

---

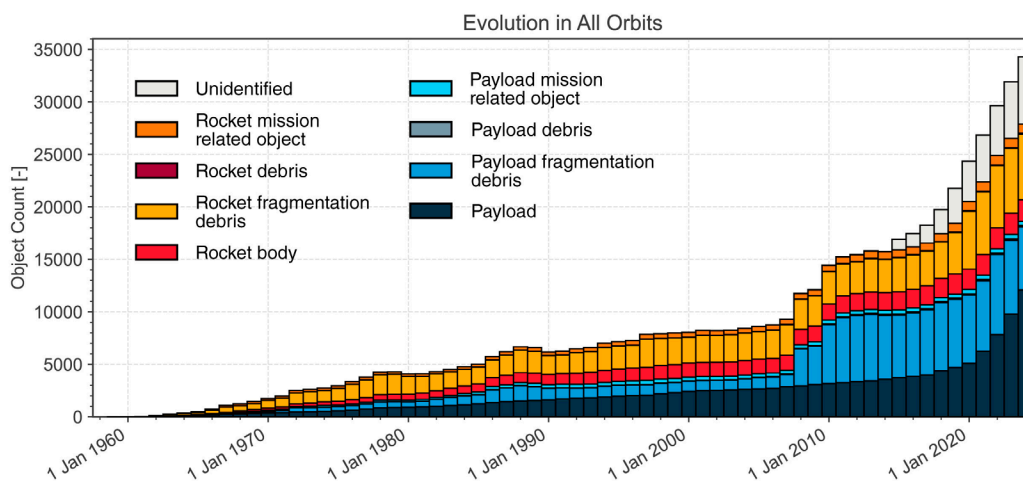
# What Is Space Sustainability and Why Is It Important?

# What Is Space Sustainability and Why Is It Important?

More than 11,200 active satellites currently orbit the Earth, providing tangible social, scientific, security, and economic benefits to billions of individuals all over the globe. Yet the ability to provide these important benefits from outer space is now threatened by a number of challenges. The Earth’s orbital space environment constitutes a finite resource that is being used by an increasing number of space actors.

The proliferation of space debris, the emergence of a large number of new space actors, the rapidly increasing number of operational satellites in orbit, and the increasing variety and complexity of space operations pose increased risks of collision and interference with the operation of satellites and crewed space vehicles. In addition, as more countries integrate space into their national military capabilities and rely on space-based information and services for their national security, there is an increased chance that any interference with satellites could escalate tensions and conflict—in space or on Earth.

Taken together, all of these developments pose risks to the safety of space operations and raise concerns about the potential for severe degradation of the Earth’s orbital and cislunar space environment. Such degradation could render the space domain unusable for the systems that form part of the critical infrastructure of many states, as well as space systems that provide economically important space-derived information and services used by billions of people daily.



**Figure 02** | Evolution of number of objects in geocentric orbit by object class. Credit: European Space Agency

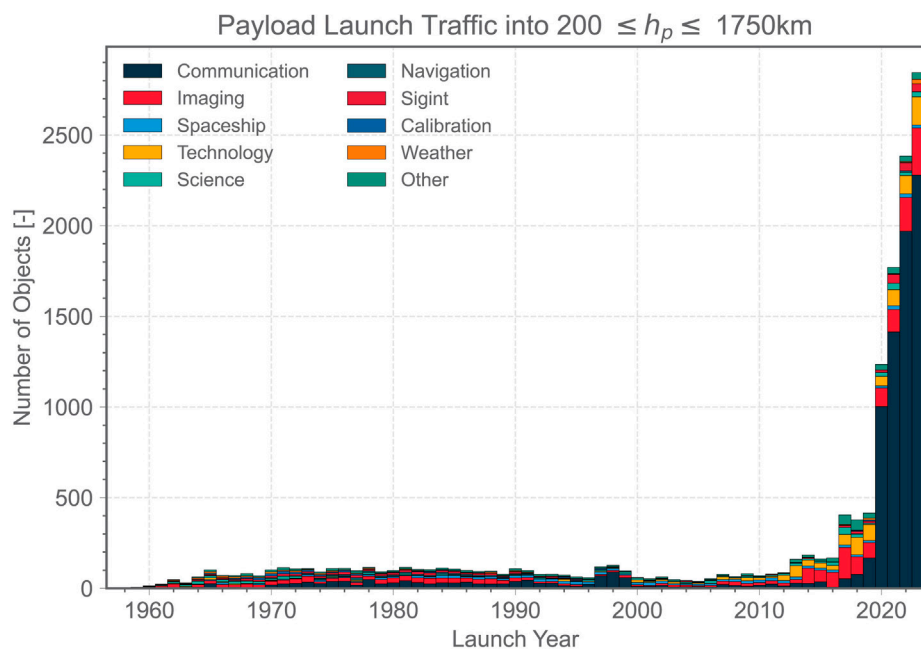


## SPACE SUSTAINABILITY AND POLICY A Strategic Briefing for U.S. Leadership

*Space sustainability* refers to addressing challenges to the safety and long-term viability of space activities collectively to ensure that the space environment remains suitable for exploration and use by the current and future generations of all countries.

As the world's leading space power and user of space, it is in the interest of the United States to be at the vanguard of establishing and promoting best practices for responsible, peaceful, safe, and sustainable conduct of space activities. This issue briefing examines the space landscape and developments in the space arena from a space sustainability perspective and suggests ways in which the United States can continue to provide leadership to the international space community. ●

**As the world's leading space power and user of space, it is in the interest of the United States to be at the vanguard of establishing and promoting best practices for responsible, peaceful, safe, and sustainable conduct of space activities.**



**Figure 03** | Evolution of the launch traffic near LEO<sub>IADC</sub> per mission type. Credit: European Space Agency