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**Intelligent Manufacturing - Industrial data - Classification
principle**

智能制造 工业数据 分类原则

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Foreword

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Introduction

In order to promote the normative application of industrial data in the field of intelligent manufacturing, the classification of industrial data in this document is mainly based on the "National Intelligent System

Guide to the Construction of Manufacturing Standard System (2021 Edition)" system architecture as a guide, and comprehensively consider the overall level of my country's intelligent manufacturing, combined with industry characteristics

to proceed.

The intelligent manufacturing system architecture analyzes the elements, equipment,

Activities and other content are described, which are mainly used to clarify the standardization objects and scope of intelligent manufacturing. The architecture of the intelligent manufacturing system is shown in Figure 1.

in.

The life cycle covers all stages from product prototype development to product recycling and remanufacturing, including design, production, logistics, sales, service

services and a series of interrelated value creation activities.

The system level refers to the hierarchical division of the organizational structure related to the production activities of the enterprise, including the equipment level, unit level, workshop level, enterprise level and

Collaboration layer.

Intelligent features refer to the representation of self-perception, self-decision-making, self-execution, self-learning, self-adaptation and other functions of manufacturing activities, including resource

5 layers of intelligent requirements such as elements, interconnection, integration and sharing, system integration and emerging formats.

Figure 1 Architecture of intelligent manufacturing system

Principles of industrial data classification for intelligent manufacturing

1 Scope

GB/T 42128-2022 covers how industrial data produced in intelligent manufacturing is sorted into classes - the requirements a classification scheme has to satisfy, the basis on which the classes are drawn, and the dimensions along which the sorting is carried out. Five properties are set for any scheme: it rests on the most stable essential attributes rather than on whatever is convenient at the time, it follows the business the data comes from, it stays practical to apply, it fits alongside classifications already in use, and it leaves room for classes that do not exist yet. Three dimensions are then given for the sorting itself: by system level, by life cycle, and by intelligent features. Factories that add sensors, execution systems and analytics one project at a time end up with data no one can combine, because each department named and grouped its own; the same measurement appears under three labels and cross-plant reporting has to be rebuilt by hand. A shared way of classifying is what makes a data catalogue searchable and later integration possible. Written for manufacturers building industrial data platforms, for systems integrators, and for bodies drafting sector data models.

This document gives the classification requirements, classification basis and classification dimensions of intelligent manufacturing industrial data.

This document is applicable to guide the classification of industrial data in the field of intelligent manufacturing.

2 Normative references

This document has no normative references.

3 Terms, Definitions and Abbreviations

The following terms and definitions apply to this document.

3.1 Terms and Definitions

3.1.1

industrial data industrialdata

In the industrial field, it involves the data generated by all production activities and services of enterprises.

3.2 Abbreviations

The following abbreviations apply to this document.

BOM. Bill of Materials (BilofMaterial)

4 Classification Requirements

4.1 Scientificity

According to the business needs of different industries and the industrial data characteristics of the industry, the most stable essential attributes or characteristics are used as the basis for classification

Systematize according to a certain order and form a complete, independent, scientific and reasonable classification system.

4.2 Business relevance

According to the business needs of the enterprise, the core business is the main dimension of industrial data classification.