SpaceTech Analytics

Space Medicine and Human Longevity in Space Q3 2021

About SpaceTech Analytics

SpaceTech Analytics is a specialised think tank in the area of SpaceTech innovation profiling, business intelligence, and investment analytics. The company is dedicated to producing powerful data mining and visualisation systems; interactive analytics tools; and industry reports offering deep technical insights, business intelligence, and strategic guidance in the high-growth and significant opportunity areas of the SpaceTech industry, including cloud services, navigation, satellite communication, spacecraft development, space travel and more.

Space Medicine and Human Longevity in Space Q3/2021 summarizes key observations in the SpaceTech ecosystem, a rapidly evolving and exponentially growing industry. In it, we have assembled information about key industry trends and created a comprehensive database of more than **70 Space Medicine**-related private companies, **70 leading investors**, and **60 R&D Centers**.

https://www.spacetech.global/space-medicine-2021

This overview gives a detailed description of the innovative approaches to control **Human Longevity in Space** and treat systemic disorders, highlighting their practitioner application for astronauts' recovery after space flights. Overall, this analytical case study offers a one-stop expert evaluation of a novel and dynamic industry with high growth potential.

70+	70+	3	60+
Companies	Investors	Industry Subsectors	R&D Centers

Key Takeaways from this Analytical Case Study:

- In order to explore deep space environment, health risks for astronauts during, both **long-term** and **short-term space flights** are investigated for years. In 1992 NASA designed Longitudinal Study of Astronaut Health to investigate health risks associated with space flights. Medical problems associated with short-term space flights are better investigated and countermeasures are successfully established.
- On the other hand, long-duration space flights need to be investigated more thoroughly. It is known that **weightlessness influences muscle loss, bone loss, renal dysfunction, cardiovascular system, immune system**, as well different **neurological disorders** and, **behavioural health**. Usually, it is difficult to observe multi-systemic physiological changes, because the groups of subjects are usually consisted of small number of astronauts, and more frequently there is no equal presence of men and women.
- Although, the data is scarce, the development of countermeasures to minimize health and performance issues is continuing. Moreover, the focus of the research is shifting towards medical prevention strategies at least in areas investigated so far. So one of the key strategies to address space flight related space conditions both in space and Earth involve biomanufacturing research. The main areas of biomanufacturing include: **Regenerative Medicine, Organ Printing (3D bioprinting),** and **Drug Discovery**.
- **55% of USA space research** is devoted to commercial entities, this country is also a leading one in **space private research** around the globe. The most effective way to establish private space initiatives is to use CASIS - the leading partner of NASA. Although, there are a lot of upcoming commercial projects on the ISS, prices are going up significantly and has increased more than ten times since April 2021.

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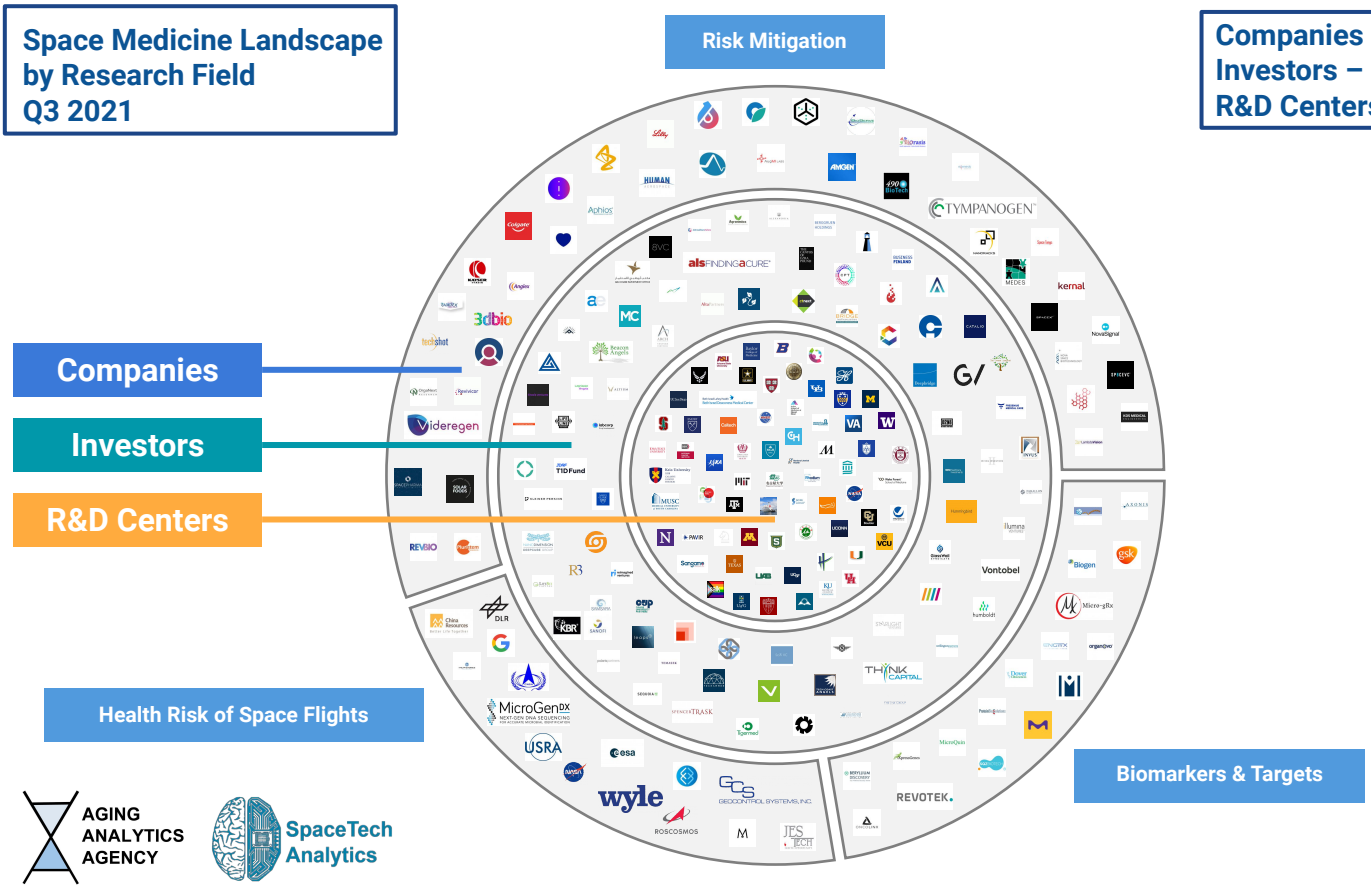
Space Medicine Landscape by Research Field Q3 2021

Companies – 70+
Investors – 70+
R&D Centers – 60+



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Top Companies Advancing Space Medicine

United States

Biogen Inc
Cambridge, Massachusetts, United States

Amgen
Thousand Oaks, California, United States

RevBio
Lowell, Massachusetts, United States

Angiex
Cambridge, Massachusetts, United States

Kernal Biologics
Cambridge, Massachusetts, United States

Merck
Kenilworth, New Jersey, United States

MicroQuin
Cambridge, Massachusetts, United States

490 BioTech
Knoxville, Tennessee, United States

Tympanogen, Inc.
Richmond, Virginia, United States

Eli Lilly
Indianapolis, Indiana, United States

SP8CEVC, Venture Capital
New York, New York, United States

Israel

SpacePharma
Herzliya Israel, Courgenay Switzerland

Pluristem Therapeutics Inc.
Haifa, Israel

United Kingdom

AstraZeneca
Cambridge, Cambridgeshire, United Kingdom

Netherlands

OrgaNext Research
Arnhem, Gelderland, The Netherlands

Switzerland

Nova Space Biotechnology
Zürich, Zurich, Switzerland

Novartis
Basel, Basel-Stadt, Switzerland

France

Sanofi
Paris, Ile-de-France, France

Medes
Toulouse, Midi-Pyrenees, France

Italy

Kayser Italia
Livorno, Toscana, Italy

60% of all companies are placed in the USA. With Israel, France and Switzerland sharing the second place.

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