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Space systems — Design, testing and operation of a large constellation of spacecraft

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Foreword

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Introduction

More than a dozen large constellations of spacecraft are planned to be launched in the next several years. While large constellations can provide societal benefits to humanity, they can also put pressure on the orbital and electro-magnetic environments, introducing mission design, hardware design, launch, operations and disposal challenges to other operating space assets and the long-term sustainability of space activities.

This document provides a set of standard practices throughout the large constellation life cycle to promote safety on the ground from re-entry hazard and long-term sustainability of space operations.

In developing this document, the practices of the existing large constellation programs, consensus in the Space Safety Coalition, "Best Practices for the Sustainability of Space Operations,"[1], the "Statement on Large Constellations"[2] of the "Inter-Agency Space Debris Coordination Committee (IADC)", ISO 24113, which specifies space debris mitigation requirements, the "Guidelines for the Long-term Sustainability of Outer Space Activities" COPUOOS June 2021[3] and other effective documents were consulted.