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Aircraft and space — Industrial data — Product identification and traceability

*Aéronautique et espace — Données industrielles — Identification des
produits et traçabilité*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21849 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*.

This first edition of ISO 21849 cancels and replaces ISO/TS 21849:2003, which has been technically revised.

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Introduction

The accuracy of data collected and exchanged by trading partners can be improved by using automatic identification technologies in lieu of manual key entry. Automatic identification technologies include matrix symbologies, linear bar code and radio frequency identification (RFID) tags.

Employment of automatic identification technology provides an accurate, timely and efficient method of data entry and facilitates data transfer and storage for computerized information management systems.

This International Standard defines and establishes a repeatable process and data structure for product identification and traceability that supports life cycle management of a product regardless of ownership and configuration changes. Use of the product identification and traceability guidelines described in this International Standard will enable repeatable processes for error free data entry, part tracking, dispatch, inventory, maintenance, import/export, detection of unapproved parts and repairs. Most importantly, a repeatable process and data structure will allow industry partners to share data efficiently. The macro-processes of product data management, asset management, configuration management, reliability and maintenance management, and product performance management will be the direct beneficiaries of the product identification and traceability schema defined in this International Standard.

Establishment of a common set of data and well-defined definitions and formats for product identification and traceability provides the base on which to build specific requirements for the exchange of product life cycle information. The specific requirements that the product identification and traceability schema defined in this International Standard fulfils are as follows:

- to provide a unique, permanent identification for the life of the product;
- to provide a schema which meets engineering, operational, and logistics identification and traceability needs;
- to use machine-readable media to obtain accurate and timely data;
- to provide a schema which is independent of marking, symbology and recording media technology; and
- to provide a structure which allows data to be exchanged without the use of data mappers (cross-reference/translation tables), throughout an enterprise and with trading partners, while taking advantage of the World Wide Web.

The focus of this International Standard is industrial products within the aircraft and space sectors. Industrial products have a life cycle measured in years, normally are repairable, often are upgraded to a new configuration, and change of ownership over their life cycle is commonplace. Normally industrial products are not sold in the retail marketplace.

The decision to use automated identification processes should be a cooperative effort by trading partners within an industry and between industries to achieve more timely data input, data accuracy and the achievement of increased productivity while concurrently decreasing costs.