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Space systems — Programme management — Risk management

Systèmes spatiaux — Management de programme — Management des risques

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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 17666:2016), which has been technically revised.

The main changes are as follows:

— updated the normative references in Clause 2;

— updated the terms and definitions references in Clause 3 and deleted Clause 4 for abbreviated terms;

— included Annex C on the risk areas in space systems programmes.

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Risks are a threat to the project success because they have negative effects on the project cost, schedule and technical performance; but appropriate practices of controlling risks can present new opportunities with positive impact.

The objective of project risk management is to identify, assess, reduce, accept, and control space project risks in a systematic, proactive, comprehensive, and cost-effective manner, taking into account the project's technical and programmatic constraints. Risk is considered tradable against the conventional known project resources within the management, programmatic (e.g. cost, schedule) and technical (e.g. mass, power, dependability, safety) domains. The overall risk management in a project is an iterative process throughout the project life cycle, with iterations being determined by the project progress through the different project phases, and by changes to a given project baseline influencing project resources.

Risk management is implemented at each level of the customer-supplier network.

The risk management process requires information exchange among all project domains and provides visibility over risks, with a ranking according to their criticality for the project; these risks are monitored and controlled according to the rules defined for the domains to which they belong.

When viewed from the perspective of a specific programme or project context, the requirements defined in this document are tailored to match the genuine requirements of a particular profile and circumstances of a programme or project. The implementation of this document can be tailored to project-specific conditions.

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

Known project practices for dealing with project risks, such as system and engineering analyses, analyses of safety, critical items, dependability, critical path, and cost, are an integral part of project risk management. Ranking of risks according to their criticality for the project success, allowing management attention to be directed to the essential issues, is a major objective of risk management.

The project actors agree on the extent of the risk management to be implemented into a given project depending on the project definition and characterization.

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