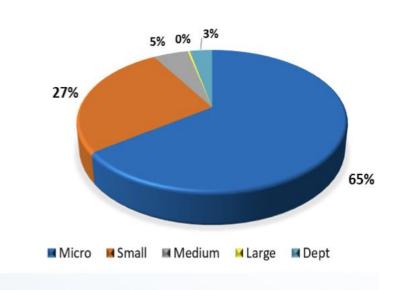
ar. ** CAGR over 5 years

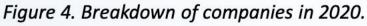
What does the European industry look like?

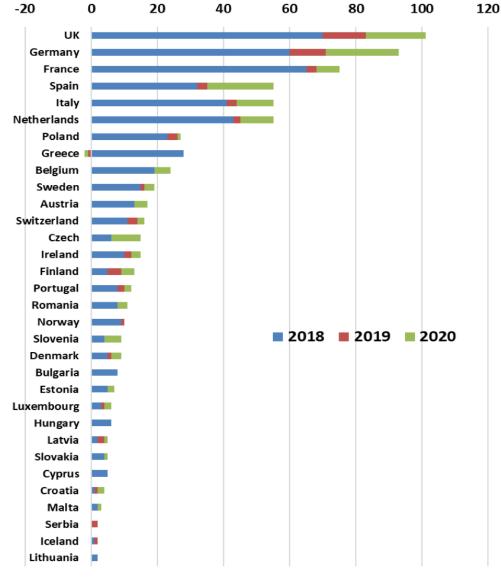
- UK, Germany and France: largest number of EO service companies
- UK yet has fewer employees than both France and Germany
- Over 93% of the companies have less than 50 employees (i.e. small or micro-sized).

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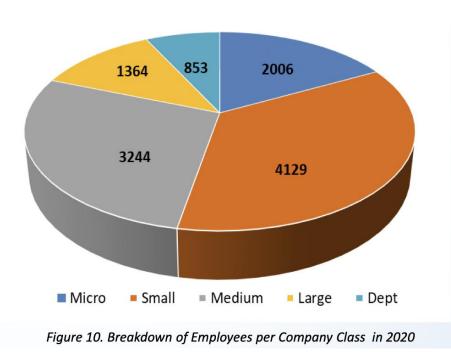


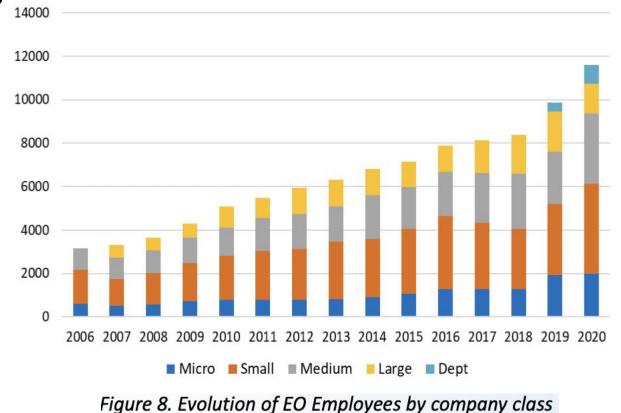
Employment in the EO Sector e-shape

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Total number of employees in the sector is 11,600 in 2020.

Small companies (10-50 employees) have over 4100 jobs)

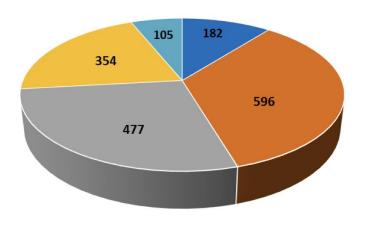




Revenues in the EO Sector

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- Consistent and sustained growth of around 10% 1.800
- Total revenues for European EO services compar¹
 in 2020 around €1.71b
- Small companies (11 to 50 employees) generate ¹ over €500m in 2019



Micro Small Medium Large Dept

Figure 15. Breakdown of Revenues per Company Class (€m) for 2020

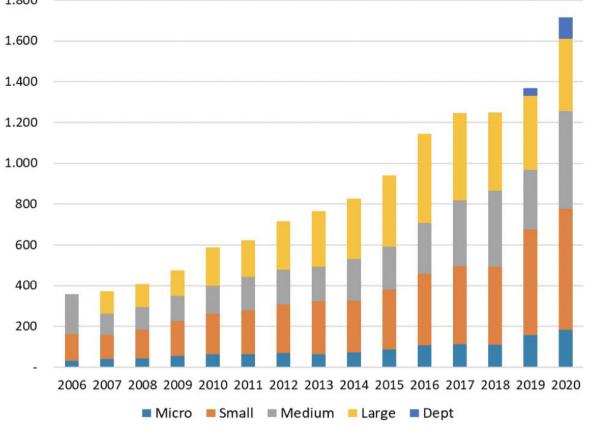


Figure 14. Evolution of Revenues per Company's Class

e-shape Employment-skills

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- Difficulty to hire qualified staff
- Importance of skills
- ¾ of the companies reported difficulties to find and hire staff due:
 - lack of transversal and business-oriented skills,
 - competitive market place,
 - lack of trained staff in the EO sector in certain countries..

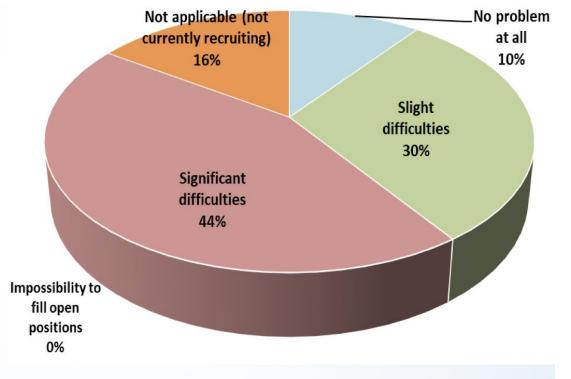
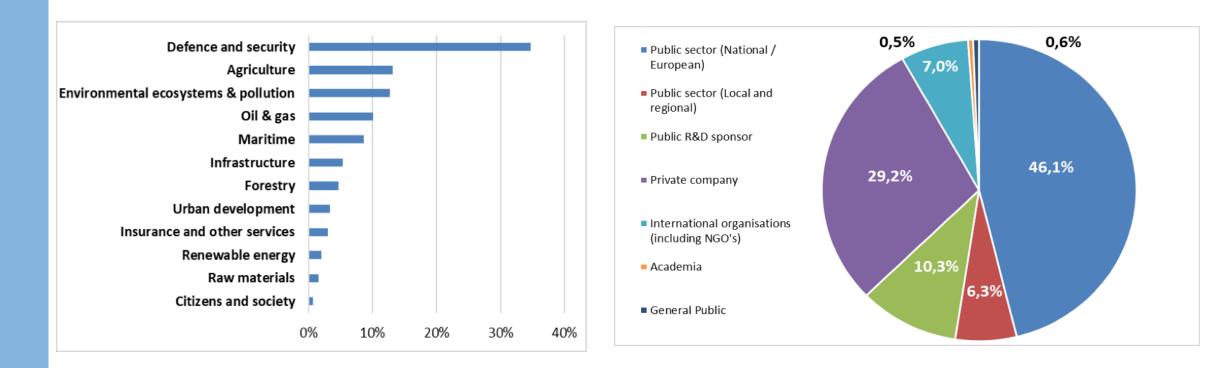


Figure 12- Estimation of how difficult it is to hire qualified employees

Types of markets and end-users

Note that in the previous surveys, the Emergency services was a separate market sector. It may now be included in Defence and security.

The direct business with the public sector represents 52,4% of the market and business with the private sector accounts for 29,2%.



Copernicus- Participation to the supply of Copernicus services

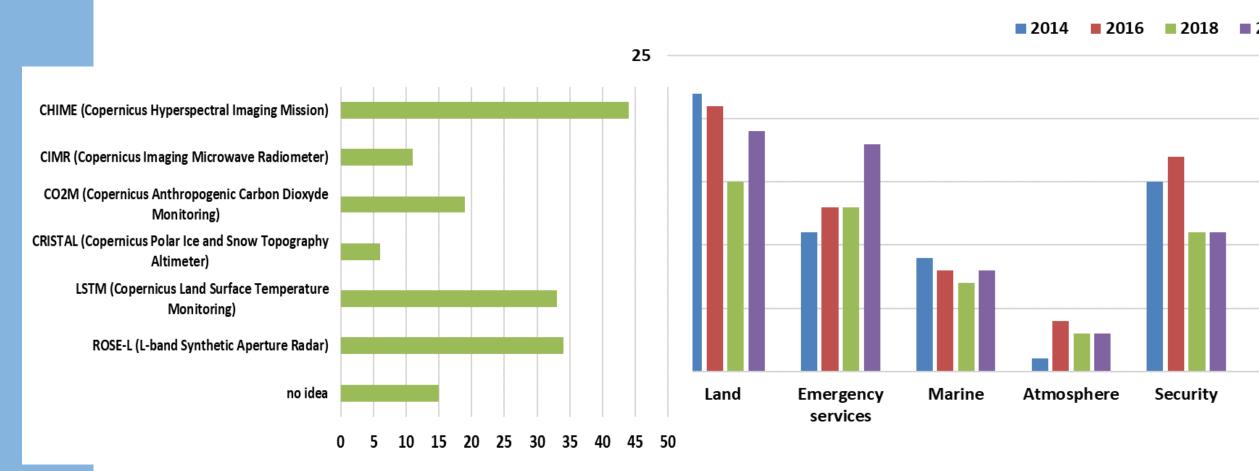


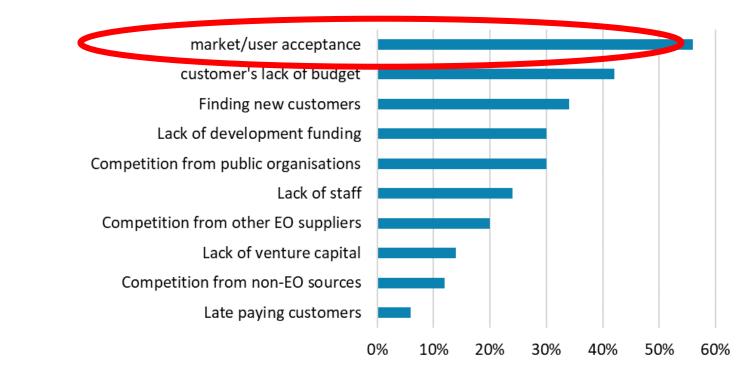
Figure 36. Participation to the supply of Copernicus services

Barriers perceived

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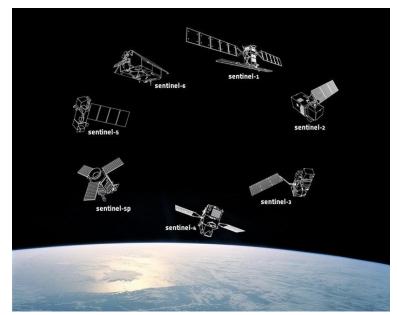
- Market acceptance is still the main barrier
- Move to a one shot map to a monitoring service
- Standardization of indicators/parameters



About Sentinel Benefits studies

Measuring the impact of EO-based services using Sentinel data throughout the value chain regarding:

- Economic
- Environmental
- Social Benefits (jobs, businesses)
- Regulatory
- Scientific





Sentinel Benefits Studies (SEBS)



FLOOD MANAGEMENT IN IRELAND





The Satellite Date Copernicus Sentinel-1 provides free-of-charge frequent all-weather, day-and-right C-band radar images over Insland.



The Service Provider The Capernicus Emergency Management Service provides delineation maps for floods land other types of disasters) based on data from the Copernicus Sentinel-1 mission and from other types of satellite data from the Copernicus Contributing Missions.

The Primary User

The Irish National Coordination Authorities use the flood delineation maps to more timely activate the national emergency management mechanism and coordinate response efforts. The maps help to monitor the evolution of flood events and dispatch any available information to involved government agencies and departments.





Secondary Repetition

The maps support local and regional authorities in continuously menitoring forecasts to scale the appropriate response measures, implement flood response measures and crucially communicate on the same basis with the public in affected areas.



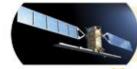
The Service has helped manage flood events in Ireland more effectively by taking more informed decisions and reducing the impact of floods on businesses and the general public, ultimately saving lives.

€2.27-26.08m V

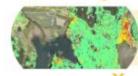
40.61m V

Total benefits: €6.5-30.3m (benefits are limited to floods of 2015-2016)

GROUND MOTION MONITORING IN NORWAY



The Satellite Data Copernicus Sentinel-1 provides free-of-charge frequent, all-weather, day-and-night C-band radar images.



InSAR Norway is developed and maintained by the NGU - supported by NORCE and PPO Labs. NORCE's training of people for InSAR Norway has produced highly-skilled workers in the local industry. The use of helicopters to scout for potential landslides can be reduced.



The NPRA (Statens vegvesen) is making use of InSAR Norway in their planning, design, building, and maintenance of Norway's roads. This allows better informed construction related policies and regulations.

€2.43m - €4.9m pa ∨



Road construction and engineering companies, such as Multiconsult, Skanska AB, and the Norwegian Geotechnical Institute benefit from better planned and more efficiently executed projects.

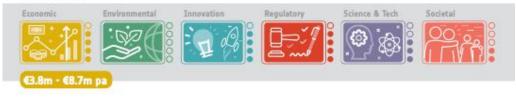
€10k - €40k pa ∨

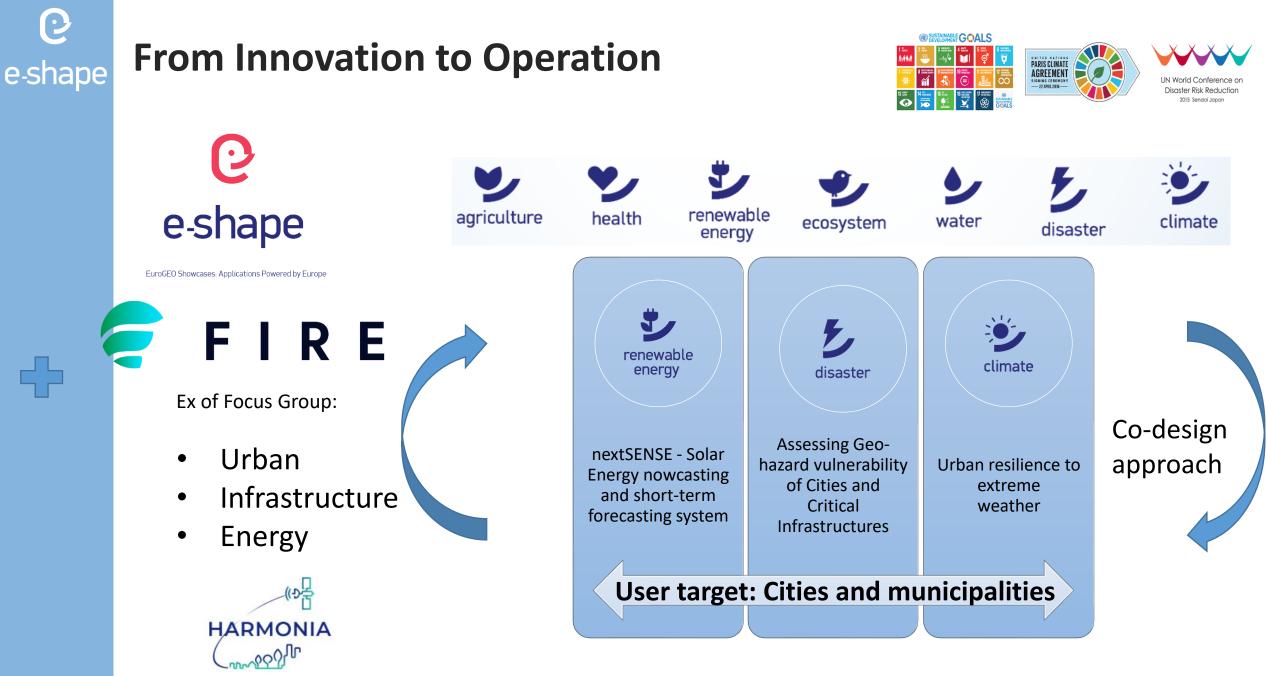


End User Beneficiary

All road users and citizens can reap the benefits of having fewer road closures and safer roads, with reduced risk of landslides and tsunamis impacting lives and properties.

Total benefits





Thank you!

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