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**Technical requirements for traceability system of recall  
process of motor vehicle products**

汽车产品召回过程追溯系统技术要求

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# Technical requirements for traceability system of recall process of motor vehicle products

## 1 Scope

This Standard specifies general technical requirements, core metadata, data synchronization, data sharing requirements, and system performance and security requirements for traceability system of recall process of motor vehicle products.

This Standard is applicable to the construction of automotive product recall process traceability systems and the provision of data services by automotive product recall technical institutions, automotive product producers and related parties.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 7408, *Data elements and interchange formats - Information interchange - Representation of dates and times*

GB 16735, *Road vehicle - Vehicle identification number (VIN)*

GB 16737, *Road vehicle - World producer identifier (WMI) code*

GB/T 26816, *Information resource core metadata*

GB/T 39061, *Recall numbering rules and application for motor vehicle product*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1 recall plan

a specific implementation plan developed by the producer for the recall activity

**NOTE:** The contents of the implementation plan include but are not limited to producer information, recalled product information, recalled product scope, defect description and possible consequences, recalled maintenance measures, emergency response methods, product improvement measures, and

recalled notification methods.

[Source: GB/T 39603-2020, 3.2, modified]

### **3.2 recall report**

the act that the producer submits the recall plan in accordance with the regulations of the competent authority

### **3.3 recall number**

a set of normalized codes for recall campaign management

### **3.4 recall process tracing**

the activities to track and trace the implementation of product recalls by recording the time, place, measures and other information of the recall of defective products

### **3.5 traceability system of recall process**

a system that, based on file records, computer software, hardware equipment and communication network, carries out information management on the data related to the recall process traceability

### **3.6 enterprise terminal of traceability system**

a system that carries out product recall implementation information collection and review, and synchronizes data to the traceability system management end

**NOTE:** The enterprise terminal of traceability system in this document is an integral part of the traceability system of the recall process of automobile products, which is managed by the producer of automobile products.

### **3.7 management terminal of traceability system**

a system that receives, verifies, stores and counts the product recall implementation information synchronized by the enterprise end of the traceability system, supports activities such as monitoring and alarming of the running status of the connected traceability system at the enterprise end

**NOTE:** The management terminal of traceability system in this document is an integral part of the traceability system for the recall process of automotive products and is managed by the automotive product recall technical organization.

### **3.8 service terminal of traceability system**

a system that provides recall information query, push and data sharing services to government departments, industry enterprises, the public and other relevant parties

analysis on the recall process data. Generate data statistical analysis reports to provide support for regulatory decision-making, social governance, and industry services.

**5.2.2.3** The management terminal of traceability system shall carry out unified management of the connected enterprise terminal of traceability system. Monitor the status of the data interface at the enterprise terminal of traceability system. Alarm for abnormal situations.

**5.2.2.4** The management terminal of traceability system shall control user rights through user management and role management. Ensure that different users can only access data within their authority. Ensure the security of information.

### **5.2.3 Functional requirements for service terminal of traceability system**

**5.2.3.1** The service terminal of traceability system shall provide the public with vehicle recall information query services.

**5.2.3.2** The service terminal of traceability system shall push vehicle recall information to subscribers. Improve the efficiency of vehicle recall information dissemination.

**5.2.3.3** The service terminal of traceability system can share relevant vehicle recall information with relevant parties.

## **6 Core metadata**

The metadata description of the traceability system of recall process shall meet the requirements of GB/T 26816. See Annex A for a description of the core metadata.

## **7 Data synchronization requirements**

### **7.1 Data synchronization method**

The recall process information is transmitted between the enterprise terminal and the management terminal of the traceability system through a data interface.

### **7.2 Data synchronization content**

The contents and requirements of the recall process information synchronized from the enterprise terminal to the management terminal of the traceability system are as follows:

- Recall number: shall meet the requirements of GB/T 39061;
- VIN of the recalled vehicle: shall meet the requirements of GB 16735 and GB 16737;
- Time for recall: shall meet the requirements of GB/T 7408;

- Vehicle maintenance record number: shall be accurate, true and unique;
- Name or number of recall dealer: shall be consistent with the recall filing information;
- Contact details for recipients of recall notices.

### **7.3 Data synchronization time**

After the implementation of the vehicle recall is completed, the producer shall synchronize the recall process information to the management terminal of traceability system through the enterprise terminal of traceability system no later than 24:00 of the next day.

### **7.4 Data storage requirements**

Traceability system data storage meets the following requirements:

- a) The enterprise terminal of traceability system shall be kept for no less than 10 years;
- b) The data on the management terminal of traceability system shall be kept permanently;
- c) The traceability system management shall adopt distributed storage and provide backup.

### **7.5 Data synchronization interface requirements**

#### **7.5.1 Interface protocol**

The traceability system data synchronization interface protocol shall meet:

- a) Adopt HTTPS transmission protocol;
- b) Use POST request method;
- c) Data format is JSON format;
- d) Character encoding is UTF-8.

#### **7.5.2 Exchange process**

The producer opens the data interface on the enterprise terminal of the traceability system and authorizes the data interface access authority to the management terminal of the traceability system.

The management terminal of traceability system sends a data synchronization request message to the enterprise terminal of traceability system. The enterprise terminal of the

- Whether the vehicle has been recalled.

### **8.3 Data sharing interface requirements**

#### **8.3.1 Interface protocol**

The traceability system data sharing interface protocol shall be implemented according to 7.5.1.

#### **8.3.2 Exchange process**

The data interface of the service terminal of traceability system is opened. Grant data interface access to data users.

The data user sends a data synchronization request message to the service terminal of traceability system. The service terminal of traceability system shall respond to the request message within 3s. Synchronize vehicle recall information with data users. If the data user does not receive the response message within 3s, it shall interrupt the transmission and make a new request.

The service terminal of traceability system sends the vehicle recall information to the data user. After the information is sent successfully, a success ID is returned.

#### **8.3.3 Message structure**

The data sharing request message and response message structure between the data user and the service terminal of traceability system shall comply with the provisions of Annex C.

## **9 Performance requirements**

### **9.1 Performance requirements for enterprise terminal of traceability system**

The enterprise terminal of traceability system shall meet the following requirements:

- a) The average response time of the data interface does not exceed 5s;
- b) The data interface throughput rate is not less than 500kB/s;
- c) The annual downtime does not exceed 3% of the year.

### **9.2 Performance requirements for management terminal of traceability system**

The management terminal of traceability system shall meet the following requirements:

- a) The average response time of the data interface does not exceed 5s;
- b) The data interface throughput rate is not less than 2000kB/s;

- c) The annual downtime does not exceed 1% of the year.

### **9.3 Performance requirements for service terminal of traceability system**

The service terminal of traceability system shall meet the following requirements:

- a) The average response time of the data interface does not exceed 3s;
- b) The data interface throughput rate is not less than 2000kB/s;
- c) The number of concurrent data users is not less than 2000;
- d) The annual downtime does not exceed 1% of the year.

## **10 Security requirements**

The traceability system of recall process meets the following safety requirements:

- a) It shall have the function of data encryption transmission to ensure information security;
- b) A fault-tolerant design shall be adopted to provide network security precautions;
- c) It shall have security protection capabilities such as anti-tampering, anti-attack, and access control to achieve safe, reliable and continuous operation;
- d) It shall have complete user operation logging and operation authority control functions.



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Contact: Wayne Zheng, [Sales@ChineseStandard.net](mailto:Sales@ChineseStandard.net)

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