

REACTION

We must address the glaring gaps in space law

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When it finally goes ahead, [NASA](#)'s delayed launch of the world's most powerful moon rocket – the 30-storey high [Space Launch System](#) – will ultimately ferry humans to the Moon for the first time in over 50 years, and potentially land them on Mars as well. The mission could mark the start of a new golden era of space exploration.

But for all the pomp and ceremony of the Artemis programme, could this be the last hurrah for the collective efforts of the U.S. Space Agency and its international partners? New technologies and the increasing commercialisation of space in recent years have rewired the space industry. At a time when Outer Space is becoming ever more [congested and contested](#), we need to start asking – and answering – serious questions about the future of space security and sustainability. What can we do to improve cooperation and build trust between major space powers? How do we reconcile national interests with global and planetary interests?

Humanity is becoming highly dependent on Outer Space. We rely on space-based assets for a lot of our critical infrastructure, not least the Internet, navigation, aviation and weather prediction. This means that any disruption of space orbits will disrupt vital activities on Earth because our terrestrial security is intrinsically linked to space security. This dependency exposes the glaring gaps in space law.

The Outer Space Treaty of 1967, the international mainframe for space law signed by over 130 countries, is dated and it lacks bite. The treaty doesn't address the militarisation of space, anti-satellite weapons (ASAT) tests in space, the proliferation of modern technologies or the burgeoning role of the private sector in the space industry. Fortunately, malign activities in outer space such as hacking, jamming or even direct kinetic hits, are still infrequent for now, but the lack of legal clarity has created a dangerous vacuum that we need to fill, while we still can. As I told the United Nations General Assembly this month, we urgently need a contemporary regulatory framework which helps demilitarise orbits, increase coordination and improve space traffic management, a low-hanging fruit.

Modernising the antiquated Outer Space Treaty will take time and political muscle, but new rules of the road are needed right now. The international community should step up efforts to create codes of conduct governing human activity in space. These norms must reflect rapid technological changes and should address issues such as the race for resources in Outer Space and the exponential growth of space debris, often caused by dysfunctional satellites. With a record number of satellites shot into orbit, space debris is becoming a serious concern for spacefaring nations as an object as small as a paperclip can sabotage a spacecraft.

Tackling issues such as this one will require deep political, financial and technical co-operation. There have been multiple attempts – most recently by the European Union, China and [Russia](#) – to chisel out codes of conduct for the cosmos. None have succeeded so far, but they deserve our continued encouragement via existing inter-governmental and multilateral instruments. The unilateral commitment by the United States, seconded by Russia, to ban ASAT tests is an admirable initiative. So is the UK-inspired Open-Ended Working Group at the United Nations General Assembly. We need to change the current geopolitical mindset and move away from zero-sum security paradigms to multi-sum security and symbiotic realist paradigms. This will help ensure non-conflictual competition, defined by absolute rather than relative gains. Above all, it is crucial that all space-faring parties understand that if Outer Space becomes critically unsafe, it will be unsafe for everyone. In a Global Commons such as Outer Space, humanity will either triumph or fail together. This is especially important at a time when private aerospace companies are building reusable rockets that have radically reduced launch costs.

Beyond the common challenges, there is also a shared opportunity to further global and planetary interests including Sustainable Development Goals (SDGs). Good governance in space will boost sustainability and security on Earth. For example, space technologies such as remote data sensing can enhance our understanding of terrestrial water cycles and forest cover. Other space-industry technologies could help us improve energy efficiency and strengthen food security. At the very least, working towards a common goal could help space powers overcome their mistrust. The [US-Soviet Apollo-Soyuz space mission](#) in 1975, at the height of the Cold War, reminds us that this is not impossible. With this in mind, it is regrettable that the Artemis programme is limited to only a few dozen countries and that the International Space Station is being decommissioned in early 2031.

Building a sustainable international framework for Outer Space will be vital for the success of future space missions. It will also be critical for our daily earthly needs of sustainable and equitable peace, prosperity and security. Just as NASA's [Apollo 11 lunar landing](#) in 1969 infused in humankind a new spirit of adventure and paved the way for numerous scientific breakthroughs, the legacy of the Artemis

programme could be rooted in the opportunities and cooperative goodwill it creates for the participating countries. However, these opportunities, and space security more broadly, will only stretch so far unless all major space powers are included.

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