European Commission

Business Innovation Observatory

Space tech and services

Applications related to Earth Observation

Case study 63

Internal Market, Industry, Entrepreneurship and SMEs

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Applications related to Earth Observation

Business Innovation Observatory
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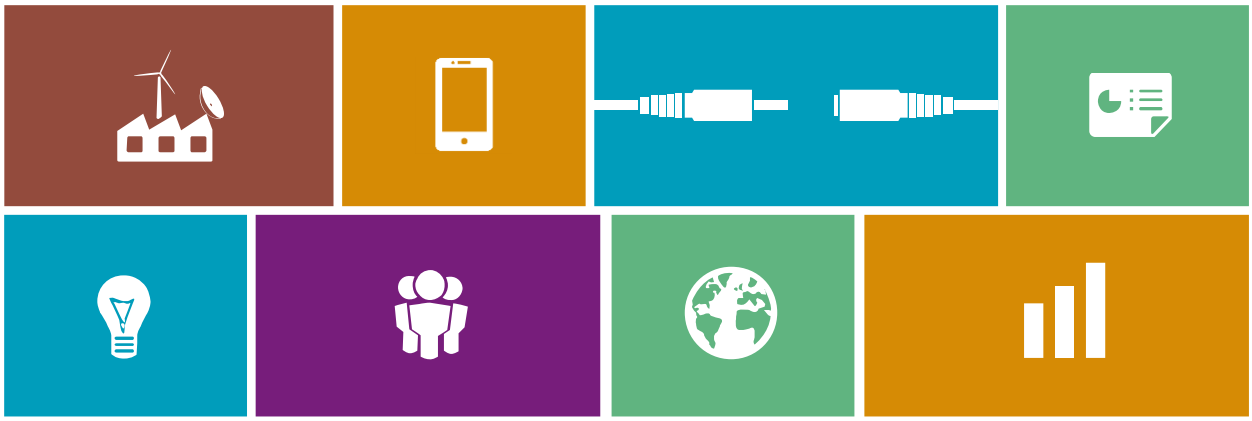


1. Executive summary

The Copernicus programme is the European Union's Earth Observation (EO) flagship programme and aims at building a European capacity to deliver services in the environmental and security fields.

EO satellites and *in situ* sensors collect data - available to everyone - related to the programme's six services: land, agriculture, marine, atmosphere, climate, emergency and security. That gives opportunities to innovative companies, which can develop applications and sell value added services based on EO data. For example, several applications aim at improving precision farming and better monitor crops.

The EO downstream market, *i.e.* companies developing these value-added services on the basis of EO data, is currently evolving into a more mature market across the world and provides opportunities in a growing range of sectors. Technical progress enables innovating companies to present ever-more competitive and valuable products to their potential customers.

The variety of the data collected via EO programmes creates tremendous commercial opportunities. Applications based on this information have an undeniable impact on the sectors they encompass, from agriculture to fishing, through construction and transport, oil & gas, renewable energies, or even insurance, thus boosting economic growth in general. The emergence of numerous new players, mainly Small and Medium Enterprises (SMEs) will support job creation in the market.

Environmental issues are progressively becoming urgent and more challenging to tackle. The solutions based on EO data developed by innovative companies bring new and elaborated solutions on the market that contribute to shaping more tailored responses.

The rapid emergence and expansion of such applications was facilitated by a strong public support. The European Commission has launched various initiatives aiming at boosting innovation in the EO sector, notably through the Horizon 2020 programme. The strong effort to harmonise regulations and install a common framework throughout Europe facilitates reliable and continued access to data.

Further development and commercialisation of applications related to EO programmes face several difficulties linked to the regulatory hurdles SMEs face when trying to benefit from funding opportunities. EO applications could impact a growing number of sectors but suffer from the lack of knowledge and awareness of the services they offer from potential customers.

From a policy perspective, EO downstream players would need public authorities to adapt and shape their actions and initiatives to their specific needs and resources throughout the creation of new flexible funds aiming at promoting innovative companies and supporting them at an earlier stage of development. Procedures should be simplified in order to reduce the administrative burdens for SMEs. Public authorities could also consider awareness campaigns that showcase the benefits of applications related to EO data. Finally, further involvement of large players in the downstream EO market would boost the promotion of applications and drive interest of other potential customers.

2. Applications related to Earth Observation

The trend "Space technologies and services" covers the latest developments in the space industry through four case studies. They focus on specific innovations related to space technologies and services fostered by the European Space Policy to better tackle some of today's most pressing challenges. This paper explores the applications related to EO, through the Copernicus programme.

2.1. Trend presentation

This is a critical time for the EO industry with a great deal of change happening in and around the sector. From 2014 to 2020, the European Union (EU) will commit over EUR 12 billion, [1] of which more than EUR 4 billion is dedicated to its flagship programme Copernicus, previously known as the Global Monitoring for Environment System programme (GMES).

The Copernicus programme consists of a complex set of components that collect data from various sources: EO satellites and a multitude of *in situ* sensors (meaning on site or local) on the ground, at sea, or in the air. Its objective is twofold: develop an independent EO capacity to deliver services in the environmental and security fields and create business opportunities for European companies to enhance innovation and employment in Europe.

Figure 1: EO satellite Sentinel-2

Source : ESA/P. Carril[2]

Copernicus responds to the needs of its users – European citizens – in their daily lives through its six thematic services (Land, Marine, Atmosphere, Climate, Emergency and Security) supporting the development of many applications, thus contributing to the "excellence of European industry in space".

The European Delegated Act on Copernicus gives users free, full and open access to EO data: Copernicus services process and analyse the data, integrate it with other sources and validate the results. The exploitation of this data creates sound business opportunities, throughout the launch of various applications and innovations. As an example, by providing information on the concentration, extent and thickness of the ice, as well as on ice drift and iceberg movement. Copernicus applications enable improved sea monitoring which improves the safety of maritime transport.

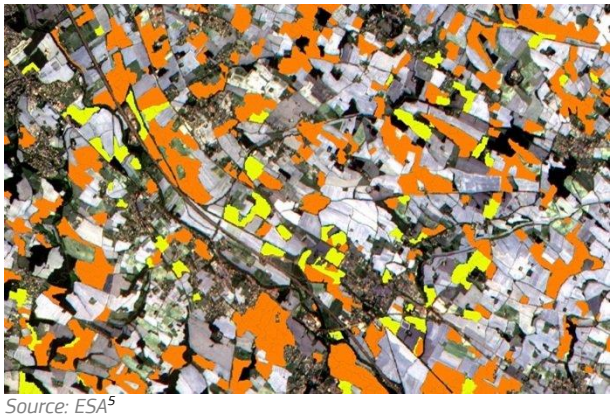
Today, a rising number of Small and Medium Enterprises (SMEs) focus on the development and sale of value added services and products based on Copernicus data with the objective of meeting specific end-users needs. For example, AirTEXT is a web service and smartphone application developed to provide citizens with detailed local air quality, pollen alerts and temperature forecasts on greater London. This application is based on data provided by the Copernicus Atmosphere Monitoring Service.

These innovations contribute to the development of the downstream segment of the EO market value chain, which refers to companies offering value- added services that are developed outside the scope of the Copernicus governance. The global downstream market has an important growth potential and its development is of sizeable importance for the EU, as it accounts for 58 per cent of the global space economy. [3] Regarding employment, Copernicus should generate more than 20,000 jobs in the next 15 years,[4] mostly emanating from the downstream segment.

European citizens highly benefit from these valued-added services which span across many sectors:

- **Agriculture**, by monitoring variables such as soil moisture, surface temperature, photosynthetic activity, thus supporting precision farming and water management for cropland;

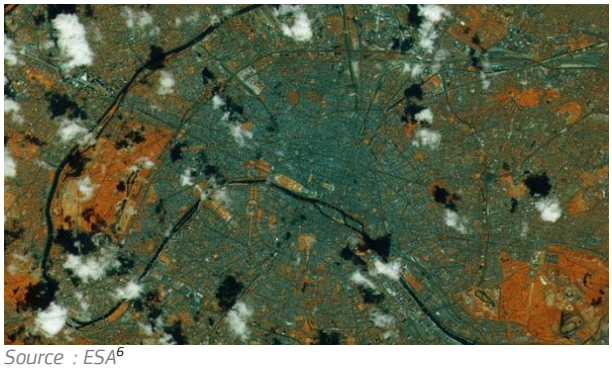
Figure 2: Crops near Toulouse, France, captured by Sentinel 2A



Source: ESA[5]

- **Urban and regional planning**, via detailed high resolution maps of EU main cities to assure sustainable and balanced development;

Figure 3: Paris captured by Sentinel 2A



Source : ESA[6]

- **Transport,** throughout the support of air traffic and the monitoring of shipping routes in order to, for example, increase maritime overall safety and efficiency, reduce the costs in a vessel operation and increase competitiveness;

Figure 4: Traffic jam of ships captured by Sentinel 2A on the Danube river

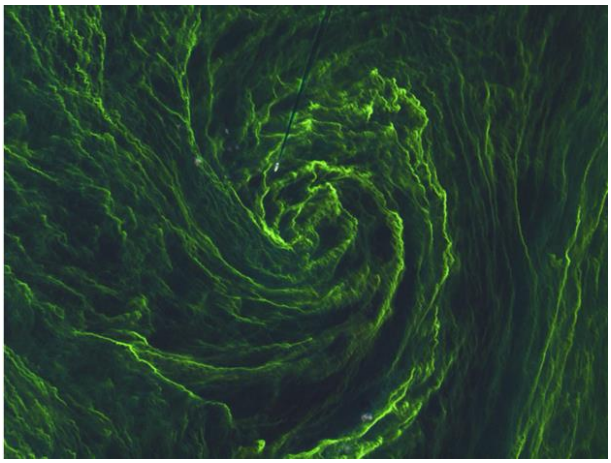
Source : ESA[7]

- **Blue economy,** aiming at enhancing marine knowledge and thus supporting the sustainable development of the marine economy in various sectors such coastal and maritime tourism;

- **Energy and natural resources management (renewable energies, oil, gas, mining, etc.)** by supporting the selection of production sites (identify potential new reservoirs, ease initial feasibility studies) and facilitating extraction of natural resources to ensure a sustainable exploitation of the environment;

- **Environment and climate change**, via the collection and analysis of EO data from atmosphere, ocean and land over large geographical areas. For example, EO satellites monitor effectively the desertification phenomena and the variables that may impact it;

Figure 5: Eye of a algal bloom captured by Sentinel 2A



Source: ESA[8]

- **Civil protection, humanitarian aid, and health**, since the data collected provides governmental authorities with valuable information in order to support decision-making during disasters (epidemics, floods, earthquakes, volcanoes eruption, fires) and humanitarian crises (e.g. refugee camp monitoring);

- **Security and Defence**, via the use of very high resolution satellite data to support border control and military on-the-fields operations;

- **Insurance**, through applications to support risk modelling, hazard and damage assessment as well as claims management.

2.2. Overview of the companies

Table 1: Overview of the company cases referred to in this case study

Company	Location	Business innovation	Signals of success
Globesar	Norway	Globesar AS turns abstract satellite measurements into valuable and useful geospatial information.	- Benefited from funds from the Norwegian government - International presence

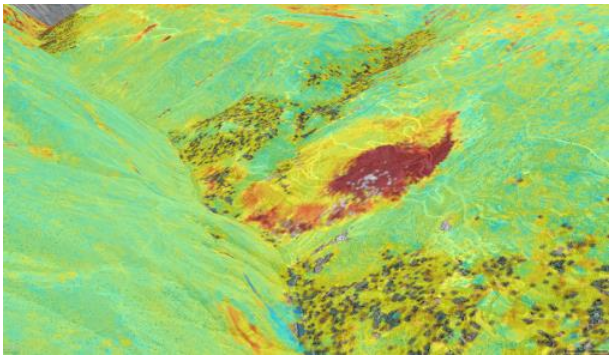
Company	Location	Business innovation	Signals of success
Institut	France	Institut Inspace is an association created to help bridge the gap between companies developing applications related to EO data and their potential customers.	- Supported and sponsored by the French Space Agency (CNES), Airbus and Thales Alenia Space
Noveltis	France	Noveltis developed the highly accurate tidal atlases to identify where tidal power can be exploited.	- Has worked under contract with the French space agency (CNES)
Tele-Rilevamento Europa TRE)	Italy	TRE is specialised in millimetre-precision surface deformation measurements from satellite radar data, which are used in a variety of sectors including oil & gas, mining, civil engineering and natural hazard surveillance.	- First spin-off company of the Politecnico di Milano University - On October 30th 2015, TRE was acquired by the French group CLS (Collecte Localisation Satellites) - Prestigious international clients

Problem 1 – Understanding the dynamics of surface movements accurately and efficiently is essential to improve geo-related decision making for many industries

Innovative solution 1 – Globesar uses satellite data to measure with a high level of preciseness the dynamics of surface movements. The quality and reliability of the information collected enables Globesar to provide high resolution measurements both in space and in time and detect any potential risk areas. . Globesar's products can be used in various sectors: in order to better understand natural hazards in the case of landslides for example, to more efficiently monitor civil engineering works, and— general infrastructure, such as hydropower dams, buildings, railroads etc.

In addition, Globesar is currently developing a new application related to the measurement of the melting of snow that promises to be a serious game changer in the market. Until now, no accurate snow measurement applications exist.

Figure 2: Images of landslide prone areas



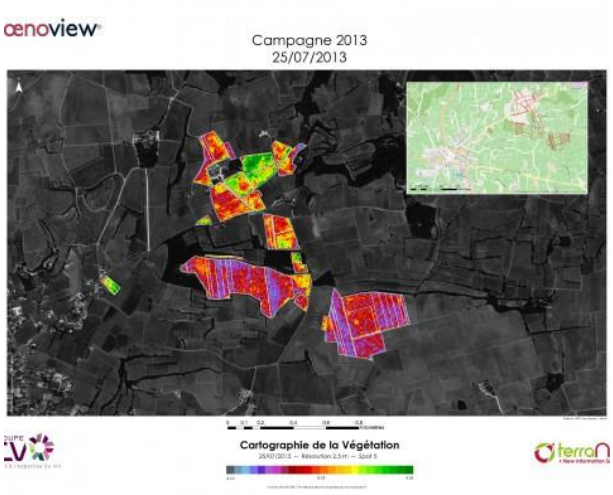
Source: Globesar[9]

Problem 2 – Innovative companies develop highly valuable EO applications but encounter sound obstacles to access the potential market and the entire range of expected customers

Innovative solution 2 – Institut Inspace counts a wide range of members that focus on developing EO based applications.

One of the companies part of the Institut Inspace network is Terranis, a young innovative SME specialised in the design, development and delivery of geoinformation services in the environmental and agricultural sectors. Terranis has elaborated an application, Eonoview, dedicated to the monitoring of vineyards, comprising information on the status of their vigor and heterogeneity. This product is targeted towards wine-growers, cooperative wineries and investors.

The status of vineyard vigour and heterogeneity captured by Oenoview



Source: Terranis[10]

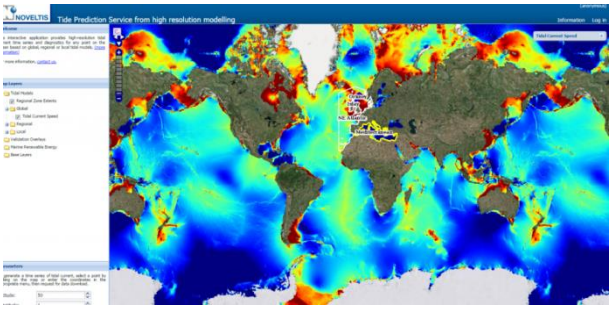
Problem 3 – Worldwide tidal resources are considerable but unmapped

Innovative solution 3 – Noveltis develops tidal atlases that help Marine Renewable Energy stakeholders in identifying locations where renewable marine energy could be optimally exploited. These atlases are used by its customers

to correct satellite altimetry measurements and to provide boundary conditions to ocean models. The service developed by Noveltis is the first of its kind, providing indicators for rogue waves, extreme waves, steep seas, crossed seas. To develop its services, Noveltis uses products and data from the Copernicus Marine Environment Monitoring Service.

Noveltis provides additional tools to support decision-making, such as a continuous 7-day forecast, in which indicators take into account the size of ships and offshore platforms to adapt risk assessment based on their vulnerabilities.

NOVELTIS Tidal Prediction System interface

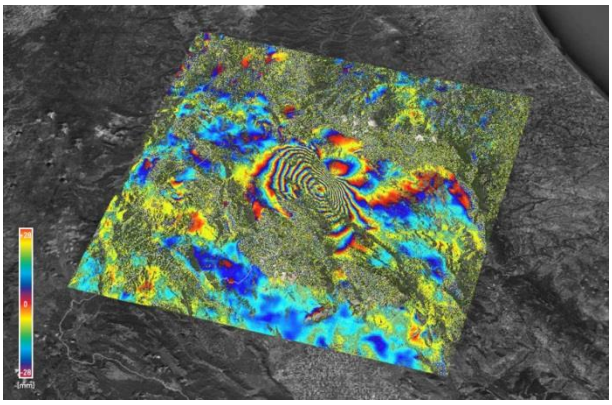


Source: European Commission[11]

Problem 4 – Quantitative measurements of surface deformation with a very high level of precision and reliability are fundamental to monitor geophysical phenomena such as uplift, landslides or seismic faults

Innovative solution 4 – The idea at the origin of the setup of Tele-Rilevamento Europa was to find a way to compare, at a different time, the distance between an orbit and an object in a reliable, simple and qualitative way. The innovations proposed were highly disruptive and provided a high-level of precision, by taking into account any possible element impacting the speed of light. More specifically, the applications developed measure surface deformations in the case of earthquakes for example.

Earthquake Deformation Pattern: Co-Seismic Interferogram



Source: TRE[12]

3. Impact of the trend

"By 2030, the demand for food, energy and water is expected to increase by at least 50 per cent, 45 per cent and 30 per cent, respectively."[13]

"In 1999, when we first developed our product, we had no competitor, we were the only company providing such solutions on the market". ***Tele-Rilevamento Europa***

By exploiting data related to land, air and atmosphere, applications related to the downstream segment of the EO value chain impact numerous sectors that are of crucial importance to the global economy.

3.1. The market potential of the trend

EO information gathered from spacecraft provides substantial benefits supporting economic development and helps supports informed policy and decision making. [14] The EO downstream market has a very high potential since it impacts both earth sub-systems and cross-cutting processes. By the end of 2012, European EO downstream market was estimated at EUR 0.7 billion[15] and its potential amounts to EUR 2.8 billion.[16] The economic benefits achieved thanks to applications related to EO data mainly stem from an efficiency gain, cost reduction or avoidance and new activities, products or services developed by private end-users.

The maturity of the EO downstream market varies throughout the world and highly depends on the economic and technological development. North America is by far the most developed market, followed by Europe and Australia. However, this trend is likely to evolve rapidly due to the many technological developments, which will attract many new players in the market and increase competition.

With a world production value of approximately EUR 3million and with 38 per cent of the world's land used,[17] the potential impact of applications related to EO data on the **agricultural sector** is extensive. Satellite imagery can improve revenue generation for agricultural applications. Farmers continuously invest in chemicals, yet lose crops due to pest infestations, plant diseases and poor farming practices. Spatial high resolution data can increase and

facilitate the detection of inadequate irrigation and soil erosion. EO outputs make a significant contribution to the efficiency of modern agricultural practice, while the consistency and broad coverage of the data are important to the large companies in today's market.

Every year, a single European will consume approximately 20 kilograms of fish products, making the EU **fishing industry** the fourth largest in the world. [18] The data collected via satellites contribute to sustainable fishing throughout a continued monitoring of the marine environment and by providing key information to accurately model fish stock.

In the **construction sector**, Copernicus projects use satellite data to develop geospatial information products revealing terrain structure and displacement. Individual buildings, railways, bridges, roads and other strategic civil assets (e.g. power plants) can be subject to ground surface displacements which may cause structural damages. Data on drainage, watersheds, buildings, and land uses has vital importance to infrastructures and EO data can help to understand these better and thus to preventing future damage to this infrastructure.

There is also a considerable market potential within the **transport sector**. Road transport generates close to 2 per cent of Europe's Gross Domestic Product (GDP). Road networks can be more efficiently and effectively managed by drawing up on quantitative and qualitative real time information, helping reduce congestion which costs the EU economy more than 1 per cent of its GDP.

With approximately 90 per cent of EU external cargo trade done by sea, EO satellite data contribute to a safer and more efficient maritime transport via a cost reduction in vessel operation – daily costs can be reduced up to EUR 2,000 per ship -[19] and increased competitiveness due to a reduced time of cargo transport.

Copernicus also has economic impacts in the airline traffic, notably during volcanoes eruption. As an example, the eruption of the volcano Eyjafjallajoekull in 2010 caused critical damages to the global airline industry amounting to a loss of EUR 1.3 billion. In only six days, over 90 aircrafts were deteriorated, 67,000 flights were cancelled.[20]

Applications related to EO data grant insurance customers with unequivocal opportunities to understand and assess future risks. Indeed, the data collected provides accurate and real-time information on hazards to insurance companies and adds value to imagery datasets in order to evaluate variables leading to additional operational costs.

Another established market in EO relates to the area of natural resources exploitation. In the **Oil & Gas industry**, satellite data and information can contribute to the identification of potential new reservoirs, to initial feasibility studies, to the exploration of the site and to the development of the infrastructure. The International Energy Agency (IEA) projects that if countries focused on boosting energy efficiency, they could not only reduce global energy demand by 10 per cent, but also save EUR 522 billion[21] by 2030.

Additional opportunities exist for EO data to optimise the renewable energy systems for power production and to contribute to the provision of information to integrate traditional renewable energy supply systems into electric power grids. Indeed, sustainable energy production is a priority across Europe, with over 40 per cent of all new electricity-generating capacity coming from renewable energies.[22]

3.2. The social potential of the trend

From an **employment perspective**, according to the EU, the Copernicus programme should result in the creation of approximately 48,000 jobs over the period 2015-2030.[23] The recent turmoil of the downstream segment of the EO market impacts both directly and indirectly the job market:

- Directly throughout the employment of people by an organisation of the space industry
- Indirectly via the employment of individuals in other industries impacted by the evolution and activities in the space sector

The expansion of SMEs in the sector contributes to the direct employment of individuals. A study conducted by the European Association of Remote Sensing Companies (EARSC) states that the sector comprises around 300 companies, 95 per cent of which are SME's.[24]

The EU's research programme "Horizon 2020 strategy" will further impact the job market in Europe – up to 12,600 new jobs will be created until 2030-[25] by providing specific funds related to the development of new innovations.

From an environmental perspective, high resolution imagery can also improve forest management throughout more detailed information. Indeed, deforestation is one of today's pressing challenges: illegal logging trade is estimated to be worth between EUR 28 billion and EUR 93 billion annually, with governments losing EUR 9.3 billion of tax income every year. [26] National governments are introducing geo-information to provide the information necessary for forest policy development. However, EO data could be more easily and cost-effectively managed by private operators. EO is being used in many areas of forestry, including forest inventory, health, wild land, chemistry, carbon accounting and land cover mapping.

Oceans cover 70 per cent of the Earth's surface which contains 96.5 per cent of its water.[27] The marine biodiversity is immense and its preservation is a worldwide priority. In

the domain of marine monitoring, Copernicus provides information on the state of oceans and regional seas, such as temperature, salinity, currents, ice extent and sea level. More specifically, EO satellite data contribute not only to the detection of oil spills at sea but also captures their dimension, and identifies pollutant vessels. The average volume of oil spilt from ships from 1998-2010 amounts to approximately 20,000 tonnes per year.[28] Between April 2007 and January 2011, oil CleanSeaNet has detected approximately 2 spills per day in Europe.[29] The demand of satellite data to monitor these spills has increased drastically: from April 2007 to January 2011, 72 authorised users in 24 coastal states have used satellite data for sea pollution operations.[30]

Data and information collected via the Copernicus programme also contribute to the improvement of weather forecast models by reducing errors and providing near-real time data. The European Centre for Medium-Range Weather Forecasts (ECMWF) went from using approximately thirty satellite data sources in 2003 to 50 satellite sources in 2010.[31] More specifically, a study performed in 2009 shows that the economic benefits due to improved weather forecasts in the UK correspond to EUR 2.5 to 4.5 billion.

Copernicus applications also help manage **humanitarian crises caused by natural disasters**. More than 226 million people are affected by disasters associated with natural hazards every year throughout the world.[32] In Europe, floods cause approximately EUR 4.7 billion's worth of damages.[33] Satellite data increases efficiency in terms of preparedness, emergency response and recovery. For example, satellite data enables a rapid mapping of affected areas within hours after a disaster. During the 2013 central European flood, the Copernicus Emergency Management Service (GIO-EMS) provided 53 reference maps and 65 flood delineation maps of areas in Germany, Hungary and the Czech Republic.[34]

Copernicus applications also have impacts on **public health**, by supporting emergency response during epidemics. Satellite data intervene in the identification of areas prone to the emergence and spread of epidemics such as Ebola, malaria, meningitis or dengue fever. By monitoring parameters like land cover, water bodies, wind or dust, satellites support preparedness, early warning, surveillance and quick response to disease outbreaks. In the case of Ebola, satellites provided information to spot potential areas where there was a risk of initial contact of the virus. Such areas were isolated rural settlements surrounded by dense tropical forests and oil palm cultivations, likely to attract fruit bats, one of the main vectors of the virus.

4. Drivers and obstacles

With the development of new technologies, the increasing public focus on space development, and the implementation of additional policies, the EO downstream market is evolving at a rapid pace, both creating opportunities and challenges.

4.1. Harmonised regulations related to EO help drive the market

The EO market has evolved rapidly over the past decade due to the many thriving technological changes. Governments, international and regional organisations have publicly expressed their strong support for innovation, throughout the EU's "Innovation Union" for example, a strategy to create an innovation-friendly environment by facilitating the transformation of ideas into products.[35]

In this framework, the 2007 **INSPIRE Directive** establishes a specific infrastructure for spatial information in Europe to ensure that all EU Member States apply the same implementation rules. It addresses 34 spatial areas such as geology, transport networks, agricultural and aquaculture facilities, soil and mineral facilities which have an impact on the environment. This binding directive strives for a harmonisation of regulations throughout the EU and thus enhances the development of applications across frontiers.

New EU directives in other sectors impacted by EO data have also been implemented. The **"Common Fisheries Policies"** is a set of rules to manage European fish fleets and better monitor fish stocks. All European fishing fleets are provided with equal access to EU waters and fishing grounds. Its objective is to ensure that fishing and aquaculture are environmentally, economically and socially sustainable throughout the UE.

By establishing harmonised regulations and a common framework, access to data is facilitated and its quality improves. Thus, this creates additional opportunities for SMEs and the solutions developed by innovating companies have more added-value.

4.2. The public support fosters innovations in the EO sector

The development of space technologies and applications is a strategic priority of many public authorities throughout the world. Hence, numerous programmes and specific initiatives

have been launched to promote and encourage innovating companies and eventually, create jobs and economic growth.

The EU, for example, provides sound opportunities for Small and Medium Enterprises throughout **the H2020 programme, the most important of the EU's Research and Innovation programmes**. With close to EUR 80 billion of funding available from 2014 to 2020,[36] the programme will contribute to the production of world-class science, innovation and facilitating the collaboration between the public and the private sectors. More specifically, the H2020 programme aims at enabling the European research community to develop innovative space technologies and operational concepts and to use space data for scientific, public or commercial purposes.

Dedicated funds from universities are also an important driver facilitating the growth of the EO downstream market. As an example, Tele-Rivelamento Europa (TRE) was able to develop its product thanks to the funds provided by the Italian university 'Politecnico di Milano' which had set up an incubator.

Several national initiatives were also launched in view of encouraging innovation in the space sector and more specifically the EO field. For example, the Luxembourg Space Cluster is a network part of the National Agency for innovation and research "Luxinovation",[37] bringing together private companies and public research institutions in order to create synergies between both actors.

4.3. Regulatory hurdles creates unnecessary administrative burden

While these public support initiatives are important drivers in the expansion and development of applications related to EO data, **the administrative work can discourage small innovative companies**, who do not have sufficient nor appropriate resources.

Indeed, responding to the calls for tenders published by public authorities is highly demanding in terms of technicality and time. The tremendous competition and thus the limited chance to obtain funds from such programmes can prevent several companies from even trying. Public initiatives to stimulate innovation are often considered by the interviewed companies as not necessarily being adapted to the means of the companies they target in the first place.

4.4. The fragmented market generates poor awareness of the innovations

The EO market has been growing considerably over the past few years in terms of size and diversity. As previously mentioned, the areas concerned and thus impacted by applications related to EO data are numerous: transport, fish monitoring, agriculture via precision farming, defence and security, forestry management, etc. The direct consequence of this rapid growth is the evolution into a fragmented market which impacts a large number of sectors, creating **confusion on the applications available and their potential benefits.**

One solution developed by one company could benefit customers from a wide range of sectors that each have their specificities. Indeed, Tele-Rivalemento Europa (TRE), while developing its application aiming at identifying ground movements, had identified four potential market sectors: natural hazards, mining applications, oil and gas and civil engineering. Entering the market with such diverse targets poses one main challenge: adapting the product to the needs and requirements of all types of customers. This, as underlined by Frano Cetinic from Globesar, represents an undeniable amount of additional work and constrains the players to keep a very close eye on the evolution of the market to identify which application could help develop the market and business.

5. Policy recommendations

5.1. Adapting public intervention to the specific needs of the EO sector

Create new flexible funds to promote and support innovative companies

In parallel with large funding initiatives such as the Horizon 2020 programme, public authorities could consider the establishment of new funding tools that would be available on a case-by-case basis to SMEs, depending on their needs in terms of funding and in terms of support.

Public authorities should position themselves as customers and not limit their role to a sole provider of funds

SMEs often encounter obstacles in accessing the market and identifying and reaching potential clients that could benefit from their product. Therefore, the most efficient and effective way of promoting innovation in the field of space technologies and applications is the enforcement of the demand-side – public authorities should act as a customer of the developed applications. By becoming actual clients, governmental bodies would not only fund the SMEs, but also give credibility to their innovations while simultaneously benefiting from their services.

Provide support to innovating companies early along the value chain

Developing innovation presents a risk for a start-up, especially in this sector. Therefore, extensive support from the start of the project would represent a tremendous boost for their innovative solutions. SMEs express a strong need of support during both the development phase and while trying to access the market. Ensuring support from start to finish, via for example public private partnerships, would limit the risks taken by innovative companies and would foster the secure environment.

Simplify the procedures requested to participate to public calls for tenders

Public authorities should strive in order to reduce the administrative burdens linked to initiatives dedicated to promote innovation. Procedures should be adapted to the limited resources and constraints faced by innovating companies. Responses to calls for tenders should require reasonable amount of work by the participants, in order to counter the "discouraging effect" caused by the high competition in such projects.

5.2. Raising awareness on EO space technologies and applications

A wider investment from larger players to boost awareness about the wide range of applications based on EO data

The downstream market of the EO value chain is today characterised by fragmentation and big variation of sectors it reaches out to. As a consequence many SMEs do not have awareness of the products available and their potential benefits. They need assistance to better envision the scope and extent of the market and of their potential clients. Bigger players could, by building on their international presence, wide network and knowledgeable resources, have a greater impact in raising awareness on these specific and complex technologies and bringing together the potential customers and the products available on the market.

Boosting initiatives to obtain a better overview of the market

Policy makers should also have a more accurate knowledge about the market. National and international administrations can for example conduct regular industry surveys in order to understand more precisely the need of the players. Improving the analysis of administrative data on firms and on contracts can provide an enhanced picture of the structure, positioning along the value chain and competitiveness of the applications. With a better evaluation and overview of the downstream EO market value chain, public bodies could shape more adapted and efficient policies.

6. Appendix

6.1. Interviews

Company	Interviewee	Position
Globesar	Frano Cetinic	General Manager
Institut Inspace	Yvon Choquer	Representative
Noveltis	Dimitri Boulze	Key Account Manager
Tele-Rilevamento Europa (TRE)	Alessandro Ferretti	CEO

6.2. Websites

Company	Web address
Globesar	http://www.globesar.com/
Institut Inspace	http://www.inspace-institute.com/
Noveltis	www.noveltis.com/
Tele-Rilevamento Europa (TRE)	http://treuropa.com/

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