



**Statement of ISO presentation to 57<sup>th</sup> UN COPUOS Science and Technical Subcommittee**

Madam Chair and distinguished delegates,

1. I have the honor to speak on behalf of the International Organization for Standardization, or ISO. ISO is very pleased to be granted official observer status within UN COPOUS, and we are excited to collaborate with the UN COPUOS to continue to promote the long-term sustainability of space activities (or LTS). I would like to begin by giving a brief overview of ISO and then describe the subcommittees and working groups that contribute most directly to LTS goals, including the increasingly important subject of space debris mitigation and the standards accompanying this.
2. ISO was established seventy-two years ago to promote standards for international trade, communications and manufacturing. ISO has held general consultative status with the United Nations Economic and Social Council (or ECOSOC) since its formation. Most UN agencies working on technical activities have liaison status with ISO. ISO is an independent, non-governmental organization made up of members from National Standards Bodies (or NSBs) of 163 countries. NSBs facilitate and manage standards development for their respective countries. Working collaboratively with and within ISO, NSBs identify stakeholders and subject matter experts, coordinate stakeholder inputs, and receive requests for new standards. ISO is the world's largest developer of international standards. ISO members drive decisions and select appropriate actions for these international standards. ISO operates on a consensus basis with each participating country receiving a single vote. ISO is not dominated by interest groups. ISO standards are developed by subject matter experts and are implemented voluntarily by countries and organizations. The ISO framework is well suited for bi-directional standards interchange, with national standards often offered for promotion to an international standard and international standards often adopted as national standards.
3. It is vital that our space community have a shared understanding of the role and importance of international standards. International standardization helps prevent 'technical nationalism'. Standards provide a common reference framework in a common language to facilitate trade and technology transfer between global space actors. Standards describe performance requirements and interfaces in verifiable and achievable ways that are suitable for incorporation into contractual mechanisms. Standards also promote capacity building and sharing of technical knowledge. Some mistakenly view standards as stifling innovation and potential. Standards are in fact living documents that are periodically reviewed to ensure marketplace relevance, technical currency and completeness. ISO standards typically require two to three years to develop. Once published, each standard is reviewed every five years to determine whether it should be renewed, revised, or retired. By standardizing recurring activities, standards can be a tremendous market and innovation enabler.
4. Within the ISO governance structure, the technical committees and their subcommittees and working groups actually develop and maintain the standards. ISO is comprised of 245 such technical committees containing over 100,000 global subject matter experts. ISO currently has 22,000 active international standards published in English, French and Russian languages. We will now explore those that are focused on developing standards for space activities.
5. Also established in 1947, ISO/Technical Committee 20 is one of the most prolific ISO technical committees in international standardization. With over 600 published standards developed under the broad umbrella of the committee and its subcommittees, ISO/TC 20 maintains a significant, relevant presence in the aerospace industry. Within TC20, the two subcommittees developing space standards are SC13 and SC14.

6. TC20/Sub-Committee 13 develops international space data message standards. SC13, functionally equivalent to The Consultative Committee for Space Data Systems or CCSDS, is comprised of 11 space agencies globally. Of particular relevance to the Long-Term Sustainability of Space Activities are space data message standards assembled by its Navigation Working Group. Sharing of space data such as orbital information, close approach parameters, tracking data, attitude data, reentry data, and sensor pointing parameters is enabled by SC13 Navigation Working Group standards. The Orbit Data Message is the most widely downloaded SC13 standard today.
7. ISO TC20/Sub-Committee 14 develops standards that capture best practices for space systems and operations. All disciplines of SC14's seven working groups are relevant to long-term sustainability of space activities.
8. That said, the majority of space debris mitigation standards are developed in Working Groups 3 (Operations), 4 (Environment) and 7 (Orbital Debris Mitigation). These standards comprehensively address debris mitigation, including mission design, spacecraft design, testing, launch, operations, disposal and human casualty risk.
9. The SC14 Working Group 7 was initially formed as the Orbital Debris Coordination Working Group in 2009. Formalized in SC14 as WG7 in 2012, this Working Group's primary goal continues to be to codify IADC guidelines and industry best practices as international standards for contractual incorporation and potential national regulatory adoption. Its work program is well represented by the top level ISO Standard 24113: Space Debris Mitigation Requirements; lower-level space debris mitigation standards and requirements derive from top-level requirements contained in ISO 24113.
10. It is worth considering how ISO standards and technical reports support and align with UN COPUOS LTS Guidelines. As indicated by the green shaded regions in this chart, this top-level alignment summary confirms that SC13 and SC14 activities are well aligned with LTS Guidelines. If interested, I would be pleased to discuss with you which specific SC13 and SC14 standards are relevant to LTS. LTS guidelines explicitly identify the need for international standards in many of its clauses. We are pleased to report that ISO has created numerous standards that already meet these specific LTS needs, and these standards will continue to evolve and be actively maintained and published through ISO and CCSDS to keep pace with dynamic LTS needs.
11. We are very grateful to the United Nations Office of Outer Space Affairs personnel for working with us to incorporate appropriate references to these important ISO and CCSDS standards into the UN COPUOS Compendium of Space Debris Mitigation Standards. These can all be found at the link shown on the slide.
12. This is our standards-based view of the many participants involved in space governance and space debris mitigation today. We've depicted the closed-loop nature of interactions between satellite operators, international organizations and analysis communities, international standards development organizations, satellite operator associations, and national regulatory bodies. Many global voices contribute to our space governance and LTS discussions. Standards exist to codify, in an implementable and verifiable way, what international guidelines seek to accomplish. ISO space standards are, and since the dawn of the space age always have been, an integral part of this complex and inter-connected framework. We look forward to continued close collaboration with UN COPUOS and the international community to promote the long-term sustainability of space activities.

Thank you, Madam Chair.