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GB/T 43201.2-2023

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

工业自动化系统与集成 生产系统工程的标准化程序 第2部分：无缝衔接生产计划的参考过程

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 2 of GB/T 43201 "Standardized Procedures for Industrial Automation Systems and Integrated Production System Engineering". GB/T 43201 "Standardized Procedures for Industrial Automation Systems and Integrated Production System Engineering" has released the following parts.

2. Reference process for seamlessly connecting production plans;

3. Information flow in the production planning process;

4. Key performance indicators in the production planning process;

5. Manufacturing Change Management. This document is equivalent to ISO 18828-2:2016 "Standardized Procedures for Industrial Automation Systems and Integrated Production Systems Engineering Part 2" Part. A reference process for seamlessly connecting production plans. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by China Machinery Industry Federation. This document is under the jurisdiction of the National Automation System and Integration Standardization Technical Committee (SAC/TC159). This document was drafted by: China Institute of Standardization, Zhejiang University, Anhui Huapu Productivity Promotion Center Co., Ltd., Zhichang Technology Group Co., Ltd., Guangdong Huibo Robot Technology Co., Ltd., Hangzhou Xindi Digital Engineering System Co., Ltd., Foshan Shunde District Kaishuoqing Mi Mold Automation Technology Co., Ltd., Zhejiang Aike Technology Co., Ltd., Guangdong

Xintailong Environmental Protection Group Co., Ltd., Dongguan Guangzheng Mold Plastic Co., Ltd., Hunan Xianbu Information Co., Ltd., Guangdong Xintai Automation Equipment Co., Ltd., Zhongshan Huaxi Electronic Technology Co., Ltd., Jiangsu Jinwei Machinery Equipment Co., Ltd., Kunshan Baiao Intelligent Equipment Co., Ltd., Beijing Zhiyuan Chuangtong Information Technology Co., Ltd. Company, Linyi Lingong Intelligent Information Technology Co., Ltd., Ningbo Zhixun Lianke Technology Co., Ltd., Zhengzhou Nissan Motor Co., Ltd., Huasheng Intelligent Automation Equipment Co., Ltd., Shanghai Meijialin Software Technology Co., Ltd., Zhuzhou Jiacheng Technology Development Co., Ltd. The main drafters of this document. Gu Fu, Liu Shouhua, Tao Yinghai, Gan Zhongzhong, Jiang Zhenyu, Xie Chuanhai, Fang Yunke, Xin Yongguang, Zhang Buyue, Peng Wei, Gu Xinjian, Hu Yanliang, Huang Jiangcai, Yang Chao, Chen Bin, Xiao Chaopeng, Dai Feng, Ma Xingqing, Chen Fenghua, Yang Qinghai, Ma Lianqin, Wang Junshi, Jin Yonghua, Feng Haoran, Zhang Shufang, Hu Haiyan, Chen Yifei, Li Zhou, Yang Jie, Zhu Yiwu, Wang Zhiqiang, Hong Yan, Yue Gaofeng, Xu Kaicheng, Yin Shurui.

GB/T 43201 "Standardized Procedures for Industrial Automation Systems and Integrated Production System Engineering" aims to provide a standard for production system engineering. a standardized procedure. GB/T 43201 defines a framework involving production processes, information flow, key performance indicators and manufacturing changes. shelf. GB/T 43201 is intended to consist of the following five parts.

1.Overview. The purpose is to give the overall framework of the standardized procedure of production system engineering, and at the same time introduce the various parts. relationship between.

2.Reference process for seamlessly connecting production plans. The purpose is to provide a reference planning process aimed at establishing an understanding of production Prepare a consistent understanding of the production planning process for life cycle stages. This reference planning process is embedded in the product design process and between production processes.

3.Information flow in the production planning process. The purpose is to give the main flow of information in production planning. These information flows Derived from process steps identified in the relevant context of the reference planning process. Information flow originates from the reference planning process. they represent provides an information-oriented view of the overall planning process, taking into account both planning areas and planning phases. The process interface includes The process stages include conceptual plan, outline plan and detailed plan.

4.Key performance indicators in the production planning process. The purpose is to provide key performance indicators during the production planning phase Target usage. The key performance indicators described in this section mainly relate to the performance tracking of the planning process of the engineering production system. Its purpose is to improve quality monitoring during standardized production processes.

5. Manufacturing Change Management. The purpose is to present the manufacturing change process and its management. In practice, manufacturing and assembling products The required production system will also undergo many different changes. Some of them are designed specifically to improve the efficiency of production systems planned and implemented. The process model of manufacturing change management is the main content of this part. This document is part 2 of GB/T 43201 "Standardized Procedures for Industrial Automation Systems and Integrated Production System Engineering" and can be used separately Used or combined with other parts. This document describes a reference planning process intended to develop a consistent understanding of the production planning process for the production preparation life cycle phases. solution to solve the integration problem between the design and manufacturing stages (see Figure 1). The main application area of the reference planning process is production system planning. planning, such as make-to-stock or assemble-to-order production. Research in manufacturing clearly demonstrates the need to leverage digital planning tools to manage product and process complexity to cope with ongoing costs. Benefit and time pressure situations have become increasingly common. Many different IT tools are being used in current production planning. Most of these tools are used independent solutions for specific instances. Isolated applications among IT tools hinder the continued development of system consistency, and the heterogeneity of IT systems Incompatibilities and incompatibilities hinder the development of initiatives across multiple phases and domains. The lack of a clear structure at each stage will lead to inefficient, overdue plans. Many problems arise, such as process redundancy, complicated work, conversion failure, and incomplete information. Also, comparison of program results and different program areas It will be more difficult to transfer information between places. It can be seen that, despite the large number of IT tools and literature on various processes in specific production areas, description of the process, but there is currently a clear lack of common standards. Note

1. For more information, see References. The reference planning process described in this document is shown in Figure

1. It lies between the product design process and the production process. Figure 1 describes the product The sequence of stages in the product life cycle begins with the concept stage, then product design, until the starting point of manufacturing. It emphasizes that the production plan has been referenced The importance of process as a link between product design and manufacturing itself. Appendix B gives a detailed visual planning process. Figure

1 Scope

GB/T 43201.2-2023 is Part 2 of the Chinese series on standardised procedures for production systems engineering, and gives the reference process for seamless production planning. It is the frame the other parts hang on: a model of the planning process as a set

of activities with defined inputs, outputs and dependencies, so that a company can say where in the process it is, what should already exist and what it is producing for whom. The value of a reference model is that it is not anyone's actual process and therefore can be compared against everyone's. The standard sets the reference model for the production planning process, with informative annexes on the production planning areas and on the object-process relationship diagram. It took effect on 1 April 2024.

This document describes the reference planning process for seamless production planning.

Note. In this document, "seamless" refers to considering multiple programs (related program areas) simultaneously during the product life cycle, as shown in Figure 1 and Figure B.1. The scope of the reference processes discussed focuses on the planning of production systems, such as make-to-stock or assemble-to-order production. Live with the process Activity analysis is limited to activities within the production plan. The scope of this document includes the following.

- Refer to the general overview of the planning process;
- Basic principles of process models;
- Description of each level determined during the reference planning process of production planning;
- The structure and relationships of activities within each program area;
- Relationships between cross-domain activities. The scope of this document does not include the following.
 - Material requirements planning/manufacturing resource planning;
 - Production order control;
 - production process;
 - Early stages of product design;
 - Order management, inventory management, procurement, transportation, warehousing;
 - Production facility planning/manufacturing facility planning (physical plant and equipment), including any kind not directly related to the manufacturing process resource;
 - Value chain (warehousing, operations management, outbound delivery, marketing and sales);

2 Normative reference documents

This document has no normative references.