recent developments and emerging issues in digital infrastructure

Digital infrastructure： recognized as the foundation of economic and social activities. We share the importance of developing safe and resilient infrastructure.

Japan would like to promote actively to use Japan's technological capabilities and cooperate with other countries to improve connectivity worldwide.

As the chair of the G7 this year, we consider to discuss the importance of digital infrastructure and its future.

We expect that non-terrestrial network (NTN) would be making a great progress for the Beyond 5G.

NTN will bring great benefits to island countries, we continue to advance such research and development.

physical infrastructure deployment

The importance of digital infrastructure that enables a non-face-to-face, non-contact lifestyle such as telework, remote education, and remote medical care, is increasing further, and it has become indispensable to support the current socioeconomic activities and people's lives.

In Japan, there is a growing need for 5G.

Japan announced that 5G had a nationwide population coverage rate of 93.2% as of the end of fiscal 2021. While 5G significantly improves communication speed and the number of simultaneous connections compared to 4G. We aim to achieve 5G population coverage rates of 95% by the end of fiscal 2023, 97% by the end of fiscal 2025, and 99% by the end of fiscal 2030.

In March 2022, Japanese government announced that, with the goal of increasing the optical fiber installation rate (household coverage rate) from 99.3% at the end of March 2021 to 99.9% by the end of March 2027.

cybersecurity

It is becoming increasingly important to address issues related to cyberspace.

While relevant ministries and agencies are working together to strengthen cybersecurity, we are working to strengthen cyber security in the ICT field, focusing on ensuring the security and reliability of information and communications networks and improving the ability to autonomously respond to cyber-attacks.

In the necessity to address cybersecurity issues across national borders, Japan has also made efforts to support capacity building in the field of cybersecurity overseas. Specifically, Japan has provided capacity building programs for the ASEAN region.
We will continue to consider the further capacity building assistance in the Indo-Pacific region.

data privacy

The amended Personal Information Protection Act to protect the rights and interests of individuals, enforced in April 2022.
There are 6 points of revision.

Point 1: The protection of the rights of the person concerned is strengthened.

Point 2: Add responsibility of the operator

Point 3: A new organization system will be established for organizations that specialize in specific areas of business.

POINT 4: Data utilization is promoted

POINT 5: To increase penalties for violations

POINT 6: Penalties such as collection of reports and on-site inspections for foreign business operators will be added.

data localization

From the standpoint of data security, sensitive data should be stored in data centers located in the country.

There's another benefit to this: services like autonomous driving, where delays are a concern, need to be located in local data centers in the region to function properly.

In the future, it will be a problem to install IX in the region.

Looking Ahead

Progress in information and communications technology
・Evolution of networks (practical application of all-optical networks and photoelectric fusion technology, B5G)
・Evolution of AI (Cyber-Physical System, Digital Twin)
Evolution of Robotics Technology
・xr Technology Advances (Advent of Metaverse)
・people, increasing importance of metadata such as goods, environment, etc. (realization of semantic web)

Trends in changes in the business environment of the ICT industry
・Communication networks have changed from a means of communication to a means of living, and there is a strong desire to be more dependable (increase in importance of communication, expansion of user generation, and industrial needs)
・Increase and aggravation of defamation
・Increasing sophistication of deepfakes, disinformation, etc.
・Increased risk in cyberspace (increased threat of cybercrime and cyberattacks)
・SprinterNet (Fragmentation of Cyberspace)

Changing Usage Trends
・Network becomes earthpipe due to progress in encryption of communications
・Actuators that feed back analysis results in cyberspace to the real world (hardware) is important

Share views on recent developments and emerging issues in digital infrastructure, including cybersecurity, data privacy, data localization and physical infrastructure deployment and interconnection issues