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**Intelligent manufacturing - Human-computer interaction system
- Technological requirements of semantic library**

智能制造 人机交互系统 语义库技术要求

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Foreword

This guidance technical document was drafted in accordance with the rules given in GB/T 1.1-2009. Please note that some content of this document may involve patents. The issuer

of this document does not assume responsibility for identifying these patents. This guidance technical document is proposed and managed by the National Information Technology Standardization Technical Committee (SAC/TC28). This guidance technical document was drafted by: China Electronics Standardization Institute, Shanghai Zhizheng Intelligent Network Technology Co., Ltd., HKUST Xunfei Co., Ltd., Shenyang Xinsong Robot Automation Co., Ltd., Shenzhen Youbix Technology Co., Ltd., China Telecom Group Co., Ltd., Shanghai Nuclear Engineering Research and Design Institute Co., Ltd., Ziguang Cloud Engine Technology (Suzhou) Co., Ltd., Beijing Xiaomi Software Co., Ltd., Institute of Automation, Chinese Academy of Sciences, Shanghai Computer Software Technology Development Center, Xining Big Data Service Administration, West Ning Big Data Co., Ltd., China Automotive Research (Tianjin) Automotive Engineering Research Institute Co., Ltd., Extreme Yuan (Hangzhou) Intelligent Technology Co., Ltd., China Research Institute of China Mobile Communications Co., Ltd., Xiamen Yingqu Technology Co., Ltd. The main drafters of this guidance technical document. Dong Jian, Zeng Yongmei, Ye Leiming, Xu Yang, Ma Wanzhong, Yuan Jie, Zhang Feng, Yang Zhen, Ma Jun, Zhu Yajun, Lu Yanfeng, Cai Lizhi, Zhou Wei, Meng Xianming, Sun Wei, Wen Zhengqi, Bao Wei, Yang Benzhi, Chen Jiancheng. Intelligent manufacturing human-computer interaction system Semantic library technical requirements

1 Scope

GB/Z 38623-2020 is the Chinese national standard on intelligent manufacturing - human-computer interaction system - technological requirements of semantic library, in the field of information technology. The /Z suffix marks it as a guiding technical document: it does not prescribe requirements that can be certified against, but sets out the technique, the method or the state of the art that the standards bodies recommend following. It was issued on 28 April 2020 by the State Administration for Market Regulation; Standardization Administration of China. As a guiding technical document it carries no separate date of entry into force: it applies from publication. Classification: ICS 35.240.01, CCS L70. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This guiding technical document gives the functional structure, communication and communication of the semantic library of the intelligent manufacturing human-machine interaction system (hereinafter referred to as the human-machine interaction system). Use the general requirements of metadata, lexicon, object database and knowledge base. This guidance technical document is applicable to the construction and management of the semantic database of the human-computer interaction system of intelligent manufacturing enterprises.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For the cited documents without date, the latest version (including all amendments) applies to this document.

GB/T 7408 Data element and exchange format information exchange date and time representation

GB/T 26231 National Numbering System and Operating Regulations for the Interconnected Object Identifier (OID) of Information Technology Open System

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Intelligent manufacturing integralmanufacturing A manufacturing mode in which the human and intelligent machines jointly advance the manufacturing process.

3.2 Human-computer interaction system A system that implements and/or supports the interaction between the executor and the machine.

Note. Human-machine interaction systems for intelligent manufacturing can be based on technologies such as natural language processing, semantic understanding, knowledge reasoning, speech recognition, and picture recognition. It can provide services for the internal personnel of the enterprise during the manufacturing process and solve problems including industrial control keyboards and operation screens.

3.3 Semantic library A collection of structured knowledge expressed as a semantic network.

3.4 Data element It is regarded as the basic unit of the specified relationship established between objects in the speaking and writing environment.

Note. Such a relationship may be an object set, a word set, and an "object-word" paired set; in a paired "object-word", objects and words are taken from their respective sets. A paired set is a one-to-one correspondence between all elements in an object set and the same number of elements in a word set.

3.5 Metadata Data about data or data elements (which may contain their data descriptions), or about the data itself, access paths, access rights and numbers According to volatility data.