



TTC Activity Report

The Telecommunication
Technology Committee
JAPAN



Agenda

- What is TTC ?
- TTC organization
- TTC documents
- TTC strategy 2016 and priority issues
 - Future Mobile Network
 - oneM2M
 - IMS interconnection
- IPR committee
- Global standard collaboration (GSC, CJK, ASTAP etc.)
- "SHARE" Project for BSG

What is TTC?

- TTC is :
a private and non-profit organization
accredited by the Japanese Administration as an SDO in Japan
- Established in **1985**; TTC celebrated its 30 years anniversary last year.
- Our mission is :
to develop and disseminate the TTC
standards and their applications/solutions on ICTs (information & communication technologies) applicable both in Japan and in other areas, in particular in the Asia-Pacific region

What is TTC?

- TTC is an SDO qualified by ITU-T Rec. A.5 & A.6 so that;
- ITU-T Recommendations can include references to TTC Standards.

Rec. A.5: Generic procedures for including references to documents of other organizations in ITU-T Recommendations

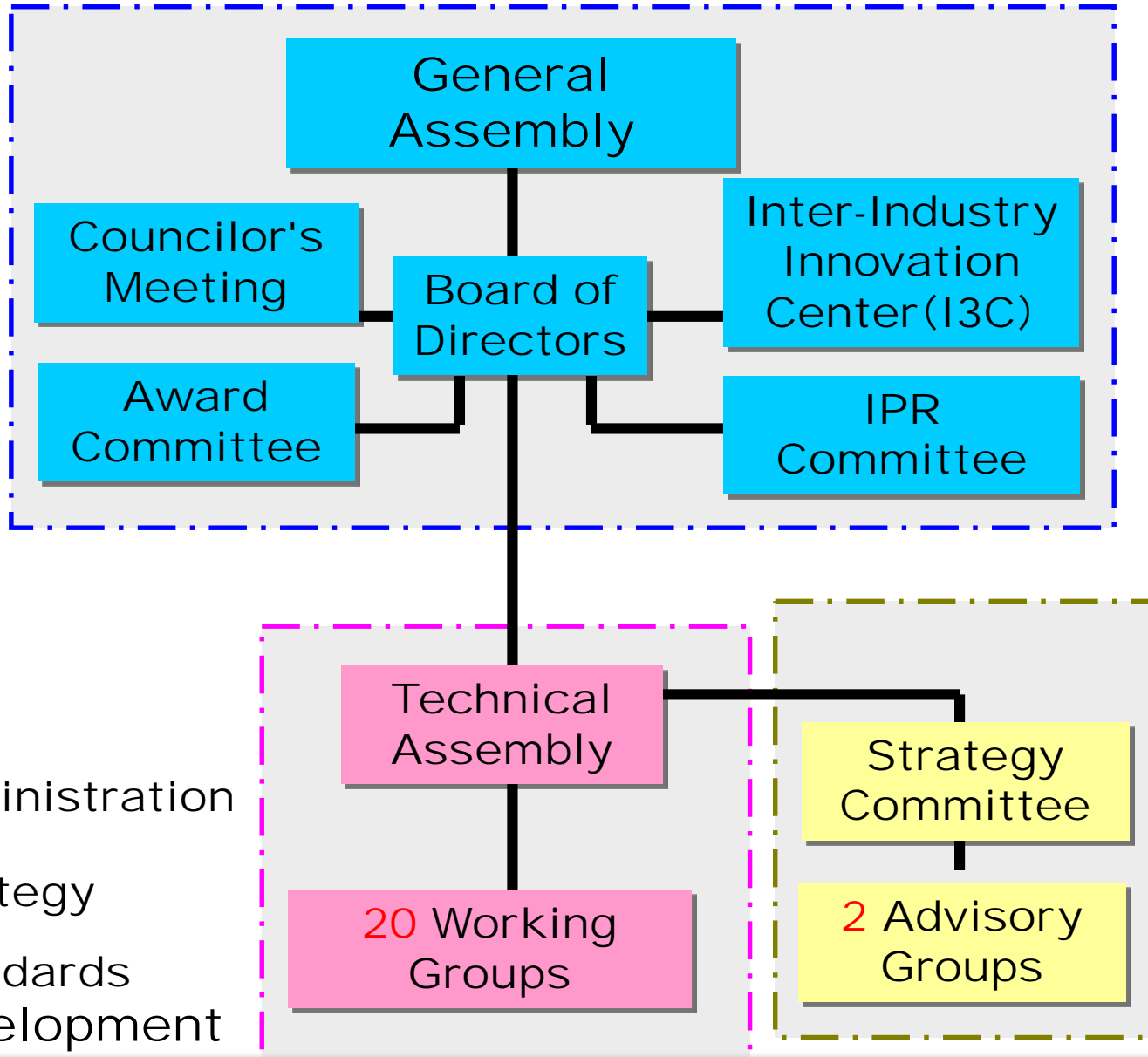
- Information exchange with ITU-T

Rec. A.6: Cooperation and exchange of information between ITU-T and national and regional standards development organizations

Why do we need national standards?

- ❑ WTO Agreement on Technical Barriers to Trade (TBT) requires int'l standards essential and applicable to int'l fair procurement and trade, but ---
 - ❑ Int'l standards may sometimes be the products of "compromise" which result in a lot of options/ambiguity.
 - ❑ Int'l standards do not always reflect adequately national market demands/requirements including regulations.
 - ❑ Int'l standards may sometimes be understood in a different manner when applied to the practical implementation, which result in end-to-end interoperability problems.

TTC Organization Chart



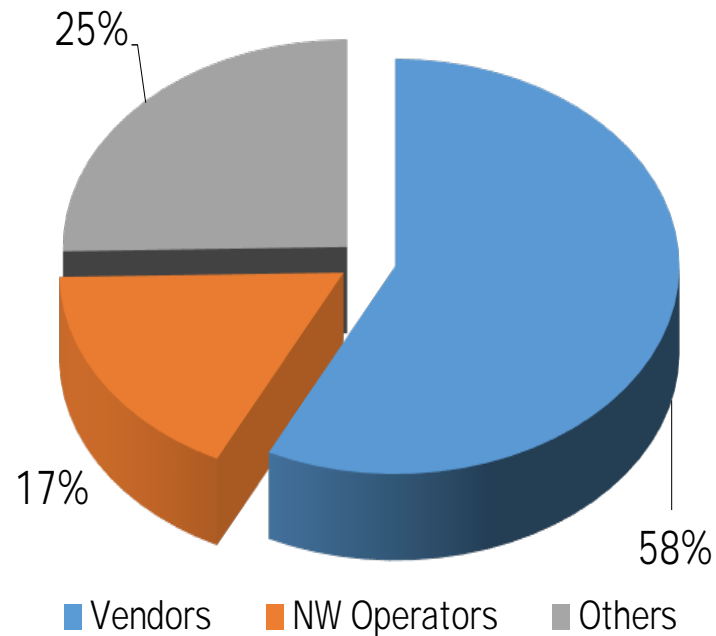
-  Administration
-  Strategy
-  Standards development

Officers

- ❑ Chairman of the Board:
Prof. Mitsutoshi HATORI
- ❑ CEO & Senior Vice President:
Mr. Yoichi MAEDA
- ❑ Secretary General:
Mr. Shuichi INADA
- ❑ Director General of I3C:
Mr. Hiroshi HAMANO

Membership

Category	No.
Vendors	43
NW operators	13
Others	19
Total of Full members	74
Supporting Members	12



[Note] As of September 2016

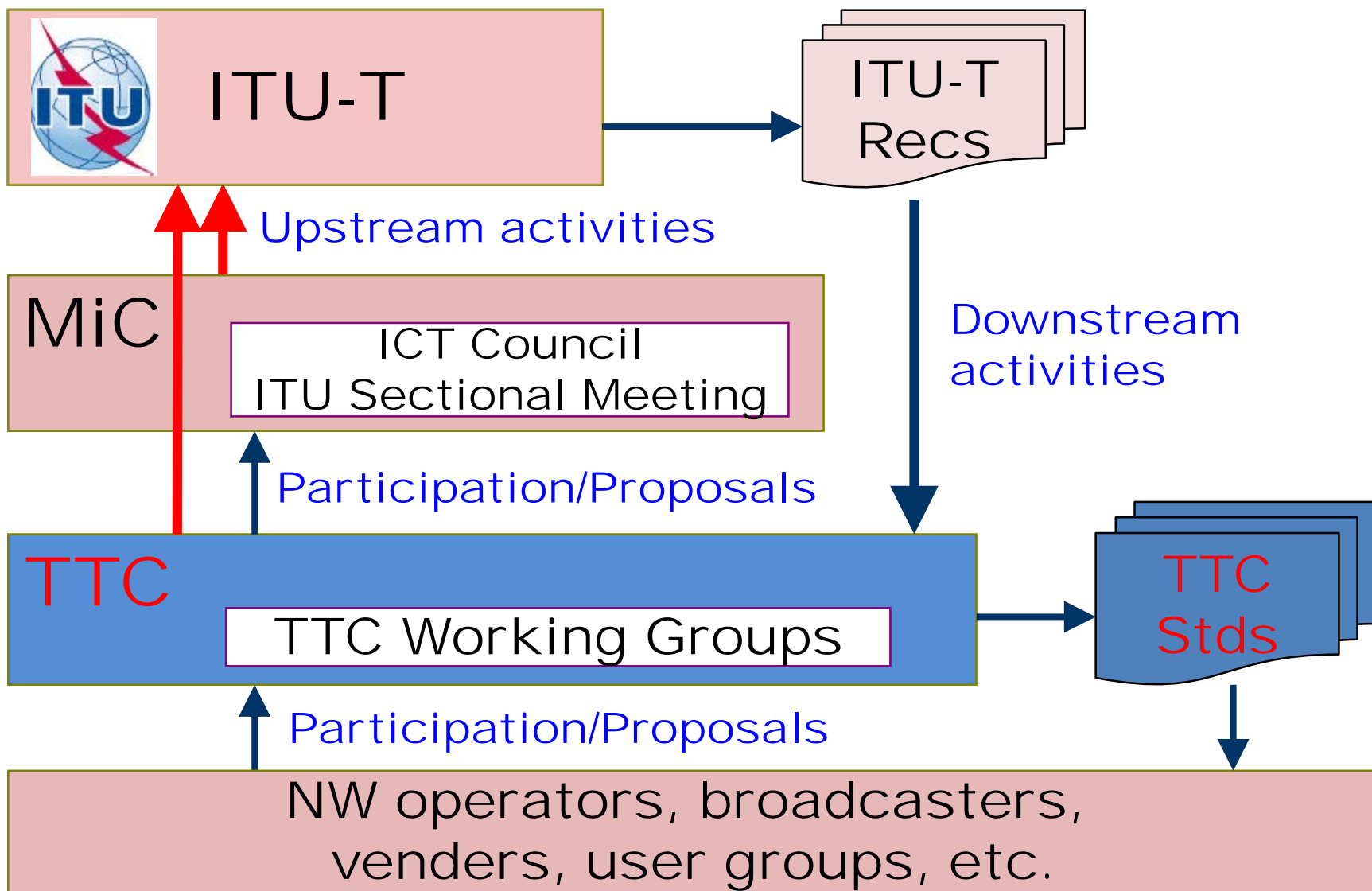
WGs and AGs

Divisions	Existing WGs and future topics				
ICT Applications	BSG	Multimedia Application	Connected Car	Accessibility	
Platforms	oneM2M	Security	Media Coding	Enterprise Network	
Protocols, Network Operation and Management	Signalling	Network Mgmt	Numbering Plan		
Architecture	NGN&FN	3GPP	3GPP2	Mobile NW Mgmt	ICT&Climate Change
Transport, Access and Home	Optical Transport	Access Network	Optical Fiber Trans.	Next Gen. Home NW	

2 Advisory Groups (AG)

Technology Research	Global Collaboration		
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TTC Standards Development



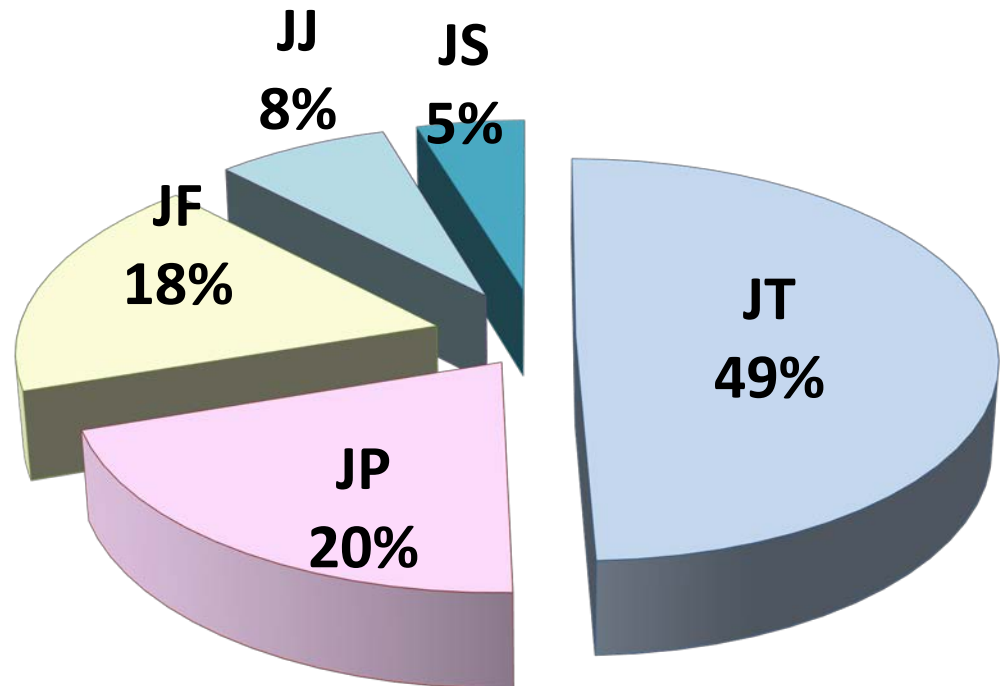
Categories of TTC Documents

Category	Description	Relationship
JT	TTC Stds based on ITU-T Recommendations	ITU-T
JP	TTC Stds based on deliverables developed by regional SDOs or partnership projects	3GPP, 3GPP2
JF	TTC Stds based on the de-facto stds/deliverables developed by <u>f</u> ora	IETF, IrDA, NMF, IEEE, etc.
JJ	TTC Stds developed originally by Japan/TTC	Japan/TTC original
JS	TTC Stds based on ISO Stds	ISO
TS	Technical Specification	3GPP, 3GPP2, etc.
TR	Technical Report	3GPP, 3GPP2, etc.

Number of TTC documents

Category	No.
JT	422
JP	173
JF	152
JJ	64
JS	40
TS	10,961
TR	483

[Note] As of March 2016



[Note] This graph does not include TS or TR.

Inter-Industry Innovation Center

- Step forward of ICT global standardization from intra-industry innovation to inter-industry innovation such as Cloud Computing, M2M/IoT, ITS (Smart Car), Smart Grid (Smart Energy), and Disaster relief and emergency communications, etc.
- TTC has established, in April 2011, "**Inter-Industry Innovation Center (I3C)**", which surveys the trends of the inter-industry collaboration, identifies the areas where TTC should play an active role of innovation and develops new strategies of ICTs.

- ❑ **Promotion of strategic standardization activities**
 - Future mobile networking(IMT-2020/5G)
 - ITU-T FG-IMT2020 , 3GPP, Network Softwarization
 - IoT/M2M
 - oneM2M, ITU-T SG20
 - ITU WTSA-2016, ITU-T Review Committee
- ❑ **Global collaboration** with the related standardization organizations including ITU-T, CJK, GSC, APT/ASTAP and other Fora
- ❑ **Promotion of TTC standards and publicity activities**, especially by holding seminars on various hot technical topics: e.g., NFV/SDN, Big Data, Home networking

Priority issues

❑ Future Mobile Networking : ITU-T FG IMT-2020

IMT-2020 Adhoc comprised of NGN&FN WG, 3GPP WG, Access Network WG members

❑ Research on BigData related network issue

Strategy Committee in collaboration with the related WGs

❑ IoT and its application ITU-T SG20

IoT/Smart Cities and Communities Adhoc comprised of ICT&CC WG, Next Generation HN system WG members.

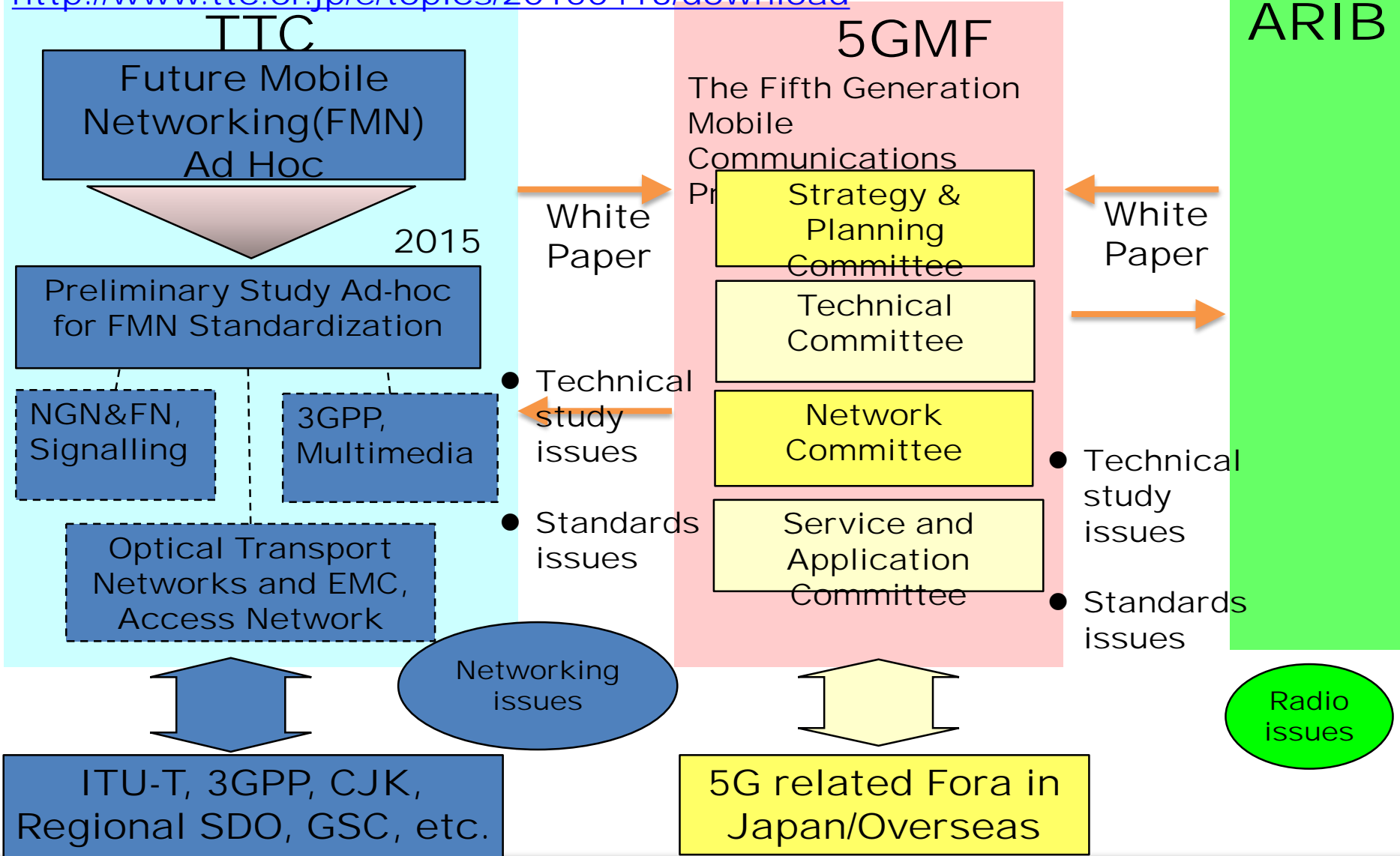
Standardization Restructuring in ITU-T

- ❑ RevCom was established in WTSA-12 in order to review ITU-T strategic plan and the existing ITU-T SG structure and prepare a strategic restructuring proposal to WTSA-2016
- ❑ Since ITU-T SG restructuring will impact the future TTC standardization activities, TTC contributes to ITU-T RevCom and TSAG through GCAG discussion
- ❑ Advance harmonization of proposal will be made among CJK members and APT members.

Promotion for Future Mobile

Future Mobile Networking White Paper

<http://www.ttc.or.jp/e/topics/20150413/download>



Members : 11 companies as of March 2016
(including 6 oneM2M individual members)

ToR of oneM2M WG

- oneM2M Steering Committee issues
- Information/opinion exchange for oneM2M Technical Plenary & WGs
- Information sharing of new movements in other organizations relating to M2M
- Transposition activities of Technical Specifications and Reports approved at oneM2M
- Promotion activities including seminars

oneM2M Activity in Japan

International
activity

oneM2M

M2M Service Layer
Specifications

National
activity

Responsible
for wireless
access

Responsible for
other network
and service
aspects

ARIB
IMT
Partnership /
oneM2M WG

TTC
oneM2M WG

Joint Meeting

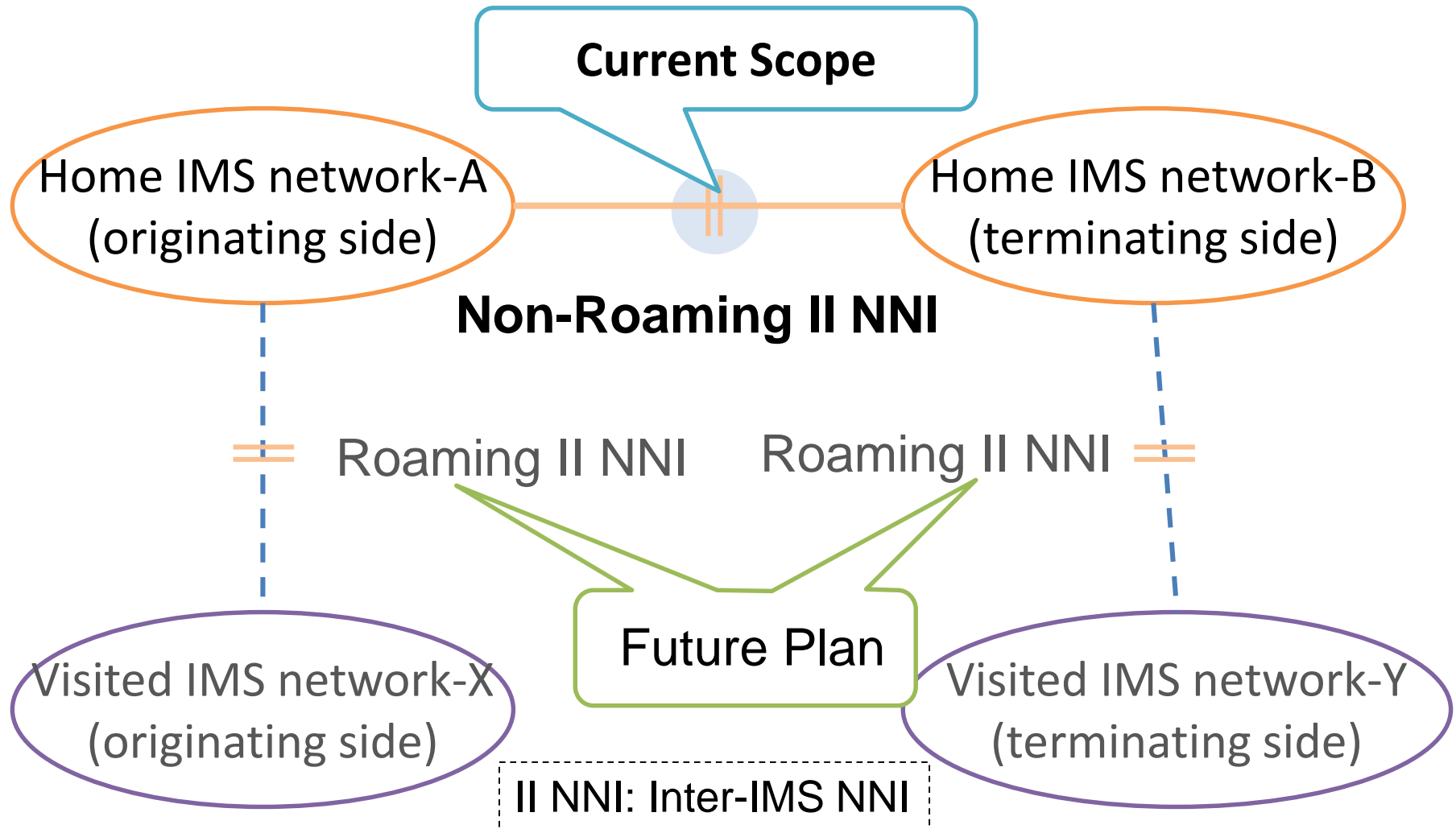
IMS interconnection

- TTC has been working on standardization of the Inter-IMS NNI (II NNI) between future IMS networks of the domestic operations.
- The specification is based on 3GPP TS 29.165 , *Inter-IMS Network to Network Interface (NNI)* , Release 12 and the first release of this specification was published on May 2015 as **TTC JJ90.30**.

The main objectives of this work are:

- A) to help the operators to reach agreement on their interconnection by selecting the option items listed in 3GPP TS 29.165 Annex C in advance, and
 - B) to clarify the signaling requirement on the basis of the domestic circumstances.
- TTC also published *Common interconnection interface for carrier ENUM*, **JJ.90.31**, in August 2015

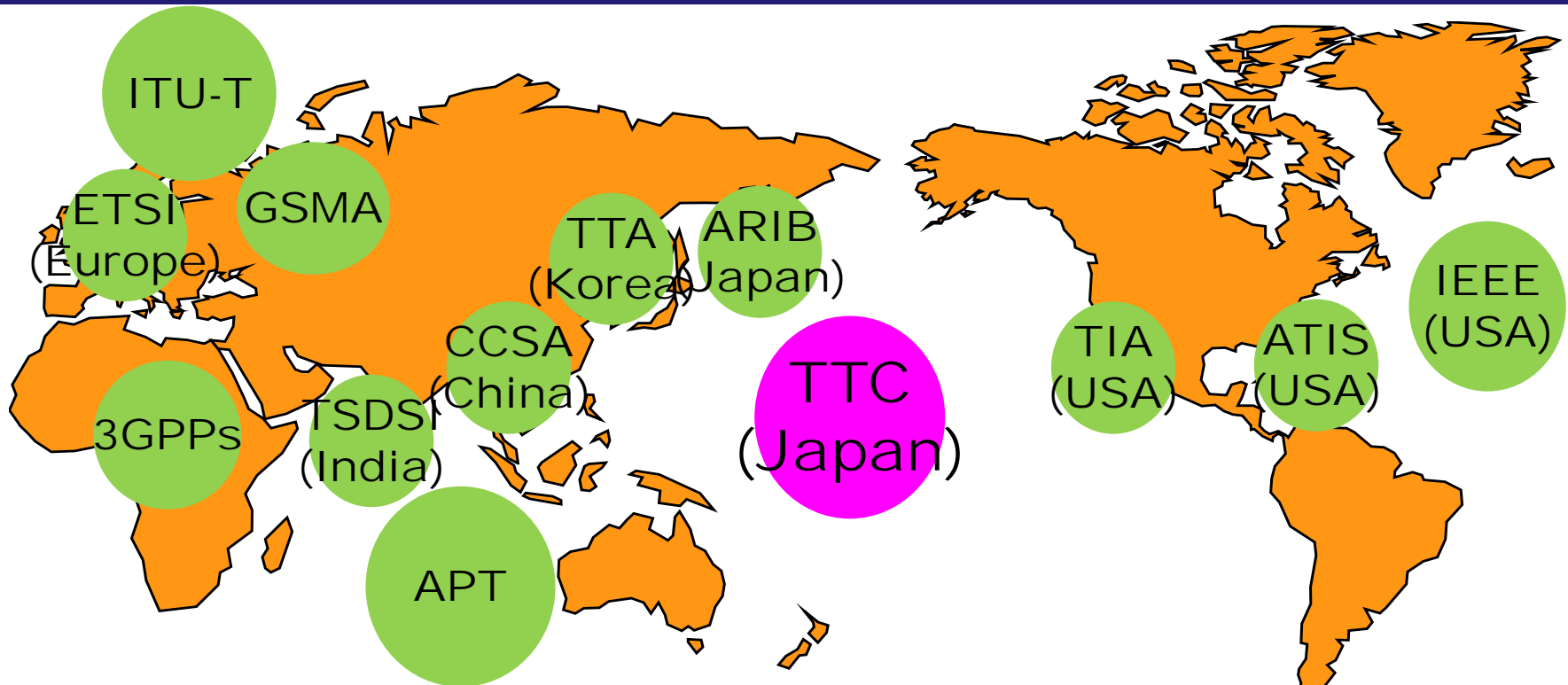
Scope of TTC JJ-90.30



- ✓ Develops and updates "Fundamental and Operational Procedures on TTC IPR Policies" so that they are consistent with
 - relevant lawful regulations in Japan, such as Patent Act, Copyright Act and Anti-trust Law;
 - and, ITU/ ISO/IEC Common Patent Policy and guidelines for its implementation
- ✓ Develops and updates "Operational Treatment of Copyright for TTC Deliverables". For more details, see <http://www.ttc.or.jp/e/index.html>

- ✓ Following recent discussion of Injunctive Relief, definition of Reasonable, non-discriminatory in ITU-T TSB Director's Adhoc on IPR meeting as well as ETSI SC IPR meeting.
- ✓ TTC IPR Committee is attended by network operators and ICT vendors in Japan. Also representatives from MIC, METI, JPO and ARIB are participating as observers.

Global Standard Collaboration



Types	Organizations
Participation	APT/ASTAP
Core member	CJK(ARIB, CCSA, TTA, TTC), GSC, 3GPP/3GPP2, oneM2M
MoU/LoI	ITU, ETSI, IEEE, GISFI, TSDSI, MSTFBI, NBTC, TAICS, ZigBee Alliance, Wi-SUN Alliance, HD-PLC, GSMA, etc

- ❑ The goal of the Global Standards Collaboration (GSC) is to enhance co-operation between Standards Organizations (PSOs) from different regions of the world in order to facilitate exchange of information on standards development, build synergies and reduce duplication.
- ❑ Members:
 - ARIB (Japan), ATIS (USA), CCSA (China), ETSI (Europe), IEEE-SA, ISO/IEC, ITU, TIA (USA), TSDSI (India), TTA (Korea), TTC (Japan)
- ❑ See <http://www.itu.int/ITU-T/gsc/index.html>

- Partnership Project is a new type of global standard development mechanism under the collaboration among national, regional SDOs and ITU-T/R
- 3GPP (December 1998 -)
ARIB, ATIS, CCSA, ETSI, TTA, TTC
- 3GPP2 (January 1999 -)
ARIB, CCSA, TIA, TTA, TTC
- oneM2M (July 2012 -)
ARIB, ATIS, CCSA, ETSI, TIA, TTA, TTC

CJK Standards Meeting

- ❑ Established in 2002
- ❑ Members: ARIB, CCSA(China), TTA(Korea), TTC
- ❑ Organization:
 - Plenary
 - IMT WG
 - WPT WG
 - NSA WG
 - Information Security WG
- ❑ Cooperation & exchange of information/views regarding ITU-R WP5D and ITU-T activities (SG11, SG13, SG17)
- ❑ Details:
http://www.ttc.or.jp/e/external_relations/cjk/index.html

"SHARE"

Success & Happiness by Activating Regional Economy

SHARE Concept

Contributions from Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam as well as collaborative initiatives with Asia Pacific Telecommunity projects have resulted in several projects being carried out in different countries, each addressing five applications over ICT/ NGN to be developed as the solutions against social issues in rural areas, namely:

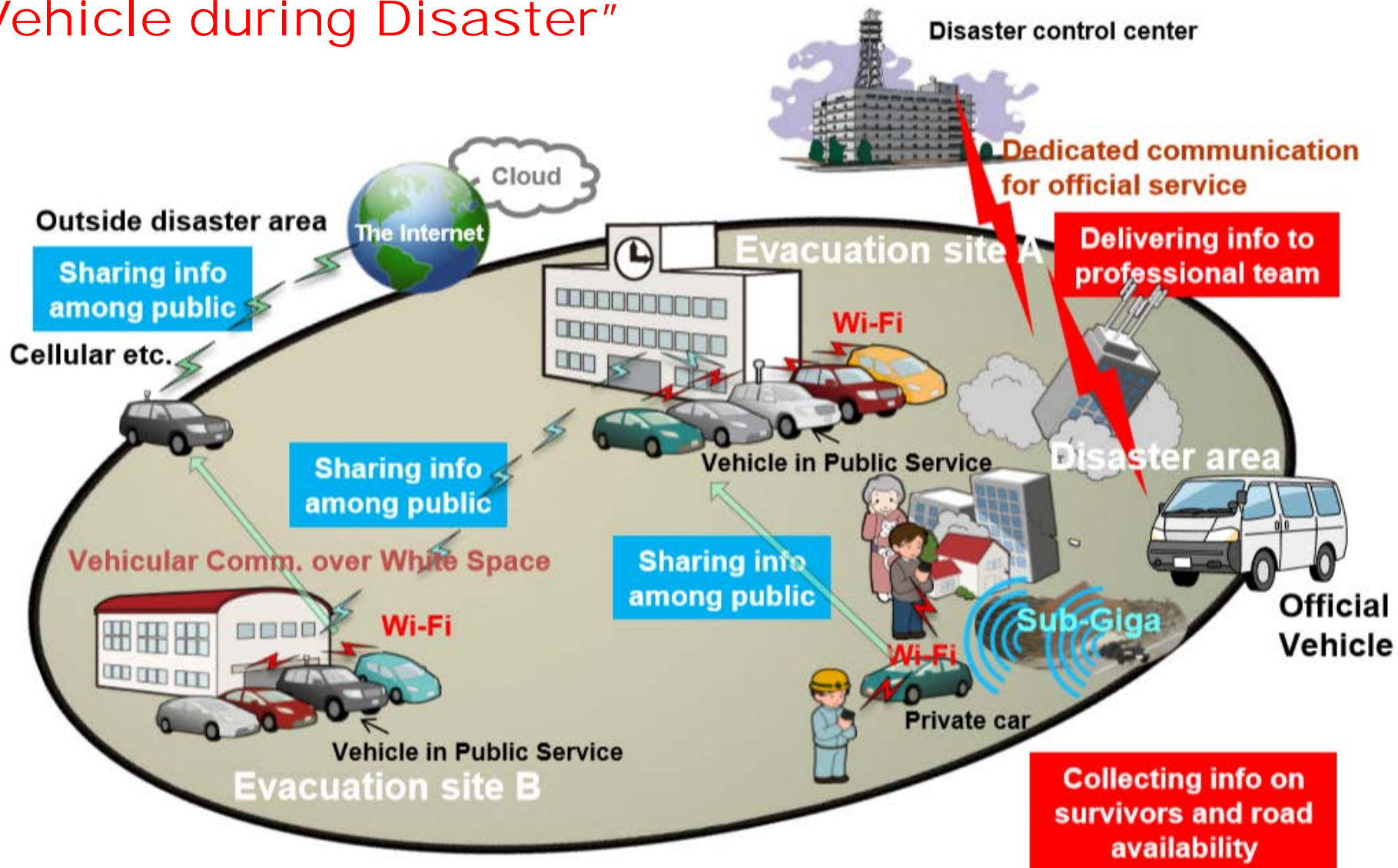
- e- agriculture
- e- education
- e- environment
- e- healthcare
- e- disaster management

<http://www.share-asia.net/>



An example of Discussion in ASTAP

“Information and Communication System using Vehicle during Disaster”



URL <http://www.ttc.or.jp/e/>

The screenshot shows the website of the Telecommunication Technology Committee (TTC) in Internet Explorer. The browser title is "The Telecommunication Technology Committee - Windows Internet Explorer". The address bar shows the URL <http://www.ttc.or.jp/e/>. The website header includes the TTC logo, the text "THE TELECOMMUNICATION TECHNOLOGY COMMITTEE", a search bar, and a "Google" search button. The navigation menu consists of "Home", "Contact Us", "Site Map", "FAQ", and "Japanese". Below the navigation menu, there are four main sections: "Topics", "About Us", "Committees", and "Publication". The main content area features a large banner with the TTC logo and the text "Telecommunication Technology Committee" and "FUTURE NETWORKS MOBILITY SMART". Below the banner is a "Mission" section with the following text: "TTC is an incorporated association that contributes to standardization activities in the field of information and communication technology (ICT) by developing and disseminating standards for Information and communications networks. It thus participates in the creation of a safe and comfortable society supported by the rapid development of ICTs." At the bottom of the main content area, there is a "Working Groups" section with a "Working Group Top" button. The working groups listed are "NGN & FN", "Signalling", "Optical Transport Networks and EMC", and "DSL". The browser's system tray shows the date "2013/10/30" and the time "15:00".