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

GB/T 43851-2024

**General requirements for interconnection of manufacturing
logistics system**

制造物流系统互联互通通用要求

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

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1 Scope

GB/T 43851-2024 sets the general requirements for interconnecting manufacturing logistics systems. A modern Chinese factory contains conveyors, AGVs and AMRs, stacker cranes, shuttles, sorters and robotic cells from many suppliers, each with its own controller and protocol, and integrating them is the largest hidden cost of automating a plant. The standard attacks that by defining what interconnection means at each level. It gives the integrated architecture and the basic requirements, then the requirements on the physical and communication interconnection, on the information model and the semantics of the objects exchanged, the loads, the tasks, the locations and the equipment states, on the service interfaces and the interaction sequences for task assignment, execution and exception handling, on the time synchronisation and the identification of goods and carriers, and on the safety, security and diagnostics of the interconnected system. It takes effect on 1 November 2024.

This document specifies the integrated architecture for interconnection between manufacturing logistics system and enterprise resource planning (ERP) and manufacturing execution system (MES): General requirements such as basic requirements, interface reference models, etc: This document is suitable for guiding the practical application of interconnection services between enterprise manufacturing logistics systems and enterprise resource planning and manufacturing execution systems:

2 Normative references

This document has no normative references:

3 Terms and definitions

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

1 The information is used in the transportation, storage, and distribution of raw materials, work-in-progress, semi-finished products, and finished products within the manufacturing enterprise: Systems for acquisition, processing, delivery and utilization: 3:

2 Interconnection The communication protocols between the manufacturing logistics system and the enterprise resource planning and manufacturing execution system are compatible and can understand each other's information: The semantics of the source is used to exchange data between systems:

4 Abbreviations

The following abbreviations apply to this document:

5 Integrated Architecture

In the manufacturing logistics system, the main body of interconnection refers to the various information systems related to manufacturing logistics, including: ERP and other enterprise management information systems; Information systems, workshop management and control layer information systems such as MES, and logistics execution layer information systems such as WMS, WCS, and TMS: The logistics execution system and the enterprise resource planning are interconnected through the enterprise management layer-logistics execution layer interface: The manufacturing execution system is interconnected through the manufacturing execution layer-logistics execution layer interface: Its application scenarios and interface implementation are shown in Appendix A: The interconnection and integration architecture of various information systems is shown in Figure 1: