

ICS 03.080.10

CCS J 04



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

GB/T 43880.4-2024

**Service-oriented manufacturing - Guideline - Part 4:
Competence evaluation**

服务型制造 导则 第4部分：能力评价

Issued on: March 15, 2024

Implemented on: October 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Basic requirements	1
5 Management capability	1
6 Resource service capability	2
7 Process service capability	3
8 Product service capability	3
9 Requirements for competence evaluation	3
Annex A (normative) Process of service-oriented manufacturing competence evaluation ..	5
Bibliography	7

Introduction Introduction

Service-oriented manufacturing is a new form of industry in which manufacturing and services are deeply integrated and develop together, and it is an important route for innovative development in manufacturing. Its substance is that manufacturing enterprises, meaning both manufacturing companies and the specialised bodies that provide services to them, increase the value accruing to the several stakeholders along the value chain oriented towards customer utility. By integrating digital, networked and intelligent information technologies, with the customer taking part throughout, they bring together dispersed manufacturing resources and coordinate their several core competences closely, ultimately supplying consumers with products and services that meet individual requirements, and so optimising the allocation of manufacturing resources and maximising the value of all interested parties along the value chain.

In recent years, under the guidance of national policy and the pressing need for the transformation and upgrading of manufacturing, service-oriented manufacturing has become more widely known, theoretical study and enterprise practice in the field have developed quickly, and the policy framework and industrial base have largely taken shape. Problems remain, however: unclear concepts, undefined boundaries, unregulated service models and gaps in the standards system. GB/T 43880 was drawn up to resolve the common technical problems that arise when a traditional manufacturing enterprise turns into a service-oriented manufacturing enterprise, to guide such enterprises in regulating their service behaviour, and to speed the cultivation of new forms and models of service-oriented manufacturing. GB/T 43880 is a general standard guiding manufacturing

enterprises in carrying out service-oriented manufacturing and is planned in four parts.

Part 1, System architecture, analyses the standardisation needs of the manufacturing process, manufactured products and manufacturing industry for service-oriented manufacturing, identifies the standards that exist and those that are missing, recognises the overlaps between existing standards, and builds the structure of the standards system so as to give direction to further standard development and revision. Part 2, Basic models, studies the various application models of service-oriented manufacturing, extracts their common abstract features and derives five typical models, providing a basis and guidance for manufacturing enterprises setting up service models. Part 3, Resource management, systematically reviews the various resources involved when a manufacturing enterprise carries out service-oriented manufacturing and lays down classification methods and management requirements, providing a basis and guidance for the planning, establishment and management of the resources of a service-oriented manufacturing enterprise. Part 4, Competence evaluation, studies the requirements for building and evaluating the service-oriented manufacturing capability of manufacturing enterprises, providing a uniform set of indicators and a uniform process.

1 Scope

The document fixes the basic requirements, management capability, resource service capability, process service capability, product service capability and evaluation requirements for the competence evaluation of service-oriented manufacturing.

It applies to the building and evaluation of the service-oriented manufacturing capability of manufacturing enterprises.

2 Normative references

The content of the listed documents constitutes indispensable provisions of this document through normative reference in the text; for dated references only the edition cited applies, and for undated references the latest edition, including all amendments, applies.

The documents listed are GB/T 19001 on quality management systems, GB/T 24001 on environmental management systems, GB/T 45001 on occupational health and safety management systems, GB/T 43879-2024 on the general terminology of service-oriented manufacturing, GB/T 43880.3-2024 on resource management, and JB/T 12516 on the terminology of the modern manufacturing service industry for equipment manufacturing.

3 Terms and definitions

The terms and definitions given in GB/T 43879-2024 and JB/T 12516 apply to this document.

4 Basic requirements

A service-oriented manufacturing enterprise has to meet the following basic requirements: the enterprise has drawn up a plan for developing service-oriented manufacturing and is carrying it out; it holds the corporate qualifications relevant to the services it provides; it supplies the software and hardware facilities needed for service-oriented manufacturing, in the corresponding quantity, together with staff holding the relevant professional qualifications; it has formed the relevant service-oriented manufacturing models and has a stable income from service-oriented manufacturing business; and it has a complete internal management system, with a sound quality supervision and assurance system and a safety system.

5 Management capability

Management system. The enterprise establishes, implements and maintains a quality management system, an environmental management system and an occupational health and safety management system; the quality management system meets the requirements of GB/T 19001, the environmental management system those of GB/T 24001, and the occupational health and safety management system those of GB/T 45001.

Service time. Service time mainly comprises product manufacturing time, logistics service time, on-site service time, service response time and service duration. In general, the shorter the manufacturing time, logistics service time, on-site service time and service response time for products of the same kind, the stronger the enterprise's service capability; the longer the service duration, the stronger the customer's attachment and the higher the enterprise's service capability and service level.

Service cost. Service cost mainly comprises product service cost, logistics service cost and human resource cost; the enterprise's level and control capability in respect of service cost have to meet customer needs.

Service safety. The enterprise has to possess the relevant service safety assurance capability. Service safety mainly comprises service process safety, service data safety and service network safety, and reflects the enterprise's level and control capability in respect of service safety.

Control capability. Control capability mainly comprises internal control and collaborative control. Internal control means that, while meeting customer needs, the use of resources, the processes and the arrangement of plans are effectively controlled and optimised inside the enterprise; collaborative control means that, on the basis of internal control, resources, processes and plans are jointly controlled between enterprises, as in supply-chain-based management and order-based networked collaborative manufacturing.

Integrated service capability. The enterprise has to be able to provide resource services,

process services and product services together, for example product lifecycle management, general contracting and system solution services.

Customer satisfaction. Customer satisfaction mainly comprises the degree of customer satisfaction with product quality, service time, service cost and service content; it is an important indicator of the enterprise's service capability, and the services the enterprise carries out have to be able to meet the relevant customer satisfaction requirements.

6 Resource service capability

Classification of service resources. The classification of an enterprise's service resources has to meet the relevant requirements of clause 4 of GB/T 43880.3-2024.

Leasing and sharing of service resources. The enterprise has to be able to lease and share manufacturing equipment resources, application system resources, material resources, data resources, human resources, computing resources, information resources and other related resources, so turning the various resources into services.

Optimised allocation of service resources. This mainly comprises the capability to decompose resources, to combine resources and to coordinate resources, so as to allocate the various service resources in an optimised way and raise the rate of resource utilisation and the level of service.

7 Process service capability

Design service. The enterprise has to possess product design and process design service capability and, using a networked collaborative design platform, has to be able to provide product design, industrial design, process design and other related services to outside parties.

Production and manufacturing service. The enterprise has to achieve the open sharing of production and manufacturing capabilities such as part machining and assembly, has to possess flexible manufacturing capability, and has to be able to provide specialised production and manufacturing business to outside parties.

Inspection and testing service. The enterprise has to use its own inspection and testing resources and capabilities to provide inspection and testing services for raw materials, parts and products to outside parties.

8 Product service capability

Customisation. The enterprise has to possess flexible design capability and the capability to involve users in design; it is advisable to collect and analyse information on customer needs through customer experience centres, online design centres and large-scale data mining, and to provide product customisation services.