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2026 COLLOQUIUM ON INTERNATIONAL LAW

CREATING NEW FRONTIERS: LAW, COMMERCE and ORDER IN OUTER SPACE

3 July

2026 COLLOQUIUM ON INTERNATIONAL LAW

Governing Low Earth Orbit

The Urgent Case for a Rules-Based Space Order

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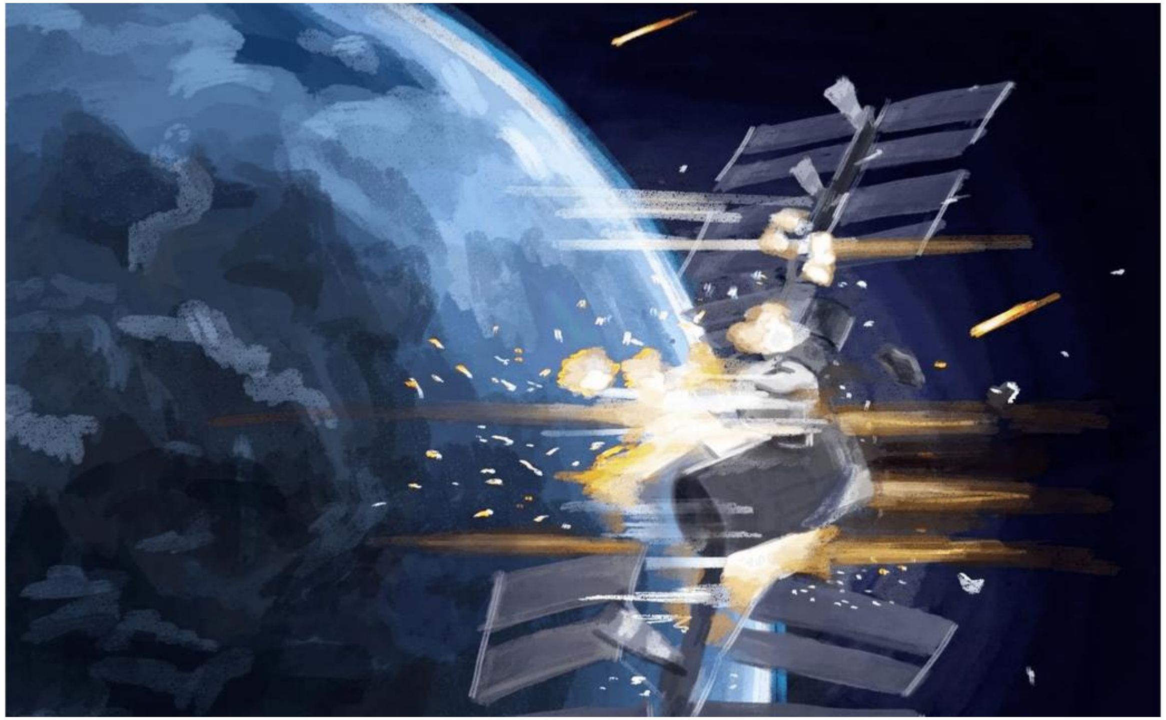
CREATING NEW FRONTIERS: LAW, COMMERCE and ORDER IN OUTER SPACE

Watch: The Cascade That Could End the Space Age



Before we examine governance frameworks, we must understand what is at stake. The Kessler Syndrome — first theorised by NASA scientist Donald J. Kessler in 1978 — describes a self-sustaining cascade of collisions in Low Earth Orbit that could render entire orbital shells permanently unusable.

https://www.youtube.com/shorts/Kj5bkXrOGa4

'The Kessler Syndrome is no longer merely a distant theoretical risk.'
– AAIL Paper III (2026)

2026 COLLOQUIUM ON INTERNATIONAL LAW

LEO Is at a Breaking Point — 15,200 Active Satellites

- **~15,200** functioning satellites in Earth orbit as of April 2026 (ESA)
- **~44,870** space objects regularly tracked by Surveillance Networks
- **~54,000** objects larger than 10 cm estimated by ESA models
- **~1.2 million** untrackable debris fragments in the 550 km band
- Collision risk in LEO **up 20%** in 2026 alone
- Starlink satellites made **nearly 50,000** avoidance manoeuvres in six months

The global space economy is projected to grow from USD 630 billion (2023) to USD 1.8 trillion by 2035. But this commercial explosion is outpacing the legal and regulatory frameworks designed to govern it.

Mega-Constellation Pipeline

Operator	Authorised Satellites	Status
SpaceX Starlink	15,000 (Gen 2)	Actively deploying
China Guowang	12,992	In progress
Amazon Kuiper	3,232	Deploying
Eutelsat OneWeb	648	Operational

1967 Treaties Cannot Govern a 2026 Mega-Constellation World

The foundational space law framework — the 1967 Outer Space Treaty, the 1972 Liability Convention, and the 1975 Registration Convention — was crafted for a far less crowded and far less commercial environment. These instruments are binding but general; they do not provide:

No binding Space Traffic Management

OST Article IX's "due regard" obligation contains zero technical specifications for modern traffic coordination.

No real-time tracking obligation

The Registration Convention requires only basic orbital parameter notification, with persistent compliance gaps.

No debris mitigation enforcement

COPUOS Long-Term Sustainability Guidelines (2019) are entirely voluntary and lack enforcement mechanisms.

No dispute resolution mechanism

No detailed procedures exist for frequent, data-intensive private commercial disputes in orbit.

> ***'Existing international conventions are insufficient to address the fast-paced commercialisation of outer space.'***
> – As noted in my Chairman's Foreword for this Colloquium.

Aviation Built a Global Safety System in One Decade — Space Can Too

International civil aviation confronted an analogous challenge in the mid-20th century. The 1944 Chicago Convention and the ICAO framework resolved it through universal Standards and Recommended Practices (SARPs) — a system that has underpinned global aviation safety for over 80 years.

ICAO Aviation Framework	LEO Space Traffic Analogue
Flight Information Regions (FIRs)	Orbital Information Regions (OIRs)
NOTAM / SWIM data sharing	Conjunction Notification System (10^{-4} Pc threshold)
ACAS/TCAS collision avoidance	Autonomous onboard avoidance manoeuvre
Airworthiness certification	STM compliance licensing conditions
ICAO audit (USOAP)	Universal STM Audit Programme (USTMAP)

Key Finding from AAIL Paper III:

The Cologne Manual on Space Traffic Management (May 2025) — 11 guidelines covering pre-launch notification, conjunction assessment, debris remediation, and cybersecurity — provides the raw material. What is needed now is **political will** to make these rules binding.

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China's 15th Five-Year Plan Elevates Space — Hong Kong Must Lead the Finance Layer

China's Fifteenth Five-Year Plan (2026–2030) has elevated aerospace within its cluster of strategic emerging industries. Commercial launches accounted for **54% of China's total launches in 2025**, with **311** commercial satellites placed in orbit — 84% of China's annual total.

Mainland China Provides

- Core Technology & Engineering
- Scaled Manufacturing
- Launch Licensing
- Sovereign Capability

Hong Kong Provides

- Deep Capital Markets
- Common Law Infrastructure
- Global Connectivity
- International Credibility

Six Strategic Recommendations

01 Designate Hong Kong as China's **Space Finance Capital** (HKEX offshore listing platform).

02 Establish Hong Kong as the **default governing law** for cross-border commercial space contracts.

03 Anchor the **Space Silk Road** international standards and cooperation initiative in Hong Kong.

04 Create a **GBA–Hainan Space Economy Cluster** integrating launch, manufacturing, and finance.

05 **Belt and Road Space Connectivity Programme**
Develop a Program for LEO and EO analytics.

06 Embed Hong Kong's complementary role in forthcoming **national space legislation.**

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2026 COLLOQUIUM ON INTERNATIONAL LAW

A Space Asset Registry Is the Missing Legal Infrastructure

Hong Kong's success as an aviation finance centre — built on its aircraft registry and tax concessions for aircraft leasing — provides a direct template for space asset finance. The proposed **Space Asset Registration and Finance Ordinance (SARFO)** would establish this critical foundation.

Why This Matters for Governance

Without a clear legal title and registration framework, satellite operators cannot obtain financing, insurers cannot assess risk, and courts cannot resolve disputes. Registration is the foundation of any credible governance regime.

Key Provisions of SARFO

- Distinguish the **public-law** function of the UN Register from the **private-law** certainty required for ownership and security interests.
- Draw on the **Cape Town Convention and its Space Protocol** for security interests in space assets.
- Provide a statutory framework for registering space assets and associated interests in Hong Kong.
- Offer **fiscal incentives** for qualifying space asset leasing and finance.

Aviation vs. Space Finance Framework

Feature	Aviation Finance Model	Proposed Space Finance (SARFO)
Registry	HK Civil Aviation Department	Proposed HK Space Registry
Int'l Framework	Cape Town Convention (Aircraft)	Cape Town Convention (Space Protocol)
Incentives	Tax concessions for aircraft leasing	Fiscal incentives for space asset leasing

A Phased Roadmap to Binding LEO Governance Is Achievable by 2035

The absence of a binding, harmonised Space Traffic Management (STM) regime creates systemic collision and debris risks threatening the long-term sustainability of space for all nations. AAIL Paper III proposes a three-phase roadmap:

Phase 1

FOUNDATIONS

- Adopt CCSDS Conjunction Data Message (CDM) standard
- Mandatory 10^{-4} Pc threshold for conjunction notifications
- Establish national Space Operations Centres (SpOCs) with 24/7 capability

Phase 2

HARMONISATION

- Negotiate binding multilateral Conjunction Avoidance Protocol under COPUOS
- Establish Orbital Information Regions (OIRs) analogous to ICAO FIRs
- Introduce Space Operator Licence (SOL) with Safety Management System requirements

Phase 3

BINDING ARCHITECTURE

- Adopt Convention on Space Traffic Management — establishing ISMO (International Space Management Organisation)
- Mandate onboard autonomous avoidance for all new satellites in LEO
- Implement 5-year post-mission disposal rule (replacing the 25-year guideline)

Commercial Disputes in LEO Will Multiply — Hong Kong Is Best Placed to Resolve Them

ESA materials refer to expectations that around **100,000 satellites may be in orbit by 2030**. As satellite numbers rise, so will disputes from launch failure, orbital insertion errors, conjunction events, radiofrequency interference, debris generation, and service disruption.

Why Arbitration Is the Right Tool

- Neutrality and cross-border enforceability
- Confidentiality for sensitive technical data
- Procedural flexibility to include technical expertise
- Faster resolution than State mechanisms

Why Hong Kong

- Mature arbitration ecosystem (HKIAC)
- Common-law system with strong judicial support
- Bridge between Mainland China and international actors
- Unique position as China's international financial centre

Proposed Framework Covers:

- Conjunction management disputes
- Debris event liability
- Radiofrequency interference
- Service disruption
- Insurance and finance relationships

Good Governance of LEO Is Not Optional — It Is the Precondition for the Space Economy

The 2026 AAIL Colloquium has identified four interlocking pillars for a sustainable, rules-based space economy:

I. STRATEGIC
Commercial Space Finance
Designate HK as Space Finance Capital

II. INFRASTRUCTURAL
Asset Registration & Finance
Enact SARFO — Space Asset Registry

III. GOVERNANCE
Space Traffic Management
Binding STM Convention by 2035

IV. DISPUTE RESOLUTION
Commercial Arbitration
HK-Led Space Disputes Framework

> *'Together, these four pillars offer a layered agenda: aligning national planning and Hong Kong's unique institutional position with the infrastructure, governance and dispute-resolution mechanisms needed for a sustainable, rules-based space economy.'*
> – Anthony Neoh, Chairman, AAIL

> *The window to establish binding LEO governance is narrow. The Kessler cascade is not a distant hypothetical — it is a predictable outcome of treating orbit as a free dumping ground. The time for voluntary guidelines has passed. The time for binding rules, enforceable standards, and specialist institutions is now.*