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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

FDIS stage

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Contents Page

Foreword 6
Introduction 7
1 Scope 1
2 Normative references 1
3 Terms and definitions 1
4 Abbreviated terms 2
5 Project management specification and plan 2
5.1 General 2
5.2 Project management specification 3
5.3 Project management plan 3
6 Work breakdown structure (WBS) 5
6.1 General 5
6.2 Objectives 5
6.3 Responsibility and authority for development 6
6.4 Rules for defining the WBS 6
6.4.1 Main aspects 6
6.4.2 Function tree 6
6.4.3 Product tree 7
6.4.4 Tasks 7
6.5 Management rules for changes 7
7 Project organization 8
7.1 General 8
7.2 Principles 8
7.3 Organizational requirements 8
7.3.1 General 8
7.3.2 Requirements 9
7.4 Information and communication 9
7.4.1 Information circuits 9
7.4.2 Communication requirements 9
7.4.3 Protection of information 10
7.4.4 Progress reports 10
7.4.5 Customer's prerogatives 10
7.4.6 Action items management 10
7.4.7 Technical and management indicators 11
8 Project phasing and planning 11
8.1 General 11
8.2 Project phasing 11
8.2.1 Principles 11

8.2.2 Mission analysis phase (phase 0 or pre-phase A) 12
8.2.3 Feasibility phase (phase A) 12
8.2.4 Definition phase (phase B) 13
8.2.5 Development (phase C) and production (phase D) phases 14
8.2.6 Utilization phase (phase E) 16
8.2.7 Disposal phase (phase F) 16
8.3 Product stages — Associated processes and documents 16
8.3.1 General 16
8.3.2 Functional stage 17
8.3.3 Specified stage 17
8.3.4 Designed stage 19
8.3.5 As-built stage 20
8.3.6 Use stage 20
9 Cost and schedule management 20
9.1 General 20
9.2 Cost management 21
9.2.1 Principles 21
9.2.2 Optimization 22
9.2.3 Cost estimates 22
9.2.4 Cost monitoring 22
9.3 Schedule management 23
9.3.1 Principles 23
9.3.2 Task sequencing 23
9.3.3 Deviation analysis — Trend analysis 23
9.4 Evaluation after completion 24
10 Configuration management 24
10.1 General 24
10.2 Configuration management planning 24
10.3 Configuration identification 25
10.3.1 Product tree and selection of configuration items 25
10.3.2 Documentation of configuration items 25
10.3.3 Establishment of configuration baselines 25
10.4 Configuration status accounting 25
10.5 Configuration control 25
10.5.1 General 25
10.5.2 Configuration baselines 25
10.5.3 Configuration control board 26
10.6 Change control 26
10.6.1 Change classification 26
10.6.2 Change approval 26

10.7 Configuration status controlling 26
10.8 Configuration audit 26
11 Integrated logistics support 27
11.1 Objectives 27
11.2 Scheduling aspects 27
11.3 ILS management 28
11.3.1 ILS integration into the project 28
11.3.2 Communication 28
11.3.3 Design, development and maintenance of support elements 28
11.3.4 Follow-up of the system in service 28
11.3.5 ILS organization 28
12 Documentation and information management 28
12.1 Objective 28
12.2 Application conditions 29
12.3 List of documents to be produced 29
12.4 List of applicable and reference documents 29
12.5 Master list of documents 29
12.6 Document identification 30
12.7 Drafting of documents 30
12.8 Document authorization 30
12.8.1 General rules 30
12.8.2 Submission phases 31
12.8.3 Document changes 31
12.9 Availability of documentation 31
12.9.1 General 31
12.9.2 Classification, filing and storage 31
12.9.3 Confidentiality 32
13 Risk management 32
13.1 General 32
13.2 Critical items control 35
14 Project closure 35
14.1 General 35
14.2 Scheduled project closure 35
14.3 Unscheduled closure of the project 36
Annex A (informative) Management framework for space systems standards 37
Bibliography 39

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.

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~~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

~~ISO 14300 consists of the following parts, under the general title *Space systems — Programme management:*~~

~~— *Part 1: Structuring of a project*~~

~~— *Part 2: Product assurance*~~

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.

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.

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

The applicable requirements for product assurance are given in ISO 14300-2. Annex AAnnex 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; and

— ——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~~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.

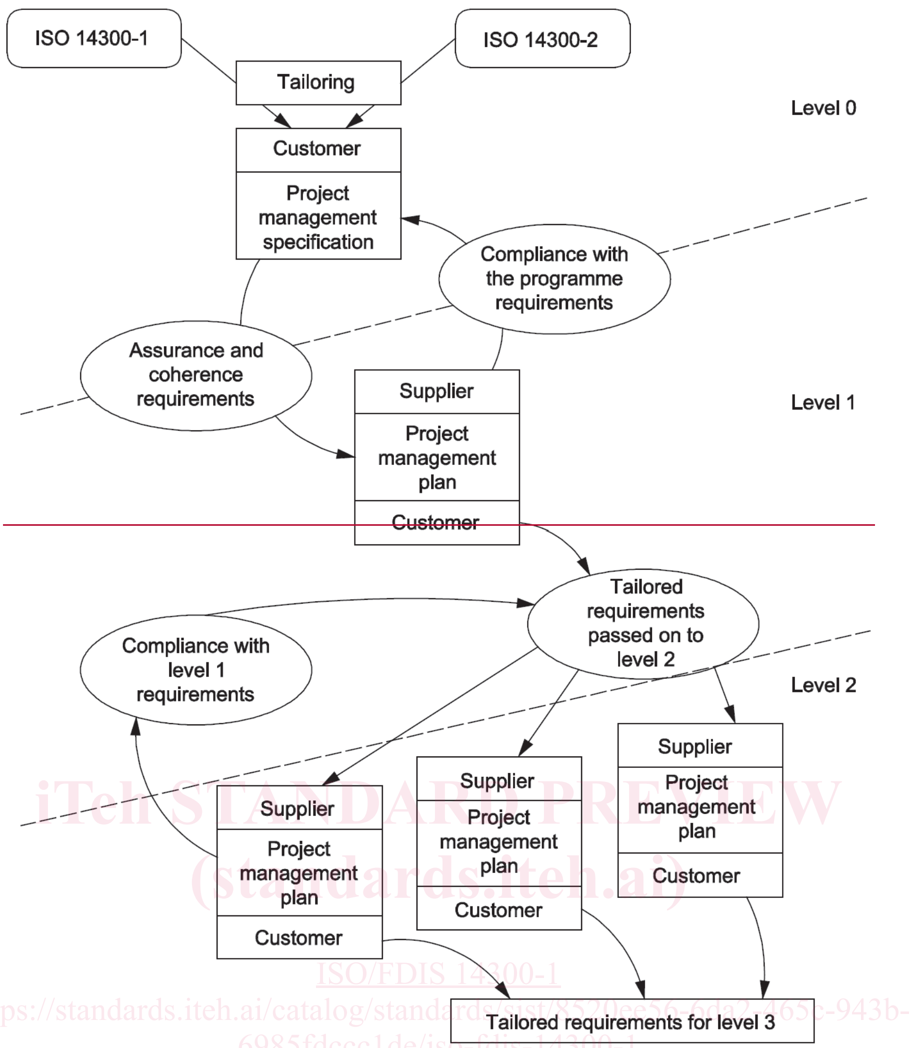
5.3 Project management plan

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.



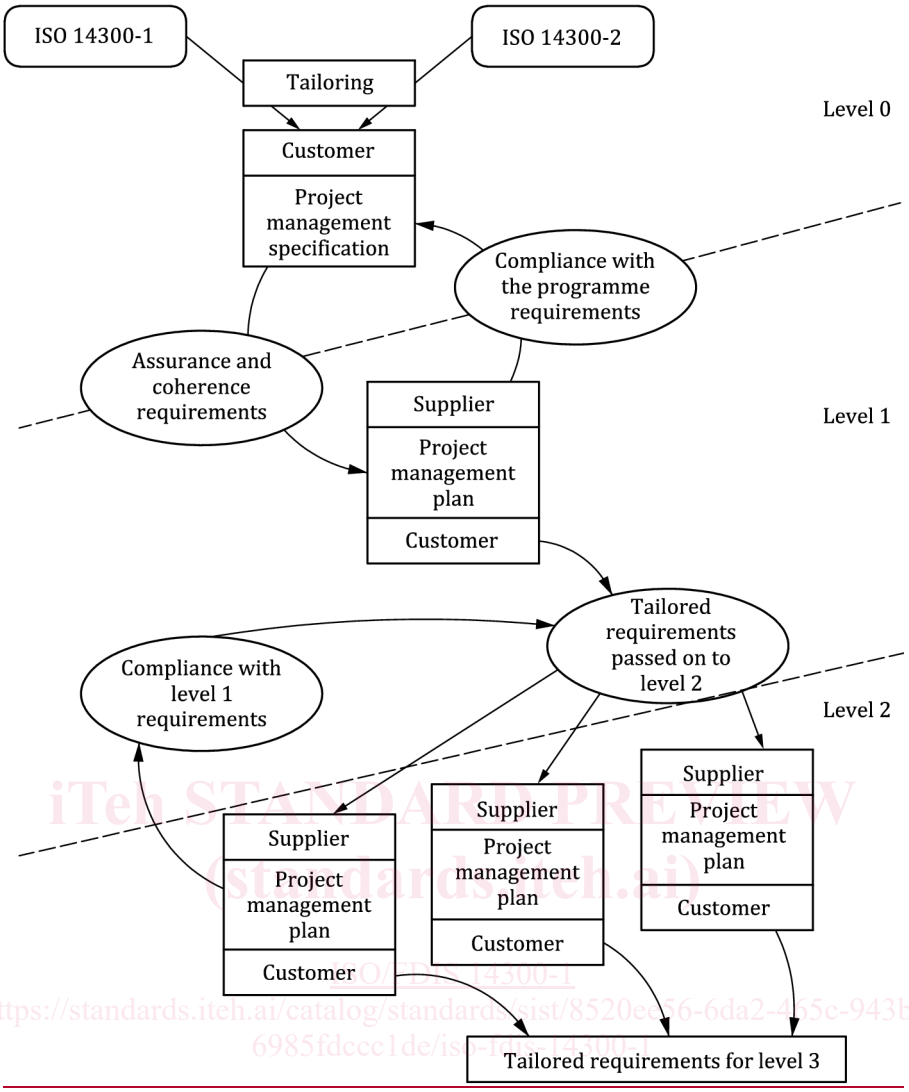


Figure 1 — Establishing project management rules

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~~subclauses 6.2~~ to 6.5~~6.5~~ and shall be in accordance with ISO 27026.

6.2 Objectives

The project WBS is the structured and comprehensive breakdown of the whole project. Based on the product tree (see 6.4.3~~6.4.3)~~) or the function tree (see 6.4.2~~6.4.2),~~), it identifies the tasks and principal resources required to complete products intended to satisfy the expressed requirements.