



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

GB/T 45349-2025

**Reference architecture of network collaborative manufacturing
service platform supporting mass customization**

支持大规模定制生产的网络协同制造服务平台参考架构

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

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1 Scope

GB/T 45349-2025 is the Chinese reference architecture for the networked collaborative manufacturing service platform that supports mass customisation. Mass customisation is the manufacturing model China has put at the centre of its industrial upgrading: a customer configures a product, and the order is decomposed and dispatched across a network of independent suppliers rather than made in one plant. The platform that makes that possible is the subject of this standard. It defines the reference architecture: the business view, the roles and the relationships between them, the functional view with the capability domains the platform has to provide, from demand capture and product configuration through capacity matching, order splitting, collaborative design, production scheduling and logistics to settlement and after-sales, and the information and technical views that sit under them. For a platform builder, a manufacturer joining such a network or an integrator designing one in China, this is the common frame the parties are expected to share.

This document specifies the reference architecture of a networked collaborative manufacturing service platform that supports mass customized production. This document is intended to guide enterprises in building, using and operating large-scale customized production service platforms.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Network collaborative manufacturing network collaborative manufacturing By using network technology and information technology and sharing resources, product design, A manufacturing model in which production, logistics, sales, service and other activities work together. [Source: GB/T 43843-2024, 3.1, modified]

3.2 Mass customization The organization is based on the personalized needs of a large number of customers, and reconstructs one or more links in the product life cycle and

system level. Under the constraints of cost, quality, delivery cycle, production efficiency, laws and regulations, customers can specify products that meet their needs out of a large number of possible products. A production service model that combines the advantages of large-scale production with low manufacturing costs. [Source: GB/T 25109.1-2010, 3.2.10, modified]

3.3 microservices An artifact that can be deployed independently and provides services that implement specific functions in an application. [Source: GB/T 42568-2023, 3.1.3]

3.4 resource scheduling In order to meet the needs of mass customization production, various resources including computing resources, storage resources, network resources, etc. are reasonably allocated and effectively managed. Management and use.

3.5 Virtualization A resource management technology that abstracts and transforms physical resources and presents them in a way that allows them to be split and combined into one or more computer configurations. Set the environment. [Source: ISO /IEC 17826.2022, 3.55]