



BSI Standards Publication

Navigation tools for smart manufacturing

National foreword

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

NAVIGATION TOOLS FOR SMART MANUFACTURING

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The language used for the development of this Systems Reference Deliverable 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.

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- withdrawn,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

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INTRODUCTION

This document aims to describe external requirements in terms of navigation tools for smart manufacturing to assist the development of manufacturing systems and international standards through linking reference models, use cases, architecture, and standards. Some of the requirements mentioned in this document (including annexes) refers to additional IEC internal IT support.

With this motivation, this document contains the following clauses; Clause 5 describes an outline of the navigation tool for smart manufacturing. Clause 6 presents a view of relationships between the navigation tool and related IT resources in IEC. And Clause 7 defines external requirements. Besides, annexes show a practical example of an IT tool having similar characteristics to the navigation tool, prior works as IT tools developed in IEC, an example of a practical development scheme of IT tool in IEC, and an outline of a potential development scheme for the navigation tool through a comparative analysis with the Mapping Platform.

NAVIGATION TOOLS FOR SMART MANUFACTURING

1 Scope

This document describes requirements in terms of navigation tools for smart manufacturing.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

3.1

aspect

labelled designation for a collection of concepts in a particular context

[SOURCE: IEC 63339:–, 3.1.1, modified – The example and notes to entry have been omitted.]

3.2

business

series of processes, each having a clearly understood purpose, involving more than one person, realised through the exchange of information and directed towards some mutually agreed upon goal, extending over a period of time

[SOURCE: ISO/IEC 15944-20:2015, 2.2]

3.3

concern

matter of relevance or importance to a *stakeholder* (3.10) regarding a manufacturing system or element thereof

[SOURCE: ISO/IEC/IEEE 42010:2022, 3.10, modified – In the definition, "regarding a manufacturing system element thereof" has been added.]

3.4

dimension

coherent collection of *aspects* (3.1) relevant to a *manufacturing domain* (3.7)

[SOURCE: IEC 63339:–, 3.1.7, modified – Note 1 to entry has been omitted.]