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Navigation tools for smart manufacturing

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CONTENTS

FOREWORD..... 4

INTRODUCTION..... 6

1 Scope..... 7

2 Normative references 7

3 Terms and definitions 7

4 Abbreviated terms 8

5 Navigation tool 9

 5.1 Objective 9

 5.2 Definition 9

 5.3 Expected value 9

 5.4 Related information..... 9

6 Relationships among related activities developing IT tools in IEC 9

 6.1 General..... 9

 6.2 Categorization of functionalities 10

7 Requirements for navigation tools..... 10

Annex A (informative) Unified Reference Model – Map and Methodology (URM-MM) 13

 A.1 Background..... 13

 A.2 Overview..... 13

 A.3 Usage 14

 A.4 Practical use case..... 14

 A.5 Illustration of relevant international standards mapping..... 18

Annex B (informative) Smart Grid Standards Map 21

 B.1 Overview..... 21

 B.2 Usage 22

Annex C (informative) Examples of maps developed using the Mapping Platform 23

 C.1 Overview..... 23

 C.2 IEC 61850..... 23

 C.3 Cybersecurity publications inventory 24

 C.4 TC 5 standard inventory 25

 C.5 Smart grid map 26

Annex D (informative) Example of practical development scheme of IT tool 27

 D.1 General..... 27

 D.2 Discussion on digital transformation at IEC 27

 D.3 Mapping Platform supporting the development of mapping tools 28

 D.3.1 General 28

 D.3.2 Technology overview 29

 D.3.3 Project overview 30

Annex E (informative) Investigation of requirements of IT platforms 32

 E.1 Two development phases of an IT tool..... 32

 E.2 Analysis between navigation tools and applications based on the Mapping Platform 32

 E.3 Functionality required in the IT platform for the navigation tools..... 33

 E.4 Responsibility 34

Bibliography..... 35

Figure 1 – Example of an assumed IEC service system configuration	10
Figure A.1 – Unified Reference Model – Map and Methodology (URM-MM).....	13
Figure A.2 – Diagram of Canvas of an example production system with dynamic optimization	15
Figure A.3 – Diagram of Use-case of an example production system with dynamic optimization	15
Figure A.4 – Diagram of Function of an example production system with dynamic optimization	16
Figure A.5 – Diagram of Data of an example production system with dynamic optimization (first half)	17
Figure A.6 – Diagram of Data of an example production system with dynamic optimization (second half)	18
Figure A.7 – Example of "Canvas" mapping of relevant International Standards.....	19
Figure A.8 – Example of "Data" mapping of relevant International Standards	20
Figure B.1 – Architecture view of Smart Grid Standards Map	22
Figure C.1 – Collection of released maps as developed using the Mapping Platform.....	23
Figure C.2 – Draft IEC 61850 map	24
Figure C.3 – Draft ACSEC map.....	25
Figure C.4 – Draft TC 5 standards inventory	26
Figure C.5 – Smart grid map	26
Figure D.1 – The SMB Ad-Hoc Groups (as of 2020-10-21).....	27
Figure D.2 – Organization of SG 12 recommended by IEC 36 [2]	28
Figure D.3 – Examples of visual representations of objects.....	29
Figure D.4 – Example of use of objects and links	30
Figure D.5 – Example of the use of a tab and its elements.....	30
Figure D.6 – Management structure of masterplan implementation plans	31
Figure E.1 – Hypothesis of relationship between the Mapping Platform and activities in SyCs.....	33
Table 1 – Functional requirements of navigation tools.....	11
Table 2 – Non-functional requirements of navigation tools	11
Table 3 – Expectations for interfaces between navigation tools and domain-neutral functionalities	12
Table D.1 – Timeline of the Mapping Platform project.....	31
Table E.1 – Comparison result between navigation tools [NT] and applications based on the Mapping Platform [MP].....	32
Table E.2 – Mapping Platform analysis results for navigation tool implementation.....	33
Table E.3 – Analysis of responsible committees for software components during four phases.....	34

INTERNATIONAL ELECTROTECHNICAL COMMISSION

NAVIGATION TOOLS FOR SMART MANUFACTURING

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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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- 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 15904-2:2015, 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.]