International Standard

ISO 9490

Space systems — Space traffic coordination (STC)

Systèmes spatiaux — Coordination du trafic spatial (STC)

Sample Document

get full document from standards.iteh.ai

First edition
2026-11

Reference number
ISO 9490:2026(en)

© ISO 2026

Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

All rights reserved.

This ISO publication is protected by copyright and is owned by ISO and/or its licensors.

The content of this ISO publication is provided under licence, not sold. Use is subject to the applicable licence terms issued by ISO, an ISO member body, or an authorized third-party distributor.

Except as required for implementation or expressly permitted by a separate licence, no part of this ISO publication may be reproduced, distributed, modified, used, or made available in any form or by any means - electronic or mechanical, including photocopying, scanning, recording, or posting on internal or external digital platforms.

Any use beyond the scope of the granted rights is prohibited and may result in legal action.

ISO copyright office
CP 401 • CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

Contents

Page

Foreword ..... **vi**
Introduction ..... **vii**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Symbols and abbreviated terms **6**
4.1 Symbols 6
4.2 Abbreviated terms 7
5 STC system interoperability **8**
5.1 General 8
5.2 STC terminology 8
5.3 International space operations and data exchange message standards 8
5.4 International space data exchange mechanisms 8
6 Operational transparency **9**
6.1 General 9
6.2 Exchange of information on orbital parameters of outer space objects and potential orbital conjunctions 9
7 Manoeuvre recommendations and prioritization for when two manoeuvrable spacecraft are at risk of collision **9**
7.1 Collision avoidance manoeuvre coordination 9
7.2 Spacecraft manoeuvrability categories 9
7.3 Spacecraft manoeuvrability transparency 10
7.4 Spacecraft automated manoeuvrability transparency 10
7.5 General baseline spacecraft manoeuvre prioritization 10
7.6 Exceptions to manoeuvre recommendations and prioritization 13
7.7 Further clarification of avoiding inhabitable space objects 13
7.7.1 Default keep-out shape and size 13
7.7.2 Specification of manoeuvre prioritization rules by inhabitable space object operator 13
7.7.3 Specification of manoeuvre prioritization thresholds by inhabitable space object operator 14
7.7.4 Addressing additional levels of safety for inhabitable space objects 14
7.8 Communication of operator interpretation of manoeuvre rules and planned avoidance manoeuvres 14
8 Responsibilities of STC participants **14**
8.1 STC responsibilities of the STC approving agent 14
8.1.1 STC screening metrics and thresholds 14
8.1.2 STC system requirements 14
8.1.3 STC service provider requirements 14
8.1.4 STC system security and quality control requirements 14
8.1.5 STC system authorized data sources 15
8.2 STC responsibilities of spacecraft owners and operators 15
8.2.1 Spacecraft collision avoidance reliability 15
8.2.2 Access to STC services 15
8.2.3 Selection of risk assessment procedure and avoidance manoeuvre threshold 15
8.2.4 Spacecraft operator contact information 15
8.2.5 Spacecraft operator provision of space data 16
8.2.6 Spacecraft operator data exchange 17
8.2.7 Conjunction assessment during routine operation phase 18
8.2.8 Collision risk assessment according to standardized procedure 18
8.2.9 Coordination of avoidance manoeuvres 18
8.2.10 Support from STC system 19

Sample Document
https://standards.iteh.ai

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

8.2.11 Radio frequency interference mitigation procedures 19
8.2.12 Notifications in the case of emergency situations 19
8.3 STC responsibilities of launch service providers 19
8.3.1 Launch system reliability 19
8.3.2 Launch notifications 20
8.3.3 Access to STC services 20
8.3.4 Launch collision avoidance (LCOLA) conjunction assessment 20
8.3.5 Selection of LCOLA risk assessment algorithms and screening thresholds 20
8.3.6 Launch vehicle contact information and points-of-contact 20
8.3.7 Launch service provider response to inquiries 21
8.3.8 Notification of launch vehicle incidents and anomalies 21
8.3.9 Launch vehicle orbit information message format and standards 21
8.3.10 Launch service provider data exchange content 21
8.3.11 Launch service provider data exchange timeliness 21
8.3.12 Radio frequency interference mitigation procedures 22
8.3.13 Notifications in the case of emergency situations 22
8.3.14 Notifications on scheduled manoeuvres or fragmentation events that can result in risk to the flight safety of other space objects 22

9 STC functional processes, analyses, and products 22
9.1 General 22
9.1.1 Disclosure of STC system/spacecraft operator agreements 22
9.1.2 Relationship with other spacecraft operators 22
9.1.3 STC coordination with other commercial, regional, and state actor STC systems 23
9.2 Orbit determination and orbit prediction 23
9.2.1 Orbit determination solution of time-dependent model parameters 23
9.2.2 Noncooperative solving of and recovery from unknown forces 23
9.2.3 Temporally deterministic propagation of covariance uncertainty 23
9.3 Conjunction assessment 23
9.3.1 STC conjunction assessment on operational timescales 23
9.3.2 User-selectable conjunction and collision avoidance metrics 23
9.3.3 Screening of nominal and candidate predictive ephemerides 24
9.3.4 Avoidance manoeuvre calibration and manoeuvre verification products 24
9.3.5 Flight safety notifications 24
9.4 Collision avoidance process 24
9.4.1 Standardized conjunction assessment procedure 24
9.4.2 Avoidance manoeuvre analysis of alternatives and optimization 25
9.4.3 Collision probability variability and distribution 25
9.5 LCOLA launch window screening process 25
9.5.1 Geometry-based and probability-based LCOLA screening 25
9.5.2 LCOLA supporting multiple deployed objects 25
9.6 Rendezvous and proximity operations (RPO) and on-orbit servicing (OOS) 25
9.7 RFI 25
9.7.1 RFI and RF analysis functions 25
9.7.2 RFI coordination function 25
9.8 STC mathematical techniques and numerical methods 26
9.8.1 Mathematical techniques and numerical methods 26
9.8.2 Disclosure and documentation of STC system algorithms and procedures 26
9.8.3 Collision probability assessment using established models 26
9.8.4 Earth orientation parameters 26
9.8.5 Space weather 26
9.8.6 Reference frames 26
9.8.7 Force model sharing and ingest 26
9.8.8 Error covariance realism 26
9.8.9 Ephemeris and error covariance step size 26
9.8.10 Ephemeris and error covariance significant digits 27
9.8.11 Interpolation of orbit state 3-D vector, error covariance, and reference frame time histories 27
9.8.12 Definitive and predictive positional accuracy 27

Sample Document

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

9.9 Quality assurance and control 27
9.9.1 Regular positional precision monitoring 27
9.9.2 Notification of out-of-family orbit solutions 27
Annex A (informative) **Open-access international CCSDS data exchange standards** **28**
Annex B (informative) **Suggested methods for assessing STC parameters** **32**
Annex C (informative) **Example constructs for both simple and complex STC systems** **48**
Annex D (informative) **Examples of Level 2 STC system requirements** **50**
Bibliography **55**

Sample Document
get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

Sample Document

This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

Introduction

This document specifies requirements for the coordination of space traffic, which support the aim to promote the safe and efficient use of space. All spacefaring nations share a vested interest and responsibility to create conditions for a safe, stable and operationally sustainable space environment.

This document is designed to enable the effective coordination of space traffic from pre-launch safety assessment to disposal at the end of operation through norms, the effective monitoring, and mitigation of collision risk and radio frequency interference (RFI). The document is designed for state actors, spacecraft designers, spacecraft operators, and space data sharing and coordination (STC) system developers and operators.

Figure 1 clarifies the interrelationships between space domain awareness (SDA), space traffic management (STM), space traffic coordination (STC), space environment preservation (SEP) and the foundation of space situational awareness (SSA) that SDA, STM, and SEP draw upon.

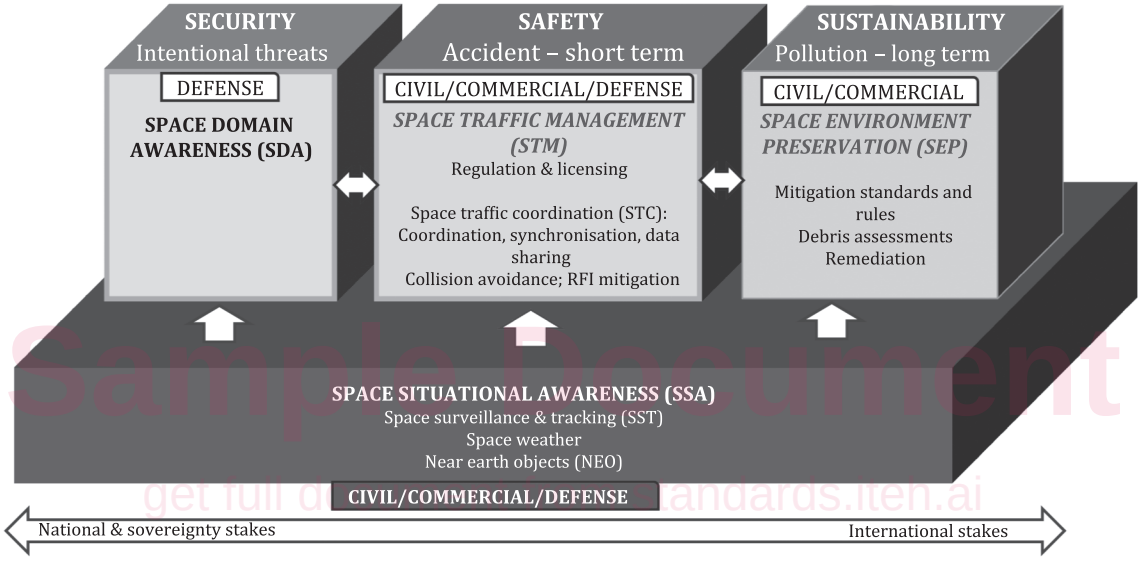


Figure 1 — Relationships between SDA, STM, STC, SEP and SSA

[SOURCE: Reference [1], reproduced with the permission of the authors.]

An STC system also supports a spacecraft operators' conformity with relevant international standards. According to the United Nations Guidelines for the Long-term Sustainability of Outer Space Activities[2], STC is important for the safety, stability, and sustainability of operations in the space environment. STC helps facilitate flight safety, mitigates collision risk (for manoeuvrable spacecraft), and mitigates RFI for all phases of flight, spanning pre-launch safety assessment through manoeuvre plans, on-orbit collision avoidance, RFI mitigation support services, and mission disposal.

Another view of the relationships between SDA, SSA, STC, and STM is shown using a Venn diagram as shown in Figure 2.

Sample Document
get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

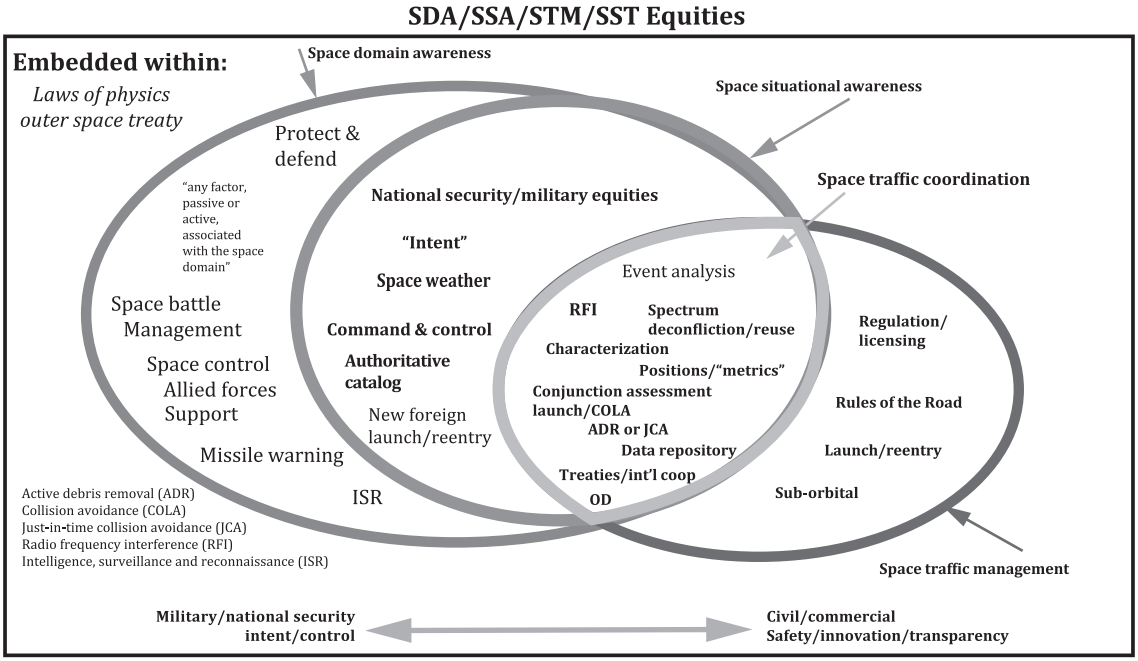


Figure 2 — Venn diagram of relationships between SDA, SSA, STM and STC

The range of STC systems is shown in Figure 3. For example, in its simplest form, an STC system can be nothing more than a communications path (via text message, telephone call, email or fax) to convey, for example, small amounts of operator or space data or information between operators, which is referred to as a "level 0 STC system." In its most complex form, a "level 2 STC system" is a data-sharing and exchange portal as well as a processing and analysis centre that provides a place where STC service providers, spacecraft operators, launch service providers, and environment monitoring entities can pool their data for both information exchange and STC system analyses. A level 1 STC system is focused on data exchange and can be collocated with an SSA system. This document focuses on requirements applicable to any STC system. A set of example topics and system requirements for more complex level 2 STC systems can be found in Annex D.

Accordingly, an STC system can consist of some, or all, of the elements shown in Figure 4. A critical enabler in this figure is the standards and protocol-based interoperability layer, which allows different organizations to exchange, interpret and process data seamlessly.

Such coordination and synchronization are accomplished by spacecraft operators and launch service providers working and interacting collaboratively with both STC and space situational awareness service providers. This collaboration relies upon the central tenets of data exchange, communications, interoperability, and flight safety analysis capabilities provided by one or more STC system(s).

Accordingly, an effective STC system must levy requirements on both the spacecraft operators and launch service providers, as well as any STC service provider(s). The effectiveness of the STC system relies upon coordination of space activities conducted by spacecraft operators and launch service providers and the exchange of STC and SSA information upon which their flight safety coordination is based.

The choice of one or more suitable STC system type(s) can largely be a policy decision. This document provides requirements related to the many subsystems that an STC system can consist of, to include STC servers and network, STC space data and space information interfaces, STC data aggregation and curation, STC operations, STC quality control, and STC algorithms and metrics. These are designed to maximize STC analysis and service timeliness, accuracy, completeness, transparency, and are standards-based, progressive, and highly available to support the operators' risk mitigation decision-making processes.

This document, with its STC and derived comprehensive data sharing and exchange requirements, does not address issues of national sovereignty, security, defence, classification, or other inherently governmental functions implied by the term space traffic management. The exact nature of and requirement for the bidirectional STC-to-STM feed indicated by Figure 4 depends upon applicable STM policies and regulations.

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

For example, an STC system can exchange information with STM system(s) to assist in STM monitoring and regulatory functions where required by an STM decision authority.

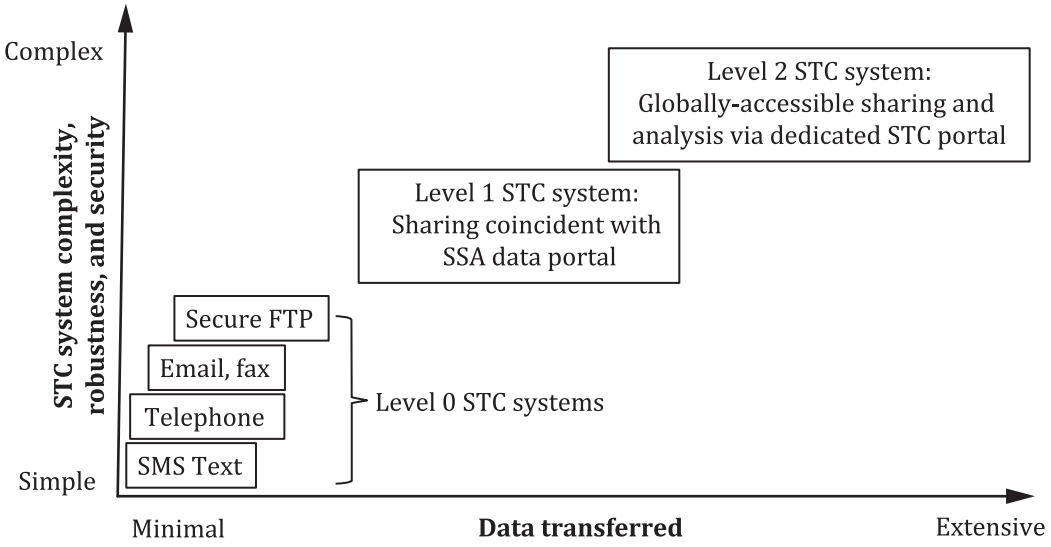


Figure 3 — Possible types of STC communication channels characterized by complexity, robustness, and security

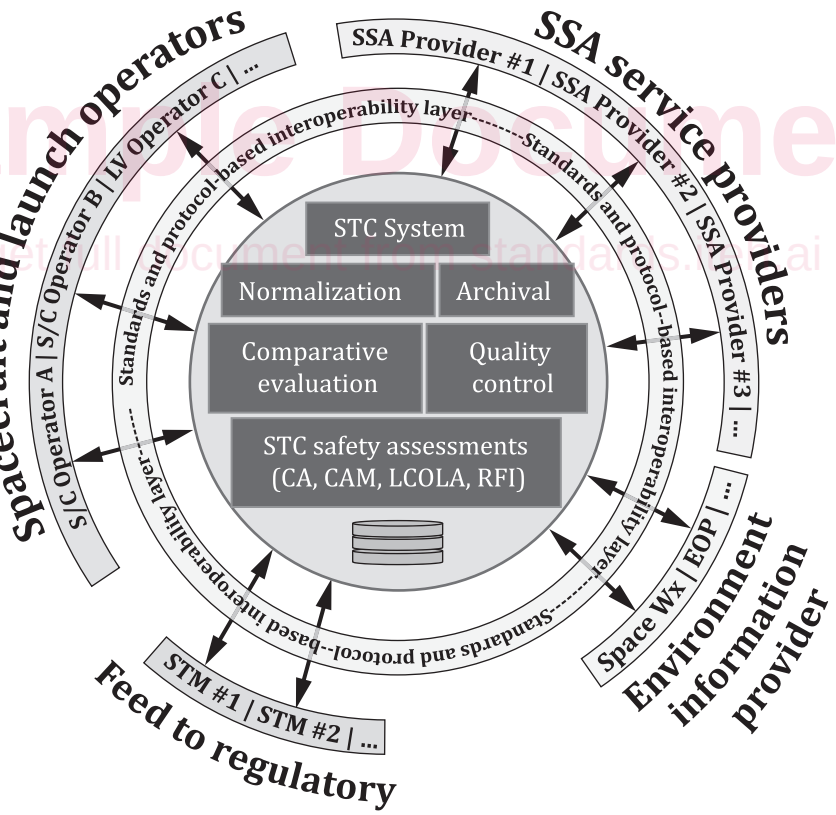


Figure 4 — Interactions by organizations for a dedicated level 2 STC system

The space flight safety-relevant topics of STC, on-orbit collision avoidance, and launch collision avoidance are closely related. To minimize duplication and maximize document consistency, the various content that serve as the basis for these three disciplines has been divided up as shown in Figure 5.

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

- **ISO 9490: STC**
  - STC terminology
  - STC system, QC, IS, reliability
  - STC roles/responsibilities for launch providers, S/C operators, and SSA providers
  - STC & SSA services
  - Orbit determination, required accuracy, timeliness
  - Maneuverability RotR
  - Maneuver recommendations
  - Data exchange and launch, maneuver, anomaly, and fragmentations notifications
  - STC mathematical techniques
- **ISO 23705: Avoid collision**
  - Conjunction assessment and collision avoidance terminology
  - Risk mitigation strategies
  - Suggested collision miss distance and probability/risk metrics and associated minimum thresholds
  - Mathematical techniques:
    - Conjunction assessment
    - Collision probability
      - Linear, Non-linear,
      - Asymmetric, Max Prob
    - CAM planning, optimize
    - CA nomograms
- **ISO 21740: LCOLA**
  - LCOLA terminology: safety LCOLA and mission assurance LCOLA
  - LCOLA launch window screening process
  - LCOLA products
  - Launch range coordination
  - LCOLA data exchange (LDM)
  - LCOLA mathematical techniques

Figure 5 — Division of space safety operations content spanning this document, ISO 23705 and ISO 21740

Sample Document

get full document from standards.iteh.ai

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

Space systems — Space traffic coordination (STC)

1 Scope

This document addresses the essential elements and protocols needed for space traffic coordination (STC).

This document applies to the range of orbital regions in which current STC and space situational awareness (SSA) systems can effectively track, monitor, and provide actionable data for space objects. It is also envisioned that this document is generally applicable to all orbit regimes and for orbits around all central bodies and barycentres.

2 Normative references

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 23705, *Space systems — Identifying, evaluating, and avoiding collisions between orbiting objects*

3 Terms and definitions

Sample Document

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
collision probability
quantification of the likelihood of two space objects impacting each other during a *conjunction* (3.4)

3.2
collision risk
product of *collision probability* (3.1) and *collision consequence* (3.3) for a space object experiencing a single *conjunction* (3.4), or the aggregation of this combination for a space object experiencing multiple conjunctions

3.3
collision consequence
outcome of a collision between two space objects

Note 1 to entry: The outcome of a collision can be characterized in several ways, including the likelihood of catastrophic breakup, the number of debris fragments larger than a specified size or mass that can be generated, the lifetime of the resulting fragments[17], or some combination thereof.

3.4
conjunction
event where the positional separation between two objects is at a local minimum and that minimum is either

a) closer than a specified minimum distance threshold;

b) the estimated probability of collision at this local minimum exceeds a specified *collision probability* (3.1) threshold; or

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

c) a combination of miss distance, probability, and other metrics (e.g., “risk”)

3.5
constellation
set of more than one spacecraft, operating in a coordinated manner by the same entity or linked entities, to create a single larger system, often based on a recurring spacecraft design and operating in similar orbits

EXAMPLE Space segments of satellite navigation systems or systems dedicated to global communication.

[SOURCE: IADC space debris guidelines 2025, modified — EXAMPLE has been added.]

3.6
Earth orientation parameters
EOP
parameters that specify the orientation of the Earth with respect to one or more reference frames at one or more epochs of interest

3.7
ephemeris
time history of positional and velocity (and optionally acceleration and covariance) state information

3.8
flight safety
condition of travel through its medium where mission-terminating risks have been mitigated

3.9
higher airspace
volume of airspace above altitudes where most air services are provided (i.e., above flight level FL 550), extending to altitudes where atmospheric density can no longer sustain lift through aerodynamics or buoyancy

Sample Document

3.10
large constellation
system of a hundred or more spacecraft working together, operated by the same entity or linked entities

Note 1 to entry: In addition to quantity, the spacecraft size, mass, complexity and function of the spacecraft also have a bearing on whether a *constellation* (3.5) is regarded as “large,” as detailed in ISO TS 6434.

3.11
launch collision avoidance
LCOLA
process of mitigating the risk of collision between the newly launched objects resulting from a space launch and any space objects in their path

Note 1 to entry: LCOLA processes are fundamentally different from on-orbit collision avoidance due to the on-ground ability to delay launch time by even a few seconds to make a large difference in close approach distance and *collision probability* (3.1), thereby mitigating *collision risk* (3.2). Also, LCOLA launch trajectories typically have much less trajectory accuracy than on-orbit spacecraft, for example, as much as an order of magnitude worse due to unforeseen and unknowable variations in performance, winds aloft, and guidance errors prior to lift-off.

3.12
level 0 STC system
level 0 space traffic coordination system
rudimentary communications path via text message, telephone call, email or fax to convey small amounts of operator or *SSA* (3.23) data between operators

3.13
level 1 STC system
level 1 space traffic coordination system
mid-level portal primarily focused on data exchange

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

3.14
level 2 STC system
level 2 space traffic coordination system
globally accessible STC-information-sharing portal, storage, processing, and *flight safety* (3.8) analysis endeavour supporting spacecraft and launch service providers, *SSA* (3.24) data and information providers

3.15
long-term sustainability
LTS
ability to maintain the conduct of activities indefinitely into the future in a manner that realizes the objectives of equitable access, in order to meet the needs of the present generations while preserving the environment for future generations

[SOURCE: UN COPUOS LTS guidelines 2019, modified — "of space activities" deleted]

3.16
normalization
process of converting or mapping data into a common reference frame, units, timing system, element or Cartesian set, and definitions so that analyses and comparisons can be accomplished meaningfully

3.17
operational mission
any instant in time during which a spacecraft or launch vehicle orbital stage carries out the tasks or functions for which it has been designed and deployed, other than its disposal

Note 1 to entry: While a spacecraft carries out orbit raising or orbit descent without carrying out the main tasks or functions for which it has been designed and deployed, it should be considered as not being in its operational mission.

Sample Document

3.18
space data
metric measurements or observations which can be processed to provide *SSA information* (3.24) which characterizes the space environment or activities within it

get full document from standards.iteh.ai

3.19
space data repository
SDR
device, computer, database, or other storage system that allows the population, storage, retrieval, and manipulation of *space data* (3.18) and *SSA information* (3.24), where relevant

3.20
space object catalogue
one-to-one mapping between unique object identifiers and a state vector of the object

3.21
space domain awareness
SDA
effective identification, characterization, and understanding of any factor, associated with the space domain that can affect space operations and thereby impact the security, safety, economy, or environment of a nation

Note 1 to entry: Other definitions for space domain awareness can exist, but this definition allows this document to differentiate between *STC* (3.30) and SDA.

[SOURCE: Reference [1].]

3.22
space environment preservation
SEP
act of protecting, conserving, and sustaining the space operations environment, accomplished by space debris mitigation and remediation

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

3.23
space situational awareness
SSA
knowledge and characterization of the space environment to facilitate decisions that support safe, stable, and sustainable space activities

Note 1 to entry: SSA includes all artificial space objects (spacecraft, rocket bodies, mission-related objects and fragments), natural objects, asteroids (including near-Earth objects or NEOs), comets and meteoroids, effects from space weather, including solar activity and its radiation[3]. Assessed risks include potential risks to humans and property in space, on the ground and in the air space due to accidental or intentional re-entries, on-orbit explosions and release events, on-orbit collisions, radio frequency interference, and occurrences that can disrupt missions and services.

[SOURCE: Reference [1], modified — Note to entry added.]

3.24
SSA information
space situational awareness information
insights into space environment or activities within it, derived from the processing of *space data* (3.18) via astrodynamics, estimation techniques, risk assessments, statistics, machine learning, and other analytical techniques

Note 1 to entry: SSA information includes all artificial space objects (spacecraft, rocket bodies, mission-related objects and fragments), natural objects, asteroids (including near-Earth objects or NEOs), comets and meteoroids, effects from space weather, including solar activity and its radiation.[3]

3.25
SSA service provider
space situational awareness service provider
entity that operates an *SSA system* (3.26) to maintain an operational picture of the space environment and potential risks

Sample Document
dev.full document from standards.iteh.ai

Note 1 to entry: SSA services can be provided by a combination of one or more commercial, governmental, non-governmental, or international entities, as well as by a mandated or delegated entity assigned by applicable national regulation.

3.26
SSA system
space situational awareness system
set of information gathering and exchange protocols enabling the characterization of the space environment and dissemination of its knowledge

3.27
space surveillance and tracking
SST
detection, observation, monitoring, cataloguing and prediction of the movement of space objects and the identification and alerting of derived risks

Note 1 to entry: Space surveillance and tracking is generally accomplished through the operation and calibration of ground-based or space-based tracking sensors using radar, optical, or passive RF technology.

3.28
space traffic coordination
STC
cooperative planning, harmonization, data and information sharing, and synchronization of space activities to avoid collision and radio frequency interference during spacecraft and launch vehicle operations in space

[SOURCE: Reference [1]]

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026

3.29
STC service provider
space traffic coordination service provider
entity that operates the STC system pursuant to its obligations set by the relevant *STC approving agent* (3.33)

Note 1 to entry: STC services can be provided by a combination of one or more commercial, governmental, non-governmental, or international entities, as well as by a mandated or delegated entity assigned by applicable national regulation.

3.30
STC system
space traffic coordination system
set of protocols, communications paths, information gathering and exchange, data fusion and *SSA* (3.24) analytical services to facilitate *flight safety* (3.8), sustainability, and decision making

Note 1 to entry: An STC system can be described as a *level 0 STC system* (3.13) (simple method to share limited amounts of data), a *level 1 STC system* (3.14) (focused solely on information gathering and exchange), or at its most complete scope and reach a *level 2 STC system* (3.15).

3.31
STC approving agent
space traffic coordination approving agent
entity who sets requirements for, monitors, and approves the procurement, management, oversight, implementation, operations, performance evaluation, quality assurance, and monitoring functions of the *space traffic coordination system* (3.32) under its authority

Note 1 to entry: The STC approving agent's responsibilities can be handled by a commercial, non-governmental, governmental, or international individual or entity, as well as a mandated or delegated entity assigned by applicable national regulations.

Sample Document

3.32
STC participants
space traffic coordination participants
set of entities that manage, operate, or use a *space traffic coordination system* (3.32), including the *STC approving agent* (3.33), *STC service provider* (3.31), spacecraft and launch service providers, *SSA* (3.24) and other *STC* (3.30) entities, governments, and academia

3.33
STC system user
space traffic coordination system user
entity that utilizes *STC system* (3.32) products and services to inform and make operational decisions

Note 1 to entry: Spacecraft operators, launch service providers, *higher airspace* (3.9) operators, *SSA systems* (3.27), other STC systems, and governments can all be STC system users.

3.34
space traffic management
STM
set of technical and regulatory provisions for promoting safe access into outer space, operations in outer space and, where applicable, return from outer space to Earth free from physical or radio frequency interference.

Note 1 to entry: STM contributes to a safer and more sustainable space operations environment, composed of:

a) *space traffic coordination (STC)* (3.30);

b) regulation and licensing, and dependent upon a foundation of continuous *space situational awareness (SSA)* (3.24). [1]

[SOURCE: Reference [4], modified — Note to entry added.]

© ISO 2026 – All rights reserved

ISO 9490:2026 • https://standards.iteh.ai/catalog/standards/iso/7127bedf-7deb-416c-9b93-cc7334cb7645/iso-9490-2026