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Automation systems and integration — Assessment on convergence of informatization and industrialization for industrial enterprises —

Part 2: Maturity model and evaluation methodology

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Systèmes d'automatisation et d'intégration — Évaluation de la convergence de l'informatisation et de l'industrialisation pour les entreprises industrielles —

Partie 2: Modèle de maturité et méthodologie d'évaluation

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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 of 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 www.iso.org/iso/foreword.html.

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This document was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 05, *Interoperability, integration, and architectures for enterprise systems and automation applications*.

A list of all parts in the ISO 22549 series can be found on the ISO website.

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Introduction

Convergence of informatization and industrialization (CII) refers to a process that integrates information technology into industrial production. The purpose of convergence is to improve productivity and resource allocation by digital transformation.

This improvement consists of:

— increasing the integration of production and resource allocation (internally and with each other);

— making production and resource allocation more dynamic and responsive to external changes;

— optimizing production and resource allocation.

The purposes of this document include is to provide industrial enterprises guidance for:

— assessing the current situation of CII

— finding weakness within the CII

— identifying ways to improve CII

The intended users of this document can be grouped into the following categories:

— independent third-party, e.g. a consulting company or government department, that assesses the maturity of CII;

— organization in charge of production management department, quality management department, inventory management department, etc., which sponsors an assessment of itself or a subordinate organization;

— any other enterprises who have interest in digital transformation.

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Automation systems and integration — Assessment on convergence of informatization and industrialization for industrial enterprises —

Part 2:
Maturity model and evaluation methodology

1 Scope

This document defines the maturity model and the evaluation methodology on convergence of informatization and industrialization in industrial enterprises. The scope of this document includes the following:

— maturity model definition;

— principles of evaluation questionnaires; and

— guidance for a maturity evaluation method.

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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.

ISO 22549-1, *Automation systems and integration — Assessment on convergence of informatization and industrialization for industrial enterprises — Part 1: Framework and reference model*

ISO 22549-2:2020
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3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22549-1 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
maturity model
set of information that indicate the maturity of CII, its descriptive name and characteristics

3.2
maturity level indicator
maturity level
identified extent of measured effect within the *maturity model* (3.1)

Note 1 to entry: The extent of measured effect is divided into segments, referred to as levels, of increasing competence to achieve enterprise objectives.

3.3
evaluation questionnaire
list of questions used to evaluate and determine the *maturity level* (3.2)

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