

# GISFI & ITU Telecommunications Standardization Sector

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Telecommunication Standardization Bureau*

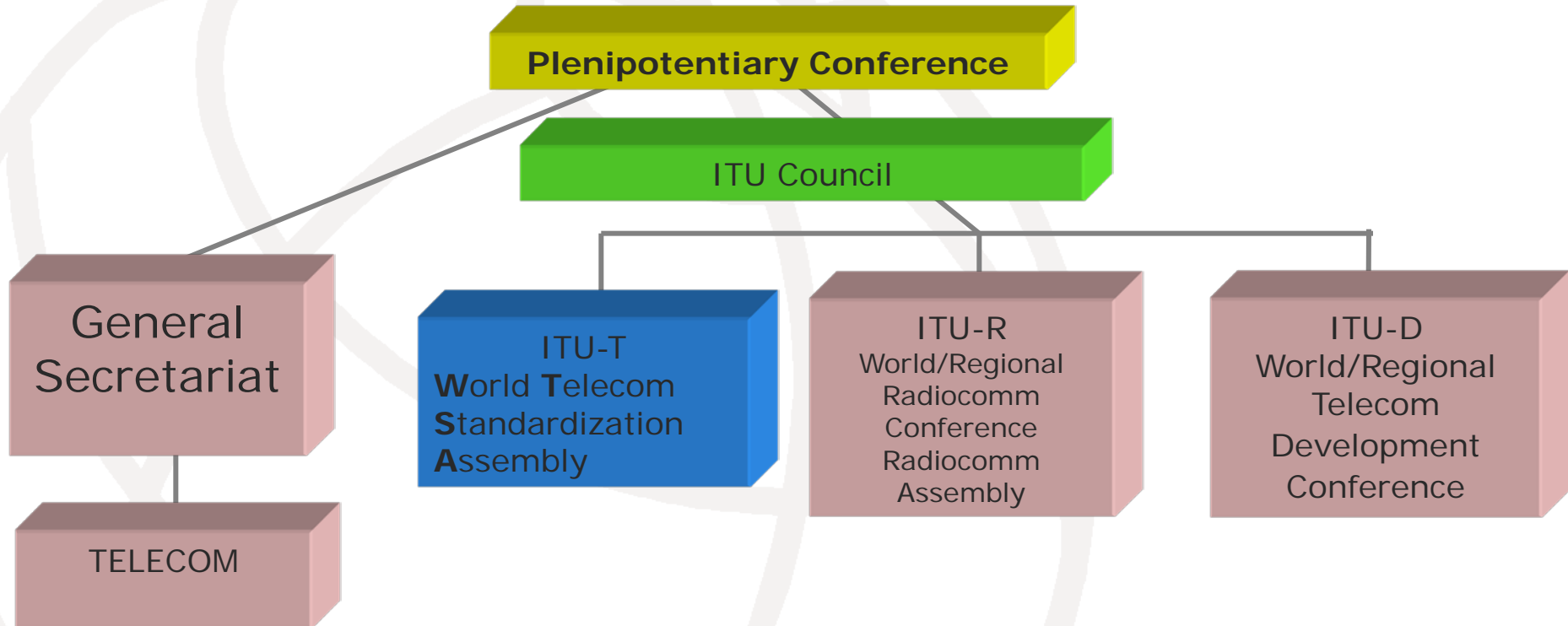
**21 June 2010**

# Introduction to ITU

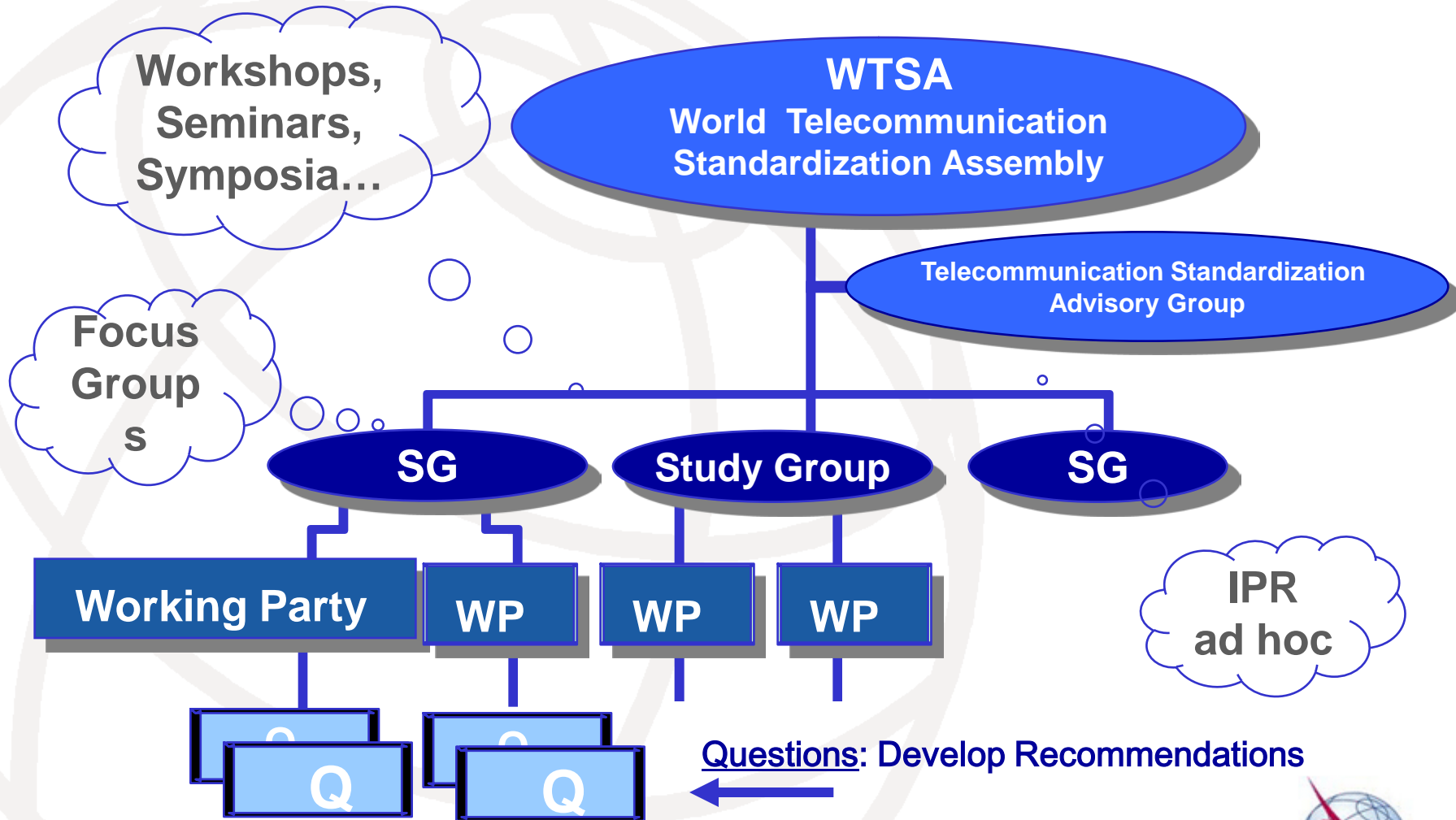
- Founded in **1865**, oldest specialized agency of the **UN**
- **Standards** making one of the ITU's first activities
- **191 Member States, 780 private sector** entities
- **HQ Geneva**, 11 regional offices, 760 staff / 80 nationalities
- Named as one of the world's ten most enduring institutions by **Booz Allen**
- **Five elected officials:**
  - Secretary-General
  - Deputy Secretary-General
  - Director of the Radio Bureau (BR)
  - Director of the Telecommunication Standardization Bureau (TSB)
  - Director of the Telecommunication Development Bureau (BDT)



# ITU Structure



# ITU-T Working Structure

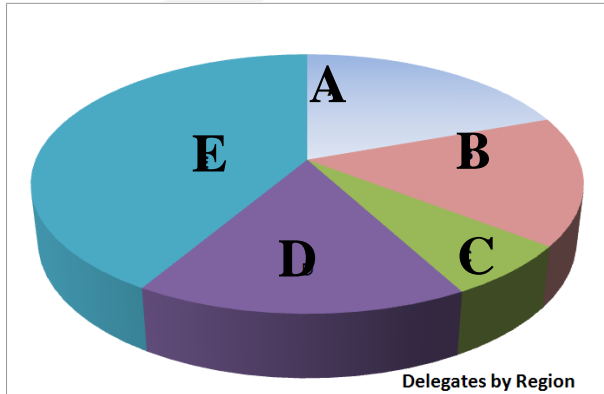


# Global Standards essential in a complex world

- Essential for international communications and global trade
- Drive competitiveness, for individual businesses and world economy
- ITU standards are truly global because developed according to WTO principles :
  - Transparency
  - Openness
  - Impartiality and consensus
  - Effectiveness and relevance
  - Coherence
  - Addressing the concerns of developing countries



# ITU-T Member State Participation



- Region A** - The Americas (216)
- Region B** - Western Europe (178)
- Region C** - Eastern Europe and Northern Asia (73)
- Region D** - Africa (182)
- Region E** - Asia and Australasia (460)

**Member States: 191 governments**

**Sector Members: 565 private sector**

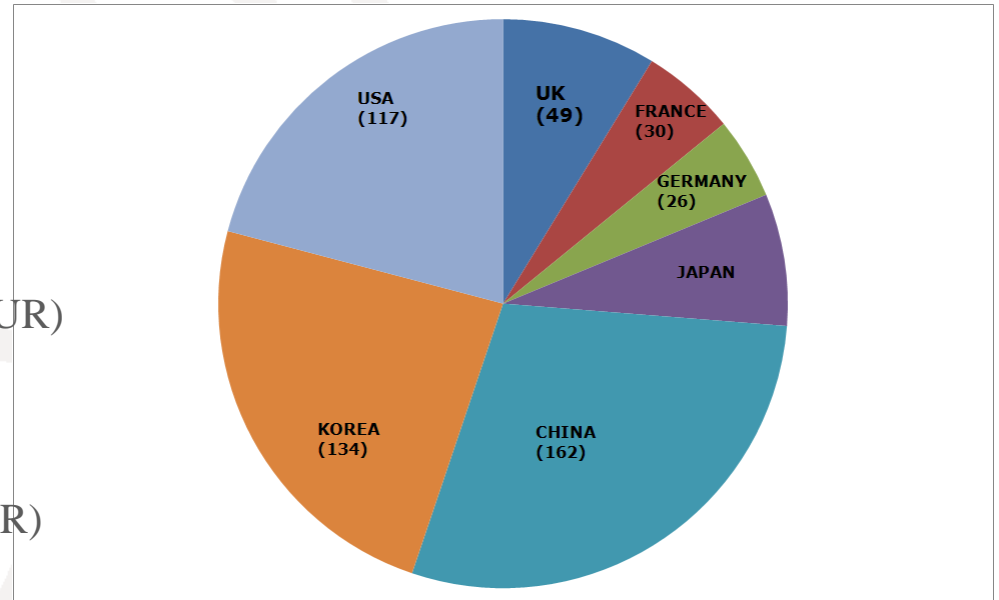
Membership fee: 31,800 CHF (~= 20k EUR)

**Associates: 154 private sector**

(one Study Group only)

Membership fee: 10,600 CHF (~= 7 kEUR)

**Today, 95% of the work in ITU-T is done by the private sector**



# Strategic Objectives

1. Develop and publish timely global Telecom/ICTs **standards**
2. **Cooperate and collaborate** with other SDOs and ITU Sectors
3. Provide the **most attractive forum** for standardization in the interest of the membership
4. Provide **support and assistance to** the membership, in particular **developing countries**
5. Promote **conformance** to ITU-T Recommendations by maintaining an online “conformity DB”
6. Enhance **interoperability** by organizing events to prove interoperability of different vendors equipment
7. Enhance **accessibility** to ICT
8. Promote ICTs as an effective tool to combat **climate change**
9. Identify relevant areas for future standardization projects by involving **academia**
10. **Disseminate information** and know-how



# ITU-T Recommendations connect the world...

Without ITU-T standards you couldn't make a telephone call from one side of the world to another.

- **E.164** "International public telecommunication numbering plan"

Without ITU-T standards the Internet wouldn't function.

- **G.991.x – G.999.x**  
"Recs on Access Networks"

# ITU-T Revolutionary video standard

- Emmy award received on behalf of ISO, IEC & ITU on 25 August 2008
- Advanced Video Codec ITU-T Rec. H.264 | ISO/IEC 14496-10
- H.264 | MPEG-4 AVC recognized by US Academy of Television Arts & Sciences

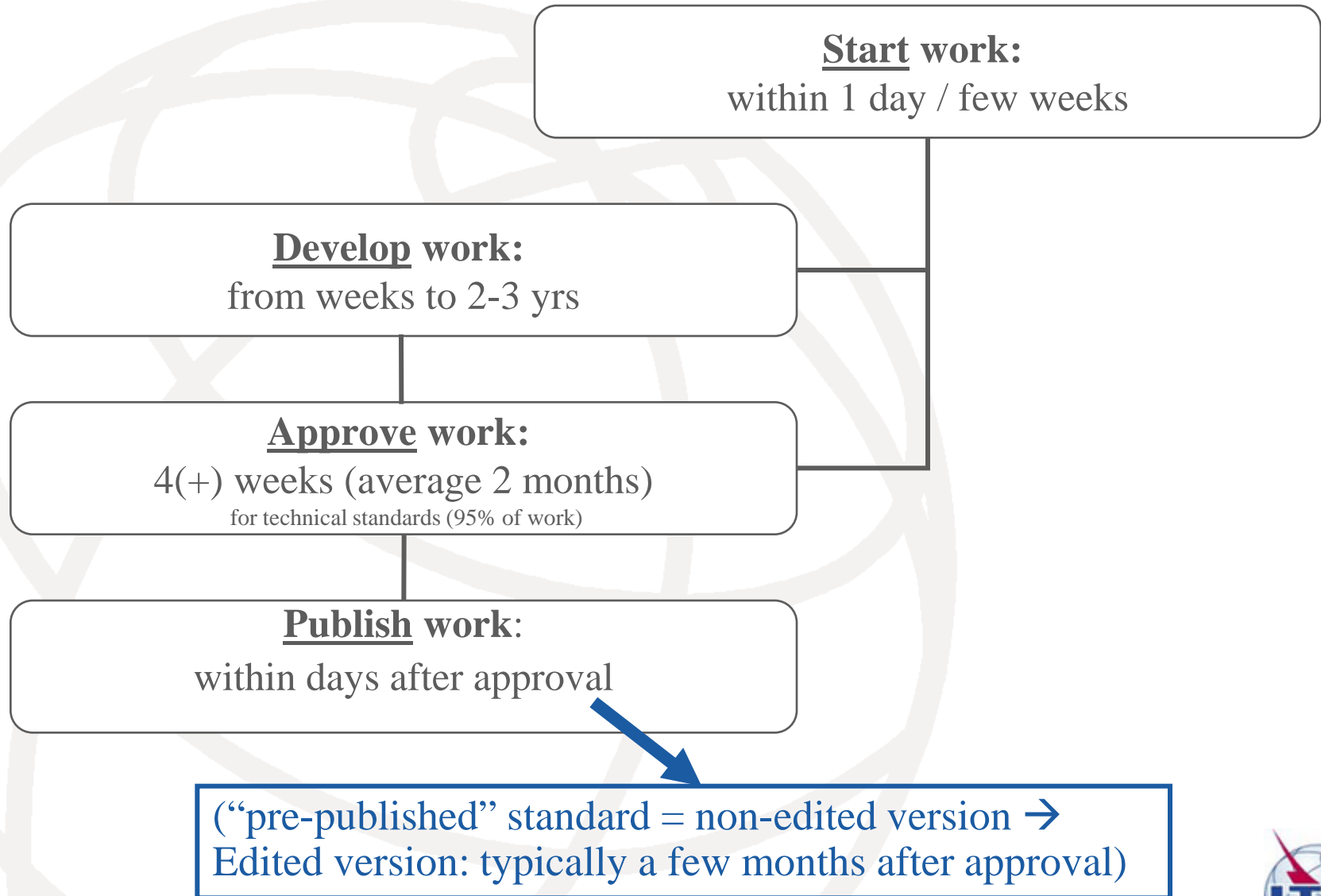


# Universal charger

- Approved **ITU-T Rec. L.1000**  
*“Universal power adapter and charger solution for mobile terminals and other ICT devices”*
- Delivers 50% reduction in standby energy consumption, eliminates 51,000 ton of redundant chargers, and cuts GHG emissions by 13.6 million ton CO<sub>2</sub> annually
- Current version covers charger for mobile terminals but will cover other ICT devices in future



# ITU-T is fast



# Why ITU is Involving Academia?

- **To increase academic participation in ITU**
  - Students of today are the people who will shape the technology world of tomorrow
- **To capture new work** (innovations in ICT) for the standardization marketplace.
  - Universities and R&D institutions are an important pool of innovation
- **No specific ITU membership policy for universities**
  - proposal under discussion by ITU Council reduced fee for academia ~ **2'000 USD**

## **GISFI action:**

- **promote innovation and research in India**
- **Facilitate academic participation in GISFI**



*Pune, India, 13-15 December 2010*



IEEE  
COMMUNICATIONS  
SOCIETY



# Kaleidoscope 2010

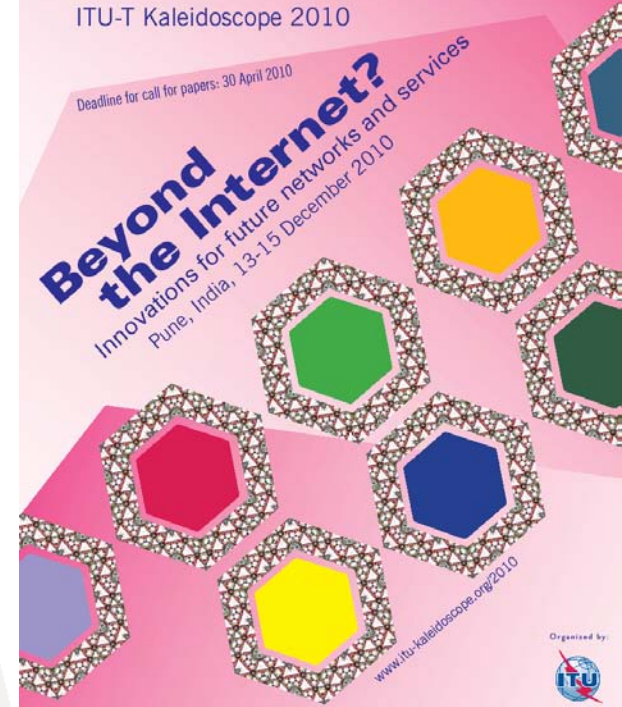
*Beyond the Internet?  
Innovations for  
future networks and services*

International Telecommunication Union

ITU-T Kaleidoscope 2010

Deadline for call for papers: 30 April 2010

**Beyond  
the Internet?**  
Innovations for future networks and services  
Pune, India, 13-15 December 2010

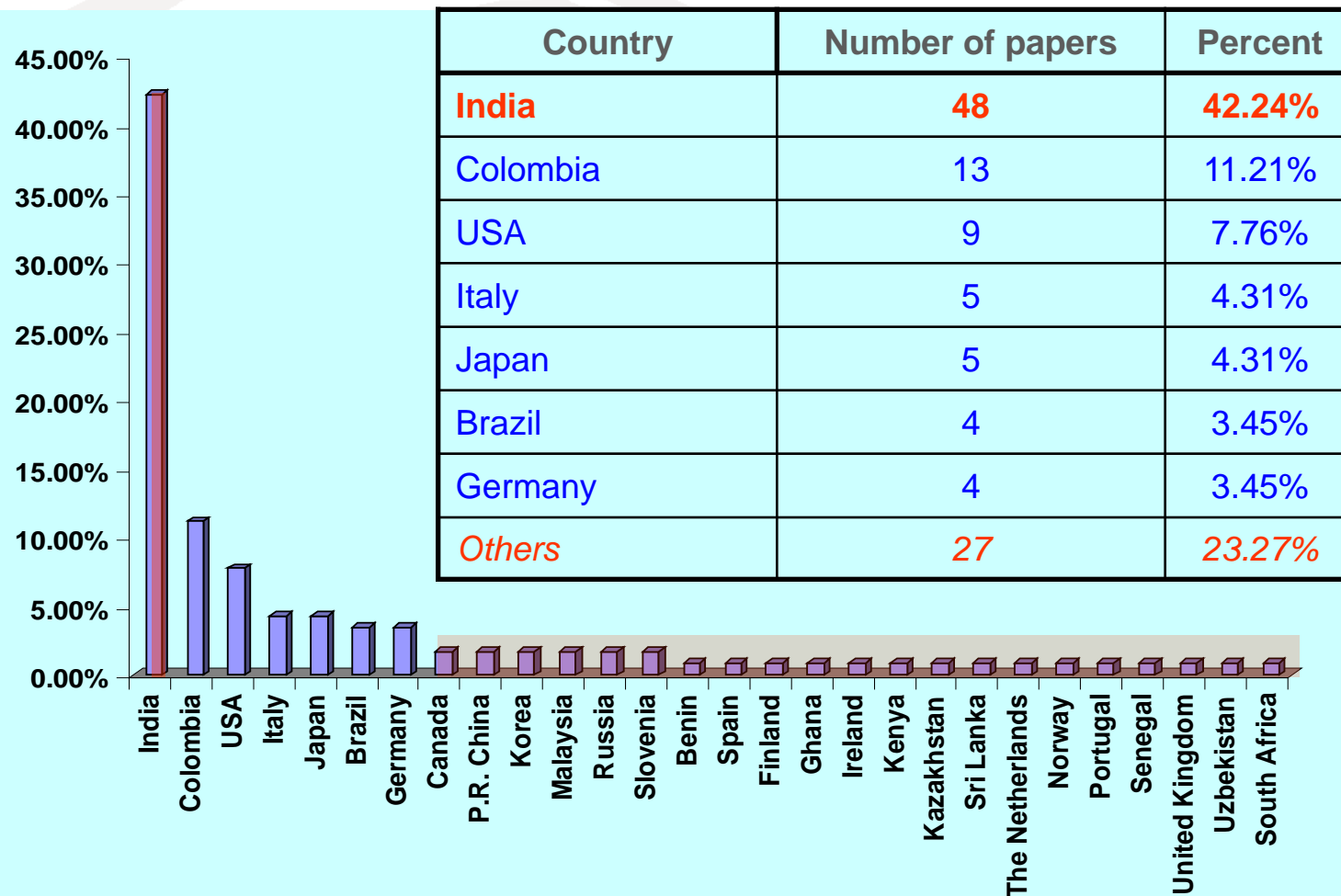


Technically co-sponsored by: IEEE, ITC Collaborative Centre  
Supported by: CISCO, Nokia Siemens Networks  
Platinum: ITC Collaborative Centre  
In partnership with: GISFI, CMAI, ITU-APT



# Involving Academia in India

**Kaleidoscope 2010 - Total of 115 papers submitted**



*Pune, India, 13-15 December 2010*



# World Standards Cooperation: ISO, IEC, ITU

- Established in 2001 assist to avoid duplication and overlap of work
- Since then regular formal and informal contact of ISO, IEC, ITU leadership
- Goal: strengthen and advance the voluntary consensus-based international standards systems of ITU, ISO, and IEC
- Joint initiatives: **common text, common patent policy, joint workshops, joint education & training**

## GISFI Action:

- **adopt the same patent policy, it will easy cooperation with the international SDOs**
- **Participate to the ITU-T IPR ad hoc group**



# ITU-T collaboration

44 formal partnerships



- World Standards Cooperation  
ISO – IEC - ITU
  - Patent policy & Joint events
- ITU-T and IEEE
  - MoU & Joint events
- Global Standards Collaboration
  - Supports ITU as preeminent global ICT standards organization.
- Management meetings with:
  - ETSI
  - IETF
  - ICANN
  - ISO/IEC JTC 1
- MoU on E-Business:  
IEC, ISO, ITU and UN/ECE

# Global Standards Collaboration

- GSC-15, Beijing, China, 30 August - 2 September 2010, hosted by CCSA
- The mandate of GSC is to provide a venue for the leaders of the Participating Standards Organizations and the ITU to:
  - ...exchange information on the progress of standards development...
  - Collaborate in planning future standards development to gain synergy and to reduce duplication.
  - To support the ITU as the preeminent global telecommunication and radiocommunication standards development organization.

**GISFI action: join GSC-15 in China**



# Partnership and External Cooperation

## Recommendation A.4

- Procedure to approve/establish communication process with Forums/Consortia

## Recommendation A.5

- Procedure to qualify organizations for including references in ITU-T Recommendations

**GISFI action: to apply for A.5 qualification**

## Recommendation A.6

- Procedure to approve cooperation and exchange of information with national and regional standards development organizations

**GISFI action: to apply for A.6 qualification**

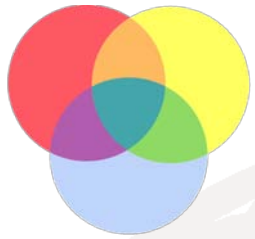


# MoU between ITU and ETSI

- Considering:
  - ITU as the intergovernmental and universal organization responsible for worldwide standardization of telecommunications
  - ETSI as a regional organization “recognized by EU”
- Allows
  - Each organization to use the documents of the other in order to advance its own work
  - Each will also be able to reference standards texts of the other
  - Each organizations experts can participate in the others meetings

**GISFI action: to consider a MoU with ITU**





# ITU and Interoperability

**Addressing interoperability** is one of the very reasons for founding ITU and for which Experts in ITU-T Study Groups are engaged in developing Recommendations and test suites.

While the ultimate objective is interoperability, **conformance** to standards is the first step to enable interoperability.



# Conf. & Interop. Resolutions to reply to developing countries needs

- **WTSA-08 Resolution 76 (ITU-T)**

*“Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU mark programme”*

- **WTDC-10 Resolution 47 (ITU-D)**

*“Enhancement of knowledge and effective application of ITU Recommendations in developing countries, including conformance and interoperability testing of systems manufactured on the basis of ITU Recommendations”*



# Current activities to address

- **Conformity** to increase probability of interoperability
  - Created the voluntary based and free pilot **conformity database** to be populated
- **Interoperability** to solve connection problems
  - ITU-T will assist in the establishment of **test facilities in developing countries** as well as in enhancing capacity building in cooperation with the BDT
  - ITU-T is **organising a series of events**. Some events in partnership with relevant SDOs, forums and consortia.
  - Currently **IPTV** Interop events are planned (*next slide*)
  - Future events might include: Home Networking, VDSL2, GPON (Gigabit-capable Passive Optical Network) ... any other idea is welcome!

Res. 76



# ITU Interoperability Events

## ITU Interoperability Events in 2010 on IPTV:

- Geneva (20-23, July)
  - 20-21 July - *Interoperability Testing*
  - 22-23 July - *Showcasing*
- Singapore (September)
  
- **India (16-17, December)**
  - In collaboration with GISFI
  - Venue: Sinhgad Technical Education Society, Narhe Campus, Pune, India
  - Join the ITU Interop event contacting ITU at:  
***interop@itu.int***
  - details soon at ***www.itu.int/interop***



# How GISFI & ITU-T can assist India? (1/2)

(for example)

**Problem:** Inadequate deployment of telecommunication/ICT infrastructure in rural areas in developing nations

**Reason:** Existing mobile network systems are primarily defined for urban areas → do not meet the rural specific requirements:

- Shortage of Power
- Too expensive to maintain the power backup, which is usually Diesel (environmental unfriendly)
- Difficult terrain / Difficult access and transportation
- Lack of skilled man power / Very high operating costs
- Sparsely populated and scattered population clusters



# How GISFI & ITU-T can assist India? (2/2)

## Solution:

- New Study Question in ITU-T?  
*“Rural communication (Setting up a low cost sustainable telecommunication infrastructure in rural areas of developing nations)”*
- VNL is joining ITU-T to propose such a new Question under Study Group 5 framework. It will allow studying the generic system requirements for rural mobile networks systems including aspects related to deployment architecture, power consumption, power source, packaging, operation & maintenance etc.

## **GISFI Action:**

- **GISFI could coordinate and address similar Indian specific issues to ITU-T Study Groups**



# Inviting ITU-T meetings and workshops in India

- Hyderabad, few weeks ago, WTDC (world telecommunication development conference)
- Pune, 13-15 December 2010, Kaleidoscope
- Pune, 16-17 December 2010, IPTV Interoperability event
- Pune, 13-17 December 2010, IPTV-GSI (Internet Protocol Television - Global Standards Initiative)

## **GISFI action:**

**Continue inviting, through Government, ITU events in India to maximize local participation**



# Conclusion

## GISFI could/should:

- become ITU-T Sector member (**done** 😊)
- aim at being fast (**see ITU-T AAP**)
- **coordinate** Indian participation to international standardization
- apply for **ITU-T A.5** qualification (procedure to reference GISFI's standards in ITU-T Recommendation)
- Apply for **ITU-T A.6** qualification (procedure to establish a liaison mechanism with ITU-T)
- Consider a **MoU** between GISFI and ITU
- Adopt ITU-T's **IPR patent policy** to comply also with ISO and IEC – participate to IPR ad hoc group
- Continue **inviting ITU-T meetings in India** to maximize Indian participation to ITU-T work
- Exploit ITU-T Sector Membership and address specific issues to ITU-T Study groups through **direct contribution**
- Participate to **WTSA** and **TSAG**



[www.itu.int/ITU-T](http://www.itu.int/ITU-T)



**Thank you very much!**

# Additional Slides



# ITU-T in a Nutshell

- ITU-T Product: **Recommendations** (= “standards”)
  - **Freely** available to the public
- Work (mostly) done in **Study Groups** (10 of them)
- **Unique partnership** of private sector (Sector Members) & government (Member States)
  - Truly **global**
  - **Consensus** decisions
- Very **flexible**
- **Fast** procedures, **transparent** procedures
- **Brand** name
- Committed to **Collaboration** and **Cooperation**
- Supportive to **Developing Countries**



# Work in Study Groups

- SG Face-to-face meeting cycle every 6 – 9 months
  - Paper-less meetings (electronic working methods)
  - Encourage remote participation (web-conferencing, email)
- More frequent meeting are:
  - Rapporteur meetings to deal with specific Questions (electronic or face-to-face meetings as frequently as once a month)
  - Working Parties meetings



# ITU Secretariat Services

- Dedicated “Counsellor” per SG:
  - Provide administrative support with technical knowledge (engineer)
  - Manager of meeting logistics
  - Responsible of quality of the Recommendations (ITU is publishing house)
  - Responsible of Website (part of it in 6 languages)
  - Organizes SG related Workshops (technical programme)



# Current Study Groups 1/4

- SG2 - Operational aspects of service provision and telecommunications management
  - Service definition, numbering and routing
  - Telecommunication for disaster relief/early warning
  - Telecommunication management
- SG3 - Tariff and accounting principles including related telecommunication economic and policy issues
- SG5 - Environment and climate change
  - Electromagnetic compatibility and electromagnetic effects
  - Harmful Effects of radiation
  - ICTs and climate change
  - Recycling and e-waste



# Current Study Groups 2/4

- SG9 - Television and sound transmission and integrated broadband cable networks
  - integrated broadband cable and television networks
- SG11 - Signalling requirements, protocols and test specifications
  - Signalling and protocols
  - Intelligent networks
  - Test specifications
- SG12 - Performance, QoS and QoE
  - quality of service and quality of experience



# Current Study Groups 3/4

- SG13 - Future networks including mobile and NGN
  - Future networks and NGN
  - Mobility management and fixed-mobile convergence
- SG15 - Optical transport networks and access network infrastructures
  - Access network transport
  - Optical technology
  - Optical transport networks



# Current Study Groups 4/4

- SG16 - Multimedia coding, systems and applications
  - Multimedia coding, systems and applications
  - Ubiquitous applications ("e-everything", such as e-health)
  - Telecommunication/ICT accessibility for persons with disabilities
- SG17 - Security
  - Telecommunication security
  - Identity management (IdM)
  - Languages and description techniques



# Work in Focus Groups

- Works on a **well-defined topic**
- Work in a scheduled **time-frame**
- Establish **its own working methods**
- **Non-ITU Members** can participate
- **Output** → **"ITU-T Specification"**  
(not Recommendations!)
  - However, output of FG can be input to a study group to make it an ITU-T Recommendation



# Current Focus Groups

- Focus Group on **Car Communication** (FG CarCOM)
  - focus is on sub-system level requirements, in car communication and requirements/testing of frontends used for speech recognition in cars (In operation since 2009-11)
- Focus Group on **Future Networks** (FG FN)
  - Discussion to ensure global common understanding about Future Networks – participation of researchers on future internet
- Recently established **new** (TSAG 02/10):
  - Focus Group on **Smart Grid**
  - Focus Group on **Cloud Computing**



# Joint Coordination Activities

- Currently **nine** JCAs ([www.itu.int/ITU-T/jca](http://www.itu.int/ITU-T/jca))
- **Management tool** when subject spans more than one study group
- **For coordination** and planning,
  - Technical work done by the study groups
- **External organizations** can join a JCA



# Current Joint Coordination Activities

- ICT and climate change (JCA-ICT&CC)
- Telecom Management (JCA-Mgt)
- Accessibility and Human factors (JCA-AHF)
- Identity Management (JCA-IdM)
- *Network Aspects of Identification Systems (including RFID) (JCA-NID)*
- IPTV (JCA-IPTV)
- Conformance and Interoperability Testing (JCA-CIT)
- Home Networking (JCA-HN)
- Next Generation Networks (JCA-NGN)



# Technology Watch

- **Technology Watch** surveys the ICT environment for new study topics
- **Technology Watch Briefing Reports** provide an up-to-date assessment of promising new technologies. Recent papers:
  - 12. **Biometrics and Standards** (December 2009)
  - 11. **ICTs and Food Security** (July 2009)
  - 10. **The Future Internet** (April 2009)
  - 9. **Distributed Computing: Utilities, Grids & Clouds** (March 2009)
  - 8. **Standardization Activities for Intelligent Transport Systems** (October 2008)
  - 7. **NGNs and energy efficiency** (August 2008)
  - 6. **Technical aspects of Lawful Interception (LI)** (May 2008)
  - 5. **Remote collaboration tools** (March 2008)
  - 4. **Ubiquitous Sensor Networks** (February 2008)
  - 3. **ICTs and Climate Change** (December 2007)
  - 2. **TelePresence: High performance video-conferencing** (November 2007)
  - 1. **Intelligent Transport Systems and CALM** (October 2007)



# Intelligent Transport Systems



5<sup>th</sup> edition

PALEXPO, Geneva, 3 - 4 March 2010

- ITU, ISO and IEC and Geneva Motor Show
  - Annual Event

- New work:
  - Wideband communication in cars
  - Vehicle gateway protocol



# How academia has participated so far

- Discrete participation in SG activities
    - Some individuals from academia have leadership roles in ITU-T (Editors, Rapporteurs, chairs of technical committees)
  - Some participation in Focus Groups and Technology Watch
  - Some participation in ITU-T workshops
  - Some important regional activities (e.g. ITU Centres of Excellence)
- ↓
- No specific ITU membership policy for universities
    - proposal under discussion by ITU Council
    - reduced fee for academia ~2'000 USD

# ITU-T and Academia

## Why Involving Academia?



# Kaleidoscope Events

- Series of academic conferences
  - International Organizing Committee (10-20 experts)
  - Call for Papers
  - International Programme Committee (more than 100 Experts)
  - Paper review process → double-blind / peer-review
  - IEEE Com Soc (technical co-sponsor)
  - Proceedings distributed via IEEE Xplore
  - 3 best papers award (10'000 USD) event sponsors
- Bridging academia, research & ITU-T standardization activities for discussion on technological innovation and its socio-economic implications



# Kaleidoscope 2008

## *"Innovations in NGN"*

- Geneva, **Switzerland**, 12-13 May, 2008
- Paper proposals: **141**
- Accepted papers: **32** lecture, **22** poster sessions
- **223** attendees, **48** countries
- **Practical outcomes** → **Focus Group on Future Networks (FG-FN)** created in Jan 2009 inspired on a paper from the conference (*Aoyama*)
- **Sponsors:** Cisco Systems, Intel; ICF (Japan); Sun Microsystems
- Programme, presentations, etc:  
<http://www.itu-kaleidoscope.org/2008>



# Kaleidoscope 2009

## *“Innovations for Digital Inclusion”*

- Mar del Plata, **Argentina**, 31 Aug – 1 Sep 2009
- Paper proposals: **83**
- Accepted papers: **20** lecture, **12** poster sessions
- **120** attendees, **24** countries
- **News** → Local University Exhibition (6 Latin American Universities exhibited their activities/projects)
- **Sponsors:** Cisco Systems, Nokia
- Programme, presentations, etc:  
<http://www.itu-kaleidoscope.org/2008>

# Kaleidoscope 2010 (1/2)

- *Beyond the Internet? Innovations for future networks and services*
- *Pune, India, 13-15 December 2010*
- Kind invitation of Indian Government

■ Hosted by:



■ Supported by:



■ Partnership with:

Technical co-sponsored by



# Kaleidoscope 2010 (2/2)

- Call for papers → Deadline: **30 April 2010**
- 115 papers submitted from all over the world
- Local University Exhibition
- Best paper awards **10'000 USD**
- Proceedings → IEEE Xplore
  
- **News:**
  - Standards Corner (tutorial)
  - Jules Verne's Corner  
(SF writers and dreamers)
- Additional info:  
<http://www.itu-kaleidoscope.org/2010>

