March 2022

EBAN DATA MONTHLY REPORT

SpaceTech Across Europe

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SpaceTech Across Europe

An overview of investment activity between 2017 and 2021

Introduction and overview

In this EBAN Data Monthly Report, we present an overview of the investments in the SpaceTech companies done in Europe between 2017 and 2021, with a focus on the most recent years 2020-2021. The analysis presented below is supported by a list of 918 deals gathered through the EBAN Space community and our partner Dealroom.co, a platform that gathers all publicly disclosed information on funding rounds made in Europe and beyond. The deals were filtered by the following criteria: companies' headquarters based in Europe; type of technology utilised by the company and type of industry.

Even if more and more investment rounds are publicly announced, and public fundings such as grants are also disclosed, we are fully aware that information about many investments done are not publicly available. Therefore, these publicly undisclosed deals cannot be taken into account in reports such as this one. We are confident that the data presented in this report shows a valid overview of the SpaceTech sector and its trends although representing the visible investment market only. This report presents an overview of the investment activity across the European continent, not intended for comparison purposes with other markets around the world.

The SpaceTech sector includes projects and companies that adopt space technologies both for space and non-space applications. Given that, in this report we decided to add to the classic upstream/downstream classification an analysis by industry and thematic areas for the biennium 2020-2021. This allows to present the SpaceTech sector to non-space experts and investors in a broader and complete way. This categorization exemplifies the impact of space technologies outside the space industry.

Looking at the trend across the years 2017-2021, we can observe a surge of the investments in the SpaceTech sector, reaching 3.7 billion Euros in 2021. It is also clear from the data that the number of funded companies decreased over the years by approximately 50%.

Ultimately, the total amount invested in SpaceTech per country has been considered and compared with the contribution (in percentage) of each country to the ESA budget for activities and programmes.

Investments in SpaceTech in Europe

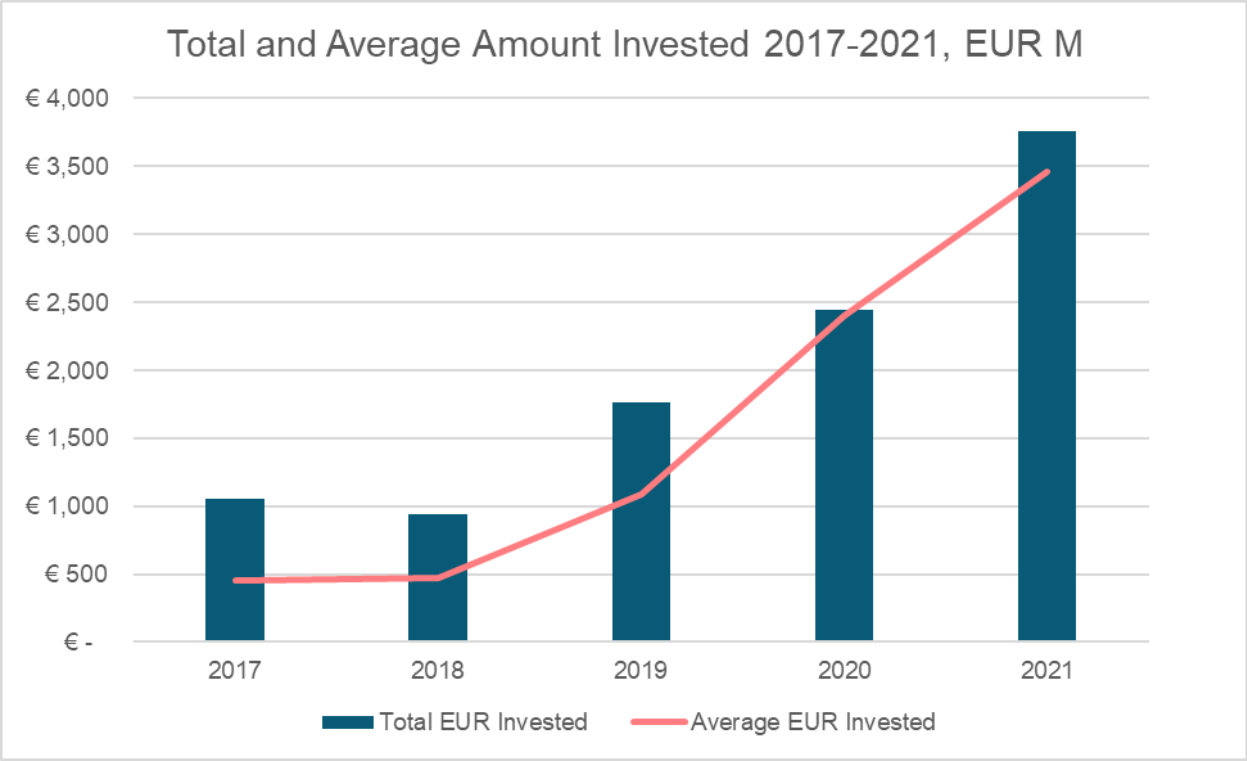


Diagram 1

The investments in SpaceTech are rapidly growing (CAGR of 37% during the period 2017-2021), with a distinct jump in the last two years, despite the spread of the virus Covid-19, which heavily impacted the global economy, especially in 2020 and 2021. In 2021, the total amount of Euros invested in SpaceTech companies exceeded 3.7 billion, i.e. more than four times the amount invested only three years before (in 2018).

We can clearly expect a similar, if not higher, growth of investments in the next 5-10 years since business opportunities in the SpaceTech sector are increasing, the adoption of space technologies in non-space sectors have been deeply fostered in recent years (e.g. EBAN-European Business Angels Network began collaborating with ESA in 2015) and European entities, such as ESA and EUSPA, are increasing their initiatives to support companies that are adopting space data and technologies.

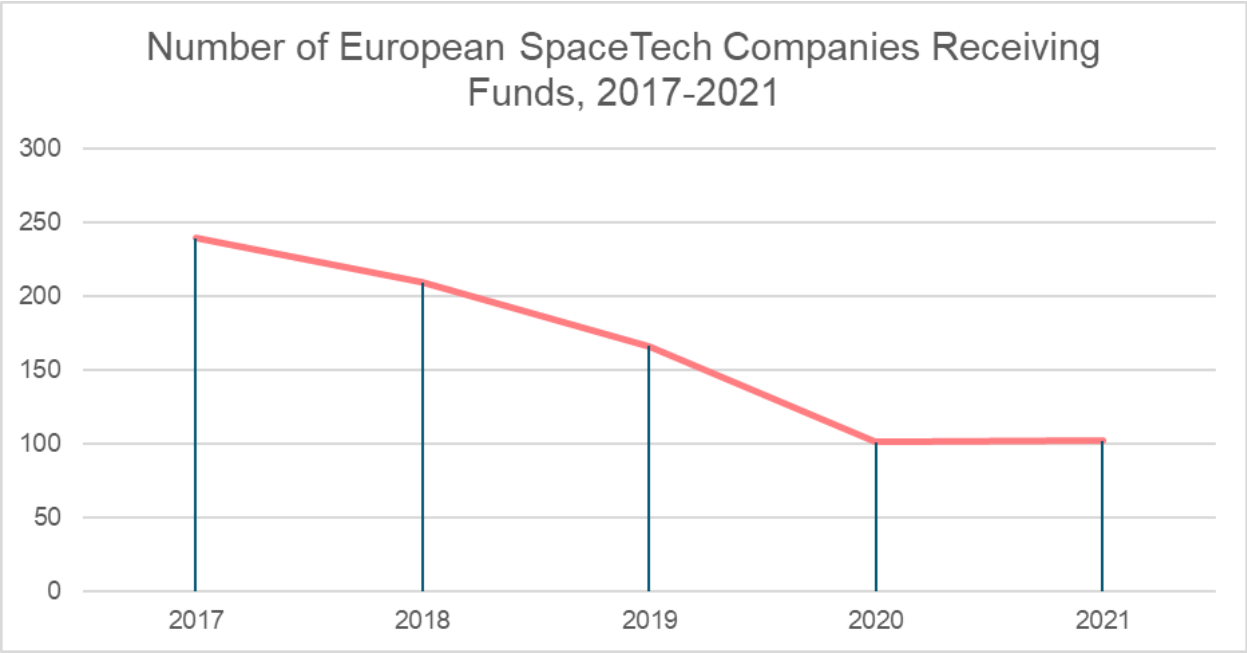


Diagram 2

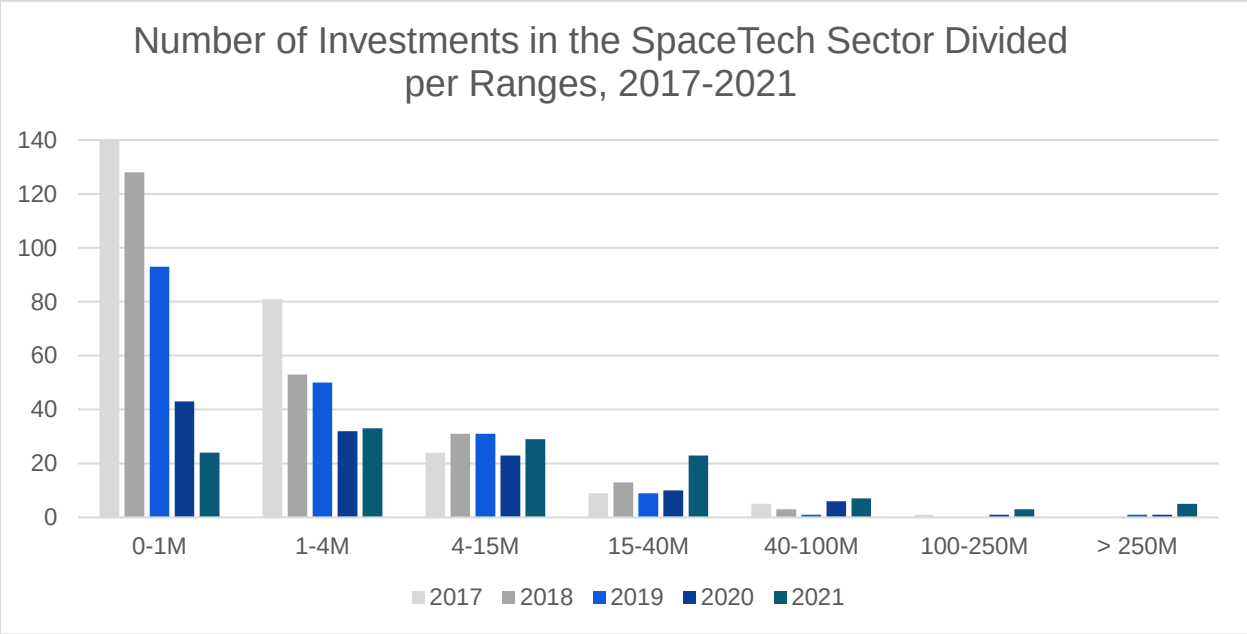


Diagram 3

It is relevant to note that **whereas the total amount of the investments per year is increasing, the number of companies receiving investment is decreasing**. This means fewer companies are receiving much larger funding amounts from investors. Moreover, around 30% of the companies in the period 2017-2021 received multiple investment rounds. These trends combined show a progressive increase in the average investment per deal (as also illustrated in diagram 1) and a "return of investment" for private investors within 3-5 years.

More details about the redistribution of the average amount invested per deal is presented in the diagram 3: the number of deals between 0 and 15 million Euros have decreased in the period

2017-2021 whereas deals above 15 million have increased. The number of investments between 15 and 40 million Euros had a significant increase in 2021: in this year the number doubled the average number of investments in the previous years. This is a clear sign of the increase of big investors in Europe and a progressive concentration of the investments into a small group of companies (a higher selection from the investor community). Observing this data we can expect a trend reversal in the upcoming years towards a Gaussian-like distribution: in particular, the increase of deals in the range 0-15 million, with a peak around the 4 million Euros.

Overall, we see a homogeneous redistribution of the number of deals among the different ranges in 2021. This can be identified as a sign of the maturity of the investment sector and of the vivid interest from the investor community into SpaceTech companies.

Upstream and Downstream

The SpaceTech sector is usually divided into two categories: upstream and downstream. The upstream category focuses on projects and activities connected to the space industry such as satellites, launchers and space exploration. While the downstream utilises the research and technology from the upstream in a range of different applications not related to space. The upstream encompasses the provision of technology such as space prime contractor, contract R&D, space component supplier, and space subsystems. The downstream covers the exploitation of technology such as satellite broadcast services, Earth observation, financial services and satellite communications.

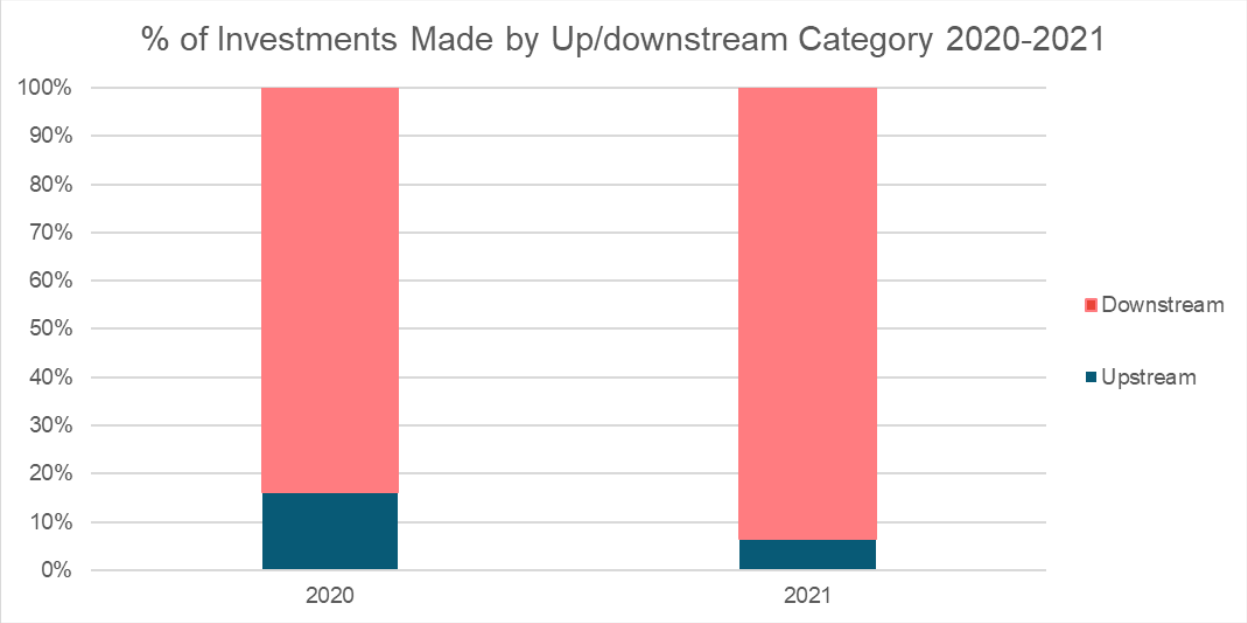
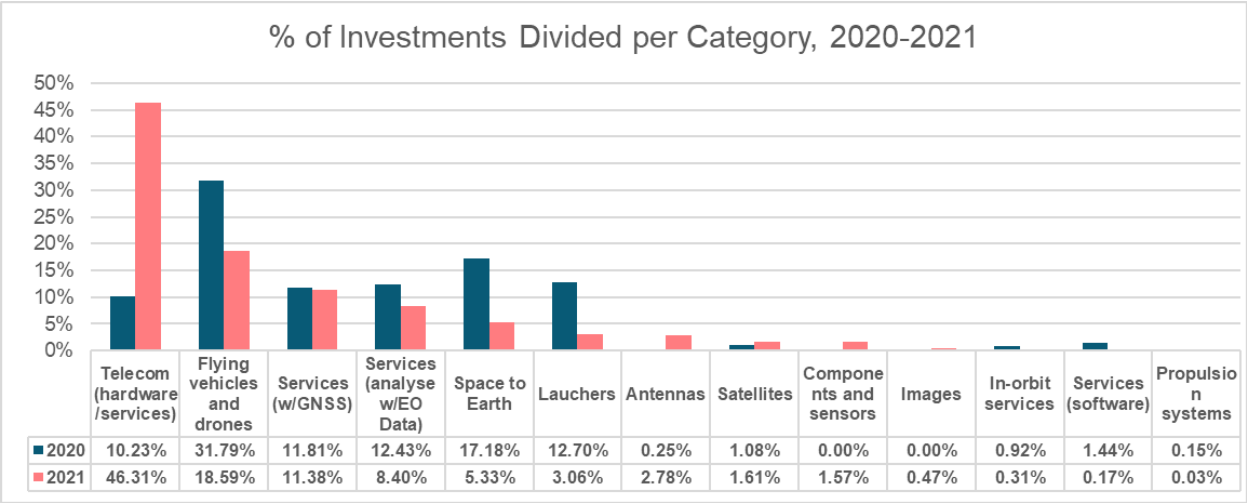


Diagram 4

Not surprisingly, at least for space enthusiasts, **downstream applications attract the majority of the investments in SpaceTech,** more than 80% of total private investments analysed (Diagram 4). Diagram 5, here below, well illustrates the use of space technologies mainly for downstream applications; two of the main technologies for downstream applications are Geopositioning

(GNSS) and Satellite data such as imagery, types of chemical elements in fields and soil composition.

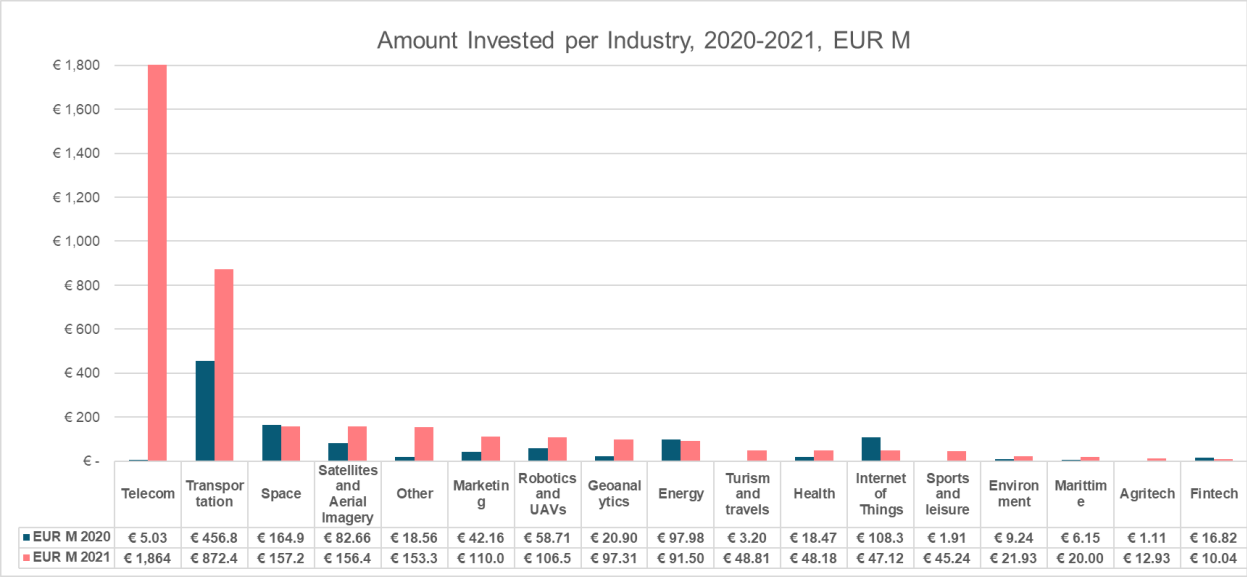


	Telecom (hardware /services)	Flying vehicles and drones	Services (w/GNSS)	Services (analyse w/EO Data)	Space to Earth	Lauchers	Antennas	Satellites	Components and sensors	Images	In-orbit services	Services (software)	Propulsion systems
2020	10.23%	31.79%	11.81%	12.43%	17.18%	12.70%	0.25%	1.08%	0.00%	0.00%	0.92%	1.44%	0.15%
2021	46.31%	18.59%	11.38%	8.40%	5.33%	3.06%	2.78%	1.61%	1.57%	0.47%	0.31%	0.17%	0.03%

Diagram 5

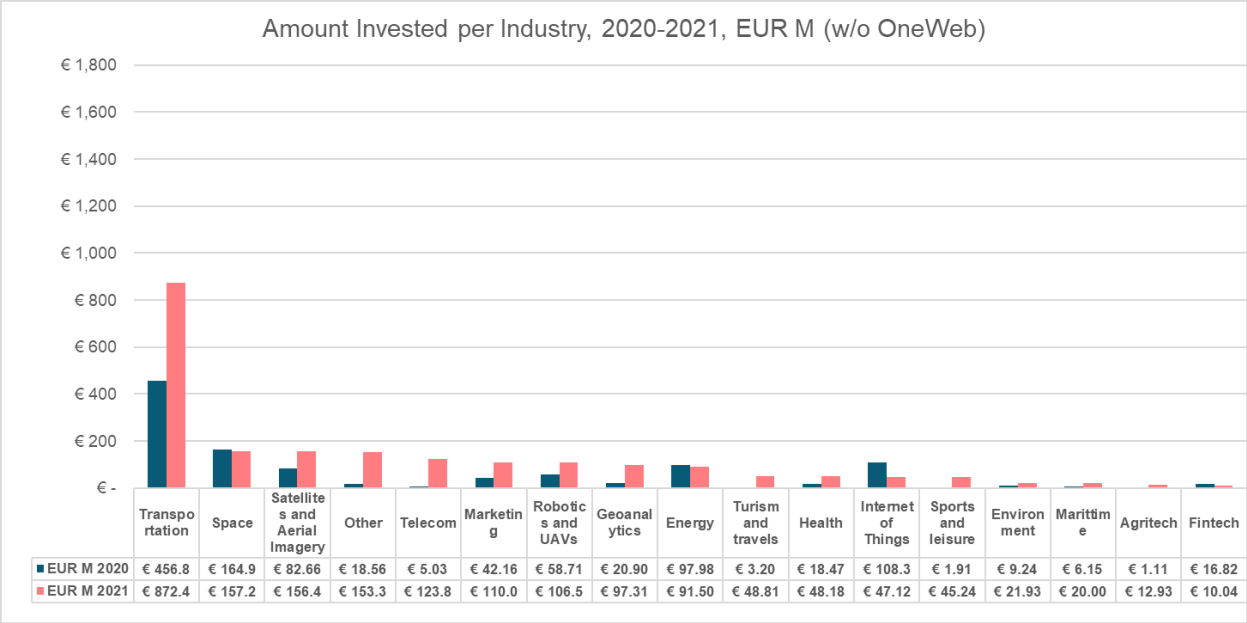
Spectrum of SpaceTech companies by thematic area

In this report **we also want to show the impact of space technologies in non-space sectors**. Even though the main objective was to highlight the various industries targeted by the SpaceTech companies, we immediately found it challenging to illustrate the extremely broad range of sectors SpaceTech companies can operate in. Furthermore, SpaceTech companies often can fit into more than one industry such as, for example: agritech and insurtech. In order to create a cleaner classification we assigned each company to only one main sector and we created "thematic areas" such as Environment and Geoanalytics. This final classification can provide a comprehensive overview of the markets impacted by the European SpaceTech companies.



	Telecom	Transportation	Space	Satellites and Aerial Imagery	Other	Marketing	Robotics and UAVs	Geoanalytics	Energy	Turism and travels	Health	Internet of Things	Sports and leisure	Environment	Marittime	Agritech	Fintech
EUR M 2020	€ 5.03	€ 456.8	€ 164.9	€ 82.66	€ 18.56	€ 42.16	€ 58.71	€ 20.90	€ 97.98	€ 3.20	€ 18.47	€ 108.3	€ 1.91	€ 9.24	€ 6.15	€ 1.11	€ 16.82
EUR M 2021	€ 1,864	€ 872.4	€ 157.2	€ 156.4	€ 153.3	€ 110.0	€ 106.5	€ 97.31	€ 91.50	€ 48.81	€ 48.18	€ 47.12	€ 45.24	€ 21.93	€ 20.00	€ 12.93	€ 10.04

Diagram 6A



	Transportation	Space	Satellites and Aerial Imagery	Other	Telecom	Marketing	Robotics and UAVs	Geoanalytics	Energy	Turism and travels	Health	Internet of Things	Sports and leisure	Environment	Marittime	Agritech	Fintech
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Diagram 6B

As we can see from the diagram 6A, 2021 seems to have been the year of Telecom companies. In the past year, OneWeb received more than 1,590 million Euros in investments. However even if this unusually high investment is excluded, the total amount invested in Telecom companies in 2021 is still 123 million Euros. This means **Telecom remains in the top five most funded sectors.** Considering the sum of the amounts invested in each sector, **Transportation** is the leading industry with more 1,330 million Euros invested in 2020-2021, followed by **Space and Satellites and Aerial Imagery**. A detailed explanation of the different thematic areas is presented here below.

<u>Taxonomy used:</u>

AgriTech: services and products for agriculture fields, like monitoring, and on field activities via drones.

Energy: products and services related to energy such as efficiency, production and storage. Also activities for maintenance and surveillance are included in this category.

Environment: services and products related to environmental activities such as health of forestry areas, pulling emissions, weather conditions and disaster management (monitoring and alert systems for major adverse events).

FinTech: services connected to the financial sector such as price forecasting for commodities, it also includes insurance (InsurTech).

Geoanalytics: services obtained by the combination of mapping, satellite and aerial imagery, and field data (e.g. pollution, temperature, type of field). These services are often supported by Artificial Intelligence and Machine Learning technologies. Potential markets and clients are: automotive, insurance, municipalities, real estate, financial services, marketing, retail, transportation and logistics. Companies marked with Geoanalytics usually provide products and

services to multiple types of customers, thus we decided to create the group *Geoanalytics*. Where possible we decided to mark the companies with a focused business under a more specific industry such as, for example, agritech, marittime or transportation.

Health: products and services with an impact on people's health such as geolocalisation apps for virus, air purifiers or toxin detectors.

Internet of Things: companies producing sensors and "things" connected to a network. Also all companies providing services connected to Internet of Things are inserted in this category, however if the service is targeting a specific sector or area such as marketing, sport and leisure or agritech we prefered these ones.

Marketing: companies developing products and services for marketing purposes, for example data analytics on people behaviour in shopping centres.

Other: 3D mapping, science and engineering and security.

Robotics and UAVs (Unmanned Aerial Vehicles), this includes services of inspections and surveillance via drones, monitoring and surveillance, and companies in logistics and delivery with drones.

Satellite and Aerial Imagery: products and services aiming at producing and collecting images from satellites or drones. Companies in this category produce products (e.g. optical sensors) aiming at providing satellite and aerial images in high quality, and softwares to boost their management. Usually the images from these companies require an extra step or analysis before reaching the end users such as municipalities, institutions or private companies. See "Geoanalytics" for more information.

Space: products and services for the space sector, for example companies developing launchers, micro and nano satellites, management software for in-orbit operations and high-tech components and instruments.

Sport and leisure: products and services for all types of sports such as sensors and softweare able to improve the tracking for runners. In this category are also included products and services for the spare time with animals or friends.

Telecom: telecommunication networks, components and softwares for communications services.

Transportation: flying and terrestrial vehicles for transport, services/products for logistics and delivery, navigation and mapping for vehicles and transport organisations.

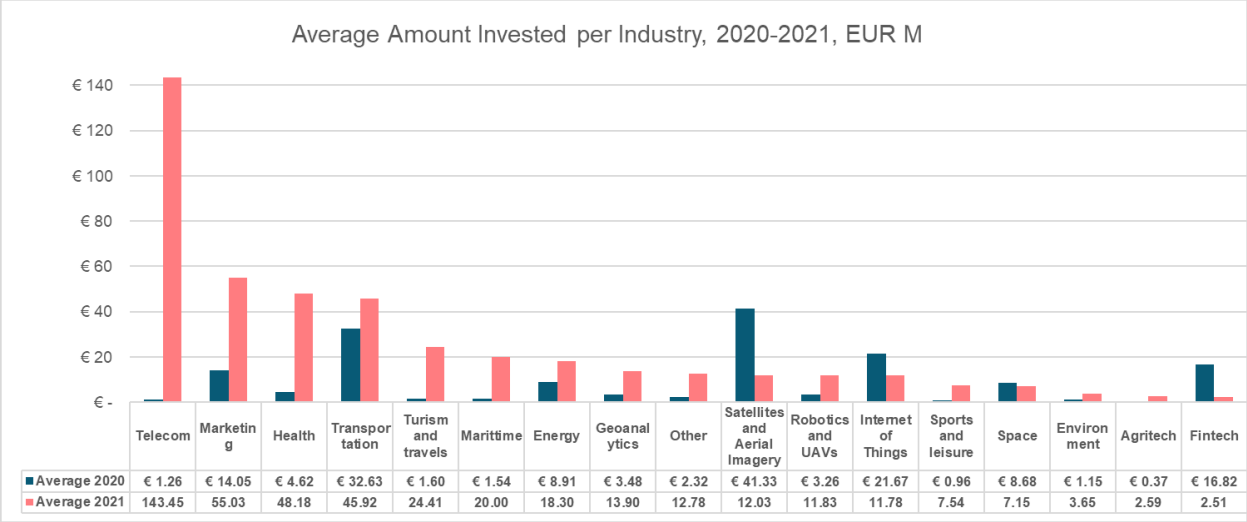

Diagram 7A

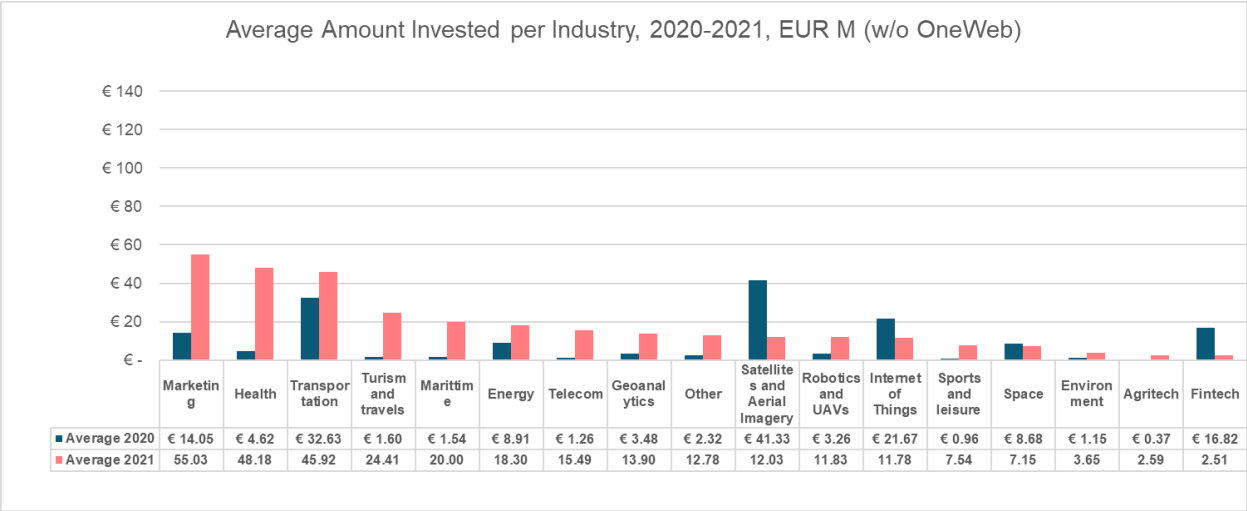

Diagram 7B

Observing the average amount invested per deal per sector we can get an idea of the investors' and market's mood, especially if we observe the range of capital invested. The majority of the sectors are in a growing phase: the average amount invested is generally increasing, sometimes even extraordinarily, such as in Health, Tourism, Marketing, and Maritime. The Space sector seems to be stagnant or in a transition phase, since the average amount is not showing any fluctuation: it is stable at 7-9 million Euros per deal in both 2020 and 2021. The only areas in which the average amount invested is decreasing are Satellites and Aerial Imagery, Internet of Things, and Fintech. Investors were probably looking for early-stage deals.

Combining the data obtained in diagrams 7A-B and diagrams 6A-B, it is possible to identify some fluctuations in markets and investments, thus we can make some predictions on future trends. For example, the "Internet of Things" (IoT) is clearly in its decreasing phase of interest from spacetech investors (Diag.6), and the average amount invested is also decreasing (Diag.7); thus we can expect a trend inversion in the next years since the IoT market is still growing. For Health, Tourism and travel, Sport and leisure we see a very rapid growth both in investments

and in the average amount invested. These trends could be related to the spread of Covid-19. Thus, we can expect a growth in the next years in the average amount invested per deal, as inertia of the current situation, followed by a stability phase, if not a decrease, due to the need to counteract the inflation of the investments in this period.

Investments in European SpaceTech companies by country

The two following graphs show the total amount invested in 2020 and 2021 combined in SpaceTech companies by countries. Since many companies have more than one office, we considered the country of their headquarters.

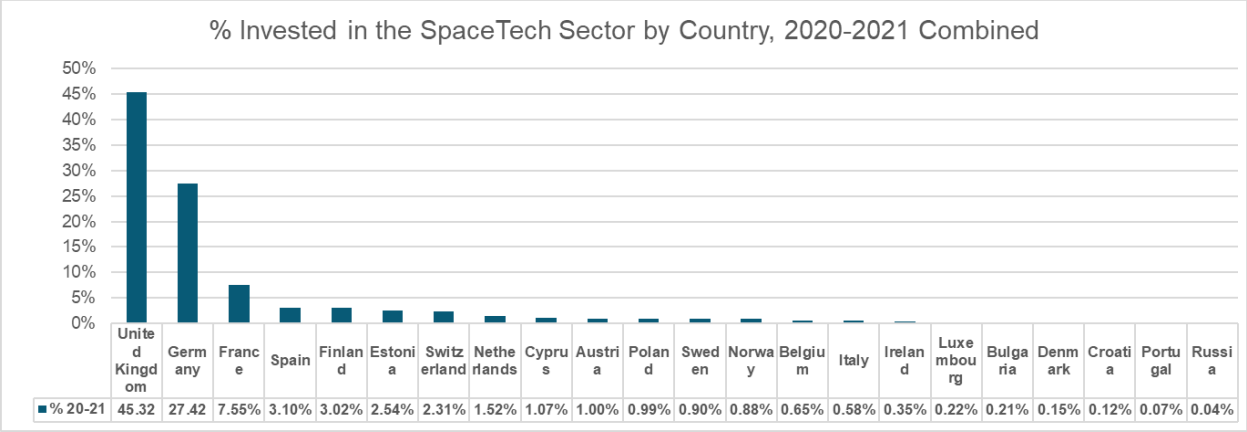

Diagram 8A

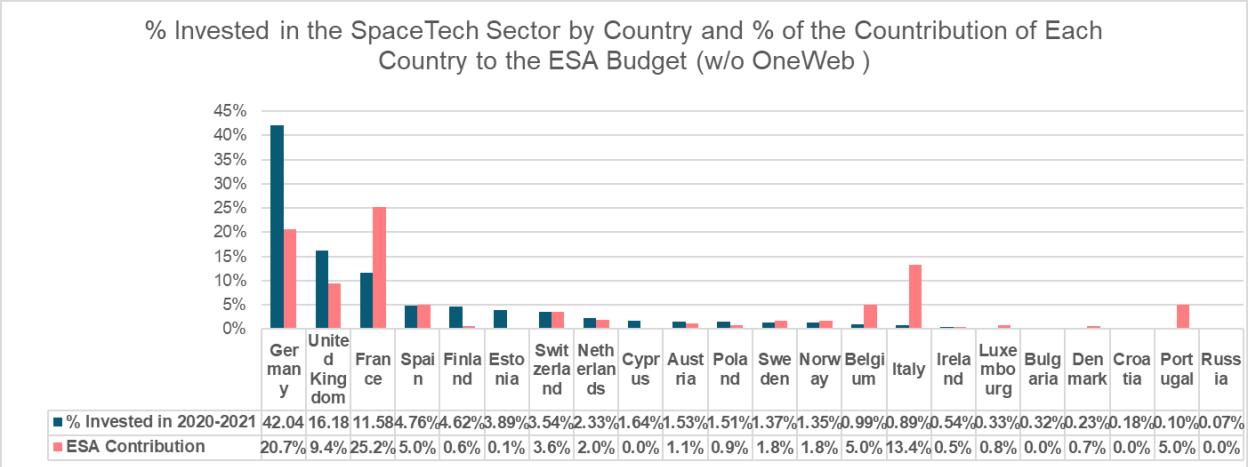

Diagram 8B

The United Kingdom is clearly the leading country in *Investment Attractiveness* in the period 2020-2021. However, if we exclude the exceptional investments done on OneWeb (Diag. 8B) the leading country in Europe is Germany, whereas France keeps a solid third place. These three countries together, among the 22 countries listed, attracted the surprising 75% of all investments done in 2020-2021.

It is relevant to compare this percentage with **the contribution of each country to the ESA budget (Diag. 8B)**. In 2020-2021 the major countries contributing to the ESA budget are: France (25.15%), Germany (20.7%), Italy (13.35%) and the United Kingdom (9.35%), followed by Spain (5.0%) and Belgium (4.95%). Germany, France, the United Kingdom and Spain are also the countries with the biggest ecosystems of companies and attractiveness for SpaceTech investors as we can see from the diagram above. However, it is surprising to see Italy, Belgium and Portugal, three of the largest contributors to ESA activities and programmes, among the countries with the weakest ecosystems or investment attractiveness. Compared to their contribution to the ESA budget, Estonia and Finland are the countries with the highest return on investments, thus with a solid ecosystem of companies and investors.

Sources:

https://www.esa.int/ESA_Multimedia/Images/2020/01/ESA_budget_2020
https://www.esa.int/Newsroom/ESA_budget_2021

Conclusions

Overall the SpaceTech sector presents all the aspects of a growing sector from the investment point of view. It is at the beginning of a maturity stage. Indeed, the number of investments are redistributed homogeneously among the ranges presented in the Diagram 3. This is a clear sign of the strength of the sector and a sign of a constant and progressive interest from big investors into SpaceTech.

In 2020-2021, the European scenario on *Investment Attractiveness* appears very unbalanced with its centre of gravity positioned in only three countries. Some Nordic countries look very promising, whereas the weaknesses of Southern and Easter European countries are pointed out. SpaceTech will keep growing on attracting private fundings in the upcoming years (we expect a similar growth observed in the period 2017-2021, with a CAGR of 37%). Thus, the opportunity for European countries to strengthen their ecosystems is still in place.

The United Kingdom was the pioneer country in launching UK SpaceTech Angels and Seraphim Space Fund in 2016. If we consider 5 years as the usual time for a return of investment, we can now (in 2021, five years later) see the effect of such visionary action. Italy launched its space fund (Primo Space) in 2020, so that we expect a relevant change from 2025. Many other countries, such as Luxembourg with Orbital Ventures and Luxembourg SpaceTech Angel Network, are continuously launching or strengthening their SpaceTech investments, thus the upcoming years seem very promising.

About EBAN DATA

EBAN Data is an initiative, launched by the European Business Angels Network (EBAN – www.eban.org) in the beginning of 2020, aimed at elevating the quality of business angel investment research done locally across Europe by business angel networks (BANs) and national associations of business angel investors.

About EBAN

EBAN is the pan-European representative for the early stage investor community gathering over 150 member organizations in more than 50 countries today. Established in 1999 by a group of pioneer angel networks in Europe with the collaboration of the European Commission and EURADA, EBAN represents a sector estimated to invest 11.4 billion Euros a year and playing a vital role in Europe's future, notably in the funding of SMEs. EBAN fuels Europe's growth through the creation of wealth and jobs.

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