



United Nations
Office for Outer Space Affairs



SPACE TRAFFIC MANAGING vs. COORDINATING WHAT'S THE DIFFERENCE & WHY IT MATTERS



10 May 2023



STM
Space Traffic Management

General Assembly
Seventy-seventh session
Agenda item 126 (a)
**Strengthening of the United Nations system: strengthening of
the United Nations system**

Our Common Agenda

**Policy brief 7: for all humanity – the future of outer
space governance**

“To date, States have registered radio frequencies with ITU for more than **1.7 million non-geostationary satellites** that may be launched into orbit by the beginning of 2030”

What do we mean by STM?

Space Traffic Management (STM):

The set of regulatory provisions including technical elements for promoting safe access into outer space, operations in outer space to Earth free from physical or radio frequency interference

**Currently excluded
from ISO work**

**Different from Space
Traffic Coordination
(STC)**

A top-down approach at international level

- **Different types of obligations**

- Rules of the road (Right-of-way rules, Safety distance rules, Zoning rules ...)
- Coordinate (Oblige operators to exchange data, Oblige operators to deliver precise ephemerides ...)

- **Different types of intensity**

- Hard law: Treaty
- Soft law: Guidelines

A top down approach at international level

- **Positive aspects:**

- Exchanges between all the States to develop set of rules
- Give time to reflect more generally on Space Traffic at the UN STSC and LSC

- **Issues:**

- Long term perspective
- In fine always the same issues: political issues, differences between the different systems, difficulty to enforce

What do we mean by STC?

Space Traffic Coordination (STC):

The cooperative planning, harmonization, data and information sharing, and synchronization of space activities to avoid collision during spacecraft orbital operations.

Current work at ISO level:

ISO/9490 (not yet adopted)

Different from Space Traffic Management (STM)

A bottom-up approach at international level

- **Development of STC systems at national / regional levels**
 - To face the day-to-day risk of collision, States, Companies, non-profit organisations have developed Space Traffic Coordination systems
 - Each system is working at the national, regional or international level to ensure coordination but without ... any forum to exchange
- **Needs to find a way to ensure that these different STC exchanges on operational / technical issues to avoid collision today:**
 - Types of algorithms
 - What is a High Interest Event / Thresholds
 - Different way to calculate probability of collision
 - Exchanges of contacts
 - Exchange of information

A bottom-up approach at international level



- **Positive aspects**

- Exchange of best practices
- Exchange of some information
- Involvement of operators
- Global perspective
- Openness / Capacity building

- **Issues**

- What it cannot be: an operational system exchanging data
- What it should not be: a global operational STC system at the UN level

Conclusion: Why does the difference matter?



STM
Space Traffic Management

STM:

- Regulatory / Rules
- Top-down approach
- Long term perspective: **to act in the future**

STC:

- Coordination / Technical exchanges
- Bottom-up approach
- Short term perspective: **to act now**

Both needs: SST/SSA!



STM
Space Traffic Management

Safeguarding
space operations

Thank you

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