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INTERNATIONAL STANDARD

colour inside

Maritime navigation and radiocommunication equipment and systems – Data interfaces – Part 1: S-421 route plan based on S-100

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FOREWORD

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IEC 63173-1 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems. It is an International Standard.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
80/997/FDIS	80/1000/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 63173 series, published under the general title *Maritime navigation and radiocommunication equipment and systems – Data interfaces*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The voyage plan is a key element of a vessel's voyage and can be used to optimize safety and processes, as well as for the interaction of participants and stakeholders.

The core element of the voyage plan is the route.

The exchange of routes (whether it be between ship-to-ship, ship-to-shore or shore-to-shore) may improve

– situational awareness,
– reduction in the number of accidents and incidents (by proactively de-conflicting routes),
– resource utilization by knowing the intentions of other actors,
– secured passages by knowing the intentions of other actors,
– predictability of arrivals and departures by early information sharing,
– planning for involved actors leading to reduced idle time for resources, and
– just-in-time operations by enabling stakeholders and service providers to be efficiently organized for handling vessel movements, port resources, and hinterland connections.

This document has been registered with the IHO S-100 registry as product specification S-421. A S-100 product specification is a description of the features, attributes and relationships of an application and their mapping to a dataset. It is a complete description of all the elements required to define a particular geographic data product.

IHO S-97 describes readiness levels of product specifications to show a progression from an idea to regular use. S-421 is currently at the initial level 1 pending demonstration in a real-world environment.

S-100 uses camelCase for naming. CamelCase names are made up of words joined together without spaces and capitalised within the compound using a limited set of English letters. Feature and information types begin with uppercase A-Z and attributes and values begin with lowercase a-z.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – DATA INTERFACES –

Part 1: S-421 route plan based on S-100

1 Scope

This part of IEC 63173 specifies an S-100 compliant product specification for route plan intended for exchange of information. It specifies the content, structure, and metadata needed for creating fully S-100 compliant route plan information and its portrayal within an S-100-based application. The IHO manages all numbers for S-100 compliant product specifications and has assigned S-421 for this route plan IEC standard.

This document specifies only a data format for the route plan exchange. This document does not specify a data format of vessel monitoring and logging information. This information can be provided by other mechanisms or be specified in other standards.

The format of the route plan exchange includes some limited vessel static information. When more static information is required, it can be obtained by other methods such as AIS.

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.

S-100:2018, *IHO Universal Hydrographic Data Model* (edition 4.0.0)

3 Terms and definitions

For the purposes of this document, the following terms, definitions and abbreviated terms apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
active route
route which is currently monitored for the voyage which may contain the schedule information

3.2
actor
human or machine that takes part in the route plan exchange process

3.3
feature
abstraction of real-world phenomena

Note 1 to entry: A feature may occur as a type or an instance. A feature type or a feature instance should be used when only one is meant as described in S-100.