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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 43553.2-2025

Smart factory digital delivery - Part 2: Design delivery

智能工厂数字化交付 第2部分：设计交付

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Table of Contents

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 43553 "Digital Delivery in Smart Factories". GB/T 43553 has already published the following parts.

1.General Requirements;

2.Design Delivery Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China. This document was drafted by: China National Machinery Industry Internet Research Institute (Henan) Co., Ltd., China Electronics Technology Standardization Institute, and Machinery Industry. The Sixth Design Institute Co., Ltd., MCC Jingcheng Engineering Technology Co., Ltd., Henan University of Engineering, and China Qiyuan Engineering Design & Research Institute Co., Ltd. The company, China Electronics System Engineering Second Construction Co., Ltd., CNOOC Energy Development Equipment Technology Co., Ltd., China Automotive Industry Engineering Co., Ltd. Limited Liability Company, China Machinery Engineering Corporation, China United Engineering Corporation, China Power Intelligent Maintenance (Shanghai) Technology Co., Ltd., Liaoning Fuxin Technology Limited Liability Company, Beijing Dongtu Technology Co., Ltd., Shandong Luhai Equipment Group Co., Ltd., Hubei China Tobacco Industry Co., Ltd. Wuhan Cigarette factory, Zhengzhou University, Machinery Industry Survey and Design Institute Co., Ltd., Shaanxi China Tobacco Industry Co., Ltd. Baoji Cigarette Factory, Hubei Mai Ruida Supply Chain Co., Ltd., Hongyun Honghe Tobacco (Group) Co., Ltd. Honghe Cigarette Factory, Beijing Shuoke Zhongkexin Electronic Equipment Co., Ltd. Limited Company, Beijing Huierte Technology Co., Ltd., Suzhou Gebi Intelligent Technology Co., Ltd., Zhejiang Provincial Technology Innovation Service Center, China Steel Group Xing Taiwan Machinery Roll Co., Ltd., Nanjing COSCO Shipping Marine Equipment Parts Co., Ltd., Henan University of Science and Technology, Zhengzhou Multi-Intelligent Equipment Co., Ltd. Limited Liability Company, Anhui China Tobacco Industry Co., Ltd. Bengbu Cigarette Factory, Shandong Luhai Equipment Group Haiyang Co., Ltd., Chengdu Qinchuan Internet of Things Technology Co., Ltd. Technology Co., Ltd., Quanxun Huiju Network Technology (Beijing) Co., Ltd., Shandong Yuntian Security Technology Co., Ltd., Hualu Engineering Technology Co., Ltd. Limited Liability Company, Ningbo Shuyi Gonglian Technology Co., Ltd., Beijing Zhongke Fulong Intelligent Technology Co., Ltd., Beijing Zhonghe Huahui Technology Development Co., Ltd. The company, Sanyun (Hubei) Digital Technology Co., Ltd., Qinghai CITIC Guoan Lithium Industry Development Co., Ltd., and Chongqing Furuis Automation Equipment Co., Ltd. Limited Liability Company, China Railway Ninth Bridge Engineering Co., Ltd., Donghua Engineering & Technology Co., Ltd., China Haicheng Engineering & Technology Co., Ltd., CNNC Hua Wei Engineering Design & Research Co., Ltd., Shenyang Feichi Electrical Equipment Co., Ltd., and Guangdong Yinggu Construction Engineering Co., Ltd. The main drafters of this document are. Zhu Kaizhen, Ma Maoyuan, Li Xiang, Guan Juntao, Liu Lisha, Li Junchao, Liu Ying, Li Hao, Liu Jie, Wei Bin, and Mei Qingchen. Yu Shengbin, Qin Guojie, Liu Jinwei, Gong Guan, Ruan Bing, Zhang Ji, Li Jing, Hu Changjun, Xu Bin, Chen Lei, You Bing, Fu Dafan, Guo Qing, Jiu Xiaotao, Ma Yingzheng Zhang Baogang, Hua Laizhen, Sun Zhengdong, Tan Shuguang, Yang Chao, Yang Chengwei, Zhu Xinning, Zhao Wenpu, Yang Gong, Li Jinyu, Li Kai, Huang Quanzhen, Yu Qun, Han Xiaolong Yan Shifeng, Ma Liqun, Yu Zhenan, Hou

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The digital delivery of smart factories after their completion is complex and involves large amounts of data, facing problems such as a lack of standards and insufficient guidance for various stakeholders. The delivery management mechanism for the construction process of smart factories is not clearly defined. GB/T 43553 "Digital Delivery of Smart Factories" will fill this gap. The lack of digital delivery standards enables stakeholders to implement smart factory delivery effectively, in a standardized and secure manner. GB/T 43553 is proposed to consist of the following three parts.

1.General Requirements. The aim is to standardize the digital delivery principles for smart factories and improve the supply chain for smart factory delivery providers. Ability and level of professionalism.

2.Design Delivery. The purpose is to establish clear requirements and rules for the content and process components of the design delivery phase.

3.Completion and Delivery. The purpose is to establish clear requirements and rules for the content and process components of the completion and delivery phase. Although the design activity itself is in the early stages of the factory's entire life cycle, its outputs are crucial for the planning, construction, and operation of the factory throughout its entire life cycle. It has a far-reaching impact. The design deliverables comprehensively cover the factory's planning objectives, production process requirements, functional space layout, supporting facility configuration, and... Expected indicators and technical requirements for energy and power resources. Design activities, through systematic planning and scheduling, present a multi-dimensional view of the plant object. It is presented in multiple ways, forming a progressive expression process from concept to detail, from abstract to concrete. With the rapid development of information technology and the promotion of advanced design methods such as model-based design, lifecycle-oriented design, and concurrent engineering, With its wide application, the digital delivery of design results has become an important practical approach for the rapid construction and readiness of smart factories. The digital delivery of design deliverables is based on the decomposed structure of a smart factory, with the factory object at its core, and improves the organization of data, documents, and models. By reshaping the standardized information supervision model for design deliverables based on formal and logical relationships, we can ensure the integrity and reliability of digital delivery, thus enabling intelligent... The entire life cycle activities of the energy plant provide a solid foundation. Digital delivery uses the smart factory

decomposition structure as an index and the factory object as the core to optimize the organization of data, documents, and models. By establishing logical relationships, we can reshape the standardized information management model for design deliverables, ensuring the integrity and reliability of the delivered content, and contributing to the development of smart factories. Activities throughout the entire life cycle provide a solid foundation. To improve the efficiency of multi-party collaboration, digitally delivered design deliverables are obtained online through a digital delivery platform, categorized by type and lifecycle. The periodic status is dynamically maintained, and normalization constraints are applied to the feature data to ensure that it can be efficiently retrieved, read, statistically analyzed, and expanded by machines. Applications are showcased. Digital testing and verification results based on simulation analysis provide quantifiable verification evidence for the expected design results, and the relevant models then become... This provides an important analytical basis for the continuous improvement and optimization of smart factories. The development of intelligent manufacturing technology is progressing rapidly, with new technologies and applications emerging one after another, bringing new challenges and opportunities to the construction of smart factories. While focusing on the design and delivery of smart factories, the document also fully considers the development trends of emerging technologies and applications such as digital twins and artificial intelligence. This trend aims to provide guidance for the construction of future smart factories. This document is applicable to the following groups.

---Those who work on smart factory design and wish to deliver their design results digitally;

---Working in smart factory management, and hoping to centrally manage information throughout the factory's entire lifecycle and promote cross-stage information sharing. The relevant personnel were replaced. Smart Factory Digital Delivery Part

1 Scope

GB/T 43553.2-2025 is the Chinese national standard covering what the designer of a factory hands over digitally - the models of the plant and its systems, the equipment register and its attributes, the documents and their links to the objects they describe, all structured so the operator's systems can load it. Part 2 of the series, first edition, and the factory counterpart of the power plant handover standard GB/T 32575-2026. It was issued on 31 December 2025 and has been in force since 1 April 2026, as a first edition. The document is under the responsibility of the Ministry of Industry and Information Technology. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the composition and requirements of the digital delivery of smart factory design outcomes. This document applies to the digital delivery of design deliverables for newly built, renovated, or expanded smart factories. This document does