

ICS 25.040.40

CCS N10



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 43201.3-2023

**Industrial automation systems and integration - Standardized
procedures for production systems engineering - Part 3:
Information flows in production planning processes**

工业自动化系统与集成 生产系统工程的标准化程序 第3部分：生产计划过程中的
信息流

Issued on: September 7, 2023

Implemented on: April 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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 3 of GB/T 43201 "Standardized Procedures for Industrial Automation Systems and Integrated Production System Engineering". GB/T 43201 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 18828-3.2017 "Standardized Procedures for Industrial Automation Systems and Integrated Production System Engineering Part 3" Part. Information flow in the production planning process. 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, Guangdong Boshuo Painting Technology Co., Ltd., Harbin Yulong Automation Co., Ltd., Ji Nanjin Weike Technology Development Co., Ltd., Nanjing Panda Electronic Equipment Co., Ltd., Shenzhen Lihexing Co., Ltd., CRRC Zhuzhou Electric Power Locomotive Co., Ltd., Zhejiang Ruisheng Intelligent Technology Co., Ltd., Ningxia Xiaoni Automation Equipment Co., Ltd., Zhejiang Juchuang Intelligent Technology Co., Ltd. Co., Ltd., Shenzhen Tengsheng Precision Equipment Co., Ltd., Nanya New Material Technology Co., Ltd., Ningbo Baogong Electric Co., Ltd. Division, Anhui Huangshan Hengjiu Chain Transmission Co., Ltd., Jinan Yifei Automation Technology Co., Ltd., Juli Automation Equipment (Zhejiang) Co., Ltd., Shan Dongtaizhan Mechanical and Electrical Technology Co., Ltd., Jiaozuo Maike Metallurgical Machinery Co., Ltd., Weihai Marine Vocational College, Zhejiang Deyuan Intelligent Technology Co., Ltd., Hebei Bokelai Intelligent Equipment Technology Co., Ltd., Guangdong Xinguang Intelligent System Co., Ltd., Jiangsu Chenguang CNC Machine BED LIMITED. The main drafters of this document. Wang Zhiqiang, Hu Song, Jiang Xifeng, Zhao Jinxiao, Zhang Zhi, Yuan Fan, Xu Haixia, Li Hongyu, He Xingxing, Wu Guichu, Wang Peiwen, Ding Yi, Xie Jinping, Wang Xiaoni, Zhang Sai, Lu Guoyi, Cheng Weiguo, Zhang Riping, Jiang Xueli, Li Yinta, Gui Yudong, Wang Chao, Du Renjie, Chen Chong, Jiang Junfeng, Hong Yan, Yue Gaofeng, Liu Shouhua, Xu Kaicheng, Yin Shurui, Gao Liang, Wen Na.

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. This part stipulates the overall framework of the standardized procedures for production system engineering and introduces the differences between each part. relationship between.

2.Reference process for seamlessly connecting production plans. This section specifies a

reference planning process designed to establish 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. This section specifies the main information flows 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 disciplines and planning phases. The process interface includes The planning stages include conceptual planning, rough planning and detailed planning.

4.Key performance indicators in the production planning process. This section specifies the 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. This part specifies the manufacturing change process and its management. In practice, manufacturing and assembling products The required production systems are also subject to 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. In a global competitive environment, cost pressure is rising day by day, and the complexity of products and processes is also increasing, indicating that the current use of Advanced production planning skills have become a key factor in the success of many manufacturing companies. in order to be able to do so in a competitive manner To carry out production, we need to not only ensure the efficient operation of various production structures, but also need to be able to meet specific needs and high quality. level, planning and designing the production structure. In order to achieve economic success in the current market, continuous efforts are made to shorten planning and development The production planning process is a key link in order to shorten the time for product launch and launch. Before the initial start of production (SOP) At present, production planning, which is carried out simultaneously with production design, is a business process. This process has a significant impact on improving product and process planning. potential. Important aspects of production planning include the research, generation, processing and transfer of information. Along with the plans and the respective planning criteria (see section 4 (Chapter 1) continues to mature, definable information packages will continue to appear, and such information packages will be generated iteratively during the planning process, and will be used throughout the planning process. be further processed in the process. The resulting information flow is tracked through a reference planning process. This will help in planning At specified points in the process, indicate the status of relevant information. At the specified points above, the actual status of

the packet is compared with the target status (See Appendix A).

Note. For further details on the research background, please see the references. The main information flows in production planning are identified in this document. During the reference planning process (see Figure 1, as described in ISO 18828-2) Against this background, the above main information flows are examined. In addition, this document describes the planning process based on the reference plan and information flow. key indicators for process transparency and evaluation. Figure

1 Main information flow of the reference planning process (qualitative description) Industrial automation system and integrated production system engineering Standardization Procedures Part

1 Scope

GB/T 43201.3-2023 is Part 3 of the Chinese series on standardised procedures for production systems engineering, and covers the information flows in production planning. Planning a new line is done by many people in sequence - process planning, layout, equipment selection, capacity - and each of them needs outputs the previous one produced, at a level of detail that changes as the project moves from concept to rough to detailed planning. When those handovers are informal the same data is rebuilt several times and the versions diverge. The standard describes, for each planning object - the operation list and process plan, the precedence graph, the resource data and the layout - what information must exist at the concept planning, rough planning and detailed planning stages, and how it flows between them. It took effect on 1 April 2024.

This document stipulates the information flow corresponding to each planning criterion in the production plan in accordance with ISO 18828-2. The scope of this document includes.

- A general overview of the main information flows within the scope of the reference planning process;
- Basic pattern used to describe the main information flow;
- Detailed description of each main information flow;
- The status mark structure of the main information flow object;
- Details the status of each information object;
- Propose a checklist for benchmarking information objects. The scope of this document does not include.
- Information flow into cross-domain areas, including high-level planning;
- Various data models used for production planning;
- Completely describe all potential information flows/information objects within the scope