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

GB/T 24476-2023

**Internet of things for lifts, escalators and moving walks -
Technical requirements of enterprise application platform**

电梯物联网 企业应用平台基本要求

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Foreword

This document was issued on 23 May 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 December 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 24476-2023 covers the enterprise application platform standing behind lift, escalator and moving walk connectivity: the system owned by the manufacturer or the maintenance company, which receives what the equipment reports and is where that data is actually used. The platform boundaries are drawn first, so that it is clear where the device and the network end and the platform begins, then come the requirements on the platform itself, the equipment statistics information it has to produce, and the basic equipment, maintenance and inspection information it must hold, down to the format each field takes. A normative annex classifies fault phenomena, and informative annexes cover the communications and dispatch arrangement and a RESTful web API. Connectivity of this kind is sold on faster response to trapped passengers and on maintenance driven by condition rather than the calendar, and both claims fall apart on definitions: if one company logs a door fault where

another logs a safety circuit trip, and the same lift is identified differently in two systems, the figures can neither be added together nor handed to a regulator. Lift manufacturers, maintenance companies, platform developers and the authorities that supervise lifts in service are the users.

This Document specifies requirements for the enterprise IoT application platform for equipment,

equipment statistics requirements, as well as requirements for equipment basic information, maintenance and inspection information and formats.

This Document applies to the construction, renovation, and expansion of IoT-based enterprise

application platforms for lifts, escalators, and moving walkways.

This Document does not apply to the operation of lifts, escalators, and moving walkways controlled by IoT technology.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates

indicated are applicable to this Document; for the undated documents, only the latest version

(including all the amendments) is applicable to this Document.

GB/T 7024 Terminology of lifts, escalators and moving walks

GB/T 7588.1 Safety rules for the construction and installation of lifts - Part 1.Passenger and goods passenger lifts

GB 16899 Safety rules for the construction and installation of escalators and moving walks

GB/T 22239-2019 Information security technology - Baseline for classified protection of cybersecurity

GB/T 38656-2020 Specification of data exchange for special equipment IoT system

GB/T 42616-2023 Internet of things for lifts, escalators and moving walks - Technical specification of monitoring terminals

IETF RFC 5246 The Transport Layer Security (TLS) Protocol Version 1.2

IETF RFC 6749 Open Authorization 2.0

3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB/T 7024, GB/T 7588.1,

GB/T 16899 and the following apply.

3.1 Equipment

It indicates the lifts, escalators, and moving walks.

3.2 People trapped

The phenomenon that passengers are trapped in the elevator car due to elevator failure or incident.

3.3 Enterprise IoT application platform for equipment

The application platform that is established by the enterprise based on the Internet of Things

and information technology monitors the real-time status of equipment and is used to quickly

handle equipment failures, incidents and alarms. It also has functions such as data management,

statistical analysis and data interaction with the equipment safety public information service platform.

3.4 Fault

A condition that could affect or interrupt the normal operation of the equipment.

3.5 Event

The state changes that are expected in the design during the operation of the equipment.

3.6 Alarm

Operation of the emergency alarm system in the cage of lift.

NOTE. For emergency alarm systems, refer to GB/T 7588.1.

3.7 Monitoring terminal

A general term for protocol conversion devices, external sensors, data acquisition and transmission devices, image acquisition devices, alarm triggering devices, in-cage of lift display

devices, and voice control devices.

NOTE 1.Relevant regulations may require public domain image acquisition and the display content of

in-cage of lift display devices.

NOTE 2.The monitoring terminal may be integrated into the equipment.

[SOURCE. GB/T 42616-2023, 3.3]

3.8 Equipment code

The unique code representing the equipment marked on the special equipment registration certificate.

4 Abbreviated Terms

The following abbreviated terms are applicable to this Document.

PDF. Portable Document Format;

RESTful Web API. Representational State Transfer Web Application Programming Interface.

5 Requirements for Enterprise IoT Application Platform for

Equipment

5.1 Platform boundaries

A schematic diagram of the boundaries of the enterprise IoT application platform for equipment

is shown in Figure 1.

5.2 Basic requirements for platform

5.2.1 The platform design shall be comprehensively planned, fully considering data resource

sharing and interoperability with the equipment safety public information service platform.

5.2.2 Qualified maintenance personnel or organizations shall perform technical maintenance of

the system. Maintenance work shall at least include timely updating, organization, and backup

of relevant data.

5.2.3 Platform failures shall not affect the security and integrity of the platform's basic data.