

# EARSC Industry Survey 2021



# Introduction

Here we present the results of our 6<sup>th</sup> survey of the European EO services industry. Previous ones were conducted in 2013, 2015, 2017, 2019, 2020 and now 2021. In each case, the date refers to the year of the survey with data drawn from the previous year.

The survey is presented in a series of chapters, as indicated to the right, presenting facts and figures concerning the state of the industry. A revised methodology has been adopted 2 years ago in order to optimize the analysis to be performed on an annual basis.

A core set of figures is compiled each year together with some further questions which change each year. The key figures concern the number of companies, employment and revenues which are updated annually.

This report can be read in conjunction with a sister survey on start-ups which was conducted at the same time (January to March 2021). The figures relating to employees, revenues and geographical distribution take into account both surveys. Specific data relating to start-ups is included in that report whilst this report deals with the broader industry. Regarding employment, note that we also published in March 2021 the EARSC Survey on the Total Employment in Europe in the EO services.

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# Methodology (1)

## Building the database:

- At the heart is our database of companies that is maintained on a constant basis to add new ones as we find them and remove any which disappear through merger or failure.
- Public sources are scanned and monitored for new companies; workshops and conferences, accelerators, ESA BIC's, members news, trade journals etc.
- Companies, with a legal entity in Europe that is selling services based on EO data, are included.
- 32 countries are covered, comprising EU and ESA member states.
- Each company has been validated through the national companies register – which also provides the date of formation.
- The company website is reviewed for confirmation that its business includes the sale of services which are based on the use of EO data. Where companies are involved in various parts of the value-chain, this data is noted where possible.
- Note, we have been seeing a significant number of new companies (around 10% of our database), in other business sectors, starting to use EO data in the service they offer to their companies. These are categorized as GI – Geographic Information – companies in our analysis.

## Scope

- Companies offering services or supplying (selling) data or information using satellite (EO) data.
- Private legal-entity in an EU or ESA Member State.
- Survey conducted in 2021 collecting 2020 data.
- Where EO services are only a part of the business model, the proportion of employees linked to this part of the business is determined as far as possible.

# Methodology (2)

## Data Collection and preparation:

The data is collected by a series of steps. In moving to an annual survey a focused approach has been adopted so that not all companies are asked to fill in data every year.

- For the full survey, all companies in our database, which are more than 5 years old, are contacted and asked to respond. Those less than 5 years old are also contacted but are asked to respond to the Start-up survey.
- The dedicated survey on start-ups differs from the full survey. A core set of questions is common to both with additional questions adapted to the maturity of the companies, and topics of particular interest.
- This data is compared to the same data from 12 months ago to establish industry-wide trends. The trend data is applied to our full database which contains the data from earlier years.
- Additional data may be sought if there are some key parts missing. This will be either gathered directly or it will be purchased from a commercial supplier. This generally yields revenue data.
- For those companies with no revenue data: using the data collected, we calculate an average revenue per head for the different classes of companies.
- For those companies with no employment nor revenue data, we distribute them according to the distribution in the main dataset over micro and small companies and apply average revenues per head.

Class	No. Employees
OMC	1
Micro1	2-5
Micro2	6-10
Small	11-50
Medium	51-250
Large	>250

# Value Chain

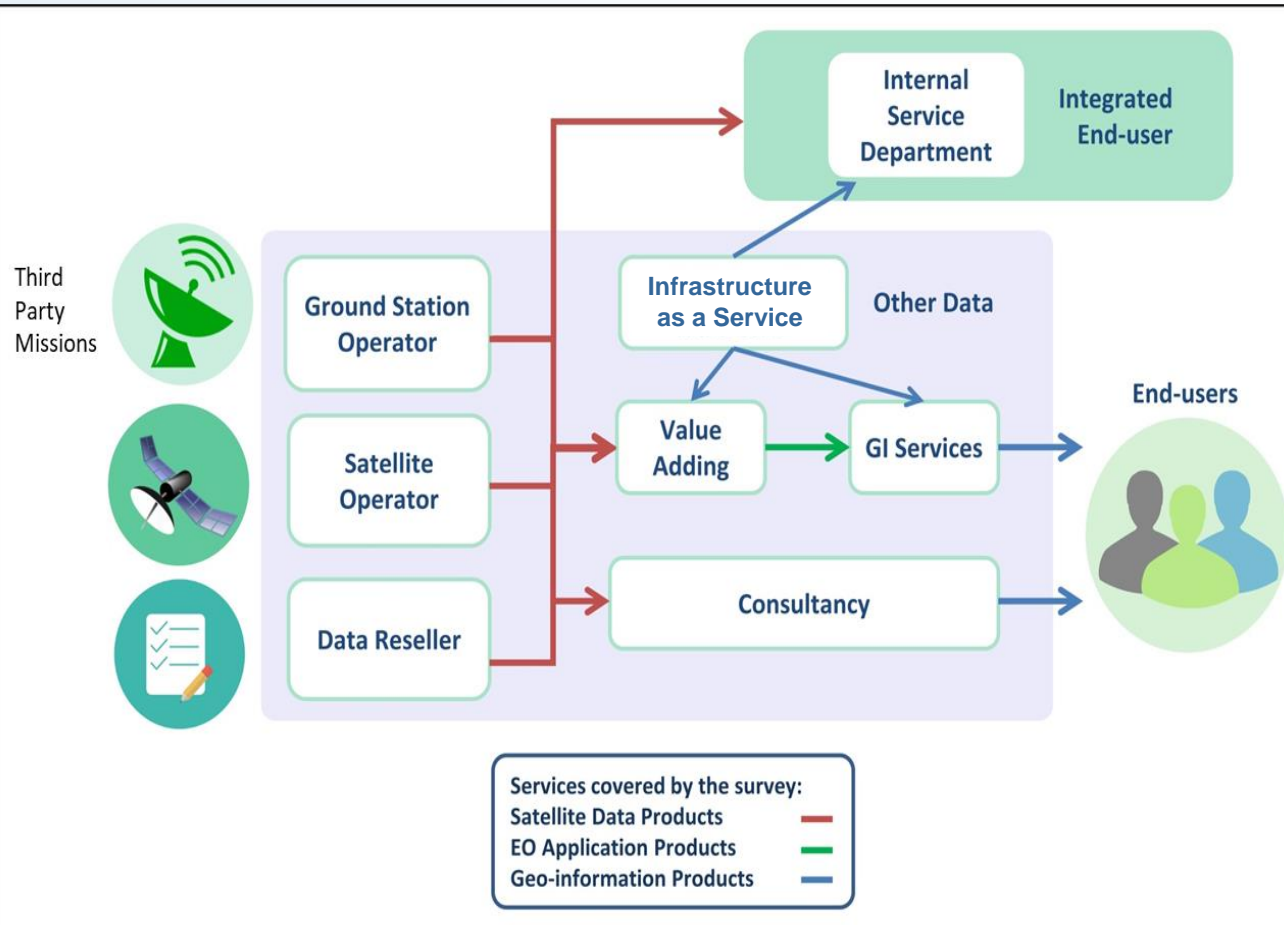


Figure 1. Definition of companies included in the survey (inside the grey box)

The **value-chain** defines the scope of the businesses included in the survey.

- Satellite data provision and value adding services form the core of the value chain.
- GI Services covers companies whose focus is on other sectors but where EO data is used to meet customer needs such as an agriculture services company using EO.
- Software revenues are included in the core value chain where they arise i.e. Value-added or GI Services.
- Consultancy is not to deliver EO services but support to the ecosystem (e.g. studies for ESA or EC).
- Infrastructure as a Service (IaaS) is included for the companies offering cloud or processing services.
- Internal service departments where a company in a different sector (e.g. O&G) has an internal unit delivering EO services information to other parts of its business, but is not selling EO services to others. They are not in the scope of the survey.

# Methodology (3)

## Data Analysis:

- The first step is to analyse the industrial landscape which may also identify gaps which need to be filled. A cut-off is set for company data which we had entered before the end of the year in question (2020 in this case). This is sorted by country and by year of formation.
- The second step is to assemble the employee information. We start from the final data coming from the previous survey that is then updated with new data from the latest survey. New companies added are researched using public sources and/or direct contact to establish core information ie. their employee numbers and revenues.
- A comparison is made of like-for-like employment figures to establish a growth trend. Each company which has responded 2 times in the last three years provides a basis for comparison. A growth figure is calculated for each category of company class, and is then applied, to any company whose employment data in our database is more than 2 years old.
- The companies are classified according to the latest employment figures available. This leads us to establish a “new” final table of employment figures which will also be the starting point for the analysis next year.



# Methodology (4)

- We start from the final data established from the previous survey then update this with the new numbers.
- For all companies for which no data has been compiled, they are assumed to all be micro or small companies (i.e. we know and have included all the medium and large companies) and are assumed to be distributed to match the known figures. An average number of employees is then used to calculate a value for the missing data.
- The third step is to establish the revenue information. As for the employment figures, the final list of revenues is taken from the last survey and updated where new figures have been provided this year (around 150 companies). Average revenues per head for each category of company are used for those companies where no revenue numbers have been obtained. A final table of revenue figures is assembled for all the companies with projected numbers added for all those with no data being available.
- The final table becomes the starting point for next year.

# Strategic Context

The context in which the EO services industry is operating is changing extremely rapidly. Here are a few of the key trends, events etc which are considered relevant in 2021.

- The EU has established a new EU Space programme with an overall budget of €14.8b of which €5.8b is proposed for Copernicus.
- Under the new Space Programme, the Galileo Supervisory Authority (GSA) becomes the EU Space Programme Agency (EUSPA) with an increased mandate to develop the uptake of Copernicus Data and Services as well as dealing with security aspects of the two programmes.
- The Copernicus programme continues to have a strong influence on the European EO sector as an important reference customer for data and for services as well as source of free and open data. Five DIAS (Data Access and Information Services) launched in 2018, start to become operational leveraging commercial assets alongside Free and Open Sentinel data.
- Italy launched Prisma as well as a new Cosmo-Skymed Satellite. In the commercial domain there were launches from ICEYE, Planet, Blackrock and Spire.
- There were two mergers announced involving European companies namely CLS acquired SIRS and CGI acquired Scisys UK, In addition in early 2019, Planet announced the acquisition of Boundless Spatial.
- Technology continues to evolve at a rapid rate with the latest focus being on Artificial Intelligence as a tool to extract more information and faster from satellite images.



# European Industry at a glance

- 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



**713 Companies**  
up from  
572 (+24%)



**11,600 Employees**  
up from  
9800 (+17%)



**€1.71b Revenues**  
up from  
€1.38b (24%)



**>10% Growth**  
Sustained

# Industrial Landscape (1)

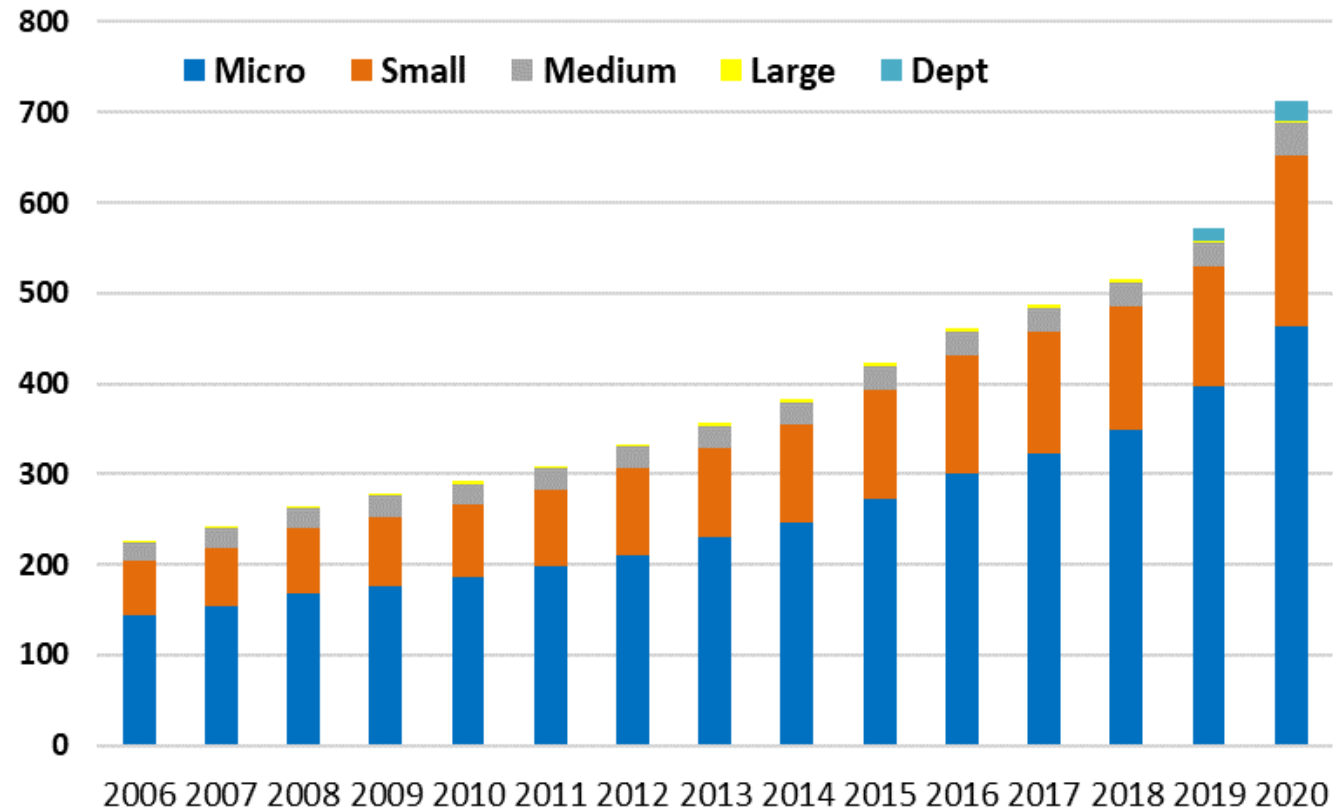
## Number of Companies:

In the industrial landscape we are looking at how companies are formed and distributed within the ecosystem. Included are all European countries which are members of either the EU or ESA – 32 countries.

The database includes all companies where EO services are sold as part of their business. It includes companies where EO services is not core but is a minority part of their business. (see Figure 1). “Departments” where a business selling EO services is part of a larger business and “GI” companies that have a business focus outside of selling EO services.

The total number of companies included within the 2021 survey is 713 which represents a growth rate of 24% over the last 12 months.

Figure 2. Evolution of the number of companies per company class

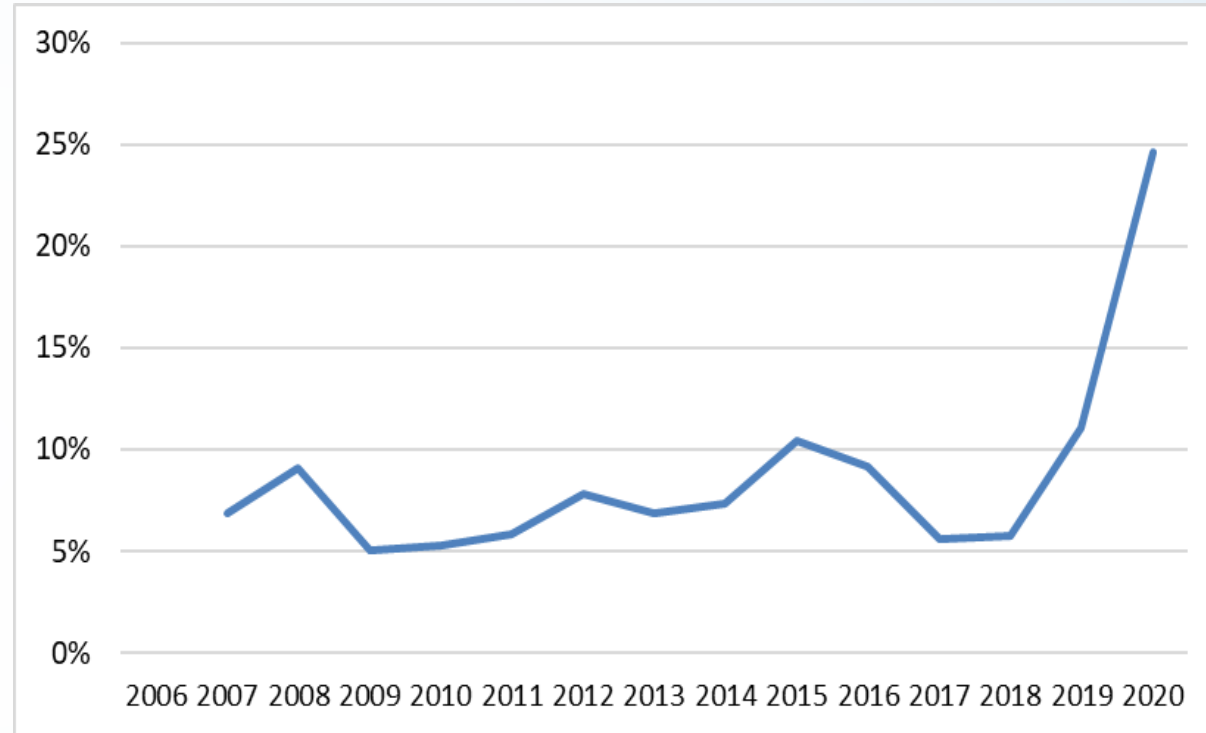


An acceleration of growth in the number of companies is visible over the last 2 years, which is seen even more dramatically on the growth curve (Figure 3).

# Industrial Landscape (2)

Figure 3 shows the average annual growth over the years with a significant increase over the last 3 years. Some care is needed, as will be shown in Figure 5, since this does not represent only new companies being formed. Our methodology, which starts from a known list of companies, means that companies are added to our database as we learn of them. Nevertheless, even if this means some of the growth has occurred in earlier years, the numbers still represent the overall growth of the sector.

Figure 3. Annual growth in the number of companies.



The percentage of companies which are SME's (<250 employees) is around 96-97%, whilst the proportion of companies with less than 50 employees has stayed roughly fixed at around 92-93% since the survey has been started.

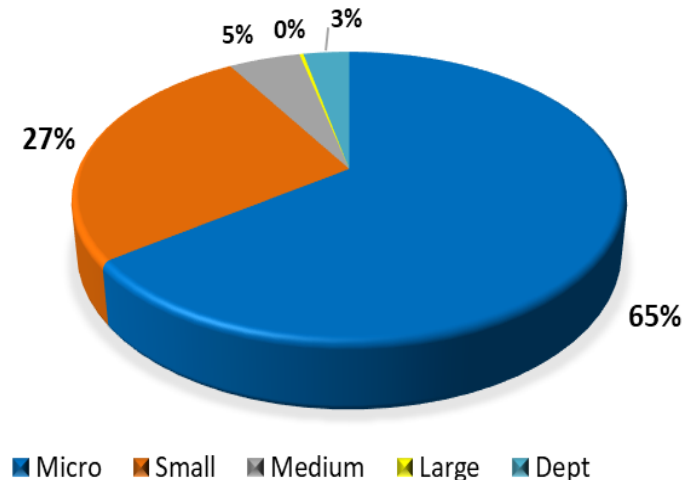


Figure 4. Breakdown of companies in 2020.



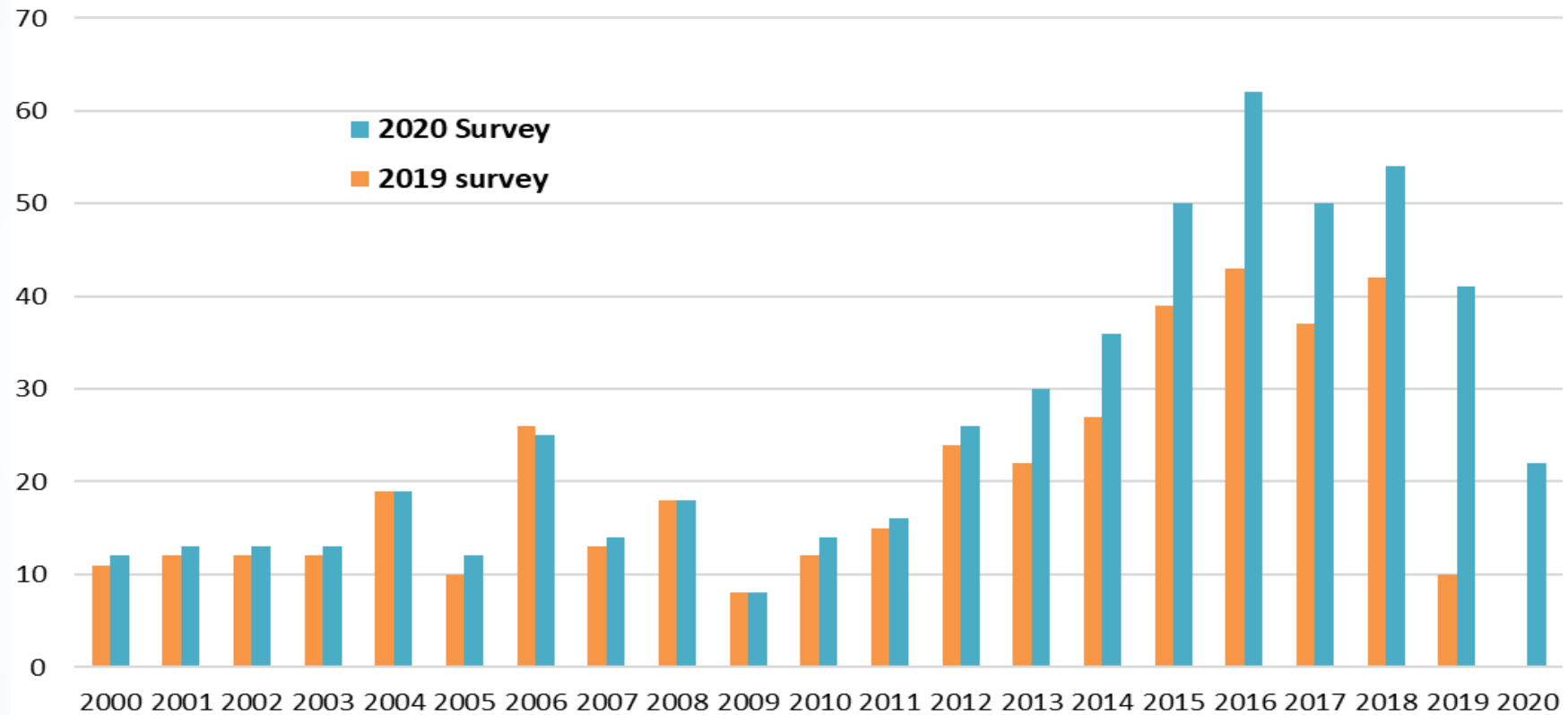
# Industrial Landscape (3)

Figure 5. Number of companies formed in each year

## Formation of Companies:

For each company in our database, we identify its year of formation. From a base of 10 to 15 in the early years of the century, the rate is currently over 40 each year since 2015.

The chart shows clearly the impact of our methodology with the companies known to us in 2019 in orange and those known to us in 2020 in blue. Up until 2012, there is little difference but this increases from 2013 onwards.



This is simply because newer companies are harder to identify until they feature in one of the databases/lists which we monitor - see methodology (1). It makes clear that, the number formed in the most recent years is certainly higher than we are recording and that we can expect to know about more companies for 2019 and 2020 (and possibly earlier years) than we know today.

# Industrial Landscape (3a)

## **A further note on the Formation of Companies:**

Note that it is only this year that we can start to make this comparison with any confidence due to adoption of the new methodology in 2018. It is the history that we have built up, where we take care to track each of the companies that we know about, that gives us a clearer picture of how the companies are being formed.

Overall, it looks as though the formation rate of new companies is between 40 and 50 per year. Some of these companies, formed in earlier years, will only have started using EO data in more recent years and hence we shall only now have become interested in what they are doing, and that come into the scope of our analysis. We have no easy way to make any distinction of these cases.

As a result, although we could use this growth information to make an estimate of how many companies currently exist we consider it could be misleading. If we had done so last year, we would have underestimated the number of companies from 2013 onwards and hence we prefer not to do this now.

If we find next year that the earlier years have stabilised and all changes are in figures for the last 2 to 3 years, then we can consider applying this correction. For the moment, we shall stay conservative in our approach.

# Industrial Landscape (4)

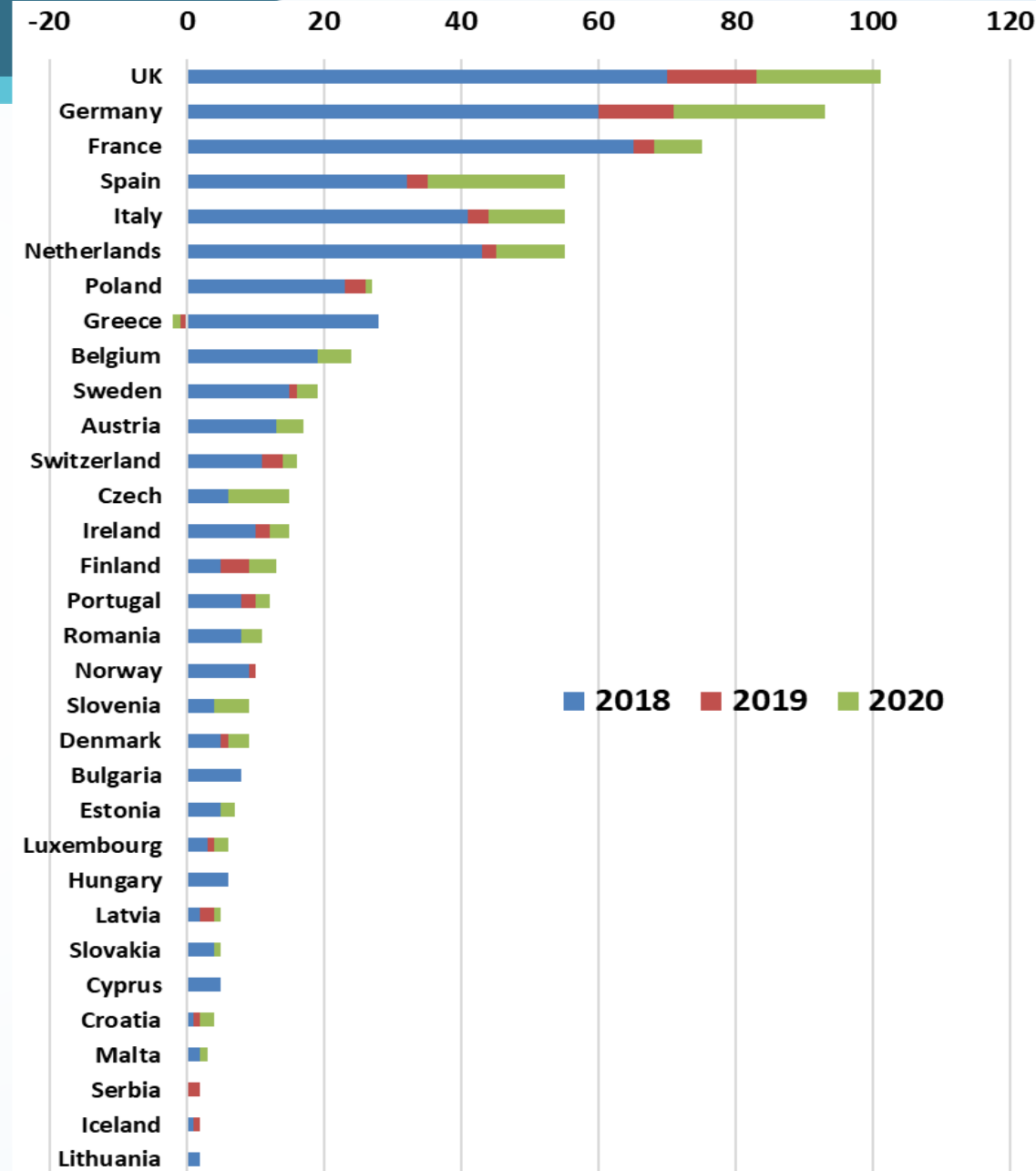
## Geographical Landscape:

In the industrial landscape we are looking at how companies are formed and distributed within the European ecosystem. In Figure 6, we see the total number of companies in each country in 2020 with each broken down into the total in 2018 plus the changes in 2019 and 2020.

The country hosting the largest number of EO service companies (101) is the UK followed by Germany (93) and France (75); which is the same ranking as last year. However, in terms of growth, Germany shows the largest increase (33) over the last 2 years with UK in second place (31), and Spain third (23). Greece is the only country to see a reduction with 2 companies less in 2020 compared to 2018.

UK has been the leading country for the number of companies for some years yet has fewer employees than both France and Germany - as is shown in Figure 7. All EU/ESA countries have at least 2 registered EO companies with Bulgaria, Hungary, Cyprus and Lithuania showing no change over the 2 year period.

Figure 6. Companies per country





# Industrial Landscape (5)

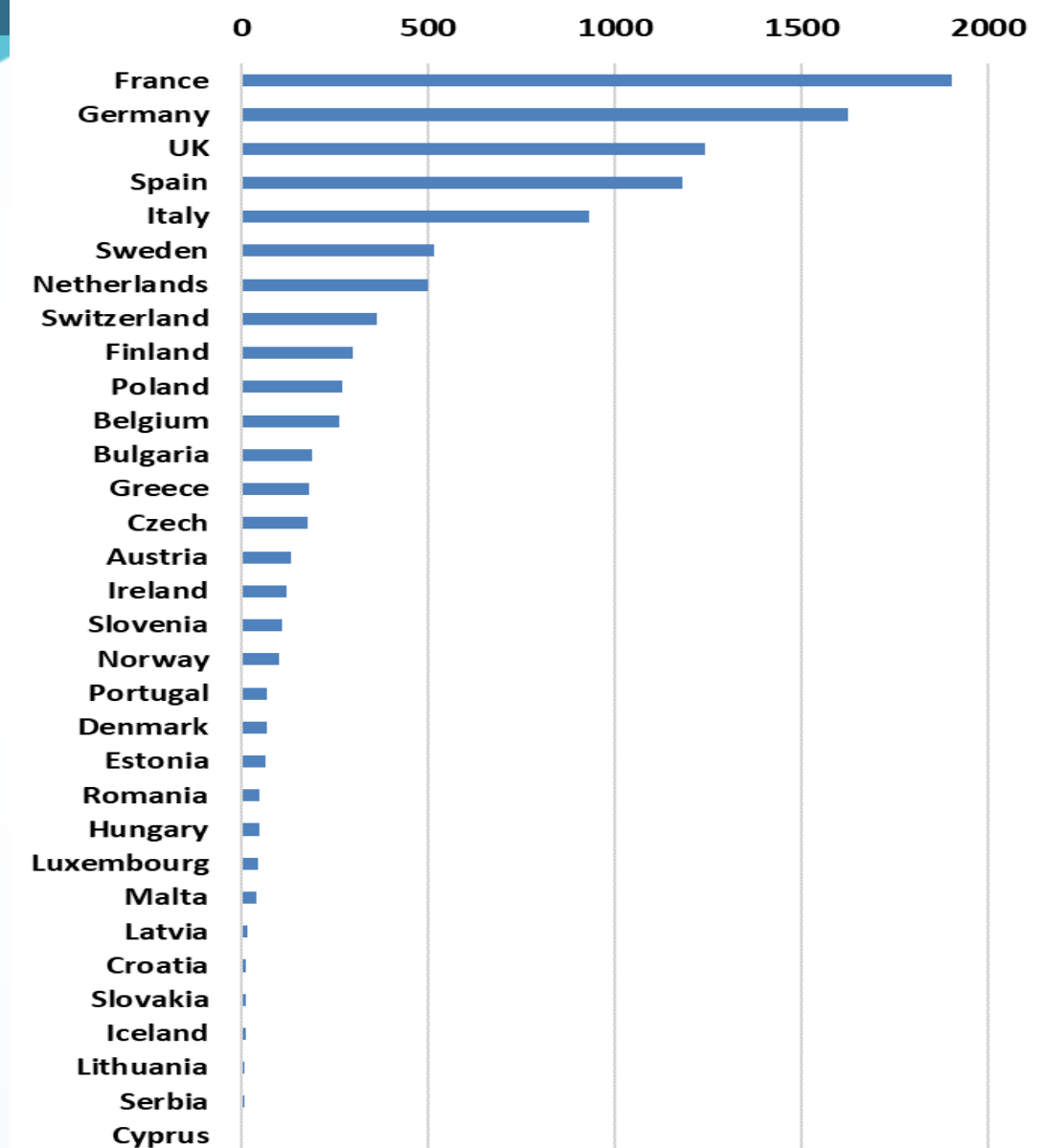
## Employment Landscape:

The number of employees in each country follows somewhat the number of companies. However, most employees in the sector are found in France (1794), followed by Germany (1434) and UK (1049) – which differs from the geographical landscape ranking.

From this we can say that, the average size of company is larger in France and Germany which is due to the large presence of Airbus. Note that Airbus has units or subsidiaries in several European countries which are accounted for in the breakdown.

In terms of the growth (not shown), the country showing the highest number of new jobs in the sector between 2019 and 2020, is Spain. Sweden is second with UK / Germany third. Only Poland shows a net reduction which is a surprise and maybe an anomaly which should be investigated further.

Figure 7. EO Employees per country



# Employment(1)

Figure 8. Evolution of EO Employees by company class

## Employment Evolution:

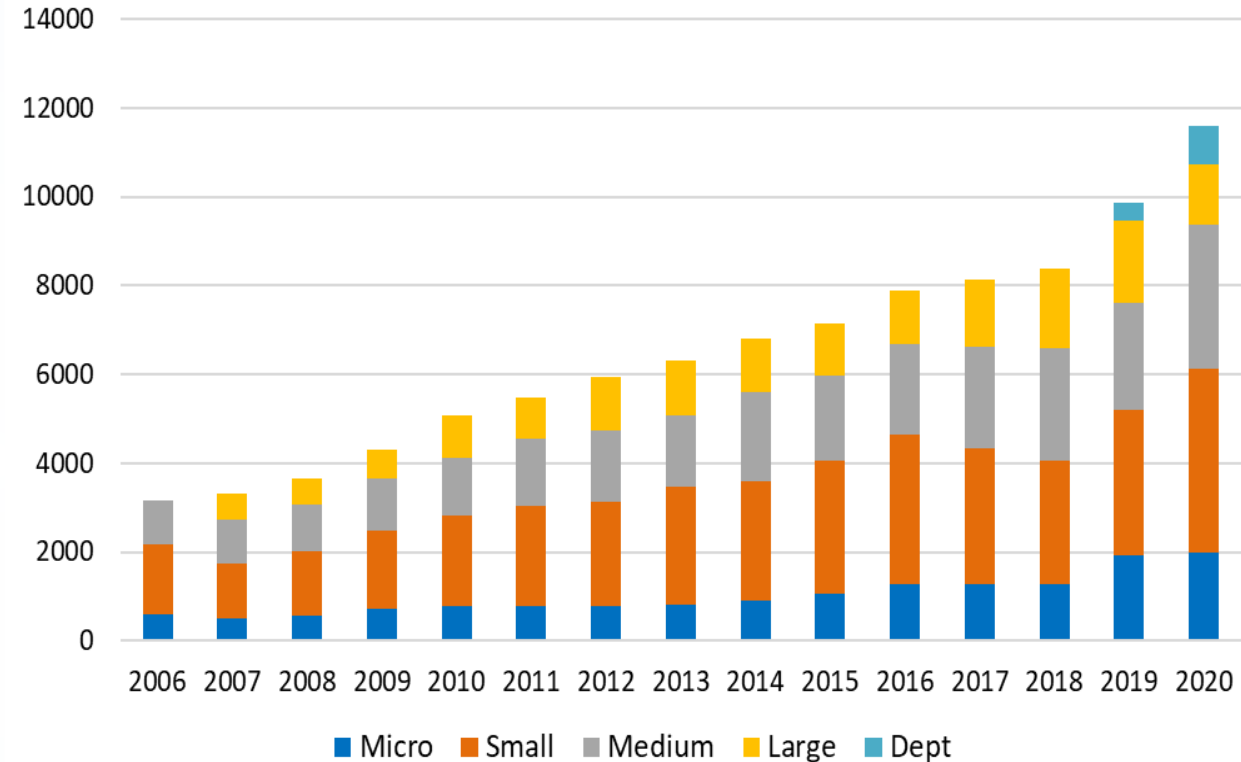
The total number of employees in the sector in 2020 is 11,600 (11,597) which represents a growth rate of 17% over the last 12 months; the same rate of increase as in 2019.

This means a growth of nearly 40% over the last 2 years.

The biggest growth has come in the small and medium categories which we put down to a combination of organic growth in these companies plus some new entrants into the sector.

Two new types of company are entering the sector.

- IT players offering Infrastructure as a Service (see the value-chain). Our analysis shows around 300 persons are employed in this category.
- Companies offering GI services to other sectors are starting to use EO data in their business. Some of these companies have grown before becoming part of the EO services sector.



Of the total of 11,600, 10,581 persons, or 91%, are based upon directly reported employee numbers and 9% from projected numbers. This exceptionally high number gives good confidence in the results.

# Employment(2)

## Employment Growth rate:

There has been an apparent surge in the level of employment in the sector in Europe with 17% growth over the last 12 months following a similar figure in 2019.

Figure 9 shows the year-on-year growth rate which is rather variable with noisy results. The smoothed 5-year cagr gives a clearer picture of the trend considering the yearly figure is subject to the inclusion of newly discovered companies in our database.

We consider that the annual figure is showing the overall growth in the sector, whilst the cagr is presenting the picture seen by the average company.

Both show a strong increase over the last 2 years which is consistent with other measures we are looking at.

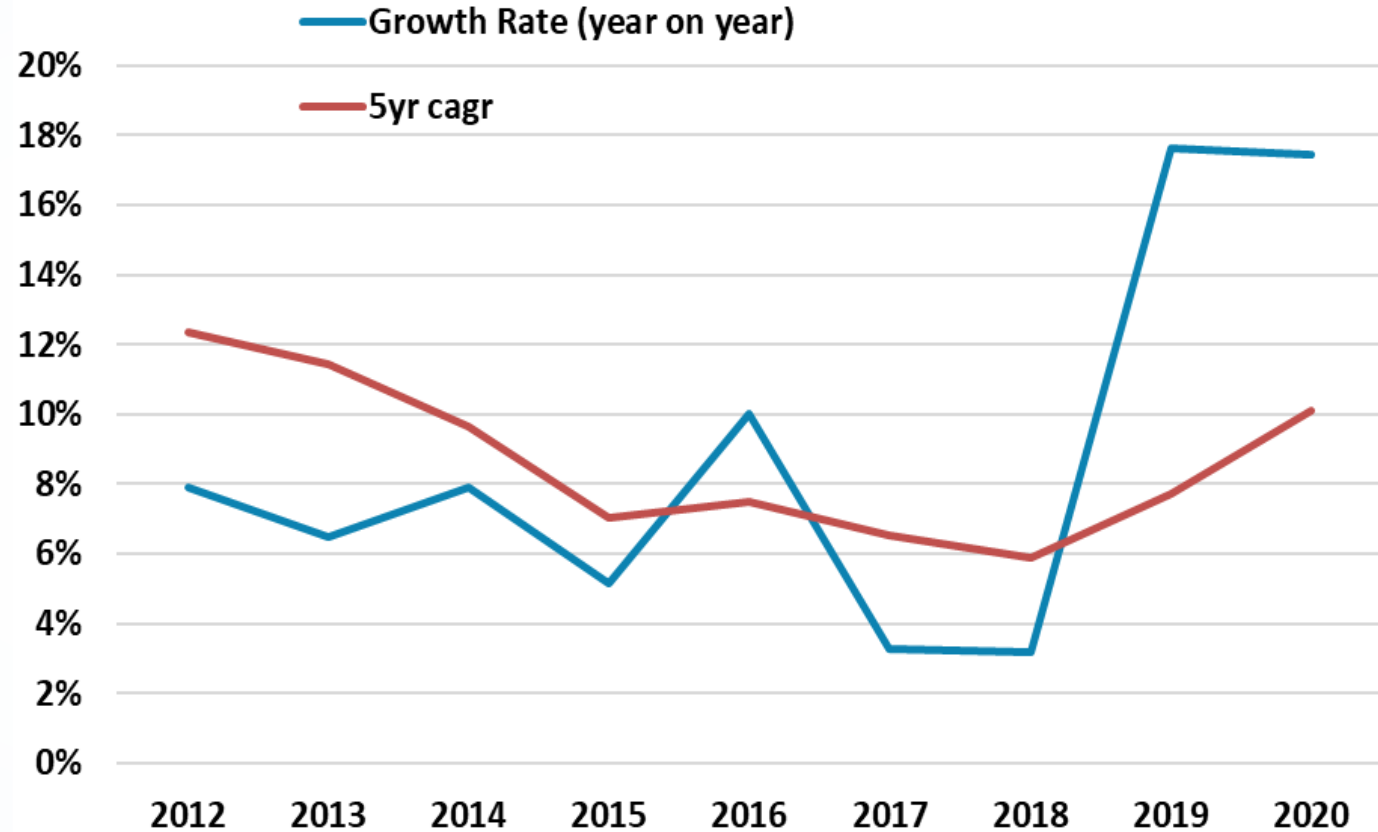


Figure 9. Evolution of Employment Growth Rate



# Employment(3)

## Number of Employees per class of Company:

The largest proportion of employees in the sector are working with small companies (10-50).

Some 53% of the sector employment is within companies which have less than 50 employees.

The greatest rate of growth (33% not shown) has been in the medium category. But this needs to be taken with caution as companies move between categories and this can distort the relative growth rates.

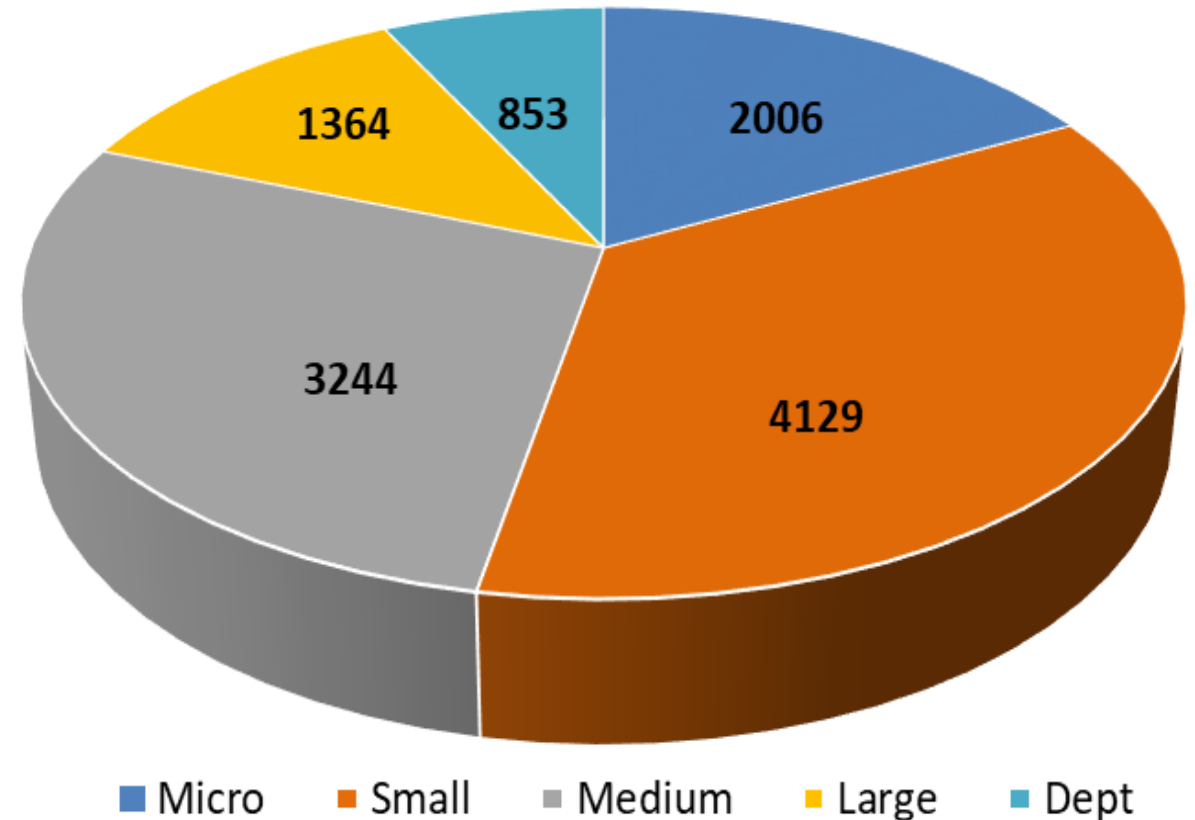


Figure 10. Breakdown of Employees per Company Class in 2020

# Employment (4)

## Qualification level in the EO services workforce:

Figure 11 shows that employees in the EO sector are highly qualified with 92% of the workforce being university educated and with 61% having a post graduate degree.

This is consistent with our data from previous surveys.

We also asked about the percentage of female employees in companies and it is worth noting a slight increase compared to the results of our 2013 survey (from 33% to 35,8%).

We could extend this question in the next survey with a focus on the workforce age distribution.

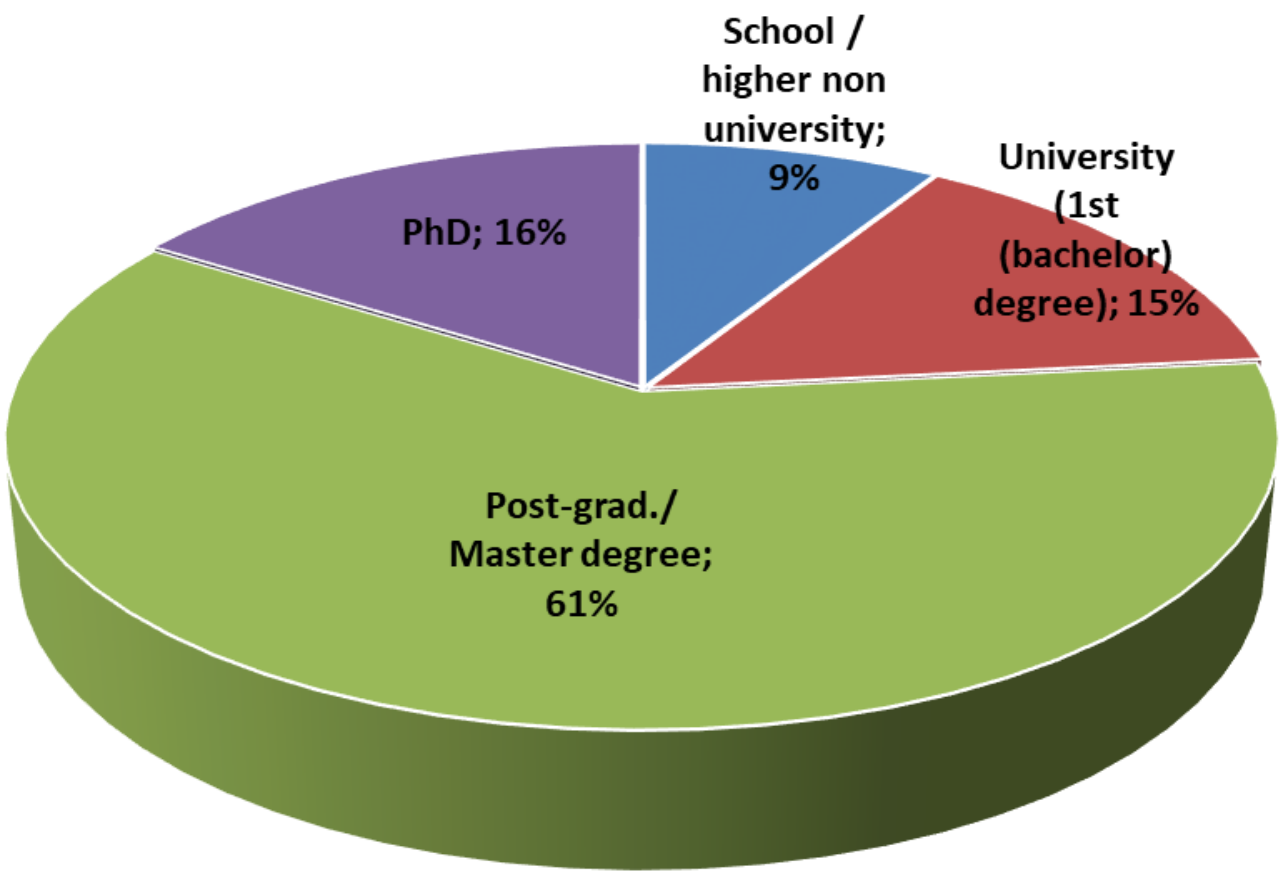


Figure 11. Education level

# Employment - Skills (1)

## Difficulties to hire qualified staff:

The results of our survey confirm the importance of skills for the sector.

Close to  $\frac{3}{4}$  of the companies reported difficulties to find and hire staff. When asked about these difficulties, companies mention several barriers: lack of transversal and business-oriented skills, the competitive market place, difficulty to find an experienced person in the sector of EO, lack of training in EO in certain countries...

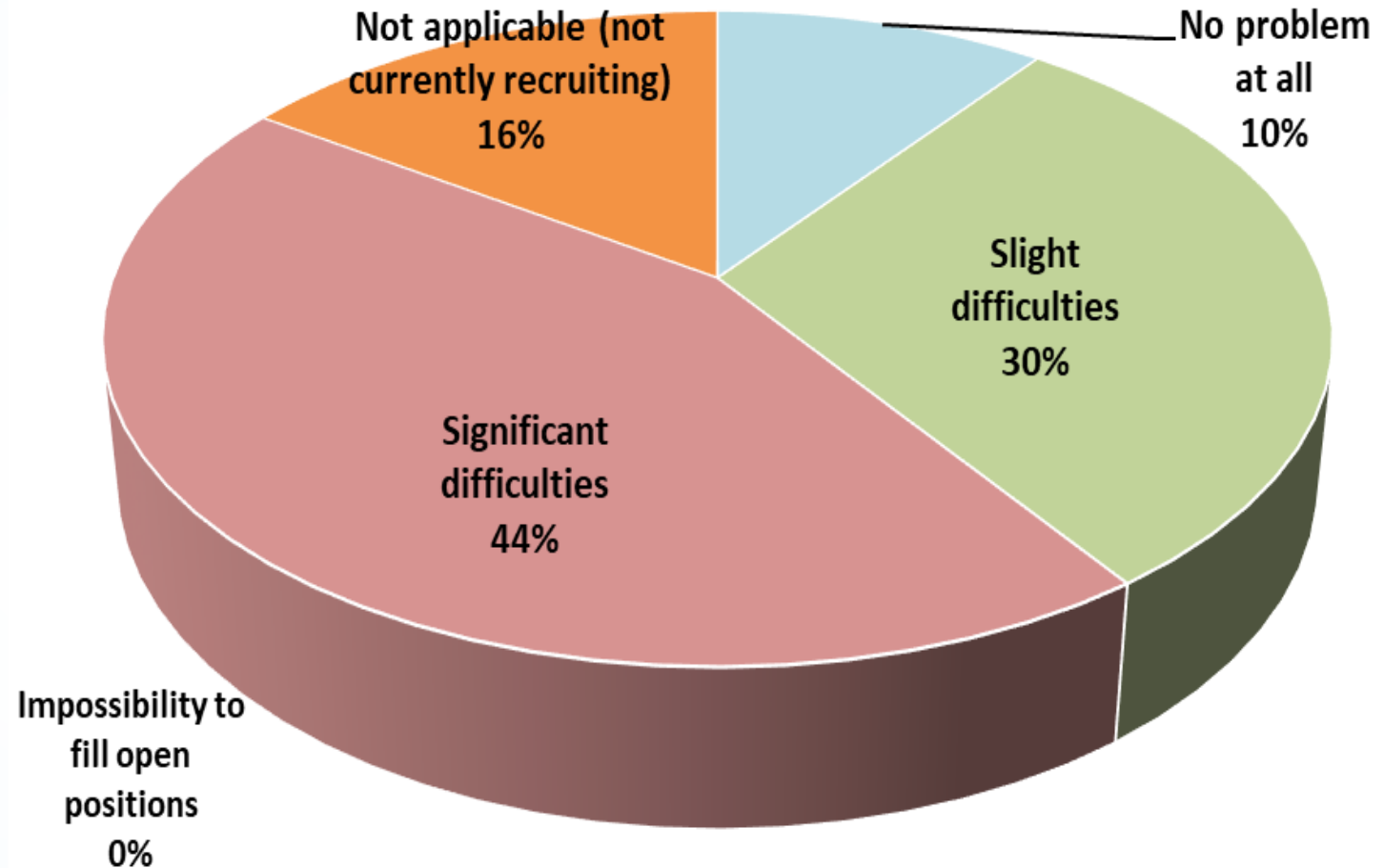


Figure 12- Estimation of how difficult it is to hire qualified employees



# Employment- Skills (2)

Companies were asked to tell us which skills were the most difficult to find and we found out that staff with Programming and Development capability and analytical methods skills remain difficult to find.

These results prove the importance of skills development actions at the employment level but also the necessity of reskilling and upskilling the staff with new technologies such as Artificial Intelligence, Machine Learning but also data analytics methods, in view of the growing volume of EO and other space data to be integrated.

Knowledge transfer and capacity building initiatives should also be used to leverage knowledge across the EU and to support the development of a pool of talent with space-specific skills for the industry.

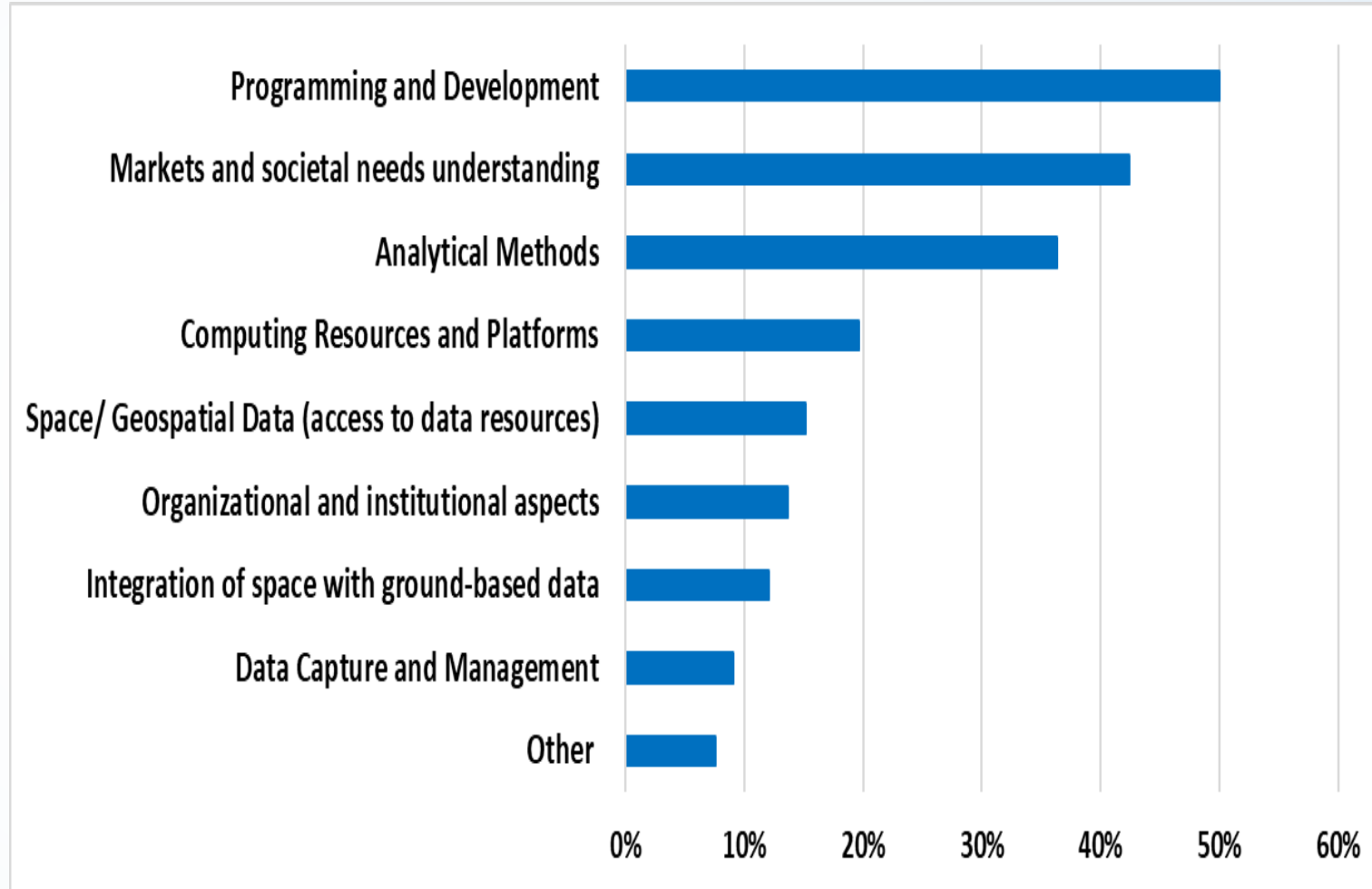


Figure 13 . Technical skills lacking in your organisation

# Revenues(1)

## Revenue Evolution:

The total revenue in the sector in 2020 is €1.71b representing a growth rate of 25% over the last 12 months. A total of €1.58b or 92% is coming from reported revenues or calculated from employment figures. The remaining 8% comes from our assumption that the companies for which we have no data, are distributed according to the survey data for small and micro companies.

The “Department” category is included recognising increasing business coming from larger departments inside even larger companies. Note that for Airbus and Telespazio their direct (national) figures are included in our survey and neither are considered as departments.

The largest growth is coming from the medium companies. This is certainly reflecting the increase in numbers coming in part from being small companies last time growing past the threshold of 50 employees.

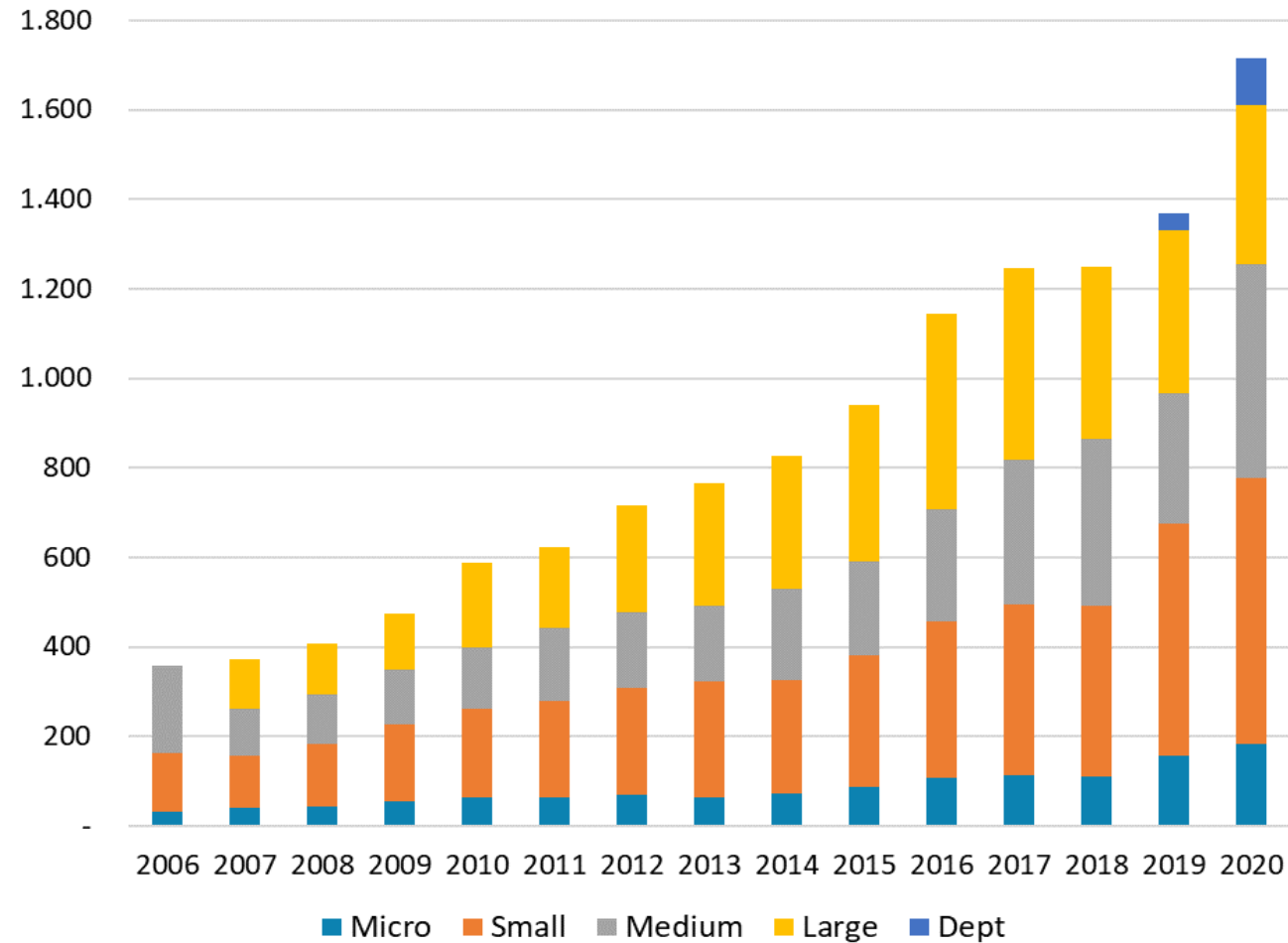


Figure 14. Evolution of Revenues per Company's Class

# Revenues (2)

## Distribution of revenues across company category:

The breakdown of revenues per company class shows that small sized companies generate the most important part of revenues, followed by medium sized companies and large companies.

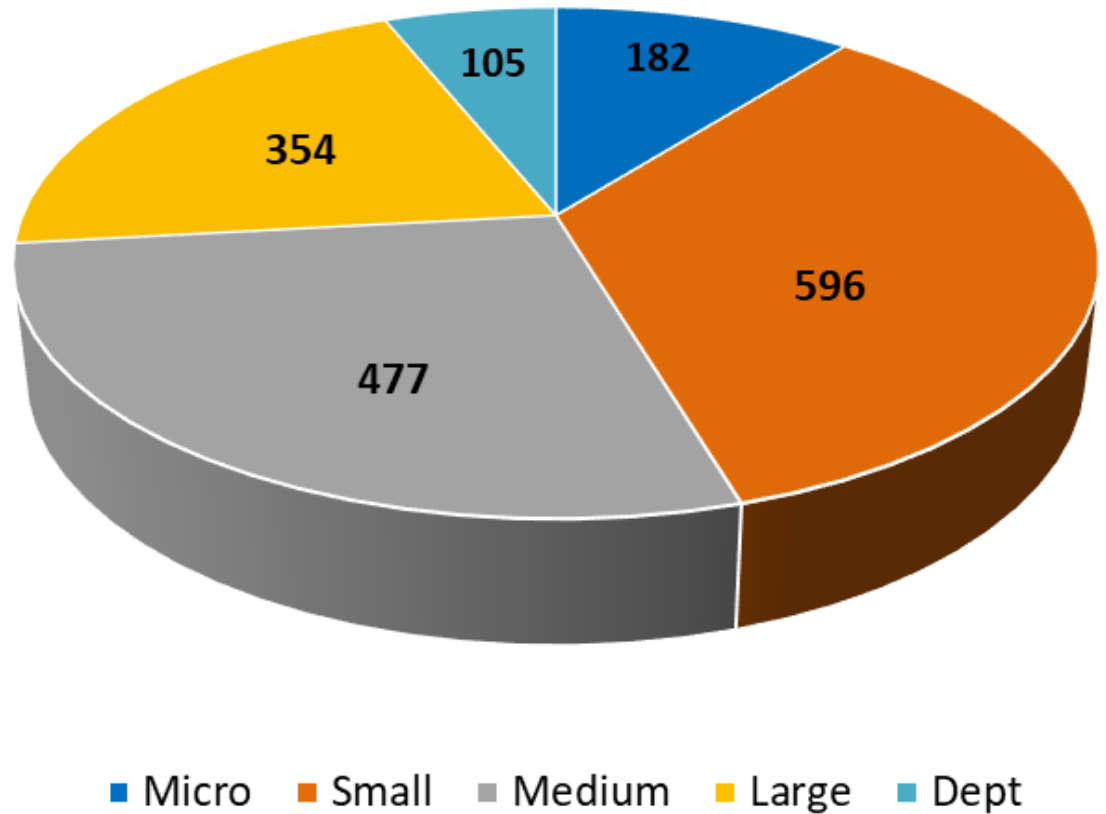


Figure 15. Breakdown of Revenues per Company Class (€m) for 2020

# Revenues (3)

## Number of companies with range of revenues

Figure 17 shows the number of companies according to their revenues.

It demonstrates that the majority of companies (70%) have revenues of less than €1m and that only 15% have revenues of over €5m.

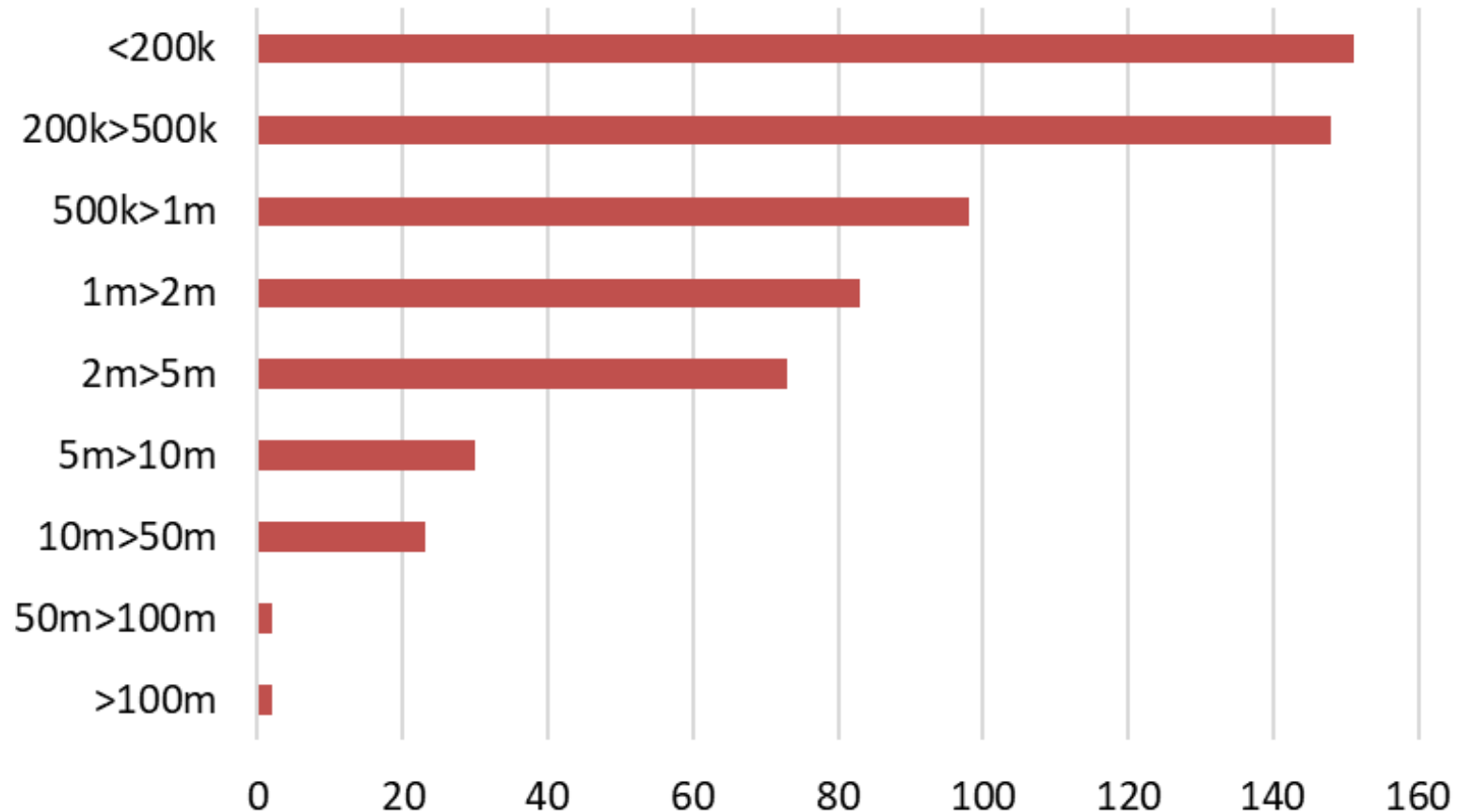


Figure 16. Number of companies with revenues for 2020



# Revenues (4)

## Revenue Growth rate:

The overall sector revenues continue to grow at around 10-12% per annum.

The revenue growth rate is rather variable and strongly influenced by large contracts. For this reason the cagr averaged over a 5 year period is a more reliable measure. As for employment, the year on year figures are valid for the sector whilst the cagr is better reflecting the experiences of the average company within the sector.

The cagr has been steady at between 10 and 12% over the last 5 years.

The annual growth rate has risen to 25% over the last 12 months.

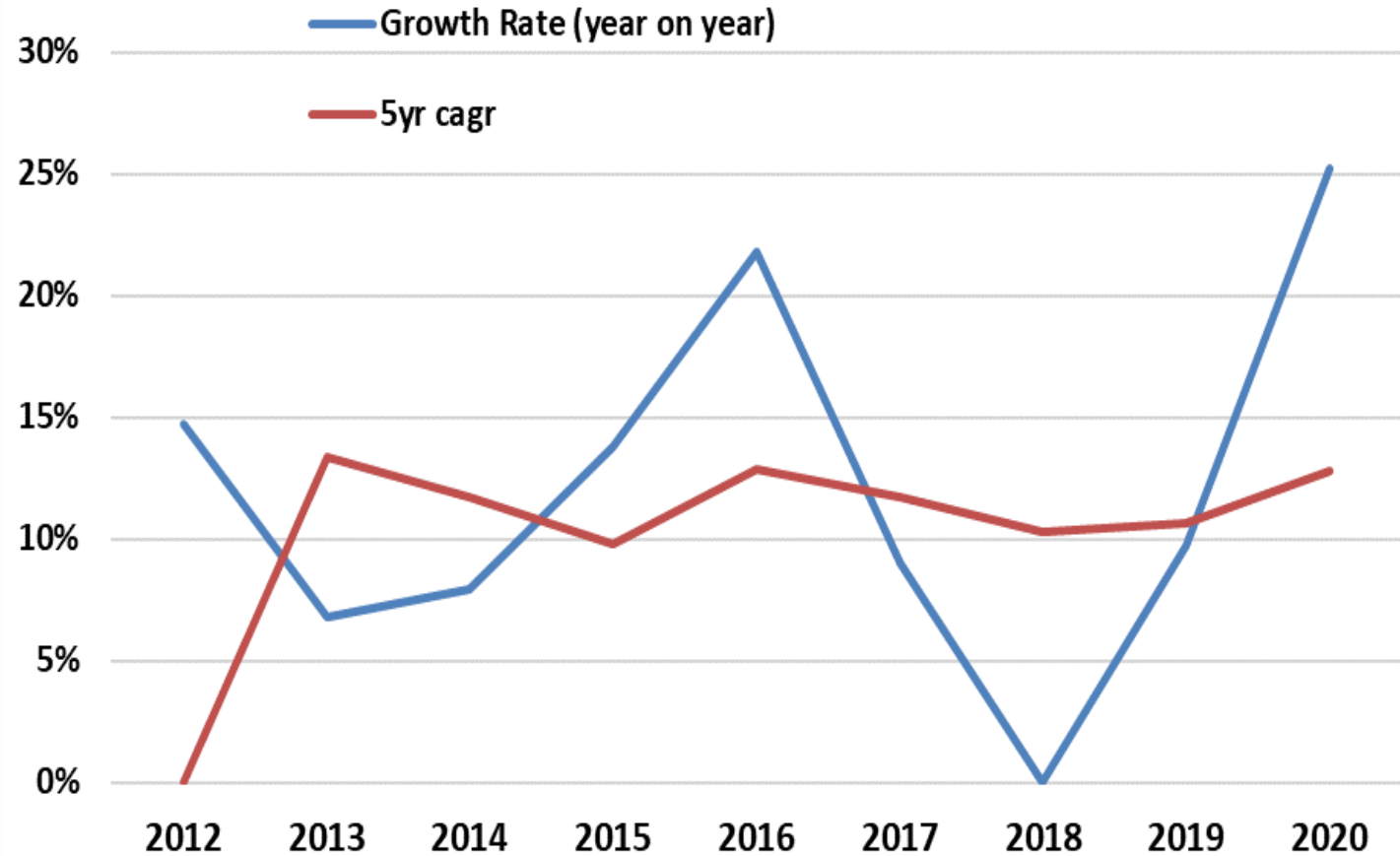


Figure 17. Evolution of revenue's growth rate

# Start-ups(1) - Profile

The total number of companies formed in the last 5 years is 229, up from 171 last year, for 206 of which we have employment data.

The employment data is for 2020 so, for companies formed in earlier years, Figure 13 shows how many have reached each category of company.

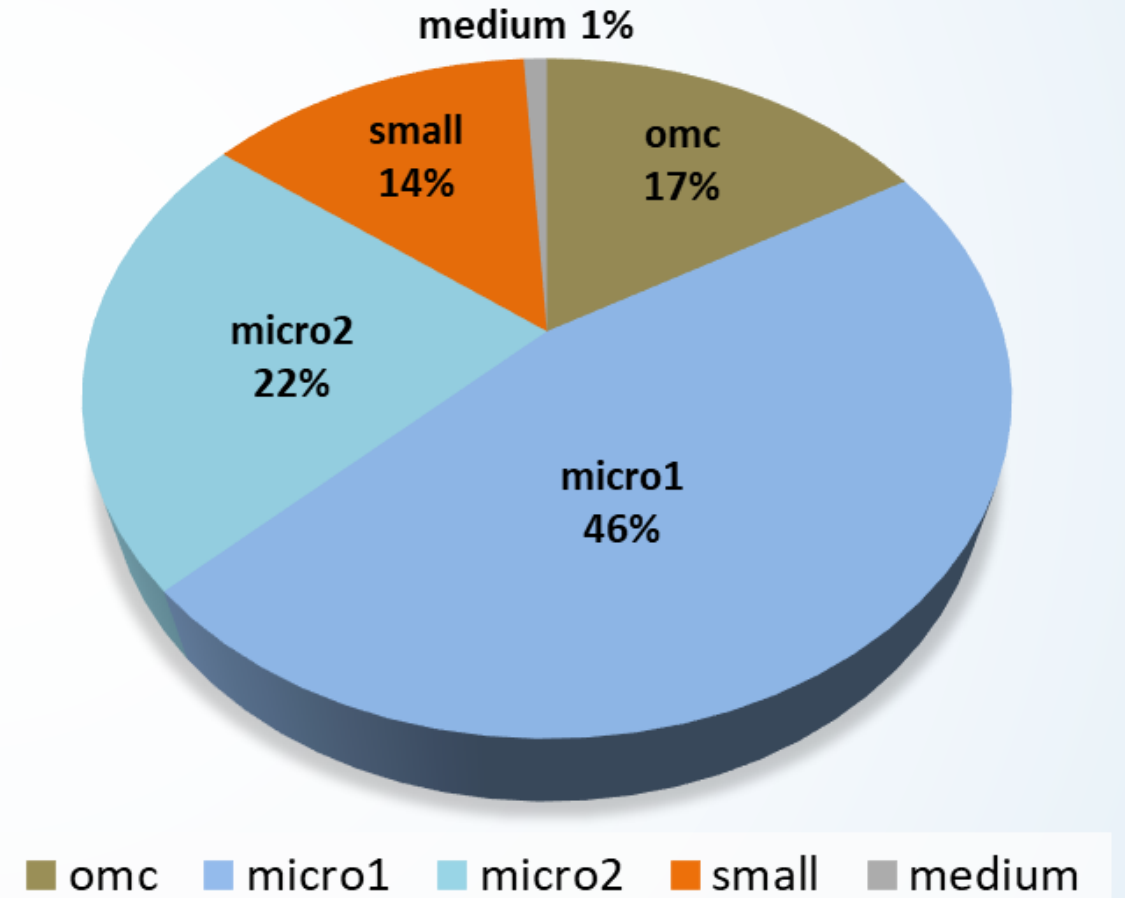
34 (17%) of these are one man companies (omc).

2 have grown into medium-sized companies with more than 50 employees..

A further 28 have grown into small companies with between 11 and 50 employees.

Of the remaining 141, 95 are employing between 2 and 5 employees and 46 between 6 and 10 employees.

Figure 18. Size, in 2020, of companies formed in the last 5 years (2016-2020).



# Start-ups(2) - Growth

Figure 19 shows the distribution of companies formed in the last 5 years.

The breakdown of companies per year of formation shows that 85% of them are micro-sized (10 employees or less) which is higher than the general population of companies (65%).

Of the 28 small companies, 1 was formed in 2020 and hence has grown to this size in less than 12 months. We do not have the data on the other companies in intermediate years to be able to comment on their rate of growth.

2 medium-sized companies were both formed in 2016. One of these had already grown to medium-size last year.

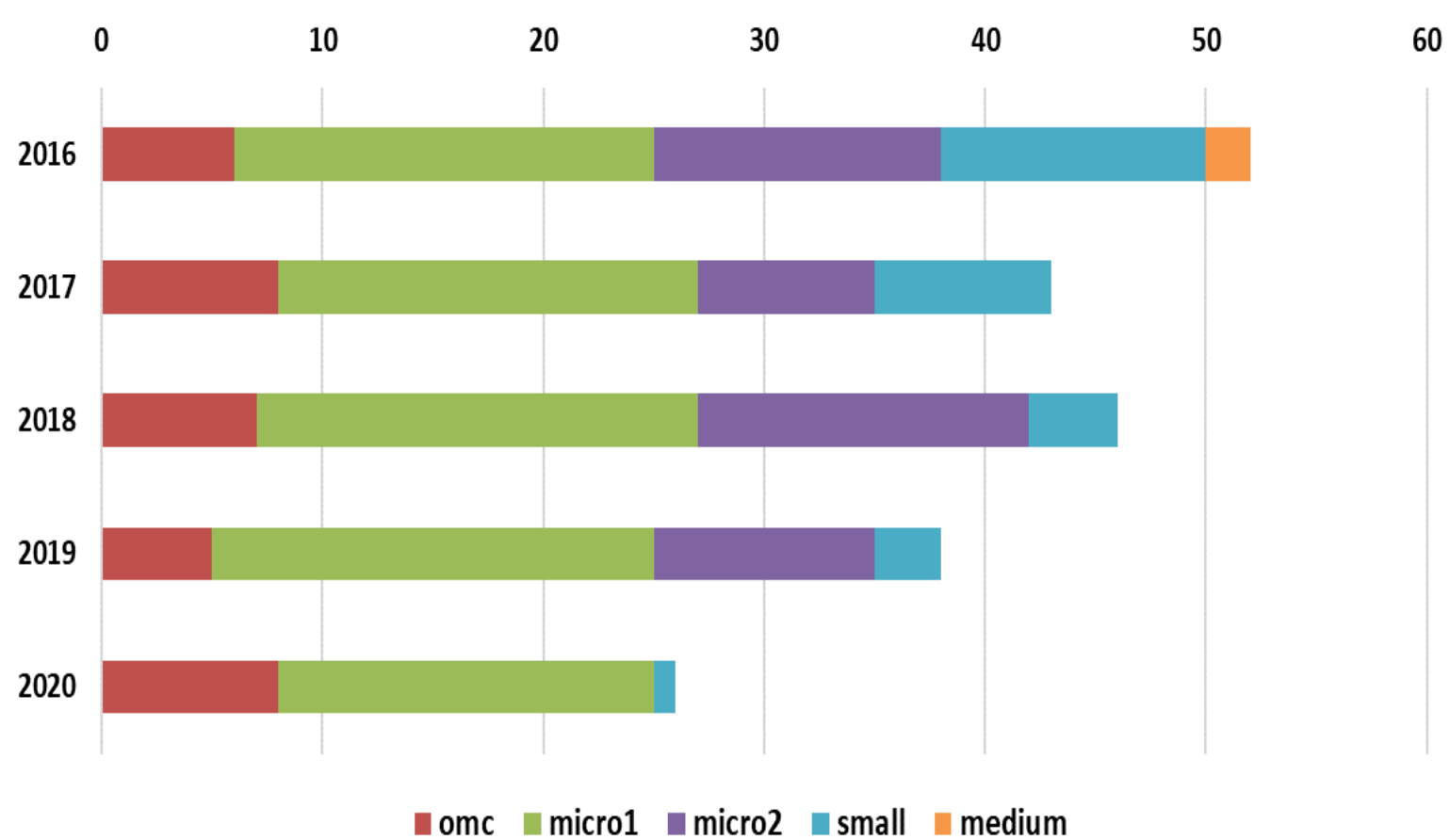
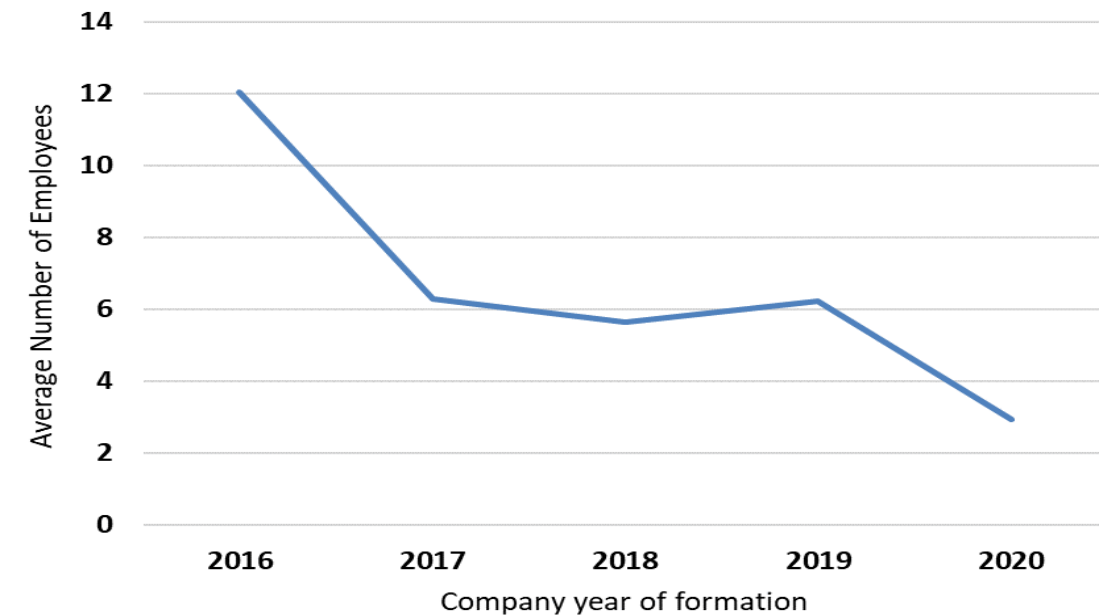


Figure 19. Number of start-ups in year, classified by size in 2020

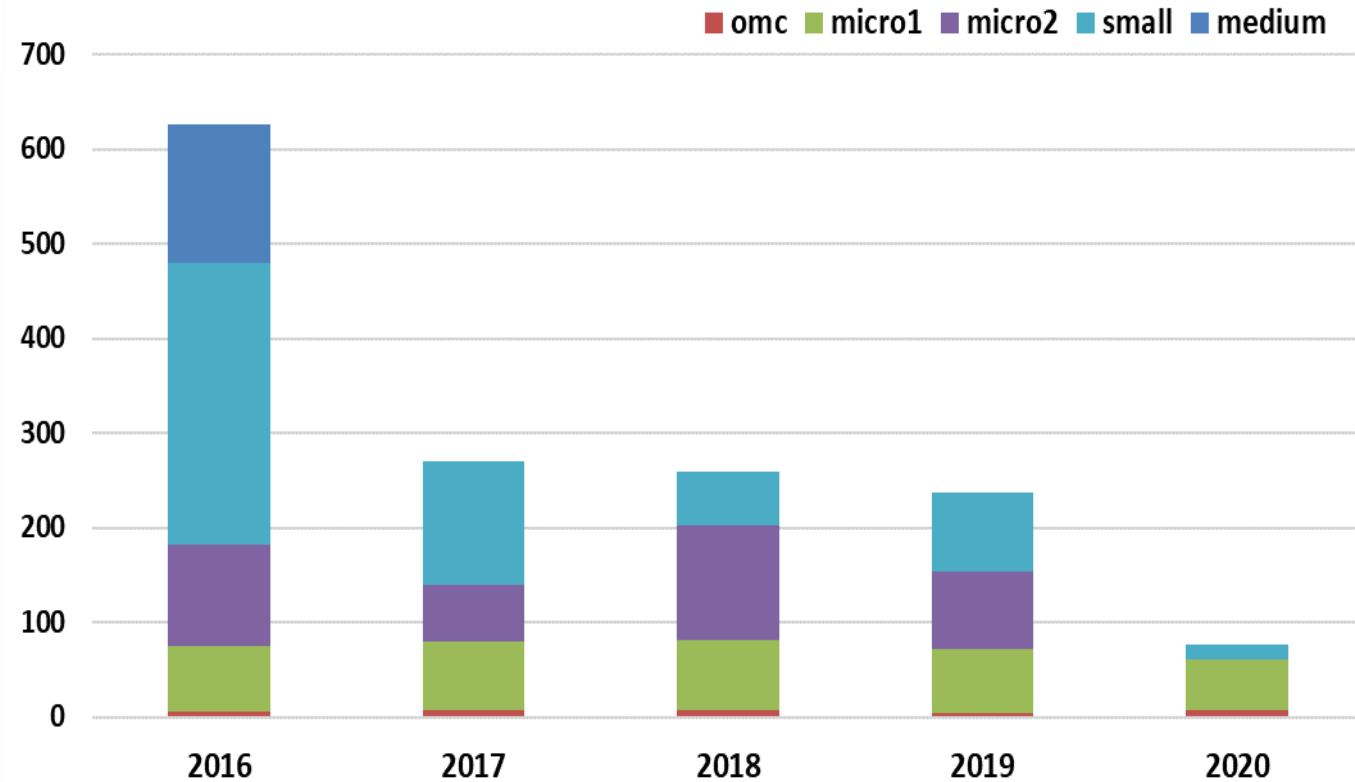
# Start-ups(3) - Employment

The growth trend in employee numbers is clear.

Companies started in 2016 are now employing 627 persons. Around 61% of the jobs created are from companies formed 4 and 5 years ago.



*Fig 20. Average number of employees in start-up companies*



*Figure 21. Employees in start-ups (number against year of formation)*

The average number of employees of the new companies in 2019 is 6.7.



# Revenue and Employment perspective

We asked companies to estimate their revenue and employment growth over the next 12 months. This is a good indicator of their perspective on the evolution of their business.

We found out that the majority of respondents are expecting a slight increase for both revenues and employment whereas less than 10% foresee a decrease.

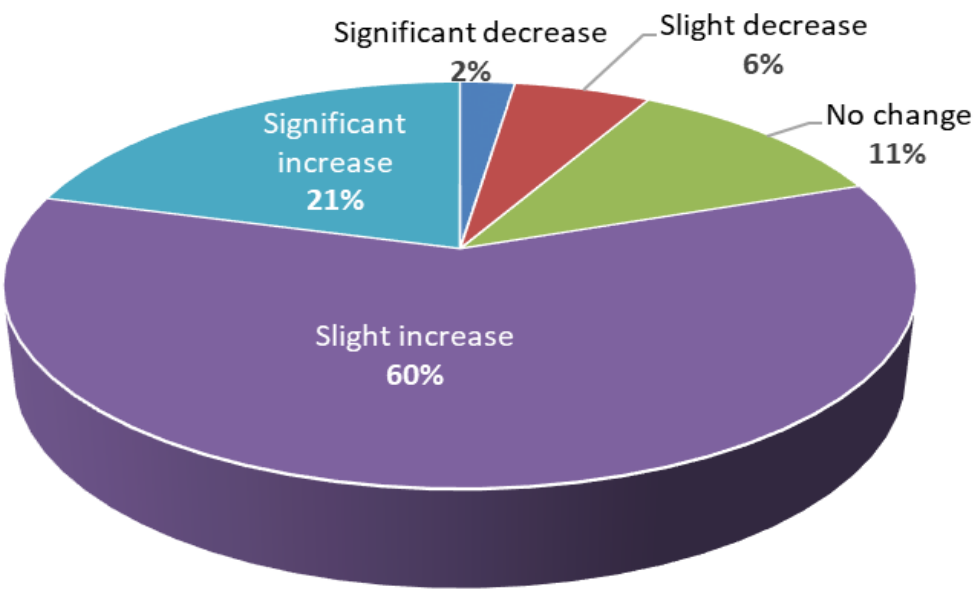


Figure 22. Revenue perspective over next 12 months

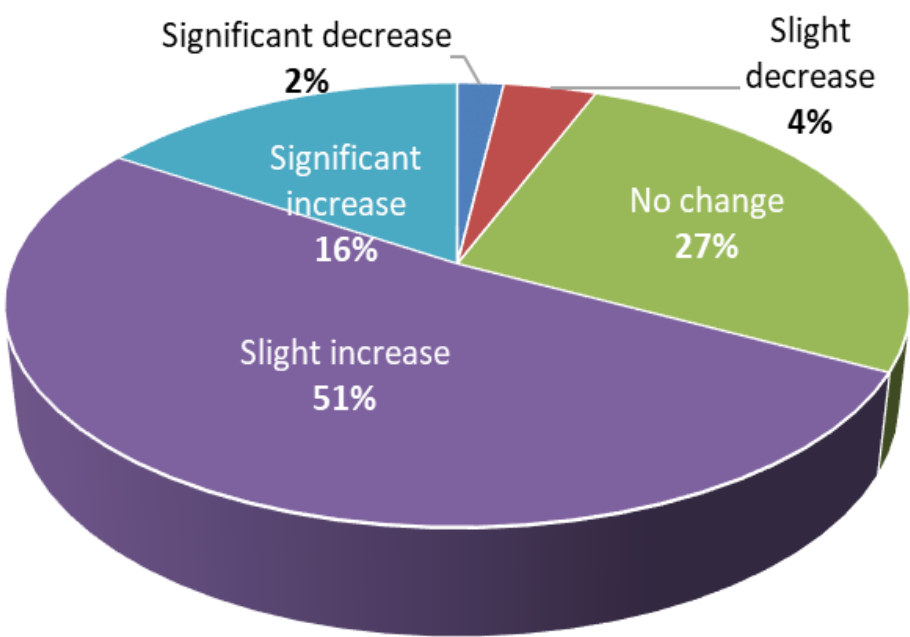


Figure 23. Employment perspective over next 12 months

# Optimism Index

In each survey the degree of optimism of companies is measured with regard to future employment and revenues and created an index accordingly.

The results show that companies have higher expectations for revenues than employment. The figures also show a decrease in 2020 for both revenues and employment.

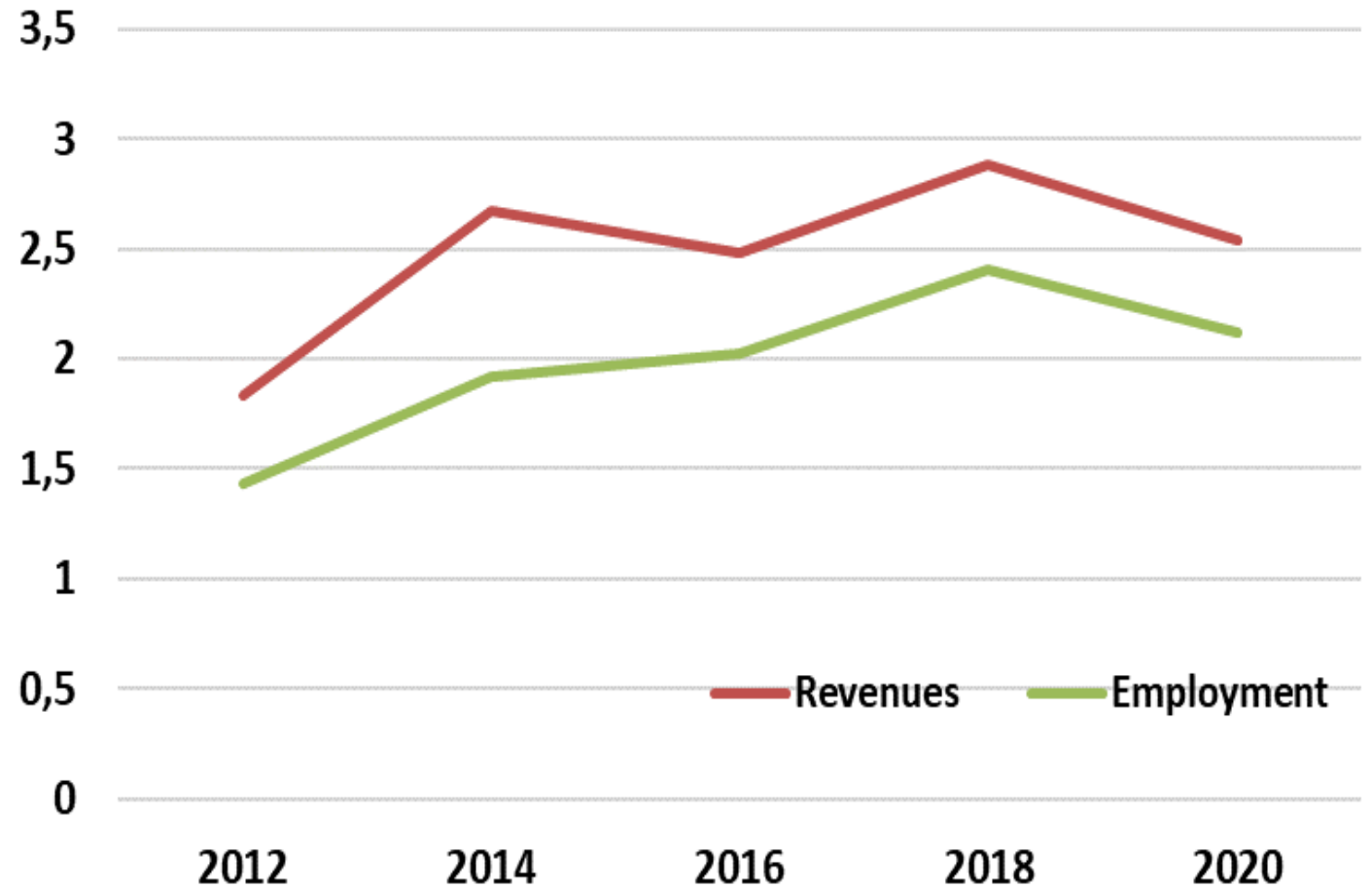


Figure 24. Optimism Index

# Markets – Areas of activity(1)

## Main areas of activity:

In comparison with data from our 2019 survey, we can see that the percentage of companies using satellite data to generate products has increased significantly (from 26% to 42%) as well as the satellite operator activities (from 14% to 26%).

On the contrary, the results show a decrease for EO data reception and distribution (from 21% to 7%) and Hardware/software activities (from 12% to 8%).

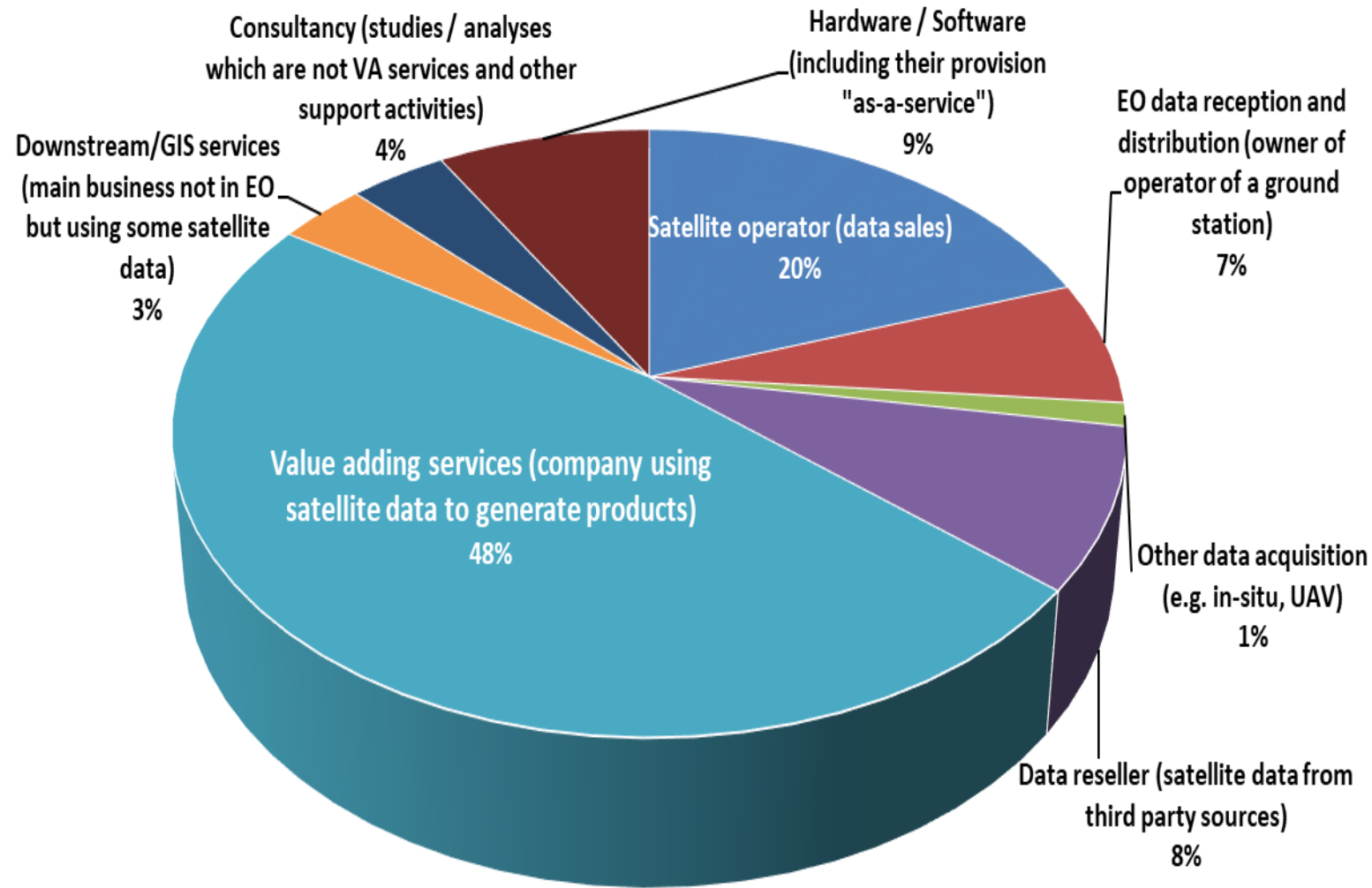


Figure 25. Percentage of companies across the main areas of activity

# Markets – Geographical areas (2)

The market geographic distribution is a fundamental area of interest for EARSC as the association is active in different projects to promote the internationalisation of EO services companies.

The figures are consistent with the results of our previous survey but it is interesting to note an increase of activity in the Middle East region (8% in our 2019 survey) and a decrease for domestic activity (37% in our 2019 survey). The decrease in domestic activity could be interpreted as companies focusing more on export activities.

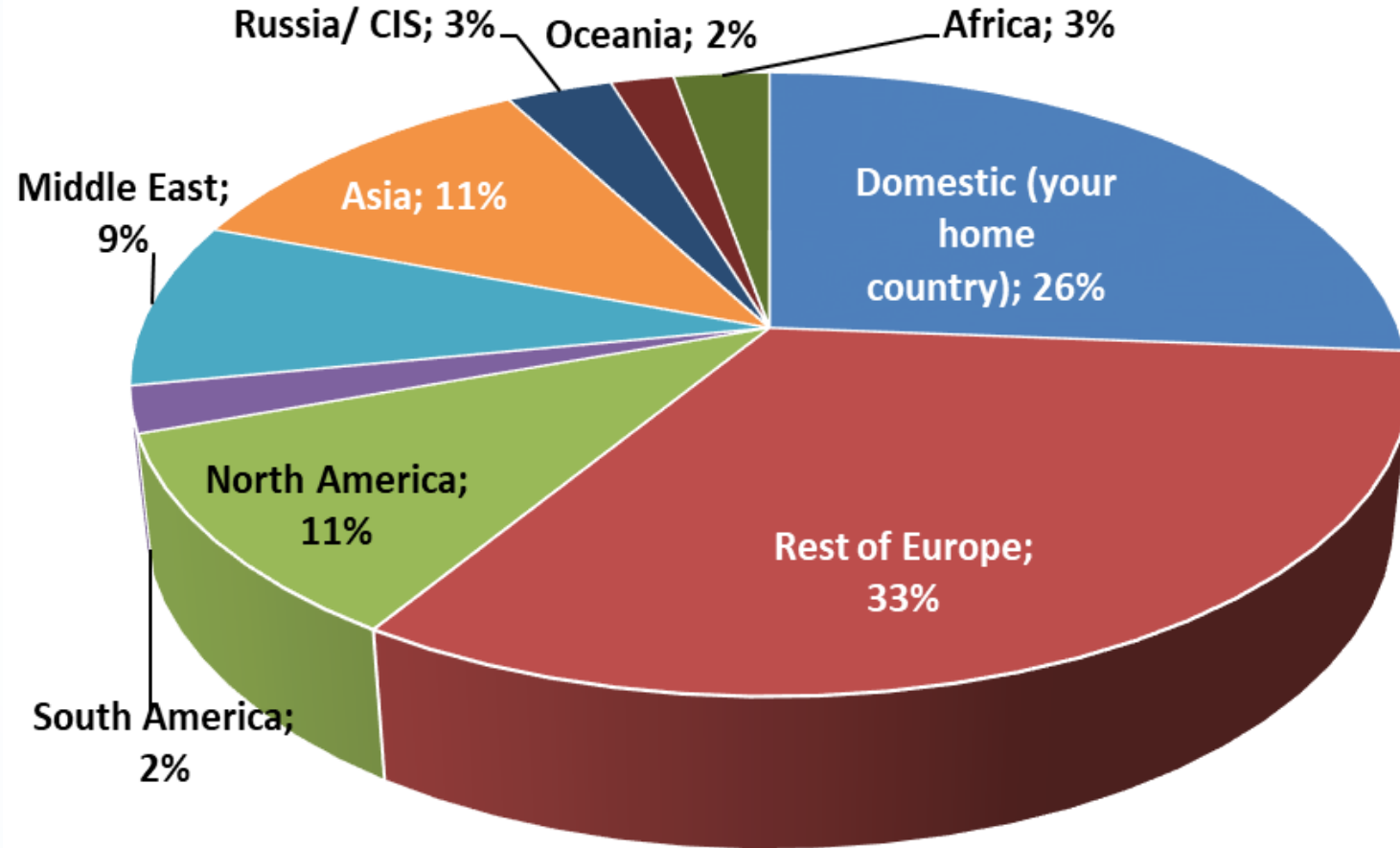


Figure 26. Geographic area in which the companies are doing business



# Market - Sectors (3)

This year, we tried to simplify the different categories by identifying only 12 market sectors instead of 22.

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

For the other categories, the results are consistent with our previous surveys.

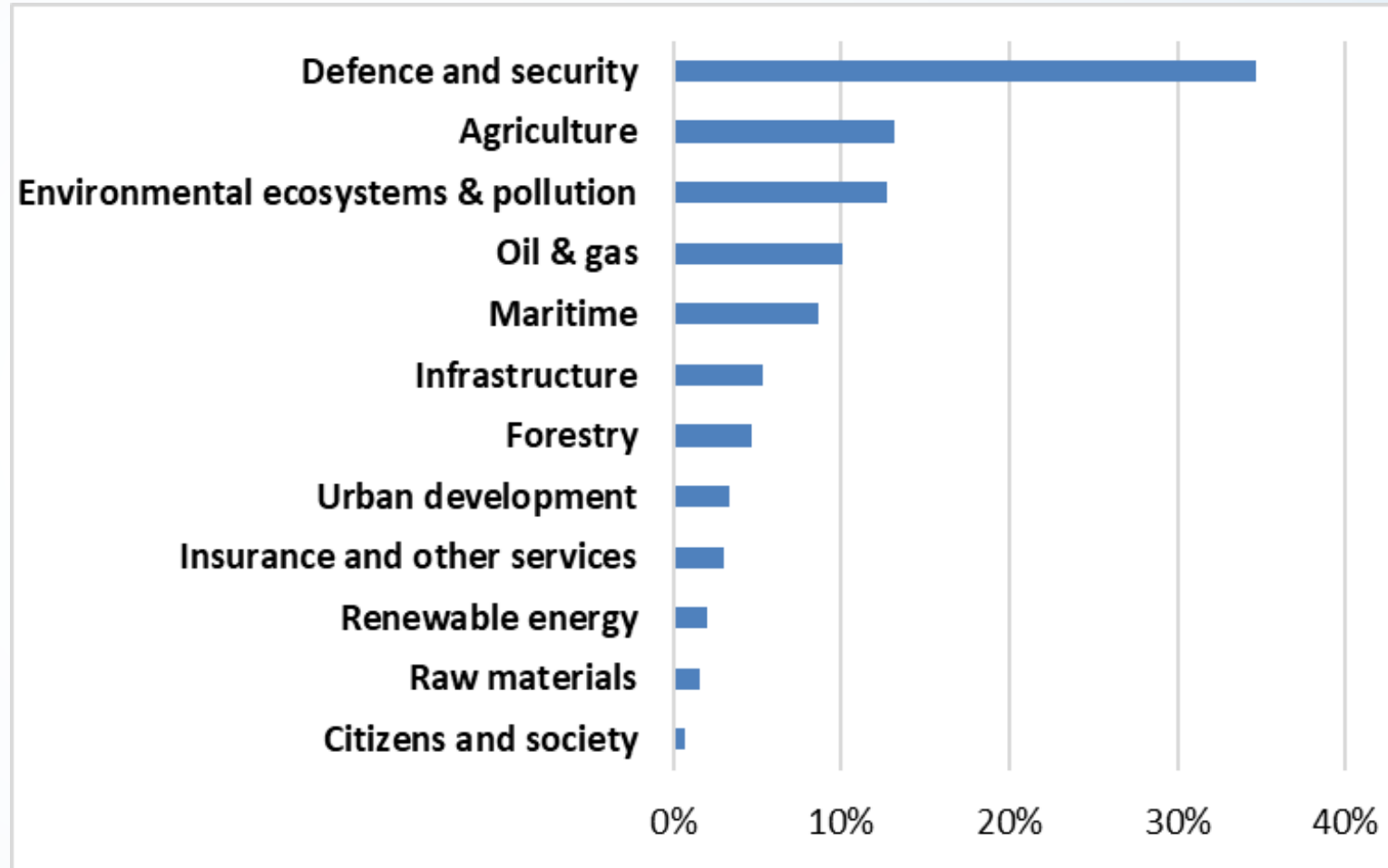


Figure 27. Market sectors

# Markets – Customer type (3.1)

Figure 28 shows the revenue split by type of customer.

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

These results are consistent with our previous surveys.

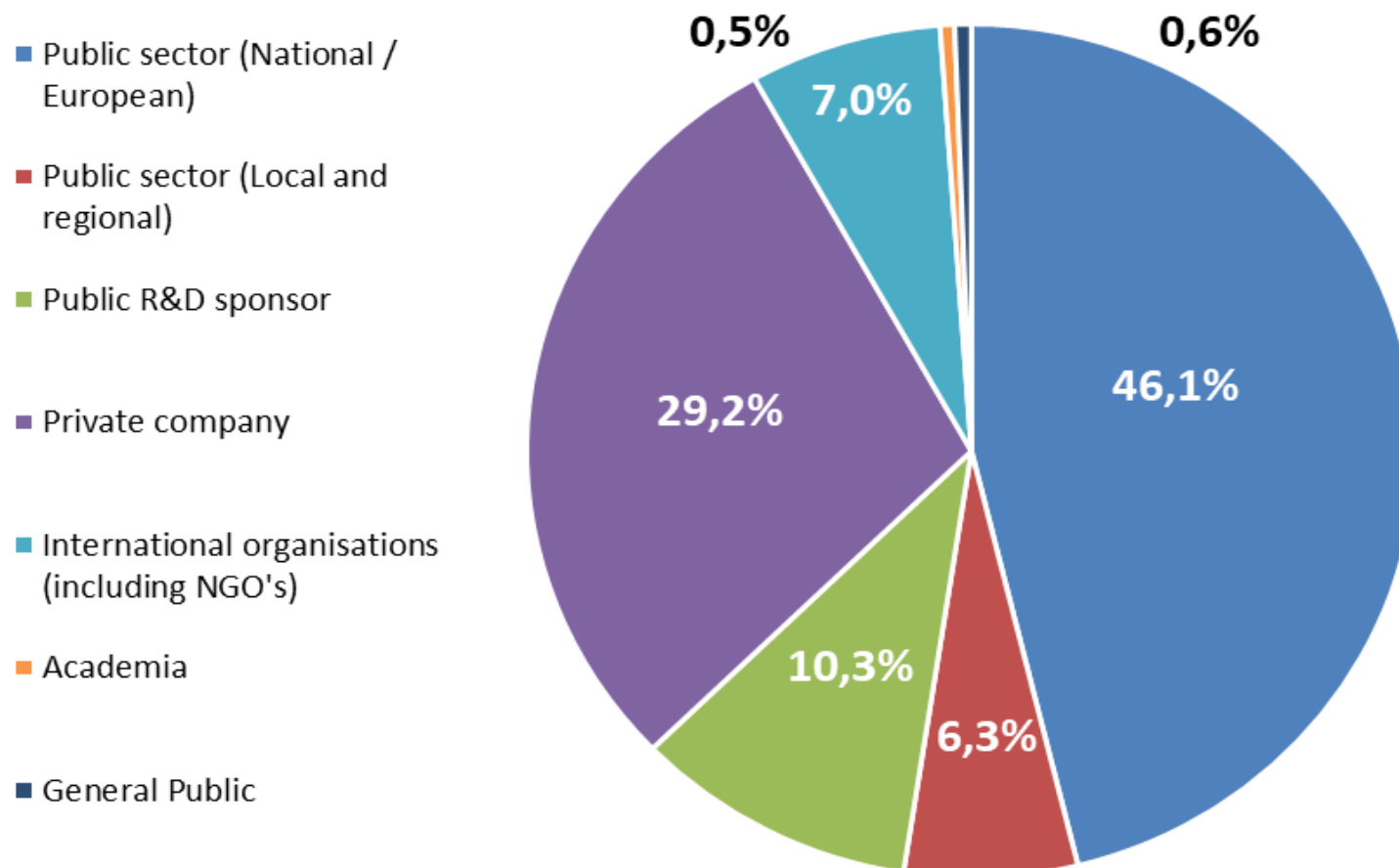


Figure 28. Main customer type

# Markets- Customer type (3.2)

Figure 29 shows the comparison between the market shares according to customer type for the last 2 surveys.

It shows little change is taking place.

One could discern a small drop in R&D sponsorship coming into the sector, which may be due to the timing of the survey in relation to H2020 projects. Overall, the variations are probably within error tolerances.

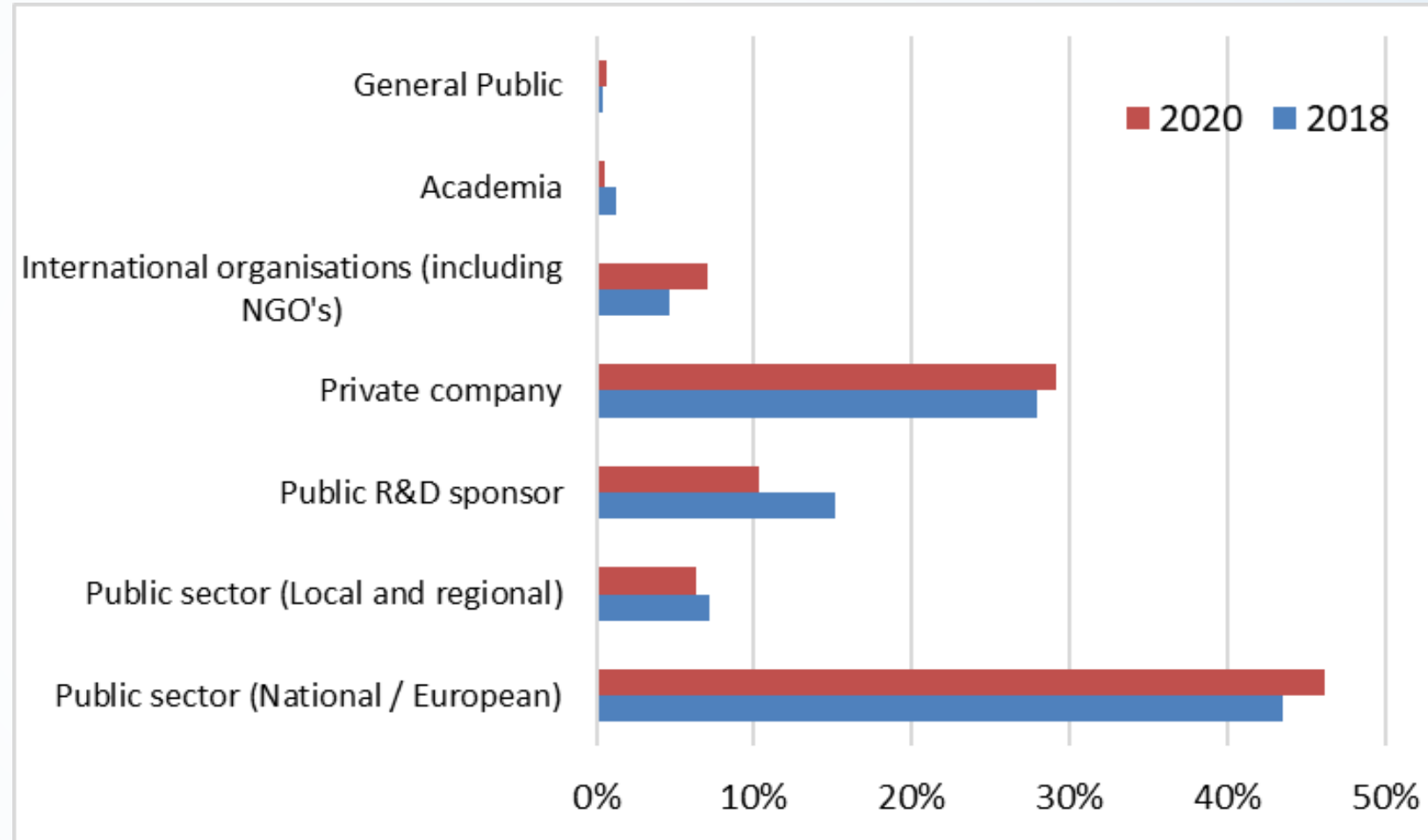


Figure 29. Main customer type- Number and volume

# Markets – Barriers to growth(4.1)

## Most significant barriers to growth:

Companies were asked to consider the most significant barriers to their growth. These results are consistent with our previous survey.

The most important barriers are related to three main issues: market/user acceptance, finding new customers and lack of development funding.

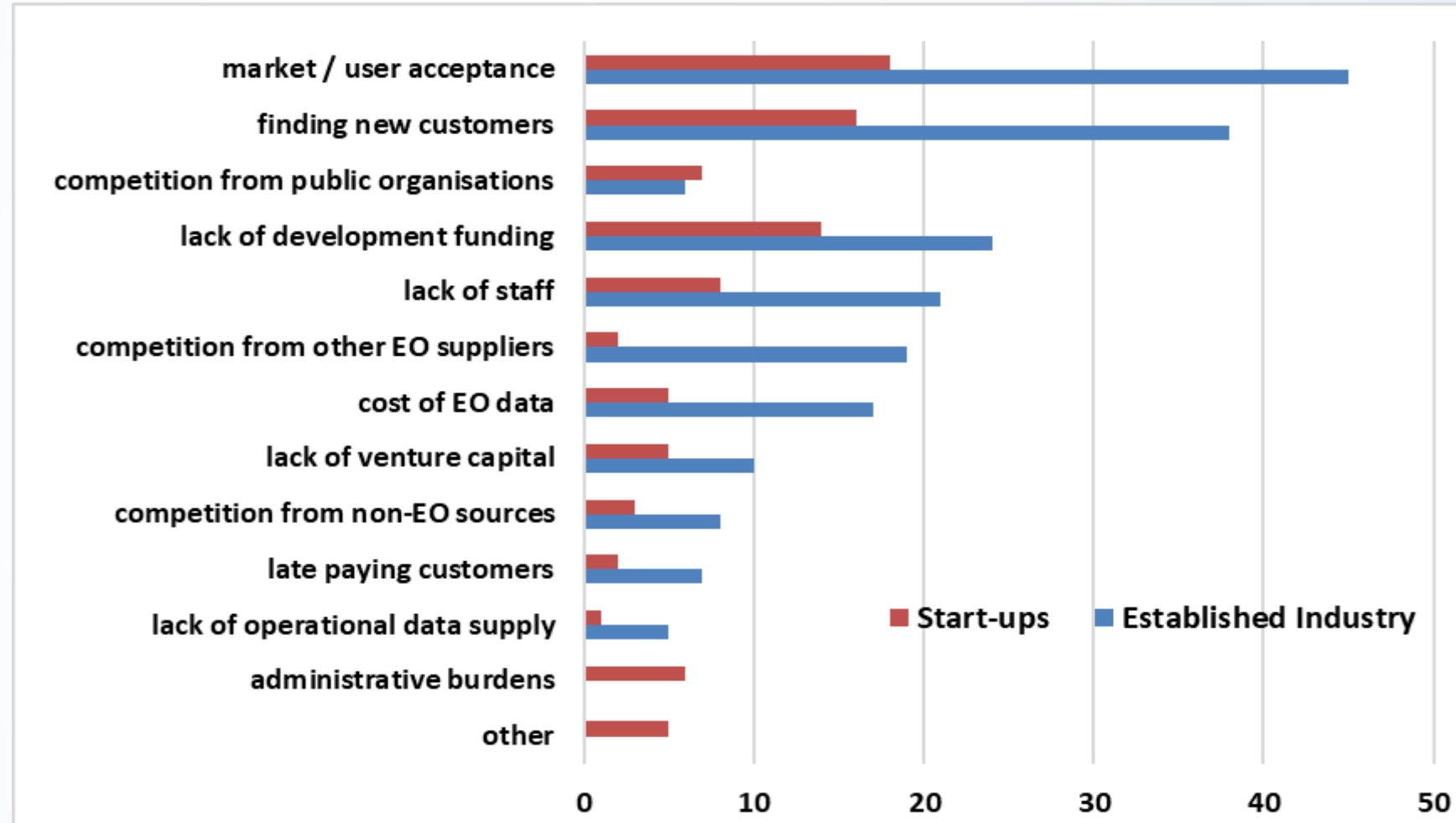
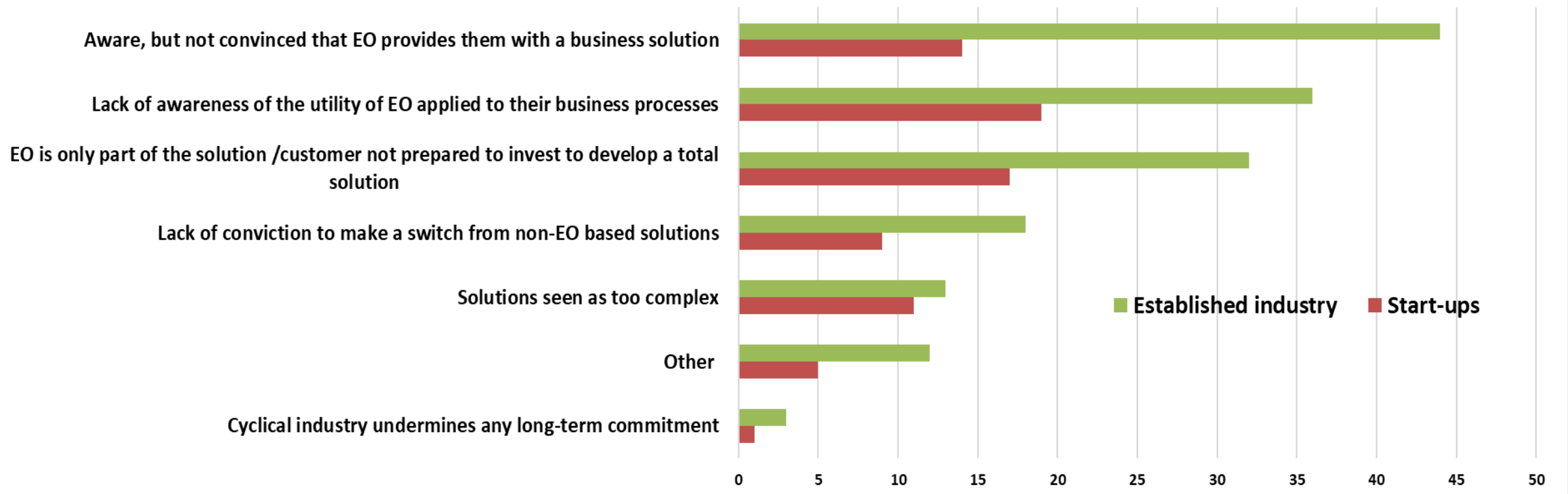


Figure 30. Most significant barriers to growth that your company faces

# Markets – Barriers to growth (4.2)

Figure 31. Most significant barriers related to customer uptake



We asked about the most significant barriers related to customer's uptake.

According to our survey's respondents, the difficulty for customers to be convinced that EO provides them with a business solution is the most important barrier. The lack of awareness of the utility of EO applied to their business processes also represent an important barrier.



# Covid (1)

The pandemic crisis has caused disruptions across all sectors in the economy, with each sector feeling the impact in varied ways. We tried to understand better here how the pandemic crisis affected the business revenues of companies.

The figures show that half of the respondents experienced a decrease or a strong decrease in their business revenues last year while nothing changed for 37% of them and only 14% reported an increase in their revenues.

Though these figures are a good indicator, it is more likely that we will have a better knowledge of the consequences of the Covid crisis next year. As said before, many companies' revenues come from contracts (rather than single's product sales) and they fear the upcoming months when contracts will start to come to an end and customers budgets will be reduced due to many competing priorities.

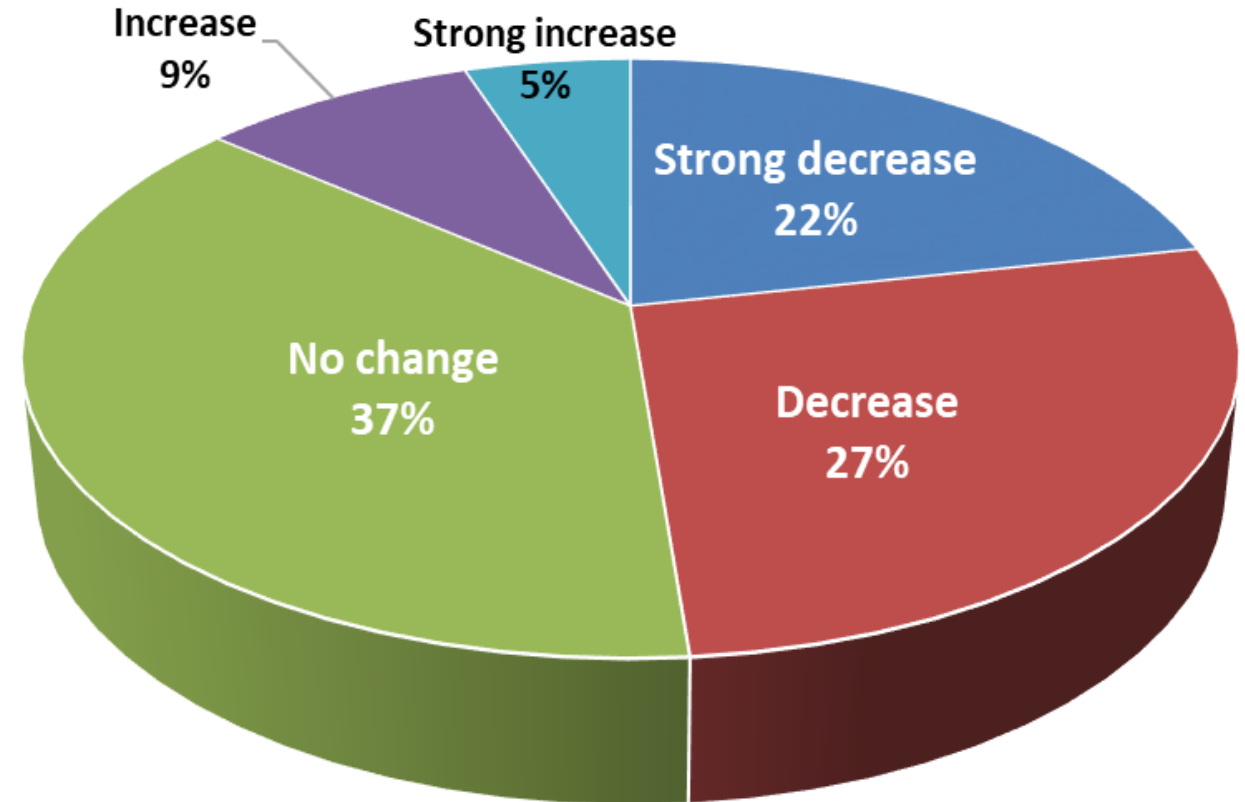


Figure 32. Impact of the Covid on your business revenues

# Covid (2)

Drilling down, we asked about the other impacts of the Covid 19 crisis for our respondent's companies.

We can see that 24% of our respondents had to be resilient and adapt their products and services. Also, the crisis provoked a reduction of contractors and subcontractors for 20% of them.

Lost of investment, termination of employee contracts or difficulties adapting to home working also represented an issue for 36% of companies.

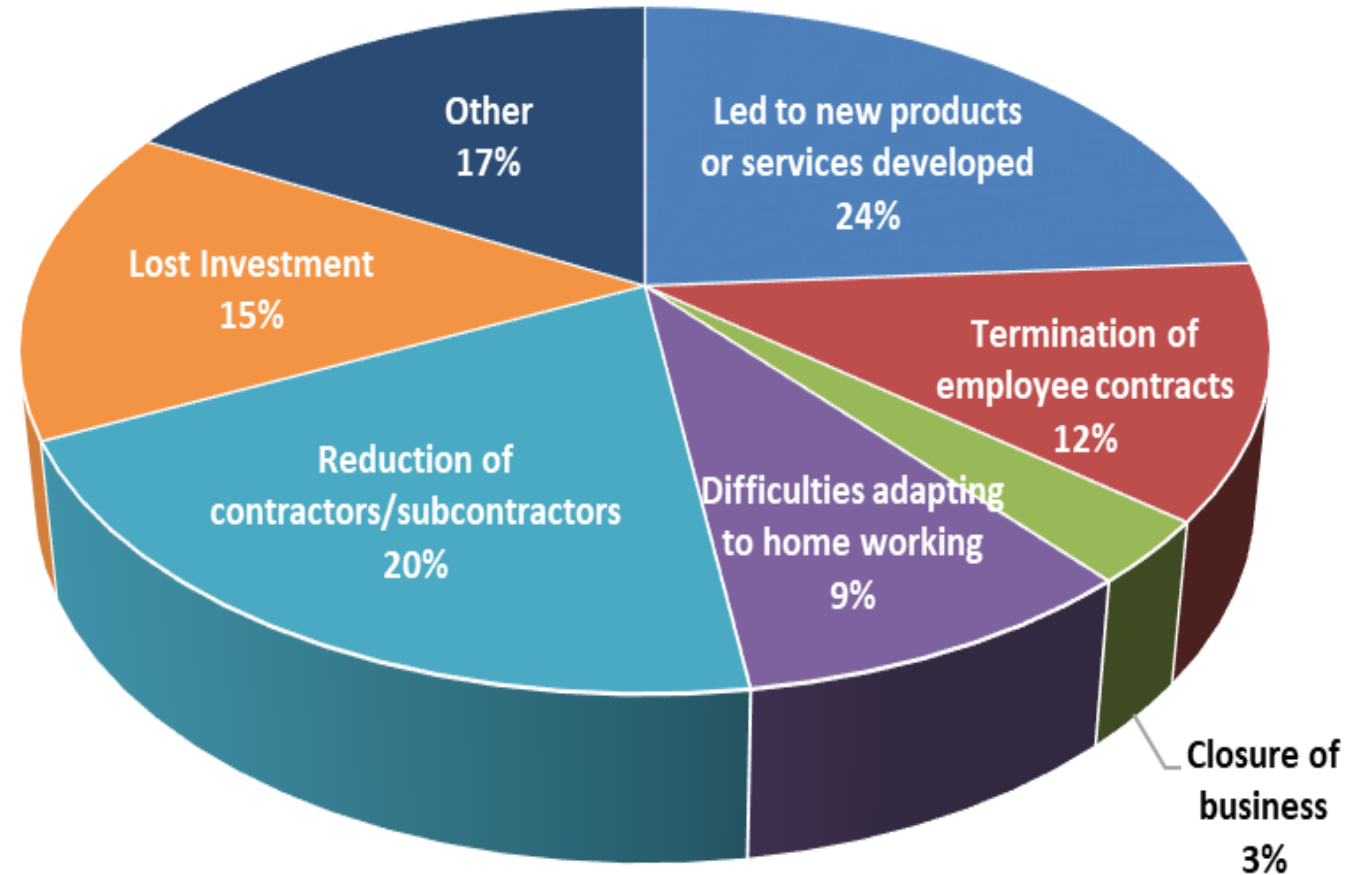


Figure 33. Other impacts of Covid 19

# Copernicus – Use of Sentinel data(1)

As the Copernicus programme continues to have a strong influence on the European EO sector, it is interesting to have a better knowledge of the current use of Copernicus data in the companies' businesses.

Figure 34 shows that data coming from Sentinel-1 and Sentinel-2 are the most used, followed by Sentinel-3 SLSTR and Sentinel 5.

This is unsurprising and perhaps the more interesting information relates to the use of data from the other Sentinels and how this may change in the future.

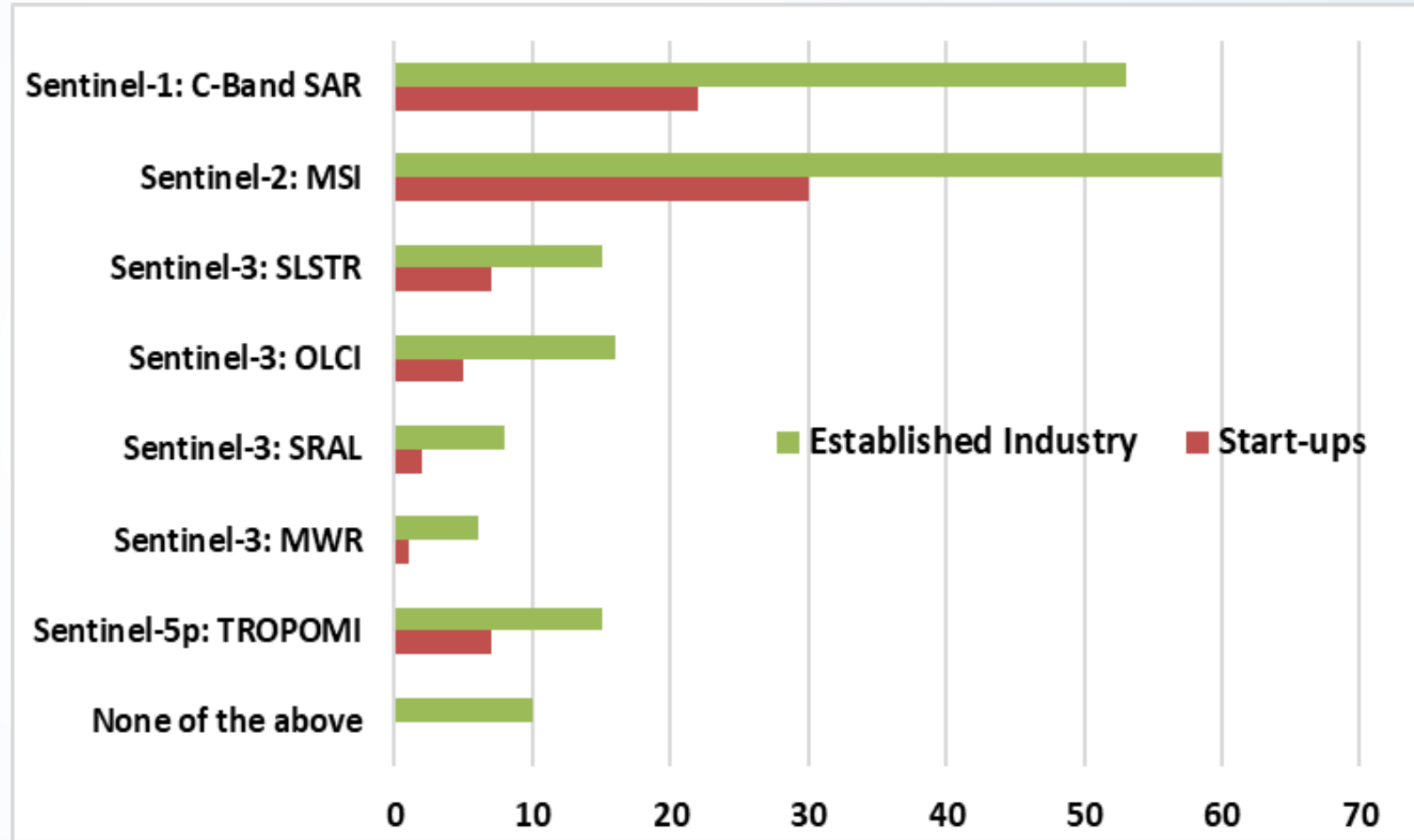


Figure 34. Copernicus data currently used in your business

# Copernicus- Use of Sentinel data (2)

The current suite of Sentinel missions is at the heart of the Copernicus programme.

These new missions are meant to address EU policy and gaps in Copernicus user needs and to expand the current capabilities of the Copernicus space component.

Among the six high-priority candidate missions, we asked companies to identify the most interesting ones for their business.

The first one is CHIME, followed by LSTM and ROSE-L.

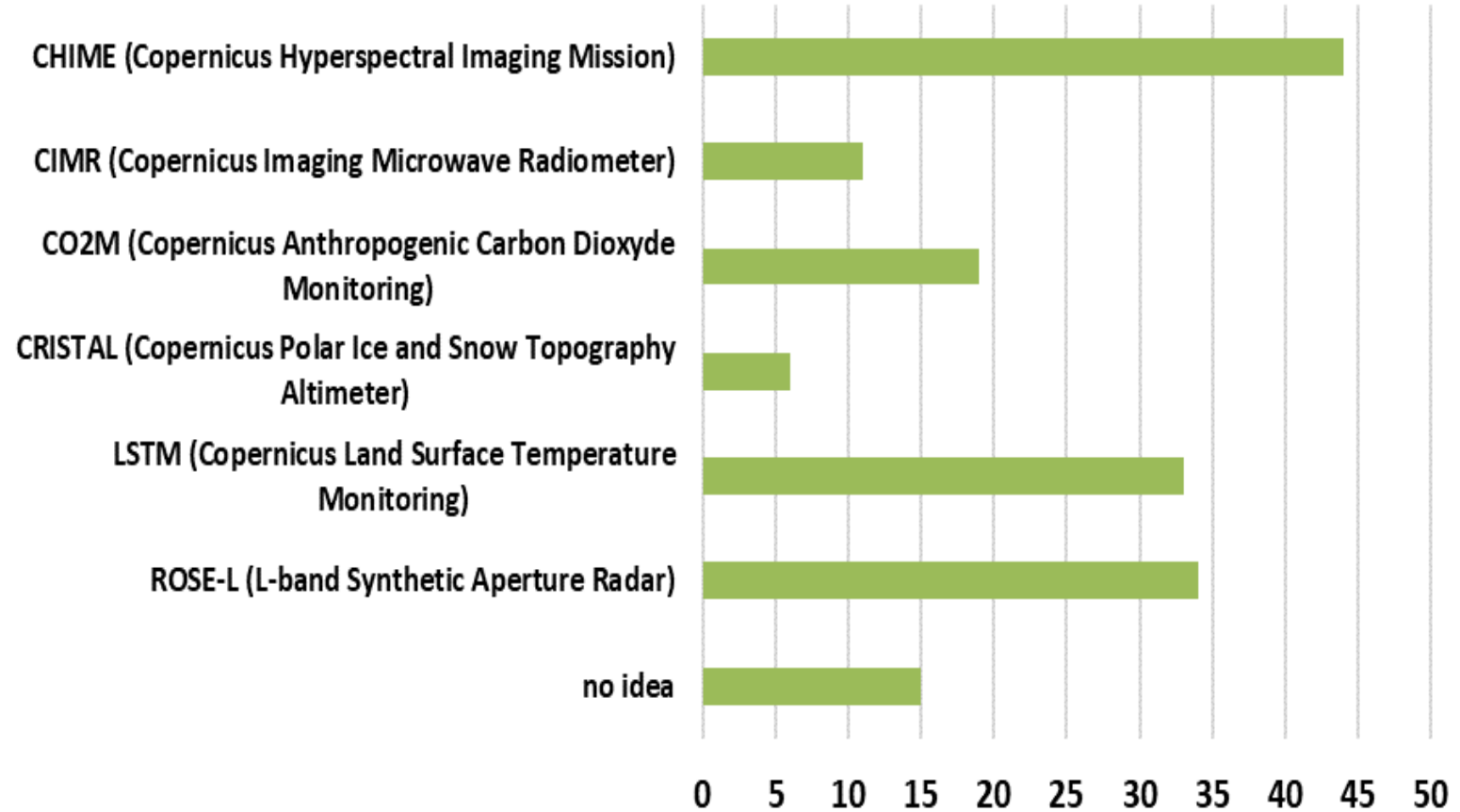


Figure 35. New Sentinel missions of most interest for your business

# Copernicus- Participation to the supply of Copernicus services

This chart (figure 36) compares the participation of industry to the supply of Copernicus services between 2014, 2016, 2018 and 2020.

We can see that an important proportion of companies are still contributing in the supply of the Land service and the Emergency service.

As anticipated in our survey last year, the level of participation for the Emergency services and Climate change has increased.

Finally, we can note that the participation to the supply of the Security service has decreased in 2018 and remains the same in 2020.

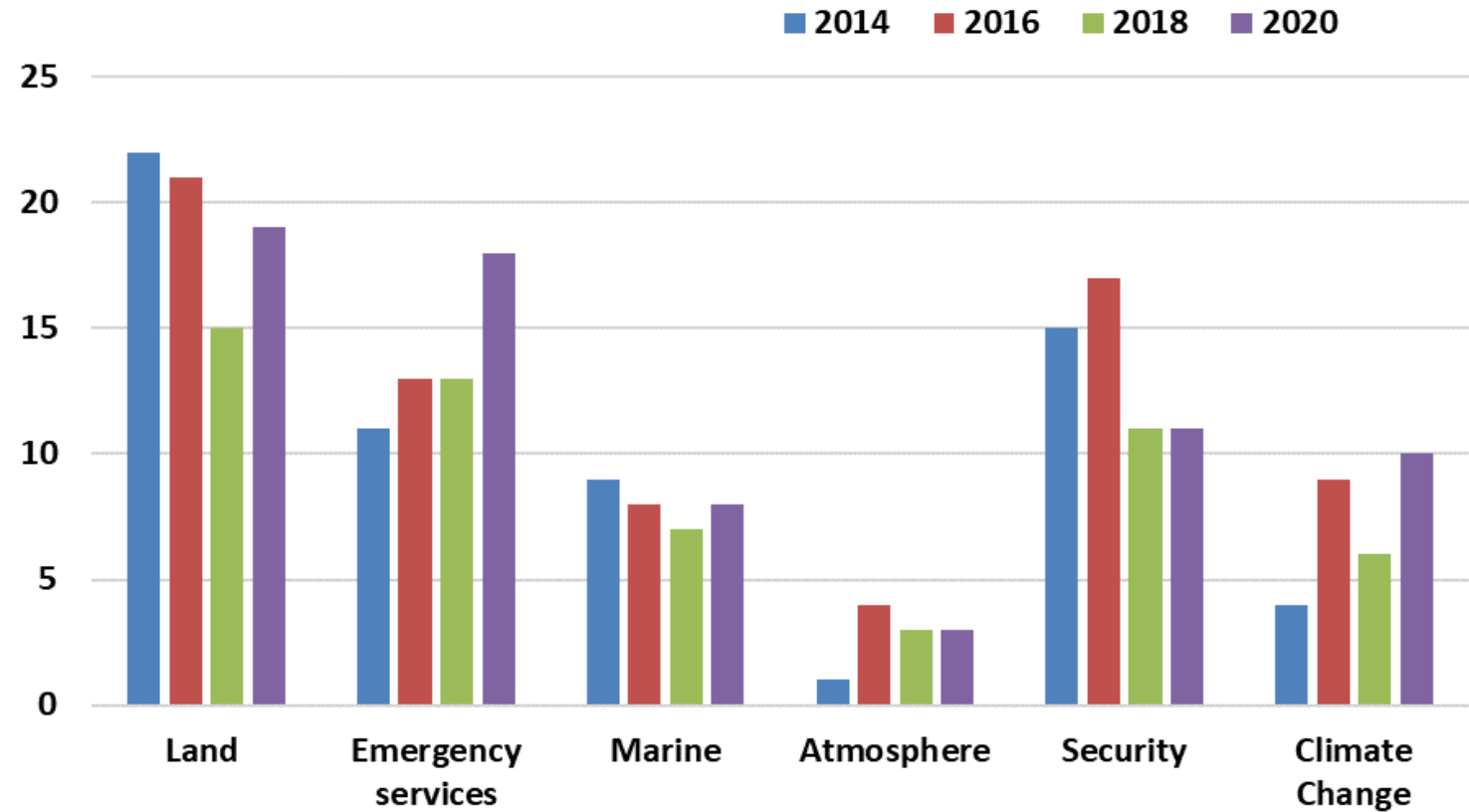


Figure 36. Participation to the supply of Copernicus services



# Copernicus – Impact on the business (1)

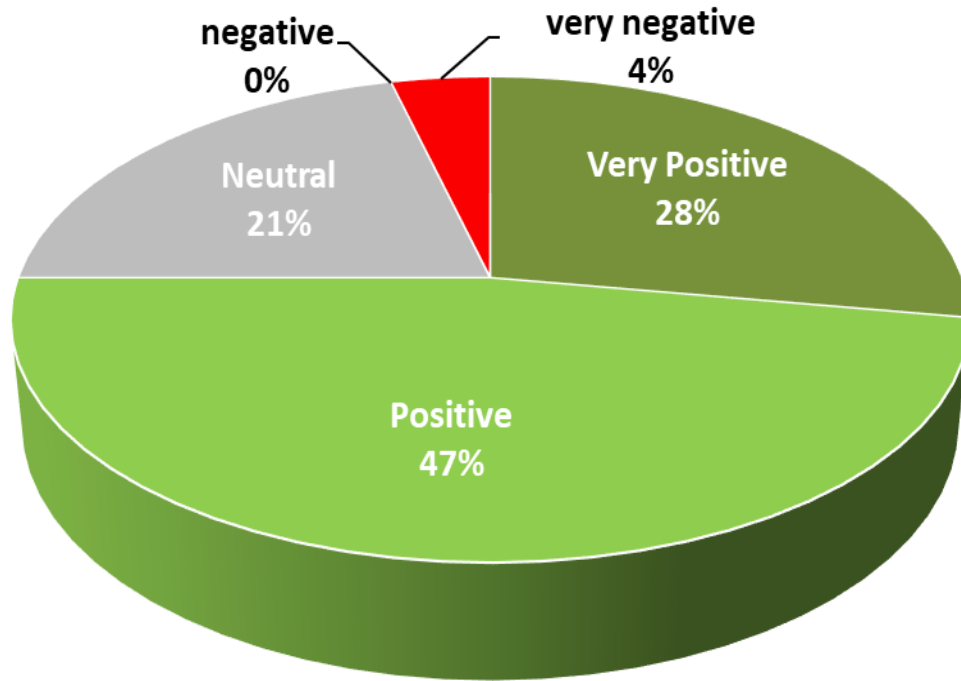


Figure 37. Present

Companies were asked to estimate the current impact of Copernicus in their business and for the future.

The results are consistent with our previous surveys and confirm the positive impact of Copernicus for the companies.

Indeed, 75% of our respondents consider that Copernicus has a positive or very positive impact (present) and 87% of them expect a positive or very positive impact in the future.

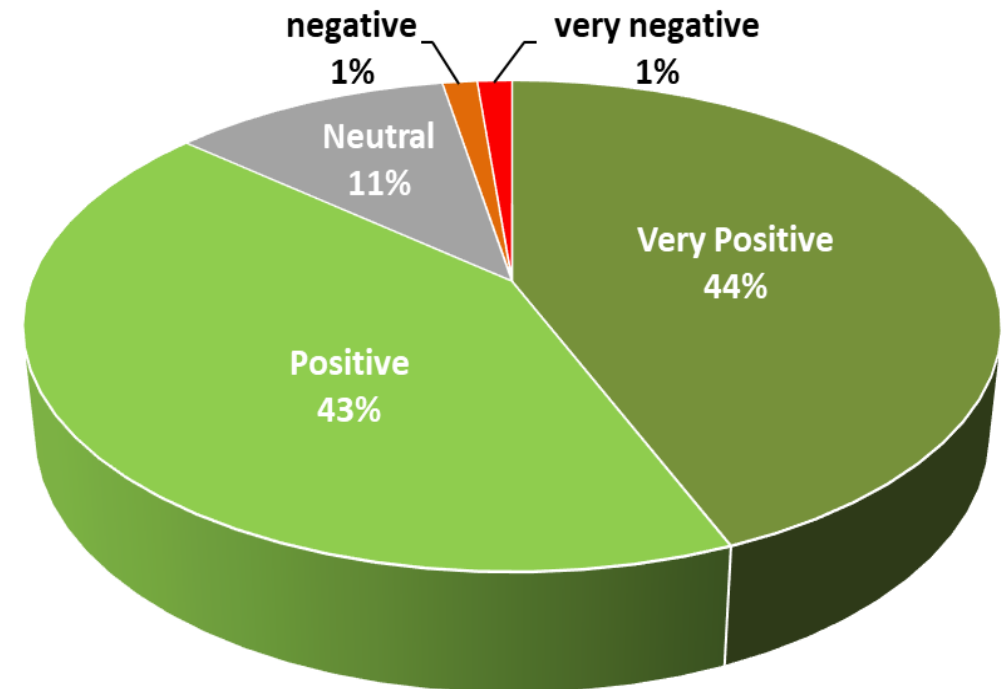


Figure 38. Future

# Copernicus – Impact on the business (2)

Companies were asked about the estimation of Copernicus's impact on companies' business every year. This question stems from concern in a few companies about the impact of the free and open data policy.

Figure 39 confirms our previous results with an increase of the very positive present impact.

This chart also shows a key trend about an expected positive impact of Copernicus for the future.

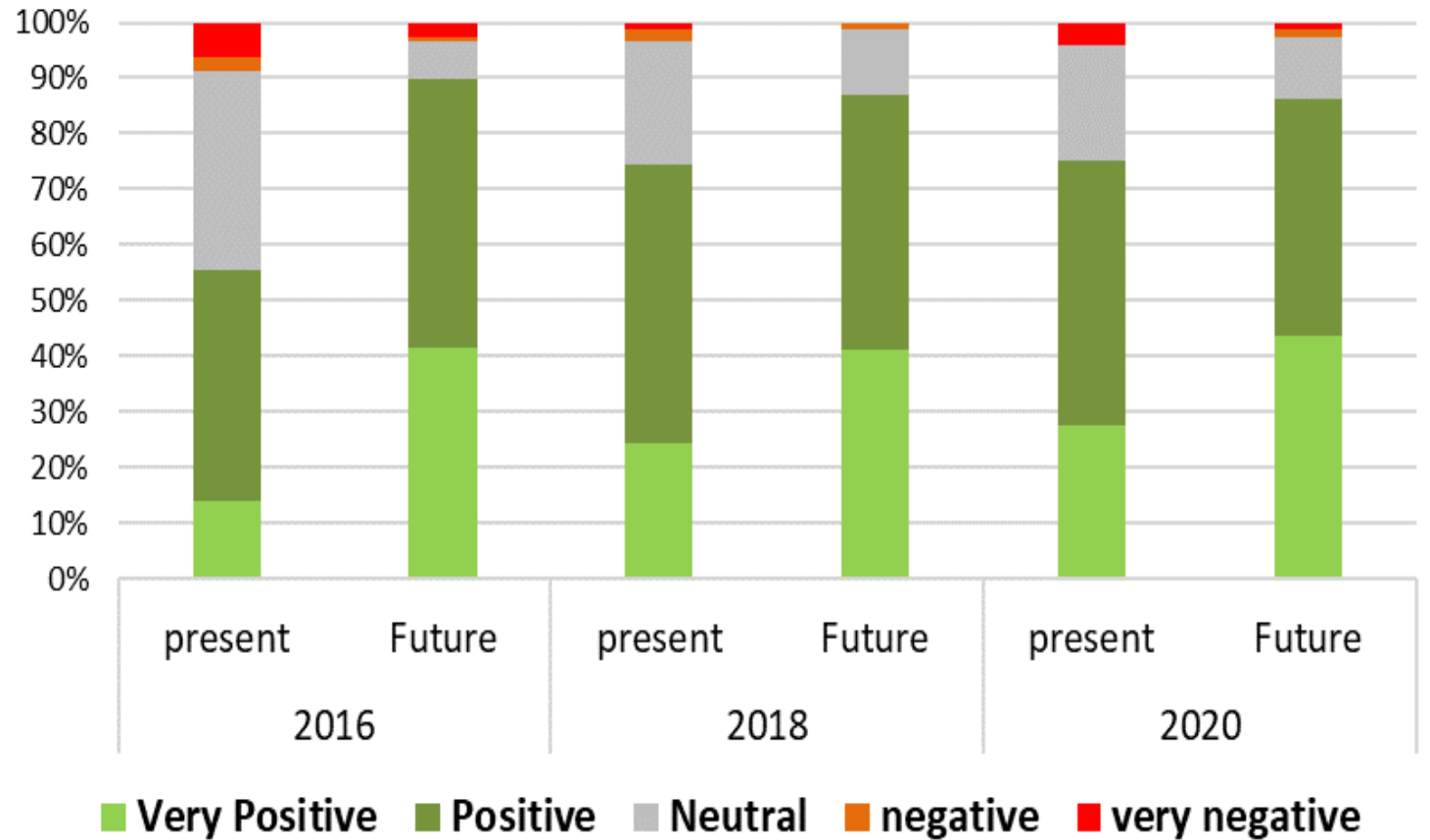


Figure 39. Comparison of the estimation of Copernicus' impact on companies' business

# Copernicus- Access to Sentinel data (1)

The access to Sentinel data is crucial for companies. Here we have a comparison of the use of different platforms.

We can see that in 2020 more than 35% of our respondents use the Copernicus Open Access Hub and around 25% use the Sentinel Hub and the DIAS.

It is interesting to note that the use of the DIAS increased significantly between 2018 and 2020.

Note: We do not have figures to make a comparison for Sentinel Hub and Google Earth Engine because these two platforms were included in the question this year for the first time.

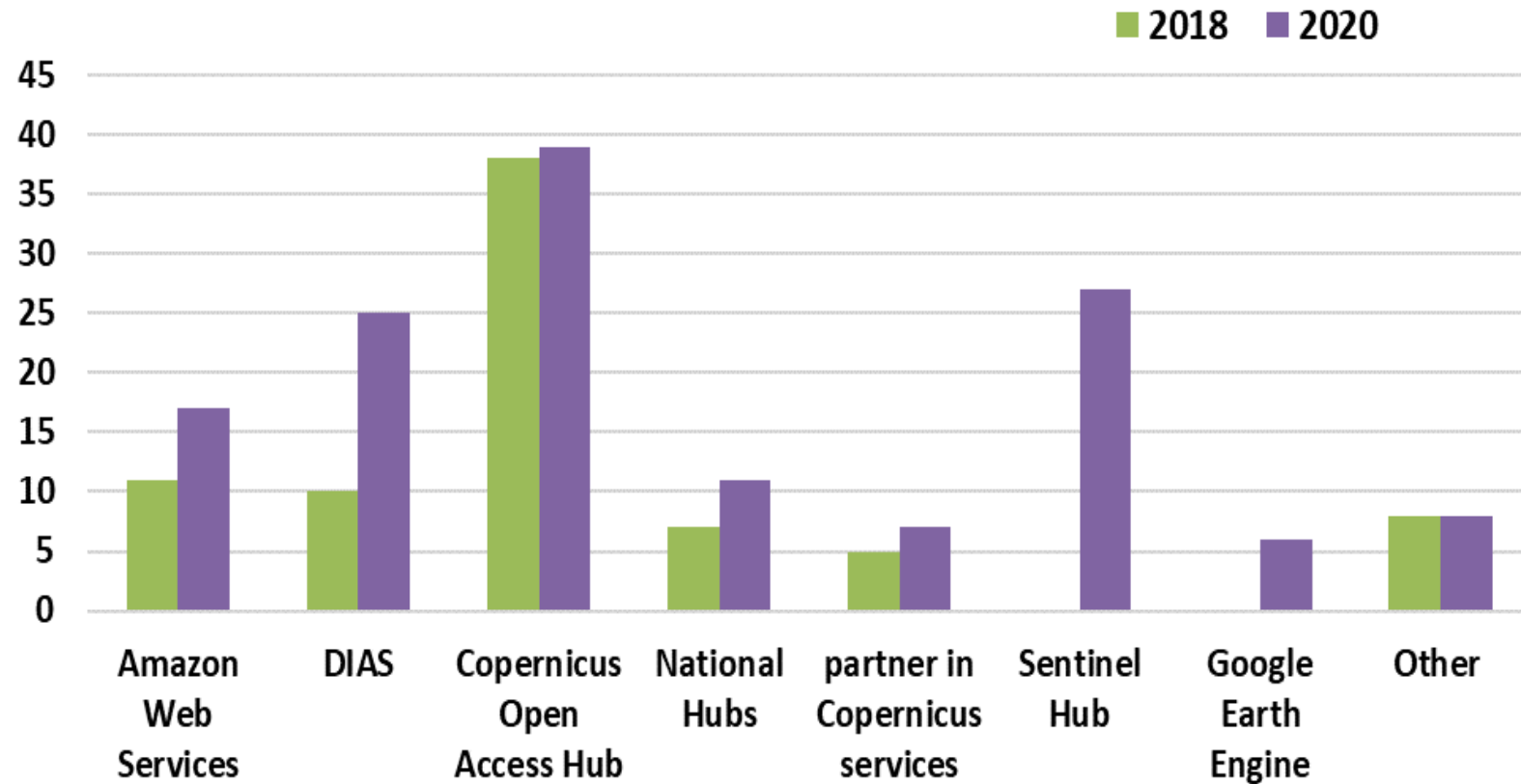


Figure 40. Most frequently used route to access Copernicus data

# Copernicus- Access to Sentinel data (2)

We asked companies why they were using the platform identified in figure 40.

It seems that the easy access is the most important reason, followed by the convenience of use and costs.

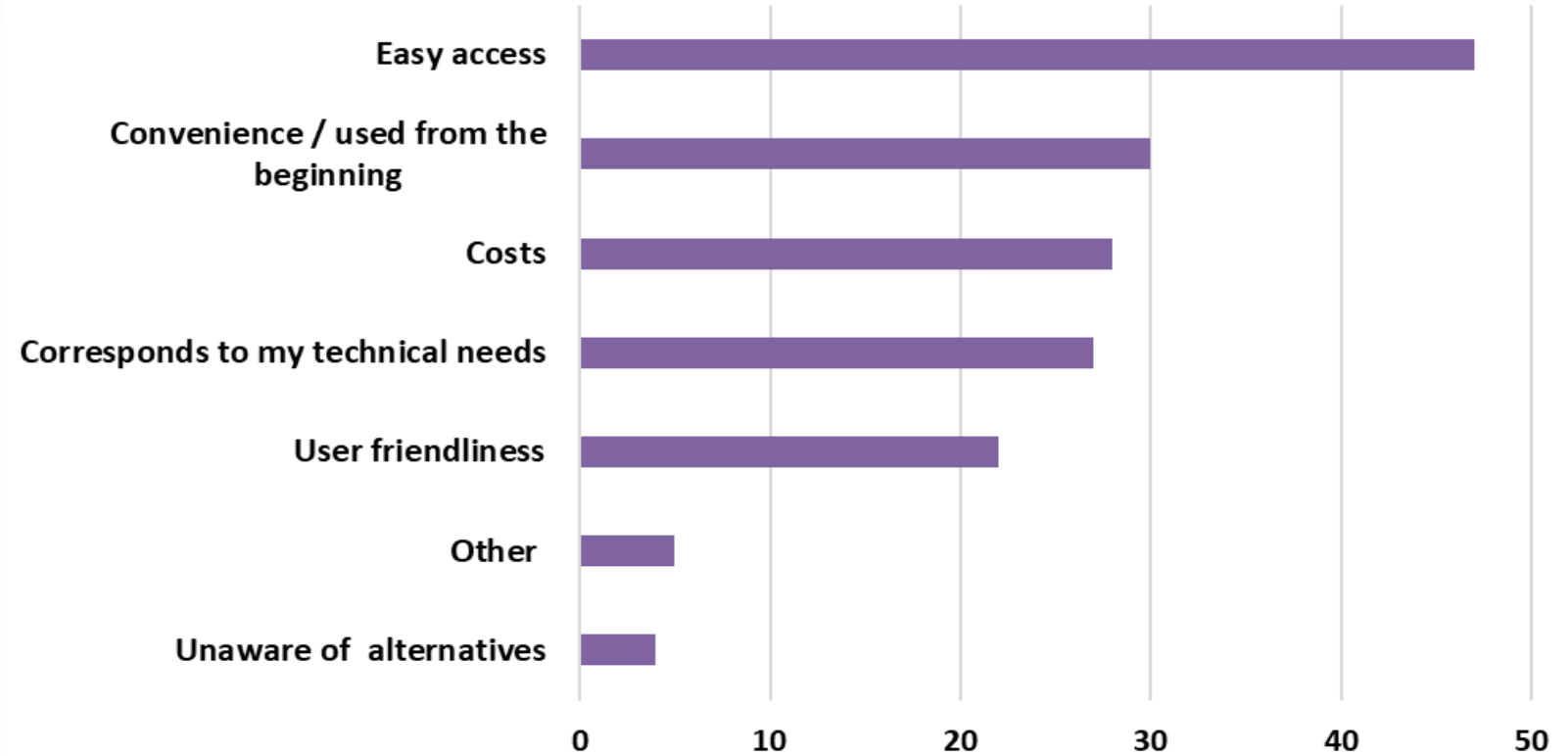


Figure 41. Why are you using this platform?

# ESA initiatives

Digital Twin Earth, ESA  $\Phi$ -lab and InCubed represent opportunities for the EO Downstream services sector to develop an application or a service with the support of ESA.

The responses demonstrate that the majority of respondents are aware of the three ESA initiatives and a good proportion is either participating or intend to participate.

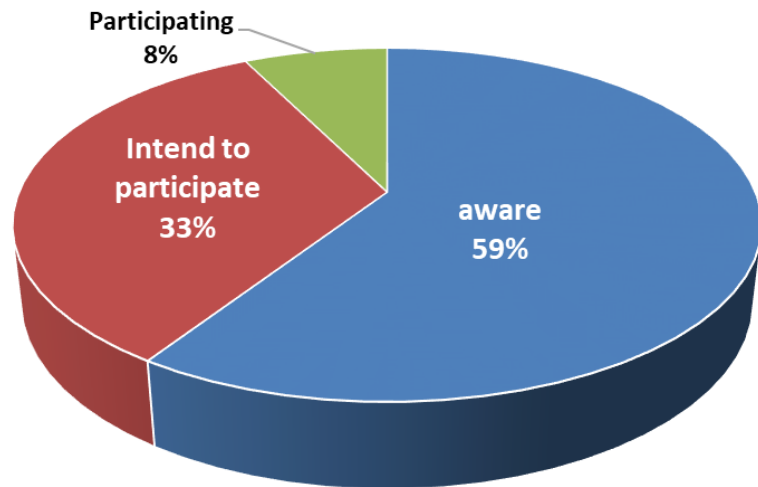


Figure 42- Digital Twin Earth

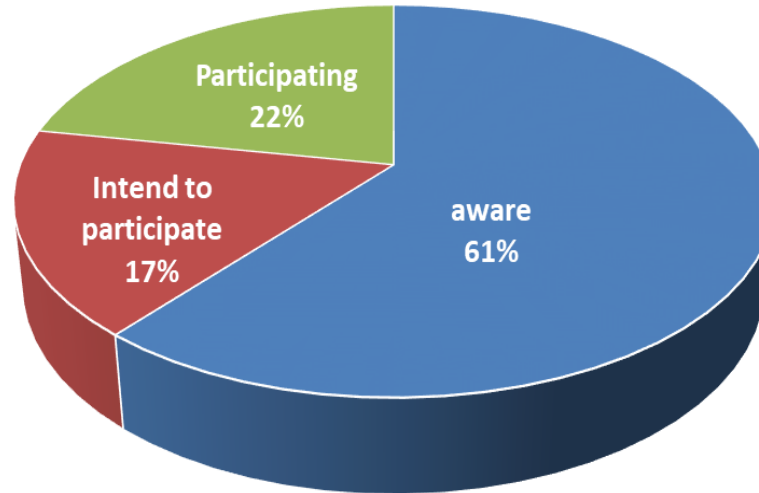


Figure 43- ESA  $\Phi$ -lab

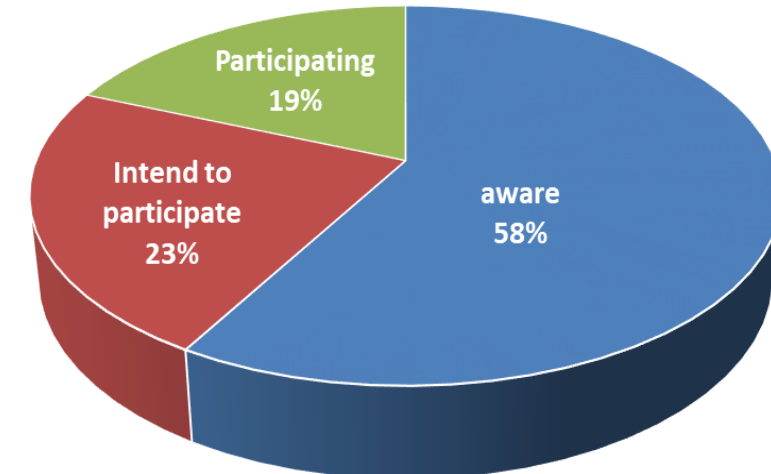


Figure 44- InCubed



# Future Technology Path- Use of Artificial Intelligence (AI)

Artificial intelligence (AI) and Machine Learning have great potential to add value to processing and analysis of EO data.

This is the first time that we ask a question about the importance of AI. We wanted to evaluate the current use of AI among our industry. It appears that 31% of the respondents are already using AI in their production line and AI is at the heart of the business strategy of 26% of the companies surveyed. Only 2% of companies do not consider AI to be useful for their business.

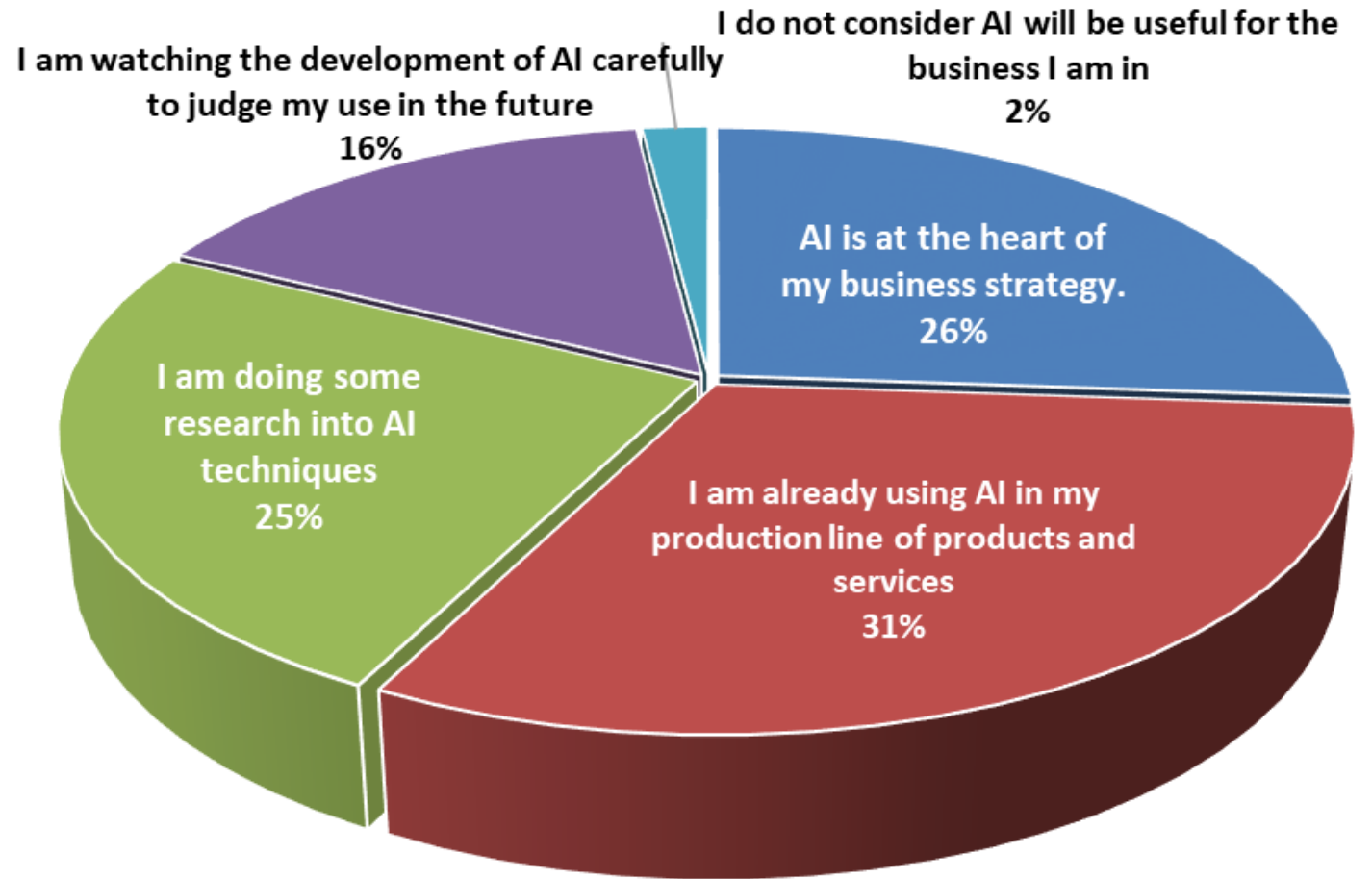


Figure 45. Do you plan to work with AI?

# Postscript

This report covers the results coming from the 2st survey conducted at an interval of one year from the previous one. It has covered all aspects of our full industry survey.

The more direct method, introduced for the 2019 survey, has shown its value and we are able to develop a better understanding of some of the dynamics of the sector – especially linked to start-ups.

The EO downstream services industry is a very dynamic and rapidly evolving sector. In light of the latest technological developments, we introduced new questions in this survey in order to identify future trends.

This survey also provides the first results of the Covid crisis' impact in the sector. Nevertheless, we may have a better knowledge of the consequences of the pandemic next year.

We shall start the next survey at the end of 2021 and expect to publish results in Summer 2022.

Any comments or questions relating to this survey please contact us at [info@earsc.org](mailto:info@earsc.org)