INTERNATIONAL STANDARD

ISO
10789

Space systems — Programme management — Information and documentation management

Systèmes spatiaux — Management de programme — Management de l'information et de la documentation

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10789 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

ISO 10789 supports ISO 14300-1, *Space systems — Programme management — Part 1: Structuring of a project*.

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Introduction

This International Standard defines the information/documentation management requirements for space programmes or projects.

The International Standard is structured in two main parts. The first part presents the information/documentation management processes and the second part provides the detailed requirements.

Requirements in this International Standard are defined in terms of what shall be accomplished, rather than in terms of how to organize and perform the necessary work. This allows existing organizational structures and methods to be applied where they are effective, and for the structures and methods to evolve as necessary without rewriting the standards.

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Space systems — Programme management — Information and documentation management

1 Scope

This International Standard describes the processes and the requirements for the management of information/documentation within space programmes and projects.

The requirements specified herein apply to and affect the customer and supplier at all levels.

When viewed from the perspective of a specific project context, the requirements defined in this International Standard need to be tailored to match the specific requirements of the particular profile and circumstances of a project.

NOTE   Tailoring is a process by which individual requirements of specifications, standards and related documents are evaluated and made applicable to a specific programme or project by selection and, in some exceptional cases, modification of existing or addition of new requirements.

Defence information and documentation are not part of the scope of this International Standard.

2 Normative references

The following referenced documents are indispensable for the application 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 10007:2003, *Quality management systems — Guidelines for configuration management*

ISO 10303-232, *Industrial automation systems and integration — Product data representation and exchange — Part 232: Application protocol: Technical data packaging core information and exchange*

3 Terms and definitions

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

3.1
information/documentation management
process for ensuring timely and effective creation, collection, review, delivery, storage, and archiving of project information

3.2
information system
set of resources, procedures and data required in support of project management processes

3.3
metadata
structured, encoded data that describe characteristics of information-bearing entities to aid in the identification, discovery, assessment, and management of the described entities

3.4
self-signed certificate
certificate auto-generated by the signee

3.5
technical data package
TDP
ZIP file containing structured collection of files with their related metadata, to be exchanged between information systems

NOTE   Adapted from ISO 10303-232.

4   Abbreviated terms

The following abbreviated terms are defined and used within this International Standard.

CAD   Computer Aided Design

CD   Compact Disk

CI   Configuration Item

CM   Configuration Management

CSAR   Configuration Status Accounting Reports

DRD   Document Requirements Definition

DRL   Document Requirements List

DXF   Drawing Exchange Format

FTP   File Transfer Protocol

IDM   Information/Documentation Management

IDMP   Information and Documentation Management Plan

IEC   International Electrotechnical Commission

IS   Information System

ISMS   Information Security Management System

ISO   International Organization for Standardization

JPEG   Joint Photographic Experts Group

LZW   Lempel-Ziv-Welch

MS   Microsoft

PA   Product Assurance

PDF   Portable Document Format

RID   Review Item Discrepancy

ROM   Read Only Memory

SMTP   Simple Mail Transfer Protocol

STEP   Standard for The Exchange of Product

TDP   Technical Data Package

TIFF   Tagged Image File Format

XML   Extensible Mark-up Language

5 Information/documentation management principles

5.1 Information/documentation management process and objectives

Information/documentation management is the process for ensuring timely and effective creation, collection, review, delivery, storage, and archiving of project information.

Information/documentation management is applied throughout the entire life cycle of the project and ensures:

— the correctness, accessibility, rapid availability, reliability and security of information provided to all the actors both internal and external to the project;

— the coherence of the overall project information, thus facilitating effective and efficient use of the information;

— that all the actors who need access to information are aware of its availability, the means of access, and related methods and procedures;

— support to the programme/project reporting.

The main activities of the information/documentation management process, depicted in Figure 1, are:

a) management and planning;

b) implementation, i.e. creation, collection, review, delivery, storage and retrieval, and archiving.

5.2 Information/documentation management planning

5.2.1 Information/documentation plan

The customer defines the information/documentation management requirements for a programme or project. These requirements are applicable to all the actors of the programme or project as defined by each level customer towards his supplier(s). Each supplier produces an information/documentation management plan (IDMP) responding to his customer's information/documentation management requirements. The IDMP is submitted to the customer for approval. Upon customer approval, the supplier executes his own IDMP and ensures that his lower tier suppliers execute their IDMP.

The purpose of the IDMP is to provide all elements necessary to ensure that the implementation of the information/documentation management meets all customer requirements, and that it is in line with the programme or project organization and management structure.

The customer defines the programme or project phase during which the IDMP is prepared and approved.

Each actor assigns a person responsible for implementing information/documentation management activities within his programme or project team. His role, responsibilities and authorities are described in the IDMP.

5.2.2 IDM interfaces

IDM is an integral part of project management and directly interfaces with configuration management and its processes and, through them, with engineering, product assurance, manufacturing and production.

IDM contributes to programme or project activities by provision of all the necessary information through the information system. The information system is a repository of information where the project disciplines implement data and activate processes.

Relationships are described in Figure 1.
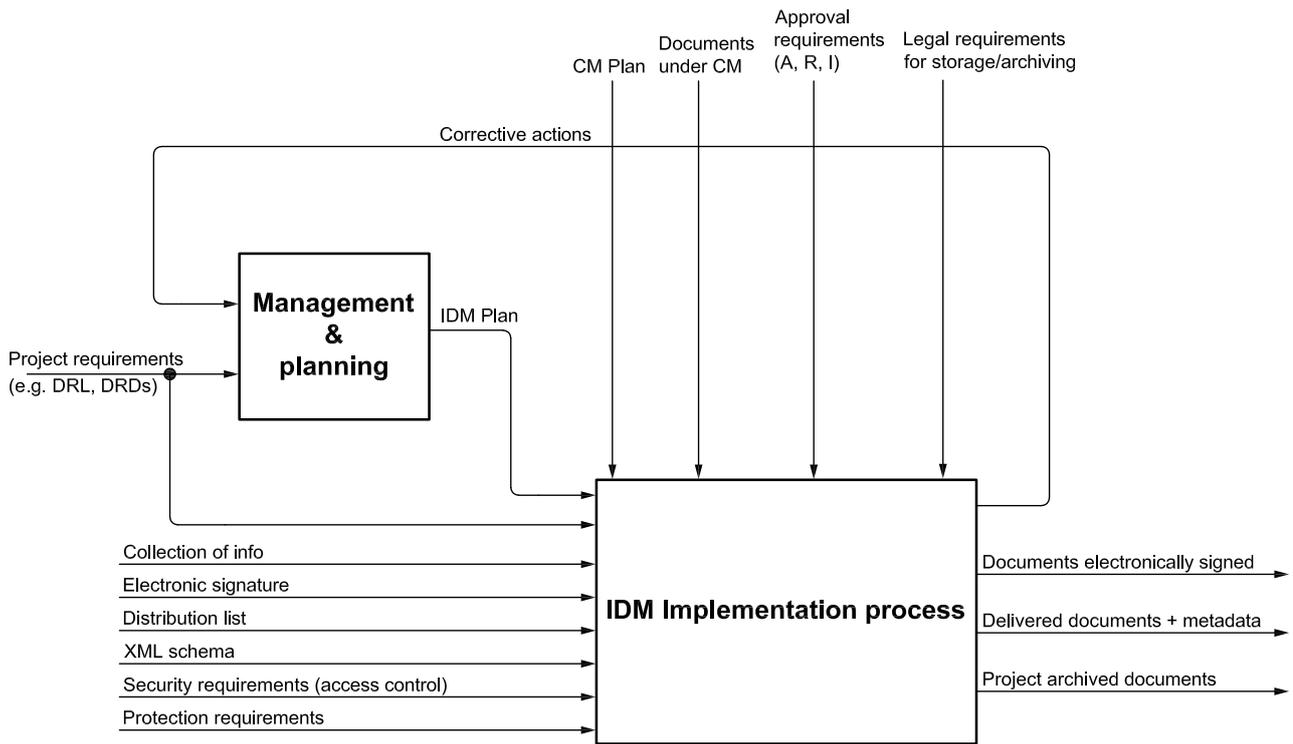
Figure 1 — Information/documentation management

Corrective actions are improvements on the process itself as a consequence of lessons learned and any feedback provided on the project.

5.3 Implementation of information/documentation management

5.3.1 General

Implementation of information/documentation management comprises the activities depicted in Figure 2 and described in the following subclauses.
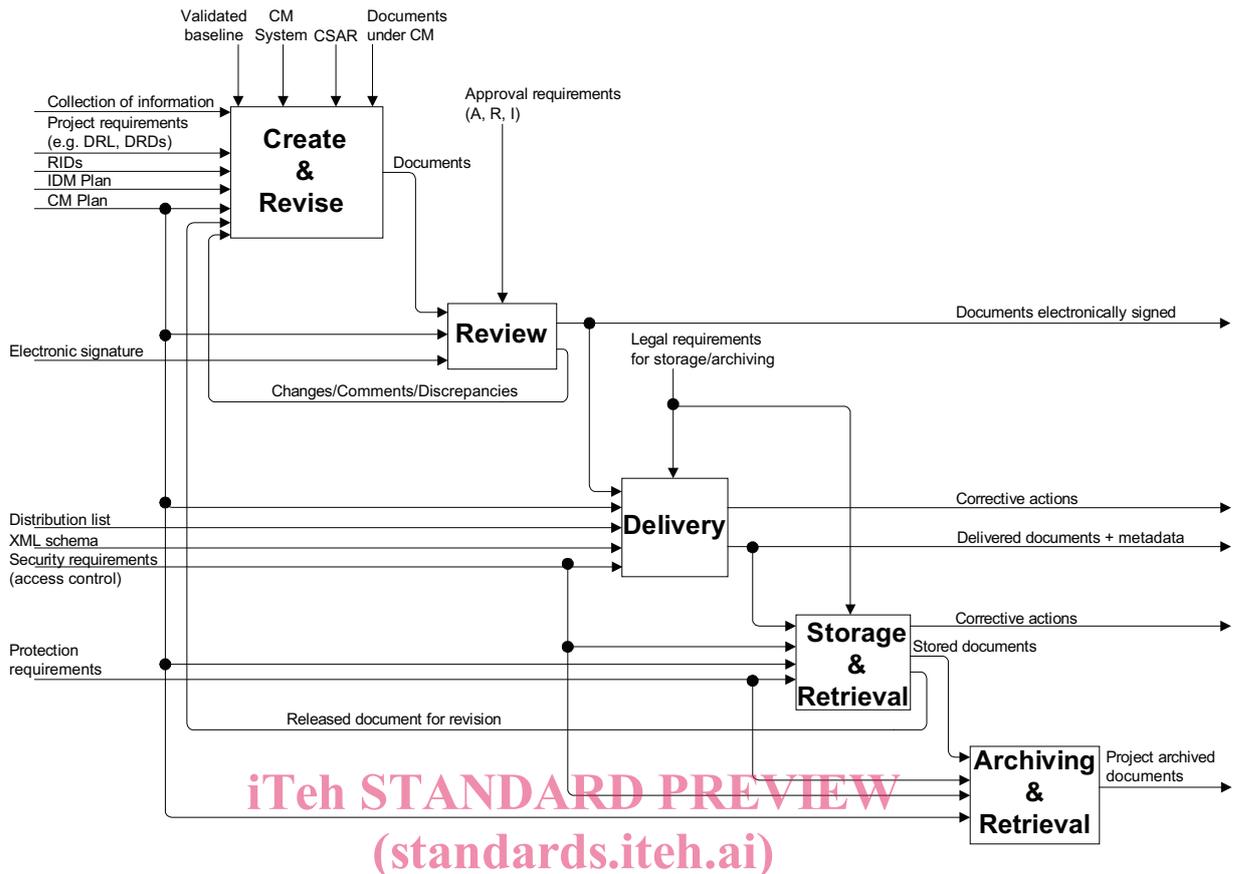
Figure 2 — Implementation of information/documentation management

5.3.2 Creation and vision

During this phase the content of a document is established and the documentation reference is assigned. This activity is performed under the responsibility of the organization assigned in the DRL. Attributes in addition to the documentation reference may be included as needed (e.g. DRL/DRD reference, CI Identifier, authorities involved in the review process). For configuration controlled documents, the configuration management process specified in ISO 10007 is applied.

In this phase the document bears the status "In Preparation". It is considered preliminary and is therefore not used for binding agreements. The same logic applies for a new version of a document under preparation.

5.3.3 Review

5.3.3.1 Review activity

When the document is complete, it is submitted for review and approval as required. The review process is then initiated as specified within the IDMP.

In this phase the document bears the status "In Review".

The same restriction regarding its use applies as for the creation/revision phase, and is therefore not to be used for binding agreements. The review authority either confirms that the content complies with the applicable requirements, or states the identified discrepancies together with the proposed resolution. In the latter case, the document is returned to the creation/revision phase for incorporation of comments and resolution of the identified discrepancies.

During the review process a document can be "withdrawn" (if it did not pass the review cycle and is maintained or traced for historical purposes only) or get the status "obsolete" or "superseded" (when it has been released but superseded by a new document).