China Communication Standards Association (CCSA)

Shizhuo Zhao

Course Objectives:

- To introduce the standardization system in China;
- To introduce the work of CCSA;
- To introduce Conformance Testing Specifications by CCSA;
- To introduce CCSA’s cooperation with international SDOs.

Contents

Background and Establishment

“Monopoly Period” (ended in1997)

Government’s responsibilities for telecom standards:

- Standards project plans, funding, drafting, examination and approval, and publication;
- Government research institutes played a leading role;
- Government as the driving force behind China’s telecom standardization.

Background and Establishment

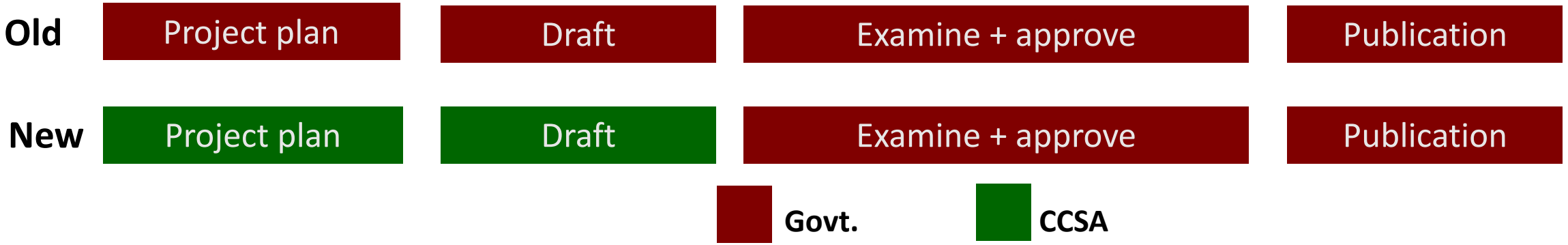
CCSA was founded in 2002.

- A step towards China adopting a market economy system;
- Main purpose: to allow enterprises to become the main working and driving force in the standardization process;
- A non-profit society of legal person, established voluntarily by enterprises and institutes in China for carrying out standardization activities in the ICT field.

Background and Establishment

Since then, the process has evolved into:

- CCSA drafts an annual standardization project plan.
- Government examines and approves the annual plan.
- CCSA prepares drafts for final approval.
- Government approves and publishes the standards.



Government Voice
—Standardization Reform

State Council released “Reform Plan for Further Improving Standardization Work” on 26 March, 2015.

The plan includes 6 specific reform measures:

- *Establish a coordination and promotion mechanism*;
- *Streamline mandatory standards;*
- *Optimize recommended standards;*
- *Cultivate and develop consortia standards* (CCSA has been appointed as a pilot organization);
- *Activate and liberate enterprise standards;*
- *Upgrade Chinese standards to be more in line with international standards.*

CCSA Standard

- Approved by CCSA Management Committee and the Council, CCSA started to launch **CCSA Standard** in 2012.
- May be transferred to National Standard or Industry standard if it is necessary in due time.
- So far, 72 CCSA standards have been issued. These standards cover:
  - Broadband popularization and speed enhancement;
  - M2M;
  - Emergency communication;
  - Power supply;
  - EMC.

CCSA's Principles and Operations

- Principle of "**Openness, Fairness, Justness and Consensus**"
- **A market-oriented operating mechanism** in which:
  - the government plays a guiding role, with
  - joint efforts by manufactures, universities, research institutes and users for standards development,
  - innovation as the core strength.

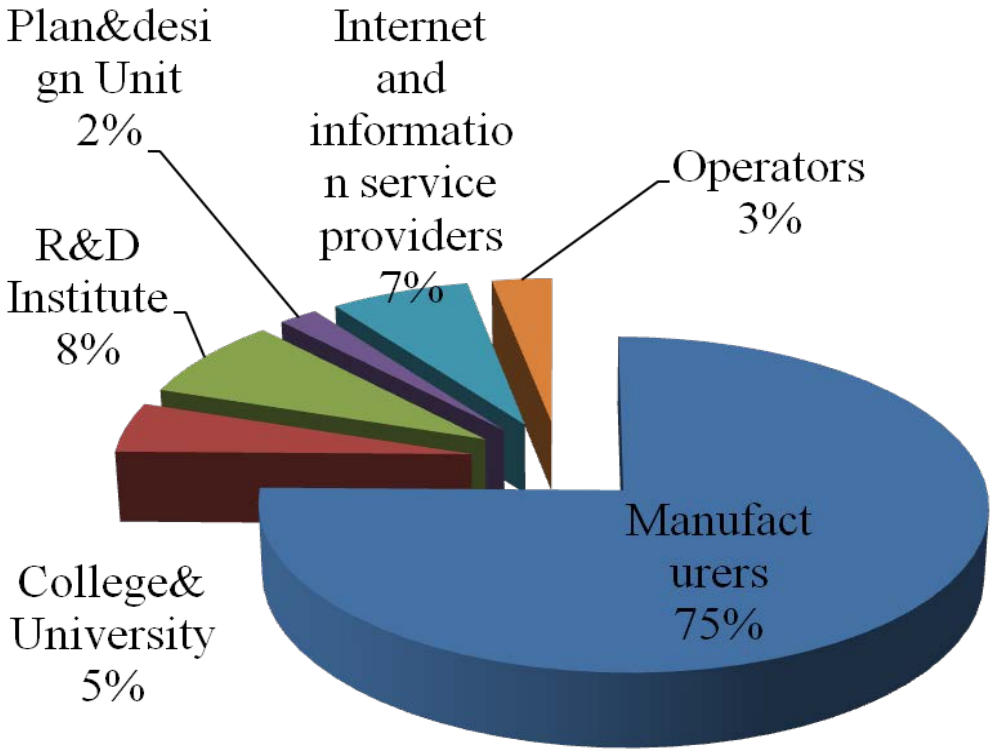
Scope of Activities

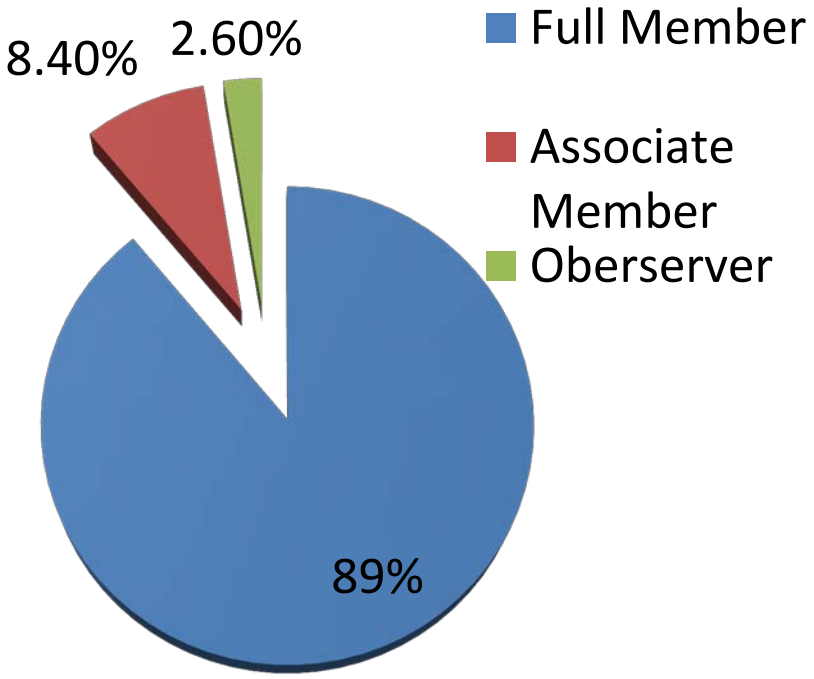
- To promulgate the state laws, regulations and policies on standardization;
- To propose R&D projects of communications standard;
- To promote the implementation of communications;
- To organize domestic and international exchange and cooperation;
- To undertake work related to standardization commissioned by the authority, members of CCSA or other organizations.

Contents

Members and Observers (2014)

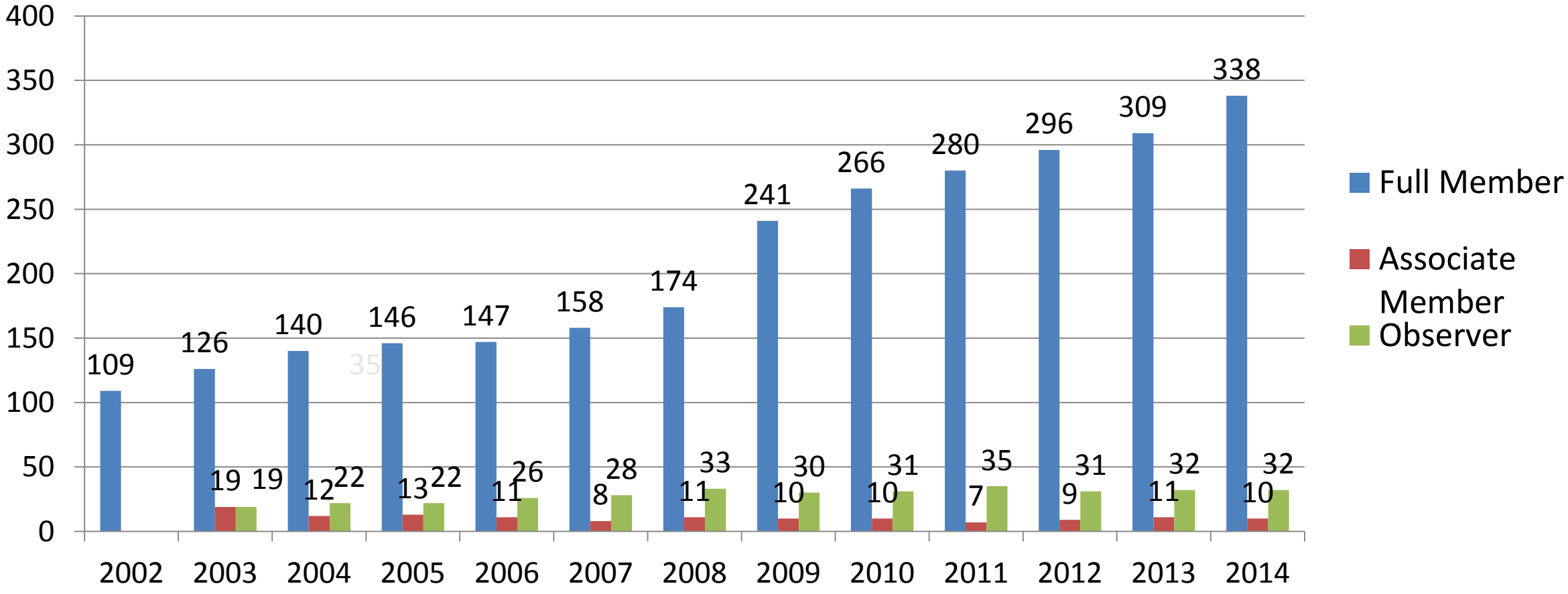
The membership of CCSA is open to corporate bodies only, including R&D institutes, design institutes, manufacturers, operators, universities and other societies.



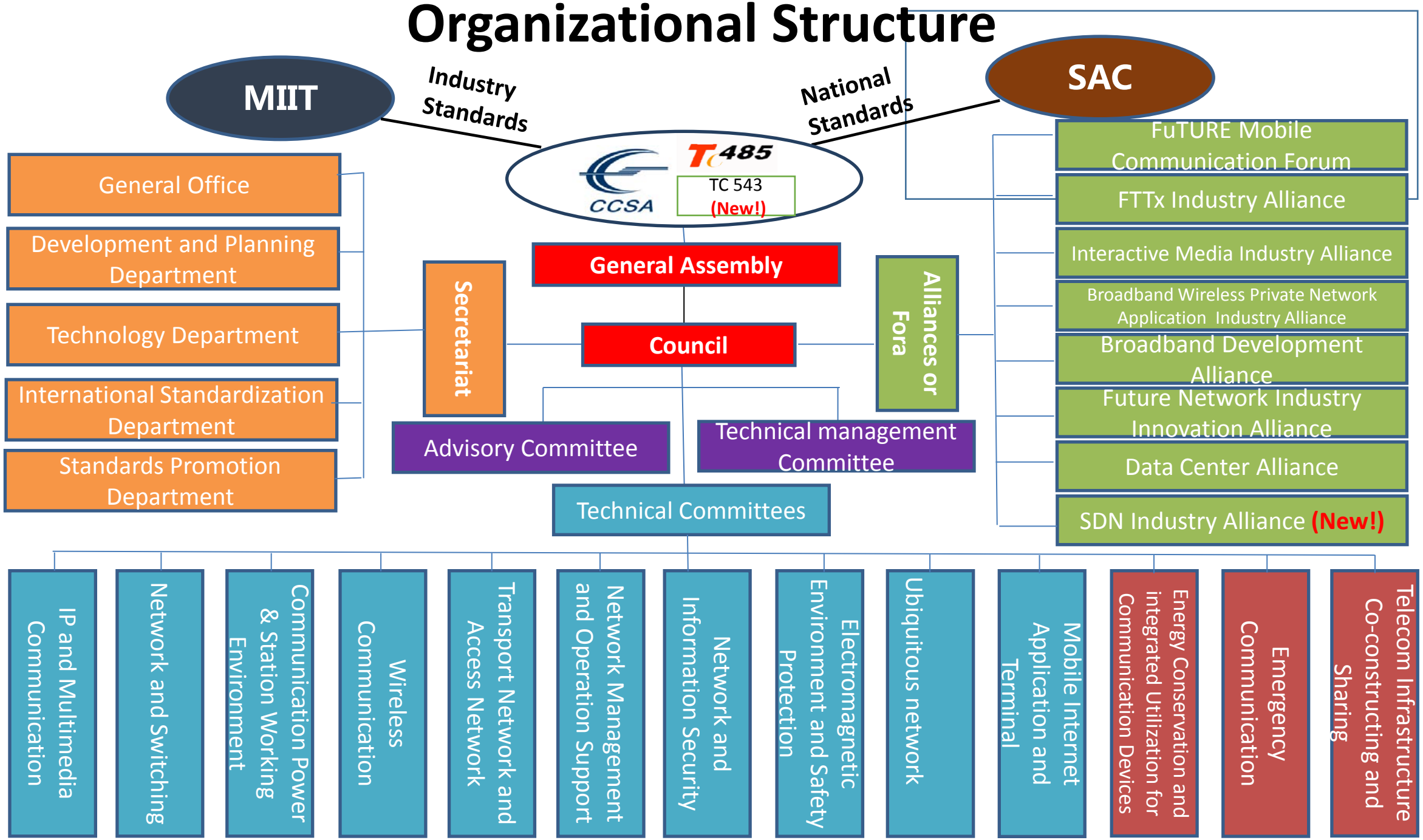


Members and Observers

Chart of membership (2002 – 2014)



Organizational Structure



Technical Management Committee

The Technical Management Committee is established for the coordination and determination of Association's technical matters of significance.

Responsibility

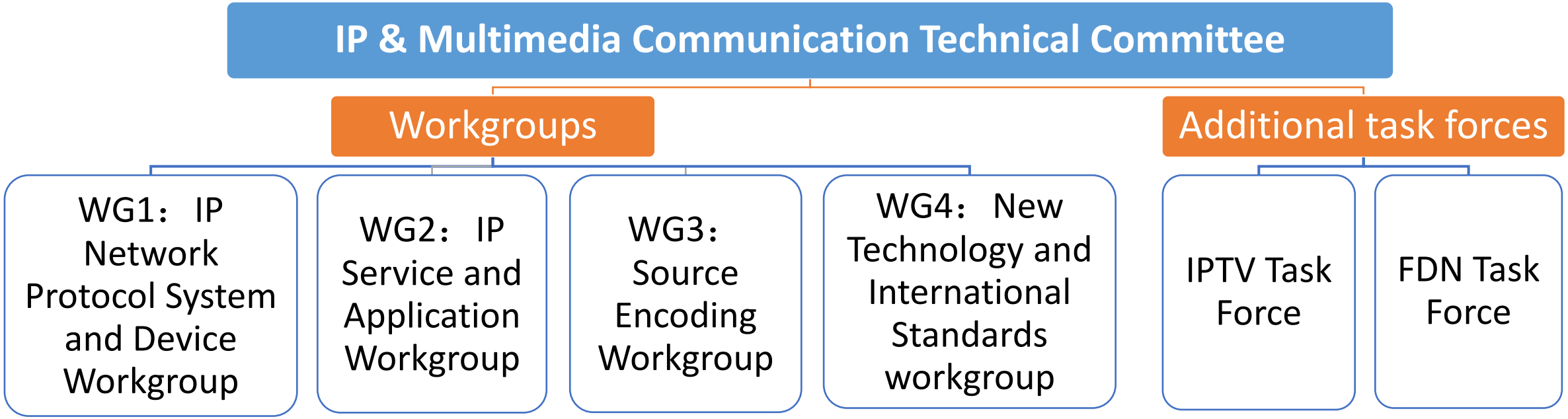
- To review and approve annual prior technical areas and subjects of communications standard research by the association
- To review and approve technical reports of communication standards
- To make proposals for restructuring and setting of the committee
- To review and approve the establishment, adjustment of workgroups in technical committees and work scopes of each group
- To determine the establishment and termination of temporary organizational forms, and to identify their work scopes during the standards study, for the needs of communication development
- To deal with the complaints on the standard type of documents which are related to technical aspects
- To determine on standardization issues that could not be resolved by Technical Committees
- Other tasks from the Council

Contents

IP & Multimedia Communication Technical Committee

Areas of research and standardization

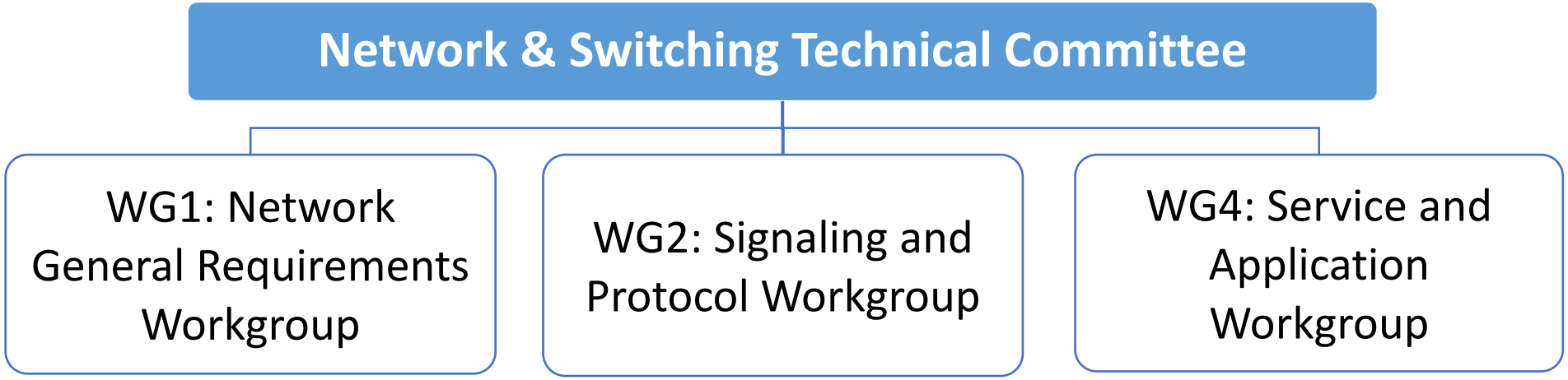
- Multimedia services and systems, data communications and data communications networks, remote information systems, IP service & applications, IP network equipment
- Correspondance of international SDOs: ITU-T SG16 and SG17



Network & Switching Technical Committee

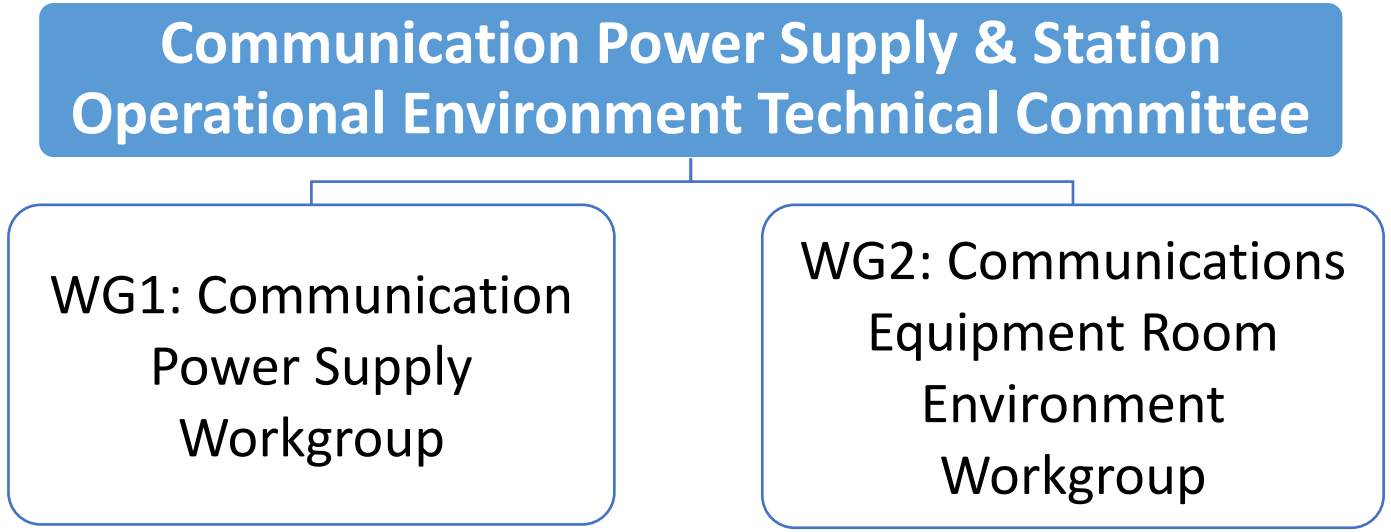
Areas of research and standardization

- General requirements, performance, switching, numbering, services, signaling protocol, billing principle, network interface and interconnection of information and communication network.
- Correspondance of SDOs: ITU-T SG13, SG11 and SG2.



Communication Power Supply & Station Operational Environment Technical Committee

- **Areas of research and standardization**
- Power supply of communication Equipment, Power supply of communication station; Station Operational Environment.

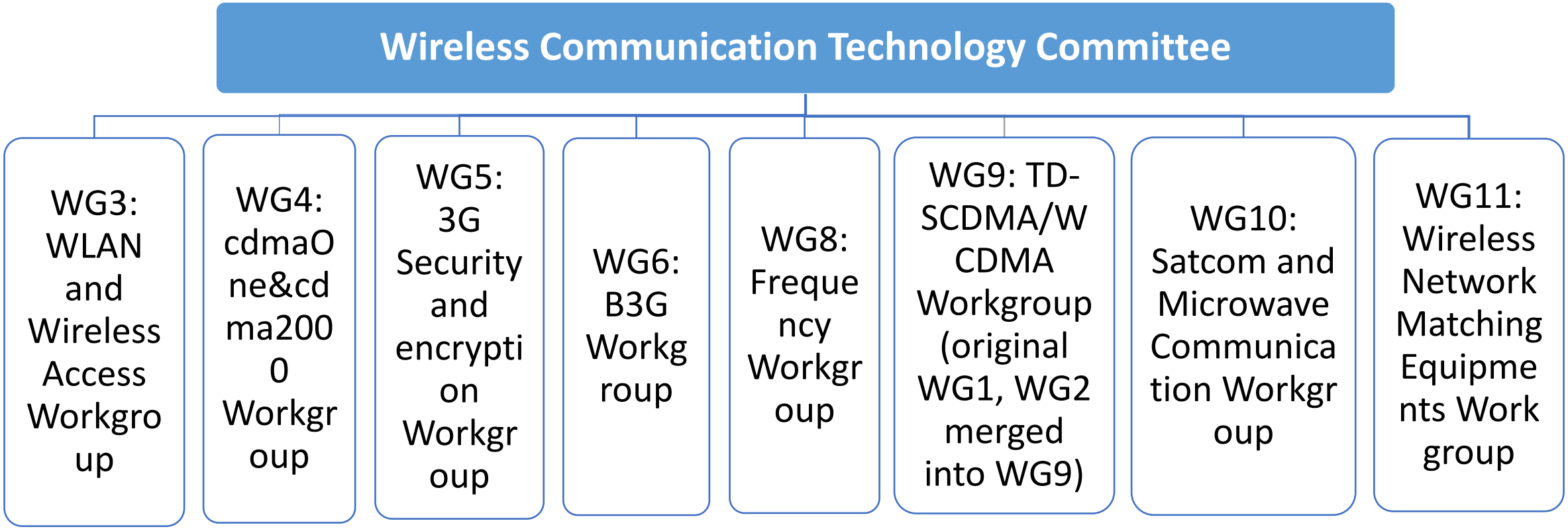


Wireless Communication Technology Committee

Areas of research and standardization

- Mobile Communication, Microwave, satellite communications, mobile services and applications, all types of radio frequency demand characteristics.
- Correspondance of international standardization organizations: ITU-R, 3GPP, 3GPP2, IEEE, OMA, etc.

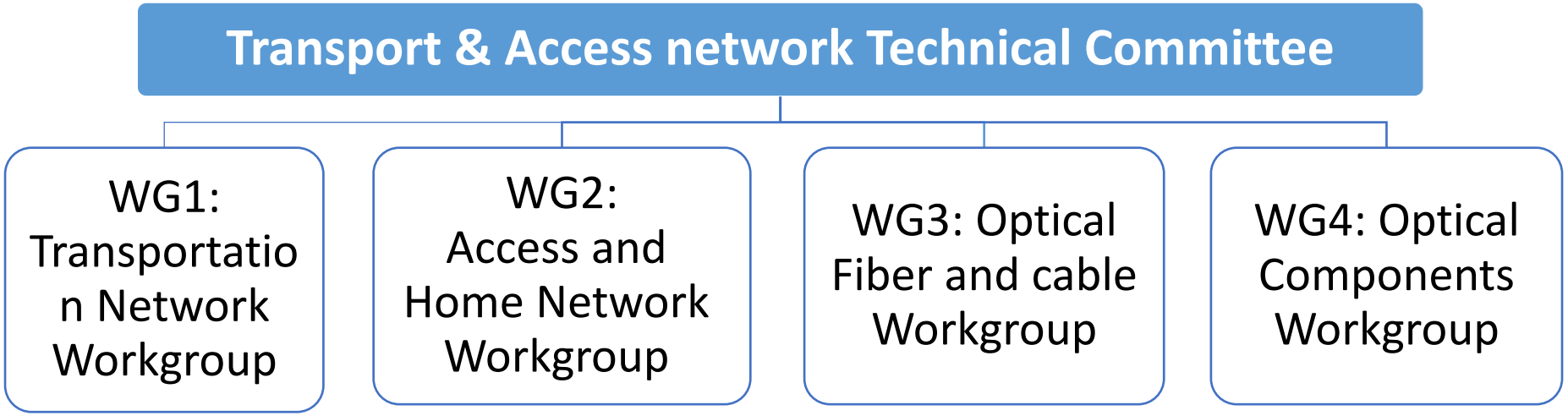
Wireless Communication Technology Committee



Transport & Access network Technical Committee

Areas of research and standardization

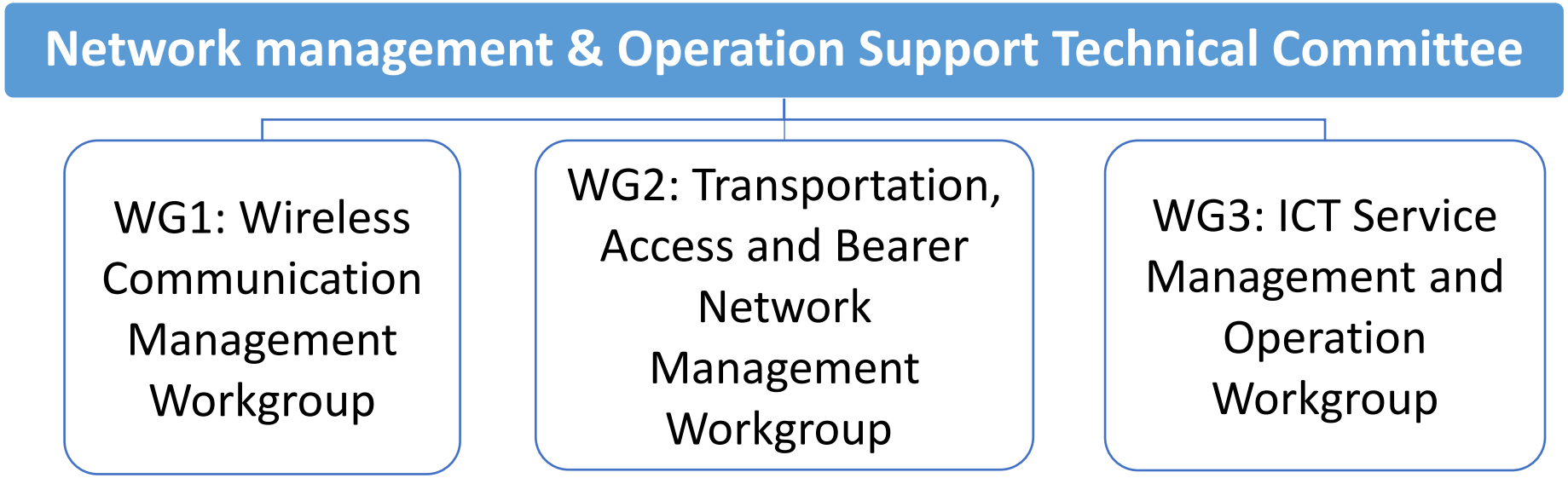
- Transportation network, System and Equipment, Access network, Transfer media and apparatus, Television and Multimedia digital signal transfer, and so on.
- Correspondance of international SDOs: ITU-T SG15, SG6 and IEC TCs.



Network management & Operation Support Technical Committee

Areas of research and standardization

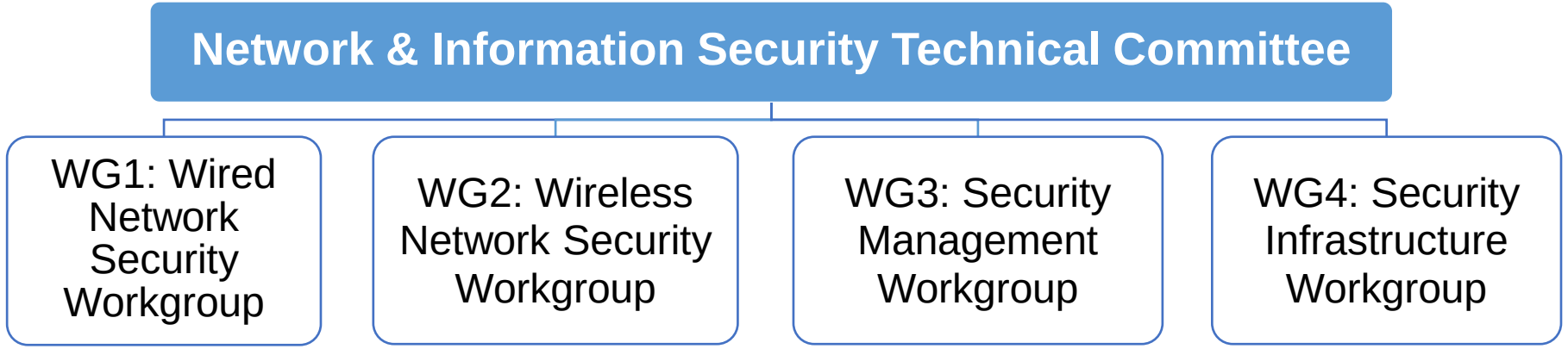
- Network management and maintenance, telecommunication operational support system.
- Correspondance of international SDO: ITU-T SG4.



Network & Information Security Technical Committee

Areas of research and standardization

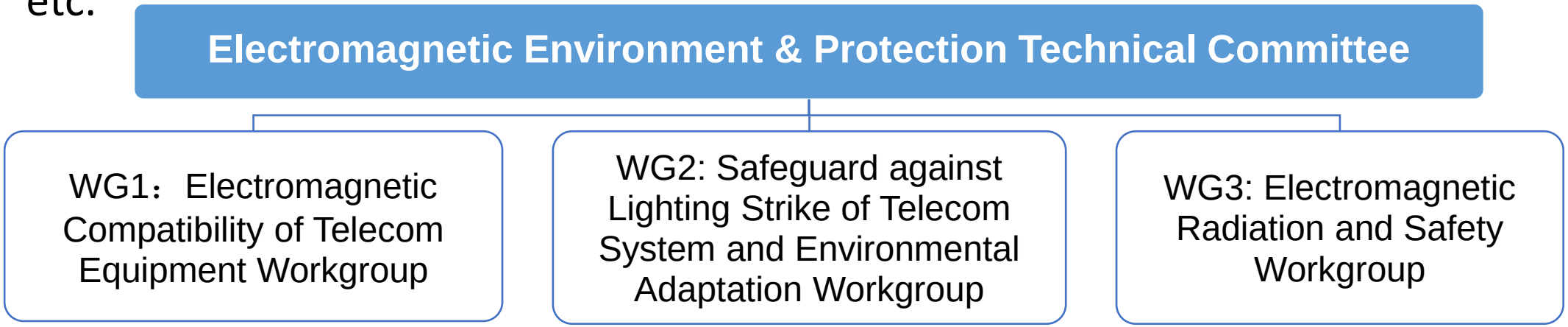
- Standards for Network and Information Security of Internet for public services, standards for Network and Information Security of the convergence of telecommunication network and Internet, standards for Network and Information Security in special telecommunication fields;
- Correspondance of international SDO: ITU-T SG17.



Electromagnetic Environment & Protection Technical Committee

Areas of research and standardization

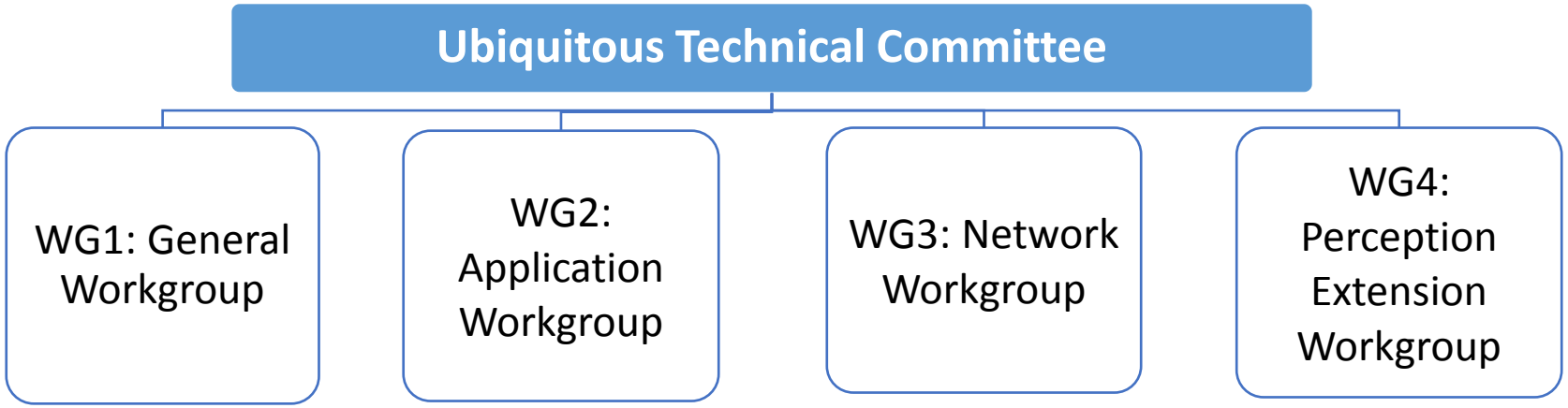
- Electromagnetic compatibility of telecommunication equipment, Safeguard against lighting strike and strong electricity; Influences of electromagnetic radiation on personal safety and healthy, and electromagnetic information security.
- Correspondance of SDOs: ITU-T SG5, as well as IEC / CISPR, EN, IEEE, WHO, ANSI, etc.



Ubiquitous Technical Committee

Areas of research and standardization

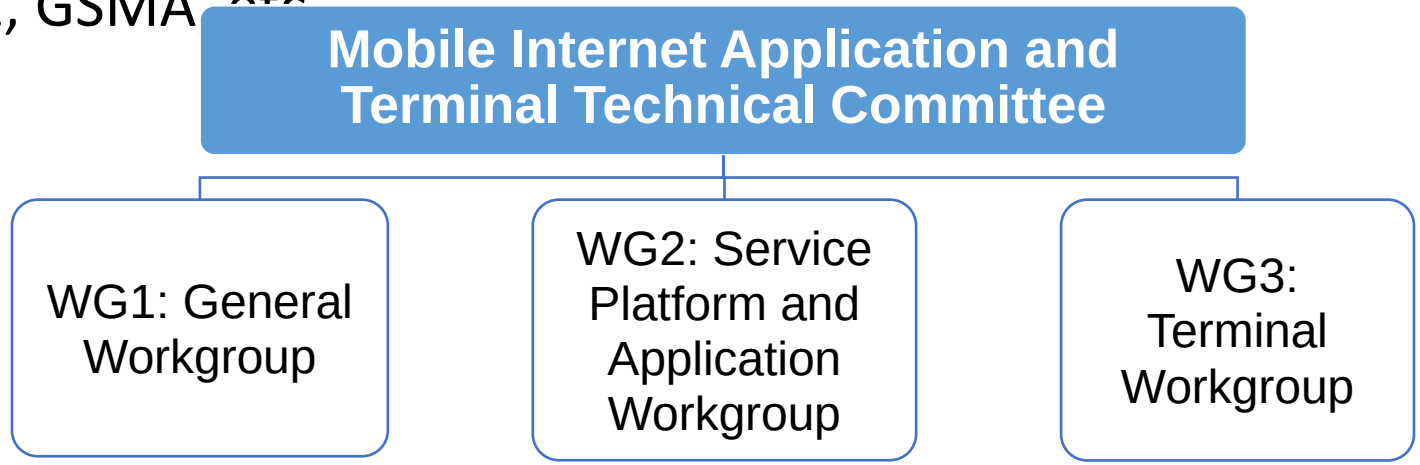
- To carry out targeted standard studies on ubiquitous networks related technologies by establishing several project groups based on ubiquitous network-related businesses carried out by operators, technical solutions proposed by research institutes & manufactures and examples of informatization application for specific industry.



Mobile Internet Application and Terminal Technical Committee

Areas of research and standardization

- Terminology definition, demands, architecture, principle and security of mobile internet application; the ability, software & hardware, interface, integration, universality of various forms of terminal, terminal peripheral component and terminal security.
- Correspondance of international SDOs: ITU-T SG12, IETF, OMA, WAC, W3C, 3GPP, 3GPP2, GSMA, etc.



Communications Equipment Energy-saving and Comprehensive Utilization Special Task Group

Areas of research and standardization

- Energy-saving, recycling of waste, harmful substances limits and clean production of communications equipment

Emergency Communication Special Task Group

Areas of research and standardization

- To carry out studies on comprehensive, managerial and architectural standards of Emergency Communication, including policy, network and technology supportive standards.

Telecommunication Infrastructure Construction Co-construction and Sharing Special Task Group

Areas of research and standardization

- To carry out studies on telecommunication infrastructure construction co-construction and sharing standards according to industry demands, including EMC, electromagnetic radiation, Electromagnetic mutual interference of telecommunication infrastructure construction co-construction and sharing.

Telecom Billing Special Task Group

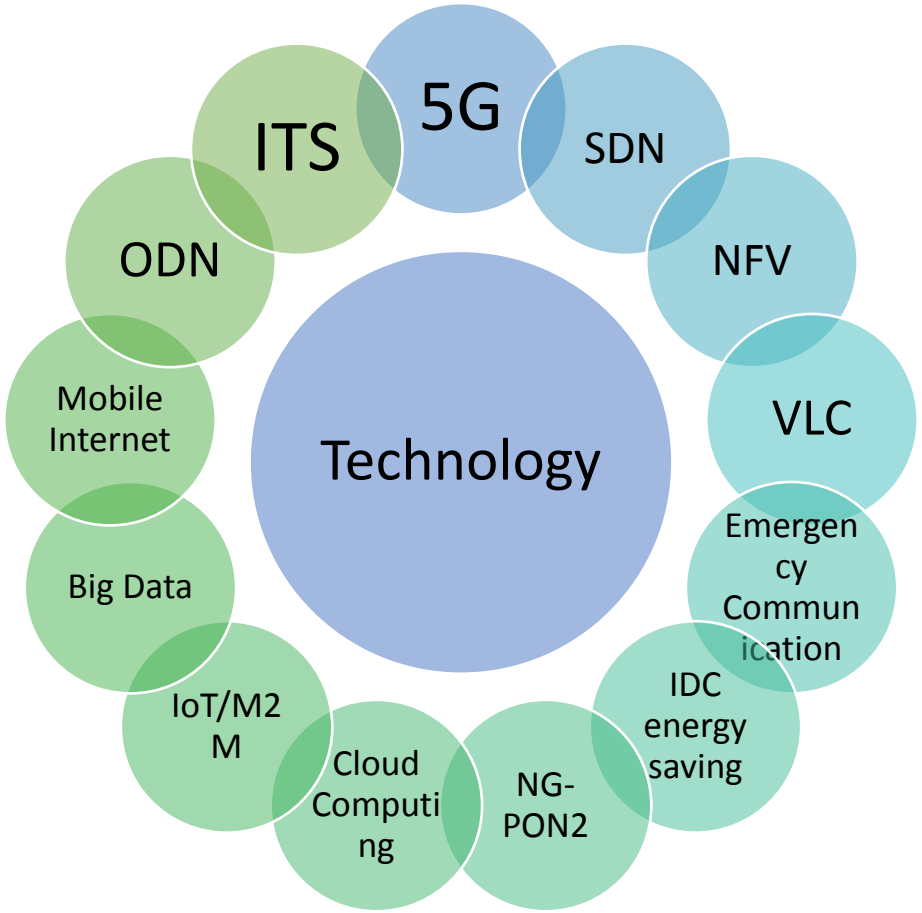
Areas of research and standardization

- To carry out studies on telecom billing-related standards and technology, supporting industry authorities in charge of telecom billing supervision.

Current Working Fields

- Essential standards make up a small portion of CCSA's work;
- Divisional and segmental standards make up the bulk of CCSA’s work;
- Mandatory standards, such as those for product safety, environmental protection and rare earths consumption;
- Technical reports and research projects in emerging spaces such as M2M, Internet of Things (IoT) and cloud computing, etc.

CCSA Main Tasks in 2015 (3/3)

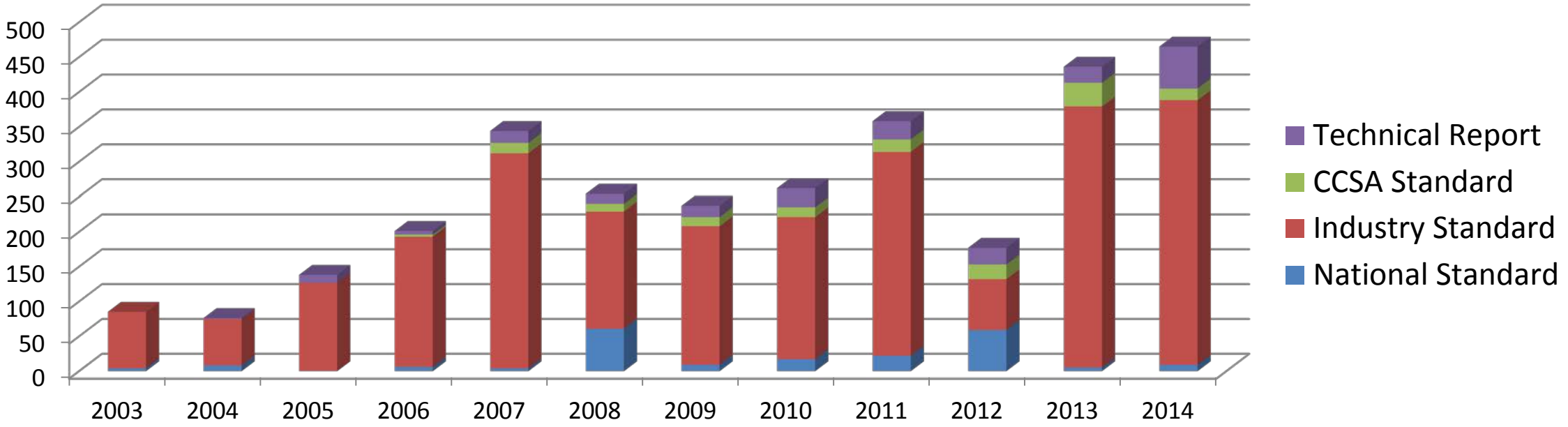


Contents

CCSA's Standards Output

465 standards were published in 2014.

- 9 National Standards (GB);
- 379 Industry Standards (YDT/YDC);
- 17 CCSA Standards(YDB);
- 60 Technical Reports.



Conformance Testing Specifications

NO.	Standard	TC
1	The Conformance Testing Specification for IPv6 Routing Protocol-- Intermediate system to Intermediate system intra-domain routing information exchange protocol (IS-ISv6)	TC1
2	The comformance testing specification for border gateway protocol (BGP4)	TC1
3	The conformance testing specification for intermediate system to intermediate system routing exchange protocol（IS-IS）	TC1
4	The conformance testing specification for open shortest path first (OSPF)	TC1
5	Study on Conformance Test Method for LTE-Advanced Terminal	TC5
6	Test Method for User Equipment of voice over LTE（VoLTE）Part2:Conformance Test	TC5
7	Test Method for User Equipment of LTE FDD Digital Cellular Mobile Telecommunication Network（Phase 1） Part 4: Protocol Comformance Test	TC5
8	Test Method for User Equipment of TD-LTE Digital Cellular Mobile Telecommunication Network（Phase 1） Part 4: Protocol Comformance Test	TC5
9	2GHz TD-SCDMA Digital Cellular Mobile Telecommunication Network HSPA+ User Equipment (UE) Protocol conformance specification	TC5
10	Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC);User Equipment (UE) conformance specification: Part 1: Protocol conformance specification	TC5
11	Test method for HSUPA user equipment of 2GHz TD-SCDMA digital cellular mobile communication network - Protocol conformance	TC5
12	Test Method for User Equipment of 2GHz TD-SCDMA HSDPA Digital Cellular Mobile Communication Network Protocol conformance specification	TC5
13	Test Method for User Equipment of 2GHz TD-SCDMA Digital Cellular Mobile Communication Network（XXX）- Protocol conformance	TC5
14	2GHz TD-SCDMA Digital Cellular Mobile Telecommunication Network MBMS System（TD-MBMS） Protocol Conformance Test Methods of User Equipment	TC5
15	Test method for HSUPA user equipment of 2GHz TD-SCDMA digital cellular mobile communication network - Protocol conformance	TC5
16	Test method of Mobile Station Equipment Identifier (MEID) support for 800MHz/2GHz cdma2000 spread spectrum systems	TC5
17	Test Method for User Equipment of 2GHz TD-SCDMA Digital Cellular Mobile Communication Network Protocol conformance specification（Part I）	TC5
18	Test Method for User Equipment of TD-SCDMA Protocol conformance specification	TC5
19	Test Specification for 800MHz CDMA1X Digital Cellular Mobile Communication Networks ：Signaling Conformance Specification for Broadcast and Muticast Service	TC5
20	Test Method for Wireless Access to the Fixed Broadband Based on 802.16d — Air interface conformance specification	TC5
21	Specification and Testing Method of Wireless LAN Access Controller (AC)-Access Point (AP) Interoperability	TC5
22	Multiple Technology Network Management (MTNM) interface conformance testing specification	TC7
23	The Consistency Test Methods for Disaster Recovery Data	TC8

Contents

IPR Policy — Overview

- Based on the China's situation and experiences from other SDO's IPR policy, CCSA IPR Policy (for trial implementation) approved by the Council of CCSA in November 2007, was promulgated.
- This is the first IPR policy developed by a stantand-setting body in China, and laid solid pratical foundation for the Standard Administration of PRC in drafting its national standards.

IPR Policy — Key Points

- CCSA IPR Policy (for trial implementation) consists of 13 articles, mainly dealing with patents related to standard on issues such as principle, disclosure, licensing, copyright, transfer and exemption of CCSA. Also, Template for Patent Information Disclosure and Licensing Declaration Form is annexed to constitute part of CCSA IPR Policy.
- **Disclosure** — CCSA encourages Members to early disclose information of patents related to Standard known by Members and their Affiliates, as well as information of patents which are related to Standard or Documentation and provided by Members or their Affiliates to other standard organizations. However this Article 3 does not imply any obligation for a Member to conduct any patent searches.

IPR Policy — Key Points

- **Licensing**—Members and their Affiliates who hold patents related to standard shall submit patent licensing declaration to CCSA. The licensing declaration shall make statement on one of the following:
  - willing to grant a free-of-charge license to any parties who implement the Standard.
  - willing to grant a license under fair, reasonable and non-discriminatory terms and conditions to any parties who implement the Standard.
  - unwilling to grant a license.
- **Denial of licensing**—When a patent holder is unwilling to grant a license under a patent related to Standard, CCSA shall review that Standard in order to seek a viable alternative technology, suggest the authorities of the state revoke the Standard, or take other effective ways to solve the problem.

IPR Policy — Key Points

- **Copyright** — CCSA shall own the copyright of the documentation and Standards created by CCSA or its Working Organizations. The copyright of the Standards approved and released by relevant government authorities belongs to the authorities concerned.
- **Transfer** — After making the license declaration, if the patent transfer to another person or entity, the patent holder guarantee, the transferee is still bound by this license statement.
- **Exemption** — CCSA will not be involved in licensing negotiations in the implementation of Standards, which should be conducted between the patent holders and the other parties implementing the Standard. Any disputes on patent issues arising from the implementation of a Standard should be handled by the other authorities concerned.

IPR Policy — Implementation

- With the support of its members, CCSA IPR policy has been well implemented since it came into effect in 2007.
- CCSA introduces and clarifies its IPR policy to chairmans, group leaders and members involved in standardization process. CCSA requires that at any stage of standard formulation, if a company wants to disclosure their patent, it should notify to the working group immmediately and submit its patent licensing declaration.
- CCSA has already addressed 62 standards involving patents including 210 patents and patent applications.
- Standards involving patents mainly cover mobile multimedia, broadband access, Ethernet, IPV6, digital trucking, encryption, e-mail, cable, SCDMA, etc.
- Patents/Patent applications mainly refer to inventions, only a few of utility models.
- Patent licensing are mainly conducted uner FRAND terms and conditions, some free-of-charege licenses, such as ZUC.

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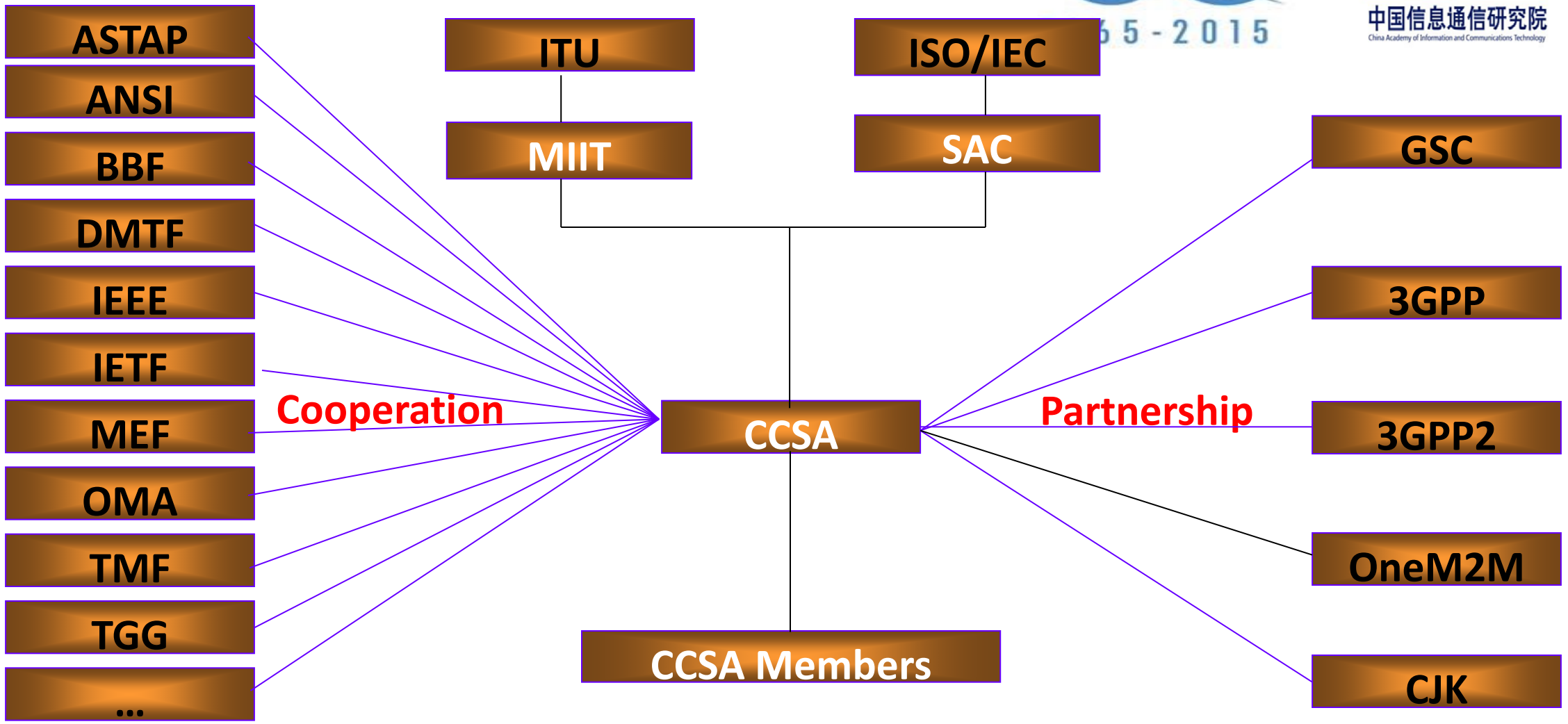
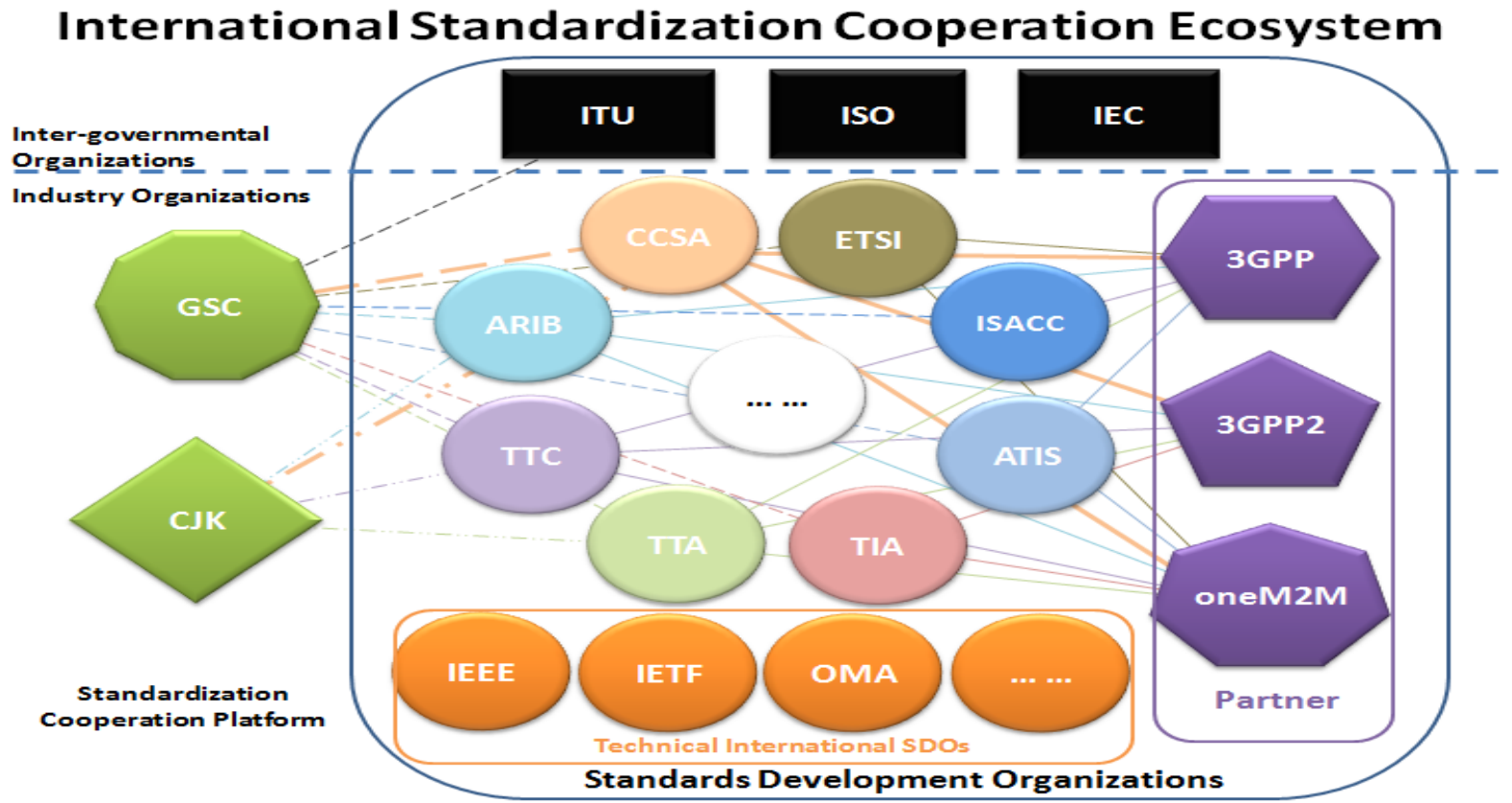
International Liaison Chart



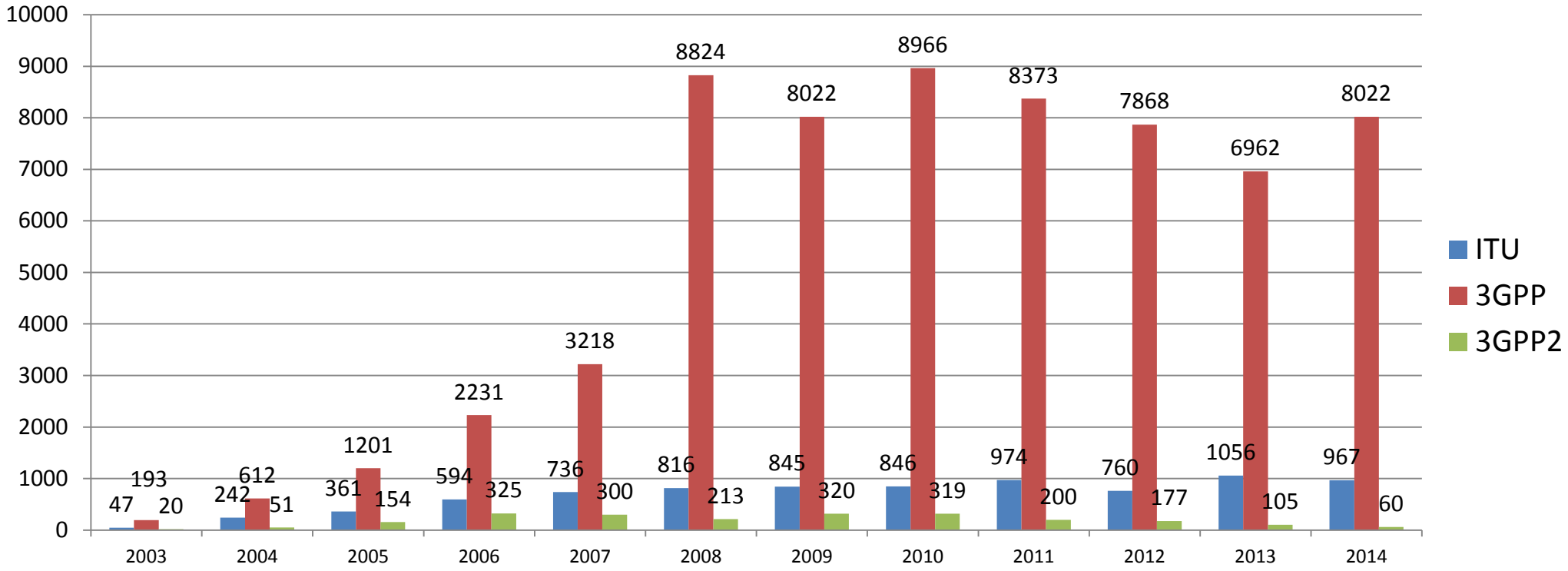
International Cooperation

CCSA would like to make our contributions to form a healthy international standardization cooperation ecosystem.



Contributions to International Organizations

In 2014, CCSA members contributed more than 10,000 submissions to ITU, 3GPP, 3GPP2 and other international and regional standards organizations.



International Standards Transfer

- Standards Transfer
  - International Standards → Chinese Standards
  - Chinese Standards → International Standards

Exam Questions

- What is the nature of CCSA?
- What is the advantages and advantages of current Chinese standardization system?
- What is CCSA’s vision on the international Standardization Ecosystem?
- Which aspects do you think need to be further enhanced or improved in terms of CCSA’s organization and activities?

Trainer information

- Trainer: Mr. Shizhuo Zhao
- E-mail: zhaosz@ccsa.org.cn
- Department: China Communications Standards Association (CCSA)
- Address: 52 Huayuan Bei Road, Haidian District, Beijing, P.R. China 100083

Thank You!

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