



ITU-T Overview and Kaleidoscope initiative

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*International Telecommunication Union (ITU)
Telecommunication Standardization Bureau*

27 February 2010



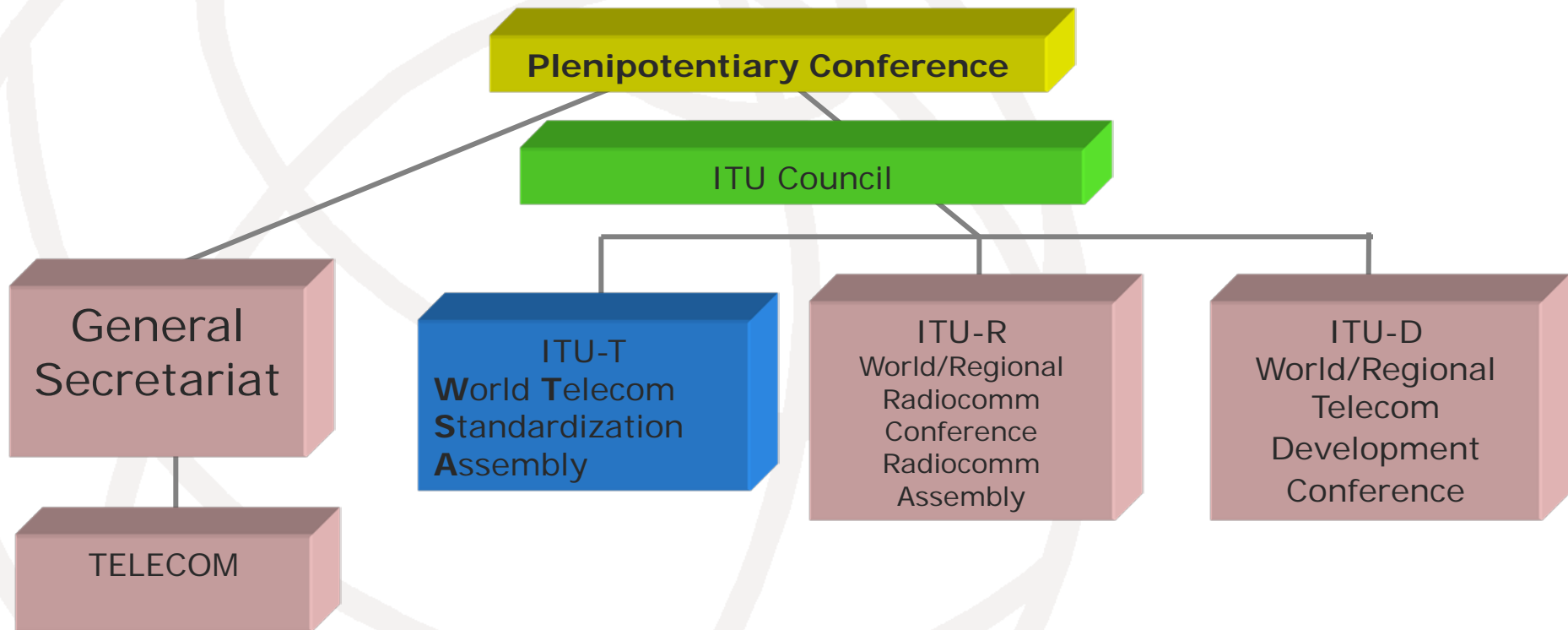
ITU Membership

- Member States: **191 governments**
- Sector Members **565 private sector**
 - ITU-T Sector membership fee: **31,800 CHF** (~ = 20k EUR)
- Associates **154 private sector**
 - have right to participate in one Study Group only
 - Associate membership fee: **10,600 CHF** (~ = 7 kEUR)
- Today, 95% of the work in ITU-T is done by the private sector (Sector Members and Associates)



ITU Structure

Oldest UN specialized agency (founded in 1865)



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



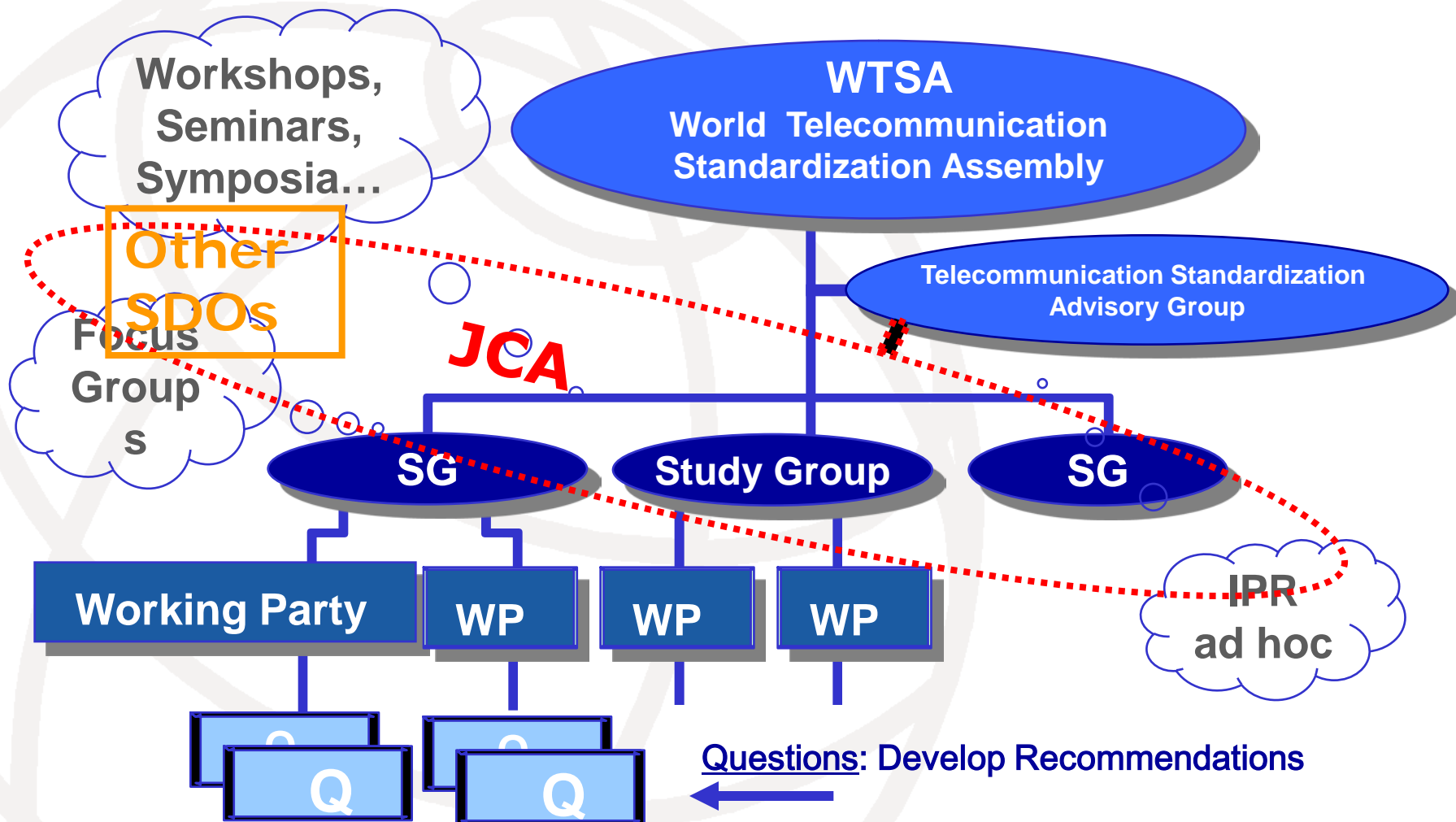


ITU-T in a Nutshell

- 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
- Interoperability events / ITU-T Conformity database
- Common Patent Policy ITU-T/ITU-R/ISO/IEC



ITU-T Working Structure





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

- In the oven **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)
- **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)



ITU-T is fast

Start work:
within 1 day / few weeks

Develop work:
from weeks to 2-3 yrs

Approve work:
4(+) weeks (average 2 months)
for technical standards (95% of work)

Publish work:
within days after approval

(“pre-published” standard = non-edited version →
Edited version: typically a few months after approval)



World Standards Cooperation: ISO, IEC, ITU

- Established in 2001
- Joint initiatives: **common text, common patent policy, joint workshops, joint education & training**
- 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
- Avoid duplication and overlap of work
- Three weeks ago ITU-T held a Leadership meeting with ISO/IEC JTC 1

Intelligent Transport Systems



5th 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





Collaboration with Major SDOs

- **Global Standards Collaboration** (15th , 09/2010, China)
 - Members: ITU-T, ITU-R, ATIS, ARIB, CCSA, ETSI, ISACC, TIA, TTA, TTC, Communications Alliance of Australia
- MoU between **ITU** and **ETSI**; **IEEE Com Soc**
- MoU on e-business **ISO, IEC, ITU, UN/ECE**
- Most SDOs listed as **Sector Members** (e.g. IEEE; ETSI)
- Many **joint workshops** (including **Kaleidoscope**)
- Leadership meetings: **ISO/IEC JTC1 & IETF**
- **ITU-T and ICANN**
 - (Regular secretariat meetings, Reinhard Scholl, TSB Deputy Director was member of ICANN Board)
- **Global Standards Symposium** (1st at WTSA 2008)
- **CTO Group** high-level, private sector executives meetings
 - 1st at TELECOM World, 6 October 2009; 2nd planned, June 2010



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

Recommendation A.6

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



ITU-T and Academia



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

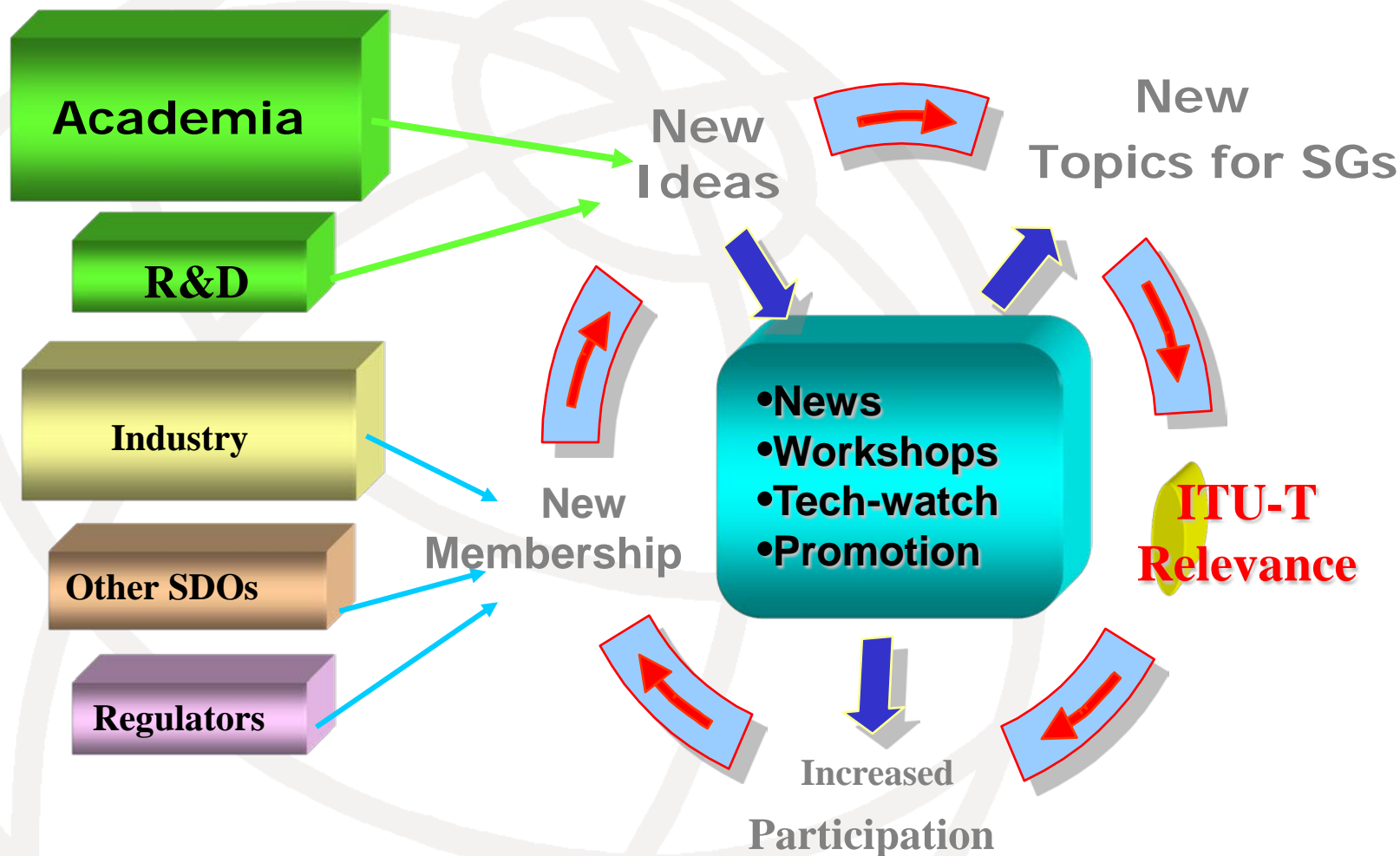


Why Involving Academia?

- Increase academic participation in ITU
 - Students of today are the people who will shape the technology world of tomorrow

- Capture new work (innovations in ICT) for the standardization marketplace.
 - Universities and R&D institutions are an important pool of innovation.

Academia & ICT standardization





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



First Kaleidoscope Event

Innovations in NGN

..... 27 February 2010





Kaleidoscope 2008

"Innovations in NGN"

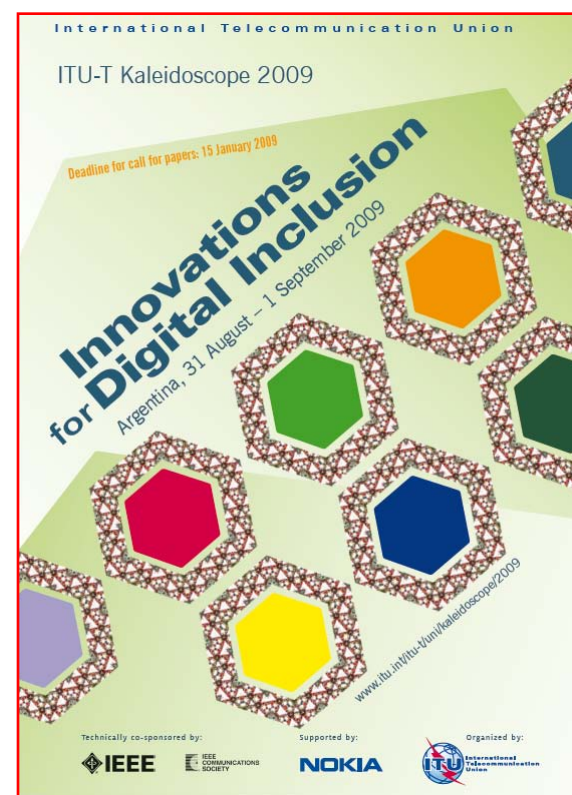
- Geneva, **Switzerland**, 12-13 May, 2008
- Paper proposals: **141**
- Accepted papers: **32** lecture, **22** poster sessions
- **223** attendees, **48** countries
- **Practical outcomes** → **Focus Group on Future Networks (FG-FN)** created in Jan 2009 inspired on a paper from the conference (*Aoyama*)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



Kaleidoscope 2009

*Innovations for
Digital inclusion*

..... 27 February 2010

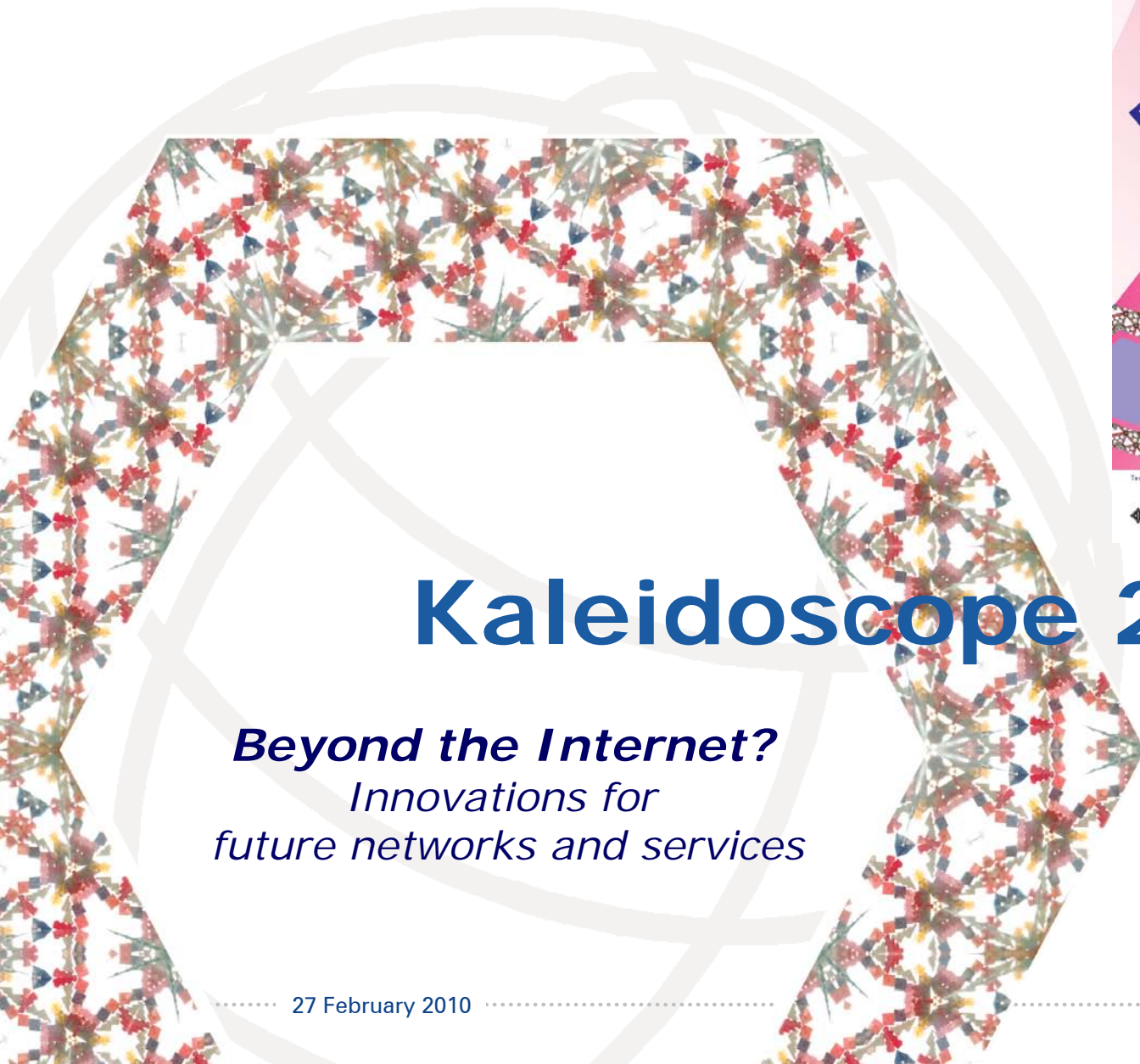




Kaleidoscope 2009

“Innovations for Digital Inclusion”

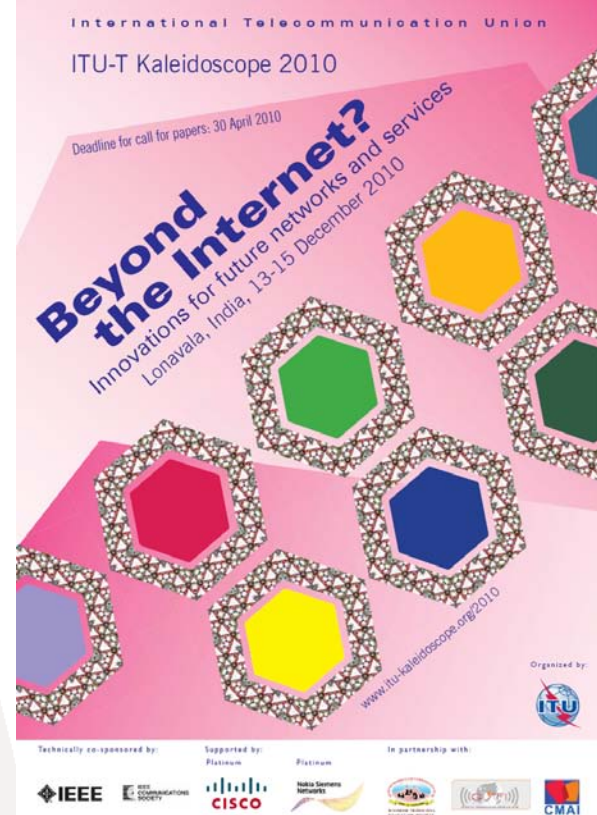
- Mar del Plata, **Argentina**, 31 Aug – 1 Sep 2009
- Paper proposals: **83**
- Accepted papers: **20** lecture, **12** poster sessions
- **120** attendees, **24** countries
- **News** → Local University Exhibition (6 Latin American Universities exhibited their activities/projects)
- **Sponsors:** Cisco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



Kaleidoscope 2010

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

..... 27 February 2010





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**
- 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>

Beyond the Internet?

– Innovations for future networks and services –

an ITU-T Kaleidoscope event technically co-sponsored by IEEE Communications Society

India, 13–15 December 2010

ITU-T Kaleidoscope 2010 *Beyond the Internet?* – Innovations for future networks and services – is the third in a series of peer-reviewed academic conferences that bring together a wide range of views from universities, industry and research. The aim of Kaleidoscope conferences is to identify information and communication technologies (ICTs) for which the development of standards can bring innovations into successful products and services.

The rise of mobile access and its integration with optical transport networks pose key questions: how should the current architecture evolve to accommodate fixed-mobile integration and the demand of services and applications, 10–15 years from now? How could the cloud and grid computing models be integrated? And, what will the social and economic impact of these innovations be in the future information society?

Some experts question whether the current underlying architecture is sufficiently robust to evolve and adapt to future demands and especially to address security concerns, or if a “clean slate” approach is needed to develop a really innovative Internet of the Future. Contributors seeking to bring innovations for future networks and services might have to challenge the fundamental networking design principles of the Internet.

Beyond the Internet? – Innovations for future networks and services – is calling for original academic papers offering innovative and daring approaches towards the Internet of the Future. Kaleidoscope 2010 aims to be a unique opportunity to state views on the future ubiquitous communications and to collect broad, kaleidoscopic views building upon lessons learnt from existing networks and services.

Objectives

Beyond the Internet?

– Innovations for future networks and services – will highlight multidisciplinary aspects of future ICT, based on contributions from the world's universities, industry and academic institutions. The focus will be on innovative technologies and their impact on the evolution of Internet architectures, services and applications, as well as societal and economic challenges.

New this year

In addition to a local university exhibition, outstanding keynote speakers and invited papers, ITU will host in 2010 **Standards Corner**, a series of standardization tutorials and **Jules Verne's corner**, a special space for science fiction writers and dreamers.

Audience

Beyond the Internet? – Innovations for future networks and services – is targeted at all specialists with a role in the field including researchers, academics, students, engineers, equipment, and decision-makers and innovators from all over the world who look into the future.

Date and venue

13–15 December 2010, India

Submission of papers

Prospective authors, from countries that are members of ITU, are invited to submit complete, original papers with a maximum length of 4800 words within eight pages including summary and references, using the template available on the event website. All papers will be reviewed through a double-blind, peer-review process and handled electronically. See <http://www.kaleidoscope.org/2010> for the online submission (OSAS). The main themes are suggested in the list of topics. The deadlines for paper submission are highlighted below.

Deadlines

Submission of full paper proposals: **30 April 2010**

Notification of paper acceptance: **30 July 2010**

Submission of camera-ready accepted papers: **10 September 2010**

Publication and presentation

Accepted papers will be presented during the event, published in the proceedings and made available through the IEEE Xplore. The best papers will be invited for evaluation for potential publication in the IEEE Communications Magazine.

Awards

Awards of USD 2k, 1k and 2k will be granted to selected best papers, as judged by the organizing and programme committees. In addition, Young authors presenting accepted papers who have not yet received a PhD title will also receive a Young Author Recognition certificate.

General Chair

Yoshi Maeda (ITU-T, NTT, Japan)

Organizing Committee (as of 15 December 2009)

Chairman: Yoshi Maeda (ITU-T, NTT, JP)

Ames S. Ashwin (Moscow Tech. Univ., RU)

Yoshio Asari (University of Tokyo, JP)

Josiah Chandra (University of Cambridge, UK)

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Kai Jakobus (RWTH Aachen University, DE)

Chao-Guo Lee (ITU-T, ETH, CH)

Srinivas Venkatesh (University of Delhi, IN)

Mitsuru Mizumoto (Nagoya University, JP)

Yoshiyuki Naito (ITU-T, Mitsubishi Electric, JP)

Zhaohong Wu (Tsinghua University, CH)

Romya Prasad (Aalborg University, DK)

Herman Dooline (ITU-T, Nokia Siemens, DE)

Mustafa Yagmurlu (AT&T, US)

Alfredo Tesori (Politecnico di Torino, IT)

Daniel Trifunovic (Politecnico di Torino, IT)

John Kissler (ITU-T, TSDG, CA)

Programme Committee (as of 15 December 2009)

Chairman: Mustafa Yagmurlu (AT&T, US)

Srinivas Venkatesh (University of Delhi, IN)

Amrout Zaki Bin Abu Bakar (Universiti Teknologi, MY)

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www.itu.int/ITU-T



Thank you very much!