



Key players

Estados Unidos e Canadá

Value chain

Launch segment

Space (satellite) segment

Ground and Service/Applications segment



ABS US Corporation



 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 Satellite Operator: Service Provider

 <https://absatellite.com/>

Space business

- Extensive fleet: ABS' fleet of satellites covers 93 percent of the world across the Americas, Africa, Asia Pacific, Europe, the Middle East, CIS and Russia. Our fleet comprises of 5 satellites: ABS-2, ABS-2A, ABS-3A, ABS-4, and ABS-6.
- Teleport facilities across Europe, the Middle East, Asia and Africa.



ABS-2 (Ku, Ka, C)



ABS-3A (Ku, C)

Acme AtronOmatic



 Headquarters



Quick profile

 Space value chain: Tier supplier

 IT: Software development

 [bhttps://acmeaom.com/](https://acmeaom.com/)

Space business

- Industry leading software development for the aviation, weather and consumer sectors.
- Developing applications based on satellite data.



My Radar app (devices)



My Radar app (mobil)



 Headquarters



Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: NanoSatellite

 <https://albedo.com/>

Space business

- Albedo is developing low-flying satellites that will capture visible and thermal imagery at the highest resolution commercially available.
- Aerial quality imagery - from space.
- Claims to be the highest resolution satellite imagery commercially available.



Albedo's satellite platform concept design

Amazon (Kuiper)

amazon | project kuiper

 Headquarters

 USA

Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM: Large Satellites
-  <https://www.aboutamazon.com/news/tag/project-kuiper>

Space business

- Kuiper Systems LLC is a subsidiary of Amazon that was set up in 2019 to deploy a large broadband satellite internet constellation to provide broadband internet connectivity.
- The deployment is also referred to by its project name "Project Kuiper"



Amazon's Kuiper lab room



 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 IT: Electronic devices

 <https://www.apple.com/>

Space business

- Apple's \$450 million investment from its Advanced Manufacturing Fund will go to the development of critical infrastructure supporting Emergency SOS via satellite, including the expansion and enhancement of Globalstar ground stations in Alaska, Florida, Hawaii, Nevada, Puerto Rico, and Texas



Apple's satellite emergency link conception studies.



 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 Telecommunications: Service Provider

 <https://www.artelllc.com/>

Space business

- For 30 years, Artel has provided secure network communication services to Federal Government agencies. Based in the U.S. and backed by leading global private investment firms TPG and Torch Hill, Artel is a carrier-agnostic network integrator – allowing to develop customized solutions for customers.
- Artel's Satellite Communications Business Unit has been a trusted and proven satellite service provider to the Department of Defense (DoD) for almost 20 years, mainly via the Defense Satellite Transmission Services-Global (DSTS-G) and Future COMSATCOM Services Acquisition (FCSA) programs. Throughout this timeframe, Artel has supported the United States DoD customers with approximately 6000 MHz of C-, X-, Ku-, and Ka-bandwidth on 60 commercial satellites during its peak

Enterprise Bandwidth Management Services	+
Purpose-Built, MilSpec Payload Design Services	+
Satellite Technology Assessment Services	+
Turnkey Earth Station Antenna Design & Integration	+
Advanced RF Link Design & Optimization Services	+
Secure Network Enterprise Management & Control (EM&C)	+

Artel's SatCom services



 Headquarters



Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Small Satellites

 <https://ast-science.com/>

Space business

- Space-based low-latency broadband architecture.
- Planned satellites are designed to have a large surface area of phased-array antennas, which work together to electronically form, steer, and shape wireless communication beams into cells of coverage – just like the kind that cell towers and other cell sites provide.



AST phased array satellite concept design



AST's spacecraft prototype



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Launcher Manufacturer, Satellite Sub-system supplier: Launch vehicle; satellite electric propulsion.

 <https://astra.com/>

Space business

- Astra is an American launch vehicle company based in Alameda, California. Astra was incorporated in October 2016 by Chris Kemp and Adam London. Formerly known in media as "Stealth Space Company", the company formally came out as Astra Space, Inc.



Astra's Rocket 3.3



Electric Thruster (1.5MN-s)

ASTRANIS

 Headquarters

 USA

Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Large Satellites

 <https://www.astranis.com/>

Space business

- Astranis Space Technologies Corp., doing business as Astranis, is a private American geostationary communications satellite operator and manufacturer headquartered in San Francisco, California. It was founded by chief executive officer John Gedmark and Chief Technical Officer Ryan McLinko.



Astranis microGeo satellite



 Headquarters



Quick profile

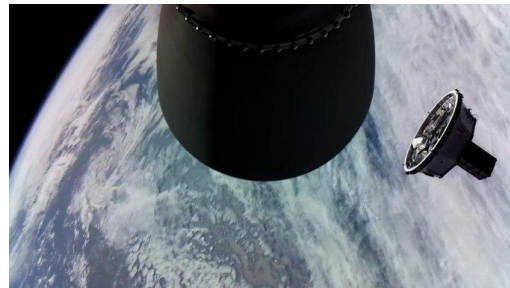
-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM; Service Provider: Mission Systems; Micro Satellite; Nanosatellite
-  <https://astrodigital.com/home>

Space business

- From full constellation deployment to time-critical proof-of-concept missions.
- End-to-end mission support.
- Comprehensive satellite technology development, and global ground support.



AstroDigital EO satellite concept



AstroDigital tech demonstrator release ('19)



at&t



Headquarters



USA

Quick profile

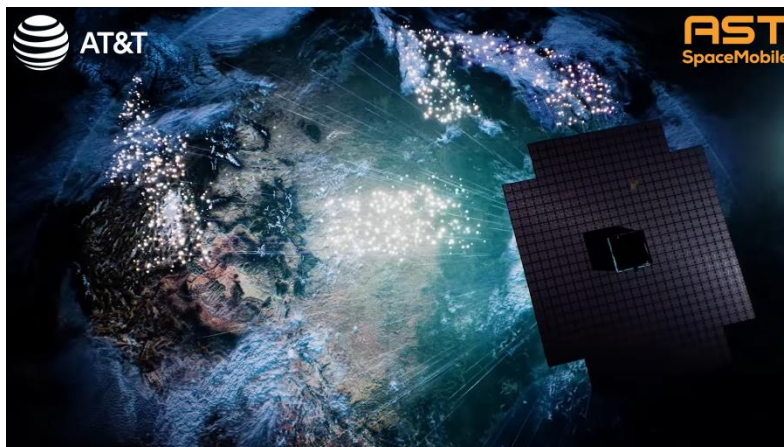
📡 Space value chain: Service Provider

📡 Telecommunications: Service Provider

🌐 <https://about.att.com/>

Space business

- AT&T announced a new partnership with AST SpaceMobile, a satellite company, to use its low Earth orbit satellites to help bolster AT&T's terrestrial coverage



AT&T/AST partnership artistic impression



 Headquarters



Quick profile

 Space value chain: Tier supplier

 Telecommunications; Satellite Sub-system supplier: Satellite Sub-system supplier; antennas

 <https://atg.space/>



Supersonic Vehicle on which ATG's antenna was tested

Space business

- Defense & security
- Solutions providing resilient wireless connectivity and secure communication channels.
- RETINA ANTENNAS
 - Extending beyond a single orbit, frequency band, constellation, and application.
 - Multi-band, multi-beam/multi-orbit capabilities
 - Targeting LEO, NGSO and GEO constellations (e.g. Oneweb, SpaceX, Kuiper, Telesat, Intelsat, SES, etc.)
 - Ruggedized for DoD COTM and stationary applications
 - Currently TRL-4 with path to TRL-7 in 2023

Ball Aerospace & Technologies Corporation



Ball Aerospace



Headquarters



USA

Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Large Satellites

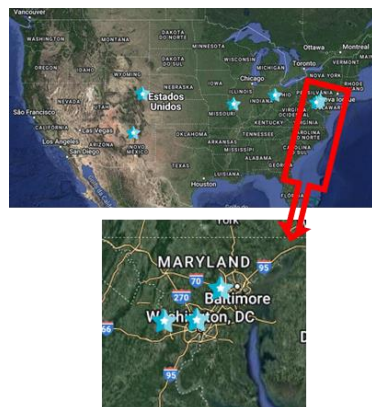
 <https://www.ball.com/aerospace>

Space business

- Ball Aerospace & Technologies Corp. is an American manufacturer of spacecraft, components and instruments for national defense, civil space and commercial space applications.



James Webb telescope at Ball test room



Ball aerospace locations



 Headquarters



Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Large Satellites

 <https://bigelowaerospace.com/>

Space business

- Bigelow Aerospace is an American aeronautics and outer space technology company which manufactures and develops expandable space station modules.
- Bigelow Aerospace was founded by Robert Bigelow in 1998, and is based in North Las Vegas, Nevada.



B330 mock-up



B330 concept study

Blue Origin



Quick profile

-  Space value chain: Prime Contractor
-  Launcher Manufacturer; Large spacecraft manufacturer.
-  <https://www.blueorigin.com/>

Space business

- Blue Origin, LLC is an American privately funded aerospace manufacturer and sub-orbital spaceflight services company headquartered in Kent, Washington.



New Shepard sub-orbital vehicle



Blue Moon vehicle concept

Boeing Defense and Space



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM; Launcher manufacturer: Large Satellites
-  <https://www.boeing.com/company>

Space business

- Boeing Defense, Space & Security is a division of The Boeing Company based in Arlington, Virginia. It is responsible for defense and aerospace products and services. One of the world's largest defense and space contractors. Core capabilities are in development, production and mission enabling upgrades of integrated solutions.



Starliner docked at ISS



Boeing's satellite test room



Capella Space



Headquarters



USA

Quick profile

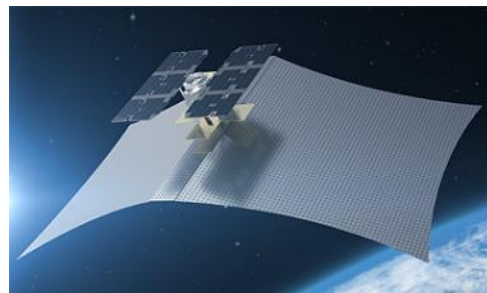
- 📡 Space value chain: Prime Contractor
- 🛰️ Intelligence Service Provider; Satellite Manufacturer-OEM: EO services; Micro Satellite; Nanosatellite
- 🌐 <https://www.capellaspace.com/>

Space business

- Capella Space is an American space company.
- It is developing space-based radar Earth observation satellites equipped with synthetic-aperture radar that can penetrate clouds and work at night.
- The company is based in San Francisco, California.



Artist's impression of Capella's Acadia satellite (third generation)



Capella's denali artistic impression (first generation, 2018)

Krebs, Gunter D. "Capella 1 (Capella Denali)". Gunter's Space Page. Retrieved January 19, 2023, from https://space.skyrocket.de/doc_sdat/capella-1.htm

Echostar Corporation

ECHOSTAR

 Headquarters

 USA

Quick profile

 Space value chain: Service Provider

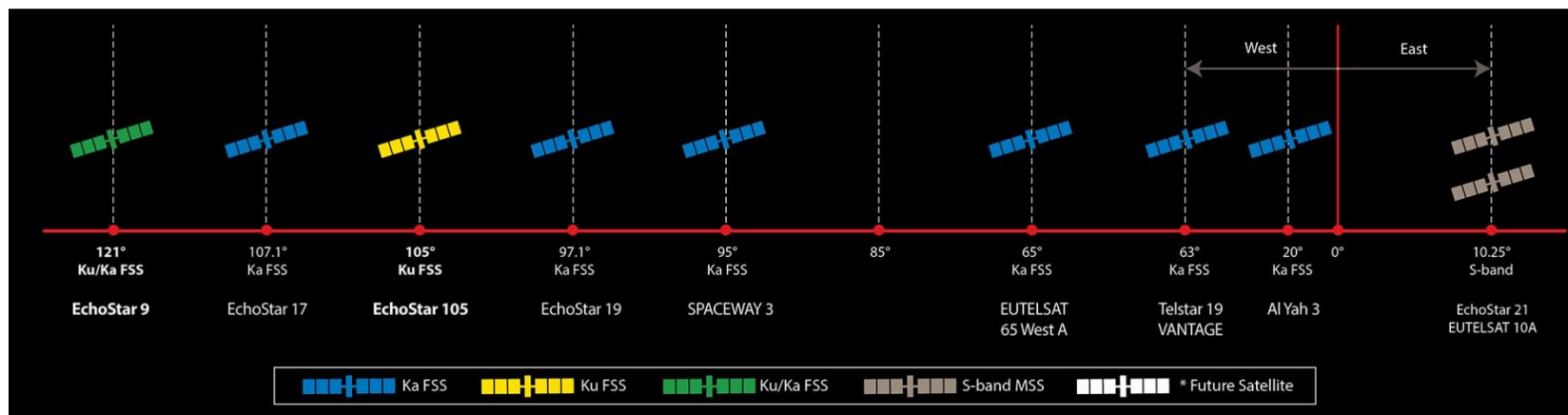
 Telecommunications: Service Provider

 <https://www.echostar.com/>

Space business

- EchoStar Corporation is an American company, a worldwide provider of satellite communication and Internet services through its Hughes Network Systems and EchoStar Satellite Services business segments. EchoStar is based out of unincorporated Arapahoe County, Colorado.

- The EchoStar fleet consists of 9 Ku-FSS, Ka-FSS and S-band MSS commercial geosynchronous satellites. EchoStar Satellite Services provides video distribution, data communications and backhaul services to meet the needs of media and broadcast organizations, enterprise customers and government service providers.



Echostar fleet distribution

EOI Space (Earth Observant)



 Headquarters



Quick profile

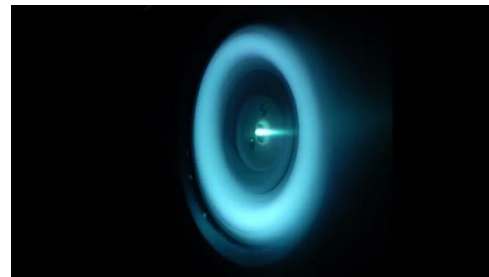
-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM: PicoSatellite
-  <https://eoi.space/>

Space business

- EOI develops low-flying satellites to collect ultra-high-resolution imagery to support a wide range of applications in Very Low Earth Orbit.
- EOI Space is developing a constellation of very low-flying satellites, called Stingrays, to collect ultra-high-resolution imagery from a Very Low Earth Orbit (VLEO)



EOI VLEO Vehicle "Stingray"



EOI's HET-X thruster

EOS Data Analytics



 Headquarters



USA

Quick profile

-  Space value chain: Prime Contractor
-  Intelligence service provider: EO; satellite Imagery
-  <https://eos.com/>

Space business

- EOS Data Analytics (EOSDA) is a provider of satellite analytics solutions in agriculture and forestry, aiming to create solutions for 22 industries on request.
- The Company is part of the Noosphere space group set up by Dr. Max Polyakov and operates since 2015, partnering with governmental, commercial, and scientific organizations.



EOS Satellite model

Eutelsat America Corp.



 Headquarters



Quick profile

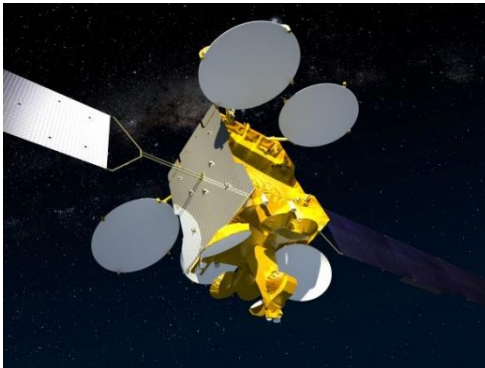
 Space value chain: Service Provider

 Telecommunications: Service Provider

 <https://eutelsatamerica.com/>

Space business

- Delivering global satellite communication solutions via a fleet of geostationary satellites. Ku-band and Ka-band transponder capacity Infinite Connectivity.



Eutelsat satellite



Eutelsat ground station

ExoAnalytic Solutions



 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 IT: Mission Systems

 <https://exoanalytic.com/>

Space business

- Solutions: Space Domain Awareness, Mission Systems, Digital Engineering & Analysis.



ExoAnalytic analysis map and operations room

HawkEye 360



HawkEye³⁶⁰



Headquarters



USA

Quick profile

 Space value chain: Service Provider

 Intelligence service provider: RF Monitoring

 <https://www.he360.com/>

Space business

- HawkEye 360 is an American geospatial analytics company headquartered in Herndon, Virginia. It is a commercial seller of radio frequency signal location data gathered by a satellite constellation.



HawkEye 360 satellites on preparation

Hedron (Analytical Space)

HEDRON

 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 Intelligence service provider: EO

 <https://www.hedron.space/>

Space business

- Hedron is building a network of data relay satellites aimed to connect space to Earth in realtime.
- From SatNews (OCTOBER 26, 2021):

Hedron (formerly Analytical Space) is an on-orbit communications company on a mission to provide a more dynamic communications infrastructure that provides real-time access to the critical information that is collected on space platforms. The real-time connectivity enabled by the Hedron network creates a rapid commanding and data downlink capability that allows for data to be used for time-sensitive tactical applications (e.g., wildfires, disaster response, national security, etc.). Enabling this type of active intelligence provides a significant new tool in the world's ability to understand and address major global challenges.



 Headquarters



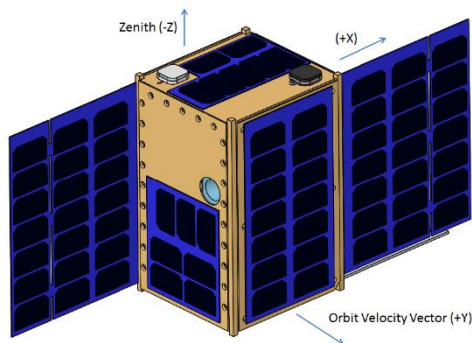
USA

Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM: NanoSatellite
-  <https://www.herasys.com/>

Space business

- Defense and security, applying smart technologies and agile development to deliver satellite buses, platforms and systems.
- Hera Systems works with BAE Systems to incorporate advanced support for mission-specific geospatial intelligence into its onboard and ground-based solutions.
- Prototype Launched in 2019.



Initial concept for Hera's 1HOPSat



Hera's prototype

Hughes Defense and Intelligence Systems Division/Government Solutions

HUGHES
An EchoStar Company

 Headquarters

 USA

Quick profile

 Space value chain: Service Provider

 Telecommunications: Satellite link;
Satellite ground receivers (VSAT, etc)

 <https://www.hughes.com/>

Space business

- Hughes has global footprint in broadband satellite technology and services.
- Global connectivity provider for people, enterprises, and things.
- Hughes Defense and Intelligence Systems Division (DISD)



Hughes VSAT



Planned JUPITER 3 (EchoStar XXIV)



 Headquarters



Quick profile

-  Space value chain: Service Provider
-  Telecommunications: Service Provider
-  <https://www.intelsat.com/>

Space business

- Intelsat S.A. is a multinational satellite services provider with corporate headquarters in Luxembourg and administrative headquarters in Tysons Corner, Virginia, United States.



Intelsat-15 Satellite



Intelsat 33E

Iridium Communications, Inc.



 Headquarters



USA

Quick profile

-  Space value chain: Service Provider
-  Telecommunications; Satcom hardware: Satcom hardware; satellite link service provider
-  <https://www.iridium.com/>

Space business

- Iridium Communications Inc. is a publicly traded American company headquartered in McLean, Virginia. Iridium is a global satellite communications company, providing access to voice and data services globally. With its constellation of satellites, Iridium's network connects people and devices in the world's urban and remote places.



Iridium 9575A for the US government



Developer's kit

Kelly Space and Technology



 Headquarters



Quick profile

-  Space value chain: Tier supplier
-  Launcher supplier: Test equipment and facilities
-  <https://kellyspace.com/>

Space business

- Kelly Space & Technology, Inc. (KST) offers test facilities for launchers of different sizes.



Kelly site external view



 Headquarters



Quick profile

 Space value chain: Service Provider

 Telecommunications; IT: Content packing technology

 <https://kencast.com/>

Space business

- Headquartered in Norwalk, CT, KenCast has customers among the Hollywood movie studios, military and government agencies, major TV & news networks, retail and financial institutions to provide fast, highly-secure, and ultra-reliable global delivery of their most crucial multimedia content via wireless & wire terrestrial, satellite, and mobile networks.



CinemaPro® system for satellite content delivery

Kepler Communications

 **KEPLER**

 **Headquarters**

 **Canada**

Quick profile

-  Space value chain: Prime Contractor
-  Telecommunications; Satellite
Manufacturer-OEM: NanoSatellite; Service
provider
-  <https://kepler.space/>

Space business

- Kepler Communications Inc. is a private telecommunications company based in Toronto, Ontario, Canada. The company's stated mission is to deliver affordable network connectivity across the globe via a growing network of small satellites.



Kepler assembly line

Kratos Defense & Security Solutions, Inc.

KRATOS
DEFENSE & SECURITY SOLUTIONS

 Headquarters

 USA

Quick profile

-  Space value chain: Tier supplier
-  Ground stations; Defense: Satellite Sub-system supplier; antennas
-  <https://www.kratosdefense.com/products/space/satellites>

Space business

- Kratos provides a range of products to support satellite operations. This includes fixed site antennas for the ground segment, satellite command and control software, and devices to support Telemetry, Tracking, and Command (TT&C) functions.



Kratos hypersonic concept vehicle

KYMETA™

 Headquarters

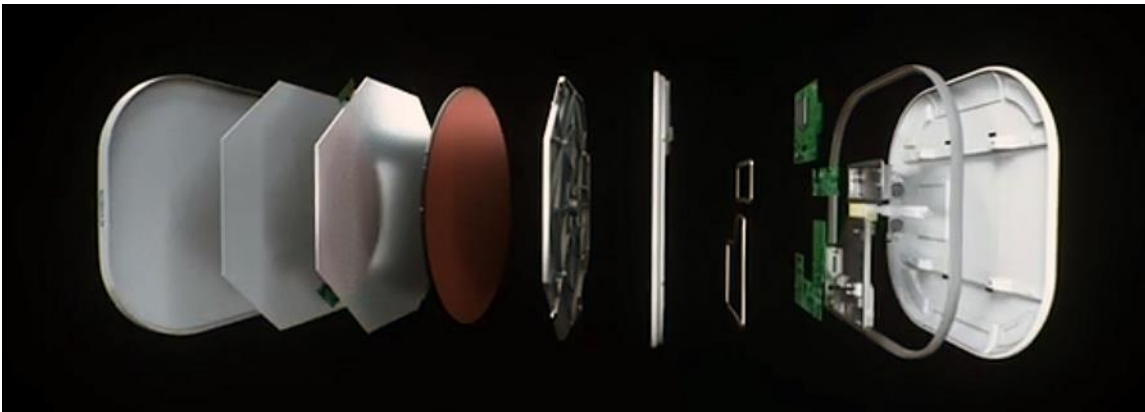
 USA

Quick profile

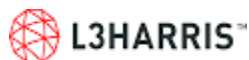
-  Space value chain: Tier supplier
-  Satcom hardware: Satellite Sub-system supplier; antennas.
-  <https://www.kymetacorp.com/>

Space business

- Kymeta Corporation is a satellite communications company based in the United States. It was founded in August 2012 after spinning out from Intellectual Ventures and manufactures software-enabled, meta-materials based electronic beamforming antennas and terminals for satellite communications.



Kymeta U8 terminal



 Headquarters



Quick profile

-  Space value chain: Tier supplier
-  Satellite sub-system supplier: Cameras; Antennas. Ground receivers; mission control systems/software
-  <https://www.l3harris.com/all-capabilities/walrss-infrared-camera>

Space business

- L-3 Communications Cincinnati Electronics Corporation designs, develops, and manufactures electronics equipment.
- The Company offers infrared sensors, hybrid microelectronics, and cryogenics for autonomous guidance, situational awareness, threat warning, and targeting.



Tactical VSAT



Joint All-Domain Command and Control (JADC2)



 Headquarters



Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Small satellites; micro satellites

 <https://leostella.com/>

Space business

- LeoStella is a US Company formed through a Joint Venture between Thales Alenia Space and BlackSky Holdings



LeoStella manufacturing site



 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 Telecommunications: Service Provider

 <https://ligado.com/>

Space business

- Ligado Networks, formerly known as LightSquared, is an American satellite communications company. After restructuring, emerging from bankruptcy and modifying its network plan, the new company, Ligado Networks, was launched in 2016. It operates the SkyTerra 1 satellite.



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM; Launcher manufacturer: Large Satellites; small satellites; micro satellites; satellite bus systems; satellite sub-systems
-  <https://www.lockheedmartin.com>

Space business

- The Lockheed Martin Corporation is an American aerospace, arms, defense, information security, and technology corporation with worldwide interests. It was formed by the merger of Lockheed Corporation with Martin Marietta in March 1995. It is headquartered in North Bethesda, Maryland, in the Washington, D.C. area



GPS III Satellite



Small sat concept

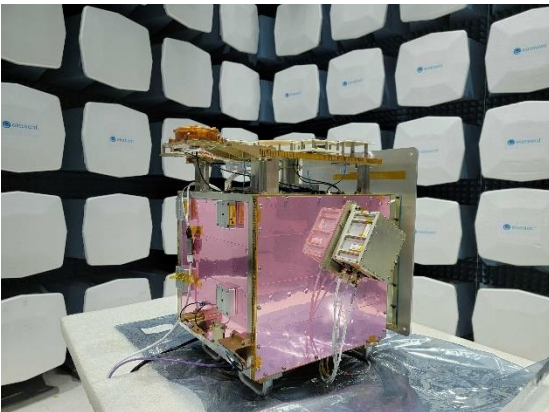


Quick profile

- 📡 Space value chain: Prime Contractor
- 🛰️ Payload Host; Satellite Manufacturer-OEM: small satellite; micro satellite.
- 🌐 <https://www.loftorbital.com>

Space business

- Loft Orbital builds software and hardware products to fly and operate payloads on a standard satellite bus.



Loft Orbital satellite on test bench



 Headquarters



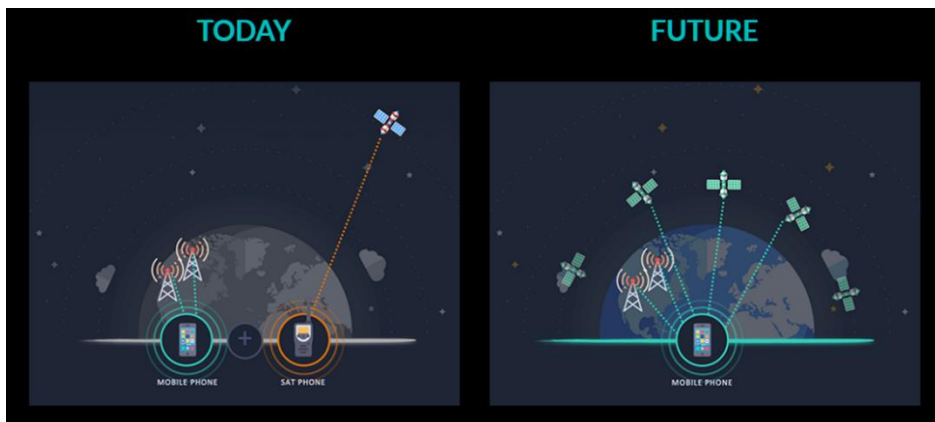
USA

Quick profile

-  Space value chain: Prime Contractor
-  Telecommunications; Satellite
Manufacturer-OEM: NanoSatellite; Service provider
-  <https://lynk.world/>

Space business

- Lynk Global is a company developing a satellite-to-mobile-phone satellite constellation that aims to provide a "cell tower in space" capability for global mobile phone service coverage, including in underserved rural areas without cellular coverage.



Lynk operating model

Maxar Technologies

MAXAR

 Headquarters



USA

Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM; Intelligence service provider: Large satellites; Small satellites; micro satellite
-  <https://www.maxar.com/>

Space business

- Maxar Technologies Inc. is a space technology company headquartered in Westminster, Colorado, United States, specializing in manufacturing communication, Earth observation, radar, and on-orbit servicing satellites, satellite products, and related services.



Intelsat's Galaxy 35 GEO satellite



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Satellite sub-system supplier: Geo intelligence Services; Robotics and space operations, satellite sub-systems (Communications)
-  <https://mda.space/>

Space business

- MDA is an international space mission partner and a robotics, satellite systems and geointelligence pioneer with a 50-year story of developments.



RadarSat at MDA

MicroSat Systems



 Headquarters

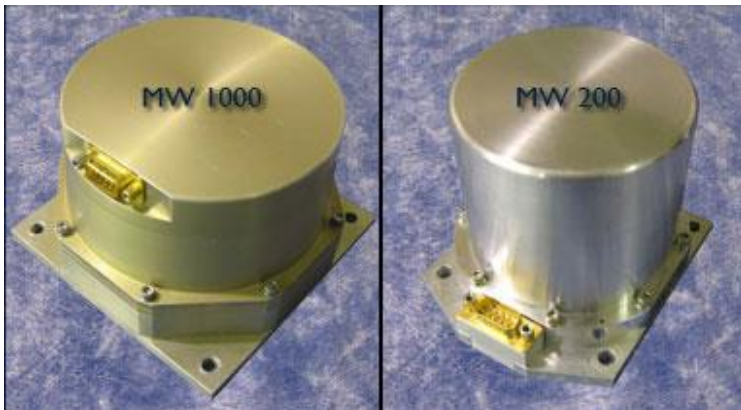
 Canada

Quick profile

-  Space value chain: Prime Contractor
-  Satellite sub-system supplier; Satellite Manufacturer-OEM: micro satellite
-  <https://www.mscinc.ca/>

Space business

- MSCI is a leading global supplier of Reaction Wheels, Micro Wheels, Microwheels, and Microsatellites.



MicroWheel 200 (MW200) Reaction Wheel from microsat systems

Modularity Space



 Headquarters



Quick profile

 Space value chain: Prime Contractor

 Satellite operator; Mission Services:
Service Provider

 <https://modularityspace.com/>

Space business

- Company starting a satellite leasing service



ModularitySpace satellite design concept



Quick profile

 Space value chain: Prime Contractor

 Engineering Services: Mission Engineering;
Micro satellite

 <https://www.muonspace.com/>

Space business

- Muon is developing an Earth observation satellite platform.
- Proprietary product development process claims to lower development costs.
- Calibration and validation, and end-to-end data product integration.



Muon Prototype

Northrop Grumman Corporation

**NORTHROP
GRUMMAN**

 Headquarters

 USA

Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM; Launcher manufacturer: Large Satellites; small satellites; micro satellite; satellite bus systems; satellite sub-systems

 <https://www.northropgrumman.com>

Space business

- Northrop Grumman Corporation is an American multinational aerospace and defense technology company. With 90,000 employees and an annual revenue in excess of \$30 billion, it is one of the world's largest weapons manufacturers and military technology providers.



Intelsat's Galaxy 33 GEO satellite

Omnispace, LLC


omnispace

 Headquarters



USA

Quick profile

 Space value chain: Service Provider

 Telecommunications: Service Provider

 <https://omnispace.com/>

Space business

- Omnispace seeks to provide mobile roaming via satellite to create a global 5G network.
- The company claims to “reinventing communications to deliver greater reach, improved reliability, and enhanced quality of service for billions of users and devices worldwide.”



OmniSpace spark satellite model (Thales Alenia Space built)



 Headquarters



Quick profile

 Space value chain: Prime Contractor

 Intelligence service provider; IT: Software development

 <https://www.omniteq.com/>

Space business

- OmniTeq was founded in 2010 by USAF General (RET) Lance W. Lord to provide mission critical solutions to Commercial and Government customers including the DoD, NASA, Intelligence Community and various Civilian agencies.

OneWeb Satellites

OneWeb  Satellites
A OneWeb and Airbus joint venture

 Headquarters



USA

Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Large satellites; small satellites

 <https://airbusonewebsatellites.com/>

Space business

- Oneweb satellites is a JV between Airbus and OneWeb.
- Satellites are designed in Toulouse (France) and assembled in the United States of America.



OneWeb assembly line



 Headquarters



Quick profile

 Space value chain: Tier supplier

 Satellite sub-system supplier: RF components; RF Sub-systems

 <https://orbitalresearch.net/>

Space business

- Orbital manufactures high-performance frequency converters and RF components for satellite communications.



Orbital RF device

Panasonic Avionics Corporation

Panasonic
Panasonic Avionics Corporation

 **Headquarters**

 **USA**

Quick profile

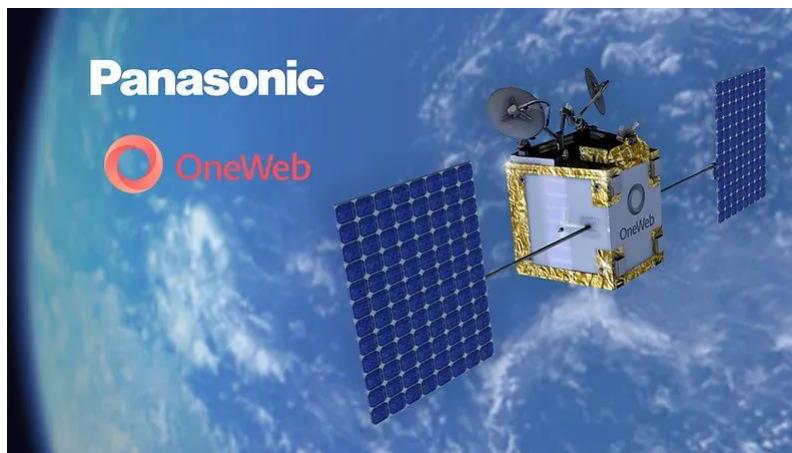
 Space value chain: Tier supplier

 Aeronautics Systems Supplier: IFE, etc

 <https://www.panasonic.aero/>

Space business

- Panasonic Avionics Corporation designs, engineers, manufactures, sells and installs customized in-flight entertainment and communications devices to airlines worldwide. It is a subsidiary of Panasonic Corporation of North America, the principal North American subsidiary of Panasonic Corporation.



Marketing materil of Panasonic-OneWeb agreement to deliver LEO connectivity for airplane passengers

Peraton
LABS

 Headquarters

 USA

Quick profile

 Space value chain: Tier supplier

 IT: Software development

 <https://www.peraton.com/>

Space business

- Peraton Inc. is a privately held American national security and technology company formed in 2017, with corporate headquarters in Reston, VA. Its areas of service include space, intelligence, cyber, defense, homeland security, citizen security, and health.



 Headquarters



Quick profile

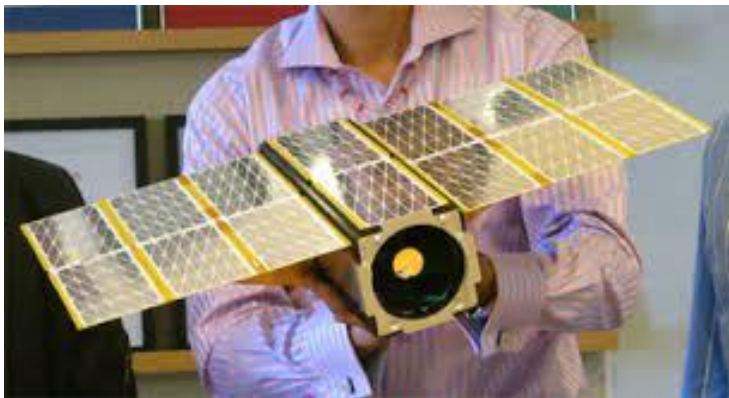
 Space value chain: Service Provider

 Intelligence service provider: EO; satellite Imagery

 <https://www.planet.com>

Space business

- Planet Labs PBC is an American public Earth imaging company based in San Francisco, California. Their goal is to image the entirety of the Earth daily to monitor changes and pinpoint trends.



Planet Dove model

PLEXUS

The Product Realization Company

 Headquarters



USA

Quick profile

-  Space value chain: Tier supplier
-  Satellite sub-system supplier: Large Satellites; small satellites; micro satellite; launcher; satellite bus systems; satellite sub-systems

 <https://www.plexus.com>

Space business

- Plexus Corp (Plexus) is an electronic manufacturing services provider. The company provides support in the areas of design and development, supply chain, launch of new products, manufacturing, and aftermarket to companies with mid-to-low volume, higher complexity products.
- Space product experience.
 - Supporting low/medium/high rate satellite manufacturing requirements
 - LEO, MEO, GEO, and HEO satellites
 - CPUs, propulsion avionics, star tracker, reaction wheels, actuators, T/R modules and antenna systems
 - Built and tested flight-model spacecraft avionics and commercial avionics boxes
 - Ground stations and user terminals



Plexus industrial assembly line



 Headquarters



Quick profile

 Space value chain: Tier supplier

 Engineering Services; IT: Mission Engineering;

 <https://proxops.com/>

Space business

- ProXopS is a small business designed to provide cost effective Systems Engineering, IT Systems, and Strategic Planning Lifecycle capabilities.

QinetiQ Space (US operations)

QINETIQ

 Headquarters

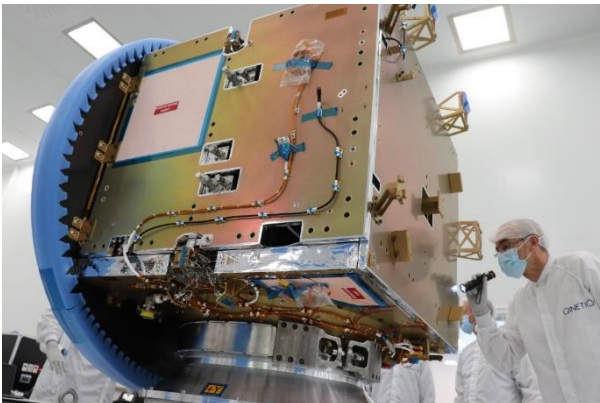
 USA

Quick profile

-  Space value chain: Prime Contractor
-  Satellite sub-system supplier; Engineering Services; IT: Small satellites
-  <https://www.qinetiq.com>

Space business

- QinetiQ's space division works in a variety of spatial projects: satellites, science instruments, life support systems, baffles, docking systems, etc.
- QinetiQ Space (formerly known as Verhaert Space) has a 30 years track record in building, launching and operating complex small space systems and satellites.



Satellite inspection at QinetiQ



Ozone monitoring satellite

Rocket Lab



 Headquarters



USA

Quick profile

-  Space value chain: Prime Contractor
-  Satellite sub-system supplier; Launcher manufacturer: Ligh launcher; Medium launcher; Satellite sub-systems (radio)
-  <https://www.rocketlabusa.com/>

Space business

- Rocket Lab is a public American aerospace manufacturer and launch service provider, with a New Zealand subsidiary.
- The company operates lightweight Electron orbital rockets, which provide dedicated launches for small satellites. Rocket Lab also plans to build a larger Neutron rocket as early as 2024.



Rocket Lab missions for nano satellites

Saturn Satellite Networks



 Headquarters



Quick profile

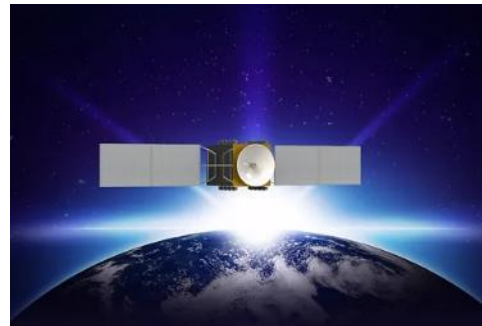
-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM: Large Satellites; small satellites; micro satellite; satellite bus systems; satellite sub-systems
-  <https://www.saturnsatellite.net/>

Space business

- Established in 2017 Saturn Satellite Networks (SSN) Inc., a US Delaware Corporation, claims to “redefine the approach for building reliable satellites to provide countries and operators affordable access to space.”



Saturn MiniGEOSat 2kW GTO model



Saturn Intelligent Space Node NGSO 1-10 kW



 Headquarters



USA

Quick profile

-  Space value chain: Tier supplier
-  IT: Software Development; navigation services
-  <https://scout.space/>

Space business

- SCOUT's mission is to give spacecraft the ability to see and avoid potential threats. The company claims to “improve SDA by up to 1000x. SCOUT Space Inc. is making space transparent and safer by offering in-space observation data and services. Our SCOUT-Vision systems help SpaceCraft Observe and Understand Things around them: a new paradigm for space safety.”

SES AMERICOM
An SES GLOBAL Company

 **Headquarters**



USA

Quick profile

-  Space value chain: Service Provider
-  Telecommunications: Service Provider; Satellite Operator
-  <https://www.ses.com/>

Space business

- SES Americom was a major commercial satellite operator of North American geosynchronous satellites based in the United States. The company started as RCA Americom in 1975 before being bought by General Electric in 1986 and then later acquired by SES S.A. in 2001.



SES-1 satellite constructed by Orbital Sciences Corp

<https://sky-brokers.com/satellite/ses-1-amc-4r-at-101-west/>

UTIAS Space Flight Laboratory (SFL)



 Headquarters



Quick profile

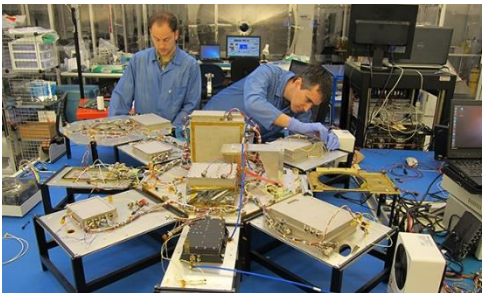
 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM:
Nanosatellites

 <https://www.utias-sfl.net/>

Space business

- SFL is the Space Flight Laboratory of the University of Toronto, Canada.
- SFL builds small, low-cost satellites.
- Satellites are built with advanced power systems, modern attitude control and high-volume data capacity.



Test bench at SFL



Small sat at SFL test room



 Headquarters



USA

Quick profile

-  Space value chain: Tier supplier
-  Satellite Manufacturer-OEM; Satellite as a service; Service provider: Nanosatellites
-  <https://sidusspace.com/>

Space business

- Sidus Space is a small company which provides space engineering and manufacturing services.
- Program management and test/AIT planning.

Sierra Nevada Corporation



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Spacecraft Manufacturer: Large Spacecraft
-  <https://www.sncorp.com/domains/space/>

Space business

- Sierra Nevada Corporation is an American, privately held aerospace and national security contractor specializing in aircraft modification and integration, space components and systems, and related technology products for cybersecurity and health.



Dream Chaser spacecraft

Space Exploration Technologies (SpaceX)



 Headquarters

 USA

Quick profile

-  Space value chain: Prime Contractor
-  Spacecraft Manufacturer; Launcher manufacturer: Large Spacecraft; Large launchers
-  <https://www.spacex.com/>

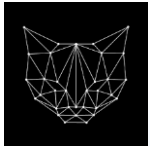
Space business

- Space Exploration Technologies Corp. is an American spacecraft manufacturer, launcher, and a satellite communications corporation headquartered in Hawthorne, California.
- It was founded in 2002 by Elon Musk with the stated goal of reducing space transportation costs to enable the colonization of Mars.



SpaceX Crew Dragon docking at ISS

Space Inventor



 Headquarters



USA

Quick profile

 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM: Micro satellites

 <https://space-inventor.com/>

Space business

- Space Inventor is a satellite manufacturer focusing on providing microsatellites in the range from 10 kg to 150 kg using a modular and scalable platform.
- The company provides satellite sub-systems for other satellite manufacturers.



Fine Sun Sensor (FSS-1G2)



BAT100-P3 8 cell Lithium-Ion battery system

SPACEALPHA

 Headquarters

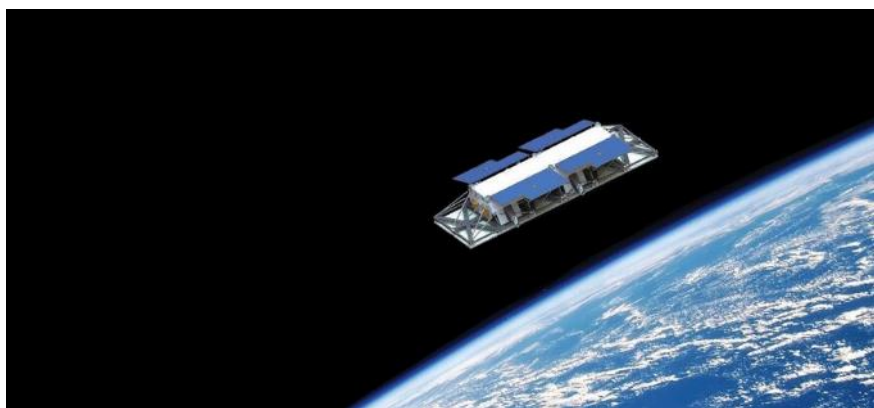
 Canada

Quick profile

-  Space value chain: Prime Contractor
-  Satellite Manufacturer-OEM; Intelligence service provider: Nanosatellites; EO (SAR)
-  <https://www.alphainsights.space/>

Space business

- SpaceAlpha is a Vancouver-based NewSpace company providing next-gen SAR satellites for heightened geospatial intelligence.
- According to the company, “Alpha's SAR-XL aims to deliver unprecedented global insights for missions related to environmental and maritime monitoring, logistics, and more.”
- SpaceAlpha aims to deliver instant insights to support critical missions and improve life on Earth.



Artistic conception for SpaceAlpha's dual band SAR satellite

SPACEFAB.US 

 Headquarters

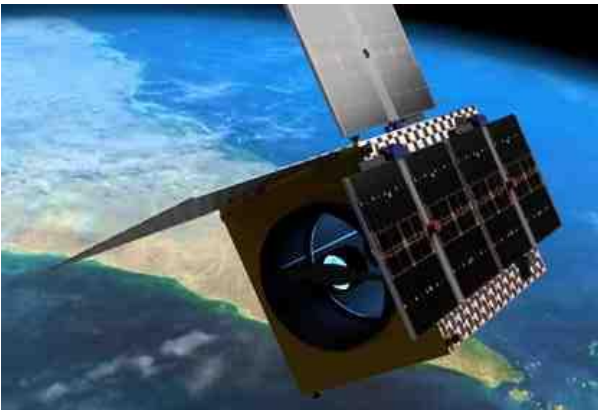
 USA

Quick profile

-  Space value chain: Tier supplier
-  Satellite sub-system supplier: 3D printing; optical systems
-  <https://www.spacefab.us/>

Space business

- The SpaceFab Omni-Material 3D Printer technology is a company by-product from its first satellite design and 3D manufacturing.



SpaceFab Viewpoint satellite



 Headquarters



USA

Quick profile

-  Space value chain: Prime Contractor
-  Intelligence service provider; Satellite Manufacturer-OEM: Nanosatellites; EO; RF; AIS; etc
-  <https://spire.com/>

Space business

- Spire Global, Inc. is a space-to-cloud data and analytics company that specializes in the tracking of global data sets powered by a large constellation of nanosatellites, such as the tracking of maritime, aviation and weather patterns.



Spire assembly line

Swarm Technologies (SpaceX)



 Headquarters



USA

Quick profile

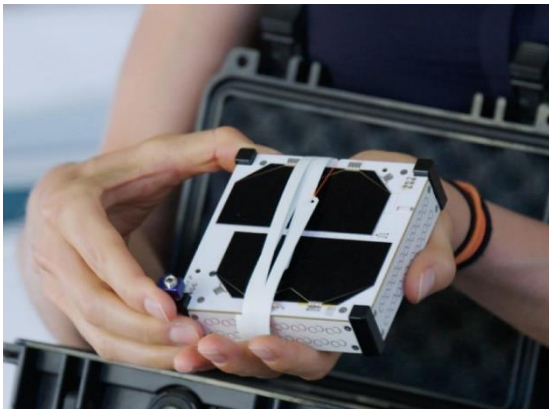
 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM:
Nanosatellites

 <https://swarm.space/>

Space business

- Swarm Technologies, Inc. is a private company building a low Earth orbit satellite constellation for communications with Internet Of Things devices using a Store and forward design.
- Social Capital incubated Swarm: Craft Ventures was an early investor.
- Swarm aims to provide low-bandwidth satellite connectivity for only \$5/month using ultra-small satellites in a low orbit.



Swarm satellite

Teledyne Electronics and Communications



 Headquarters



Quick profile

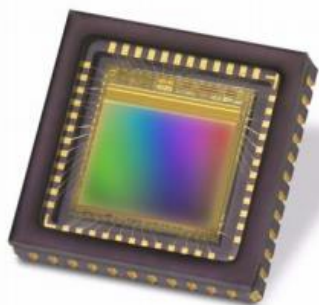
 Space value chain: Prime Contractor

 Satellite sub-system supplier: Optical sensors for EO

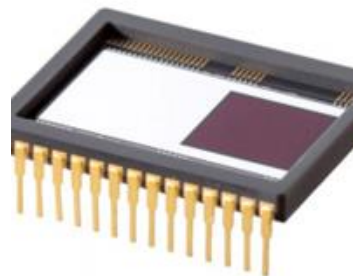
 <https://www.teledyne.com/en-us>

Space business

- Teledyne provides enabling technologies to sense, transmit and analyze information.
- Specializes in electronics design and development for multiple devices and markets.
- Teledyne imaging's sensor portfolio for remote sensing covering the complete range of imaging techniques in the visible spectrum including panchromatic, multi-spectral, pan-sharpened and hyper-spectral. Specialist X-ray, ultraviolet (UV) and infrared solutions are also available. Technologies and capabilities include AI, CMOS, CCD, TDI, focal planes, TEC's and space grade camera electronics



Optical sensor for nanosatellites



CCD351-00 frame transfer, electron multiplying CCD sensor

TELESAT™

 Headquarters

 Canada

Quick profile

 Space value chain: Service Provider

 Telecommunications: Service Provider

 <https://www.telesat.com/>

Space business

- Telesat, formerly Telesat Canada, is a Canadian satellite communications company founded on May 2, 1969. The company is headquartered in Ottawa.
- As one of the largest and most successful global satellite operators, Telesat works collaboratively with its customers to deliver critical connectivity solutions that tackle the world's most complex communications challenges.
- Telesat's Lightspeed™ network claims to revolutionize global broadband satellite connectivity by delivering a combination of high capacity, security, resiliency and affordability with ultra-low latency and fibre-like speeds.



Thales made Telesat LEO satellite

Terran Orbital (Tyvak)



TERRAN ORBITAL™

 Headquarters



USA

Quick profile

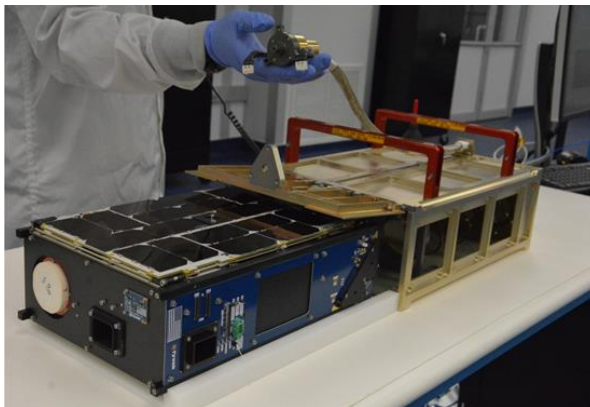
 Space value chain: Prime Contractor

 Satellite Manufacturer-OEM:
Nanosatellites

 <https://terranorbital.com/>

Space business

- Terran Orbital is a manufacturer of small satellites primarily serving the United States and aerospace and defense industries from other countries.
- Terran Orbital provides end-to-end satellite solutions by combining satellite design, production, launch planning, mission operations, and in-orbit support to meet the needs of military, civil, and commercial customers.



6U CICERO Tyvak satellite

The Aerospace Corporation



 Headquarters



Quick profile

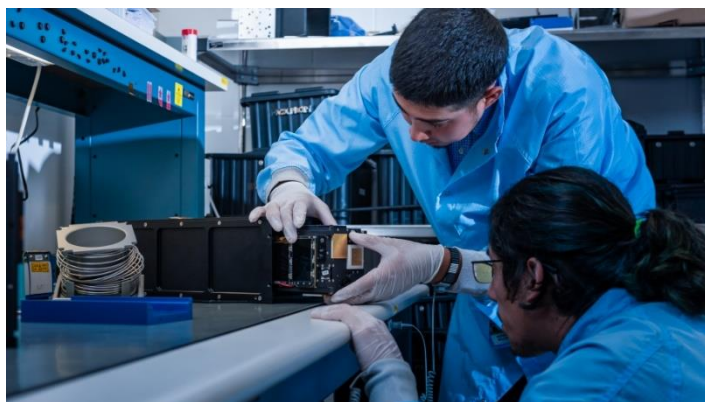
 Space value chain: Prime Contractor

 Engineering services; Consulting: Large spacecraft; small satellites; nano satellite

 <https://aerospace.org/>

Space business

- The Aerospace Corporation is an American nonprofit corporation that operates a federally funded research and development center in El Segundo, California.
- The corporation provides technical guidance and advice on all aspects of space missions to military, civil, and commercial customers.



Integration laboratory

Turion Space

TURION
SPACE

 Headquarters

 USA

Quick profile

 Space value chain: Service Provider

 Navigation services: Fly-by inspection

 <https://turionspace.com/>

Space business

- Starting in early 2023, the company aims to offer inspection services from a distance during flyby encounters.
- Services: Domain Awareness & Orbital Transport · Flyby Inspection · Space Situational Awareness Data · Inspection and Orbit Relocation.

UMBRA

 Headquarters

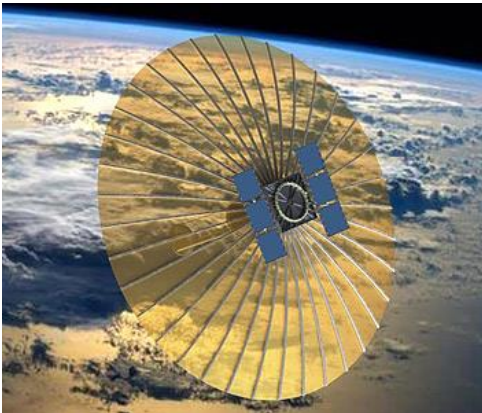
 USA

Quick profile

-  Space value chain: Tier supplier
-  Satellite sub-system supplier: SAR (radar); Radio sensors
-  <https://umbra.space/>

Space business

- Satellite sub-system provider.
- Intelligence (EO) service provider.



UMBRA's SAR/RF scan satellite

Unisys Defense & Space Systems (UDSS)



 Headquarters



Quick profile

 Space value chain: Tier supplier

 IT: Software development; Network infrastructure

 <https://www.unisys.com/>

Space business

- Global technology solutions with digital workplace, cloud, applications and infrastructure, enterprise computing and business process solutions.

United Launch Alliance



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Launcher manufacturer: Large launchers
-  <https://www.ulalaunch.com/>

Space business

- United Launch Alliance, legally United Launch Alliance, LLC, is an American spacecraft launch service provider that has manufactured and operated a number of rocket vehicles that are capable of launching spacecraft into orbits around Earth and to other bodies in the Solar System and beyond.



ULA Launcher for Amazon's Kuiper (artistic)

Viasat

 Headquarters

 USA

Quick profile

 Space value chain: Prime Contractor

 Telecommunications; Spacecraft manufacturing: Large satellites; nanosatellites

 <https://www.viasat.com/>

Space business

- Viasat Inc. is an American communications company based in Carlsbad, California, with additional operations across the United States and worldwide.
- Viasat is a provider of high-speed satellite broadband services and secure networking systems covering military and commercial markets.
- From components to smallsats, Viasat has a proven flight heritage in Low Earth Orbit space systems.
- The company is currently operating on-orbit, smallsat-class space vehicles today and have an extensive library of flight-proven technologies including; intersatellite links, RF payload components (transmitters, receivers, frequency converters, and more) and phased array components.



ViaSat 2 GEO Satellite



 Headquarters



Quick profile

-  Space value chain: Prime Contractor
-  Satellite sub-system supplier; Payload developer: Time measurement system

 <https://www.xairos.com/>

Space business

- Xairos Systems Inc. is developing a systems to deliver secure and accurate timing through entangled photons.
- Time synchronization is critical for position, navigation, and timing (PNT)
- The company claims to revolutionize GPS. Xairos has raised over \$1.3 million which has been used to successfully build a proof-of-concept (POC) demonstrating its patented quantum technology. According to the company, this will enable a new generation of technologies that require orders of magnitude better accuracy and security than GPS can deliver.



Artistic view for Xairos system

 Headquarters USA

Quick profile

 Space value chain: Service Provider

 Telecommunications: Service Provider

 <https://xtar.com/>

Space business

- XTAR provides MILSATCOM-compatible communications exclusively for government and military users.
- XTAR, LLC is a commercial satellite operator exclusively providing services in the X band frequency range for military, diplomatic, humanitarian and emergency disaster response operations.

York Space Systems

YORK
SPACE SYSTEMS

 Headquarters

 USA

Quick profile

 Space value chain: Prime Contractor

 Telecommunications; Spacecraft
manufacturing: Small satellites; micro
satellites

 <https://www.yorkspacesystems.com/>

Space business

- YORK provides complete solutions for mission design, spacecraft, launch, ground, and operations. It delivers complete mission solutions for both government and fortune 500 companies.
- Services include cyber-secure globally connected communications, earth observation, and dedicated analytics platform streams.



York LX Class satellite



RioGrande

Inovação com inteligência

Setores



Aeroespaço



Agronegócio



Indústria 4.0
e Telecom



Energia



Comercial



Executiva e geral



DEFESA E ESPAÇO



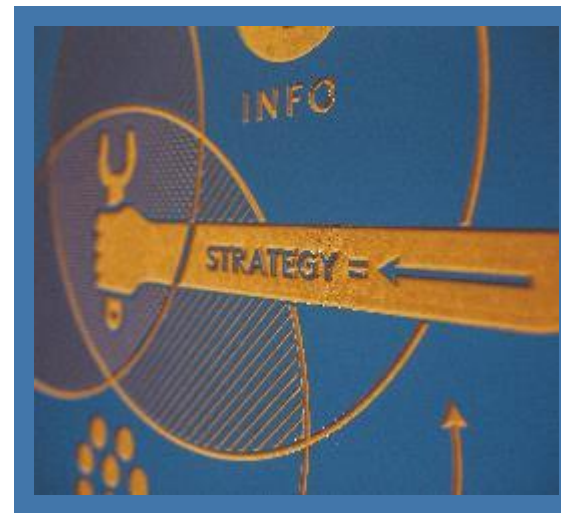
RioGrande

- Decisões estratégicas e de inovação que impulsionam o crescimento.
- Análises, inteligência e opções.



Inteligência

- Ambiente competitivo
- Forças de mercado
- Tendências
- Segmentação e posicionamento



Estratégia

- Cenários
- Business Case (canvas, etc.)
- Plano de negócio (P&L, etc.)
- M&A
- Vendas



Inovação & Empreendedorismo

- Estratégia de inovação
- Inovação aberta ou fechada
- Processos
- Indicadores e recompensas
- Times de inovação

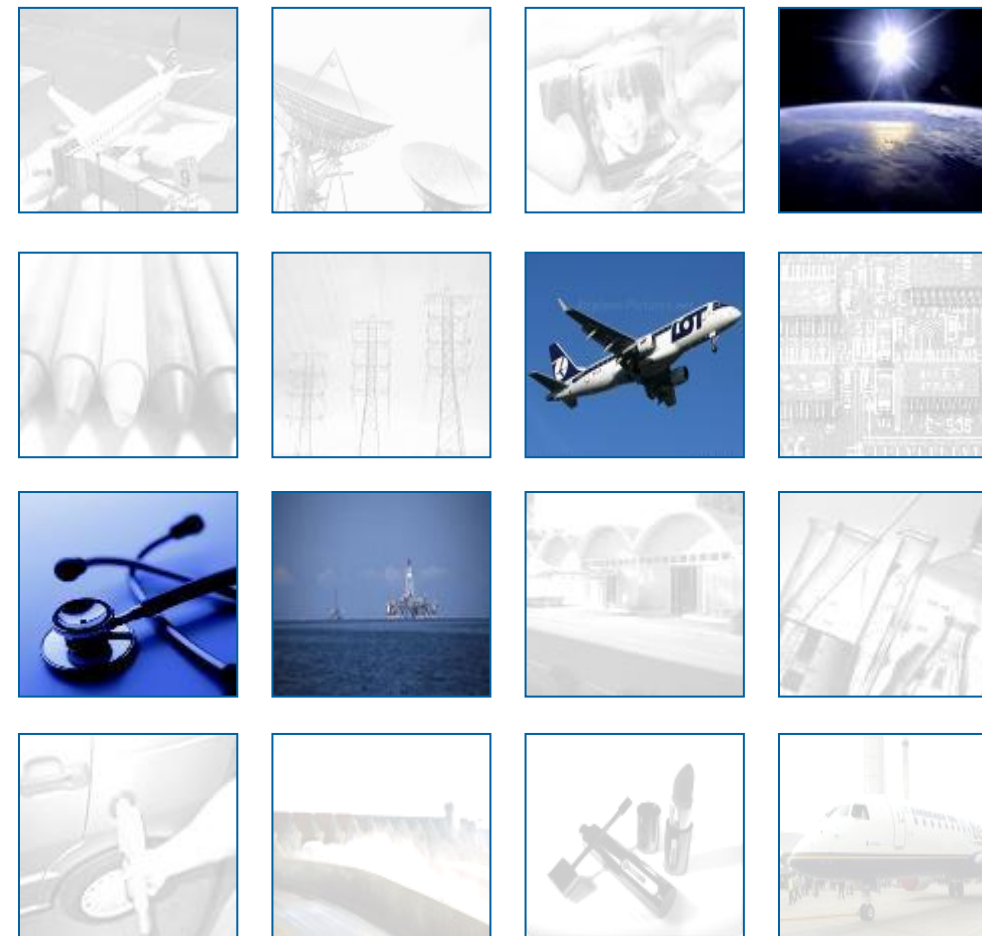
Sobre a RioGrande

Em 2008, a RioGrande venceu a seleção para gerenciar a Incubadora de Empresas no Parque Tecnológico de São José dos Campos. Naquela época, atuamos no planejamento estratégico para o grupo de empresas aeroespaciais do APL (Aerospace Cluster) e atendemos diversas startups de tecnologia.

Já realizamos análises de mercado, planos de negócios e posicionamento estratégico para clientes em diversos setores, incluindo aeronáutica, espaço, defesa, mineração, e eletrônica.

Acreditamos que inovação e sucesso no mercado não ocorrem por acaso. Decisões acertadas começam com informações e inteligência de qualidade.

Descubra mais em: www.rgde.com.br



Institucional

- Desde 2008, atuando com consultoria empresarial.
- Novos negócios, estratégia e inovação.
- Desde 2018 é uma marca de Acosta Aerospace.
- Engenharia aeronáutica e espacial.
- Nanosatélites
- Representação comercial