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Space systems — Programme management — Requirements management

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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 documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: http://www.iso.org/iso/home/standards_development/resources-for-technical-work/foreword.htm

The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

Introduction

There is consensus that successful aerospace programmes/projects depend on meeting the needs and requirements of the stakeholders/customers. When the requirements are for a complex system or for a system that may take many years to be developed, a formal Requirements Management (RM) process is mandatory and justified.

Requirements Management concerns the collection, analysis, and validation of requirements with all the communications and negotiations inherent in working with people.

This International Standard will help to clarify and enhance current practices to improve Programme Management. It is intended to be used by space programmes when establishing, performing, or evaluating Requirements Management processes in the space sector.

This International Standard describes Requirements Management functions and principles and defines a common Requirements Management terminology for use with any product line.

Requirements Management is an integral element of any programme, but, in space, it is particularly important due to

— specific environmental conditions in space,

— a need for a high level of performance,

— a limited number of models,

— limited access to the product during operations,

— quasi-impossibility of repairing in the case of failure during flight,

— often high complexity of the organization, and

— associated high costs.

The deployment of this standardized common set of Requirements Management is intended to encourage and facilitate international space cooperation.

Annex A of this International Standard gives the general template for a Requirements Management plan.

Space systems — Programme management — Requirements management

1 Scope

This International Standard presents the requirements for Requirements Management (RM) for space projects.

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

The objective of this International Standard is to state and establish a common reference framework for all the customers and suppliers in the space sector to deploy Requirements Management for all space products and projects.

This International Standard on Requirements Management includes

— a definition of the Requirements Management scope for the space sector,

— the standard processes for Requirements Management within the product lifecycle management, and

— a set of rules for Requirements Management activities to be implemented by the actors (customers and suppliers), including rules derived from best practices.

The primary target audience for this International Standard includes

— the Requirements Management/Systems Engineering process owners of the customers and suppliers,

— the Programme/Project Managers managing the space programmes, and

— the Chief Engineers and the Quality Managers.

The term programme is understood as a group of several projects. Both “programme” and “project” may be used in the same context throughout this International Standard.

ISO 21351 defines the requirements for the format and the content of the functional and technical specifications.

In addition, it allows customer/supplier flexibility in its implementation and tailoring.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9000:2005, *Quality management systems — Fundamentals and vocabulary*

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

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

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

ISO/IEC/IEEE 29148 —*Systems and software engineering — Life cycle processes — Requirements engineering*