

SpaceTech in Switzerland

2021/Q4

December 2021

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TABLE OF CONTENTS

Introduction	2
Methodology and Approach	3
SpaceTech in Swiss 2021 Ecosystem	5
Leading SpaceTech Companies Based in Switzerland	11
Leading SpaceTech Investors Based in Switzerland	25
Distribution of SpaceTech Nonprofits, R&D Centers, and Hubs in Switzerland	34
Swiss SpaceTech Influencers	42
Major SpaceTech Trends and Government Policy in Switzerland	48
Conclusions	58
Disclaimer	60
About SpaceTech Analytics	61

This case study is focused on the state and development of the **SpaceTech in Switzerland** as of December 2021. Switzerland represents one of the most innovative and research-focused spots on the world map. The SpaceTech Industry has seen representation in the Swiss market for several decades now and became a significant sector in the Swiss economy. The case study is based on the analysis of over **70 Swiss SpaceTech companies**, operating in the market with more than **40 investor companies (20+ are Swiss-based)**. Switzerland is also a bustling hive of **R&D companies and Hubs** for the SpaceTech Industry, with **over 20** of them forming the basis for this case study.

With several major Swiss companies achieving significant advances in their sphere in recent years, there are **numerous prospects** for further development of SpaceTech in Switzerland. The country has already achieved **major progress** in developing and expanding the SpaceTech sector, providing the industry with additional levels of technological progress and hosting a significant number of SpaceTech companies, events, and activities within its borders.

SPACETECH ANALYTICS METHODOLOGY

Database

Identification of relevant:

- Companies
- Investors
- Hubs
- Universities and Research Centers
- Government Ministries, Departments , and Agencies
- Space Associations

Applied Research & Analytics Methods

Descriptive
Analysis

Mixed Data
Research

Exploratory Data
Analysis

Comparative
Analysis

Qualitative Data
Collection

Data Filtering

Data Sources*

Media Overview
(Articles, Press Releases)

Industry-Specialized
Databases

Publicly Available Sources
(Websites)

Industry Reports and
Reviews

Interviews with Industry
Leaders

Relying on various research methods and analytics techniques, this report provides a comprehensive overview of the space industry. This approach has certain limitations, especially when it comes to leveraging publicly available data sources and secondary research. SpaceTech Analytics is not responsible for the quality of the secondary data presented herein; however, we do our best to eliminate said risks by using different analytics techniques and cross-checking data. Please note that we did not deliberately exclude certain companies from our analysis. The main reason for their noninclusion was incomplete or missing information in the available sources. Concerning the investors in the main database, we include only institutional investors who have invested into SpaceTech or SpaceTech-related companies. The companies included in the database belong completely to the SpaceTech Industry; that partially belong to it through working with clients from the SpaceTech Industry; or that have separate departments in a SpaceTech company which works in this sector or cooperates with clients from this sector.

EXECUTIVE SUMMARY

Switzerland is one of the most appealing countries for the development of the innovative, research-heavy hi-tech sectors of industry, of which the SpaceTech sector is a part. Currently, there are numerous Swiss companies which are either fully engaged in the SpaceTech Industry or are providing supportive services for the sector.

Switzerland has been actively involved in this field since the dawn of the space age. It is a competitive and reliable partner in the space sector, both **within Europe and across the globe**. Thanks to its innovative strength and precision technology, Switzerland has gained a solid and acknowledged position in strategically **significant fields** like space exploration and satellite communication.

In terms of regional representation, the two cantons of **Zurich** and **Vaud** stand out in regard to the number of both companies and investors situated in them. **More than half of the companies** that form the basis of this report are located in those two regions while the investor representation is weighted even more heavily toward those two cantons.

Space activities occupy an important place in our society. Beyond their scientific contribution to exploring Earth and the universe, they have become an integral part of our daily lives. Switzerland excels above all in **structures for launchers and satellites** (including components of European rockets Ariane and Vega), **precision mechanisms, atomic clocks** (notably, for the European navigation system Galileo), **optical communication, and on-board electronics**.

The high demands for reliability, precision, and miniaturization, along with strong competitive pressures in the space industry, play a **major role** in encouraging Switzerland's **capacity to innovate**. With its 12 universities and two institutes of technology, Switzerland is at the forefront of research in many areas.

In addition, there is a number of different R&D organizations and hubs that provide additional support to the SpaceTech sector originating in Switzerland. Moreover, with the presence of several major organizations like the **Swiss National Science Foundation (SNSF)**, the Swiss R&D sector of the SpaceTech Industry can be expected to grow even further.

SpaceTech in Swiss 2021 Ecosystem Overview

December 2021
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SpaceTech in Switzerland
Q4 2021

Companies – 73
Investors – 21
R&D and Hubs - 25



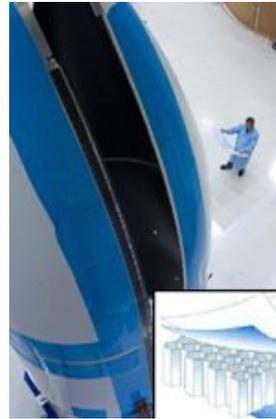
SWISS SUCCESS STORIES IN SPACE

Swiss participation in the European Space Agency (ESA) has enabled Swiss research institutes and companies to acquire excellent competencies in state-of-the-art scientific and technological fields. They regularly demonstrate their expertise in the form of essential components or software for international space exploration projects. Some of the most remarkable Swiss achievements in the space sector are listed below.



Claude Nicollier – Swiss ambassador in space. He has flown on four space shuttle missions. His first spaceflight (STS-46) was in 1992, and his last spaceflight (STS-103) was in 1999.

Claude Nicollier is currently the only Swiss astronaut. After 12 years of training, he flew into space for the first time on July 31, 1992, on board the US space shuttle Atlantis. He then went on three other space flights, including two missions to maintain the Hubble Space Telescope. Today, as professor at the Swiss Federal Institute of Technology Lausanne (EPFL), he shares his unique knowledge and experience with new generations.



Swiss-manufactured payload fairings for European launch vehicles Ariane and Vega. RUAG Space AG has been involved in the space sector for over 40 years. The company holds a solid position thanks to its ultra-light and highly robust structures.

RUAG Space AG is one of the main manufacturers of payload fairings based on composite materials technology. It supplies these fairings for the European launch vehicles Ariane 5 and Vega. This Swiss product has proven to be extremely reliable in over 200 Ariane launches so far.

SWISS SUCCESS STORIES IN SPACE

SwissCube-1 - Switzerland's first satellite



SwissCube is the first satellite to be entirely built in Switzerland. A small cube measuring 10 cm on each side and weighing only 1 kg, this picosatellite was designed and built under the guidance of the EPFL Space Center in partnership with various Swiss universities (of applied sciences).

Swiss atomic clock



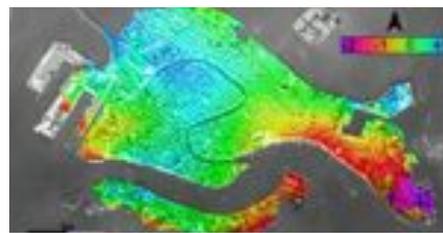
Rubidium technology, developed in Switzerland, has enabled the design of an atomic clock based on the Rubidium Atomic Frequency Standard (RAFS). These clocks are highly appreciated for their extreme precision and stability.

Solar particle collector experiment on the lunar surface



The first scientific experiment ever conducted by a manned mission to the moon originated in Switzerland. During Apollo missions, lightweight particle collectors fixed to poles were planted on the lunar surface to analyze the "solar wind" (flow of solar particles). They were made of thin aluminum foil sheets.

Lowering and elevation of terrain, e.g., Venice



The image shown here is an illustration of a spectacular application of modern satellite data: the radar interferometry method was used to generate this image, which highlights surface deformations in Venice.

Since the 1960s, space research discoveries have considerably broadened our understanding of the universe. Through the achievements of ESA's scientific program, Europe now plays a major role in infrared astronomy, X-ray astronomy and astrometry as well as in solar system research and observation of the sun. In its long-term program Cosmic Vision 2030, ESA established an objective of maintaining, and even strengthening, Europe's key role in space research.

Swiss contributions to ESA science missions

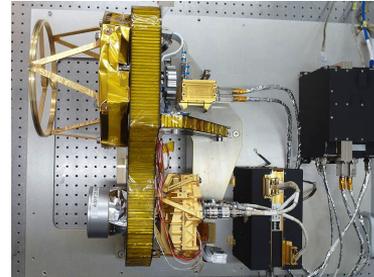
Mission Giotto: ESA's first deep-space mission

BepiColombo Laser Altimeter BELA

Rosetta mission: Philae lander sees comet through "Swiss eyes"

Launch of Solar Orbiter with Swiss STIX instrument

Internationally competitive, Swiss space industry holds a solid position in the technologies required in numerous projects to develop science satellites and space probes, ensuring a strong position of Switzerland in such projects. With CHEOPS, Switzerland is for the first time in the driver's seat for a space science mission. The mission was launched in December 2019 and has recently started its scientific operations, with planned duration for 3.5 years. A complete overview of over 60 Swiss space-research activities can be found in the publications of the Swiss Committee on Space Research (CSR) and the Swiss Academy of Sciences (SCNAT).



University of Bern

TECHNOLOGICAL SWISS DEVELOPMENTS FOR SPACE EXPLORATION

The ongoing development and standardization of new technologies are crucial factors in successful and long-term technological innovation. The State Secretariat for Education, Research, and Innovation's (SERI) **Swiss Space Office** supports the drivers of technological development, enabling them to acquire and preserve the expertise needed to become firmly established in a very competitive environment. Innovative technologies bring great added value when they traverse from new to standardized technology.

Technology transfer

It is not rare for companies or research institutes to apply expertise developed in the space sector to other fields or use technologies from other areas for space science. This is referred to as "spin-off" or "technology transfer" operations. In Switzerland, there have been several cases of successful technology transfer. One example is the company **Bcomp**, which has successfully adapted its natural fiber-based composite materials for use in space. In the future, this will make it possible to build rocket components and satellites that burn more thoroughly when they enter the atmosphere.

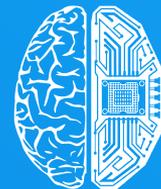
Main technological priorities for Switzerland

In concert with its space policy, Switzerland also pursues a niche strategy when it comes to technological development. It seeks to achieve – or defend and consolidate – a leading international position in specific sectors. To this end, Switzerland has established five technological priorities:

- 1 "Intelligent" and lightweight high-precision mechanisms and structures based on micro and nanotechnologies;
- 2 Atomic clock;
- 3 Electro-optical transmission systems (laser, fiber optics) to transfer data and perform measurements;
- 4 Computerized, electronic, mechanical, and miniaturized optical equipment for high-precision instruments;
- 5 Development of new technologies required by users in Earth observation, satellite navigation, and telecommunications fields.

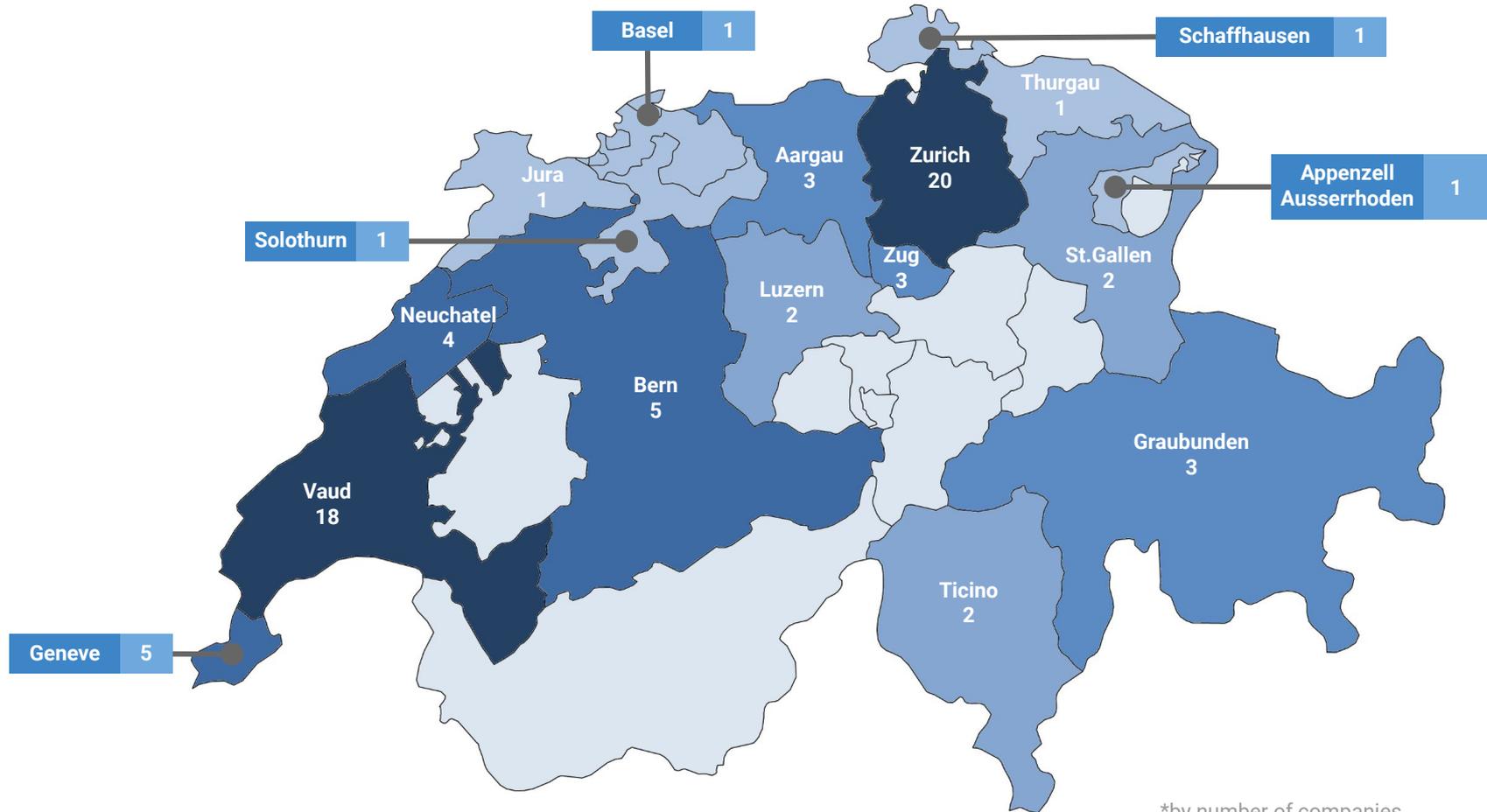
Leading SpaceTech Companies Based in Switzerland

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SpaceTech
Analytics

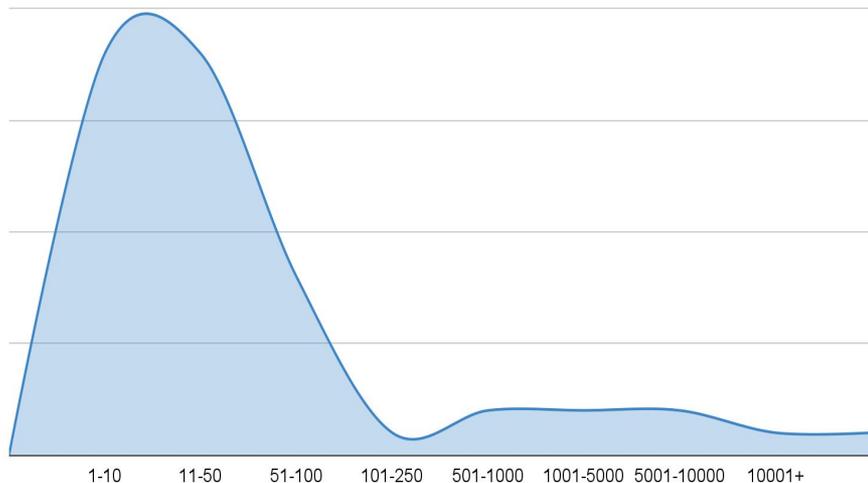
SWISS SPACETECH COMPANIES REGIONAL REDISTRIBUTION*



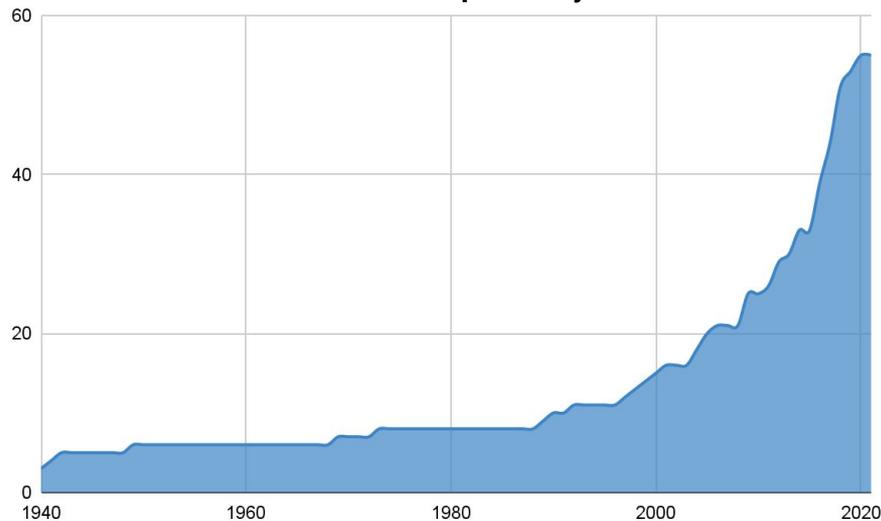
*by number of companies

SWISS SPACETECH COMPANIES STRUCTURE

Distribution of Companies by Number of Employees



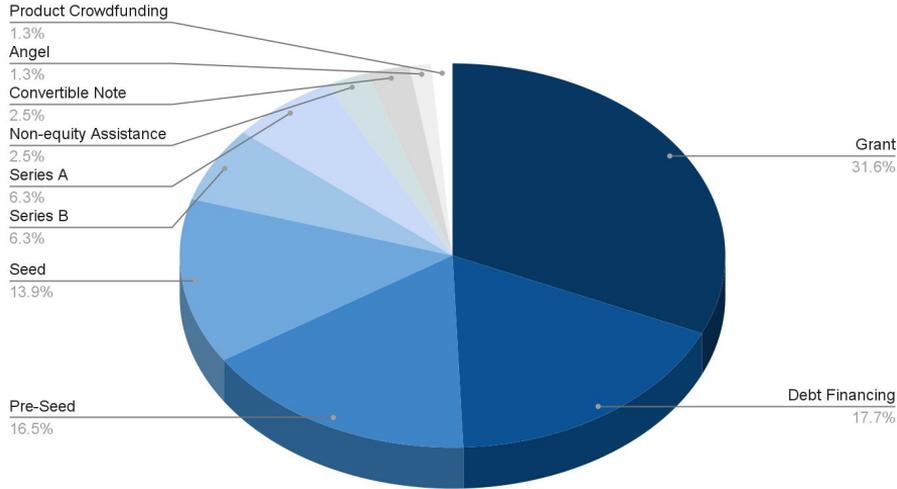
Number of Companies by Year



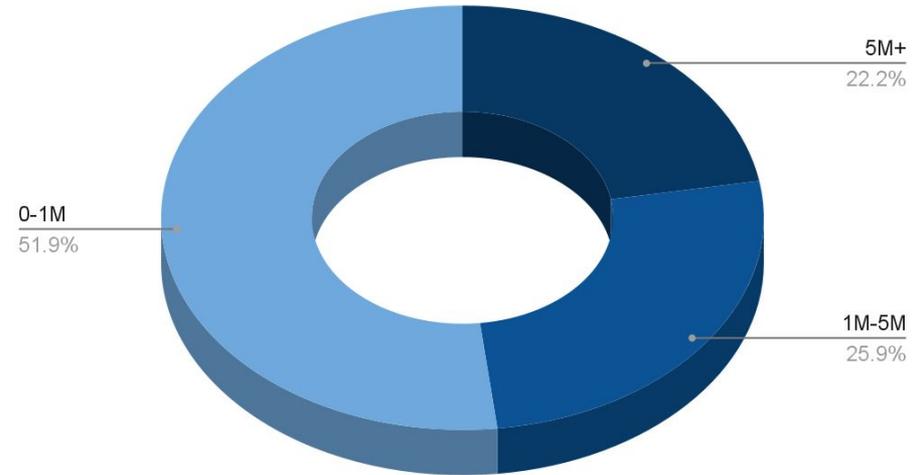
Switzerland has a number of companies, many of which date back to the early 20th century and have their roots in aeronautics, gradually switching to the SpaceTech Industry. But the pinnacle of the companies' growth in number has occurred from 2014-2018, with 2018 peaking with seven companies founded. In 2019-2020, there was a slowdown, yet at least two companies have been founded each year. In terms of number of employees, most companies tend to be in the range of 1-100 employees, so the smaller companies are more prevalent in the market. There is only a small percentage of the companies that land on the 101+ range of the distribution, but there are also several large-scale companies with 5,000+ employees.

SWISS SPACETECH COMPANIES FUNDING

Distribution of Companies Fundinas by Staae



Distribution of Companies by Total Funding Amount (in USD)



The majority of the funding toward Swiss companies comes in the form of grants by different companies and foundations, representing a third of the overall funding received by them. Another third is represented by seed and pre-seed fundings distributed almost equally between each other. Interestingly enough, there is also a crowdfunded company in the Swiss Space sector. More than a half of the companies do not get funding of more than \$1 million. The other half, however, is not limited. Almost a quarter of Swiss Space companies received a total funding of more than \$5 million.

SWISS LEADING SPACETECH COMPANIES BY ESTIMATED REVENUE*

1	9T Labs
2	Almatech SA
3	Astrocast
4	Binary Space Wenz
5	CYSEC
6	Embotech
7	Globotech Corp
8	Group on Earth Observations
9	INVOLI
10	Miraex

11	nanoTRONIC
12	P&P Software
13	Picterra
14	Qualimatest SA
15	RUAG
16	Schurter
17	SWISSto12
18	Syderal Swiss
19	TE Connectivity
20	Wegaw

SpacePharma is a Swiss company, originating in Israel, capable of designing spacecraft and payloads to conduct scientific biological experiments in space.

SpacePharma's labs come in different forms. They can construct spacecraft, satellites, and systems installed on the International Space Station. It is also possible for the labs to be either crewed or uncrewed. The company is designing solar panels, telecommunications, liquid systems, pumps, reaction chambers, sensors, spectrometers, and all the other hardware needed for such research.

The technologies used by SpacePharma also vary widely. They use organ-on-a-chip technology, which allows to grow tissue cultures or liver cells and is used for biological research, and a lab-on-a-chip technology, which deals with the chemical structure and liquid flow in space. Their future **MoTi satellite** is expected to be the first pharmaceutical production facility in space.

SpacePharma works with **NASA**, the **European Space Agency**, the **Italian Space Agency**, and **Moffitt Research Center** in the USA.



Active Researches Conducted in Space

Enzymatic
reaction

Peptide self
assembly

Droplet
coalescence

Crystallization of
pharmaceutical
ingredients

Human
physiological
adaptations to μG

Organometallic
catalysis

Polymorphism of
organic crystals

Bacterial
responses to μG
conditions

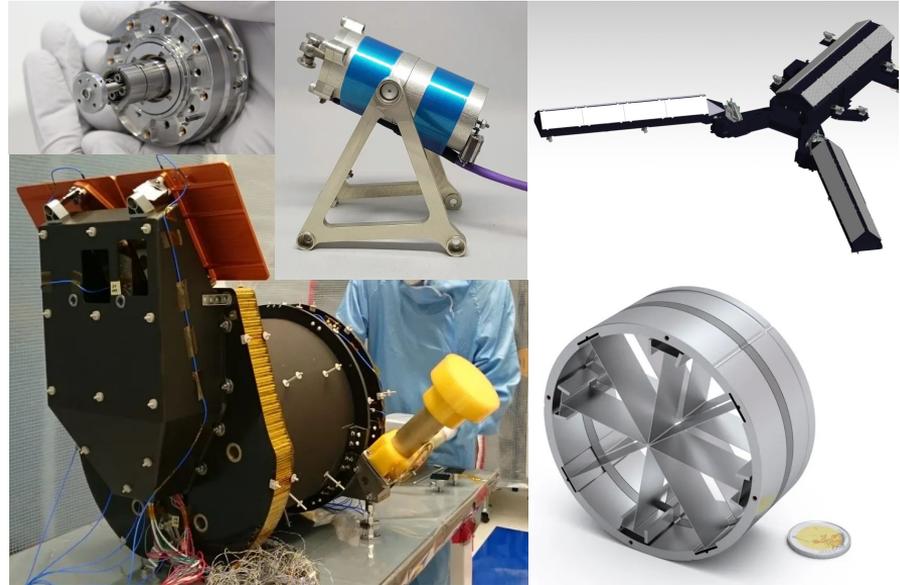
DNA expression
and
reconfiguration

Almatech is an engineering and manufacturing company founded in 2009 that has more than 10 **ESA** projects under their belt. The company started in the space market through the Swiss **Prodex program** and then quickly elaborated on to other SpaceTech projects. Almatech was a major contributor to the construction of the **CHEOPS satellite**.

The company offers a wide range of engineering services for the space industry. They produce thermal, X-ray, optical and detection sensors, and complex structures and high-precision mechanisms. They also engage in naval and architectural engineering. Generally speaking, any company that builds spacecraft can potentially benefit from working with Almatech.

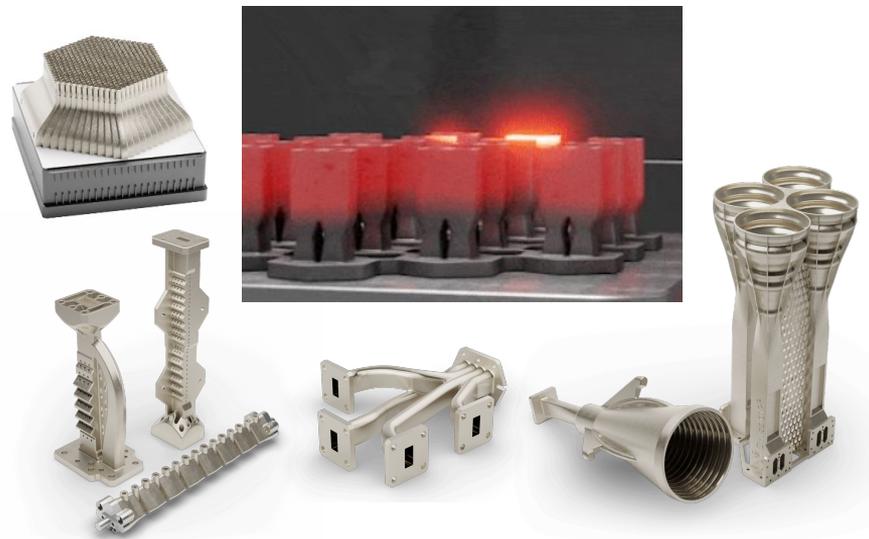
The list of the company's innovational projects is not long but notable. Their flexible pivot for satellites allows high durability and a wide range for oscillatory motions. They also manufacture an actuator made from a Shape Memory Alloy that can endure high temperatures for prolonged periods of time.

ALMATECH



SWISSto12 is an additive-manufacturing company that provides radio-frequency products for aerospace applications. The design and manufacturing pipeline implemented by SWISSto12 is complex and challenging. It includes radio frequency, mechanical, and thermal research of any specific part planned for production. The next phase starts with actual metal 3D printing, which allows customization of the part and weight reduction, followed by chemical treatment and plating. Parts are then sent out for extensive testing to ensure they are heat resistant and work at the intended frequencies.

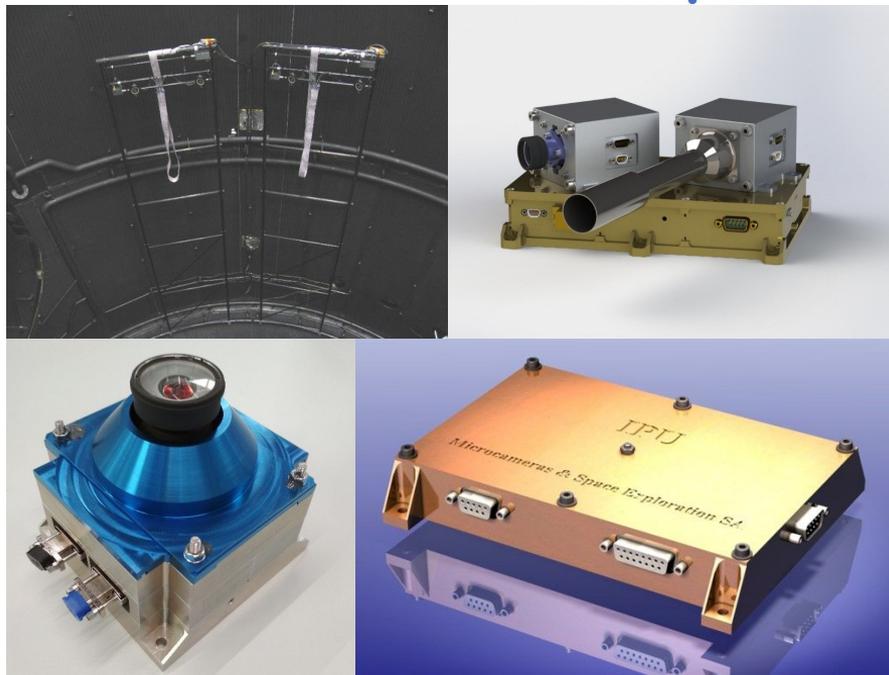
SWISSto12 has established partnerships with companies all over the world. For example, it collaborates with **Saturn Satellite Networks** to launch geostationary satellites. **Fleet Space Technologies** will work with **SWISSto12** on the project meant to be equipped with the first-ever additively manufactured all-metal patch antennas. The innovation level of the company attracts many key players from the space industry. They have signed a contract with **Maxar Technologies** to bring innovative 3D-printed radiofilters to space. Such filters can only be produced through 3D printing.



MCSE is a manufacturing company that focuses on the production of optics for space missions. MCSE stands for **Micro-Cameras & Space Exploration**, which is a good description of what the company does. It has been involved in several **ESA** missions: **PROBA 1 and 2, SMART-1, Rosetta, Sentinel 1a, JUICE,** and **Biomass**. Its other important partnership is with **ClearSpace**. The company also manufactured optics to be installed on board the **ISS**. The company specializes in low mass, low power consumption, and harsh-environment electronics typical for space-manufacturing companies. The company's Product and Quality Assurance are at the highest level, and it has many procedures to ensure that.

MCSE produces different types of cameras for space, from those with specially reduced mass and size to those with effective radiation shielding. Some of the products also include image- and control-processing units and boards. They also sell spacecraft monitoring systems, multi-purpose imaging systems, photogrammetry systems, stereo benches designed for rovers and electrical ground-support equipment.

microcameras.space



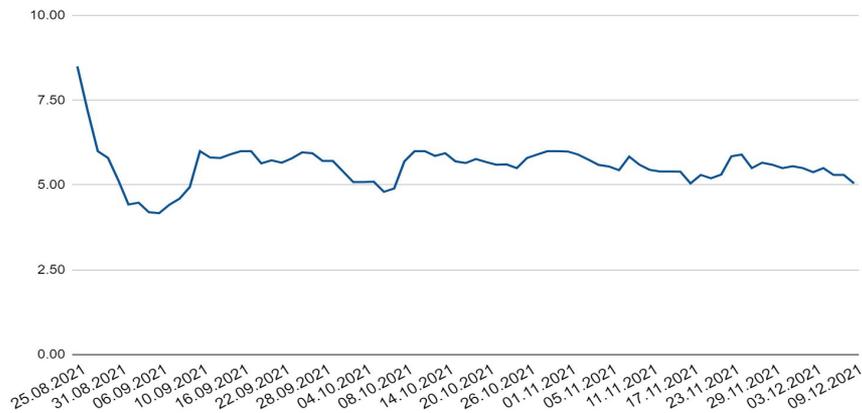
APCO Technologies is the European leader for the development and delivery of Mechanical Ground Support Equipment (MGSE) for satellites, instruments, and launchers. APCO Technologies is also recognized by the satellite primes as one of the main industrial partners for satellite and instrument structure and thermal subsystems.

Because of its outstanding on-time and on-quality delivery records, APCO Technologies has also been selected as one of the seven core partners of the **Ariane 6 Program** responsible for flight equipment, MGSE, and launch infrastructure. Last but not least, APCO Technologies remains the sole Swiss company providing continuous on-site industrial services to **CNES**, **ArianeGroup**, and **Arianespace** at the **Europe's SpacePort** in French Guiana.

Based on a quarter century of experience in scientific and commercial space programs, as well as the success of its two large composite production lines, APCO Technologies offers optimized and competitive satellite platform structures making use of carbon-fiber-reinforced polymers and aluminium sandwich panels up to 5x3 m.



Astrocast Stock Price Dynamics 2021 (in CHF*)



Stock Exchange	Oslo Stock Exchange	Mean Daily Return	-0.69%
Ticker	ASTRO.OL	Volatility of Daily Returns	5.63%

Astrocast is a Swiss satellite communications company based in Lausanne. It is offering cost-effective bi-directional IoT communication services globally.

The company is currently in the process of getting the 100-nanosatellite network operational, being able to provide the full globe coverage and allow low-latency transmissions in the network. Astrocast expects the project to be completed by 2024.

As for Astrocast's stock performance, it is on the Oslo Stock Exchange with the ticker symbol of **ASTRO.OL**. The stock started trading on **25/08/21**, with its first day closing at **85.00 NOK** per share (8.50 CHF*). In the first week the stock experienced a significant price drop, but later stabilized in the range of **50.00-60.00 NOK** per share. (5.00-6.00 CHF*). Due to this drop and overall short-term performance of the company's stock, the negative mean daily return of **-0.69%** is redundant, and if adjusted to after the drop, it equates to approximately **-0.03%**. The volatility remains high, so major rises and drops in stock price remain possible.



TE Connectivity Stock Price Dynamics 2021 (in CHF*)



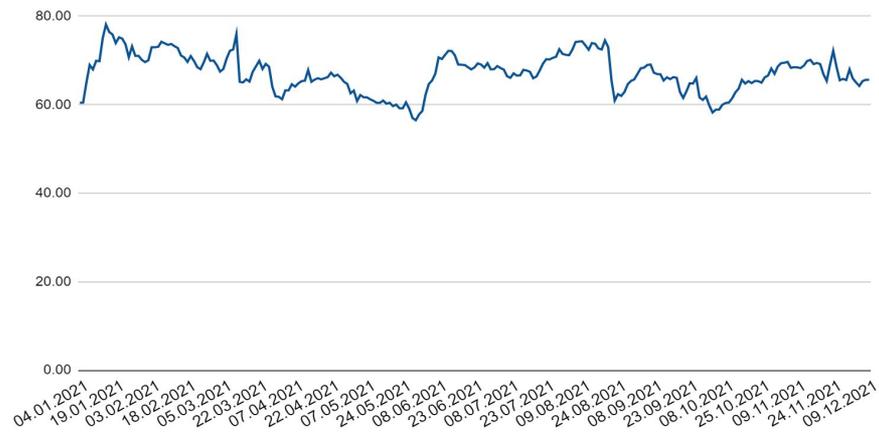
TE Connectivity is a Swiss-based technological company with its headquarters in Schaffhausen. Its primary focus, in terms of the SpaceTech sector, is manufacturing of components for satellites and launch vehicles.

The majority of the components the company produces are different connectors, sensors, cables, and circuitry. The company produces these components for a wide range of different modules, systems, and subsystems for satellites and launch systems.

The company's stock is traded on **New York Stock Exchange** under the ticker symbol **TEL**. The 2021 has been successful in terms of stock performance for TE Connectivity. Starting the year with the stock price being **\$118.65** (109.15 CHF*), it has **grown by 34%** to **\$158.80** (146.17 CHF*) during the year. The highest price was registered on **November 17, 2021**, peaking at **\$165.55** per share (152.31 CHF*). Overall, the growth is gradual and stable with relatively low volatility in terms of consistent positive daily returns.

Stock Exchange	NYSE	Mean Daily Return	0.12%
Ticker	TEL	Volatility of Daily Returns	1.50%

U-Blox Stock Price Dynamics 2021 (in CHF)



U-Blox is a Swiss company whose involvement in SpaceTech Industry is focused on GNSS-modules for positional navigation. It has established partnerships with leading Swiss space companies, including Astrocast.

In 2018, U-Blox launched its first GNSS module into space on a SpaceX Falcon 9 rocket of Spaceflight SSO-A: It was a SmallSat Express mission on board Astrocast’s nanosatellite.

U-Blox is represented on **SIX Swiss Exchange** with the ticker symbol of **UBXN.SW**. Since the the beginning of 2021, the company’s stock price has **grown by 9%**, from **60.45 CHF** to **65.65 CHF** per share. The price peaked on January 14, 2021 reaching the mark of **78.15 CHF** per share. The company shows positive Mean Daily Return of **0.03%**, which correlates with the overall growth its stock price has experienced. The volatility is moderate, which also correlates with the wide range of “swings” the stock has shown during 2021. While those swings did occur, the overall stock performance shows potential for further growth.

Stock Exchange	SIX Swiss Exchange	Mean Daily Return	0.03%
Ticker	UBXN.SW	Volatility of Daily Returns	2.48%



Huber+Suhner Stock Price Dynamics 2021 (in CHF)



Huber+Suhner is a Swiss company based in Herisau focused on manufacturing microwave components, connectors, fiber optics, radio-frequency equipment, and wiring for spacecraft.

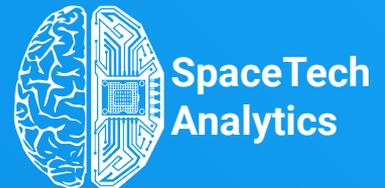
The company has operated on the market for more than 3 decades and has significant experience in this business. Apart from manufacturing, the company also provides major engineering and scientific input to the SpaceTech Industry.

Huber+Suhner is represented at **SIX Swiss Exchange** with the ticker **HUBN.SW**. By the end of 2021, the company has reached **83.50 CHF** per share, which, while not at the peak (reached on November 12, 2021 with **87.30 CHF**), is still at **17% growth** from the start of the year. The stock performance shows the overall growth trend with the Mean Daily return reaching **0.07%**, indicating the positive tendency for the stock. Additionally, the Huber+Suhner's stock shows a relatively low level of volatility, and the company can be expected to continue on its current growth course.

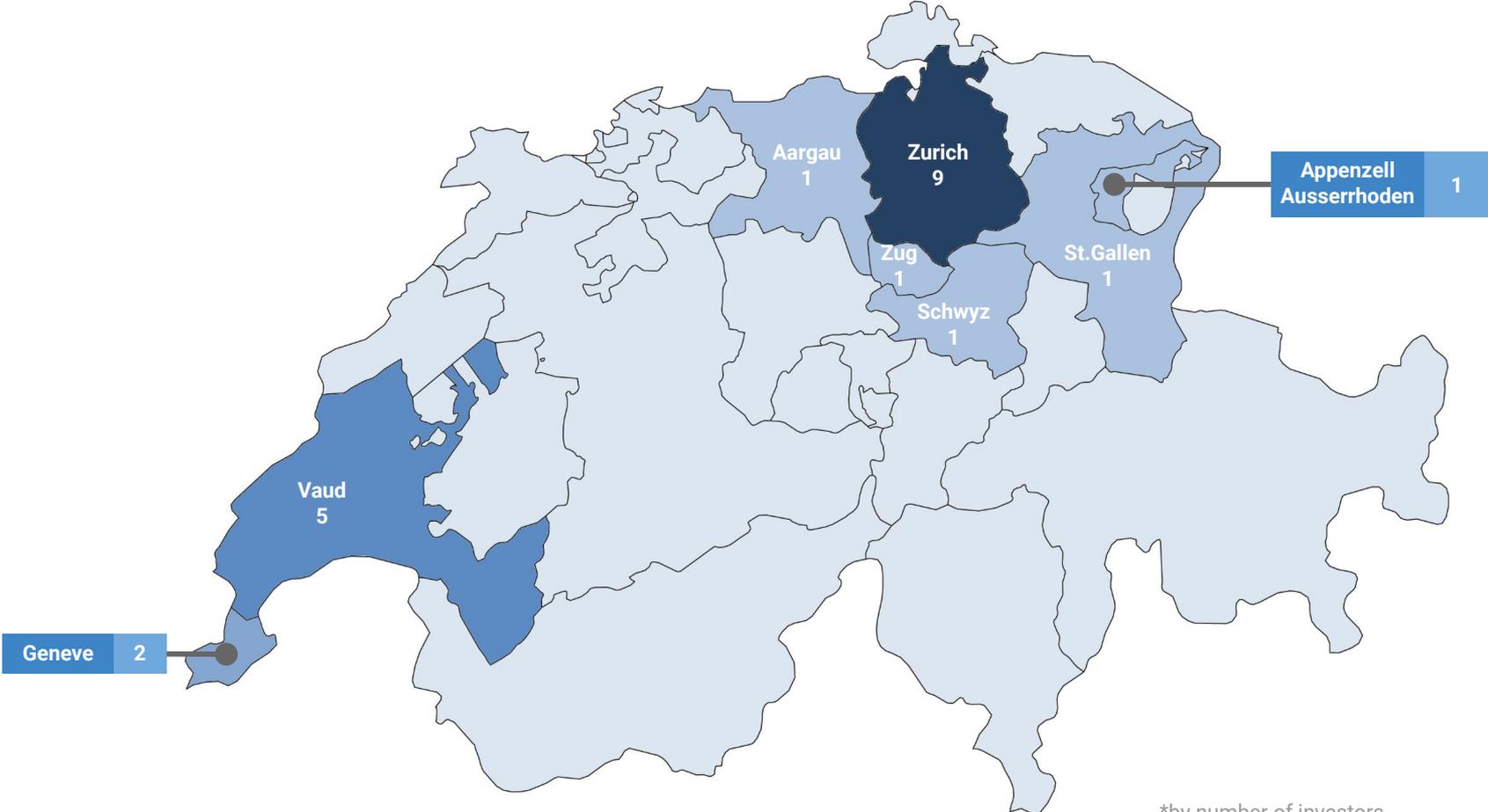
Stock Exchange	SIX Swiss Exchange	Mean Daily Return	0.07%
Ticker	HUBN.SW	Volatility of Daily Returns	1.46%

Leading SpaceTech Investors Based in Switzerland

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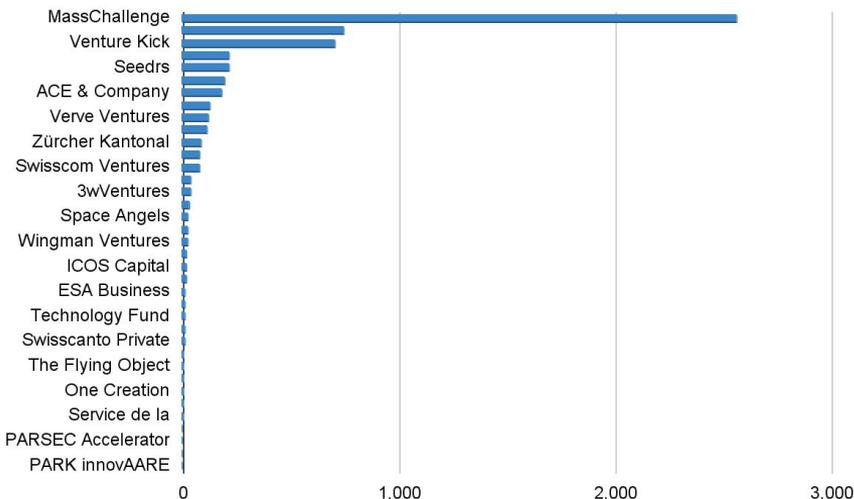
SWISS SPACETECH INVESTORS REGIONAL REDISTRIBUTION*



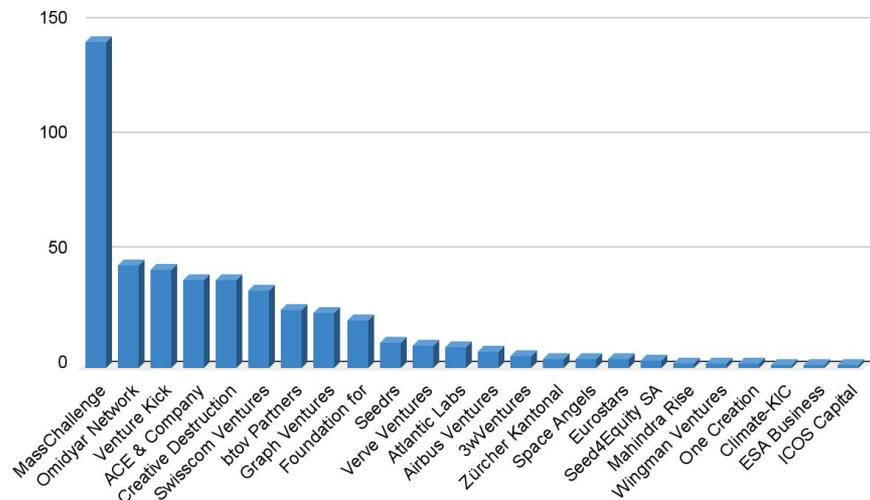
*by number of investors

SWISS SPACETECH INVESTORS IN NUMBERS

Leading Investors by Number of Portfolio Organizations



Leading Investors by Number of Exits



The leading investor, according to the number of portfolio organizations, is MassChallenge with 2,563 entities in its portfolio. Venture Kick and Seedrs are in the second and third place, with 707 and 216 organizations, respectively, which indicates the high level of investors' involvement in the Swiss SpaceTech ecosystem. The "number of exits" parameter exposes the effectiveness of venture-capital activity, and MassChallenge is also the leading investor in this category, with 142 exits. It is followed by Omidyar Network, with 45 exits, and Venture Kick – with 43.

SWISS LEADING SPACETECH INVESTORS BY INVESTMENTS*

1	Venture Kick
2	Foundation for Technological Innovation (FIT)
3	ACE & Company
4	btoV Partners
5	Verve Ventures
6	Zürcher Kantonal Bank
7	Swisscom Ventures
8	VI Ventures
9	3wVentures
10	Wingman Ventures

11	EquityPitcher Ventures
12	Technology Fund
13	Swisscanto Private Equity
14	Seed4Equity SA
15	One Creation
16	Service de la promotion de l'économie et de l'innovation
17	AtmosClear Investments
18	Conzzeta
19	PARK innovAARE
20	VentureLab

SWITZERLAND INVESTOR INVOLVEMENT

Because of its history of banking, Switzerland is one of the most advanced countries in the world in terms of investor involvement in innovative and frontier sectors. One of the defining factors of the Swiss SpaceTech Industry is a large share of “native” investors, supporting the Swiss-based companies in different stages of growth. There are several major Swiss-based investors who support the new and upcoming projects in different industries, with a significant amount of investment going into the SpaceTech sector.

A lot of funding coming from such investors is focused on new upcoming ventures and start-ups, with the Swiss companies being a priority. Some of these investors include **Foundation for Technological Innovation (FIT)**, **Venture Kick**, and **Zürcher Kantonalbank**. These three companies have shown the most involvement in investment in Swiss-based SpaceTech companies.



Invested in:

- Astrocast
- ClearSpace
- Gamaya
- Imina Technologies
- Picterra
- SWISSto12



Invested in:

- Gamaya
- Imina Technologies
- INVOLI SA
- Klepsydra Technologies
- Miraex
- SWISSto12



Invested in:

- Embotech
- Klepsydra Technologies
- SWISSto12

Venture Kick Investment Receivers



The company **Venture Kick** started in 2007 as an initiative to help young companies coming from Swiss universities with their initial fund raising. It has currently invested over **€34 million** in Swiss companies and start-ups, with the vision of **increasing the total output** of the number of Swiss innovative businesses, including the SpaceTech market. Venture Kick offers a 9-month funding to effectively **support young and upcoming entrepreneurs** with high-potential business ideas. Venture Kick is supported by **10 private partners, foundations, private individuals, and corporates**, all focused on supporting the next generation of successful entrepreneurs for the prosperity of Switzerland's economy and innovative fields.



"In the next 10 years, Venture Kick should continue to go for quality and engage more international and female institutional investors in order to promote Swiss start-ups."

Dr. Nanja Strecker, European Space Agency Business Incubation Program (ESA BIC)

Foundation for Technological Innovation Investment Receivers



The **Foundation for Technological Innovation (FIT) (Fondation pour l'innovation technologique)** was founded in the canton of Vaud in 1994. Since its founding, it has been helping start-ups, encouraging entrepreneurship, supporting innovation, and bolstering the local economy by providing appropriate financial assistance. The funding is aimed at start-ups in Vaud and French-speaking Switzerland, innovating either by their technological content or by their business model. Foundation for Technological Innovation is involved in many fields – for example, **IT and Communications, CleanTech, Life Sciences**, and the **SpaceTech Industry** – and offers a wide range of services including providing loans and grants to projects. Since 1994, the FIT has provided 47 grants to projects deemed trustworthy, whose main goal is to create a business. The Foundation has granted **228 loans to 191 innovative companies**, adding up to a total amount of more than **37.5 million EUR**. FIT loan offers range from **290 to 480k EUR (in CHF)** in regards to growth loans, but the base loan amount the Foundation offers equates to **96k EUR**. The company is heavily represented on the Swiss Market, being involved in a high percentage of the country's high-growth new and upcoming start-ups and companies.

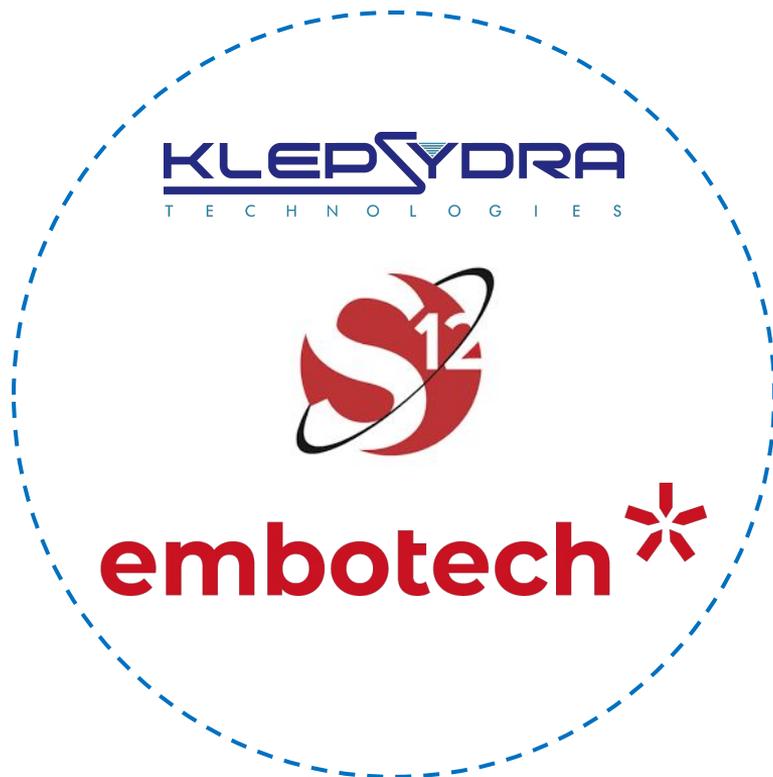
Verve Ventures Investment Receivers

The logo for astrocast, featuring the word "astrocast" in a dark blue, lowercase sans-serif font. The letter "o" is stylized with an orange circular orbit around it, containing a small orange dot.The logo for 9T LABS, featuring a stylized black icon of a square with a smaller square inside, rotated 45 degrees, followed by the text "9T LABS" in a bold, black, uppercase sans-serif font.

Verve Ventures is the leading European start-up investment platform for qualified and institutional investors. Their fully digital platform enables private investors to build a diversified portfolio with investments starting at CHF/EUR 10,000. Since its launch in 2010, Verve Ventures has invested more than EUR 130 million in over a hundred startups. Their community consists of about 5,000 registered qualified private investors, family offices, and pension funds. Several institutional investors, such as a large Swiss pension fund and numerous corporates, also rely on their expertise to invest in the most promising start-ups. Verve Ventures is backed by Switzerland's third-largest bank, Zürcher Kantonalbank.

They have a dedicated investment team based in Zurich, Lausanne, Berlin, Paris, and Cambridge that screens thousands of start-ups each year and selects the top 1% after a rigorous due-diligence process. They are reshaping the European venture-capital landscape and granting investors superior access to this traditionally opaque asset class. They source the best deals, structure rounds, and enable their investors to participate in the most competitive start-up deals.

Zürcher Kantonalbank Investment Receivers



With total assets of CHF 188 billion and 5180 employees, Zürcher Kantonalbank is the biggest cantonal bank in Switzerland and one of the largest Swiss banks. It is the leader in universal banking business in the Greater Zurich Area. Its clients enjoy a wide range of products and services. Since its establishment in 1870, Zürcher Kantonalbank has been an independent public-law institution established and existing under the laws of Switzerland and the canton of Zurich. Their public-service mandate involves providing the population of Zurich with financial services; assisting the canton in fulfilling its economic, social, and environmental obligations; and adopting a responsible approach to the environment and society. They operate more than sixty branches, the majority of which are in the canton of Zurich.

2020 key figures

Return on equity (RoE): 7.2%

Profit distribution: CHF 456 M

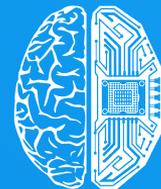
Total assets: CHF 188 BN

Net equity: CHF 12.7 BN

Group profit: CHF 865 M

Distribution of SpaceTech Nonprofits, R&D Centers and Hubs in Switzerland

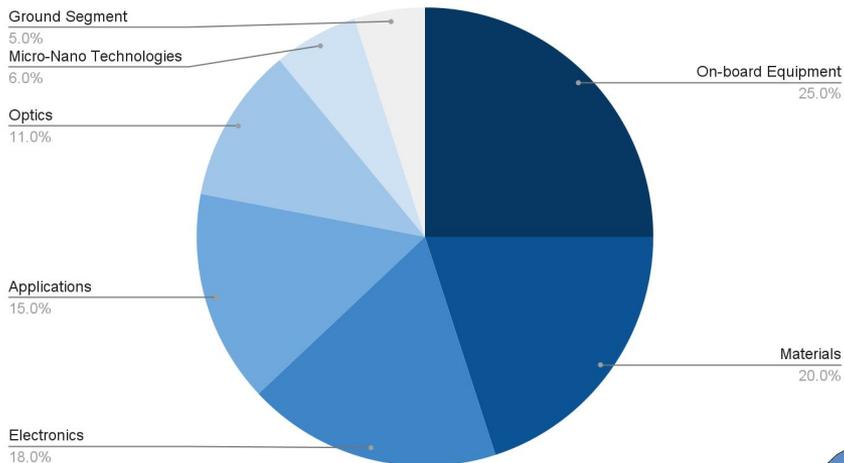
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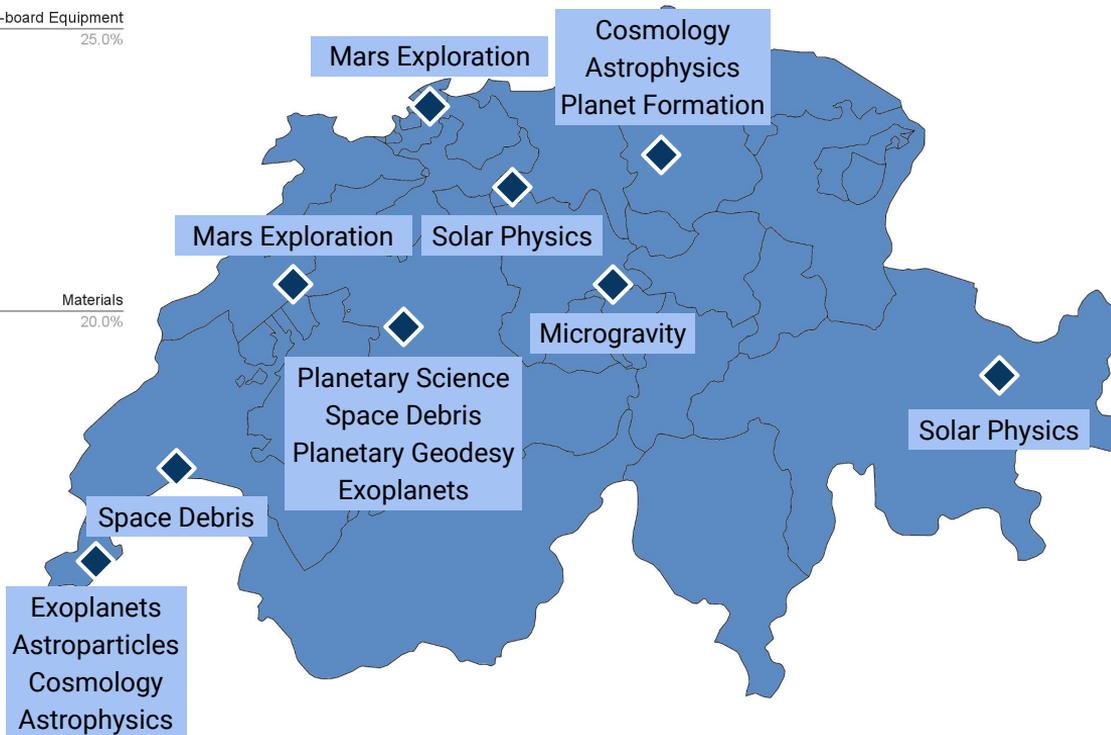
RESEARCH TOPIC DISTRIBUTION

Technology Areas



The sector of research and development in space is widely represented in Switzerland. Both universities and private companies are involved in active research. Institutes mostly study topics related to Cosmology, Astrophysics, Solar Physics, and Mars Exploration, while private companies mostly focus on on-board equipment and advanced materials.

Geographical Distribution of Research Centers and Corresponding Themes of Research



Source: Space Innovation

ESA BUSINESS INCUBATION CENTRE

The European Space Agency has established a set of business incubation centers around Europe. Switzerland is not an exception, and this incubation center is also managed by **Zurich ETH** in collaboration with **Venturelab**, **Impact Hub Zurich** and **AP Swiss**. ESA BIC Switzerland offers extensive support packages for entrepreneurs with a link to space technologies, such as navigation and positioning, communication techniques, Earth observation, materials, processes, signals, and robotics. The center helps

startups that are less than 5 years old to realize their innovative ideas and transfer technologies from space to Earth or from Earth to space. It is possible to get technical, business, and financial support as well as networking and community building while working with the center.

Opportunities:

Up to €200k in seed financing

Access to broad network of corporate and research partners

Access to ESA network and facilities and European ESA BIC network

Business support by selected corporations

Technical support of up to 80 hours by space companies and related research organizations

Networking among relevant start-up peers and access to Impact Hubs in Switzerland

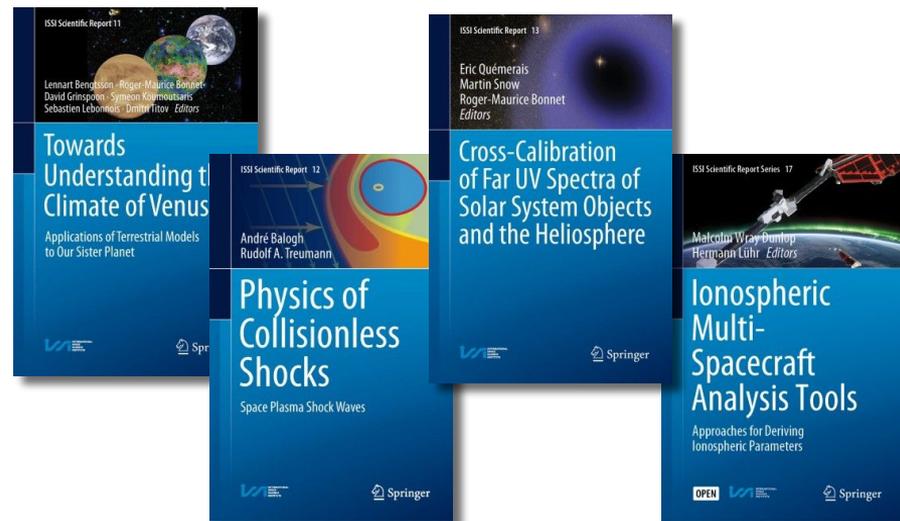


International Space Science Institute

The **International Space Science Institute (ISSI)** is a program originating in Bern that conducts research and generates reviews on most space-science topics including astrophysics, cosmology, physics of the solar system, planetary science, spacecraft manufacturing, Earth science, and astrobiology.

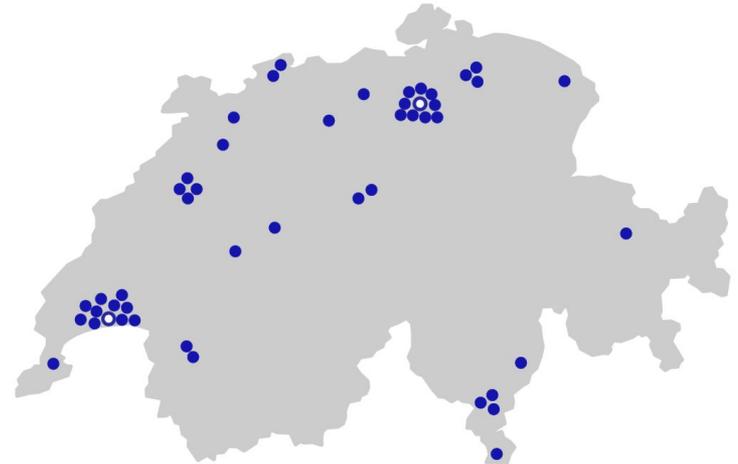
Funded by **ESA**, the **Swiss Confederation**, and the **Swiss Academy of Sciences (SC NAT)**, it employs the talents of specialists including scientists, theorists, modelers, ground-based observers, laboratory researchers, and guest researchers from all over the world to provide the world with interdisciplinary interpretations of experimental data and observations. The **Institute of Space and Astronautical Science (ISAS, JAXA, Japan)** also supports ISSI with an annual financial contribution.

The results of the organization's work are often published in several influential peer-reviewed journals and books. Those conclusions are most likely to provide considerable extra benefit to the whole space-science ecosystem. ISSI is a part of the **Europlanet 2020 Research Infrastructure** and its works are sometimes published as an open access to state-of-the art research data.



Space Innovation (formerly Swiss Space Center) is a Swiss company that spreads its connections and influence around Switzerland and other countries in order to develop Switzerland's space capabilities and establish powerful partnerships between key players in the space industry. The distinctive trait of the company is that its board of directors consists of the representatives of **ETH Zürich**, **EPFL**, and **ESA**. The company already possesses an established network of space companies from Switzerland, access to cutting-edge technologies, and a solid national and international recognition and reputation.

One of the main interests of Space Innovation is a project called **IGLUNA**, which is part of the **ESA_Lab@ initiative**. The idea is to allow students from all over Europe to introduce their ideas on emerging space-related topics and to establish a hub for innovation between universities, research organizations, and industry leaders. The participants can interact with all the teams present at the event in order to share expertise and form collaborations while solving major issues. Twelve teams from 9 countries took part in the third IGLUNA in 2021, working on space habitats and remote operations.





SPACE 4 IMPACT

Space4Impact is a spin-off initiative from **Space Innovation** and the **ESA Business Incubation Center Switzerland**. Its goal is to maximize the positive impact of space technologies on Earth by linking space start-ups to new markets in concert with the **UN Sustainable Development Goals** (SDGs) worldwide and forming an ecosystem of space-related companies. In November 2020, Space4Impact organized an online kick-off event to raise awareness about space technologies and launch a digital marketplace platform to connect corporations, investors, organizations, and start-ups. The event was supported by the **Swiss Federal Department of Foreign Affairs**, the **Office for Economic Affairs & Innovation at the Swiss State of Vaud**, and the **EPFL Tech4Impact initiative**. The result of the event was that Space4Impact received more than 70 start-up applications of the New Space companies from 28 countries requesting to join the Space4Impact ecosystem.



Space2Earth Accelerator

Space4Impact also strives to create new investment opportunities. It plans to launch its first international acceleration program for downstream space applications, known as **Space2Earth Accelerator**, in **January 2022** with the goal of connecting space start-ups and new customers across industries and outside of the space sector.



Ecosystem

Space4Impact offers an online ecosystem platform to help corporations and organizations to accelerate their impact, promote space technologies, host online events, and connect space start-ups to new actors.

The **eSpace EPFL Space Center** is another interdisciplinary hub, started by the **Swiss Federal Institute of Technology Lausanne**, that works with academic institutions, international space agencies, space-related companies, and students with an overall mission to promote space-related research and education at EPFL. eSpace focuses on education, fundamental research, and innovative development projects.

The focal points of eSpace's research are space logistics, lunar technologies, and space sustainability. Powered by a strong network of research institutions and a team of qualified and experienced experts, eSpace announced a new initiative on lunar exploration in 2020. Its goal is to fill some blindspots in our knowledge about lunar habitation via extensive research and cleverly designed payloads to land on the Moon. For example, the Space Center has developed an optical payload with the **Moon Village Association**. There is also a project regarding space sustainability. An EPFL spin-off company called **ClearSpace SA** was selected by **ESA** to launch a spacecraft designed to actively capture the debris in Earth's orbit and remove them in order to clean the space and allow its continued use. ClearSpace-1 is planned to be launched in 2025.



eSpace EPFL Space Center

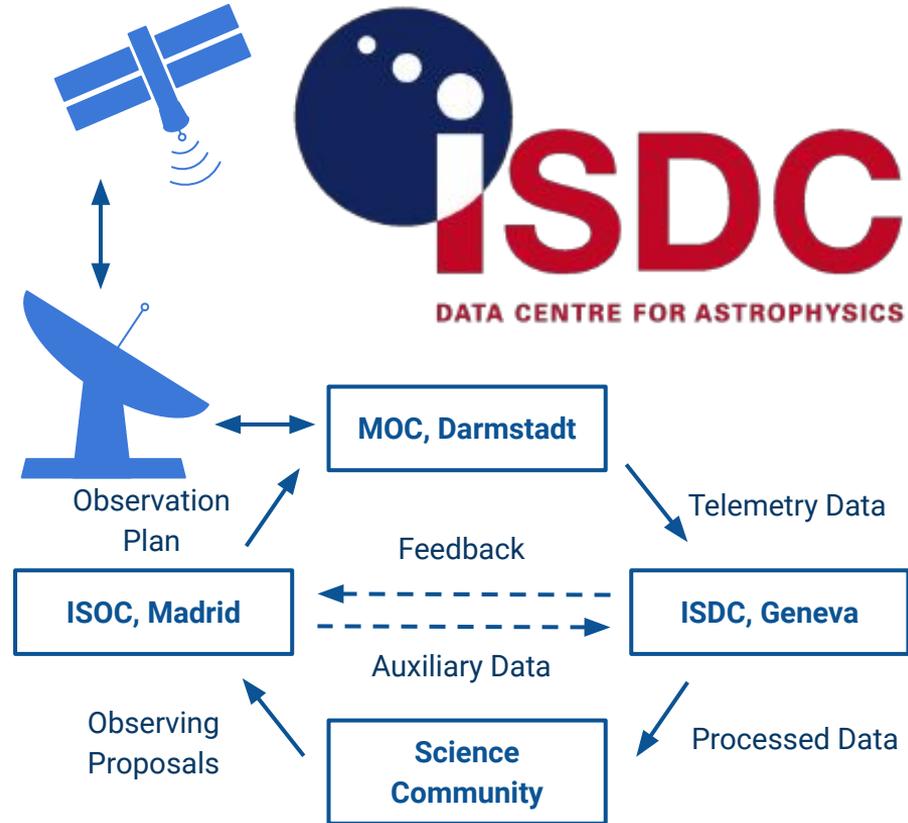
eSpace supports student-led projects that are connected with space. Student organizations emerge under such supervision. The organization also offers a minor in Space Technologies, which emphasizes helping master's students to reach various levels of expertise in space science and technologies. The minor can often result in significant space projects initiated by its students. The minor, however, is only accessible to EPFL students. EPFL also commands a massive media service on different platforms, that publicizes information about innovations and space in particular.

INTEGRAL Science Data Centre

The **INTEGRAL Science Data Centre (ISDC)** is an institution based at the University of Geneva and is a key link in the observation-data analysis cycle. INTEGRAL stands for **IN**Ternational **G**amma-Ray **A**strophysics **L**aboratory, which is a spacecraft launched in 2002 by **ESA**. It observes the universe in the X-ray and soft gamma-ray band and has significantly advanced our knowledge of high-energy astrophysical phenomena.

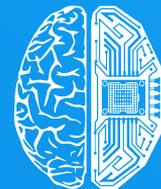
The **ISDC** mission is to process and archive the data acquired by INTEGRAL. The Data Center also provides the worldwide scientific community with important alerts, analysis software, handbooks, online support, and data itself. ISDC is the only complete source of INTEGRAL data.

ISDC is an essential pillar of the INTEGRAL mission, which is a major contributor to the world of astrophysics. For example, the data can be used to explore the nature of dark matter and dark energy or the origin of cosmic rays. ISDC is now funded by the **Swiss Space Office**, the **University of Geneva**, and **ESA**. The latter has concluded that the mission can be prolonged for years as the spacecraft is still in “good shape.”



Swiss SpaceTech Influencers

December 2021
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TOP SWISS SCIENTISTS



Dr. Nicolas Thomas
Professor at the
University of Bern



Michel Mayor
Astrophysicist at the
University of Geneva



Martin Vetterli
President at EPFL



**Dr. Adrian Michael
Glauser**
PhD at ETH Zurich



Marc Audard
Professor at the
University of Geneva



Detlef Günther
Professor at ETH Zurich



Dr. Martin Rubin
Professor at the
University of Bern



Margit Haberreiter
Scientist at the World
Radiation Center



Louise Harra
Professor at ETHZ



Emmanuelle David
Executive Manager at
eSpace



Carlo Ferrigno
Senior scientist at ISDC



Dr. Peter Wurz
Professor at the
University of Bern

TOP SWISS INVESTORS



Peter Letmathe
CEO of Nestle SA,
Investor



Beat Schillig
Founder of Venturelab



Steffen Wagner
Co-Founder of Verve
Ventures



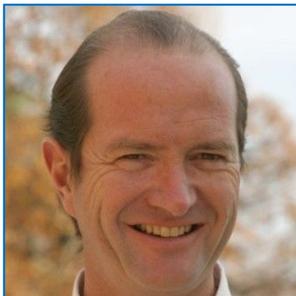
Christoph Schenk
Vice-CoB of Swisscanto



Arnd Kaltfofen-Ehmann
Managing Partner of VI
Partners AG



Sascha Horrig
Founding Partner of
Equity Pitcher



Alain Nicod
Managing Partner of VI
Partners AG



Alexander Schlaepfer
Partner in Swisscom
Ventures, Investor



Laurent Bischof
Venture Capital Investor
& Entrepreneur



Pascal Mathis
Founding Partner of
Wingman Ventures



Alex Stöckl
Founding Partner of
Wingman Ventures



Steve Salom
Start-up Operator,
Advisor, Investor

TOP SWISS SPEAKERS



Grégoire Bourban
Deputy Director at
Space Innovation



Federico Belloni
CEO of Astrocast



Dr. Bertrand Piccard
Chairman of
Solarimpulse



Renato Krpoun
Head of Swiss Space
Office



**Daniel
Neuenschwander**
Director in ESA



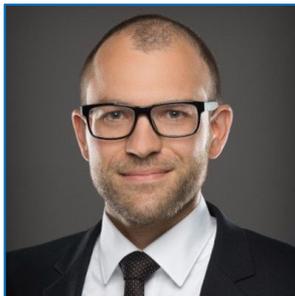
Jamie Paik
Professor at EPFL



Claude Nicollier
First Swiss Astronaut



Cyril Botteron
CEO of SpacePNT



Manuel Vöggtli
Head of BD of Kistler
Group



Daniel Fuerst
Vice President at RUAG
Space



Grace Crain
Doctoral Researcher at
ETHZ



Aude Pugin
CEO at APCO

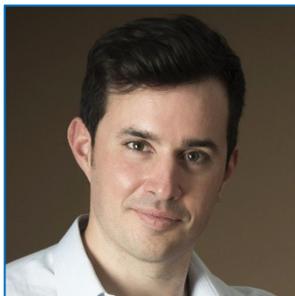
TOP SWISS EXECUTIVES



José Achache
CoB in Multiple Swiss
SpaceTech Companies



Manu Lubrano
CEO of INVOLI



Pierre-Yves Guernier
CEO of Miraex



Pierrick Poulenas
CEO and Co-Founder of
Picterra



Pablo Ghiglino
Founder of Klepsydra
Technologies



Patrick Trinkler
Founder & CEO of
CYSEC



Benoît Dagon
CEO and Co-Founder of
Imina Technologies



Olivier Henin
CEO and Co-Founder of
Syderal Swiss



Igor Ivanov
CEO at Gamaya



Emile de Rijk
CEO and Co-Founder of
SWISSto12



Ion Padilla
CEO and Co-Founder of
WeGaw



Luc Piguet
CEO and Co-Founder of
ClearSpace



The Galactic Chloé Show

[The Galactic Chloé Show](#) is a popular science YouTube show that is filmed in the EPFL Moon Campus. The host usually invites professionals to speak up.



SwissInfo

[Swissinfo.ch](#) is a huge website that provides the world with information on varied topics, including innovation and space.

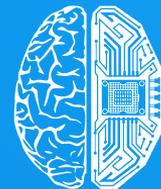


Space Innovation

Space Innovation's [Twitter](#) is another valuable media to consider. The account flourishes with news about the space sector, especially from Switzerland.

Major SpaceTech Trends and Government Policy in Switzerland

December 2021
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SWISS PIONEERING SPIRIT

Switzerland's status as a spacefaring nation can also be attributed to pioneers such as the astrophysicist **Johannes Geiss**, who was 93 when he died in February 2020. His research group at the University of Bern developed the solar wind detector that was unfurled by **Buzz Aldrin** on the moon. For this, he was awarded **NASA's Exceptional Scientific Achievement Medal in 1973**. He was one of the founders of the International Space Science Institute in Bern, and he was later appointed its director. Geiss also laid the foundations for the **Rosetta Mission of 2004** to the Churyumov-Gerasimenko comet, whose Rosina experiment was directed by the Bernese astrophysicist **Kathrin Altwegg**.



Johannes Geiss



NASA's Exceptional Scientific Achievement Medal



An artist's concept of ESA's Rosetta (top) and Philae (bottom) spacecraft. Credit: ESA

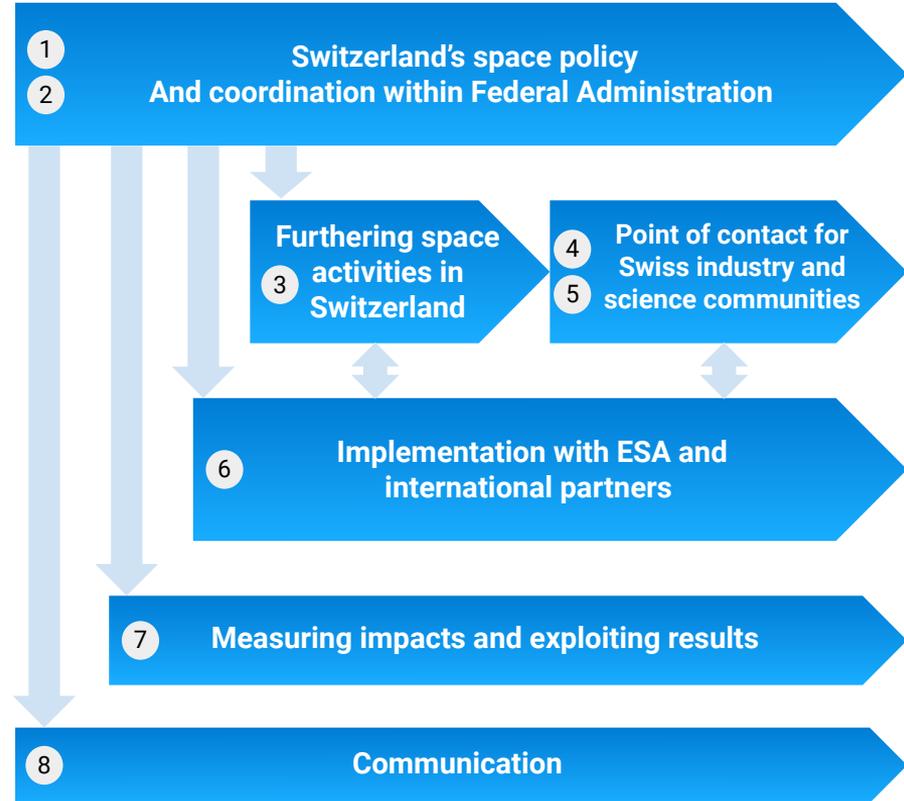
The Swiss space industry directly provides around **1,000 jobs**, spread across **nearly 80 businesses** – most of which are SMEs that supply large space companies in niche segments. Switzerland excels above all in **structures for launchers and satellites** (including components of European rockets Ariane and Vega), **precision mechanisms, atomic clocks** (notably for the European navigation system Galileo), **optical communication and on-board electronics**. The high demand for reliability, precision, and miniaturization, plus strong competitive pressures in the space industry, play a **major role** in encouraging Switzerland's capacity to innovate.

SWISS SPACE POLICY

Space activities occupy an important place in our society. Beyond their scientific contribution to exploring the Earth and the universe, they have become an integral part of our daily lives. We rely on them for so many things: **satellite-based global telecommunication services, road, maritime and air navigation systems, and Earth observation** for more reliable weather forecasts and a better understanding of climate change.

Switzerland has been actively involved in this field since the initial space age. It is a competitive and reliable partner in the space sector, both within Europe and across the globe. Thanks to its innovative strength and precision technology, Switzerland has gained a **solid and acknowledged position** in strategically significant fields.

Switzerland does not have its own national space agency. It does most of its research and development within the framework of the **European Space Agency's activities and programs**. The Swiss Space Office, which is the **SERI division** responsible for space matters, performs the following tasks:



FOUNDING MEMBER OF ESA

Switzerland doesn't have a space agency as it is a founding member of the **European Space Agency**. However it has a **SERI** (State Secretariat of Education, Research and Innovation) division called **The Swiss Space Office**. It is involved in such processes as developing Switzerland's national space policy, coordinating the activities within the Federal Administration, serving as a point of contact for different institutions and users, as well as representing Swiss interests towards the European Space Agency. The Space Office actively engages with a variety of scientific institutions like ISSI, ISDC, eSpace and Space Innovation. **CHEOPS – CHaracterising ExOPlanet Satellite**, is the first Swiss research satellite that was launched on the 18th of December in 2019. Its purpose is to, obviously, characterise exoplanets in a number of ways:

Determine the mass-radius relation with high precision;

Identify planets with significant atmospheres in a range of some set parameters;

Bring up new targets of interest and methods of their research regarding atmospheric data.



Being one of the founders of ESA, Switzerland is a major contributor to most of its projects. ESA's activity mostly matches the country's priorities regarding the space sector. The number of astrophysics, solar physics, and heliospheric-physics research conducted in cooperation with Swiss institutions is overwhelming. Institutions all over Switzerland research such topics as: Space Debris, Planetary Science, Planet Formation, Planetary Geodesy, Mars Exploration, Microgravity, Exoplanets, etc.

SWISS SPACE CONTRIBUTION

Crewed space missions



STS-46 in 1992. European Retrievable Carrier EURECA
Atlantis



STS-103 in 1999. Hubble Servicing Mission 3A
Discovery



STS-61 in 1993. Hubble Servicing Mission 2
Endeavour



STS-75 in 1996. TSS-1R Italian mission
Columbia

Offices

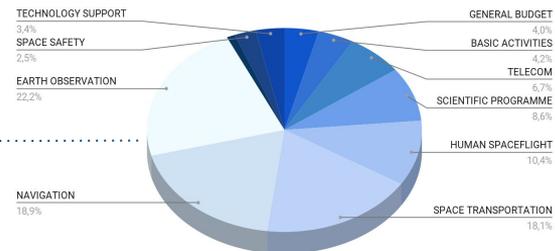
Headquarters, CFAS, and IKAR: **Bern**

Delegation to the European Space Agency: **Paris**

Delegation to ESA at the European Union: **Brussels**

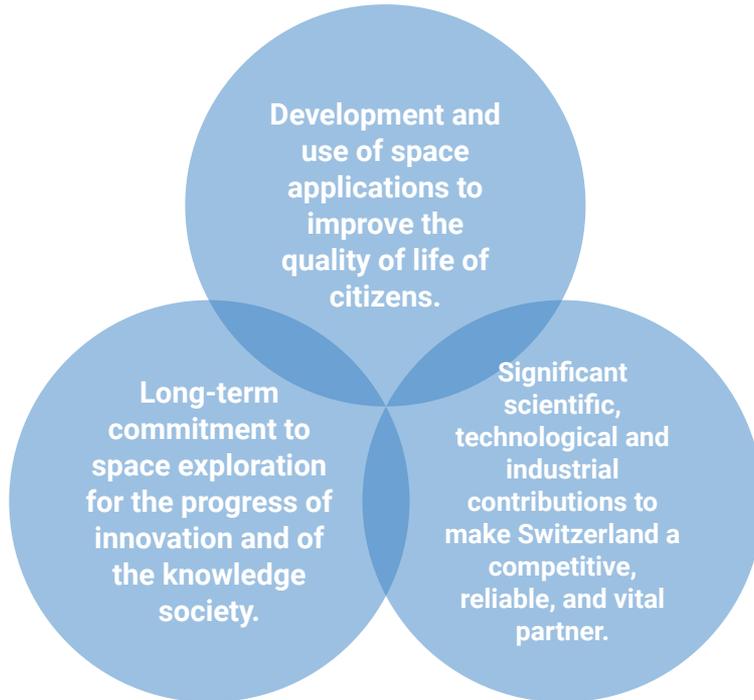
Budget

≈3.4% are
Swiss



ESA Budget

Switzerland is closely involved in space activities. This involvement focuses on three pillars:



Implementation

Switzerland furthers its national interests through selected international cooperation: mainly through participation in selected programs of the European Space Agency (ESA), the main instrument for implementing Swiss space policy. Complementary national activities help to support institutions established in Switzerland that are involved in ESA-related activities. Swiss space policy is established by the Federal Council on the basis of proposals made by SERI, which promotes and coordinates Switzerland's activities in space exploration and utilization. The Federal Council is supported by recommendations made by the Federal Commission for Space Affairs (CFAS). The Swiss Space Office of SERI is the center of competence of the Swiss Government for national and international space matters. Efficient coordination is required to ensure cooperation between the various federal agencies involved in the design and implementation of the country's space policy. This is the role of the Interdepartmental Coordination Committee for Space Affairs (IKAR), which acts under a mandate from the Federal Council. Its secretariat is based at SERI.

SWISS SPACE DEBRIS REMOVAL VEHICLE IS STILL EXPENSIVE

€86 million

This is the first time the European Space Agency (ESA) has allocated such a large sum to a start-up. That start-up is Swiss and its mission is to **clean up space debris**.

ClearSpace-1 is scheduled to take off in 2025 on board the **European Vega rocket**. Its mission is to capture space debris and then place itself in a re-entry orbit with the space junk. Friction will cause the captured debris and ClearSpace-1 to burn up, leaving space a tiny bit cleaner and safer. In the end, ClearSpace-1 will burn up with its captured debris in the **upper atmosphere**. That seems like an awful lot of money to pay to get rid of a single piece of space junk. Not according to the ESA and ClearSpace.

The 2025 mission may be the first in a long series of missions, with the prospect of developing a spacecraft capable of disposing of **several orbiting objects** at a time. There is already talk of five or even ten pieces of debris being destroyed in a single mission.



ClearSpace-1 resembles a giant hand, with four metallic fingers to capture space debris. Credit: ESA

The ClearSpace-1 mission is an ESA Space Debris Removal mission led by ClearSpace SA (A spin-off of the EPFL in Lausanne) and its industrial team.

SOLAR ORBITER BLASTS OFF WITH SWISS TELESCOPE ON BOARD

Ten scientific instruments (209 kilos of payload) are packed on the mission, which costs **€1.5 billion (CHF1.6 billion)**. Over the next decade it will study particle-laden storms on the Sun that can cause breakdowns of technological infrastructure on Earth. After passing through the orbit of Venus and then Mercury, the satellite, whose maximum speed will reach **245,000 km/h**, will travel as close as 42 million kilometers from the Sun, or less than a third of the distance between the Sun and Earth.

One of the ten instruments on board is an X-ray telescope called **STIX (Spectrometer Telescope for Imaging X-rays)**, built by the University of Applied Sciences Northwestern Switzerland. While experts from seven European countries contributed to STIX, more than half of the costs were covered by Switzerland, making it a **Swiss-led project**. Other Swiss contributors were the Paul Scherrer Institute and industrial partner **Almatech**. STIX will analyse high-energy X-rays, which are only produced at very high temperatures. By combining STIX's results with those of the other instruments, scientists hope to get a very accurate picture of the enormous energy released by the Sun.



A graphical representation of the Solar Orbiter (left) next to NASA's Parker Solar Probe, which is already in mission mode. Solar Orbiter: ESA/ATG medialab; Parker Solar Probe: NASA/Johns Hopkins APL

SWITZERLAND IS EVERYWHERE IN SPACE RESEARCH

With its 12 universities and two institutes of technology, Switzerland is at the forefront of research in many areas. The federal government supports academic research through the Swiss National Science Foundation (SNSF). The SNSF funds research programmes and also draws up guidelines for long-term research policy.

NCCRs

The SNSF currently fosters long-term research projects using the mechanism of National Centres of Competence in Research (NCCR). These centers undertake long-term research projects in areas of strategic importance for the development of science in Switzerland, for the country's economy, and for Swiss society. Each NCCR has its headquarters at a university or other institution, the "leading house," and includes a network of other researchers working throughout Switzerland.



Swiss Houses

Switzerland has established a network of science consulates known as "Swiss Houses" or "swissnex" around the world to showcase Swiss research. The first was set up in Boston in 2000, the second in San Francisco (2003), and the third in Singapore (closed at the end of 2015, having been set up in 2004); there are further swissnex locations in Shanghai, Bangalore, and Rio de Janeiro. These institutes work to encourage not only education and research but also high-tech business. They organize university exchanges and cooperation, help academics from Swiss institutions to attend local education fairs, and hold exhibitions on aspects of science featuring Swiss research.



ESTABLISHED RESEARCH INSTITUTES

Switzerland is home to a number of research institutions that are internationally renowned for their work and for effectively solving global problems via local solutions that advance humanity towards new and much-needed technologies.

NCCRs

Paul Scherrer Institute (PSI)

Based in Aargau, PSI is one of Europe's leading research institutes in the physical sciences.

European Organization for Nuclear Research (CERN)

Based near Geneva, CERN provides opportunities for scientists to study the elementary particles that make up the universe.

The Large Hadron Collider (LHC)

Built in 2008, the LHC is a particle accelerator aiding in the quest to explain how particles obtain their mass.

The European laboratory of IBM

Based in Rüschlikon, this is a giant American company that has maintained a research laboratory in Switzerland since 1956.

The Institute for Snow and Avalanche Research (SLF)

Based in Davos, this is part of the Swiss Federal Institute for Forest, Snow, and Landscape Research. Its scientists conduct research on natural hazards.

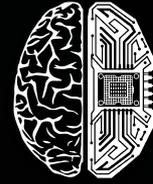
Conclusions

December 2021
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KEY POINTS

1. Swiss participation in the **European Space Agency (ESA)** has enabled Swiss research institutes and companies to acquire excellent competencies in state-of-the-art scientific and technological fields.
2. Switzerland has a number of companies, that date back to the start of 20th century and have their **roots in aeronautics**, gradually switching to the SpaceTech Industry. But the peak of company foundings in the country occurred between **2014-2018**, with 2018 peaking at **seven companies founded**.
3. A lot of funding, coming from SpaceTech investors, is focused on the new upcoming ventures and startups, with the Swiss companies being a priority. Some such investors include the **Foundation for Technological Innovation (FIT)**, **Venture Kick**, and **Zürcher Kantonalbank**.
4. Switzerland's status as a **spacefaring nation** can also be attributed to pioneers such as the **astrophysicist Johannes Geiss**, who was 93 when he died in February 2020. His research group at the **University of Bern** developed the solar wind collector that was unfurled by **Buzz Aldrin** on the Moon in 1969.
5. The Swiss space industry directly provides around **a thousand jobs**, spread across **nearly eighty businesses** – most of which are SMEs that supply large space companies in niche segments.
6. Swiss has a **SERI (State Secretariat of Education, Research and Innovation)** division called the Swiss Space Office. It is involved in processes such as developing Switzerland's **national space policy**, coordinating the activities within the **Federal Administration**, serving as a **point of contact** for different institutions and users, and representing Swiss interests with the European Space Agency.
7. The **ClearSpace-1 mission** is an ESA Space Debris Removal mission led by ClearSpace SA (**A spin-off of the EPFL in Lausanne**) and its industrial team.
8. With its **dozens of universities and institutes of technology**, Switzerland is at the forefront of research in many areas. The federal government supports academic research through the **Swiss National Science Foundation (SNSF)**. The SNSF funds research programs and also draws up guidelines for long-term research policy.



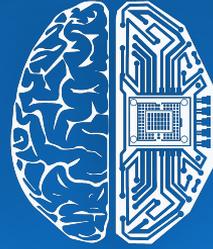
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Analytics**

DISCLAIMER

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SpaceTech Analytics

*New Era in Big Data Analytics
for SpaceTech Industry*

VALUE PROPOSITION

1

Deep analysis of the deal-making prospects in the SpaceTech space, identification of top mini-trends, and larger tendencies in innovations and technology adoption.

2

Palpable forecasts on the 3 to 5-year horizon, providing an overview of future scenarios of various technologies in the SpaceTech Industry.

3

Practical guides for adopting various technological solutions and best practices, vendor profiling, and contract research strategy building.

4

Analysis of key market players in the emerging and high-growth areas of the SpaceTech Industry.

5

Comparative competitive analysis of companies, investors, and government agencies to create automated algorithm-driven analytics for scoring and ranking industry entities.

6

Technical reports and case studies on different topics related to the SpaceTech Industry as a business development assistance services and analytics.

7

White-label solutions in the form of interactive IT-platforms, extensive data analytics dashboards, and interactive mindmaps.



SpaceTech
Analytics

Value Proposition

Custom Consulting Projects

“Ready-to-Use” Proprietary
Reports

Covering M&A Prospects

Strategic Growth Ideas

COOPERATION



Private Investors

Institutional Investors

- Acquisition of investments
- Access to the dashboard with algorithm-driven data
- SpaceTech ETF development
- Technical Due Diligence
- M&A Target search
- Market Consulting
- Specialized case studies and thematic proprietary analytics

Startups

Corporations

Private Companies

Public companies
(IPO and SPAC)

- Joint reports
- Market investigation and insights
- Investment fundraising
- Proprietary analytics
- Joint ventures
- Assistance in business development and investors and government relations

Space Agencies and other
Government Organizations

Non-Profits and Universities

Hubs and R&Ds /
Associations

- Joint reports
- Market research and analytics
- Cross-communication support
- Partnership network contribution
- Mutual promotion
- Joint Ventures reports

Think Tanks

Analytical Agencies

Journalists and Industry
Leaders

Consulting Companies

- Joint reports
- Conferences
- Webinars
- Early access to reports
- White label personalized content
- Mutual promotion

SWITZERLAND DEEP TECH CLUSTER

Swiss Deep Tech Cluster powered by Deep Knowledge Group is an informational project focused specifically on Switzerland, gathering all analytical reports about the country, released by Deep Knowledge Group analytical subsidiaries. The major goal of Switzerland Deep Tech Cluster is to make a contribution to the prosperity of the country by providing quality data for investors, decision-makers, journalists, and experts.

Basel Area Life Sciences Ecosystem

Basel Area Life Sciences Ecosystem
Landscape Overview Q3 2021

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info@dka.global

www.deep-pharma.tech
info@deep-pharma.tech

Mitochondria-Longevity Research in Switzerland

Mitochondria-Longevity Research in Switzerland
Special Analytical Case Study
Q3 2021

www.aginganalytics.com

Longevity Industry in Switzerland

Longevity Industry in Switzerland
Landscape Overview Q3 2021
Teaser

September, 2021

www.aginganalytics.com
www.dka.global

Precision Medicine Clinics in Switzerland

Longevity and Precision Medicine Clinics in Switzerland
Landscape Overview Q3 2021

www.aginganalytics.com

Longevity Industry in Switzerland

Longevity Industry in Switzerland
LANDSCAPE OVERVIEW 2019

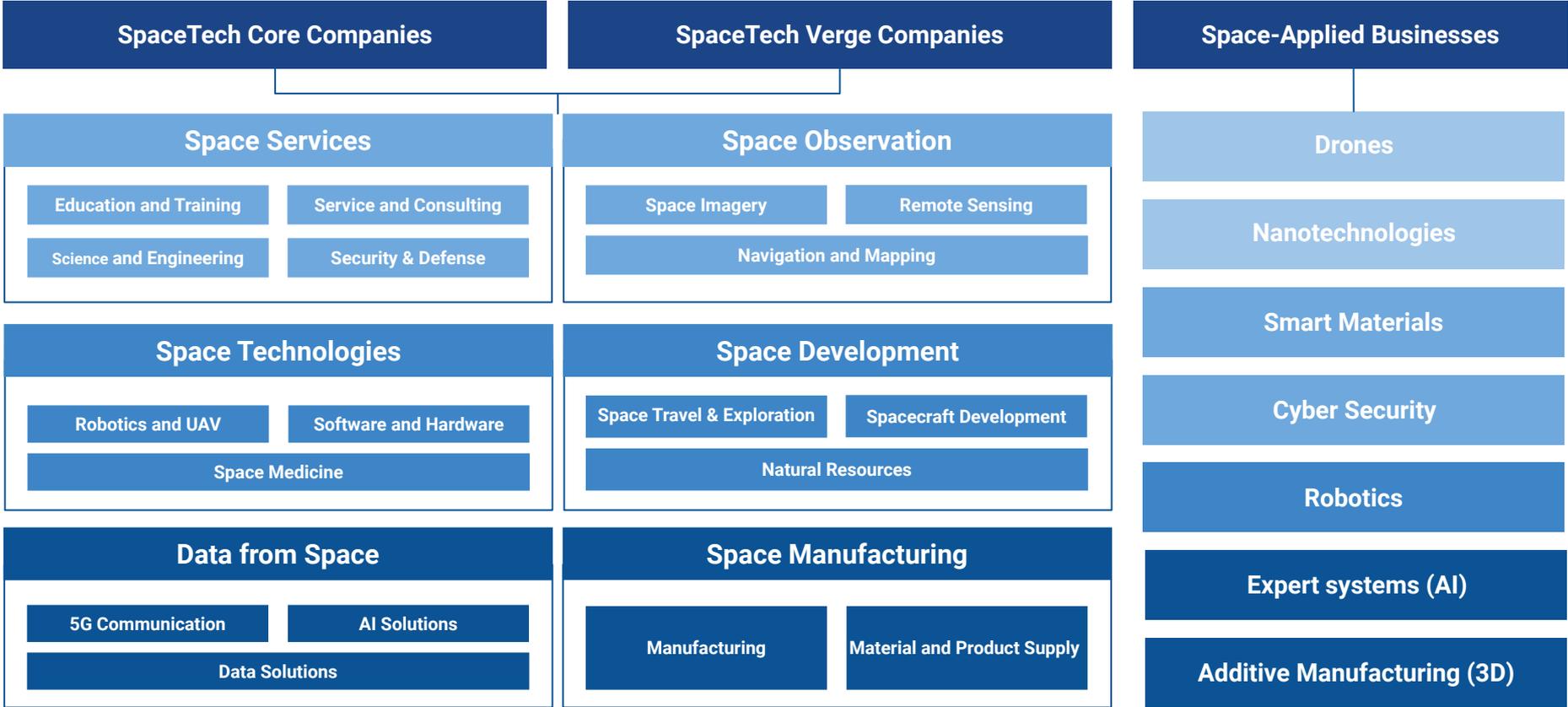
FemTech Industry in Switzerland

FemTech Industry in Switzerland
Landscape Overview Q3 2021
Teaser

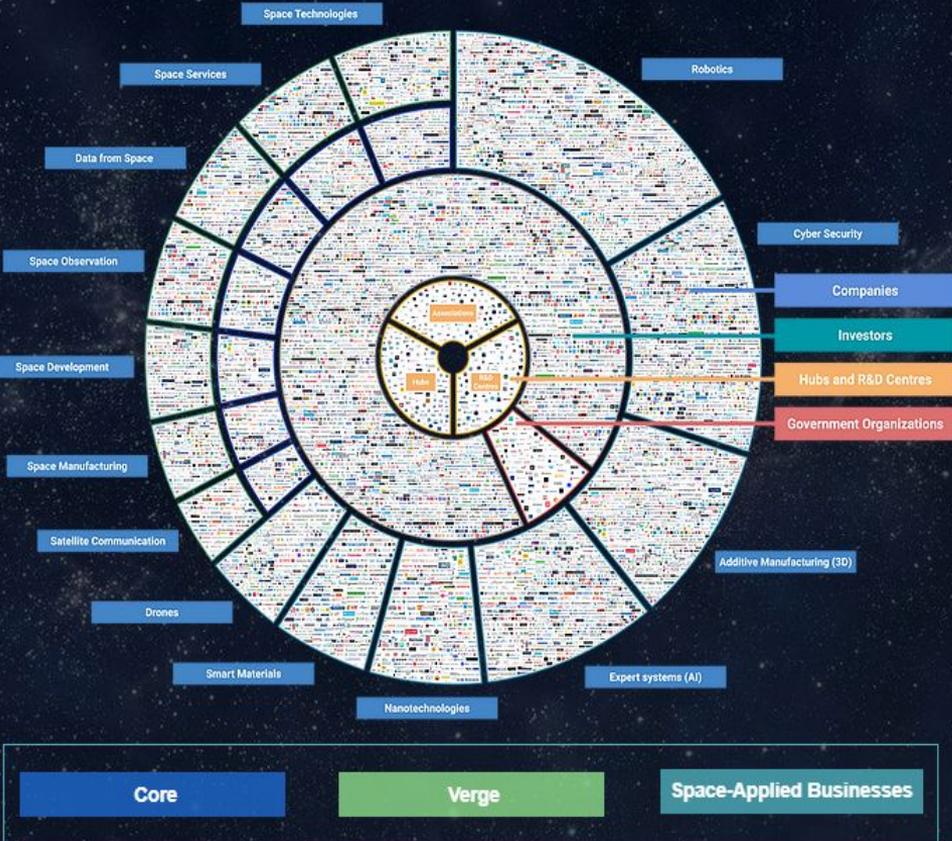
September 2021

www.femtech.health

SPACETECH INDUSTRY FRAMEWORK



SPACETECH ANALYTICS INTERACTIVE MINDMAPS



- Space Technologies
- Space Services
- Data from Space
- Space Observation
- Space Development
- Space Manufacturing
- Satellite Communication

- Drones
- Nanotechnologies
- Smart Materials
- Cyber Security
- Robotics
- Expert systems (AI)
- Additive Manufacturing (3D)

SpaceTech Investors

[View More](#)

R&D Hubs, Associations, and Governmental Organizations

[View More](#)

Introduction the new home for SpaceTech:

[SpaceTech Analytics: Dashboard](#)

Access now!

Navigate 12,000 SpaceTech companies and more

The dashboard is organized into two main sections: 'SpaceTech Companies' and 'Other Assessments'.

SpaceTech Companies

- Top Public Companies
- Funding Rounds
- Leading Companies & Investors

SpaceTech Mindmap

View More

Dashboard Parameters

COMPANIES	INVESTORS	HUBS AND R&D
10000+	5000	280
INDUSTRY SECTORS	PARAMETERS	DATA POINTS
20+	100+	1499985

List of Companies

View More

Other Assessments

- Space Medicine Industry
- Space Law & Economics
- Unidentified Aerial Phenomena

National Space Programms

View More

Space Travel Industry

View More

SpaceTech Industry 2021 Report

SpaceTech Industry 2021 / Q2 Landscape Overview

May 2021
www.spacetechnology.com

View More



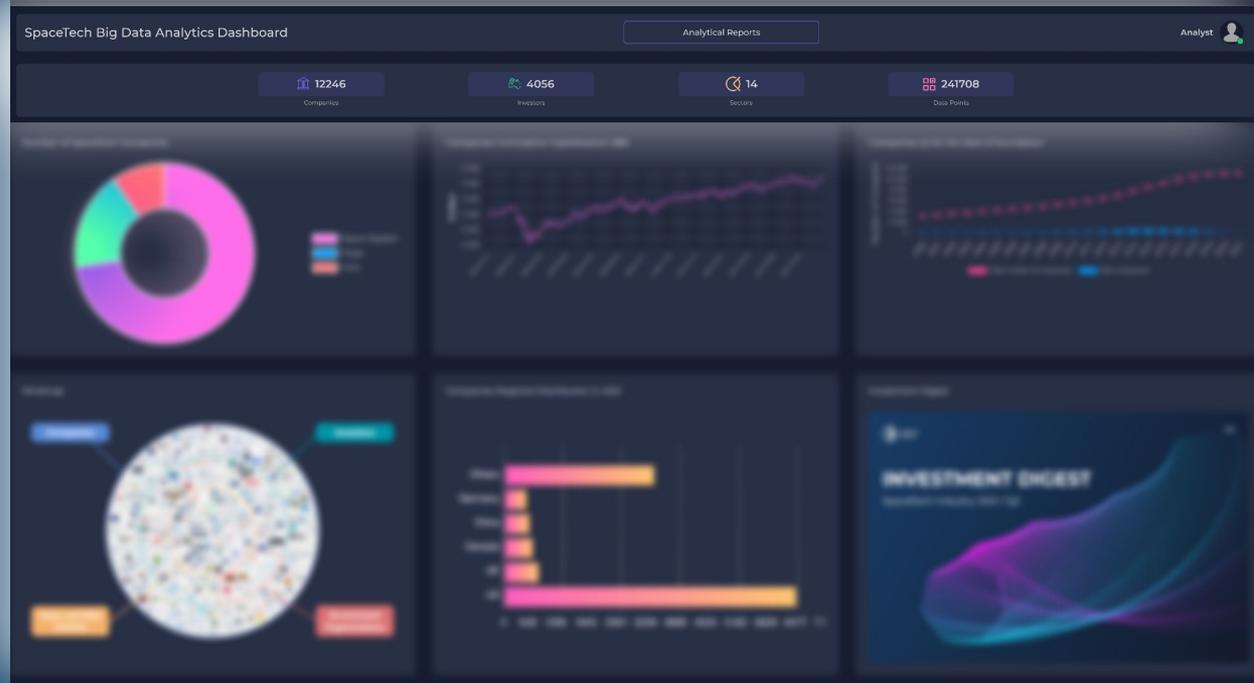
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Introducing the New SpaceTech Big Data Analytics Dashboard

Coming Soon!

SpaceTech Analytics will soon be releasing an analytically sophisticated Dashboard that will incorporate big data analytics, Machine Learning, AI engine, and investment analytics technologies already developed and validated by SpaceTech Analytics' parent company, Deep Knowledge Group, and its various analytical subsidiaries (including Aging Analytics Agency and Deep Pharma Intelligence).



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OUR CONSORTIUM

Deep Knowledge Group is a consortium of commercial and non-profit organizations active on many fronts in the realm of DeepTech and Frontier Technologies (AI, Longevity, FinTech, GovTech, InvestTech), ranging from scientific research to investment, entrepreneurship, analytics, media, philanthropy and more.

Analytical Subsidiaries

Aging
Analytics
Agency

Deep
Knowledge
Analytics

Deep
Pharma
Intelligence

NeuroTech
Analytics

GovTech
E-Governance
Analytics

COVID-19
Analytics

Innovation
Eye

Interactive
MindMaps

For Profit & Non-Profit Activities

Deep
Knowledge
Ventures

Longevity
Capital
Fund

Longevity
FinTech

Notable
Acknowledgements

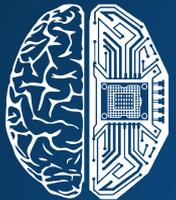
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Longevity
Book

Media
Digest

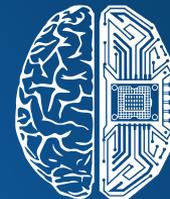
**Please click on buttons to learn more*



Deep
Knowledge
Analytics

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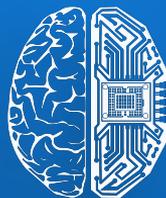
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