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Space systems — Programme management —

Part 1: Structuring of a project

Systèmes spatiaux — Management de programme —

Partie 1: Structuration d'un projet

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Foreword

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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).

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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.

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

This third edition cancels and replaces the second edition (ISO 14300-1:2011), which has been technically revised.

The main changes are as follows:

— update of normative references, related references in the text and related terms and definitions;

— update of the Bibliography;

— update of Annex A.

A list of all parts in the ISO 14300 series can be found on the ISO website.

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

Introduction

This document provides an overview and requirements of space programme management with the overall objective of optimizing performance, costs and schedules and of minimizing the risks.

Programme management is an integral element of any programme, but, in space, it is particularly important due to the following:

— specific environmental conditions in space;

— need for a high level of performance;

— limited number of models;

— limited access to the product during operations;

— quasi-impossibility of making repairs in the case of failure during flight;

— often high complexity of the organization;

— associated high costs involved.

The deployment of this standardized common set of programme management requirements encourages and facilitates international space co-operation.

NOTE The term programme is understood to be a group of several projects. Both “programme” and “project” can be used in the same context throughout this document.

The applicable requirements for product assurance are given in ISO 14300-2. Annex A gives the general ISO standards framework for space systems programme management.

This document is intended to be used as a basis when establishing and negotiating customer project management requirements and guiding the supplier's responses.

It allows:

— a clear definition of the roles, responsibilities and authorities of the different customers and suppliers;

— coherence between their activities;

— communication capability between them;

— stable and rigorous project organization;

— as far as possible, standardization of the rules applicable to various programmes/projects.

It still allows for supplier flexibility in its implementation and tailoring.

Space systems — Programme management —

Part 1:
Structuring of a project

1 Scope

This document specifies the space programme/project management requirements, applicable through a top-down approach in a contractual relationship between customers and suppliers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of 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 9000, *Quality management systems — Fundamentals and vocabulary*

ISO 10007, *Quality management — Guidelines for configuration management*

ISO 10795, *Space systems — Programme management and quality — Vocabulary*

ISO 11893, *Space systems — Programme management — Project organization*

ISO 14300-2, *Space systems — Programme management — Part 2: Product assurance*

ISO 16192, *Space systems — Experience gained in space projects (Lessons learned) — Principles and guidelines*

ISO 17666, *Space systems — Risk management*

ISO 21886, *Space systems — Configuration management*

ISO 21349, *Space systems — Project reviews*

ISO 21351, *Space systems — Functional and technical specifications*

ISO 23460, *Space projects — Programme management — Dependability assurance requirements*

ISO 27026, *Space systems — Programme management — Breakdown of project management structures*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000, ISO 10795 and the following apply.

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

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

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

3.1
project
unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including the constraints of time, cost and resources

3.2
programme
group of *projects* (3.1) managed in a coordinated way to obtain benefits not available from managing them individually

4 Abbreviated terms

CCB	configuration control board
CDR	critical design review
CI	configuration item
CM	configuration management
DF	design data file
EIDP	end item data package
FS	functional specification
ILS	integrated logistic support
IPR	intellectual property rights
LB	log book
LSA	logistic support analysis
PDR	preliminary design review
PSR	pre-shipment review
QR	qualification review
TS	technical specification
WBS	work breakdown structure
WPD	work package description
RAMS	reliability, availability, maintainability and safety

5 Project management specification and plan

5.1 General

The attainment of quality, including requirements to meet cost, schedule and technical performance throughout project execution is the overall goal of management.

Any company involved in a space project shall take into account the requirements stated in a quality management system standard, e.g. ISO 9001:2015.

When a level 0 customer (the first level in the contractual line issuing a contract) intends to make this document a condition of a contract, this customer shall include in the solicitation (request for proposal, invitation to tender, request for quotation, etc.) a dedicated project management specification for its application by lower-level customers and suppliers.

The application of the management requirements from the level 0 customer to the lowest level of suppliers in the contract chain shall be consistent with the criticality, complexity, and cost of the product to be supplied. Thus, suppliers of less critical products may seek to have fewer requirements. Nonetheless, the continuity and the coherence of the project requirements shall be maintained. Selection and tailoring of this document is needed at the customer level. Any adaptation of this document shall be based on specific objectives and constraints.

At a given level, the supplier shall adapt the management requirements contracted with their own customer to their own suppliers. The customer can consequently fulfil her or his own obligations towards the next higher level (see Figure 1).

The suppliers shall prepare a management plan to comply with the dedicated project management specification, received from their customer.

5.2 Project management specification

Depending on the nature of the project or the project phase, the project management specification shall be issued by the level 0 customer and may include additional requirements or, on the contrary, certain elements which may be deleted regarding this document.

The level 0 customer shall require this document, as tailored, and the appropriate selected clauses of ISO 14300-2, to be used by suppliers as the basis for developing their management plans.

Each supplier of a given level acts as a customer towards their own suppliers and shall specify the management requirements in the relevant contracts through a specific document or through the statement of work itself.

5.3 Project management plan

In response to this project management specification, each supplier concerned prepares a project management plan which contains descriptions of main activities, implementation methods and general procedures with respect to its organization.

Existing supplier policies, procedures and other management controls should be used, where appropriate, and should be made available to their direct customer.

The supplier is encouraged to tailor any specified requirement that may provide more effective scheduling or reduce costs without loss in conformity to the intent of the requirement. Such tailored requirements should be individually identified within the supplier's project management plan to facilitate review by the customer.

The project management plan shall be submitted to the customer for acceptance. The plan, as accepted by the customer, becomes the basis for determining conformity with the customer project management requirements.

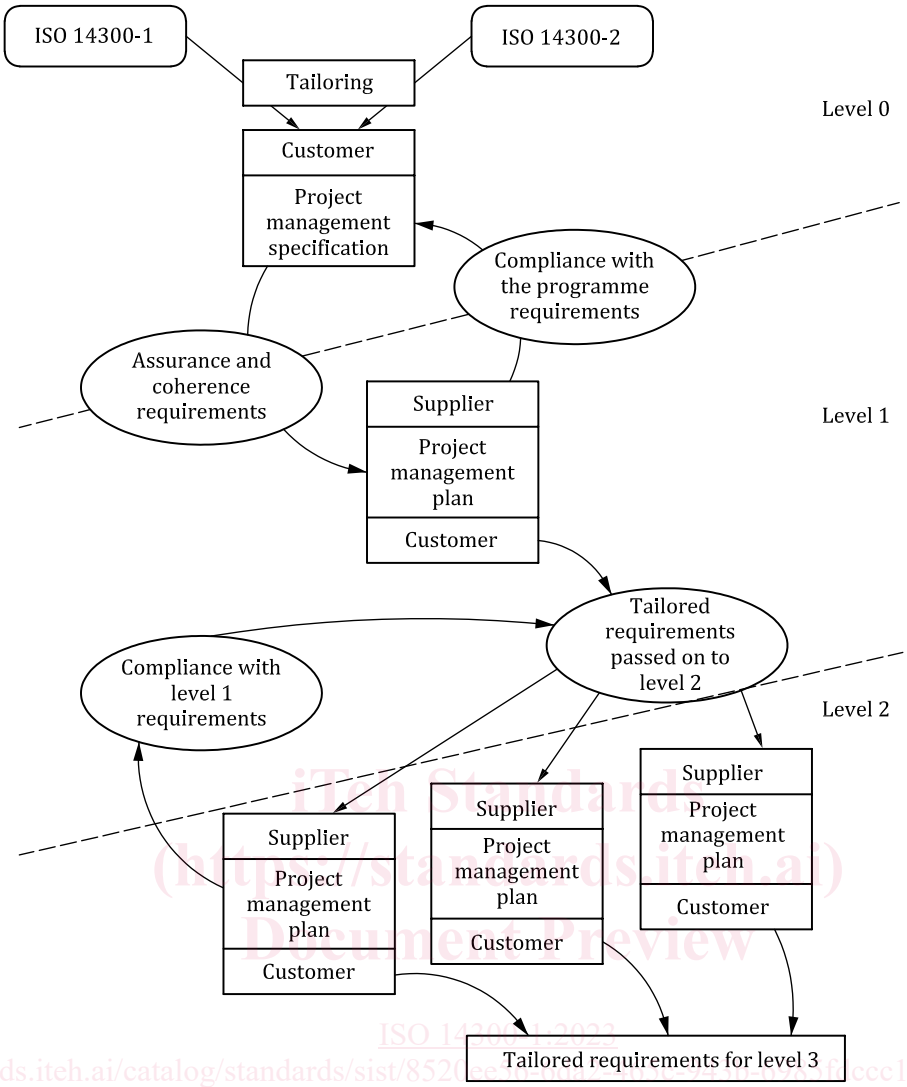

Figure 1 — Establishing project management rules

6 Work breakdown structure (WBS)

6.1 General

The project WBS is the reference system for project management data which:

— ensures the coherence between technical, documentary, administrative and financial activities of the whole project;

— identifies the responsibilities and authorities of each supplier.

The rules to be observed when producing, modifying and using the project WBS are specified in 6.2 to 6.5 and shall be in accordance with ISO 27026.