

**ISO intercessional for Topic 8: *Norms, rules and principles relating to information exchange and risk reduction notifications related to outer space activities as well as to consultative mechanisms***

Dan Oltrogge, 2 Feb 2023

It is my honor to participate in these OEWG proceedings as a representative of the international organization for standardization or ISO as well as a participant in the consultative committee for Space Data systems or CCSDS. These two organizations are critical in the development of truly international standards that can promote space safety and reducing space threats.

I have assembled a small printout of information which discusses some of the relevant CCSDS and ISO standards for this open-ended working group.

International standards are developed through intense collaboration between governments, commercial space industry, Non-governmental organizations, and industry associations. That all these organizations are involved represents well the global virtuous cycle of space governance we participate in.

Many do not realize the high degree of meticulous effort required to create standards that are achievable, verifiable, have market relevance, and are suitable for contractual incorporation. This exacting work demands highly qualified subject matter experts, and ISO and CCSDS are certainly no exception, having over 100,000 subject matter experts representing 167 countries participating in the development of 23,000 international standards.

There are two basic types of space standards: those that standardize how you **share and exchange data and information**, which is a primary focus of CCSDS, and standards that codify **best practices and expected norms of behavior**, such as ISO standards.

CCSDS, led and operated by the eleven major space agencies, includes the Navigation Working Group, which assembles space data standards that are highly relevant to achieving the United Nations COPUOS LTS goals of space data sharing, including sharing of orbit, attitude, reentry, tracking, and conjunction data. We also anticipate developing important new standards covering launch and fragmentation events in the next few years.

Within ISO, we assemble standards associated with design, integration and test, operations, the space environment, program management, materials, and orbital debris mitigation. Standards for Space Safety, Launch and On-Orbit Collision Avoidance, Space Traffic Coordination, Large Constellations, and Space Sustainability are particularly pertinent to this OEWG group. A new working group was recently added to address standards for downstream products, including standardization of commercial products such as precision navigation and timing.

In this new space era, it is also important to realize that there is a lag between when a standard is first published and when a space system is able to incorporate that standard. A satellite that has a mission design life of 15 years likely would have adopted standards that were published 15 years ago and are therefore now outdated by 15 years from a standards perspective. Therefore, it is imperative that standards development be prioritized by all countries, NGOs. and the space industry, so that it is clear how space data and information should be shared, and what best practices and norms of behavior should be utilized by the global space community.

I thank you for the opportunity to speak about space data and best practice standards, chair.

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