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# Space systems — Product assurance requirements for commercial satellites

*Systèmes spatiaux — Exigences en matière d'assurance produit des satellites commerciaux*

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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.

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 (see www.iso.org/directives).

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For an explanation on 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 the following URL: 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*.

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# Introduction

This document is useful to provide the product assurance (PA) activities from the standpoint of commercial business on each phase of the project such as design, procurement, manufacturing, assembly, integration, test, and at launch site. These product assurance requirements are requested by customers for accomplishing the mission successfully and will lead to customer satisfaction.

Commercial satellites are designed, manufactured, assembled, integrated, tested and launched in compliance with these PA requirements, which are applicable to prime contractor, subcontractors and suppliers. The responsibility of the prime contractor is to allocate these requirements to subcontractors and suppliers, and to ensure their implementation.

The prime objective of PA is to ensure that commercial satellites accomplish their defined mission objectives and more specifically, that they are safe and reliable.

A further objective is to achieve more cost-effective space projects and thereby to promote competitiveness by coordinating the development and implementation of appropriate PA methods and standards.

PA requirements defined in this document have been established to prevent potential problems and applicable to all phases of project up to launch of commercial satellite. PA programs also ensure that hardware and software of ground support equipment are also safe, reliable and do not degrade the flight hardware in any way.

The intent of this document is to clarify the best practices and typical requirements dealing with product assurance activities in commercial business, prevent recurrence of problem and realize quality improvement especially for customers having less experience.

The requirements described in this document are created by comparing and mixing experience and practical management methodologies used by main actors of aerospace industry in the world. The framework of PA policy and principles are based on ISO 14300-2, ISO 27025, ISO 14620-1, ISO 23460, ISO 10794 and ISO 14621-2 and unified as one PA process. Detailed requirements of product assurance (PA), quality assurance (QA), dependability, EEE parts, material, mechanical parts and processes, software product assurance and ground support equipment are selected from relevant proven standards.

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