

# **ICT Standardization Policy and Digital Signage in Japan**

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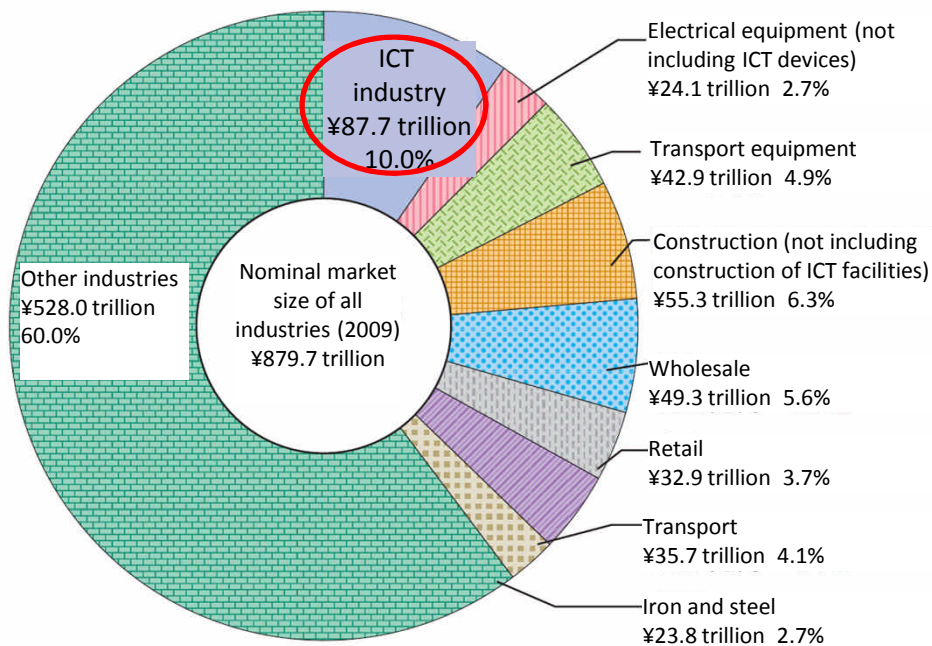
1. Current state of ICT in Japan
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# 1. Current state of ICT in Japan

# Japan's ICT industry's contribution to economic growth

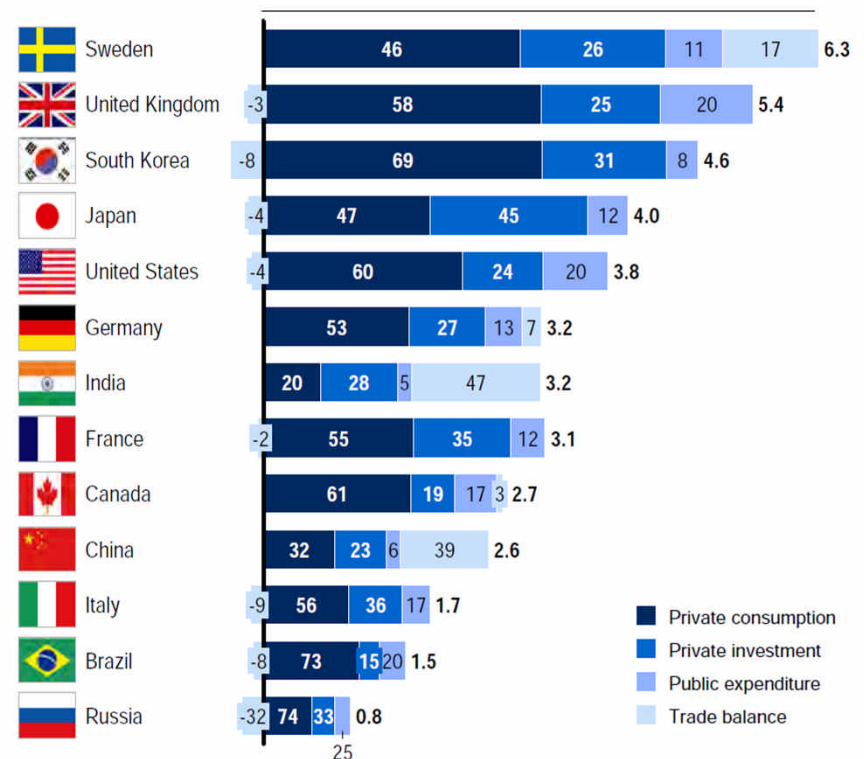
- The ICT industry accounts for approximately 10% of the market for all industries (¥87.7 trillion)
- Overall economic contribution of the Internet is approximately 4% of GDP
- ICT industry contributed to GDP growth in the past 10 years

Japan's ICT industry's share of nominal domestic production



(Source: White paper on Information and Communication in Japan)

GDP contribution of Internet (%)

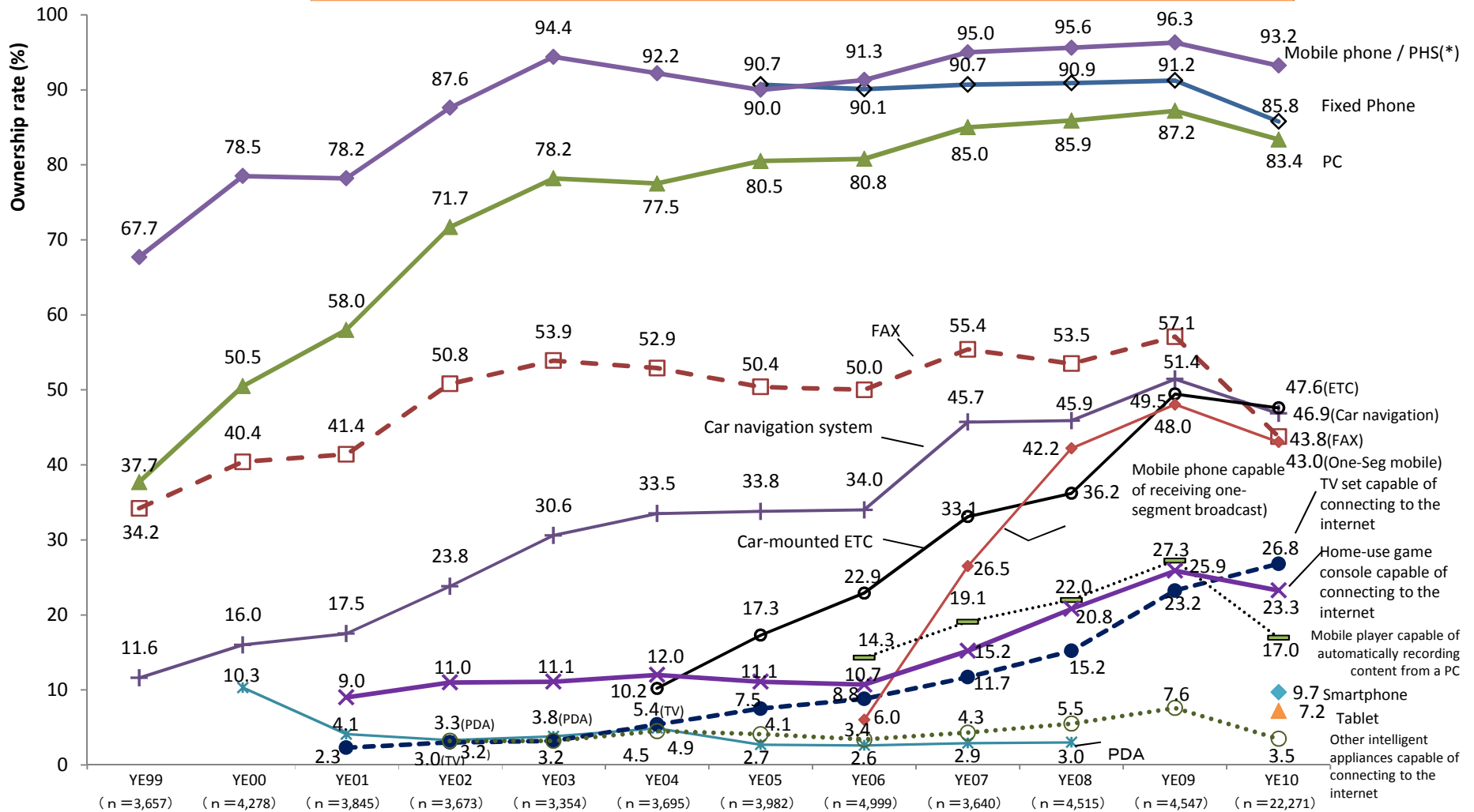


(Source: McKinsey, "Internet matters: The net's sweeping impact on growth, jobs, and prosperity" (2011, May))

# Penetration of ICT equipment

- Household penetration of mobile phones and PCs are approx. 90%, 80%, respectively
- TVs with an internet connection have reached approx. 30%, and tablets 10%

**Ownership rate of ICT Equipment (Households)**



\* Mobile Phone / PHS includes PDAs after YE 09

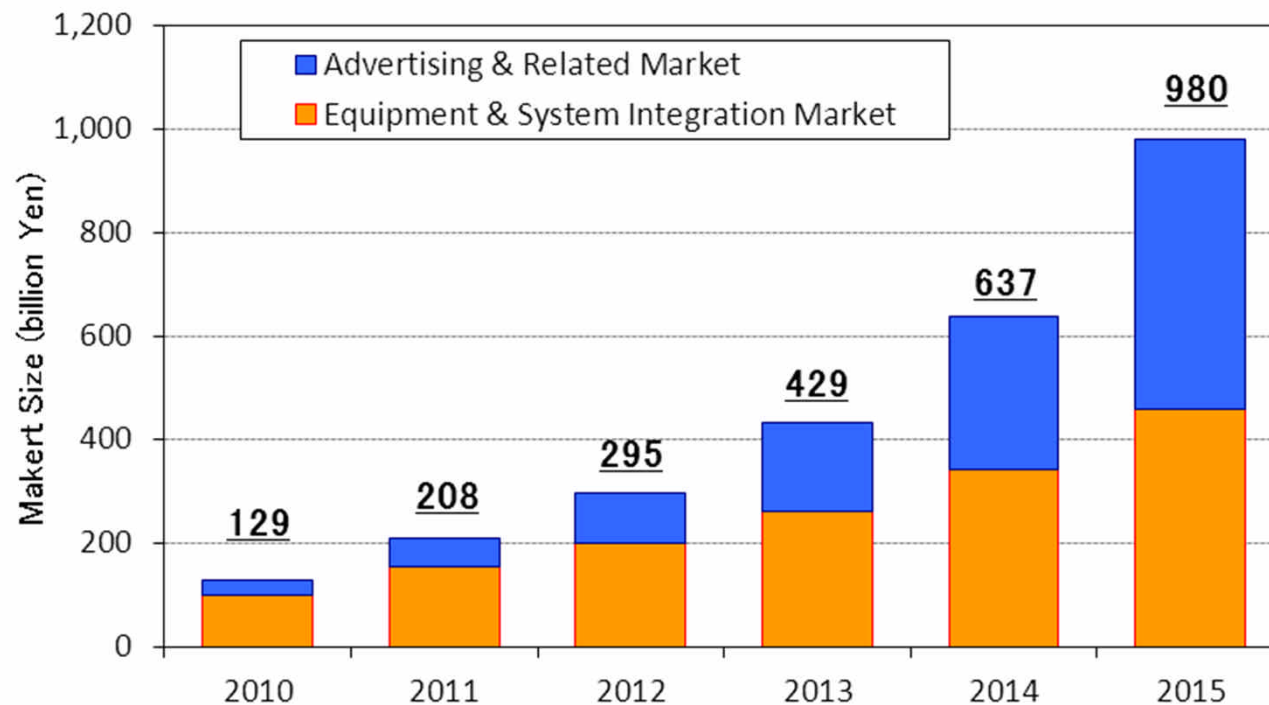
(Source :unofficial translation of ' Communications Usage Trend Survey ' , MIC, 2010)

## 2. Digital Signage Market

# Digital Signage Market ( JAPAN )

- Japan's market is expected to reach 980 billion Yen by 2015
- Particularly, the contribution of advertising & related market is expected to expand

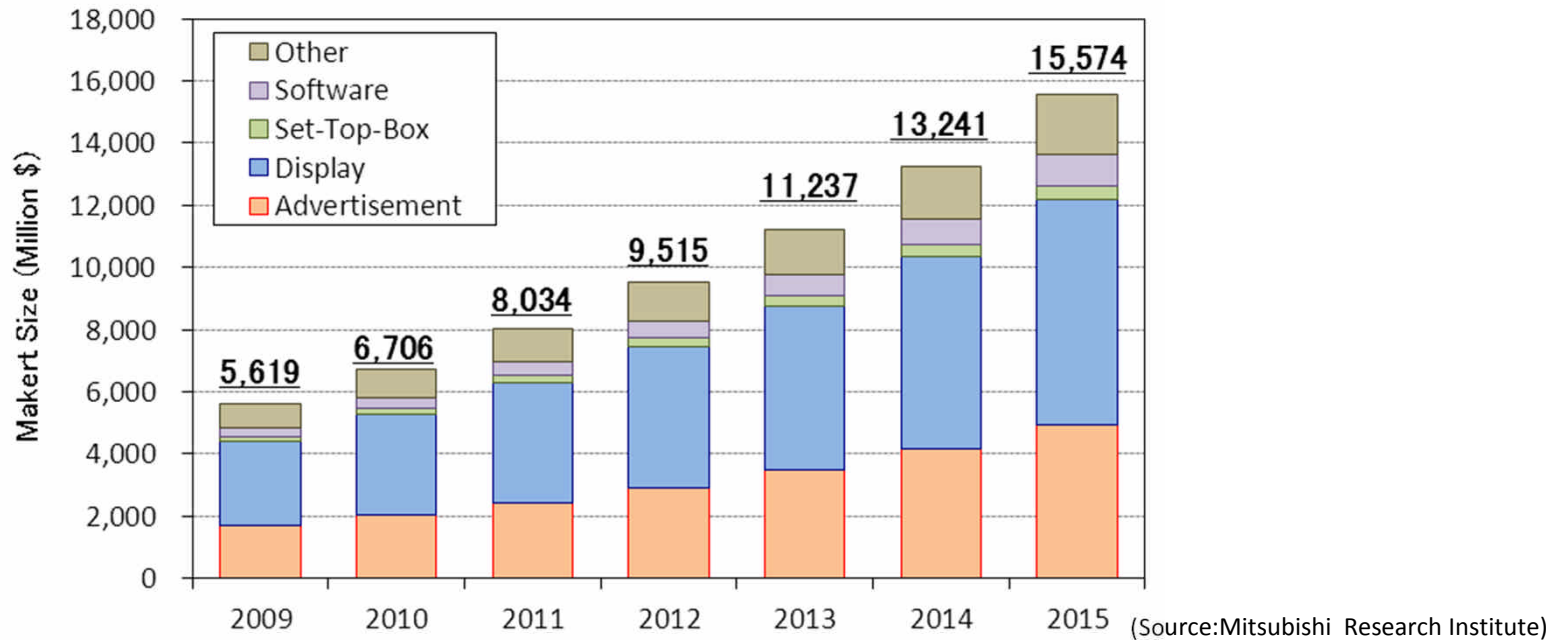
Market forecast of Digital Signage (Japan)



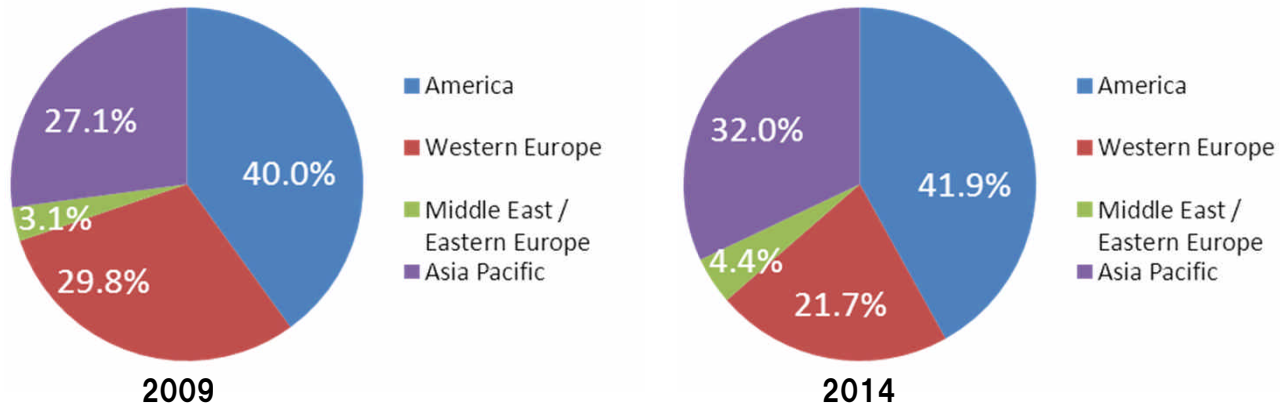
(Source: Mitsubishi research Institute)

# Digital Signage Market ( Global )

Market forecast of Digital Signage (Global)



Market Share (Global)



(Source: YANO Research Institute)



### 3. ICT Standardization Policy

# Study framework for ICT Standardization Strategies in Japan

Government of Japan

Ministry of Internal Affairs and Communications  
(MIC)

Information and Communications Council

ICT Standardization  
policy

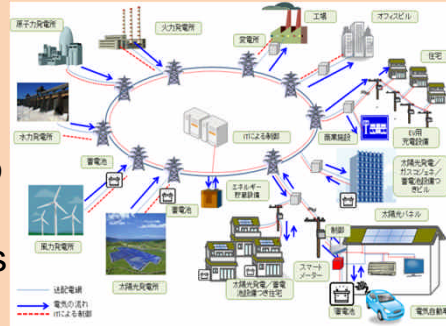
Contribute to  
ITU

# Five main areas in Contents and Media Sector

## (1) Smart Grid

(Home network)

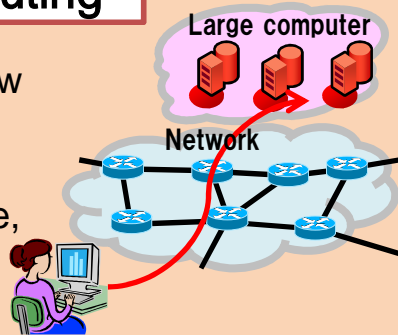
The mechanism to connect consumer electronics and meters to networks, and to achieve control of each apparatus in order to conserve energy within the home.



(Source: METI)

## (2) Cloud Computing

The mechanism to allow each user to use the functionality of a large computer center anytime, anywhere, using a small terminal.



## (3) 3D

The mechanism to allow a stereoscopic (3D) video to be able to be viewed with a home television through broadcasts/communication in addition to such package media as motion pictures and Blu-ray media.



## (4) Digital Signage

The mechanism to create digital images of flyers and advertisements for distribution via networks, according to the attributes of predicted passers, upon large screens at street corners and train stations.



In emergencies, timely disaster information would also be distributed.



## (5) Next Generation Browser

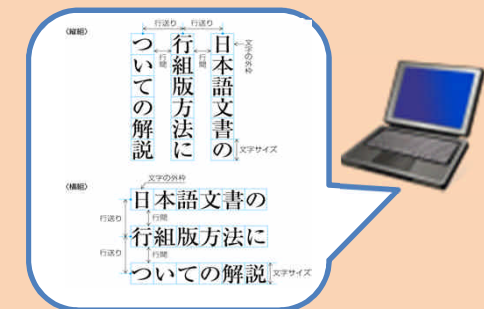
<Web and TV>

The mechanism for achieving the same functionality as a personal computer with a home television in order to allow display of images and videos which are upon the Internet.



< Vertical writing >

The mechanism for displaying vertical writing in a network-type browser.

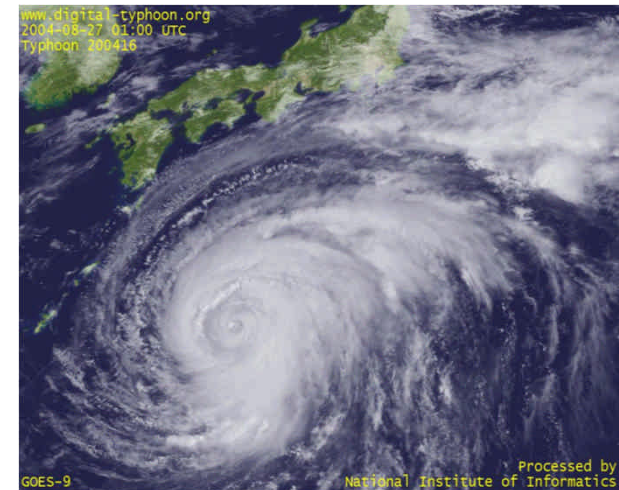
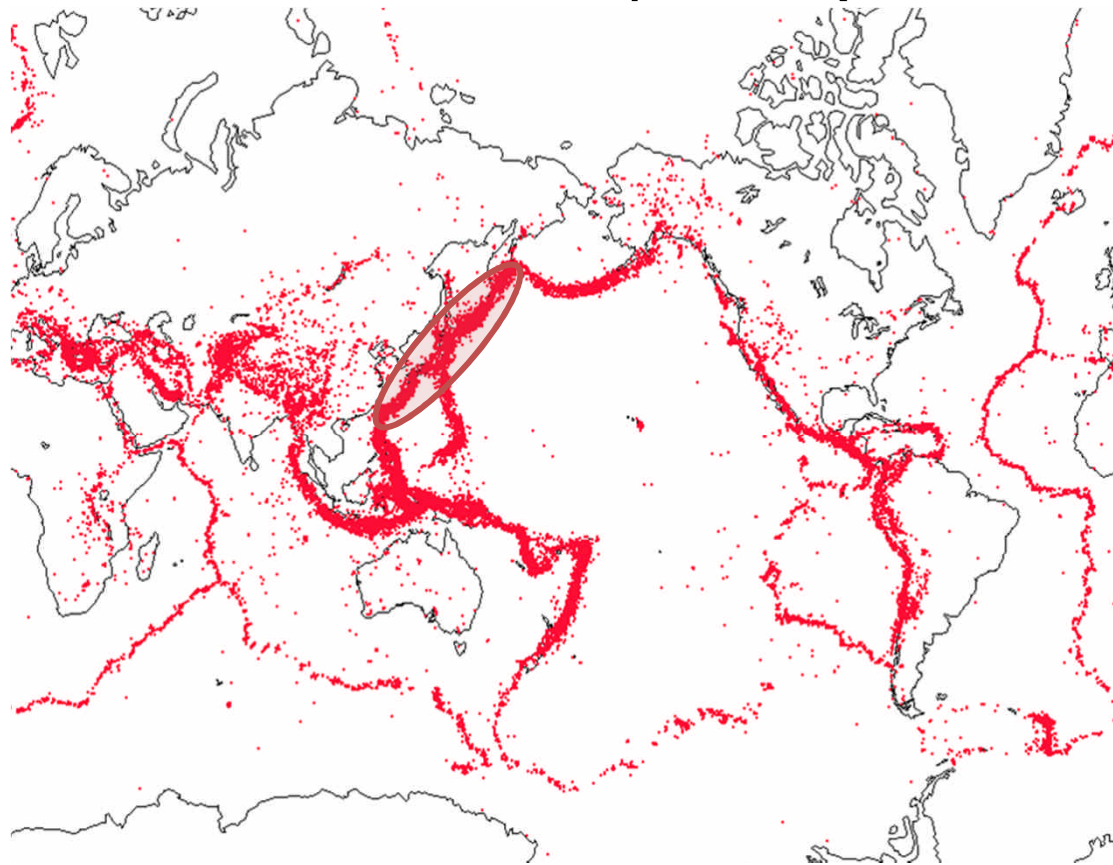


## 4. Digital Signage's Role in the Great East Japan Earthquake

# Natural Disasters

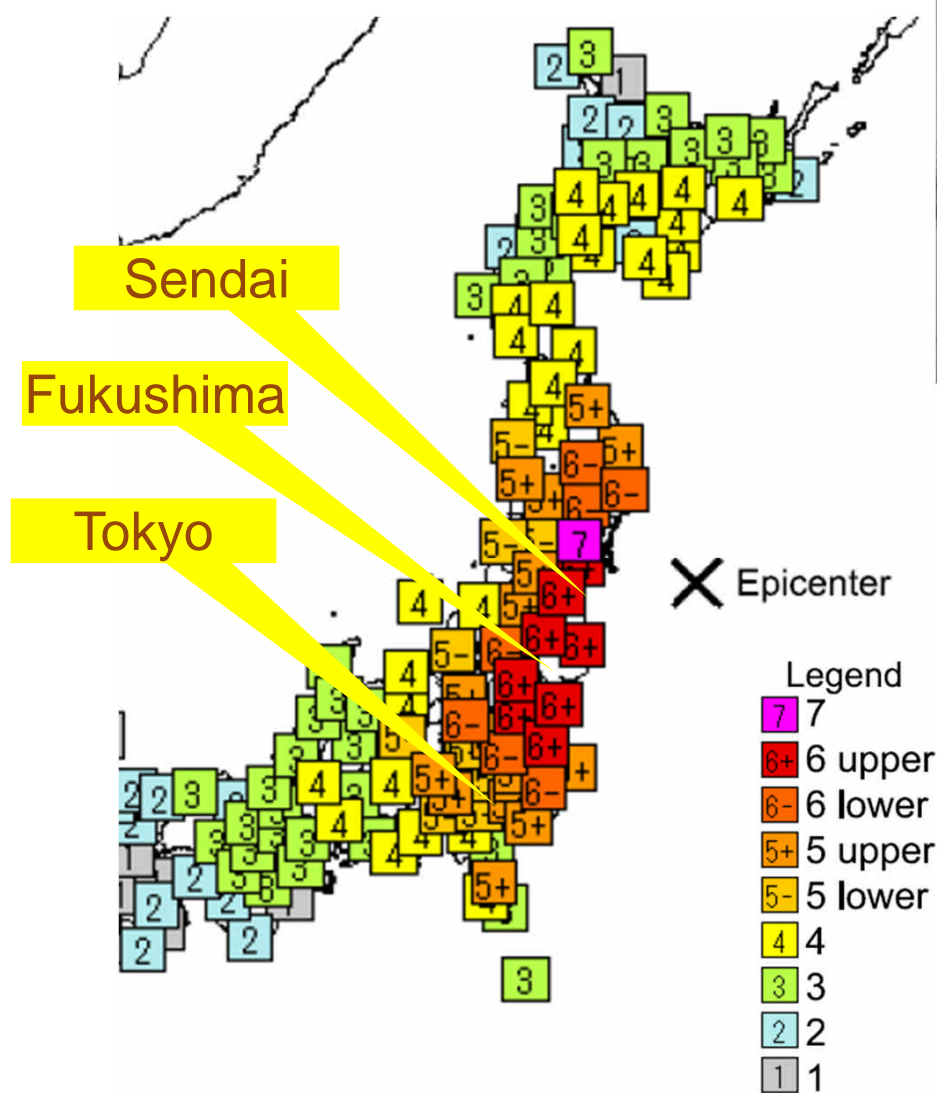
Japan frequently experiences natural disasters, such as earthquakes, typhoons, and heavy rains.

## Distribution of Earthquakes (1990-2000)



(Source: Japan Meteorological Agency)

# The Great East Japan Earthquake (11 March, 2011)



(Source: Japan Meteorological Agency)

# ICT in the Aftermath of the Great East Japan Earthquake

With regards to telecommunications, up to one million landlines went out of service in the NTT East region, while up to 29,000 cellular / PHS base stations (operated by 5 carriers) stopped transmitting/receiving (number of base stations in the Tohoku and Kanto regions is approximately 137,500)

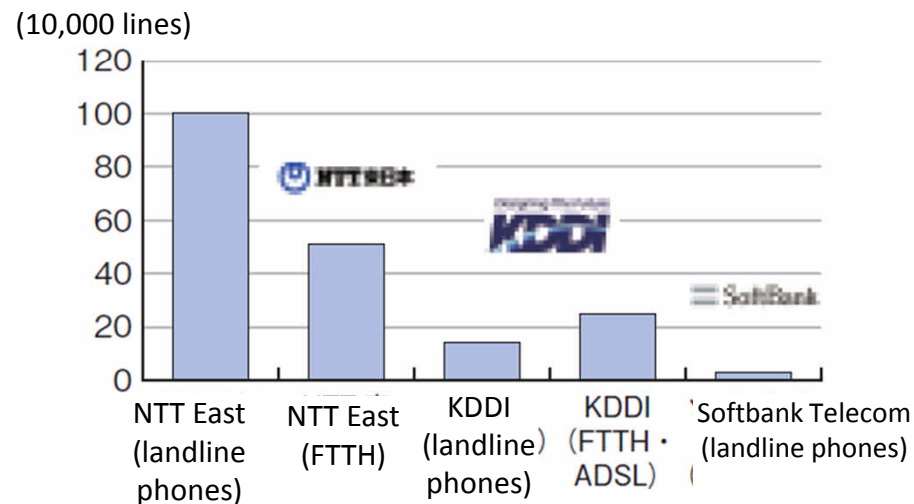
## Telecommunications damage resulting from the Great East Japan Earthquake

### Fixed-line telecommunications

#### Damage

- A total of approx. 1.9 million lines were damaged.
- All carriers had restored service by April except for in certain areas.

(Max. number of damaged lines)

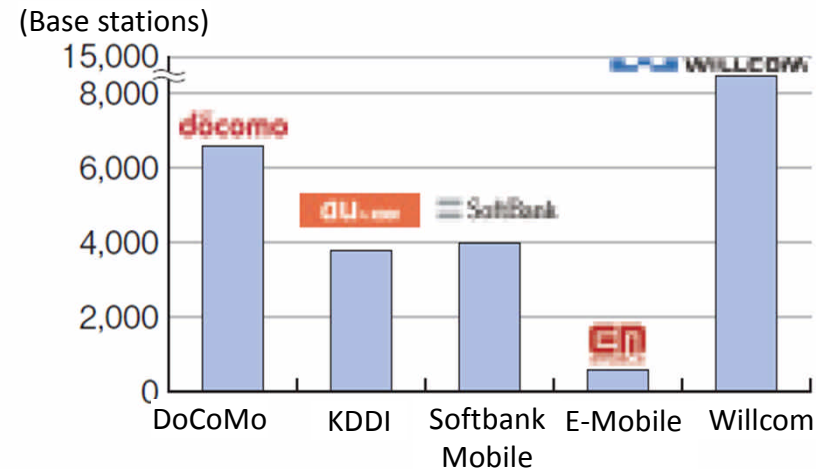


### Mobile telecommunications

#### Damage

- Up to 29,000 base stations stopped transmitting/receiving
- All carriers had restored service by April (except in some NTT DoCoMo, KDDI and Softbank Mobile service areas)

(Max. number of out-of-service base stations)



(Source: White paper on Information and Communication in Japan)

# ICT in the Aftermath of the Great East Japan Earthquake

With regards to congestion, restrictions up to 70% - 95% in scope were imposed on mobile telephone calls. Packets faced much milder congestion, with only a temporary 30% restriction imposed by NTT DoCoMo and none by other carriers.

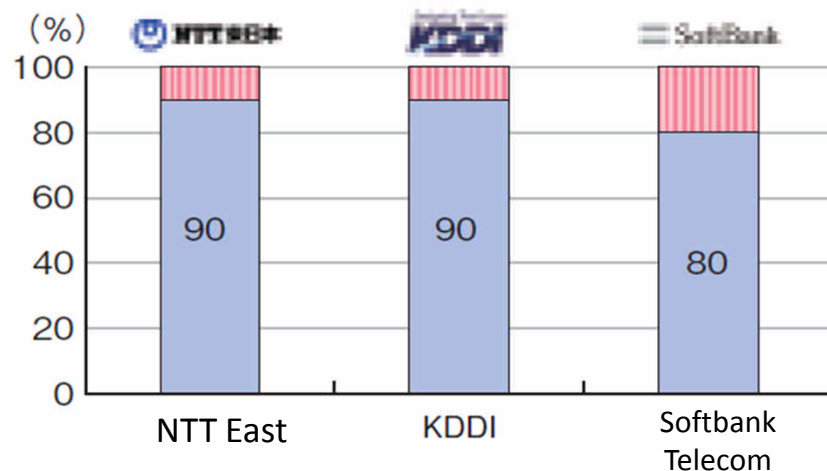
## Telecommunications congestion resulting from the Great East Japan Earthquake

### Fixed-line telecommunications

#### Congestion

■ All carriers imposed up to 80%-90% restrictions on landlines.

(Max. transmission restrictions values)

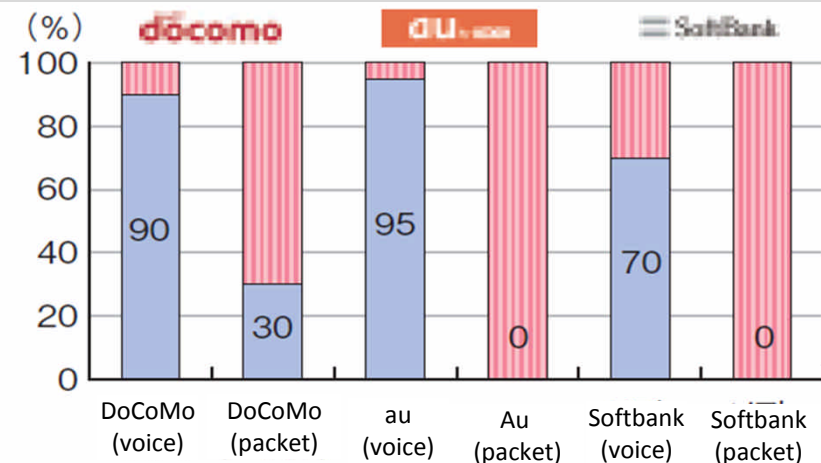


### Mobile telecommunications

#### Congestion

(Max. transmission restrictions values)

■ Restrictions up to 70% - 95% in scope were imposed on mobile telephone calls by all carriers (\*).  
 ■ Packets faced much milder congestion, with no restrictions or relatively minor restrictions.

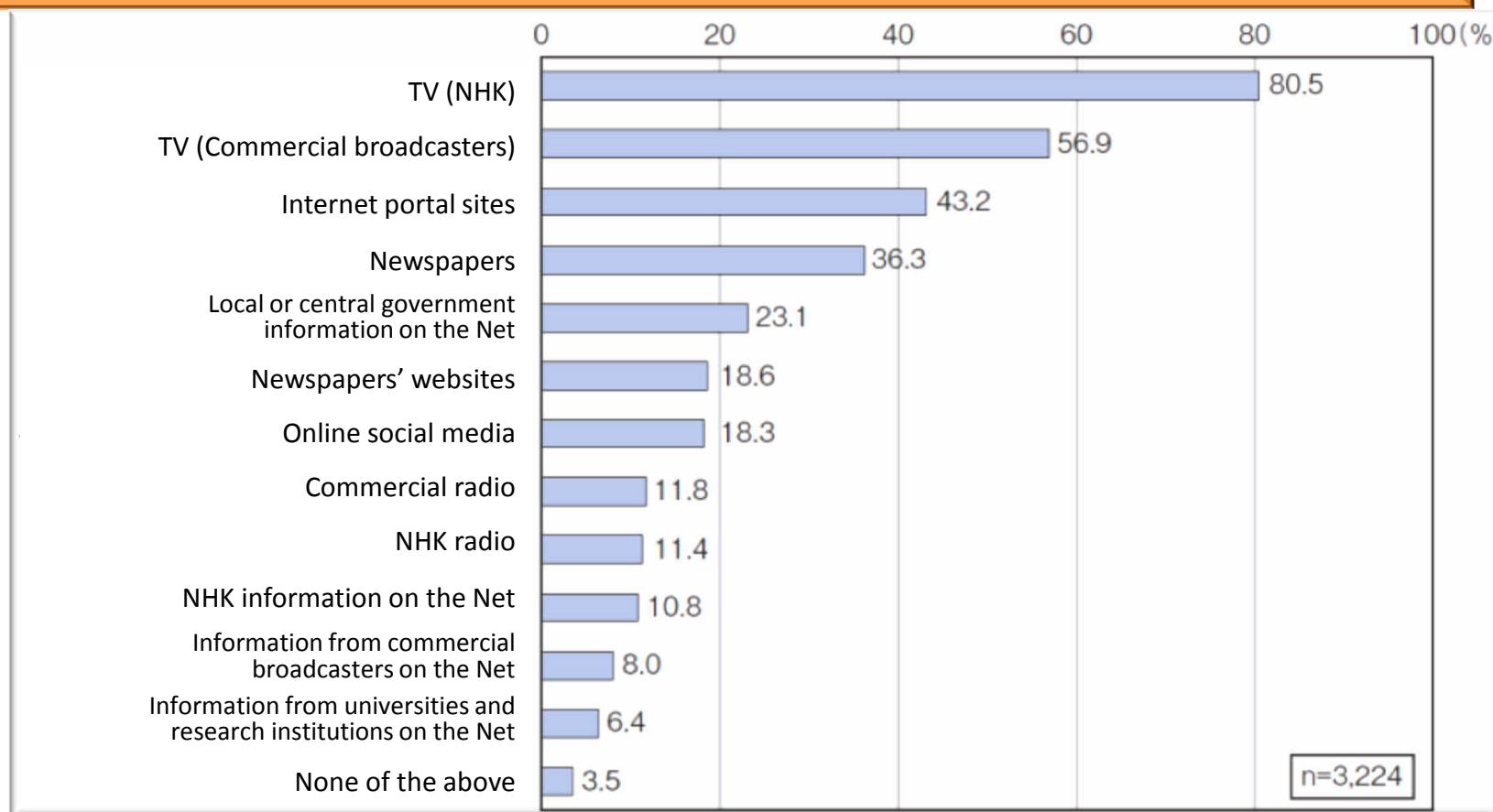




# ICT in the Aftermath of the Great East Japan Earthquake

Television was perceived as an important source of information on the disaster (in the Kanto region).

## Media and information sources perceived as important providers of disaster information (Kanto) (multiple answers)



\*Based on a survey of Internet users aged 20-59 residing in the Kanto region, conducted on March 19-20, 2011 by the Nomura Research Institute

\*The "Internet" category includes accessing of the Internet by mobile phone

\*"Internet portal sites" includes Yahoo!, Google, etc., but does not include the websites of newspapers, broadcasters, etc.

\*"Internet social media" includes Twitter, mixi, Facebook, etc.

(Source: White paper on Information and Communication in Japan)

# Digital Signage at the time of disaster

Digital Signage played an important role in providing information on the Great East Japan Earthquake



People gathering around the digital signage



(Source: Mitsubishi Estate)