

**Present and Future Issue
regarding Technical Regulations Conformity
Certification System
under Telecommunications Business Law**

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Agenda

- Overview of Technical Regulations Conformity Certification System under Telecommunications Business Law
- Present conditions of Technical Standards Conformity Approval for Terminal Equipment under Telecommunications Business Law
- Objectives of Technical Standards Conformity Approval for Terminal Equipment under Telecommunications Business Law
- Key issues around Technical Standards Conformity Approval for Terminal Equipment under Telecommunications Business Law
- Future challenges for Technical Regulations Conformity Certification System under Telecommunications Business Law

**Overview of Technical Regulations
Conformity Certification System under
Telecommunications Business Law**

[Telecommunications Business Law]

Sound development of telecommunications

To promote public welfare by ensuring the proper and reasonable operation of telecommunications businesses and consistent provision of services while safeguarding the interests of users.

(from Article 1 Purpose)



Technical standards for terminal facilities

Designed to ensure that any user who connects a terminal facility to a commercial telecommunications network can expect service that:

- Does not cause damage to or impede the performance of telecommunications equipment
- Does not interfere with other users
- Clearly delimits responsibilities in relation to equipment

[Radio Act]

Finite radio wave resources

To promote public welfare by ensuring the fair and efficient utilization of radio waves.

(from Article 1 Purpose)



Technical standards for radio equipment

Designed to ensure the fair and efficient utilization of finite radio wave resources and are applicable to all equipment and equipment that generate radio waves.

- Regulations on frequency, radio wave format, transmission power, etc. (avoiding interference, feasibility of common use)

Terminal facilities

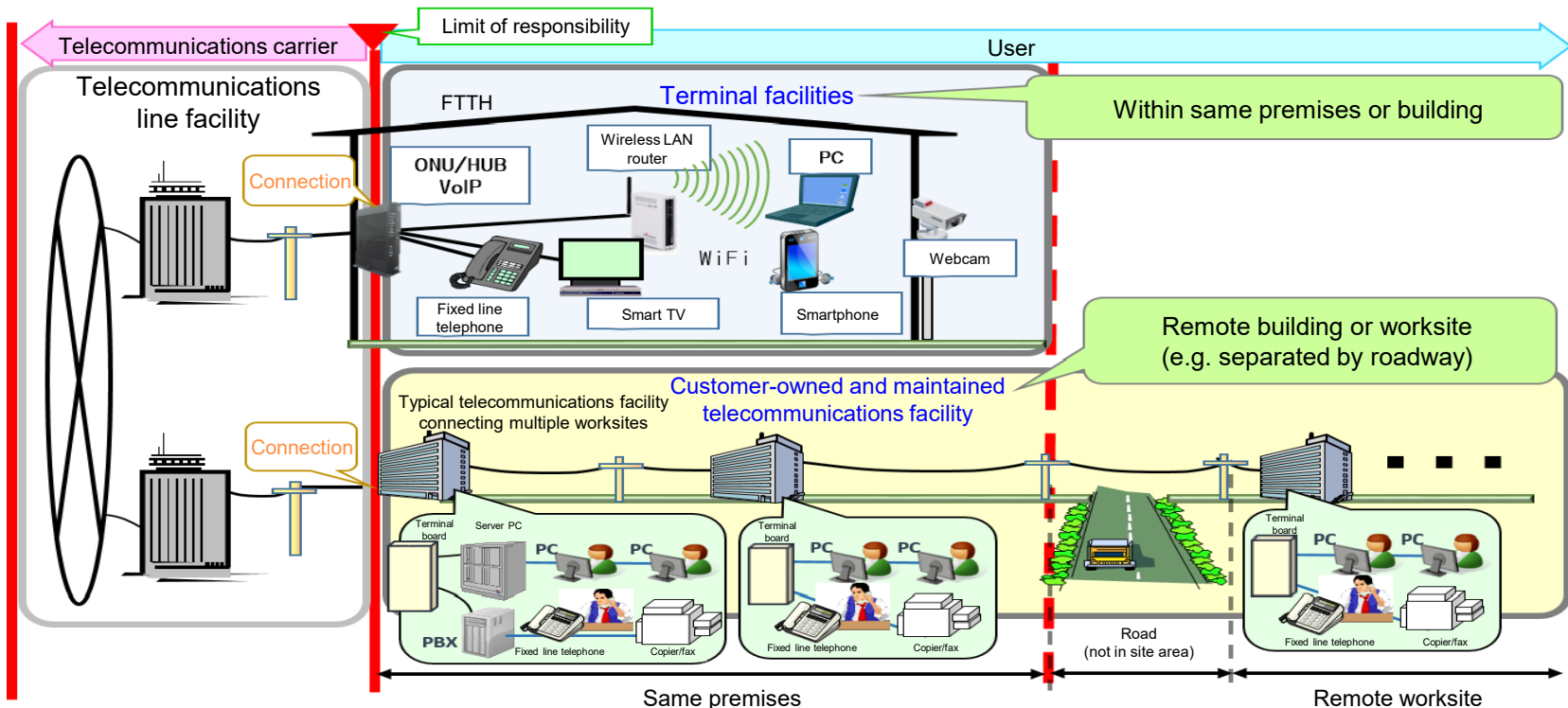
- **Terminal facilities** (Article 52 of the Telecommunications Business Law)

Pieces of telecommunications equipment that are connected to one end of a telecommunications circuit facility (representing the limit of responsibility) and that are installed within the same premises or building

- **Customer-owned and maintained telecommunications facilities**

(Article 70 of the Telecommunications Business Law)

A piece of telecommunications equipment (other than terminal facilities) that has been installed by an entity that is not a telecommunications business



● Technical Regulations Conformity Certification System

System in which Registered Approval Bodies certify that terminal equipment are compliant with “Technical Standards for the Interconnection of Terminal Facilities” to enable connection to the network of a telecommunications carrier

● Major pathways to certification

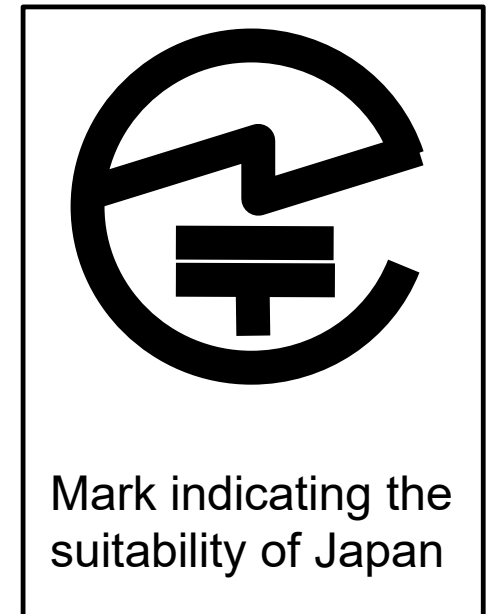
1. Certification by measuring the terminal equipment

“**Technical Standards Conformity Approval for Terminal Equipment**” issued by Registered Approval Bodies (Telecommunications Business Law Article 53)

2. Certification for terminal equipment design

“**Certification of Design of Terminal Equipment**” issued by Registered Approval Bodies

(Telecommunications Business Law Article 56)

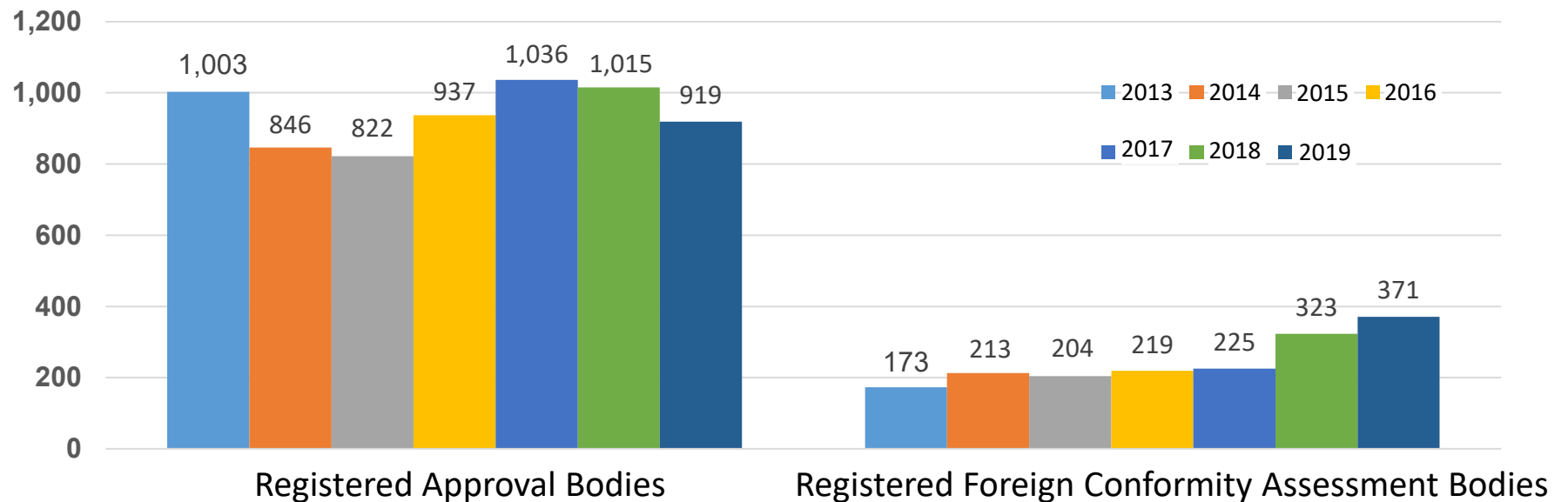


**Present conditions of
Technical Standards Conformity Approval
for Terminal Equipment
under the Telecommunications Business Law**

Certification Status of terminal equipment under Telecommunications Business Law

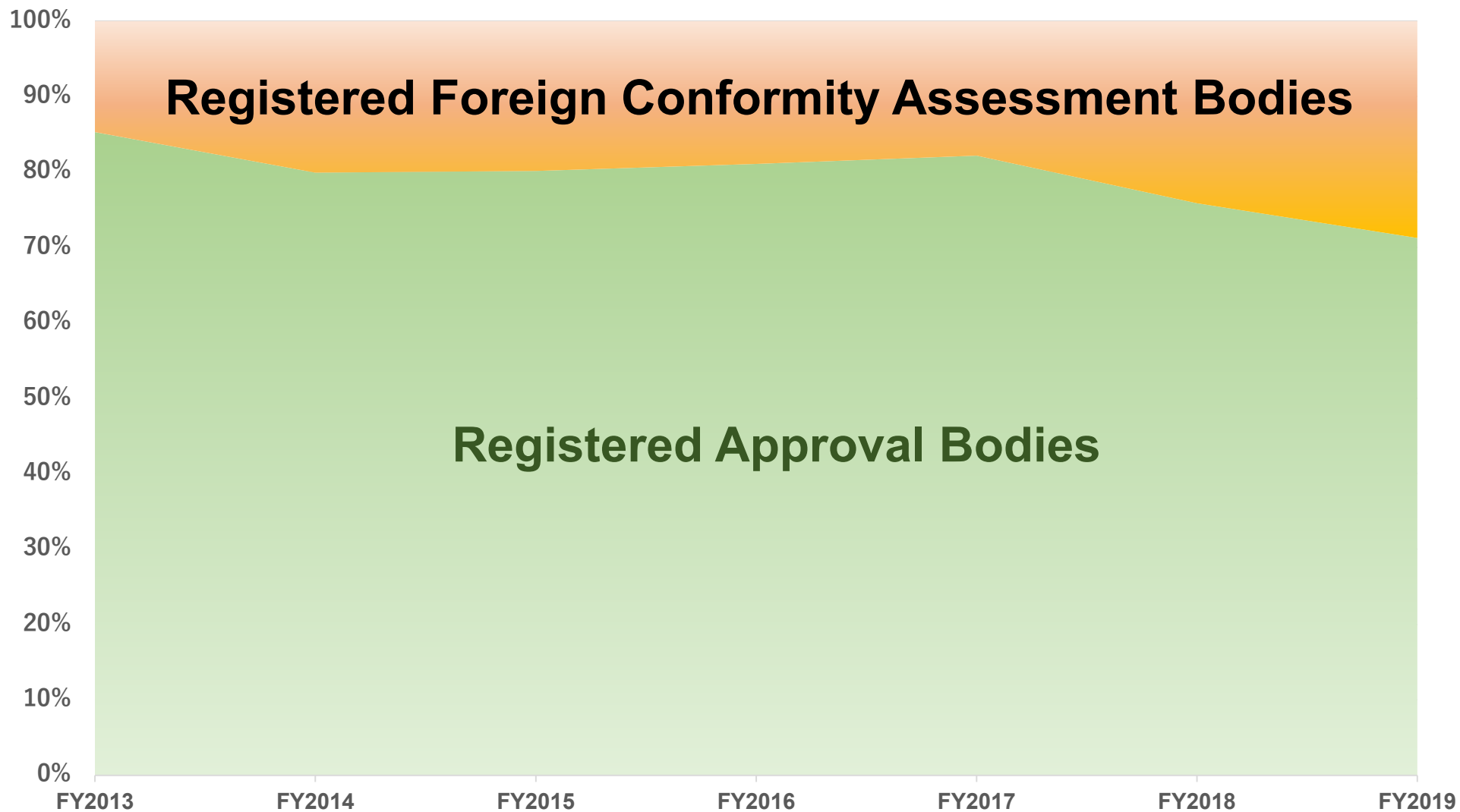
Certification numbers for terminal equipment

FY	2013	2014	2015	2016	2017	2018	2019	Total
By Registered Approval Bodies	1,003	846	822	937	1,036	1,015	919	6,578
By Registered Foreign Conformity Assessment Bodies	173	213	204	219	225	323	371	1,728
Total	1,176	1,059	1,206	1,156	1,261	1,338	1,290	8,306



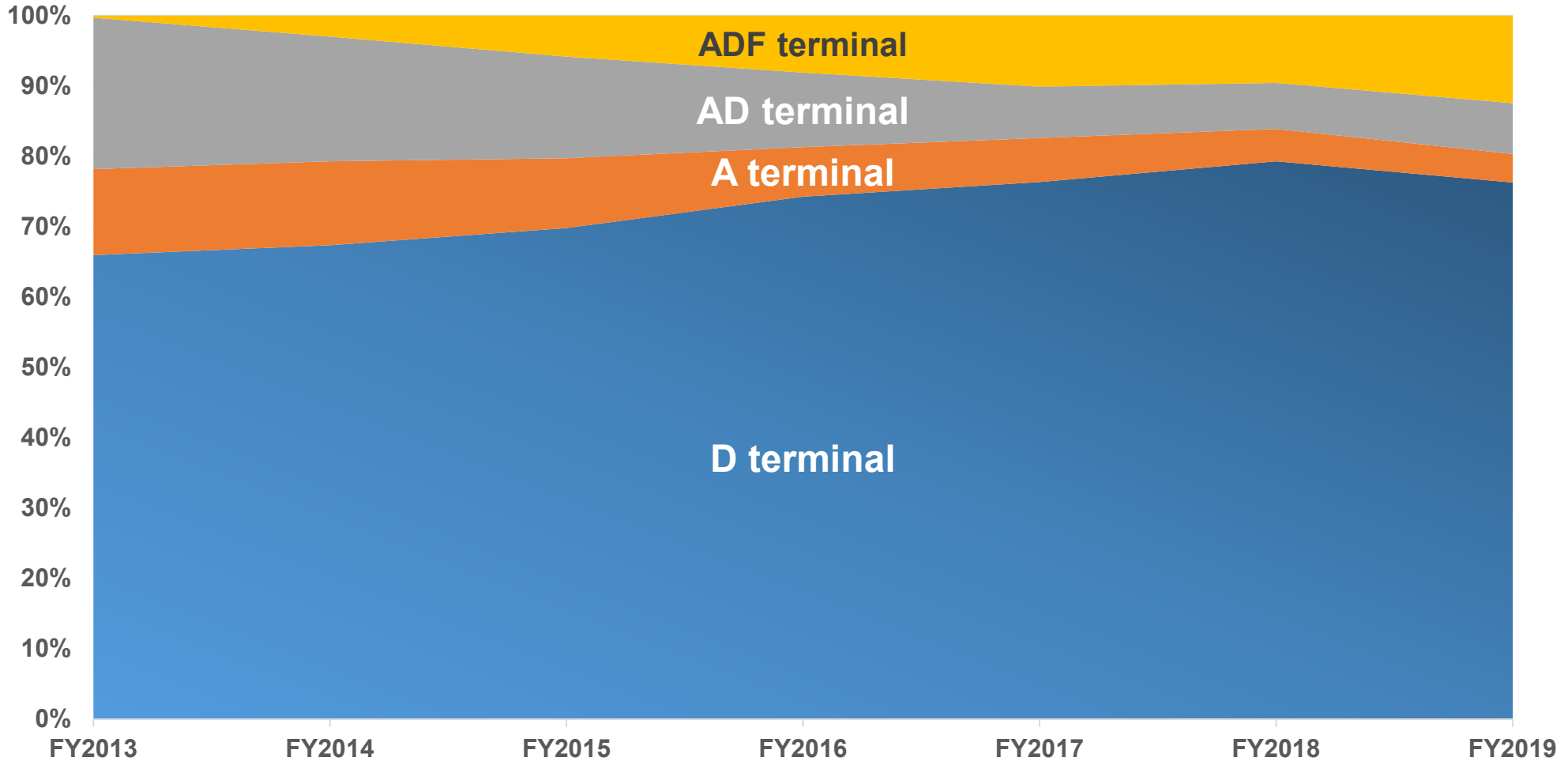
Certification Status of terminal equipment under Telecommunications Business Law

Ratio of the number of certification by Bodies



Certification Status of terminal equipment under Telecommunications Business Law

Ratio by type of terminal equipment (all bodies combined)



**Objectives of
Technical Standards Conformity Approval
for Terminal Equipment
under the Telecommunications Business Law**

■ Market research into terminal equipment

● Purpose

- To prevent terminal equipment that are non-compliant with technical standards from establishing a presence in the market
- To ensure that terminal equipment on the market are safe and reliable

● Implementation

- Terminal equipment available on the market are purchased then tested for real-world compliance with technical standards
- Where non-compliance is identified, the manufacturer or responsible entity will be ordered to make improvements

● Examples of non-compliance

- No emergency call functionality (mobile phone terminal)
- Signal output from terminal equipment exceeds technical standard (fixed line telephone)
- Sold without required certification (particularly common among wireless LAN routers)
- Certification mark/certification number not displayed (multiple products)

**Key issues around
Technical Standards Conformity Approval
for Terminal Equipment
under the Telecommunications Business Law**

● Background

- IoT equipment were being used without changing the default ID and password. This means that they were easily targeted for DDoS attacks that represent a significant security risk with massive socioeconomic impacts
- A set of security standards for IoT equipment released on April 1, 2020 sets out minimum technical requirements to prevent such DDoS attacks

● Target terminal equipment

- Terminal facilities connected to digital data transmission equipment
- Terminal facilities that use internet protocols (IP)
- Equipment that can change settings for the telecommunications functions (limited to those related to transmission and reception) of the terminals, including dedicated communications line facilities, by connecting to telecommunications line facilities *

● Required functionality

- Access control (such as requiring a password to connect to a terminal)
- Automatic prompt to change ID and password from default values (or CC(ISO/IEC 15408) authentication)
- Software update (ideally auto update)

* Excluding equipment such as computers and smartphones where the user has control over security settings and home appliances with in-built wireless LAN that can only be used in conjunction with certified equipment

- **Frequency expansion for 1.9 GHz band digital cordless phones (TD-LTE system)**
 - 1.9 GHz band digital cordless phones (TD-LTE system) can use the 1.4 MHz and 5 MHz systems
 - The 5 MHz system was initially allocated one carrier only (1899.1 MHz), but two more carriers have since been added (1891.0 MHz and 1914.1 MHz) due to demand
- **Advanced 920 MHz band low-power wireless systems**
 - Previously, all 920 MHz band low-power wireless systems were required to have carrier sense functionality
 - In order to harmonize with technical requirements in other countries and with LPWA and other systems, the requirement for carrier sense was dropped and systems equipped with frequency hopping and LDC were permitted



Ministerial Notification No.424(Ministry of Posts and Telecommunications, 1994) based on Article 9 of the Ministerial Ordinance of Terminal Equipment, etc. is amended by establish these standards.

**Future challenges for Technical Regulations
Conformity Certification System
under Telecommunications Business Law**

- **Discontinuation of communication services**

- Radio paging services were discontinued in 2019. Services such as PHS, 3G and ISDN will also be discontinued in the near future.
- The PSTN (public switched telephone network) will also be migrated to the IP network at some point.

- **Migration to new networks**

- Network structures are being transformed by newer technologies such as software networking and virtual networking
- This is expected to produce new forms of communication services

- **More complex and sophisticated terminal equipment**

- Terminal equipment are increasingly made from versatile general-purpose modules
- New features and functions are added simply by updating the software

Future challenges for standards compliance systems

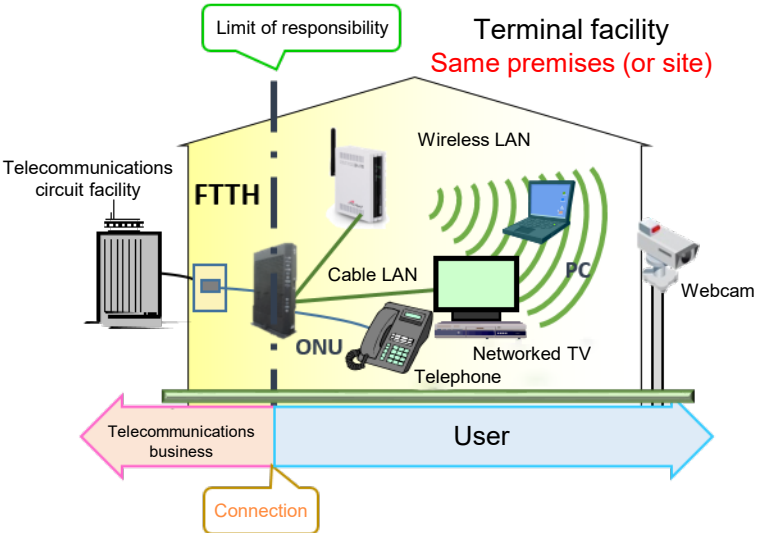
- **Formulation of Technical standards and Classification for terminal equipment by consideration of network structure and new service**
 - Equipment classifications and technical standards are reviewed or abolished as services are discontinued
 - New device classifications and technical standards are created in response to emerging communication services
 - Classifications and technical standards for existing communication services may also be reviewed, abolished or newly created as required
- **Promoting awareness of compliance systems among overseas suppliers and importers of foreign products**
 - Increasing presence of non-certified terminal equipment due to higher numbers of foreign-made products
 - Promoting awareness and acceptance of Japanese compliance systems is key

Reference materials

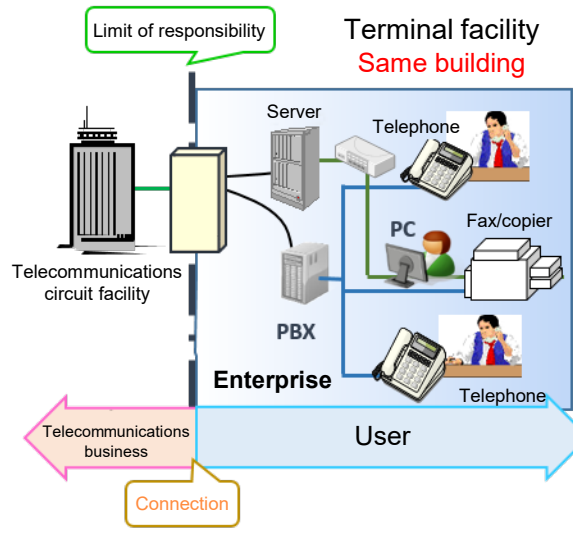
Examples of terminal facilities

[Terminal facilities]

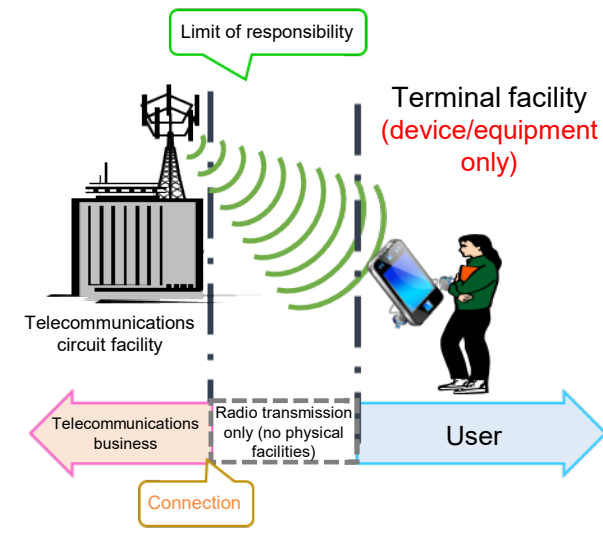
Home network



Office network



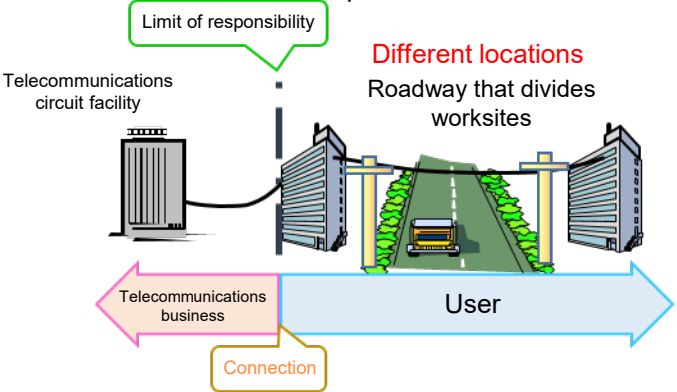
Mobile phone/smartphone



[Customer owned and maintained telecommunications facilities]

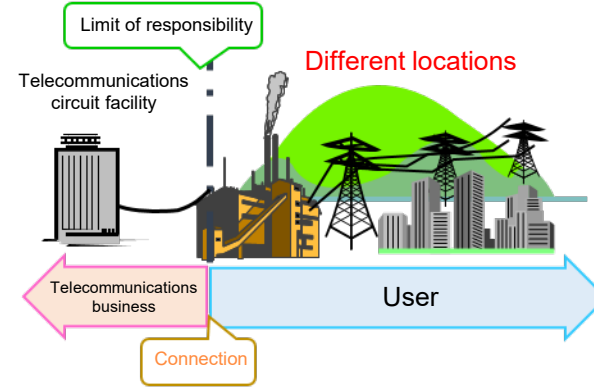
Office network

LAN system linking multiple separate worksites



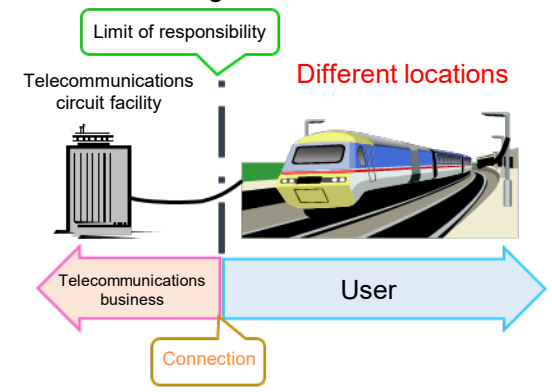
Power company

Transmission systems typically between power stations and transformer substations

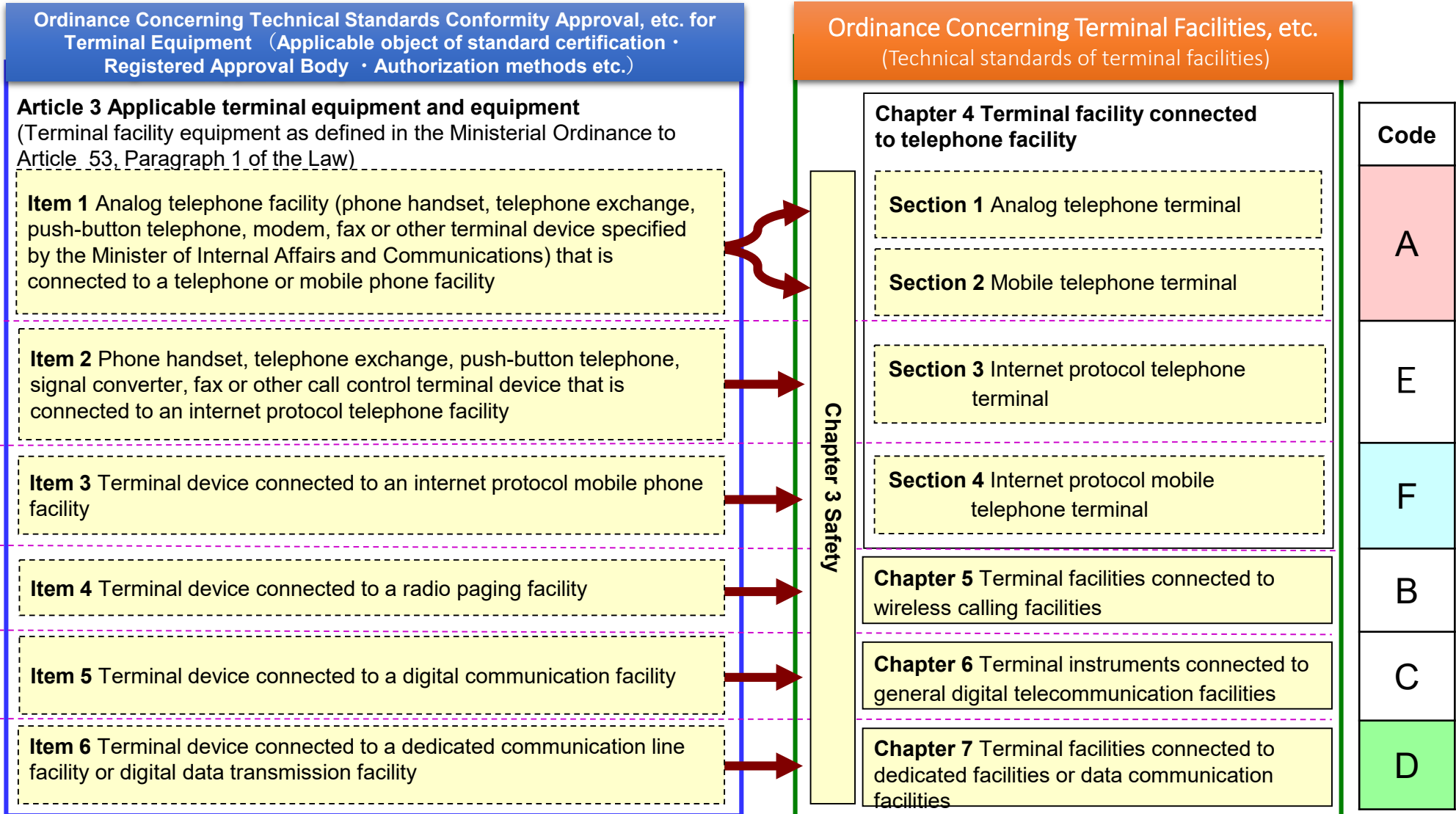


Railways

Communication systems linking stations, trains etc.

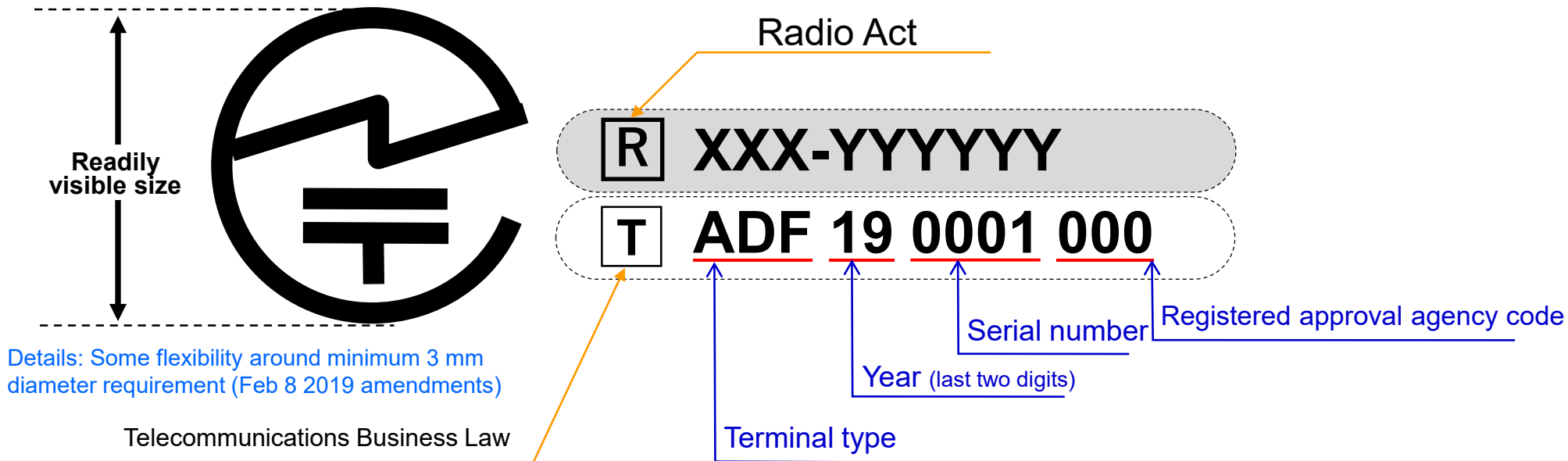


- Classifications for terminal facilities are set out in “**Rules Concerning Technical Standards Compliance Approval, etc. for Terminal Equipment**”
- Technical standards applicable to terminal facilities are set out in “**Rules on Terminal Facilities**”




Display to indicate terminal equipment that are certified

- Display [Rule on technical standards compatibility certification of Display to indicate terminal equipment that are certified, format No. 7]



* For compliance with technical requirements, [T] is shown as [A].

* If [T] ADF190001000 and [R] XXX-YYYYYY are too close to the  mark, they can be shifted vertically or horizontally as required.

NOTE for Registered Approval Bodies and Conformity Assessment Bodies:

- Count the serial number without distinguishing between the Certification of Type and the Technical Standards Conformity Approval.
- Count the serial number without of distinguishing types of terminal equipment.
- Reset the serial number on every January 1 and count it from 0001.

Thank you for your time today.