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

GB/T 43961-2024

**General integration requirements of technologies and
applications for diagnostics and maintenance in manufacturing
systems**

制造系统诊断维护技术与应用集成通用要求

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Foreword

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Jian, Zhao Fei, Liu Guozhu, Jing Dongqing, Zhou Xiaoyou, Zhang Sheng, Lu Tianhua, Zhai Dehua, Wu Jiqing, Liu Jianjun, Hu Jianbin, Li Zhibo, Tang Kangshou, Cao Jianwen, Zhang Shengda, Zhu Feng, and Yang Hui: Manufacturing system diagnosis and maintenance technology General requirements for application integration

1 Scope

GB/T 43961-2024 addresses the integration problem in factory diagnostics. Modern plants are full of monitoring: vibration systems on rotating machines, thermal monitoring on drives, quality data from inspection stations, controller diagnostics, and increasingly an analytics platform above them. Each was bought to solve one problem and each speaks its own language, so the plant ends up with several partial views of the same machine and no combined one - which matters because the useful diagnosis usually needs more than one of them, and because the maintenance system that must act on the finding is a different system again. This document specifies the general requirements for the integration of manufacturing system diagnostic and maintenance technologies and applications, the functional architecture for diagnostics and maintenance in manufacturing systems, and the technical components that make it up. Defining the architecture before the interfaces is what allows systems from different vendors to occupy defined places in it rather than being wired together case by case. Under ICS 35.240.50 and CCS J07, it is written for manufacturing IT and maintenance engineering, for the vendors of condition monitoring and CMMS systems, and for system integrators.

This document specifies the general requirements for manufacturing system diagnostic maintenance technology and application integration, the manufacturing system diagnostic maintenance functional architecture, technical components Application service packaging and integration requirements for classification, diagnosis and maintenance technologies: This document is applicable to guiding the construction of manufacturing system diagnosis and maintenance technology and application platform:

2 Normative references

This document has no normative references:

3 Terms and definitions

The following terms and definitions apply to this document: 3:

1 Manufacturing system manufacturing system The input/output system that transforms manufacturing resources into finished or semi-finished products, consisting of the manufacturing process and the hardware, software, and personnel involved: composition:

Note: Includes production systems and auxiliary production systems: [Source: GB/T 39751-2021, 3:1] 3:

2 Post-maintenance breakdown maintenance A maintenance method that repairs equipment after it fails: 3:

3 Periodic maintenance A maintenance method used to prevent major unexpected failures by proactively stopping the use of a device or equipment based on the history of failures or interruptions: The subsystem is then disassembled, repaired, parts replaced, reassembled and restored to service: 3:

4 Maintenance that is performed continuously or intermittently based on observed conditions to monitor, diagnose, or predict the condition of a structure, system, or component: Piece indicator: [Source: GB/T 40571-2021, 3:5] 3:

5 By collecting key data of equipment operation, we can complete status identification and basic fault diagnosis, and provide basic repair and maintenance: Strategy: