

ICS 35.240.50

CCS L 70



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

GB/T 46734-2025

General principles for the evaluation of smart factories

智能工厂评价通则

Issued on: December 2, 2025

Implemented on: April 1, 2026

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

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Evaluation Indicators	1
7 Appendix B (Informative) Evaluation Indicators for Smart Factories (Weight 15) Reference	17

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. 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 Electronics Technology Standardization Institute, Donghua Engineering & Technology Co., Ltd., and China Electronics Technology Standardization Institute. Research Institute East China Branch, Supcon Technology Co., Ltd., Inspur General Software Co., Ltd., Dalian University of Technology Jiangsu Research Institute Co., Ltd., China Quality Certification Center, Shanghai Intelligent Manufacturing Functional Platform Co., Ltd., Jiangsu Zhongtian Technology Co., Ltd., Sixth Design and Research Institute of Machinery Industry Institute Co., Ltd., Jiangsu Yawei Machine Tool Co., Ltd., Shanghai Dongfang Shenxin Technology Development Co., Ltd., Jinan University, Beijing Wuxian Internet Technology Co., Ltd. Technology Development Co., Ltd., Shanxi Huayi Huilian Technology Co., Ltd., Shanghai Industrial Automation Instrumentation Research Institute Co., Ltd., Shanghai Computer Software Technology Development Center, Guangdong Institute of Metrology, China Instrument and Control Society, Shenzhen Unilumin Technology Co., Ltd., Dalian University of Technology Learning, Hangzhou Hollysys Automation Co., Ltd., Guangdong Jinggong Intelligent Systems Co., Ltd., Anhui Telecom Planning & Design Co., Ltd., Building Materials Materials Industry Information Center, Yangtze Optical Fibre and Cable Joint Stock Limited Company, Chengdu Qinchuan Internet of Things Technology Co., Ltd., Sichuan Chenghan Baoma Welding Equipment Engineering Co., Ltd., Zhuhai Changlu Industrial Automation Control System Co., Ltd., PetroChina Information Technology Co., Ltd. Metallurgical Industry Information and Standardization Research Institute, Anshan Iron and Steel Group Co., Ltd., Ruili Group Ruian Auto Parts Co., Ltd., China Petroleum & Chemical Corporation

Joint-stock company, China Electric Power Research Institute Co., Ltd., Guangyu Mingdao Digital Technology Co., Ltd., Suzhou Apqi IoT Technology Co., Ltd. Technology Co., Ltd., Shenzhen Guanzhida Industrial Co., Ltd., Hangzhou Huacong Intelligent Technology Co., Ltd., Inspur Electronic Information Industry Co., Ltd. Limited Liability Company, Hangzhou Anmaisheng Intelligent Technology Co., Ltd., Hualu Engineering & Technology Co., Ltd., China Machinery First Design & Research Institute Co., Ltd. Anmai Times Intelligent Manufacturing (Ningde) Co., Ltd., Shanxi Tongchuang Intelligent Manufacturing Co., Ltd., and CSIC Pengli (Nanjing) Intelligent Equipment System China National Machinery Industry Internet Research Institute (Henan) Co., Ltd., Midea Cloud Intelligence Technology Co., Ltd., Huazhong Technology Co., Ltd. Universities, CRRC Industrial Research Institute Co., Ltd., Shandong Fangyin Intelligent Manufacturing Co., Ltd., Lanjian Intelligent Technology Co., Ltd., Xiamen Tungsten Co., Ltd. Co., Ltd., Kunshan Tongri Industrial Automation Co., Ltd., Northwestern Polytechnical University, Zhengzhou Nissan Automobile Co., Ltd., Qingdao Xinghua Intelligent Equipment Co., Ltd. Limited Liability Company, Shenyang Aircraft Industry (Group) Co., Ltd., Dongfang Electric Group Dongfang Turbine Co., Ltd., China Coal Beijing Coal Mining Machinery Co., Ltd. Limited Liability Company, Shenzhen Qianhai Zhongruan Information Technology Co., Ltd., Sichuan Aerospace Zhongtian Power Equipment Co., Ltd., CRRC Tangshan Locomotive & Rolling Stock Co., Ltd. Vehicle Co., Ltd., CRSC (Changsha) Rail Transit Control Technology Co., Ltd., Guizhou Anda Aviation Forging Co., Ltd., Tongkun Group Co., Ltd. Limited Liability Company, Rongjia Medical Technology (Group) Co., Ltd., Shenzhen Xieke Internet Technology Co., Ltd., Bengbu Kaisheng Engineering Technology Co., Ltd. China Mobile (Shanghai) Information & Communication Technology Co., Ltd., Shenzhen Shuanghe Electric Co., Ltd., Hebei Xintai Bearing Forging Co., Ltd., Changji Esquel Textiles Ltd., Zhejiang Provincial Technology Innovation Service Center, Suzhou Gebi Intelligent Technology Co., Ltd. The main drafters of this document are. He Honghong, Guo Nan, Han Li, Jiao Guotao, Xu Minghui, Cheng Yuhang, Yu Wenguang, Lang Junqi, Xu Tongming, and Liu Yongsheng. Zhang Aisen, Zou Linghao, Wang Hongyuan, Zhao Xueliang, Zhang Jian, Yu Meimei, Yan Liyue, Ding Qiang, Zhang Xiangen, Liu Yong, Mei Jun, Qu Ting, Suo Hansheng, Li Xingbao, Li Xiaobin, Zheng Shuquan, Zhang Xiang, Hou Haiyun, Hou Qili, Gong Ping, Zhang Baogang, Lin Mingfeng, Shi Yanjun, Li Yu, Shen Weiming, Song Junhua, Yan Hanqi Zhao Yizheng, Han Dongyang, Yu Chunhua, Liang Yongzeng, Zhang Ruihai, Wang Meng, Wu Haiguang, Xue Junli, Liu Dongqing, Hu Chenglin, Ling Jianjun, Ge Yongxin, Zheng Weibao, Yu Heqing, He Xiaodong, Lu Zhaoqing, Wu Yaohua, Chen Guangzi, Zheng Shuyang, Wang Yu, Lou Yangbing, Liu Lanbing, Sun Dongfeng, Yan Ye, Huang Zhenyu, Ni Jun, Wen Tianzhe, Gao Guoming, Chen Yiyu, Wei Xiaogang, Wang Ruifeng, Li Mingxing, Zhou Wei, Xie Shuhong, Fang Qiansong, Chen Shiyong, Su Zechi, Xu Yanhui, Ye Kun Xiong Guanchu, Su Zechi, Zhong Kexiang, Yu Yong, Yao Wanjun, Zhang Yingfeng, Sun Yanwei, Guo Weijie, Zhang Yongliang, Zhao Tiejun, Wu Kaifu, Fan Dongyu, Yu Jiahua, Ji Shengli, Zhang Zhiwei, Zhang Jianfeng, Liu Xiangzheng, Xiong Jiankun, Zhao Yongxuan, Li Guangfu, Liu Xiang, Hou Lihua, Xu Jian, Sun Rugang, Wang Hongwei, Cai Dinglun Ma Biao, Yang Zhiwei, Su

Hai, Li Jingui, Xia Dina, Li Guanghai, Xu Yuzhen, Guo Qing, Cao Yijun. General Rules for Smart Factory Evaluation

1 Scope

GB/T 46734-2025 is the Chinese national standard covering judging how smart a factory actually is - the connectivity of the equipment, the integration of the systems, the use made of the data, the autonomy of the decisions and the results in quality, cost and delivery. First edition, and it belongs with the safety integration series GB/T 46933 and the digital delivery standard GB/T 43553.2-2025. It was issued on 2 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 evaluation indicators for smart factories, describes the evaluation methods, and establishes the evaluation procedures. This document is applicable to manufacturing enterprises, smart manufacturing system solution providers, and third-party organizations conducting smart factory evaluations.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 41255-2022 General Technical Requirements for Smart Factories

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 smart factory Building upon the foundation of digital factories, IoT and monitoring technologies are leveraged to enhance information management and services, thereby improving the controllability of the production process. This reduces manual intervention on the production line and facilitates rational scheduling, while integrating emerging technologies such as intelligent methods and systems to build a high-efficiency... An efficient, energy-saving, green, environmentally friendly, and comfortable human-centered factory. [Source: GB/T 41255-2022, 3.1]

4 Evaluation Indicators

4.1 Overview The evaluation indicators for smart factories are determined according to GB/T 41255-2022, including qualitative aspects of business activities such as design, production, logistics, and management. The evaluation indicators include primary evaluation indicators such as quantitative evaluation indicators. Qualitative evaluation indicators include intelligent design, intelligent production, intelligent logistics, and intelligent management. The secondary evaluation indicators are quantitative, including resource indicators, technical indicators, and management indicators. Intelligent design includes... Three levels of evaluation indicators, including product design and simulation, and process design and simulation; intelligent manufacturing includes production planning, production execution, quality control, and equipment. The evaluation indicators are categorized into three levels. operation and maintenance, intelligent logistics, and intelligent management. Intelligent logistics includes warehousing and logistics, while intelligent management includes procurement, sales, assets, energy, and other aspects. The evaluation criteria are divided into three levels. safety and environmental protection. Resource indicators include the percentage of automated operations, the percentage of equipment with digital models, the digitization rate of materials, and the percentage of human resources. The evaluation indicators include three levels. employee digitization rate, key equipment networking rate, data infrastructure satisfaction rate, and information system penetration rate; technical indicators include... This includes the adoption rate of advanced control systems, the decision support rate of information system management, the rate of digital knowledge expression, the application and promotion rate of intelligent models, and business integration. Three-level evaluation indicators include the rate of data analysis and utilization of business activities, and the remote maintenance rate of key equipment; management indicators include the rate of reduction in R&D cycle time, Product qualification rate improvement, operating cost reduction rate per unit output value, comprehensive energy consumption reduction rate per 10,000 yuan of output value, inventory turnover rate improvement, and overall equipment efficiency. The evaluation indicators include three levels. improvement rate, labor productivity improvement rate, on-time delivery improvement rate, safety loss cost reduction rate, and carbon emission reduction rate.