

Provided by Interstellar Communication Holdings Inc.

Space Policy and Law: A Practical Guide for Investors

Feb 2024

Disclaimer

This report is only for informational purposes and does not purport to make any forecasts or predictions and nothing in this report should be construed as doing so. It is merely intended to help investors better understand the industry in a research report format.

Interstellar Communication Holdings prepared the information in this report. Interstellar Communication Holdings has no obligation to inform you when information in this report changes.

This report is for information purposes only. Under no circumstances is it to be used or considered as a solicitation to buy or sell any securities. While the information contained herein has been obtained from sources we believe to be reliable, Interstellar Communication Holdings does not represent that it is accurate or complete, and accordingly, should not be relied upon as such. Risk factors and actual results may differ significantly from the information contained herein. This report or any portion hereof may not be reprinted, sold, or redistributed without the written consent of Interstellar Communication Holdings Inc.

Copyright © Interstellar Communication Holdings Inc.

Early Space Age vs New Space Age

Early Space Age (1957~1999)

- Primarily motivated by military and foreign affairs interests.
- Characterized by the exclusive involvement of States and governments in space activities.
- Defined by the intense space race between two dominant superpowers.
- Policies drafted in broad terms to navigate the emerging field, leaving gaps to be addressed.

New Space Age (2000~)

- Experiencing a surge in international involvement.
- The number of countries with a satellite in orbit has risen from 50 (2008) to over 80 (2023).
- Significant proliferation of national space agencies.
- Growing participation from the private sector, contributing to the emergence of a trillion-dollar Space Economy.
- Reduced costs for space access through the development of reusable space launchers.
- Integration of the digital economy, with a focus on IoT, data, and 5G technologies.
- Substantial increase in private funding from billionaires, venture capital, and other sources.

Growing Importance of Policy and Law



Proliferation of space activities



Commercial space activities



National Security



International Cooperation



Lunar and Martian Exploration



Protecting the space environment



Cybersecurity in space



...

Rationales of Space Laws

National Prestige and Leadership

Demonstrates global capability and standing, fostering competition for leadership in space exploration and technology.

International Collaboration

Strengthens diplomatic ties and shares resources through joint space projects like the ISS.

National Security and Export Controls

Regulates space activities to protect national interests and ensures responsible technology transfer.

Scientific Knowledge and Tangible Benefits

Expands cosmic understanding and delivers practical benefits like improved communication and disaster management.

Demonstrate National Power

Showcases technological prowess and global influence on the world stage.

Encourage Private Sector Space Activity

Stimulates economic growth, drives innovation, expands commercial opportunities, and accelerates space technology development.

Types of Space Law Instruments – International Law



Set of rules regarded as binding in relations between states, applies primarily to states rather than private citizens.



Developed through international conferences and organizations, such as the United Nations (UN).



Covers various branches, including Space, Aviation, Maritime, Environmental, and more.



- 5 major United Nations (UN) treaties
- Rules & regulations of international bodies & organizations (e.g., ITU)
- Multilateral & Bilateral Agreements
- Intergovernmental Agreements (e.g., ISS agreements)



Types of Space Law Instruments – National Law and Regulation



Laws and regulations formulated by individual countries to regulate their space activities.



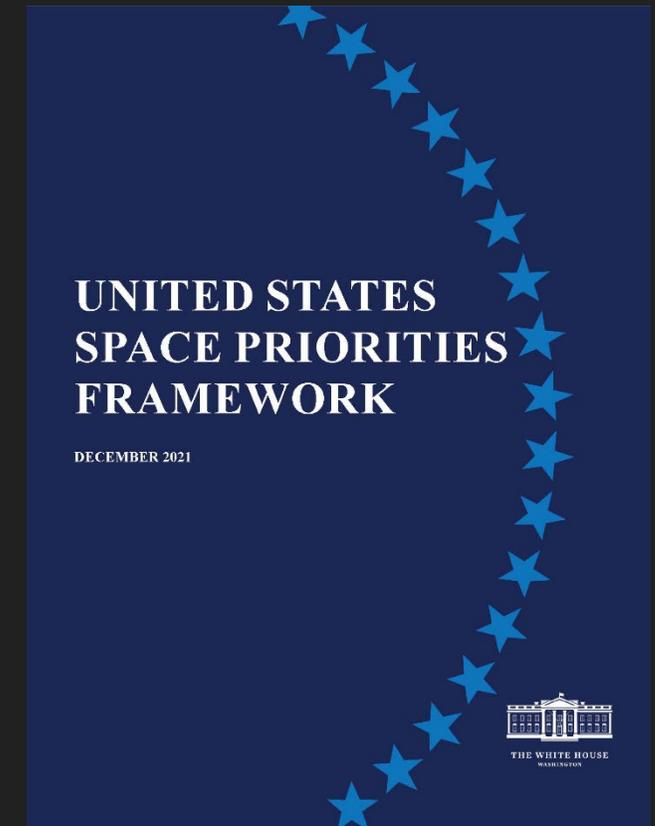
Encompasses a broad range of activities such as launch, communications, and remote sensing.



Purpose: Establishes processes and requirements for licenses, ensuring compliance with international agreements, obligations, and national interests (security, economic, foreign policy).



Varies significantly from country to country, resulting in a diverse set of national laws.



Types of Space Law Instruments – Soft Law



Non-legally binding agreements that may evolve into 'hard law' over time.



Enhances transparency, fosters cooperation, and facilitates information sharing among nations.



- Principles adopted by the UN General Assembly
- Non legally binding UN instruments on Outer Space (Principles, Guidelines)
- Codes of conduct
- Confidence-building measures.



The Birth of UNCOPUOS

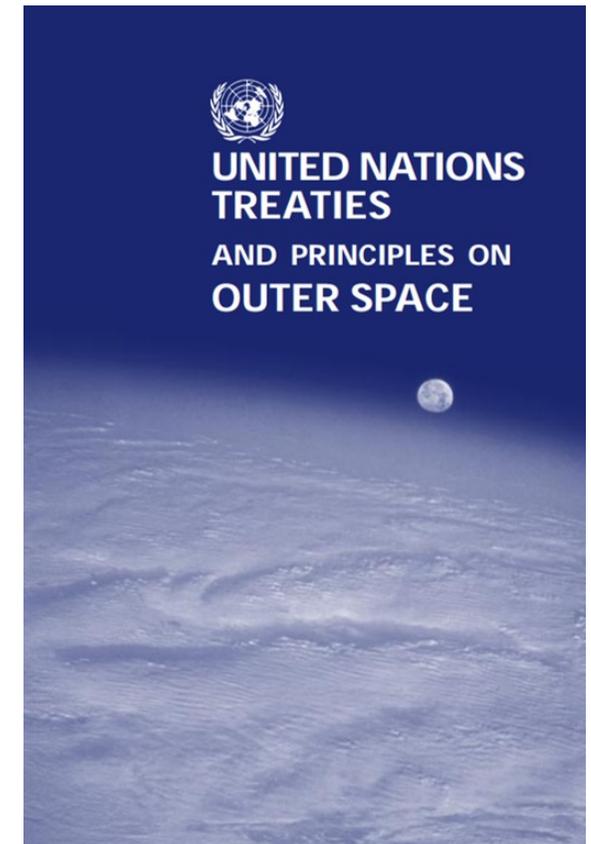
The Committee on the Peaceful Uses of Outer Space (COPUOS) was set up by the General Assembly in 1959 to govern the exploration and use of space for the benefit of all humanity: for peace, security and development.

- 18 member states from all regions in 1958
- The Committee was instrumental in the creation of the five treaties and five principles of outer space.
- Secretariat: Office of Outer Space Affairs (OOSA)
- Scientific & Technical Subcommittee (STC)
- Legal Subcommittee (LSC)
- Initiated consensus decision-making



Basic Principles of International Space Law

- Space activities are **for the benefit of all nations**, and any country is **free to explore** orbit and beyond.
- There is **no claim for sovereignty** in space; no nation can “own” space, the Moon or any other body.
- **Weapons of mass destruction are forbidden** in orbit and beyond, and the Moon, the planets, and other celestial bodies can only be used for peaceful purposes.
- Any astronaut from any nation is an “envoy of mankind,” and signatory states must **provide all possible help to astronauts** when needed, including emergency landing in a foreign country or at sea.
- **Signatory states are each responsible** for their space activities, including private commercial endeavors, and must provide **authorization and continuing supervision**.
- Nations are **responsible for damage** caused by their space objects and must avoid contaminating space and celestial bodies.



International Space Law Framework - UN Space Treaties



The Outer Space Treaty (1967)

“Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies”

112 Ratifying States as of 2023



The Liability Convention (1972)

“The Convention on International Liability for Damage Caused by Space Objects”

98 Ratifying States as of 2023



The Registration Convention (1975)

“The Convention on Registration of Objects Launched into Outer Space”

75 Ratifying States as of 2023



The Rescue Agreement (1968)

“The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space”

99 Ratifying States as of 2023



The Moon Agreement (1979)

“The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies”

18 Ratifying States as of 2023

International Space Law Framework – Other Instruments

Regulations of international bodies and organizations

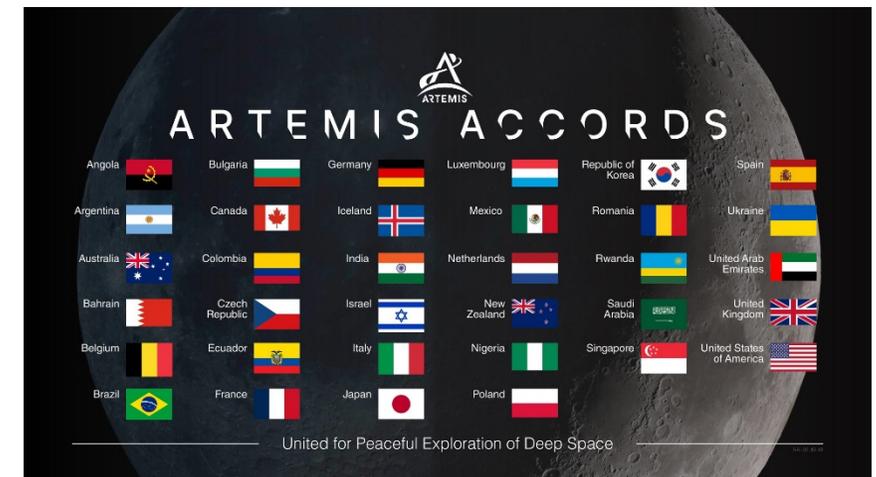
- [ITU- International Telecommunications Union](#)
 - Specialized UN agency
 - Deals with global radio spectrum allocation and orbital assignments
 - Coordination among users to ensure non-interference

Intergovernmental Agreements

- [International Space Station Intergovernmental Agreement](#)
 - International treaty signed in 1998 by 15 governments

Bilateral Agreements

- eg. [Artemis Accords](#)



US National Laws - The National Space Policy 2020

The National Space Policy sets out the nation's commitment to leading in the responsible and constructive use of space, **promoting a robust commercial space industry**, returning Americans to the Moon and preparing for Mars, leading in exploration, and defending United States and allied interests in space.

The National Space Policy recognizes that a robust, innovative, and competitive commercial space sector is foundational to economic development, continued progress, and sustained American leadership in space. It commits the United States to **facilitating growth of an American commercial space sector** that supports the nation's interests, is globally competitive, and advances American leadership in the generation of new markets and innovation-driven entrepreneurship.



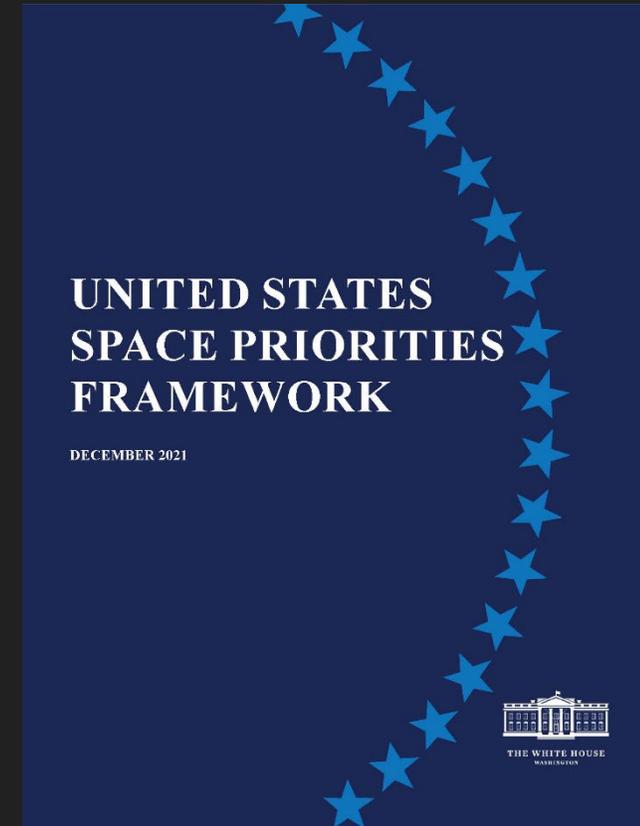
US National Laws - US Space Priority Framework 2021

U.S. Benefits from Space Activities

- Space as a Source of American Innovation and Opportunity
- Space as a Source of American Leadership and Strength

U.S. Space Policy Priorities

- Maintaining a Robust and Responsible U.S. Space Enterprise
- Preserving Space for Current and Future Generations



US National Laws - Presidential Directives

From 2017 to 2021, 7 Space Policy Directives (SDPs) released

- SDP-1: Reinvigorating America's Human Space Exploration Program
- SDP-2: Streamlining Regulations on Commercial Use of Space
- SDP-3: National Space Traffic Management Policy
- SDP-4: Establishment of the US Space Force
- SDP-5: Cybersecurity Principles for Space Systems
- SDP-6: National Strategy for Space Nuclear Power & Propulsion
- SDP-7: US Space-Based Positioning, Navigation, and Timing Policy

US National Laws & Regulatory Authorities

Communications Act 1934

Federal Communications Commission (FCC) is responsible for licensing and spectrum allocation

Land Remote Sensing Commercialization Act 1984 & Policy Act 1992

National Oceanic and Atmospheric Administration (NOAA) under the Department of Commerce regulates commercial remote sensing satellites

Commercial Space Launch Amendments Act 2004

Federal Aviation Administration (FAA) under the Department of Transportation regulates commercial launch and reentry licenses, and commercial spaceport licenses

Commercial Space Launch Competitiveness Act 2015

The Act extends, through 2023, the "learning period" restrictions which limit the ability of the FAA to enact regulations regarding the safety of spaceflight participants.

Soft Law - UN Declarations & Principles



The “Declaration of Legal Principles” (1963)

Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space



The “Remote Sensing Principles” (1986)

The Principles Relating to Remote Sensing of the Earth from Outer Space



The “Broadcasting Principles” (1982)

The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting



The “Nuclear Power Sources Principles” (1992)

The Principles Relevant to the Use of Nuclear Power Sources in Outer Space



The “Benefits Declaration” (1996)

The Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries

Soft Law - UN Guidelines



Concept of Launching State (2004)

https://www.unoosa.org/pdf/reports/ac105/A_C105_787E.pdf



Debris Mitigation Guidelines (2007)

https://www.unoosa.org/pdf/publications/st_space_49E.pdf



Enhancing Registration Process (2007)

https://www.unoosa.org/pdf/gares/ARES_62_101E.pdf



National Space Legislation (2013)

https://www.unoosa.org/pdf/gares/A_RES_68_074E.pdf



Long-Term Sustainability Guidelines (2018)

<https://documents.un.org/doc/undoc/ltd/v18/010/04/pdf/v1801004.pdf?token=AWjAFBw7qTc9itQnmD&fe=true>

International Cooperation - European Space Agency (ESA)

ESA is an international organization created in 1975 to:

- Enhance Europe's competitiveness in space research and technology
- Advance scientific research and space exploration
- Collaborate on space projects that would be too costly for any single European country to undertake on its own
- Promote European unity and cooperation in space activities

Original membership 10: current membership 22.

2024 annual budget was €7.8 billion.



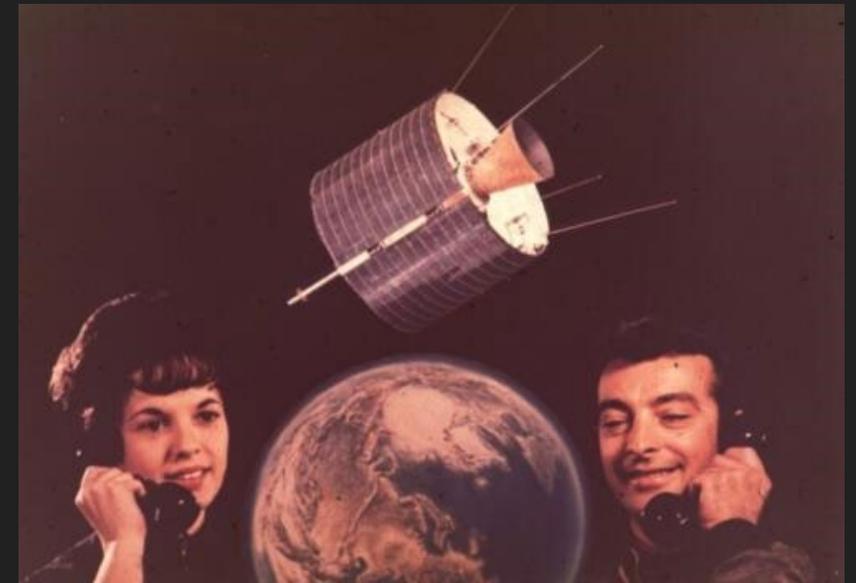
International Cooperation - European Space Agency (ESA) II

- All Members have mandatory contributions to the overall general ESA budget. Contributions are based on % of GDP
- Members can also opt in to specific programs, projects and missions. These are separate financial contributions
- Industrial policy based on the principle of fair geographical return (“juste retour”)
 - Member states should receive a fair return on their financial investments



International Cooperation - The Case of Intelsat

- 1962: JFK signs the US Satellite Communications Act into law
- 1964: International treaty signed creating Intelsat
- Founded as a **public-private consortium** by the telecommunications agencies of **18 nations**, including the US, which proposed the organization
- Primary goal was to facilitate global communication by providing satellite-based communication services
- Proportionality investment/return. **Weighted voting system** used.



Space Sustainability - Space Debris

- Space debris also known as **orbital debris, space junk, and space waste**, is the collection of defunct objects in orbit around Earth. This includes everything from spent rocket stages, old satellites, fragments from disintegration, erosion, and collisions.
- More than 25,000 objects larger than 10 cm are known to exist. The estimated population of particles between 1 and 10 cm in diameter is approximately 500,000. The number of particles larger than 1 mm exceeds 100 million
- **Kessler Syndrome**: cascading effect of collisions



Space Sustainability - Space Debris Mitigation Measures

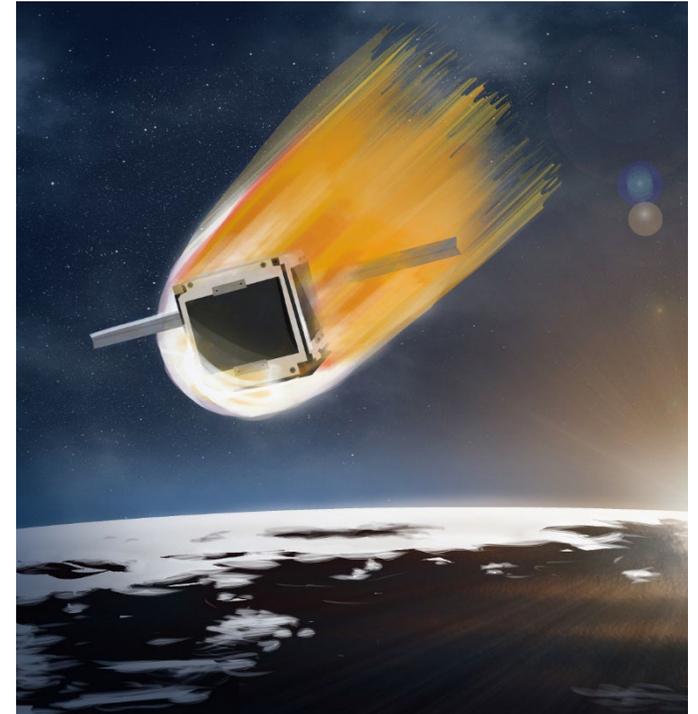
- **UN Space Debris Mitigation Guidelines 2010**
 - Non-legally binding
 - Member States invited to implement the Guidelines through 'relevant national mechanisms'
 - Several countries (US, Japan, Russia, China, most of Europe) incorporate them as licensing conditions, makes them mandatory
- **Norms, Codes of Conduct, Rules of the Road also adopted**
- **Zero Debris Charter** (ESA Space Summit, November 6-7, 2023)
 - Non-legally binding Charter
 - Public organizations & companies invited to sign new Charter
- **Space Safety Coalition** (SpaceSafety.org)
 - Ad hoc coalition of companies, organizations, governments & industry stakeholders. 39 endorsees



SSC SPACE
SAFETY
COALITION

Space Sustainability – FCC New '5-Year Rule'

- The Federal Communications Commission adopted a new deorbiting rule for satellite operators on **September 29, 2022**. The rule requires satellites ending their mission in or passing through the low-Earth orbit region (below 2,000 kilometers altitude) to **deorbit as soon as practicable** but no later than **five years** after mission completion.
- The new rules shorten the decades-old 25-year guideline for deorbiting satellites post-mission, taking an important step in a **new era for space safety and orbital debris policy**.



Space Sustainability - Space Sustainability Rating (SSR)

The Space Sustainability Rating design team—comprised of the **World Economic Forum**, the **European Space Agency**, the Space Enabled research group at **MIT**, the **University of Texas at Austin**, and **BryceTech**—announces that the EPFL (École polytechnique fédérale de Lausanne) Space Center, which was selected as the operator for the SSR, is creating a nonprofit called the "[Space Sustainability Rating](#)" to operate the program. In June 2022, the EPFL Space Center formally launched the operations of the Space Sustainability Rating. The Space Sustainability Rating (SSR) provides a rating system informed by transparent, data-based assessments of the level of sustainability of space missions and operations.



A night sky filled with stars and the Milky Way galaxy. In the center, a white satellite dish sits atop a dark, rocky mountain peak. The sky is a deep blue, and the Milky Way is visible as a faint, glowing band of light. A bright star is visible in the upper right, and a comet or meteor streak is seen in the lower right. The foreground shows the dark silhouettes of trees.

**“Keep Looking Up” was my life's admonition,
I can do little else in my present position.
--Jack Horkheimer**

THANK YOU



Interstellar Communication Holdings Inc.

4201 Collins Ave. Suite 402, Miami Beach, FL 33140 USA

Earth, Solar System, Milky Way, Laniakea

The Pale Blue Dot is a photograph of Earth taken Feb. 14, 1990, by NASA's Voyager 1 at a distance of 3.7 billion miles (6 billion kilometers) from the Sun.