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Industrial automation systems and integration — Standardized procedures for production systems engineering

Part 1: Overview

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National foreword

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Part 1: **Overview**

Systèmes d'automatisation industrielle et intégration — Procédures normalisées pour l'ingénierie des systèmes de production —

Partie 1: Aperçu général

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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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.

This document was prepared by Technical Committee ISO/TC 184, *Automation systems and integration,* Subcommittee SC 4, *Industrial data.*

A list of all parts in the ISO 18828 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The ISO 18828 series addresses standardized procedures for production systems engineering. A production planner can be a major beneficiary of a framework which approaches aspects such as production processes, information flows, key performance indicators (KPIs) and manufacturing changes. The composition of the ISO 18828 series at the time of publication is illustrated in Figure 1.

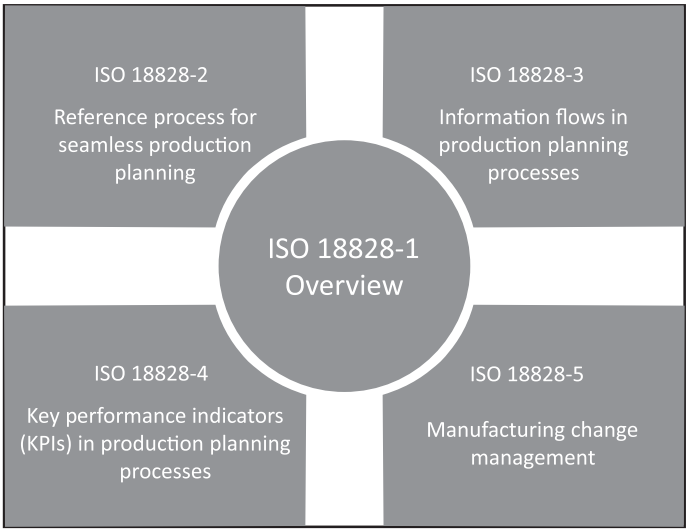


Figure 1 — Composition of the ISO 18828 series

Each part of the ISO 18828 series stands as a single document and can be understood in the context of its content without the other parts. However, ISO 18828-2, ISO 18828-3 and ISO 18828-4 are closely linked and there is added value in implementing them together. Annex A illustrates the domain and life-cycle context of the ISO 18828 series.

Figure 2 shows possible links and relations in between each part of ISO 18828 and their basic information flows. The overall recipient of all ISO 18828 activities is given within the standardized procedures for production systems engineers. Planning process information is the main outcome for production systems engineers derived from ISO 18828-2. However, planning process information can be seen as input to information flows (ISO 18828-3) and KPIs (ISO 18828-4) respectively. Data flows derive from information flows (ISO 18828-3) and statistical data from KPIs (ISO 18828-4). Both planning process information and statistical data can influence manufacturing change processes and they are input to manufacturing change (ISO 18828-5). From there, change process information is provided to the production system engineer in return.

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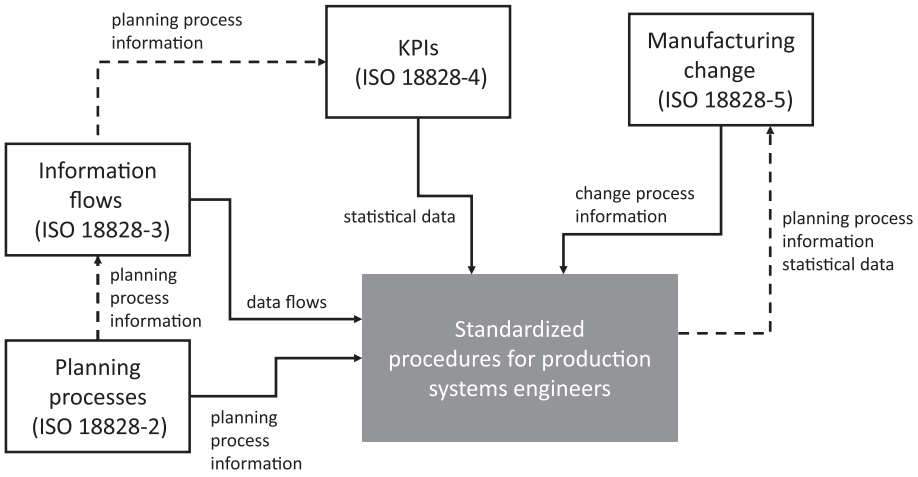


Figure 2 — Interrelations between the different parts of the ISO 18828 series

This document provides an overview of the ISO 18828 series:

— Clause 4 provides an overview of each part of the ISO 18828 series individually;

— Clause 5 describes the interrelations between the various parts of the ISO 18828 series and industrial use cases are used to explain the generic appliance of the standardized parts: ISO 18828-2, ISO 18828-3 and ISO 18828-4 are interrelated, whereas ISO 18828-5 provides details on the manufacturing change process that can be understood not only within the scope of work of production systems engineers, but also with respect to changes within whole production systems.

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TECHNICAL REPORT **ISO/TR 18828-1:2018**

Industrial automation systems and integration — Standardized procedures for production systems engineering — Overview —

Part 1: Overview

1 Scope

This document describes the framework of the ISO 18828 series in seamless production planning.

The following are within the scope of this document:

— general overview of the framework of the ISO 18828 series:

— quintessential description of each part;

— inter-relational aspects and appliance of the framework.

The following are outside the scope of this document:

— detailed process descriptions;

— detailed data flows;

— detailed KPIs;

— detailed data models;

— in-depth discussion of the parts of the ISO 18828 series.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 18828-2, *Industrial automation systems and integration — Standardized procedures for production systems engineering — Part 2: Reference process for seamless production planning*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO 18828-2 apply.

4 Overview and context of the individual parts of the ISO 18828 series

4.1 Overview of ISO 18828-2

ISO 18828-2 describes a reference planning process intended to establish a consistent understanding of production planning processes in the life-cycle stage of production preparation. This reference planning process is embedded between the product design process and the production process.

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