



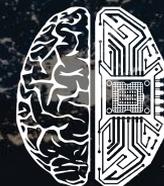
# SpaceTech in the GCC Region

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Q3 2022

September 2022

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SpaceTech  
Analytics

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The ‘**SpaceTech Activity in GCC Region Q3 2022**’ report summarises vital observations in the SpaceTech ecosystem, a rapidly evolving and exponentially growing industry within the Gulf Cooperation Council (GCC) region. In it, we have assembled information about **key industry trends** and created a local **database** of **40** SpaceTech companies, **14** leading investors, and **11** R&D centres and hubs, including top space agencies.

With a few major GCC countries achieving **noteworthy advances** in the space sector in recent years, there are **significant opportunities for further development** of SpaceTech in the region. These countries have already achieved **major progress** in developing and expanding the SpaceTech sector, providing the industry with heightened levels of technological progress and hosting numerous SpaceTech companies, events, and activities within its borders.

However, the **potential** of GCC countries in the space race is **poised for major advancement**. Therefore, this study pays special attention to prospective space **programmes and top deals**, which can further stimulate space activities. SpaceTech in the GCC region has a huge **economic potential** and has already given rise to a plethora of companies and initiatives that promise to bring billion-dollar investment into the region.

# Approach of the Report

## Database

Identification of relevant:

- Companies
- Investors
- Hubs
- Universities and Research Centres
- 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-specialised  
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. In fact, the main reason for their non-inclusion was incomplete or missing information in the available sources. With respect to 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 are those that 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

This project includes an extended overview of the GCC region's SpaceTech activities, including the market overview along with top deals, events, and initiatives. In this report, all major trends and space policies are covered, along with insights on the prospects of SpaceTech development in the following countries:

The United Arab Emirates

Qatar

Saudi Arabia

Kuwait

Bahrain

Oman

The '**SpaceTech Activity in GCC Region Q3 2022**' report is based on a comprehensive business and scientific overview of the global SpaceTech economy, which is constantly growing. GCC countries, in turn, are trying to be actively involved in this field, considering the pace of the whole industry development. They are to become competitive and reliable partners in the space sector, both within Europe and across the globe.

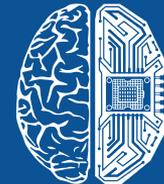
**SpaceTech Analytics** (STA) is a leading strategic and analytical agency focused on the emerging markets in Satellite Technology, Advanced Start-ups, Space Law, and Economics. It concentrates its efforts on actively gaining expertise in the Space Medicine sphere and other industries related to SpaceTech.

STA produces **regular analytical reports** on major areas of high potential in the space industry; maintains ratings of companies and governments based on their innovation potential and business activity in the SpaceTech sphere; and provides **strategic consulting and investment intelligence services** to top-tier clients, including major investment funds and banks, family offices, insurance companies, government organisations, large companies, and other organisations.

# The SpaceTech Activity in the GCC Region Overview

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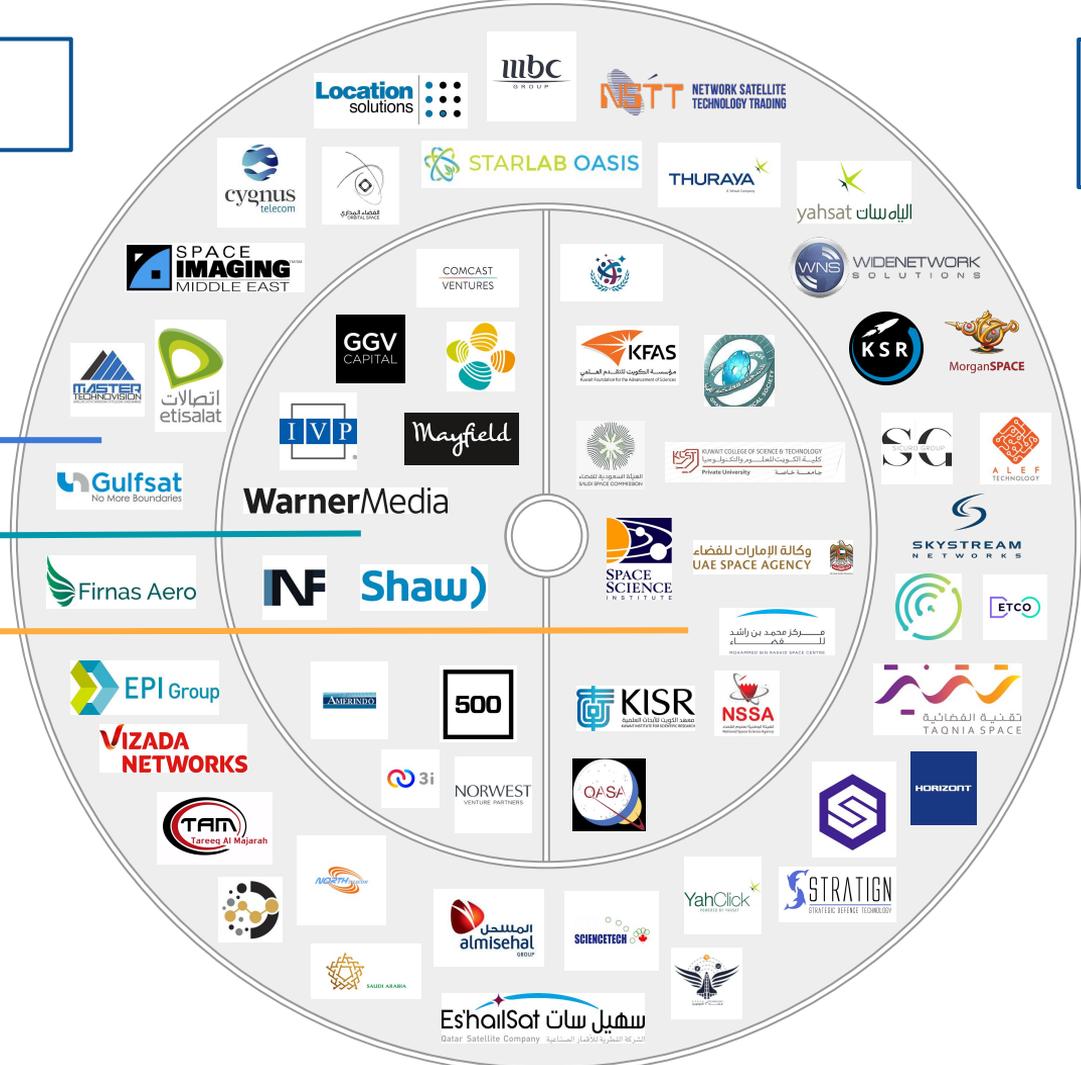


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**SpaceTech in GCC Region  
Q3 2022**

**Companies – 40  
Investors – 14  
R&Ds and Hubs – 11**

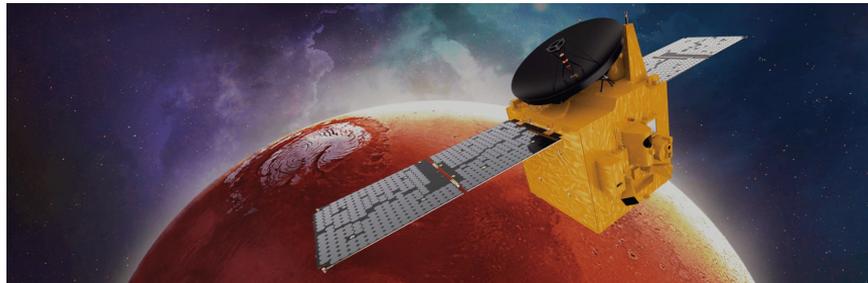
- Companies**
- Investors**
- R&D Hubs**



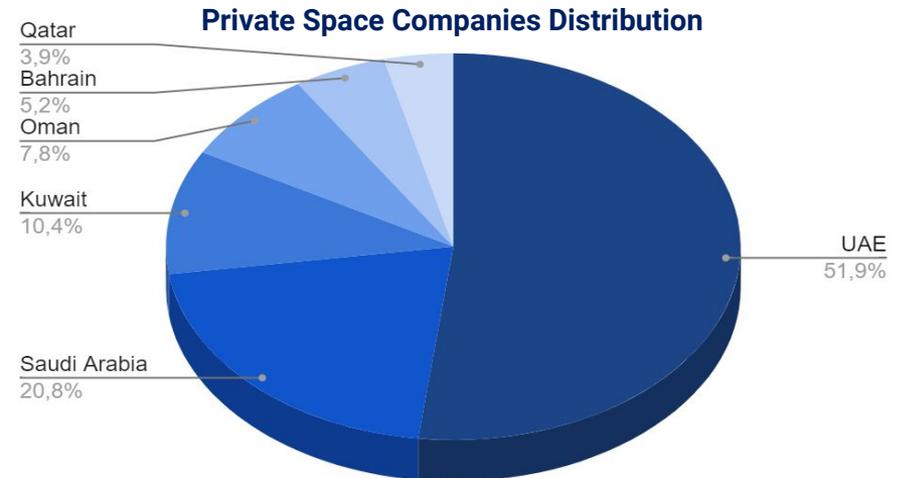
# General Overview

Space has long been a point of interest in the Middle Eastern countries. The observatory built in Baghdad in 9th century A.D. is said to be one the first in the world. However, nowadays, GCC countries are only at the beginning of their journey to the stars. Although their agencies are quite young (compared to NASA and ESA), it is not that they lack progress, but quite the opposite. The Gulf countries, the United Arab Emirates especially, have shown tremendous rates of growth.

All six countries have been initiating space-related endeavours throughout the past decade. The United Arab Emirates, Saudi Arabia, Bahrain, and Qatar have already established their space agencies, starting with Qatar Aeronautics and Space Agency (QASA) in 2010.



The programmes mainly focus on domestic solutions, such as weather and atmosphere composition monitoring. Also, agencies seek to generate profit as well as scientific output from space missions. The UAE Space Agency even announced a collaboration with a private company in order to provide space tourism services. However, it is unclear if the countries plan to develop space technologies for military purposes: e.g., Saudi Arabia has launched two satellites with military observation capabilities not long ago.



# Arab Satellite Communications Organisation

Country	Satellites Launched	Satellites Planned
 The United Arab Emirates	16	1+1*
 Saudi Arabia	17	1
 Kuwait	1	0
 Oman	0	1
 Bahrain	1	0
 Qatar	2	N/A

\* - one satellite and one constellation of small radar satellites

The market for commercial satellite imaging generated \$5.2 billion in 2021 and is anticipated to grow at 11.5% year over year to reach \$5.8 billion in 2022. The industry's market size is expected to reach \$12.4 billion by 2032 as a result of the increasing assistance from various governmental organisations. During the forecast period, the trade is expected to grow at a 7.9% CAGR during 2022.

## Commercial Satellites Serve Sustainability

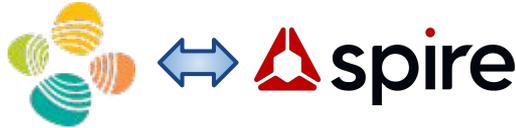


'Commercial satellite imagery involves capturing visuals of Earth, known as earth observation and using these visuals for a variety of commercial reasons and sustainability purposes such as mapping, disaster management, energy and natural resource management, urban planning and development, and, in some cases, security and surveillance.

'The rising demand for commercial satellite imagery globally is partly driven by a growing concern about climate change, environmental degradation, and disaster monitoring'.

**Alex Cresniov**, Director of SpaceTech Analytics

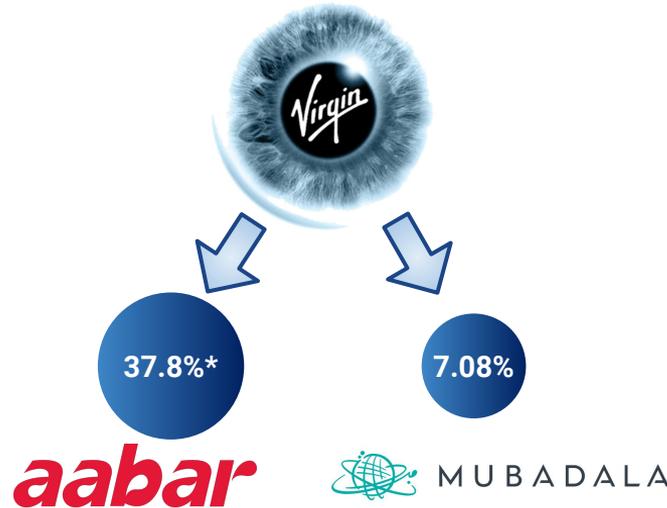
# The Largest Deals



King Abdullah University of Science and Technology (KAUST) and Spire Global have established a long-term collaboration in order to launch nanosatellites and improve their remote sensing data technologies.

**In April 2022**, the UAE Space Agency terminated the agreement with Virgin Galactic to establish a space port near Abu-Dhabi and decided to work with Blue Origin instead. It is rumoured to have been caused by Richard Branson's questioning the Emirati journalist murder case.

**In May 2022** AstroAgency, a space marketing firm from Scotland, announced it will work together AzurX, space investment company from the UAE, in order to enrich the space market of both countries by supporting local space businesses.



Aabar Investments, which is headquartered in Abu Dhabi, has the rights to launch tourism and research flights with Virgin.

Mubadala, a UAE governmental company, reported a stake in Virgin Galactic after absorbing IPIC operations in 2017.

\* - according to 2016 report

Sources: [Parabolic Arc](#), [Times Aerospace](#)

National Space Fund



**In July 2022**, the UAE Space Agency announced a National Space Fund committing to spend three billion dirhams or

**\$817M**

*'The National Space Fund will encourage global partnerships to establish themselves here in the Emirates, providing new and vital technology platforms and development to answer the needs of the UAE Space Programme and other global customers for vital innovation and technologies that answer the needs and possibilities of today's world'*

**Salem Al Qubaisi**  
**Director general of the UAE Space Agency.**

# Emirates Lunar Mission



The Emirates Lunar Mission is the United Arab Emirates' first lunar project. On board iSpace's Hakuto-R lander, the Mohammed bin Rashid Space Centre (MBRSC) mission will launch a lunar rover named Rashid to the Moon in November 2022. Close to the lunar equator, the rover will touch down at Lacus Somniorum, also known as the 'Lake of Dreams'.

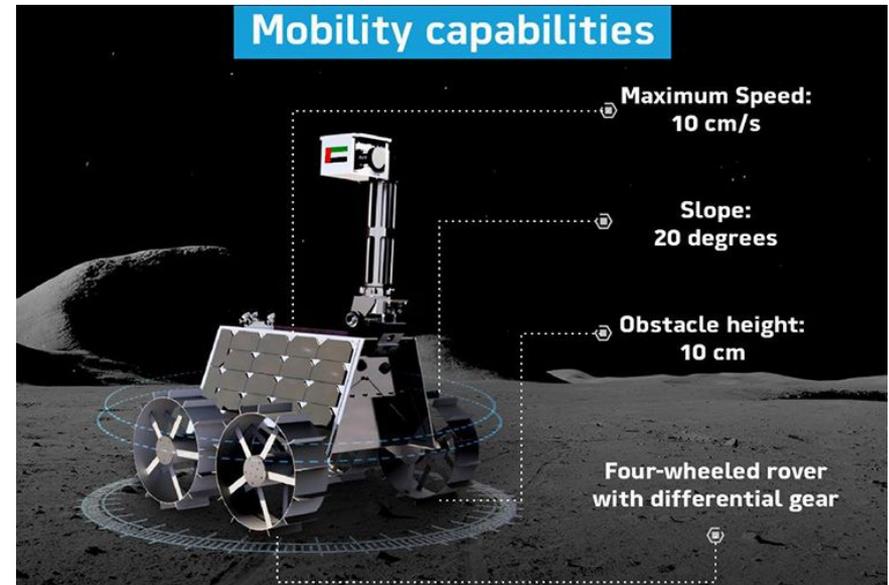
## Overview

The rover was scheduled to depart for the expedition in 2024. MBRSC announced on 14 April 2021 that the rover would now be sent to the Moon in 2022 rather than 2024, as originally planned. The late ruler of Dubai, Sheikh Rashid bin Saeed Al Maktoum, who was in charge of transforming Dubai from a small settlement area around the Dubai Creek into a sophisticated port metropolis and commercial centre, is remembered by the name Rashid given to the rover.

Emiratis will build the rover at the Mohammed Bin Rashid Space Centre in Dubai, making it the first Arab nation to launch a mission to the moon.

## HAKUTO-R lander

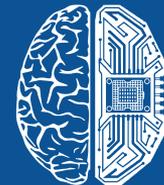
The UAE has teamed with the Japanese company iSpace, since it does not intend to construct its own lander. The HAKUTO-R, which iSpace has been building for more than a decade, will make its first lunar landing on board the Emirates Lunar Mission.



# Topical Discussions

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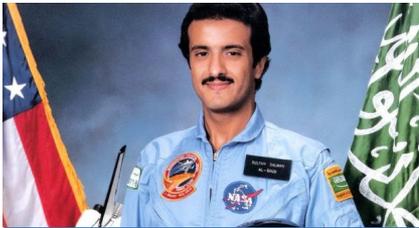
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# Arabs in Space

To date, there have been three astronauts of Arab descent. Saudi Arabia's Prince Sultan bin Salman Al Saud took off in the US Space Shuttle in 1985. In 1987, a Syrian astronaut, Muhammed Faris, launched into space as part of a joint Soviet-Syrian mission. Hazza Al Mansouri of the United Arab Emirates travelled to the International Space Station (ISS) with the Soyuz MS-15 rocket in 2019.



Sultan bin Salman Al Saud was proposed by the Arab Organisation of Space Communications in 1985. Al Saud was born in Riyadh and was previously a licensed commercial pilot. Al Saud received advanced training prior to his space mission, learning how to launch the Arab satellite at a height of 320 km above the Earth's surface.



**Sultan bin Salman Al Saud**



Syrian astronaut Muhammed Faris was born in Aleppo on 26 May 1951. Faris, who entered space aboard the Soviet Soyuz m3 (TM-2) with two Soviet cosmonauts on 22 July 1987 as part of the programme for space cooperation between Syria and the Soviet Union, became the first Syrian astronaut and second Arab to do so.



**Muhammed Faris**



Hazza Al Mansouri travelled to the ISS on the Soyuz MS-15 spacecraft on 25 September 2019, becoming the first Emirati astronaut. Al Mansouri undertook 15 experiments during his brief stay aboard the ISS, making him the first person from the Middle East to be examined after spending time in microgravity.



**Hazza Al Mansouri**



Jessica Meir, whose father is of Sephardic Jewish origin, was born in Baghdad, and travelled to the International Space Station on the Soyuz MS-15 ship on 25 September 2019. Children riding the Hope Buses in Baghdad received a video greeting from her that was encouraging and powerful.



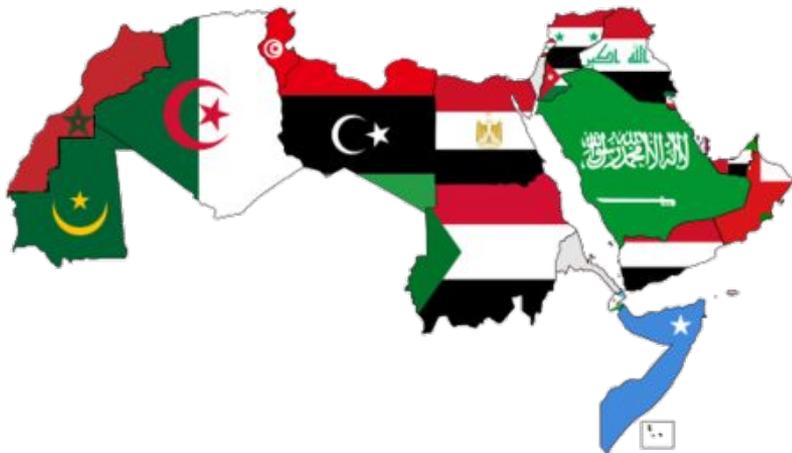
**Jessica Meir**

# Arab Satellite Communications Organisation

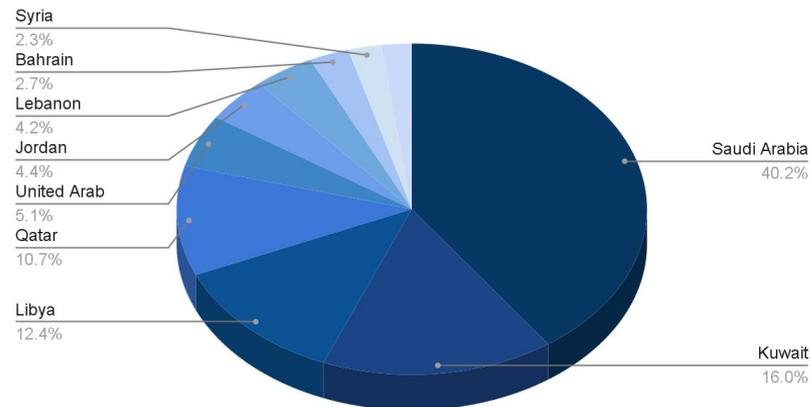
With its headquarters in Riyadh, Saudi Arabia, the Arab Satellite Communications Organisation (commonly shortened as Arabsat) operates communications satellites for the Arab world. Arabsat was established to provide the Arab states with satellite-based, international standards-compliant public and private telecommunications services. The group, which has **21 member nations**, is essential to improving communications throughout the Arab world.

The Arabsat satellites form a series of geostationary communications satellites launched from 1985 through 2019. Some of the later satellites in the series remain operational in orbit, while others have been retired and are derelict.

## Arab League members and Arabsat shareholders



## All Arab League States, except for Comoros, are shareholders of Arabsat



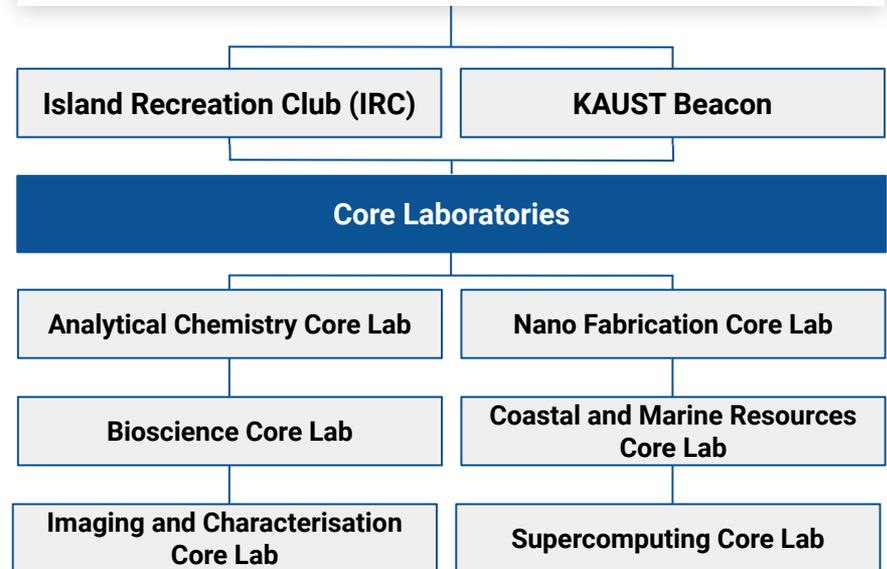
King Abdullah University of Science and Technology (KAUST) is a private research university located in Thuwal, Saudi Arabia. Founded in 2009, the university provides research and graduate training programmes, with English as the official language of instruction.



Sources: [KAUST](#)

## Research and Technology Park

The Research and Technology Park occupies around **2.7 million square meters** of space next to the academic campus. Current tenants include Saudi Aramco, Dow Chemical, and SABIC.



# Some Satellite Missions by Country

## Qatar



The country launched its second satellite on 15 November 2018 aboard a SpaceX Falcon 9 rocket, which had two well-built amateur radio transponders to provide television in the Middle East and North Africa directly to customers.

## Oman



First satellite is planned for launch by Q4 2022. It is a CubeSat designed to provide scientific data for engineers and students and to monitor natural resources and agriculture.

## Bahrain



Light-1 satellite was launched with a Falcon 9 rocket with the help of the UAE Space Agency. It will study terrestrial gamma-ray flashes from thunderstorms and clouds, and share the data with Saudi Arabia, Denmark, and Lithuania.

## Kuwait



The only Kuwaiti satellite is a collaboration between several companies from around the world. Interestingly enough, the main focus of this mission is education. One of the projects allows for students to develop and test software solutions for space.

## The UAE



The country plans to launch a whole constellation of satellites that implements synthetic aperture radar technology for satellite imaging. The development is expected to last six years, with the first satellite launched in 2025.

## Saudi Arabia



The country has recently launched two satellites that are fully locally made. They are called Shaheen Sat 17, and are mostly dedicated to tracking ships as well as taking photos of Earth.



# Qatar Exoplanet Survey

The Qatar Exoplanet Survey, also known as QES, is an international exoplanet search survey hosted in Qatar. Its major objective is to find exoplanets by studying the host star's light curve using the transit method.

## Site

*There is a telescope in New Mexico with five 400-meter-long cameras. It has been in use since 2011, albeit with a few glitches.*

## Site

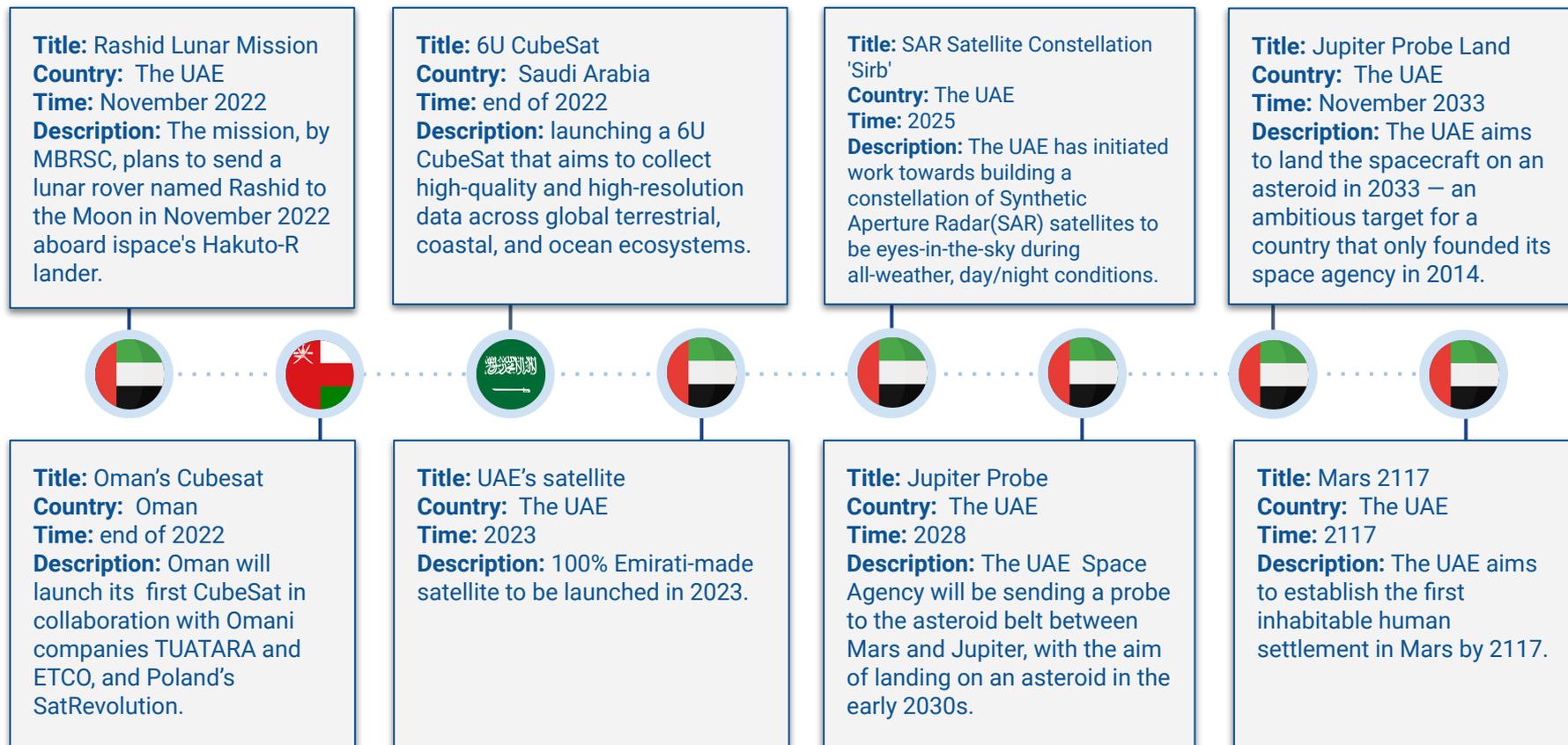
- *In 2011, QES reported finding Qatar-1b, a hot Jupiter with characteristics similar to Jupiter.*
- *Three huge planets, which are 4-6 times more massive than Jupiter, were found in 2016 by QES. Qatar-3b, Qatar-4b, the largest of the three, and Qatar-5b are the planets in question.*



*Qatar Exoplanet Survey is an extrasolar planet-searching project for extrasolar planets using the transit method. Above, is an image of the system located in New Mexico.*

**The goal of this survey project, was to discover tiny planets in the northern sky. It first found WASP-36b and WASP-37b, before discovering other new planets.**

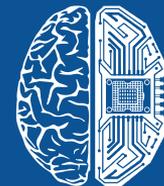
# Future Events Timeline



# Leading Entities in the SpaceTech Sector

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# Leading SpaceTech Companies in GCC Region\*

1	ABS Network	11	Global Space & Technology Company
2	Al Yah Satellite Communications Company PJSC (Yahsat)	12	Golden Shield
3	Alef Technology	13	Gulfsat Communications Co.
4	Almisehal Group	14	HorizonSat
5	Cubesat Arabia	15	International emerging technology company (ETCO)
6	Cygnus Telecom	16	Joint Venture (OneWeb / Neom Tech & Digital)
7	EPI	17	Kuwait Space Rocket
8	Es'hailSat	18	Location Solutions
9	Etisalat	19	Master Technovision LLC
10	Firnas Aero	20	Middle East Broadcasting Centre

\*in alphabetical order

# Leading SpaceTech Companies in GCC Region\*

21	MorganSPACE Advanced Business Co Ltd	31	SpaceVaults
22	Network Satellite Technology Trading	32	StarLab Oasis
23	NorthTelecom LLC	33	Stratign
24	Orbital Space	34	Taqnia Space Co
25	RascomStar	35	Tareeq Al Majarah Satellite TR. LLC
26	ScienceTech.sa	36	Thuraya Telecommunications
27	SicuroGroup	37	Vizada Middle East
28	SkyStream FZ LLC	38	Wide Network Solutions Intl. Limited
29	Space Communications Technology LLC (SCT)	39	World Defense Show
30	Space Imaging Middle East	40	Yahclick

\*in alphabetical order

# Leading Investors in GCC SpaceTech Companies\*

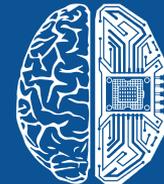
1	3i Group	8	IVP
2	500 Start-ups	9	KAUST Innovation Fund
3	Amerindo Investment Advisors	10	Mayfield Fund
4	Comcast Ventures	11	Mubadala Investment Company
5	GGV Capital	12	Norwest Venture Partners
6	Gulf Investment Corporation	13	Shaw Communications
7	Infrontier	14	Warner Media

\*in alphabetical order

# GCC Space Agencies Overview

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# GCC Region Space Agencies Have Great Potential for Growth



الهيئة السعودية للفضاء  
SAUDI SPACE COMMISSION

**Saudi Space Commission**



الهيئة الوطنية لعلوم الفضاء  
National Space Science Agency

**National Space Sciences  
Agency of Bahrain**



United Arab Emirates

وكالة الإمارات للفضاء  
UAE SPACE AGENCY

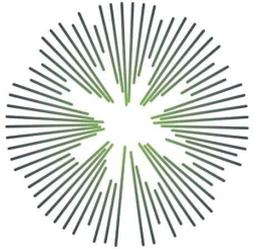
**The United Arab  
Emirates Space  
Agency**



**Qatar Aeronautics and  
Space Agency**

At present, of all the GCC countries, only Saudi Arabia, the Arab Emirates, Bahrain, and Qatar have their own fully fledged and well-functioning space agencies. These countries are the most progressive in terms of governmental initiatives, which makes them the locomotives of the space industry in the Middle East, within the Persian Gulf region under consideration. Given that the oldest agency of all (namely, Qatar Aeronautics and Space Agency) was founded only in 2010, we can confidently predict immediate growth commensurate with the growth of the entire industry, as well as the potential of relatively young organisations.

# Saudi Space Commission



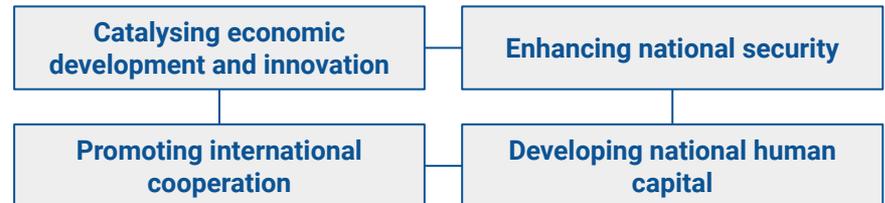
الهيئة السعودية للفضاء  
SAUDI SPACE COMMISSION

<b>Formed</b>	27 December 2018
<b>Type</b>	Space Agency
<b>Headquarters</b>	Saudi Arabia, Riyadh Province, Riyadh, Al Safarat
<b>Chairperson</b>	HE Eng. Abdullah Alswaha Minister of Communications and Information Technology

The Saudi Space Commission (SSC) was established by royal decree in December of 2018 (Rabi II 1440). This bold step serves a future that is innovative and looks forwards to the latest technologies and opportunities in the Saudi Space Industry.

With the Kingdom moving towards a progressive quality of life, SSC demonstrates the aligned vision of creating better, secure environments for its citizens while actively enabling prospects of lucrative economic and monetary innovations. The Saudi Space Commission (SSC) devised strategies to create primary objectives that serve national security interests against space-related risks and encourage cumulative growth and advancement.

## Identified KSA Space Policy Objectives



# National Space Sciences Agency of Bahrain



The current priorities of the National Space Sciences Agency (NSSA) include advancing space science, technology, and applications in the Kingdom of Bahrain through numerous community events, developing capacity in the areas of satellite manufacturing, tracking, control, and monitoring, as well as processing and analysing earth observation data and images to meet stakeholder needs at the national level.

<b>Formed</b>	2014
<b>Type</b>	Space Agency
<b>Headquarters</b>	Kingdom of Bahrain
<b>Chairperson</b>	Dr Mohamed Al Aseeri

## NSSA Offers Three Services:

Providing high-resolution images for the Kingdom of Bahrain in different sizes and formats

Processing and analysing satellite imagery and data to generate useful information to fulfil stakeholders' needs

Providing satellite images and data for the Kingdom of Bahrain in different resolutions, bands, and timeframes

# The United Arab Emirates Space Agency

## وكالة الإمارات للفضاء UAE SPACE AGENCY



<b>Formed</b>	2014
<b>Type</b>	Space Agency
<b>Headquarters</b>	Abu Dhabi, The United Arab Emirates
<b>Chairperson</b>	Sarah Al Amiri

**\$5.2** billion of funding from government

The UAE has launched prior, to the existence of the Agency, commercial satellites constructed by EADS, Boeing, and MBRSC DubaiSat-1 and DubaiSat-2, developed as part of a technology transfer programme with South Korea's Satrec Initiative.

### The UAE Space Agency Initiatives



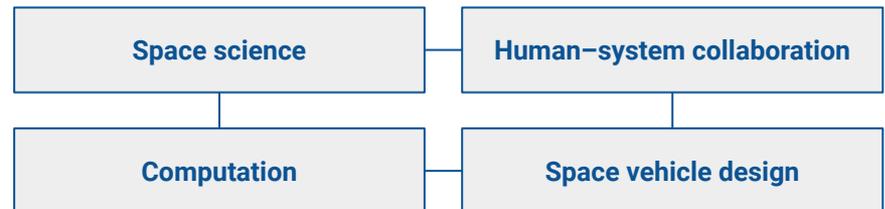
# Qatar Aeronautics and Space Agency



<b>Formed</b>	2010
<b>Type</b>	Non-profit organisation
<b>Headquarters</b>	Qatar, Doha
<b>Partners</b>	6

Qatar Aeronautics and Space Agency (QASA) is a nongovernmental/non-profit organisation designed as a core performance agency to support Qatar's overall aeronautical and aerospace development. QASA will act as Qatar's gateway to outer space. QASA will motivate Qataris to support the sustainable development of the state of Qatar by calling for united national efforts to advance space technology and its uses. Additionally, QASA will attract young, intelligent Qataris to become space scientists and technology pioneers and pass their invitations and studies to outer space.

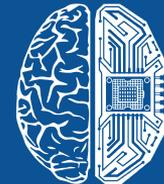
**QASA is aimed at strengthening and evolving four core competencies, which are built upon air transportation, satellite-based communication, AI-powered systems, and excellence in education:**



# Major SpaceTech Trends and Government Policy in the GCC Region

September 2022

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# Key Trends Shaping SpaceTech Activity in GCC Region

The GCC nations set an excellent example of brand-new spacefaring nations that are trying to succeed. These nations cannot currently be compared to their contenders in Europe, due to their varying levels of development, but they nevertheless have a promising future ahead of them. The following are the main trends that will aid in future space developments:

Small satellite systems, including microsattelites, nanosatellites, and cube satellite systems being designed and manufactured using new technology

Enhancing ground operations for broadband, high-speed internet, and mobile satellite services

Increasing financial support for space tourism and suborbital missions

The development of tiny satellite systems that can transmit high-resolution photos with low-cost investments

Increased use of LEO-operated small satellite systems for communication and earth observation

Increased use of Ku-band satellites, which aid in the delivery of affordable services

Small satellites usage to enable a constellation of many satellites

Start of funding the space programmes so that more new military satellites and weapons may be developed. New military satellites employed to monitor borders

Improving the capacity of military satellites to monitor borders in real time

A rapid growth of government involvement in space missions

Government funding for the development of new satellite launches and services supports research universities

Space exploration missions as a long-term impetus for upcoming space projects

# The UAE is Building a Business-Friendly Space Policy Framework

**The UAE has emerged as a trusted partner to the global space community**

The UAE Space Program was established in the 1970s, and since then, it has grown into a proactive and creative initiative that ranks the nation among the major contributors to the global space effort:

- With the help of streamlined and effective processes, the UAE has produced a thorough space strategy over the past couple of years, in addition to a full set of laws and regulations.
- Due to its recent Mars HOPE probe mission and upcoming lunar mission, the UAE is now a reliable partner in space exploration.
- In addition, Hazza Al Mansouri, the UAE's first astronaut, arrived at the International Space Station in 2019.

## Space Debris Mitigation

The UAE has implemented the space debris mitigation guidelines at the core of its spacecrafts licensing and authorisation process

## Balanced Insurance Requirements

The UAE is exploring means of ensuring and developing smallsats constellations, which does not lead to a space race within space traffic management

## Policy Actions Developed to Attract Businesses

### The UAE National Space Strategy

**Strong international cooperation agreements**

### The UAE Space Policy

**Focal point for the space economy**

**Space Investment Promotion Plan, including business incubation and acceleration with the UAE Space Agency**

# Saudi Arabian Ambitions in Outer Space Are Beyond Borders

Saudi Arabia's interest in the space industry has significantly increased in recent years, thanks to the King Abdulaziz City for Sciences and Technology (KACST) and the recently established Saudi Space Commission (SSC). While the latter directs Saudi Arabia's space strategy and oversees its implementation to increase research and industrial space activities, the former strives to improve space technology and infrastructure and focuses on research and skill development.

With the assistance of an international organisation, Saudi Arabia has established a number of initiatives under their leadership, building bilateral and multilateral alliances.

**\$1.9B** injection into the industry by 2030

This specifically includes an emphasis on enhancing domestic space capabilities through investments in people capital and resources to independently develop space technology. Indeed, the SSC's ongoing efforts highlight both of these through:

## The Ajyal Space Program

This focuses on developing national human capital in space and technology and encouraging young Saudis to become involved in STEM subjects.

## The Orbital Sites Reservation Project

This aims to match national demands for orbital slots (so-called 'parking spaces' in space) to reduce reliance on foreign partners.

### Saudi Arabia partnered with several countries to deepen space cooperation



# Bahrain to Become a Great Space Contender

On 21 December 2021, Bahrain announced that it had **launched its first satellite** into orbit, joining a number of other Gulf nations in advancing their space efforts.

From Florida's Kennedy Space Center, SpaceX launched the Light-1 satellite aboard a Falcon 9 rocket. Later that day, it arrived at the International Space Station, and during the first quarter of 2022, it was scheduled to be put in an orbit, **400 kilometres above the planet**.

In the Gulf Cooperation Council, Bahrain is the **fifth nation to launch a satellite into orbit**. Some, like the UAE, which sent a probe to Mars earlier this year, have higher aspirations, but there are still concerns about Iran's possible military use of space.

The goal of Bahrain's nanosatellite is less controversial. According to **Mohammed Ibrahim Al-Aseeri**, CEO of the nation's National Space Science Agency (NSSA), established in 2014, it will observe and research terrestrial gamma-ray flashes from clouds and thunderstorms.

## Bahrain Space Team

In order to establish a well-known and outstanding national space science foundation and advance research programmes while fostering innovation, the Kingdom of Bahrain concentrated on capacity building in the field of space science. This was done in order to move the country towards a scientific and technological development consistent with the **Bahrain's 2030 vision**.

## Shaping the Future of Space Science

In order to build and design the Emirati tiny satellite '**DhabiSat**', which was launched from the Wallops Flight Facility in Virginia, USA, and arrived at ISS, two members of the Bahrain Space Team of the National Space Science Agency (NSSA) were involved on the ISS.



DhabiSat will enable students to further design, implement, and test software, as well as record data to support future CubeSat missions.

# Qatar's Journey to Space Exploration

1939	Oil reserves discovered for the first time.
1950	Oil revenues were used by the government to expand and modernise Qatar's infrastructure.
1971	Qatar became an independent state, but a subsequent Iraq war postponed the growth of the country for several decades.
2000	The sustainable development of the Emirati region enables Qatar to expand its aeronautical and aerospace industries at a fast pace.
2010	Qatar launched the Qatar Exoplanet Survey to help find planets outside our Solar System.
2013	Doha launched its first satellite.
2015	Qatar's signed an agreement between the CEO of well-known French aerospace corporation Dassault, Eric Trappier, and Qatari defence officials in the capital city of Qatar, Doha.

The State of Qatar called on countries to implement their space activities in accordance with international law, rules, and regulations to ensure that space is used in a sustainable manner and for exclusively peaceful purposes.



This was said in a statement made by **Sheikh Nasser bin Abdulrahman Al-Thani**, Second Secretary at Qatar's Permanent Mission to the United Nations and other international organisations in Geneva, before the 61st meeting of the COPUOS Legal Subcommittee, which takes place in Geneva.

## Cooperation

The first satellite to study groundwater, the effects of climate change, and the impact of rising sea levels on the desert and dry areas, including the Arabian Peninsula and North Africa, is expected to be launched in 2025 and was the subject of a cooperation agreement between QASA and NASA signed in 2020.

# Kuwait's Space Industry Successful Development

**Kuwait's space activities have recently regained momentum, albeit this time through bottom-up initiatives rather than top-down, government-led ones.**

1960

When the USA and the USSR were vigorously vying for dominance in the space race, Kuwait first started to get involved in the industry.

The government built the Um Alaish, the region's first ground satellite station.

1969

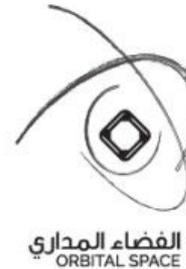
The government continued to encourage satellite communication services and the space industry, the station later underwent an expansion that included the addition of three satellite dishes by 1981.

1981

When the Um Alaish was ruined during the Iraqi invasion, the state's interest in the space sector waned. Over the next two decades, the wreckage and the remaining equipment was cleaned up or sold.

1990

Orbital Space, the organisation behind the QMR-KWT, satellite was founded as a result of the lack of state interest and the flourishing space programmes among the GCC states, mainly the UAE.



With a focus on involving Arab youth through research and teaching, it was established as a private firm in 2018 to rekindle Kuwait's interest in space and showcase the nation's technological prowess in that area. It is the first privately owned CubeSat technology firm in the area.



Another unique project is the Kuwait Space Rocket, initiated and led by a group of young Kuwaitis who are developing a rocket – specifically, the first GCC suborbital liquid bipropellant rocket that will travel up to 100 km into the atmosphere.

The goal of the initiative is creating a local smallsat launch service and 'establishing a Kuwaiti Space Program'.

# Oman Space Achievements in Policy and Business

The Omani government took part in many agreements in the field by issuing relevant decrees to serve the goals and requirements of economic development, including:

<b>Royal Decree 76/2021</b>	Approving the accession of the Sultanate of Oman to the treaty on principles governing the activities of states in the exploration and use of outer space, including the Moon and other celestial bodies.
<b>Royal Decree 77/2021</b>	Approving the accession of the Sultanate of Oman to the Convention on Registration of Objects Launched into Outer Space.
<b>Royal Decree 78/2021</b>	Approving the accession of the Sultanate of Oman to the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.
<b>Royal Decree 79/2021</b>	Approving the accession of the Sultanate of Oman to the Convention on International Liability for Damage Caused by Space Objects.

The Sultanate of Oman plans to launch CubeSat before the end of 2022, the Sultanate's first satellite, breaking through the boundaries of land and atmosphere to enter Low Earth Orbit.



The collaboration between TUATARA, ETCO, and SatRevolution in designing the CubeSat Standard will result in launching Oman's first satellite in orbit, an innovative project that will firmly establish Oman on the map of the international space industry.

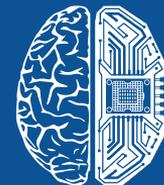


Talented engineering students, academic researchers, and start-up company owners will have the chance to obtain new information, gain practical experience and competitive advantage to advance the space sector in the Sultanate through the launch of Oman's first satellite.

# Conclusions

September 2022

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# Key Takeaways

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SpaceTech in the GCC region has a huge economic potential and has already resulted in the emergence of companies and initiatives that have the potential to bring billion-dollar investment into the region. Despite the amount of money the GCC region accumulated, its full potential has yet to be reached.

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Space has always been a point of interest in Middle Eastern countries. The observatory built in Baghdad in the 9th century is said to be one of the first ones in the world. However, nowadays GCC countries are only at the beginning of their way to the stars. Although their agencies are quite young (compared to NASA and ESA), they have made impressive progress. The Gulf countries, The United Arab Emirates especially, have shown tremendous rates of growth.

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All six countries have been initiating space-related endeavours throughout the past decade. The United Arab Emirates, Saudi Arabia, Bahrain, and Qatar have already established their own space agencies, starting with Qatar Aeronautics and Space Agency (QASA) in 2010. The programmes mainly focus on domestic solutions such as weather and atmosphere composition monitoring. Agencies also seek to generate profit through space tourism services and gain scientific output from space missions.

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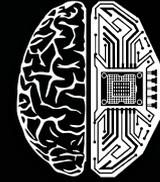
At present, of all the GCC countries, only Saudi Arabia, the Arab Emirates, Bahrain, and Qatar have their own full-fledged and well-functioning space agencies. These countries are the most progressive in terms of governmental initiatives, which makes them the locomotives of the space industry in the Middle East within the Persian Gulf region. Given that the oldest agency of all (namely, Qatar Aeronautics and Space Agency) was only founded in 2010, we can confidently predict immediate growth commensurate with the development of the entire industry and expanding potential of relatively young organisations.

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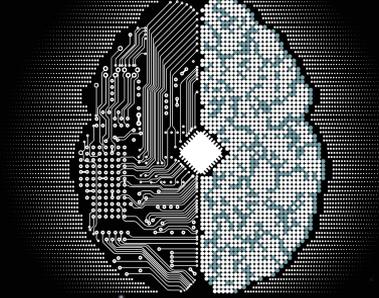


The GCC nations are an excellent example of brand-new spacefaring nations trying to succeed. These nations cannot currently be compared to their contenders in Europe due to their varying levels of development, but they, nevertheless, have a promising future ahead. Nevertheless, the world trends towards small satellite systems, including microsatellites, nanosatellites, and cube satellite, as well as launching of missions aimed at space exploration, are reflected in the GCC region.

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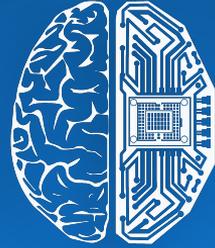


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# SpaceTech Analytics

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*New Era in Big Data Analytics  
for SpaceTech Industry*

## Last Articles about GCC

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### **Space tech gives Gulf nations a launchpad for local talent**

The National Space Strategy has the potential to turn the country into a regional hub for commercial space activities, as well as a sophisticated research and development centre.

[Read Article](#)



### **As the UAE's space sector grows in stature, SpaceTech fund and accelerator are natural next steps**

SpaceTech companies are among the 16 start-ups chosen as part of the 2021 cohort of Hub71, Abu Dhabi's global tech ecosystem.

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### **Gulf nations will benefit from a combined race to space initiatives**

The Gulf can make a decisive push into the furthest realms of space possibilities. The groundwork has already been done.

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# SpaceTech Analytics

## New Era in Big Data Analytics for SpaceTech Industry

SpaceTech Analytics is a strategic analytics agency focused on markets in the Space Exploration, Spaceflight, Space Medicine, and Satellite Tech industries. The range of activities includes research and analysis on major areas of high potential in the SpaceTech Industry, maintaining profiling of companies and governmental agencies based on their innovation potential and business activity, and providing consulting and analytical services to advance the SpaceTech sector.



**SpaceTech Industry Landscape Overview**

Q3 2021

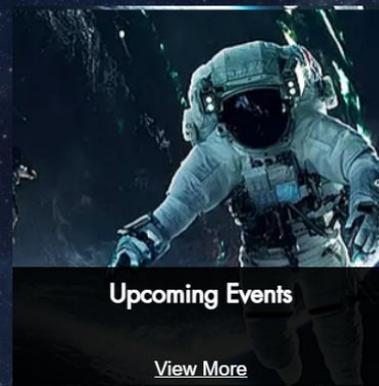
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# Value Proposition

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

Tangible forecasts on the 3-5 years horizon, providing an overview of future scenarios of the development 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 make automated algorithm-driven analytics for scoring and ranking industry entities.

6

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

7

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



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## Value Proposition

Custom Consulting Projects

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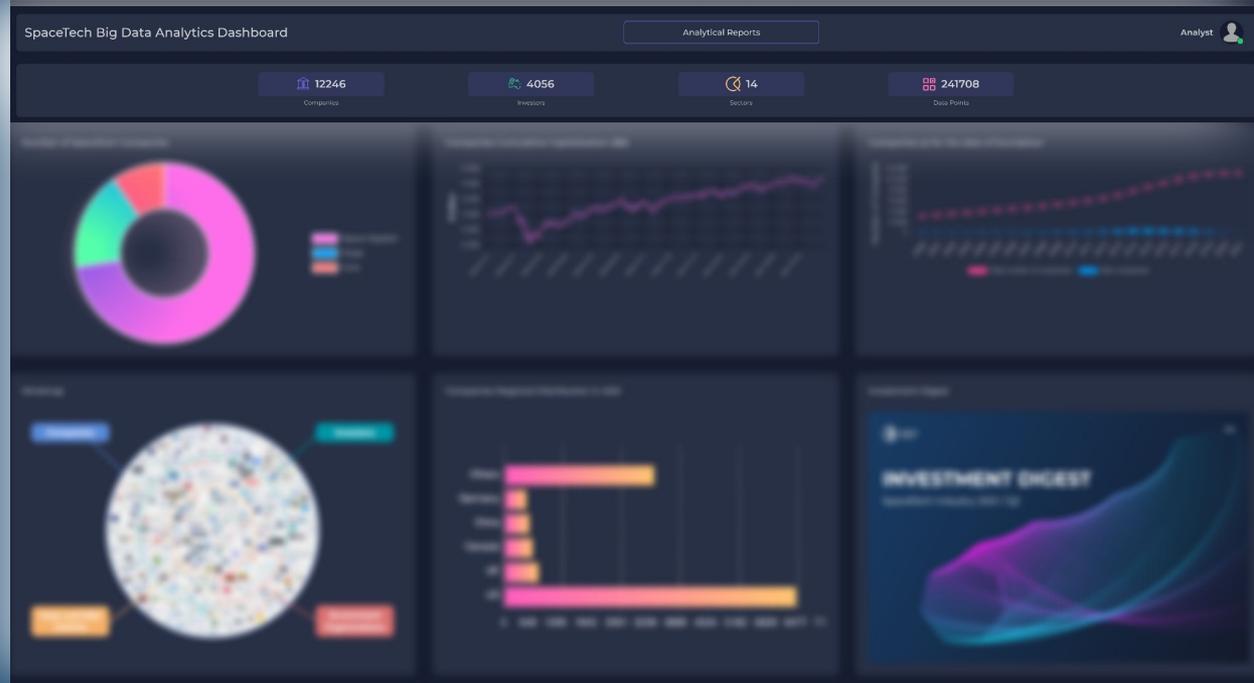
Covering M&A Prospects

Strategic Growth Ideas

# 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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Analytics

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Analytics

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Analytics

COVID-19  
Analytics

Innovation  
Eye

Interactive  
MindMaps

### For Profit & Non-Profit Activities

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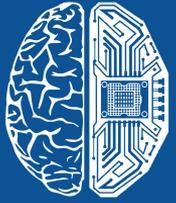
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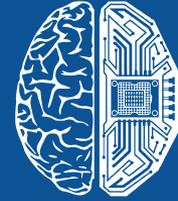
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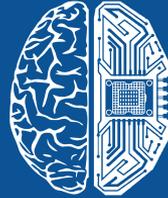
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