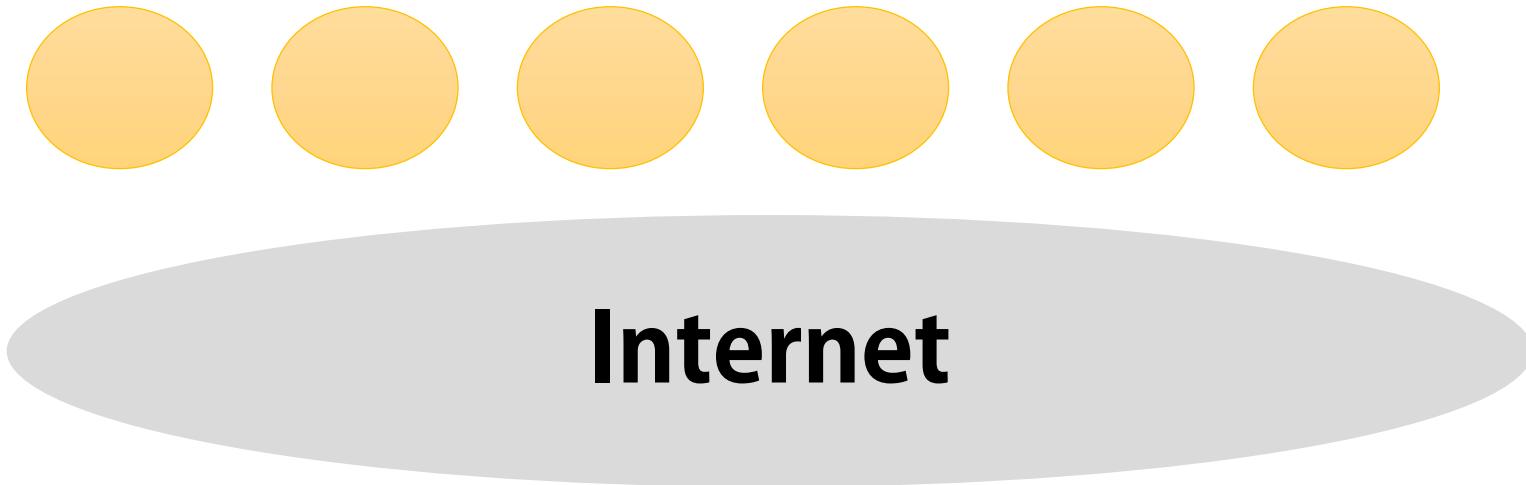


IoT:
Japan's Strategy and
International Competitiveness

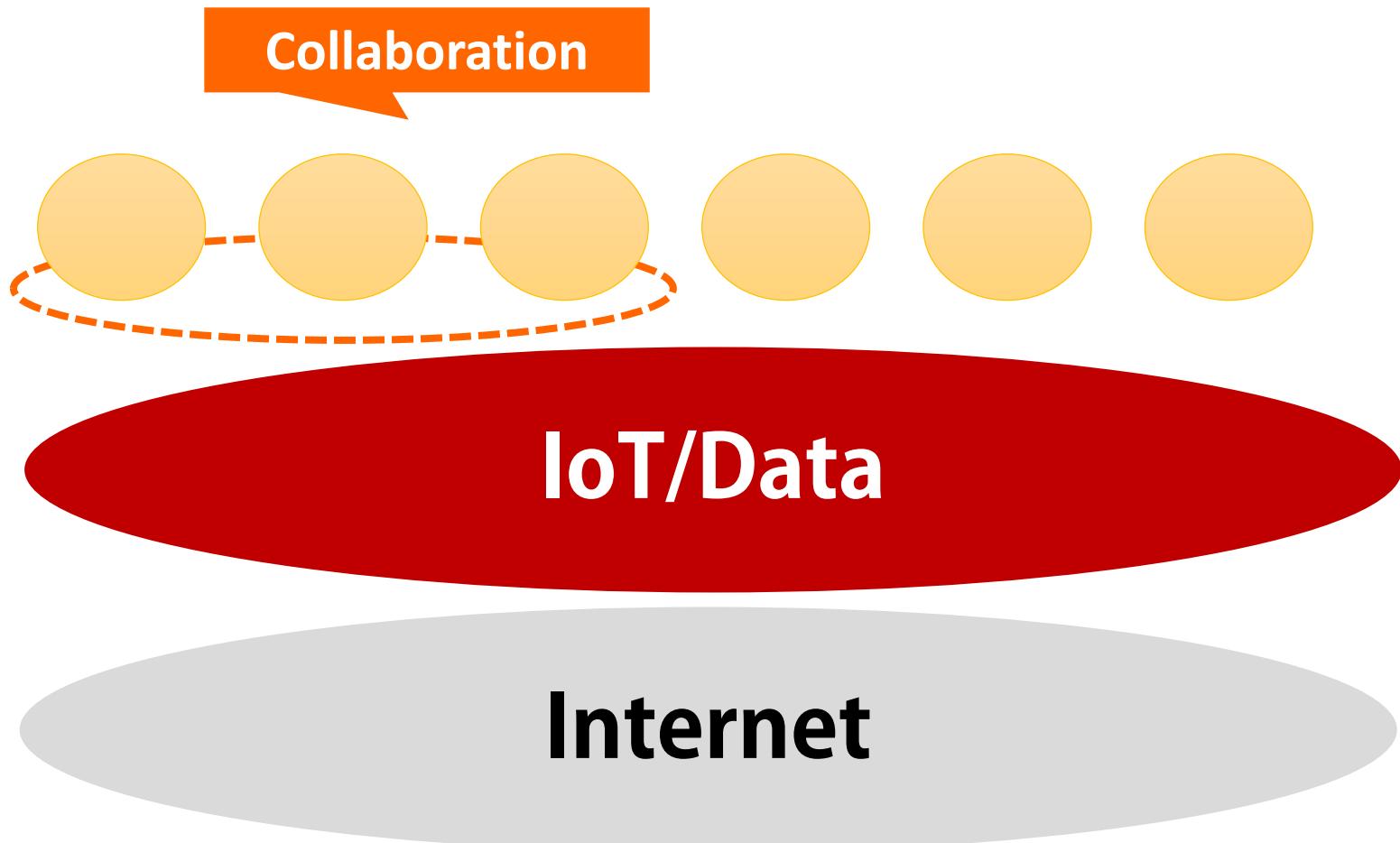
Jun Murai

KEIO University

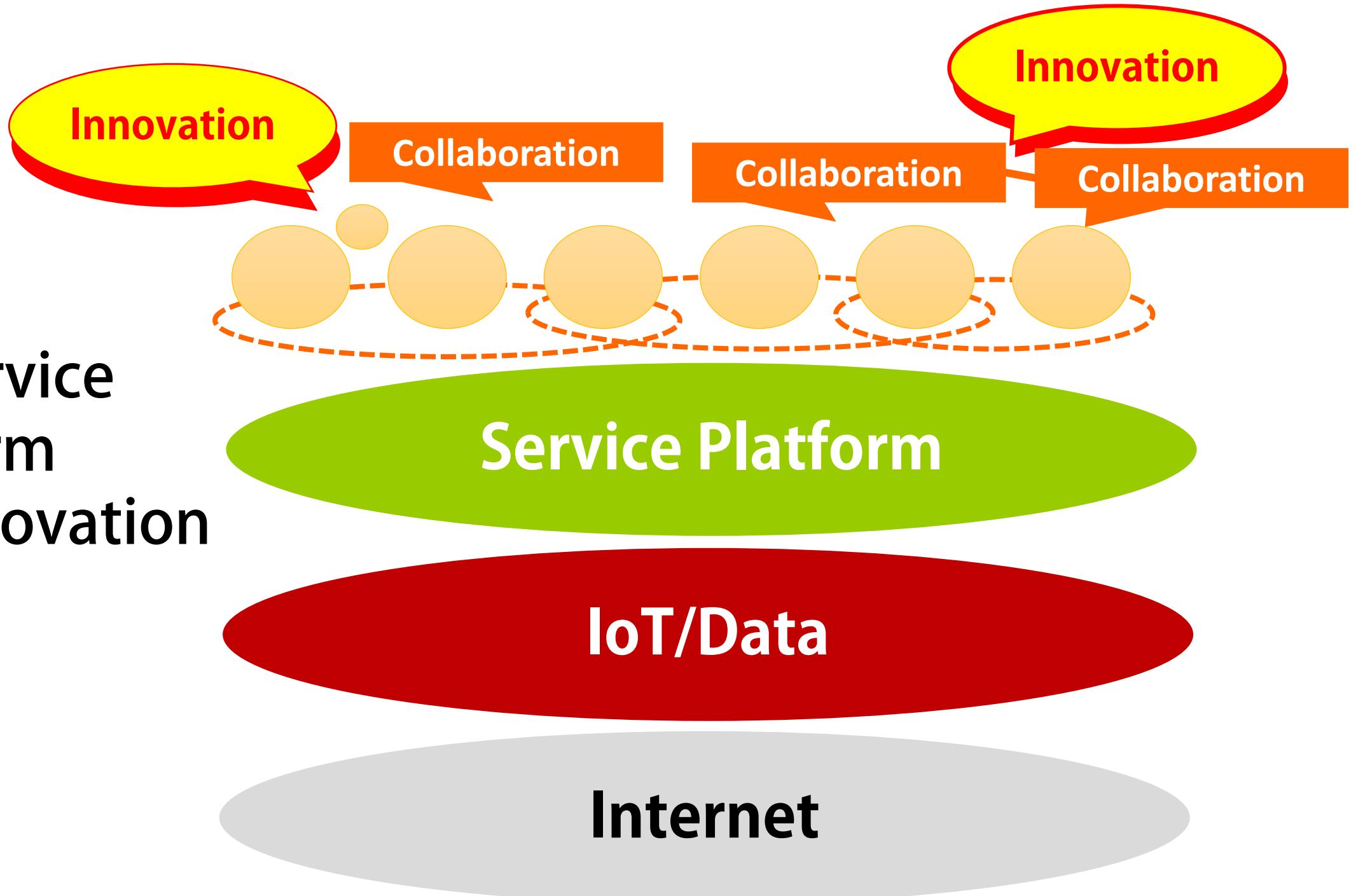
**The Internet
Bridging
The Verticals**



**Data for
“beyond
the borders”**



IoT Service Platform for Innovation





Open Data Initiatives, Practices and Progress

27-Feb-2015

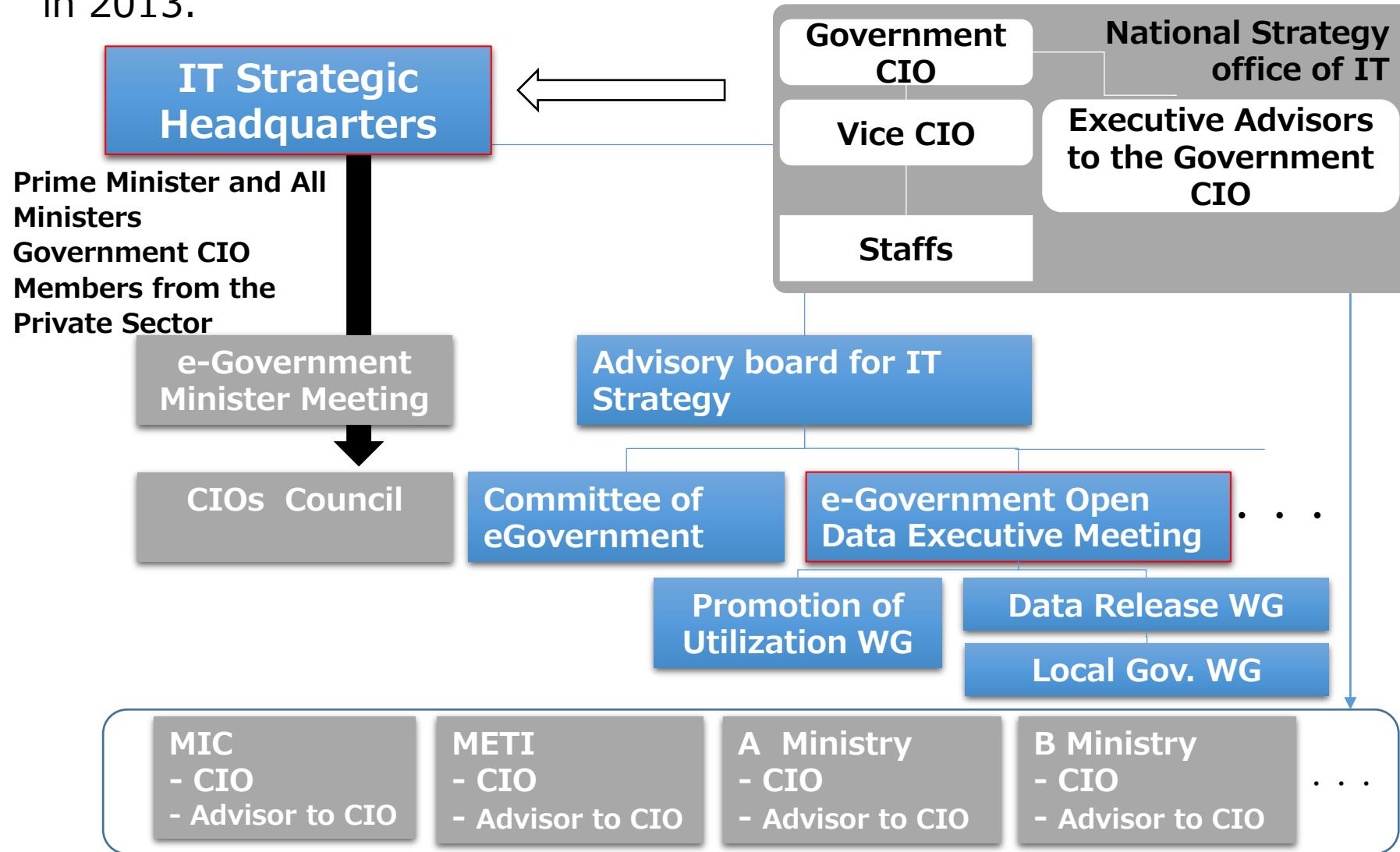
National Strategy Office of Information
and Communication

Technology

Cabinet Secretariat
Government of JAPAN

The Organization for Promoting Open data

- The GCIO was established in 2012 and it's become institutional position in 2013.

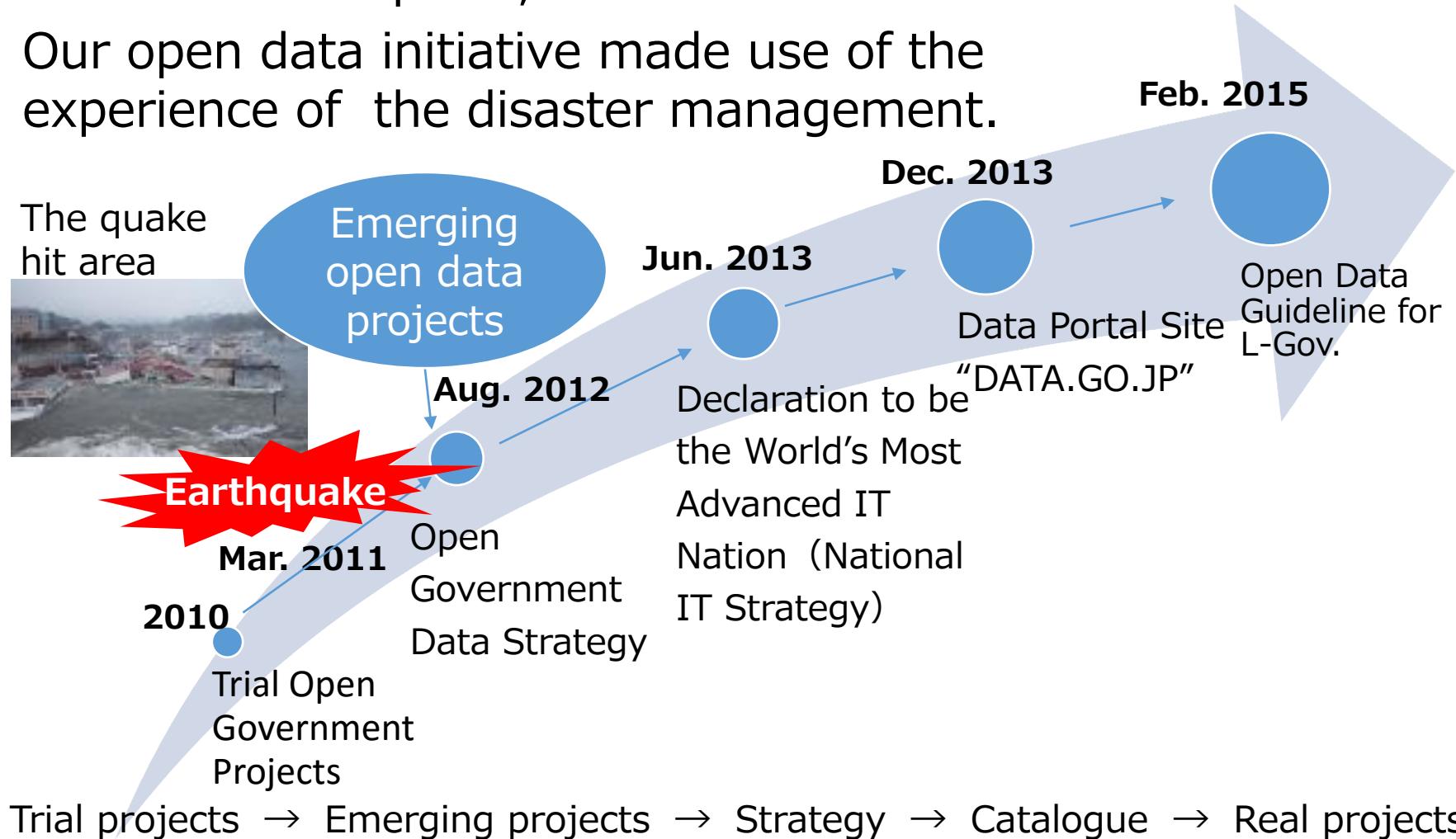


History of the Open Data Initiatives

This open data Initiatives was not a straight way.

After the earthquake, we worked in real fields.

Our open data initiative made use of the experience of the disaster management.



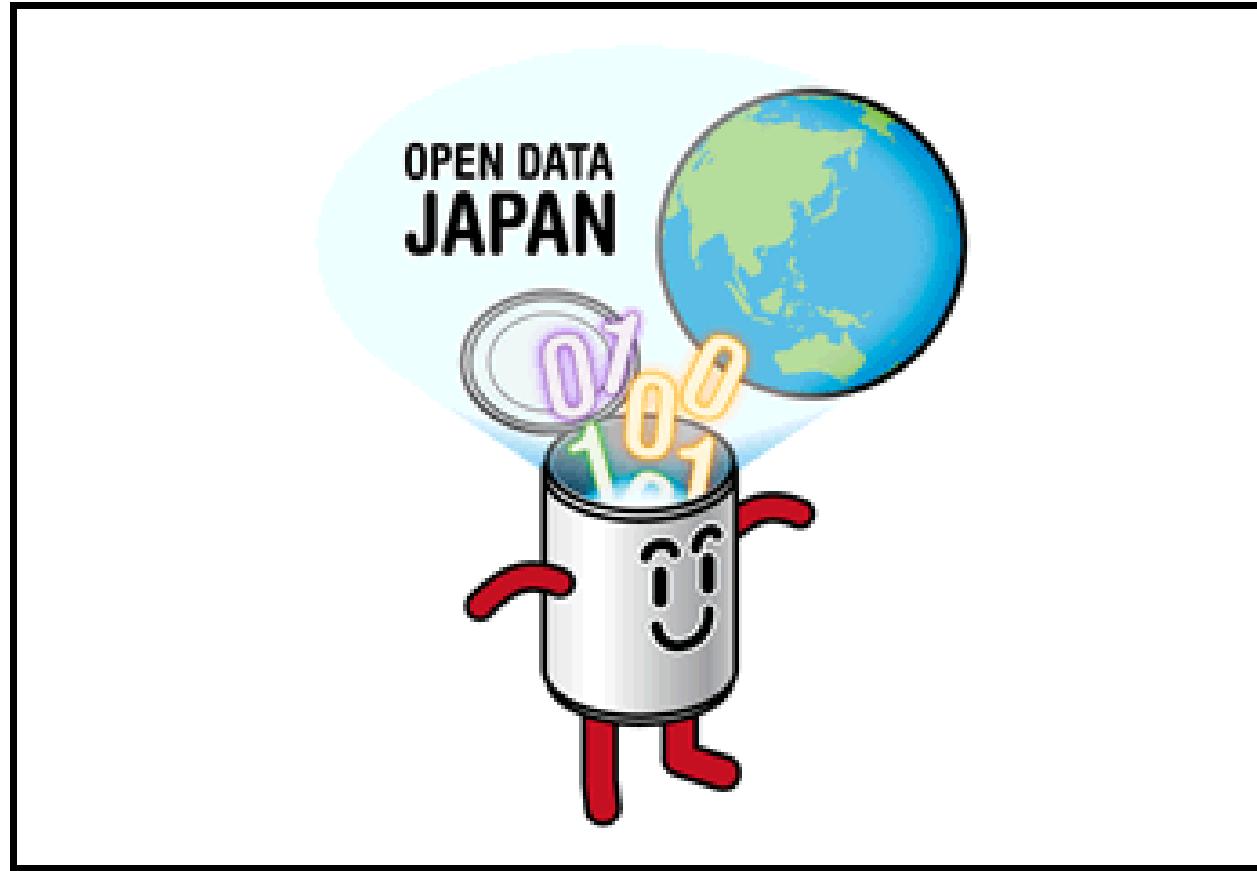
National Open Data Portal Site "DATA.GO.JP"

The screenshot shows the DATA.GO.JP website interface. At the top, there's a navigation bar with links for 'What's New', 'Terms of Use', 'Data' (which is highlighted in blue), 'Open Data Initiatives', 'Communication', and 'Developers'. Below the navigation is a breadcrumb trail 'Home / Datasets'. On the left, there are two dropdown menus: 'Organizations' (with options like Cabinet Office, Ministry of Internal Affairs, etc.) and 'Groups' (with options like Business, Household, etc.). The main content area has a search bar containing 'White Paper'. A hint below it says 'hint: you can use keyword(AND,OR,NOT) to search dataset.' followed by an example: 'eg:administration AND environment NOT white paper → only show dataset include administration and environment but not white paper'. There are two download buttons: 'Download meta data' and 'Relevanc...'. Below these buttons, it says '1,615 datasets found for "White Paper"'. Two datasets are listed: 'Japan's ODA White Paper 2001' and 'White Paper on Local Public Finance, 2013 – Illustrated –'. Each dataset has a PDF icon, a release date (e.g., 2014-12-05), and a last modified date (e.g., 2015-01-16).

www.data.go.jp

- 12,807 datasets (Feb 2015)
- Function
 - Data catalogue
 - Open data information portal
 - Data Request
- Terms of Use
Citizens can use all data.
- Mechanism
 - Metadata : DCAT-based
 - System : CKAN2.0

Character of Open Data Japan



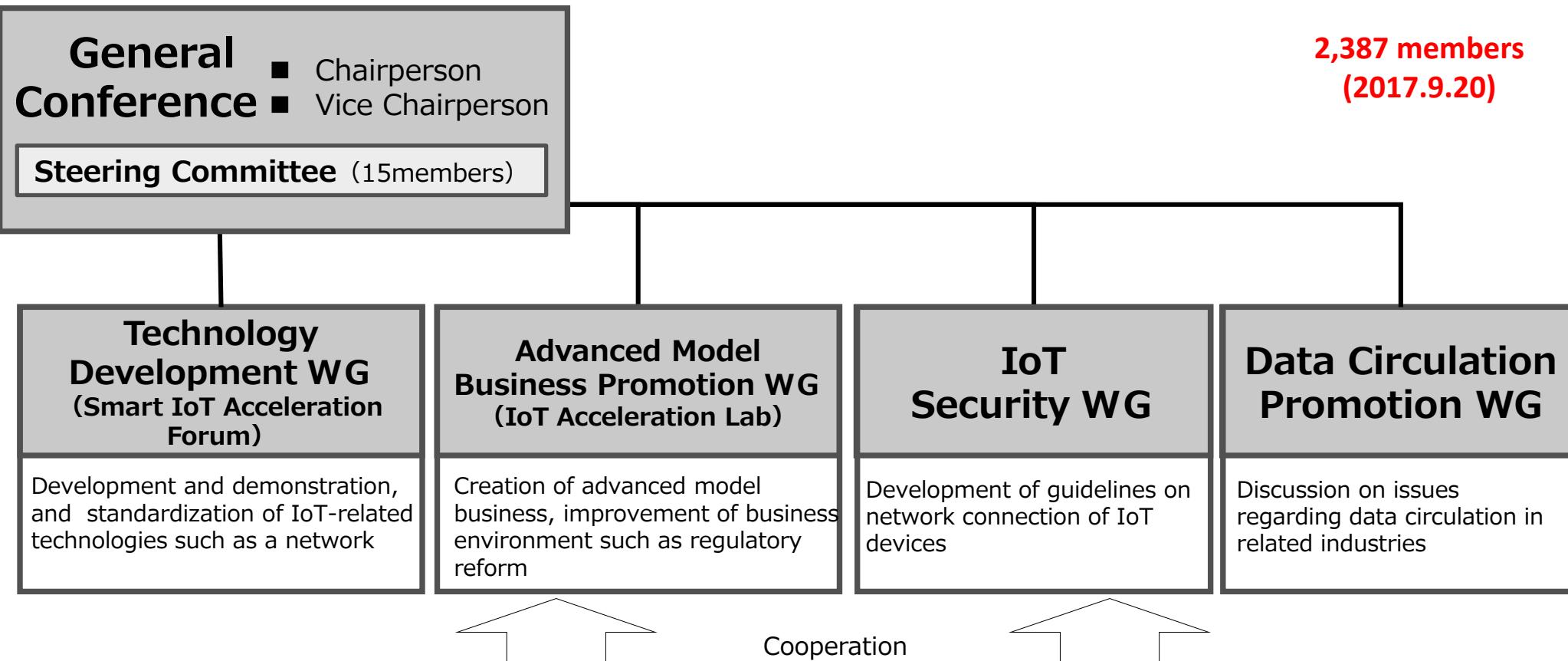
Note: CAN(KAN) means “*government service*” in Japanese.



IoT Acceleration Consortium Overview and Activity Summary

October 2016

- In response to the era of IoT/Big Data/AI, private sector lead organization "IoT Acceleration Consortium" is established on 23 Oct 2016, in order to promote the utilization of IoT in industry, government and academia.
- The consortium give advice on R&D, utilization and policy issues regarding IoT.



- The Consortium will promote cooperation with foreign countries on IoT testbed experiments and standardization activities. It will aim at creating and spreading global IoT businesses led by Japanese companies.
- The Consortium has signed MoUs with Industrial Internet Consortium (IIC) and OpenFog Consortium respectively on Oct 3, 2017.

Industrial Internet Consortium (IIC)



Established on March 2014. Founding members are AT&T, CISCO, GE, IBM and Intel. IIC aims at promoting industry development of IoT.

<Purpose of MoU>

MoU aims at efficient and effective creation of global IoT solution through experiments based on sharing testbeds and common understandings on IoT architecture.

OpenFog Consortium



Established on November 2015. Main founding members are ARM, CISCO, Dell, Intel, Microsoft, Princeton University. Openfog aims at developing open architecture and distributed computing technologies (Fog Computing).

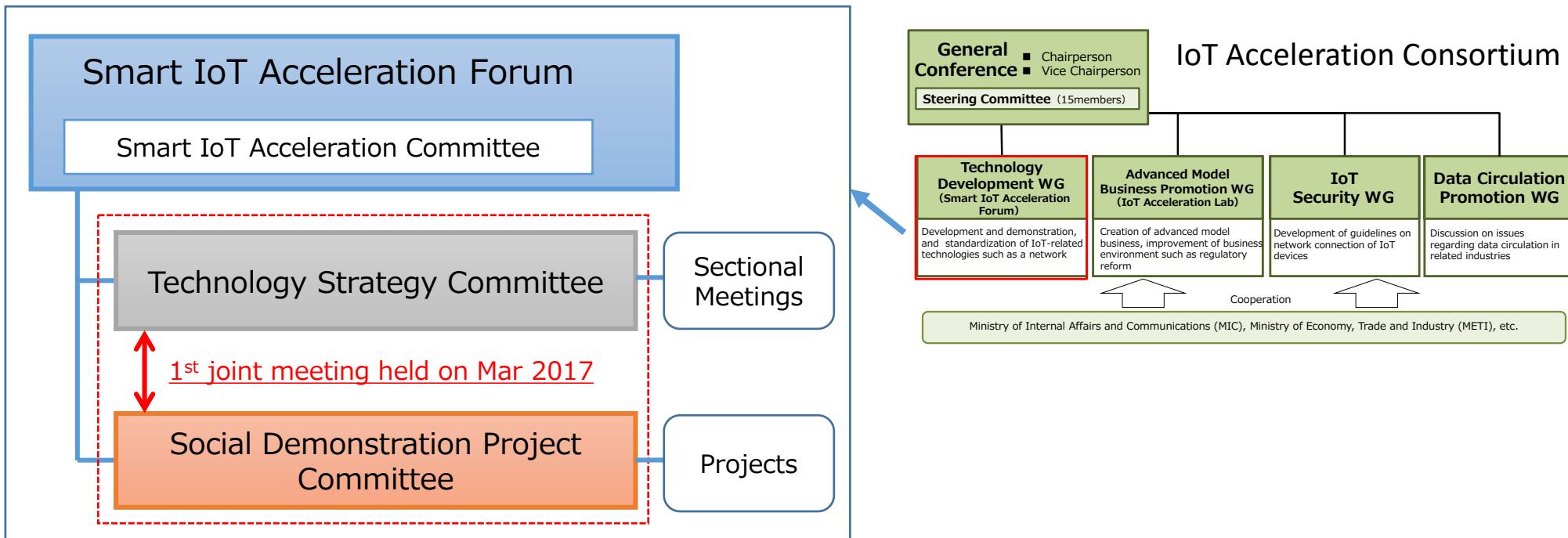
<Purpose of MoU>

MoU aims at promoting cooperation on experiments and standardization activities conscious of distributed computing, especially targeting IoT solutions in industry areas where real-time and big-data processing is required.

Main points of cooperation

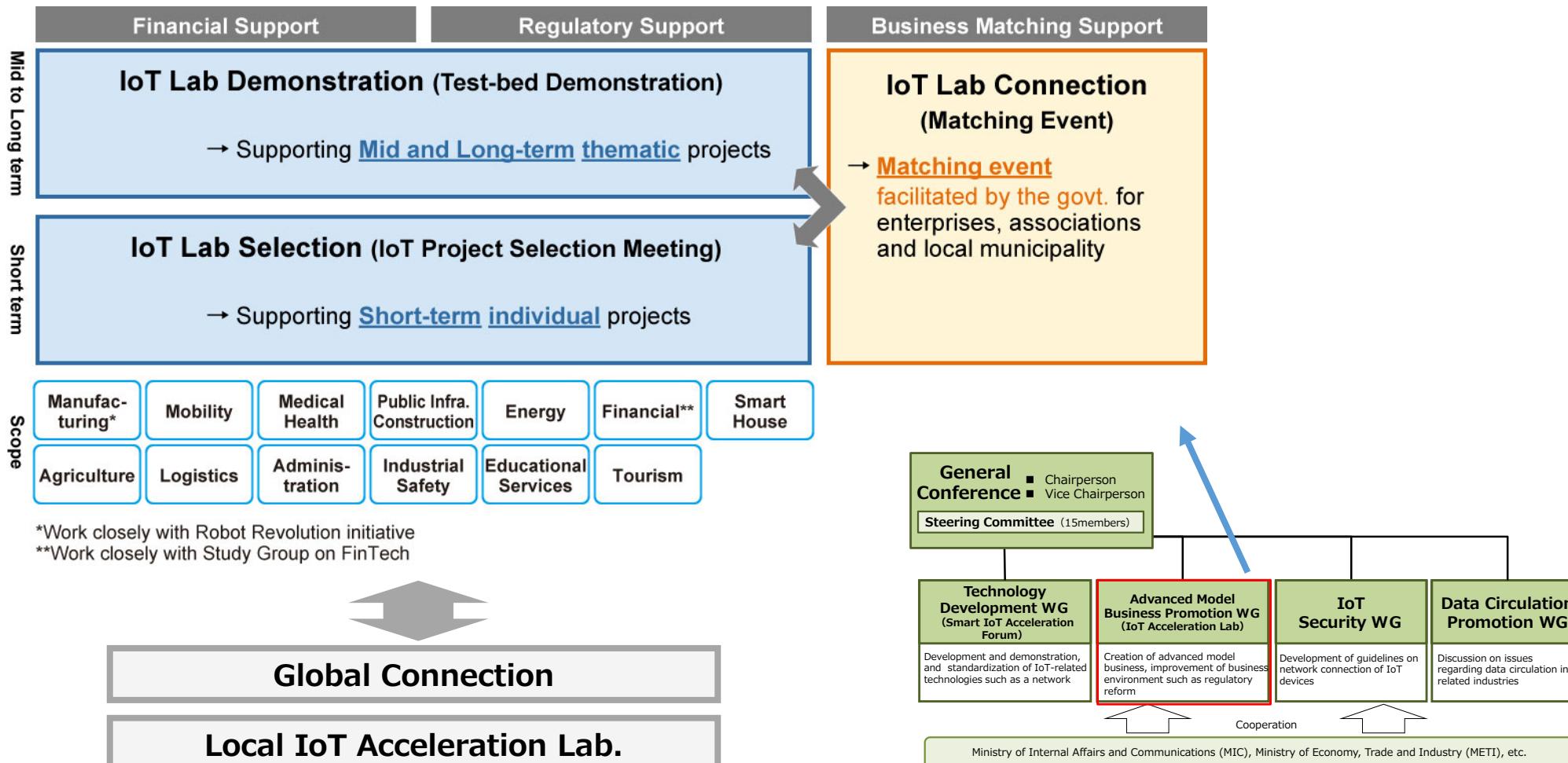
- ✓ Discovering and sharing good practices
- ✓ Cooperation on testbeds and research projects
- ✓ Ensuring interoperability of IoT architecture
- ✓ Cooperation on standardization activities
- ✓ Other cooperation based on agreements between both parties

- Smart IoT Acceleration Forum is established in order to promote technology development and demonstration as well as standardization based on cooperation between, industry, academia and government.
- Technology Strategy Committee and R&D and Social Demonstration Project Committee are established, and several sectional meetings and projects are under way.

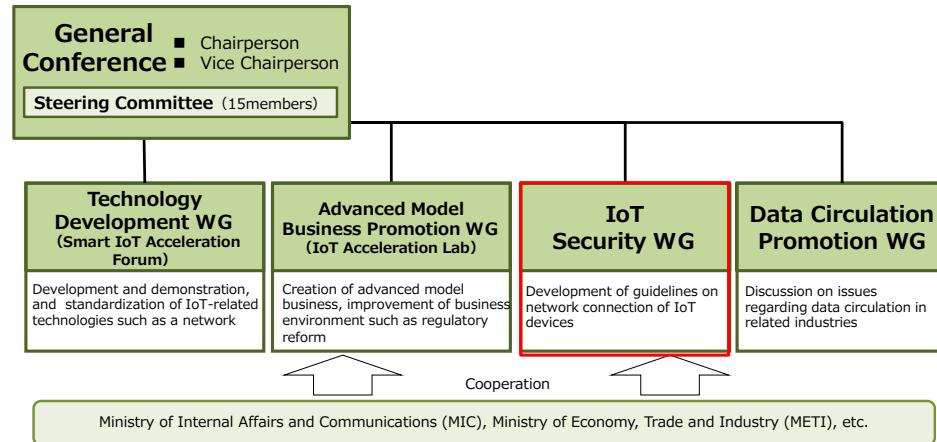


- 1st general meeting held on Dec 4, 2015
- Decision was made to establish Technology Strategy Committee and R&D and Social Demonstration Project Committee, and action principles were discussed.
- NICT and private companies exhibited demonstrations on IoT technology.

- IoT Acceleration Lab is a platform between the government, Academia and industry to create new IoT projects.
- Lab supports mid and long-term thematic projects by multiple companies as well as short-term individual projects, providing financial, regulatory and business matching support.



- There are increased risks accompanied by the development of IoT society, where wide variety of devices are connected to the network, such as leak of information and malfunctioning of equipments by cyber attacks.
- IoT Security WG has developed “IoT Security Guideline ver1.0”, which prescribes guiding principles on provision of IoT systems and services for each stage of life-cycle.



<Overview of IoT Security WG>

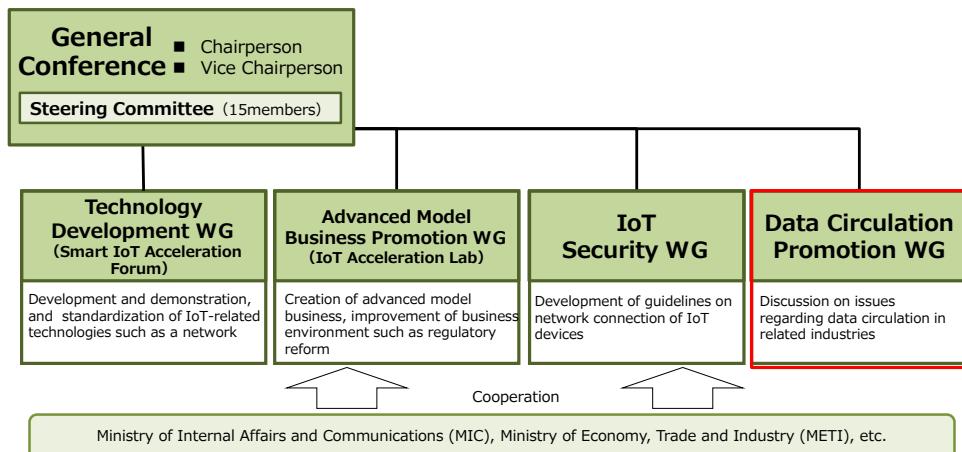


Jan 21, 2016
 - 1st meeting
 Apr 22, 2016
 - 2nd meeting
 - draft guideline
 Jul 5, 2016
 - final guideline adopted

5 basic principles on “IoT Security Guideline ver1.0”

1. Principle: make basic principle considering the nature of IoT
2. Analysis: analyze and recognize the risk of IoT
3. Design: design properly to protect what should be protected
4. Implementation: proper measures on network connection
5. M&O: maintain secure and safe state, share information

- Data Circulation Promotion WG was established on Jan 2016 in order to promote data circulation and transaction beyond the wall of industry areas.
- Many companies are hoping to make B2B data transactions utilizing IoT, but many of them are hesitating because of the risks such as claims from consumers.
- WG will discuss and make clear the issues and possible measures regarding IoT data transactions, based on concrete use cases raised from interested parties, and promote data utilization across multiple industries.
- “Camera image utilization sub-WG” was established on Jul 2016, and guidebook will be published soon.



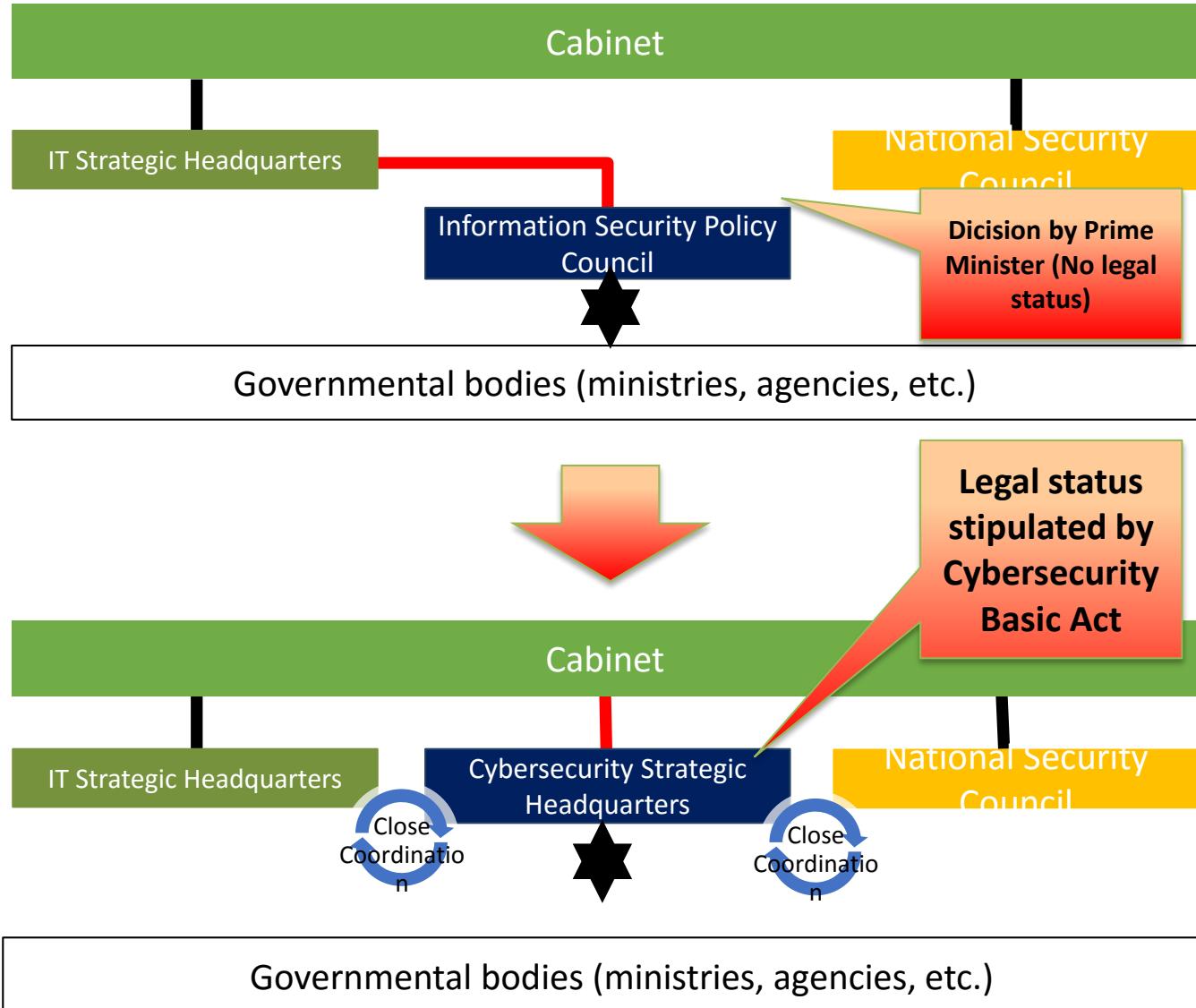
<Overview of Data Circulation Promotion WG>



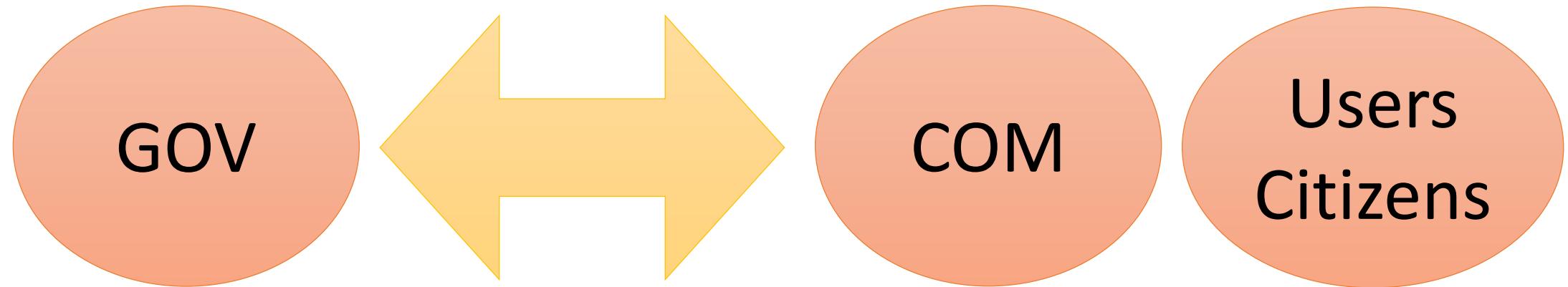
- WG meeting is held once a month
- Related companies are joining the discussion
- “Camera image utilization SWG” is held from July to October 2017

Example of use cases discussed

1. Utilization of taxi probe data
2. Circulation of personal location data
3. Commercial utilization of data gathered by local authorities



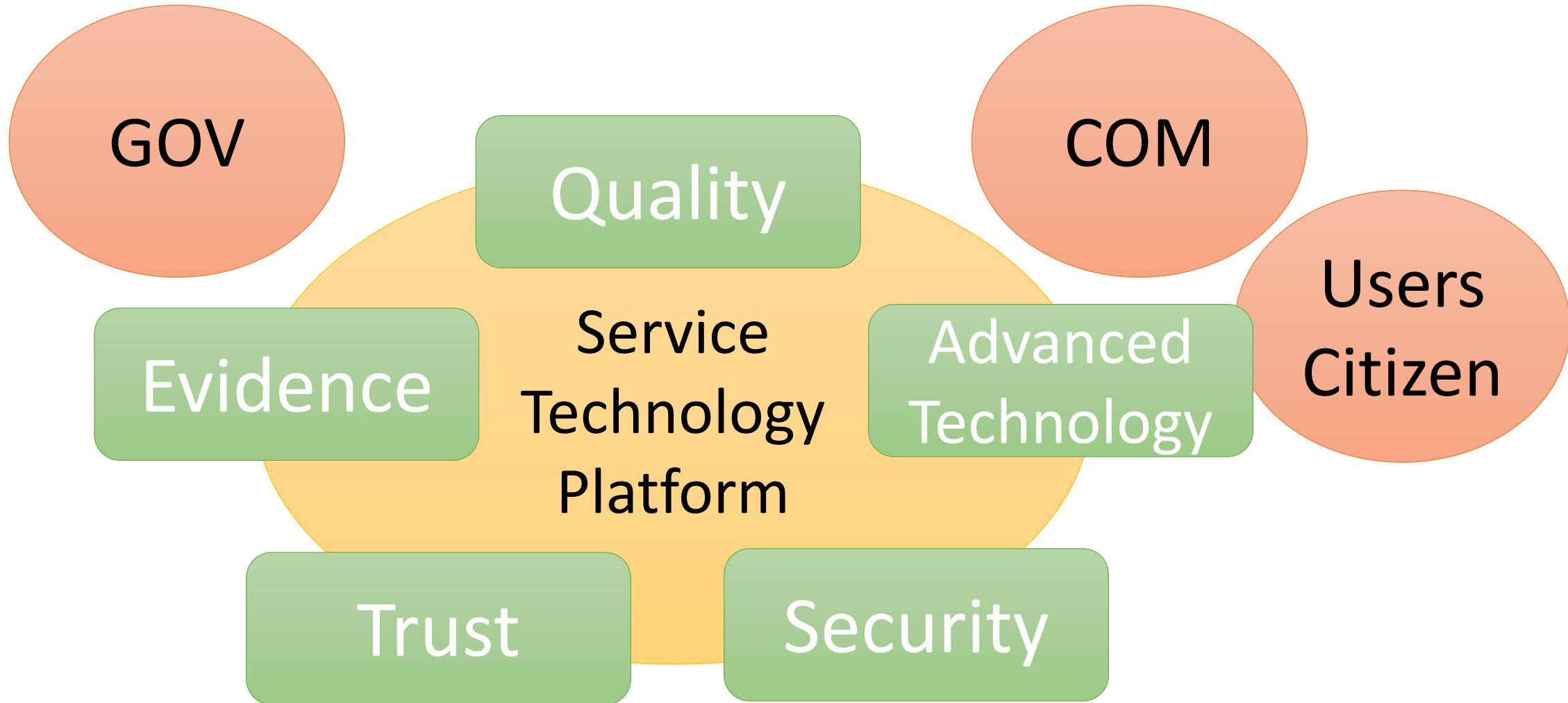
Roles of Stakeholders on the Internet

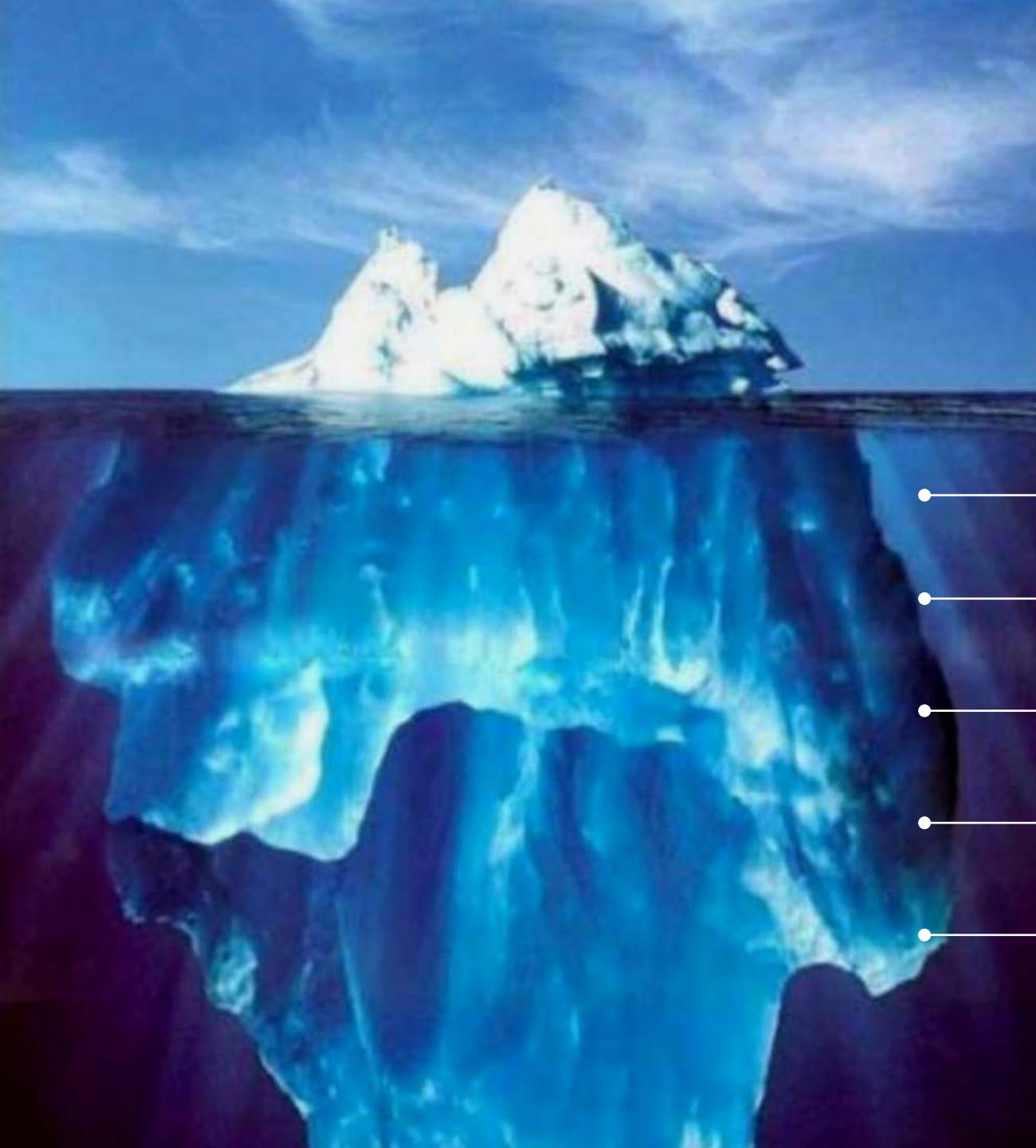


- National Security
- Civil Protection
- **Economy**

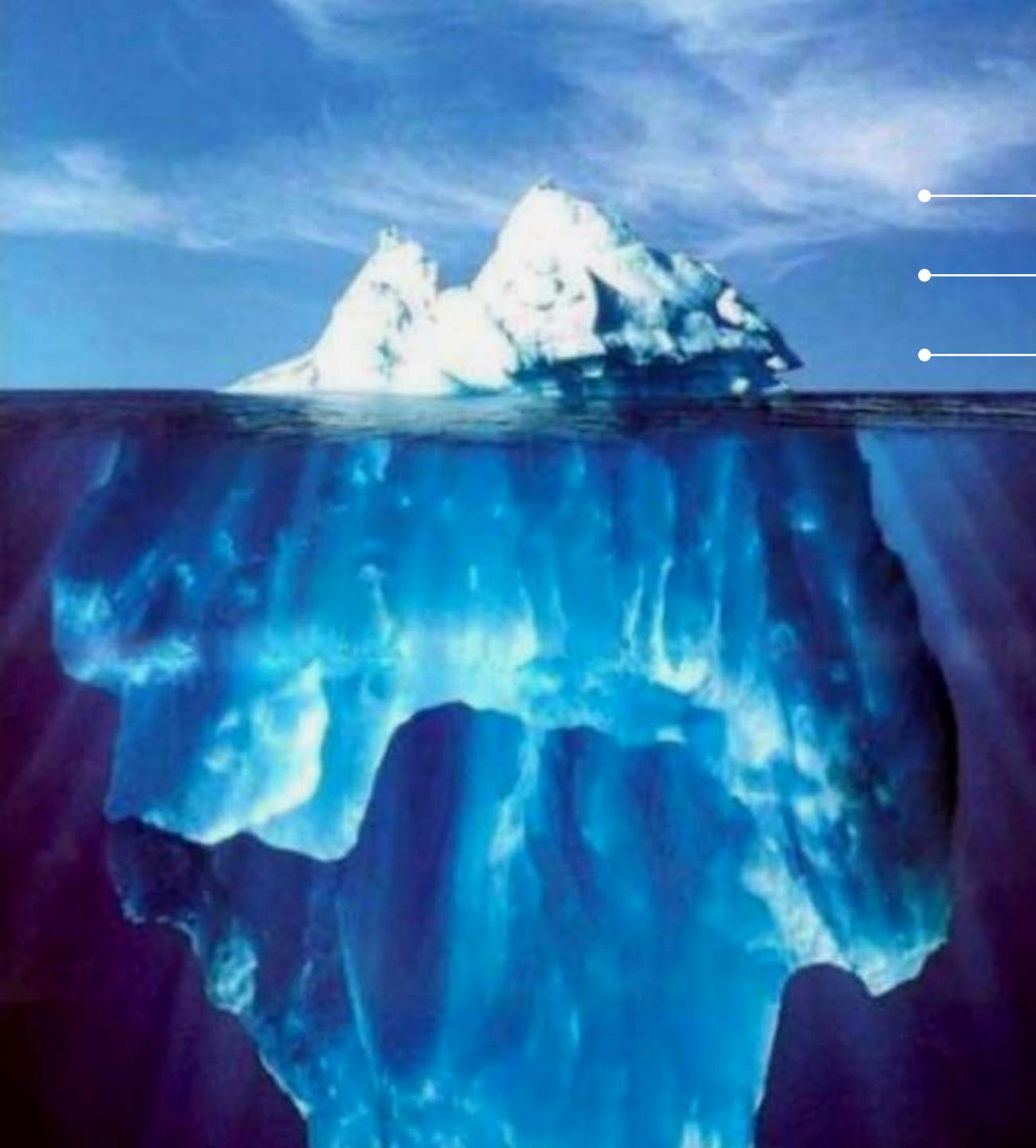
- Freedom of Speech
- Health and Education
- **Economy**

Internet-Based World by Multi-stakeholders

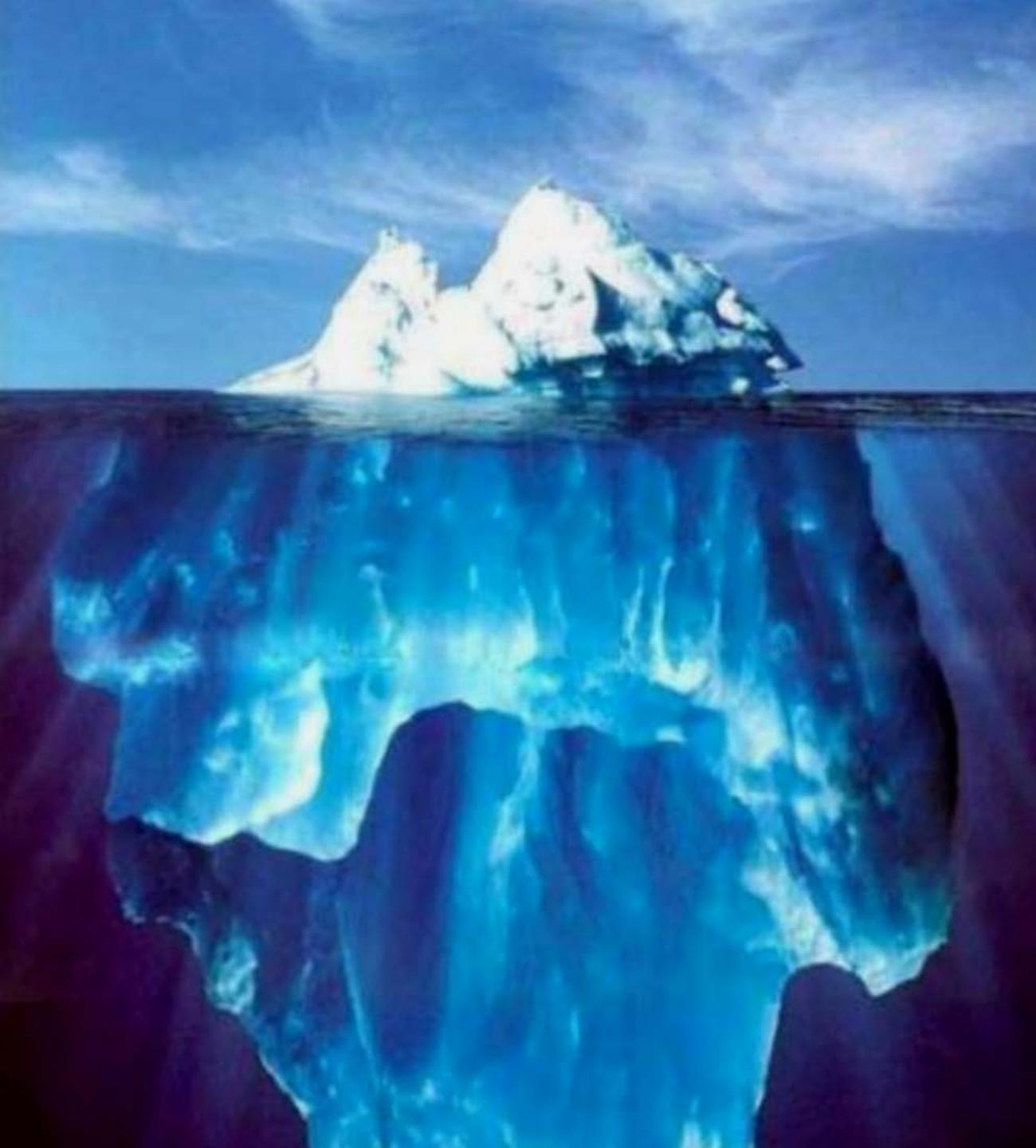




- API (Application Interface)
- WEB
- TCP/IP
- Ether, WiFi, Bluetooth
- Fiber, Spectram, Satellite



- Service
- IoT, Bigdata
- AI



Digitally Connected World

The Internet

5G

Cyber Security

THE THREE LAYERS OF DIGITAL GOVERNANCE

No one person, government, organization, or company governs the digital space. Digital Governance may be stratified into the three layers depicted here: Infrastructure, Logical, Economic and Societal. Solutions to issues in each layer include policies, best practices, standards, specifications, and tools developed by the collaborations of stakeholders and experts from actors in business, government, academia, technical, and civil society. For a map of Digital Governance Issues and Solutions across all three layers, visit <https://map.netmundial.org>.

