



# ITU-T Overview

## “Initiatives to involve Academia in the standardization process”

**Stefano Polidori**

Study Groups Engineer

*Telecommunication Standardization Bureau  
International Telecommunication Union*



# United Nations



- **Founded by** 51 countries on 24 October 1945
- **Committed to** international peace and security
- **Promote** friendly relations among nations and social progress, better living standards and human rights.
- **Official languages:** Arabic, Chinese, English, French, Russian, Spanish
- **Budget for 2010-2011 :** USD 5.048 billion (peacekeeping operations not included)
- **Main Bodies:** General Assembly, Security Council, Economic and Social Council, International Court of Justice and Secretariat.
- In addition: **Specialized Agencies**, Related Organizations, Funds, and other UN Entities.



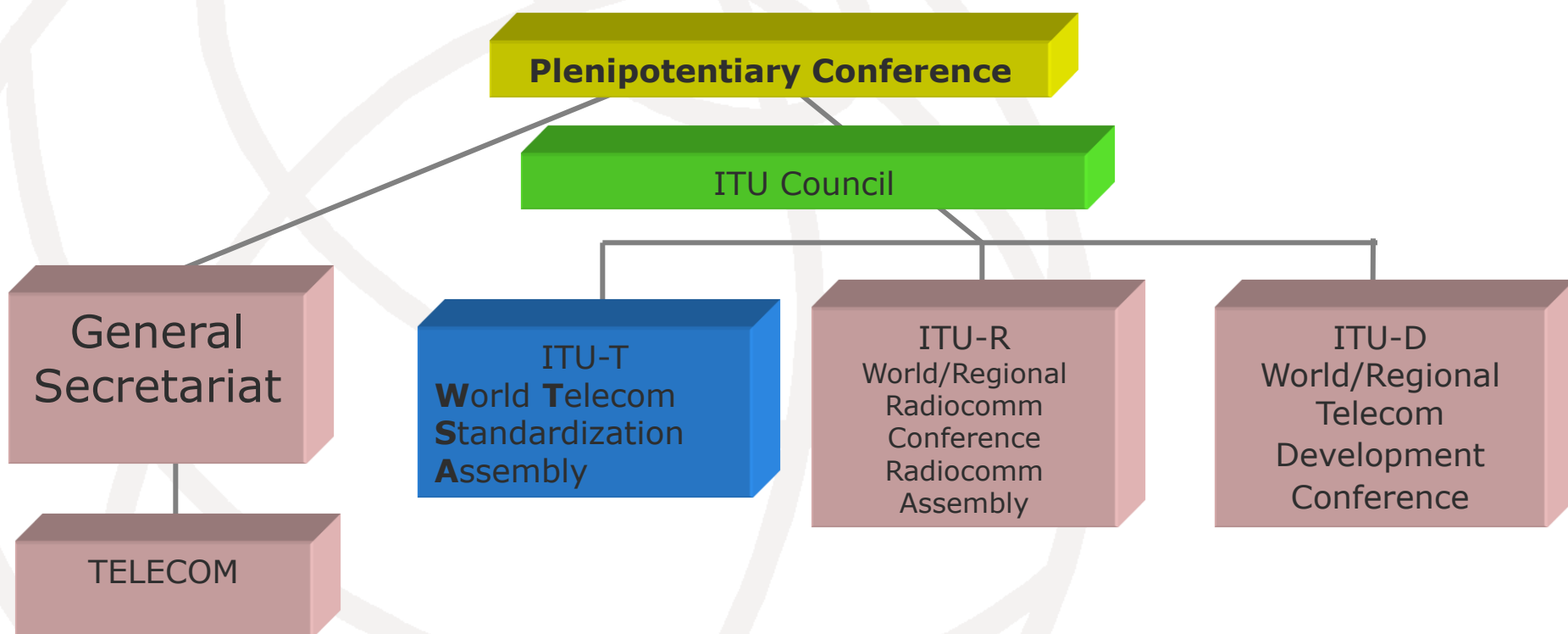
# 15 UN Specialized Agencies

- **F**ood and Agriculture Organization of the United Nations (FAO)
- International **C**ivil **A**viation Organization (ICAO)
- International Fund for **A**gricultural Development (IFAD)
- International **L**abour Organization (ILO)
- International **M**aritime Organization (IMO)
- International **M**onetary Fund (IMF)
- **I**nternational **T**elecommunication **U**ion (ITU)
- United Nations **E**ducational, **S**cientific and **C**ultural Organization (UNESCO)
- United Nations **I**ndustrial **D**evelopment Organization (UNIDO)
- Universal **P**ostal Union (UPU)
- World **B**ank Group
- World **H**ealth Organization (WHO)
- World **I**ntellectual **P**roperty Organization (WIPO)
- World **M**eteorological Organization (WMO)
- World **T**ourism Organization (UNWTO)



# ITU Structure

**Oldest UN specialized agency (founded in 1865)**



# ITU Membership



- Member States: **192 governments**
- Sector Members **547 private sector**
  - ITU-T Sector membership fee: **31,800 CHF** ( $\approx$  20k EUR)
- Associates **151 private sector** **95% of ITU-T work**
  - have right to participate in one Study Group only
  - Associate membership fee: **10,600 CHF** ( $\approx$  7 kEUR)
- New Membership category for academia
  - **Revolutionary decision at ITU PP-2010**
  - Much reduced yearly fee for academic institutions:
    - **$\sim$ 4,000 USD for developed countries**
    - **$\sim$ 2,000 USD for developing countries**



# 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 *“absence of sustained opposition”*
- 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 Recommendations connect the world...

Without ITU-T standards you couldn't make a telephone call from one side of the world to another (e.g. +41 Switzerland)

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

Without ITU-T standards the Internet wouldn't function. (e.g. ADSL)

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

**Hollywood**  
presents  
**Emmy Award to**  
ITU, ISO and IEC  
for **revolutionary**  
**video standard**

ITU-T H.264  
MPEG-4 AVC





***"ITU is one of the very important stakeholders in the area of climate change."***

**(UN Secretary-General  
Ban Ki-moon)**

**ITU Secretary-General  
Hamadoun  
Touré**

**UN Secretary-General  
Ban Ki-moon**

ITU develops standard methodology to estimate the impact of ICTs on climate change



# ITU's universal charger standard

**Instead of this ...**



**... have this:**



**(approved April 2010)**

# ITU is committed to providing access to ICTs for all

## UN Convention on Rights of Persons with Disabilities

[www.un.org/disabilities/default.asp?id=150](http://www.un.org/disabilities/default.asp?id=150)



# Next world war in cyber space?



The Economist, July 2010

ITU's standards build confidence and security in the use of ICTs...

- **Cybersecurity Information Exchange Framework (CYBEX)**
- **Road map of security standards:**  
[itu.int/ITU-T/studygroups/com17/ict/](http://itu.int/ITU-T/studygroups/com17/ict/)



# From dumb to smart grid

**ITU develops standards on communication aspects of next generation electricity**

**ITU-T Focus Group on Smart Grid started June 2010**



# No longer in the cloud

## Cloud computing

is becoming a growing resource for businesses and individuals

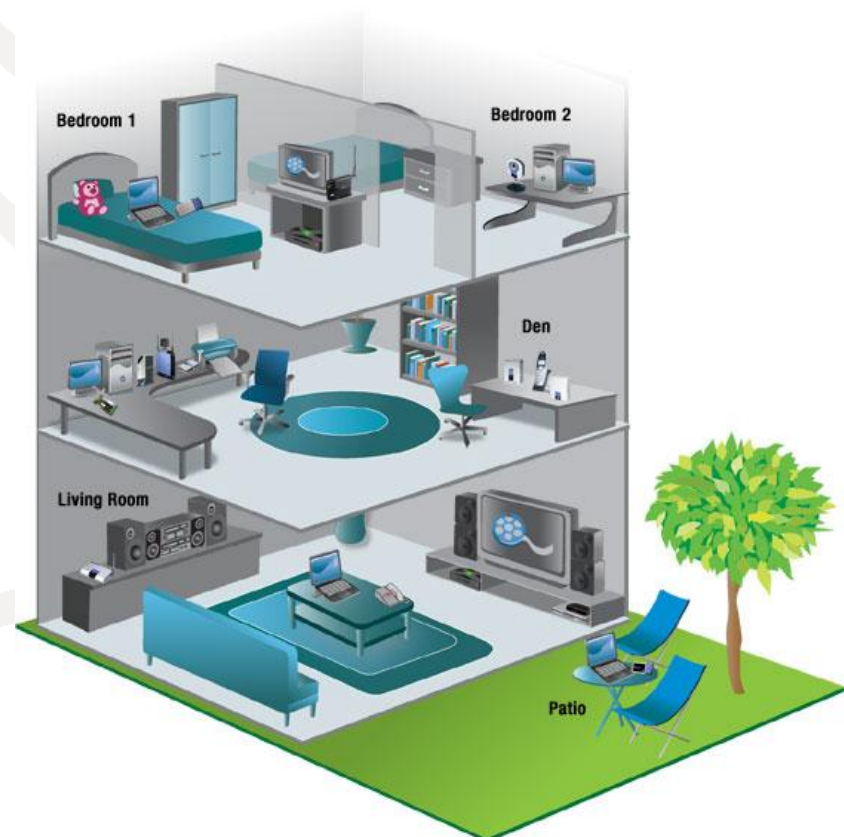
ITU Focus Group on Cloud Computing started June 2010



The Economist, Oct 2009

# The network knocks at your door

- ITU's new Home Networking standard encompasses
  - phone lines +
  - power lines +
  - coaxial cable



# THE FULLY NETWORKED CAR



6<sup>th</sup> edition 2 - 3 March 2011



## Intelligent Transport Systems ...



## ... also an answer to driver distraction ?!





# ITU is eager to attract academia

- Today's students are tomorrow's engineers
- Capture new work
  - Universities and R&D institutions are an important pool of innovation
- Foster in academia a greater understanding of the importance of ICT standards



# Academia can participate in ITU

- Standards meetings:
  - e.g. becoming Member at much reduced fee
- ITU-T workshops are freely open to all
- ITU-T Technology Watch is scouting for future technologies... **send us your ideas!**
  - [tsbtechwatch@itu.int](mailto:tsbtechwatch@itu.int)
- ITU-T Kaleidoscope conference discuss future networks and services... **submit your paper!**
  - [www.itu-kaleidoscope.org/2011](http://www.itu-kaleidoscope.org/2011)

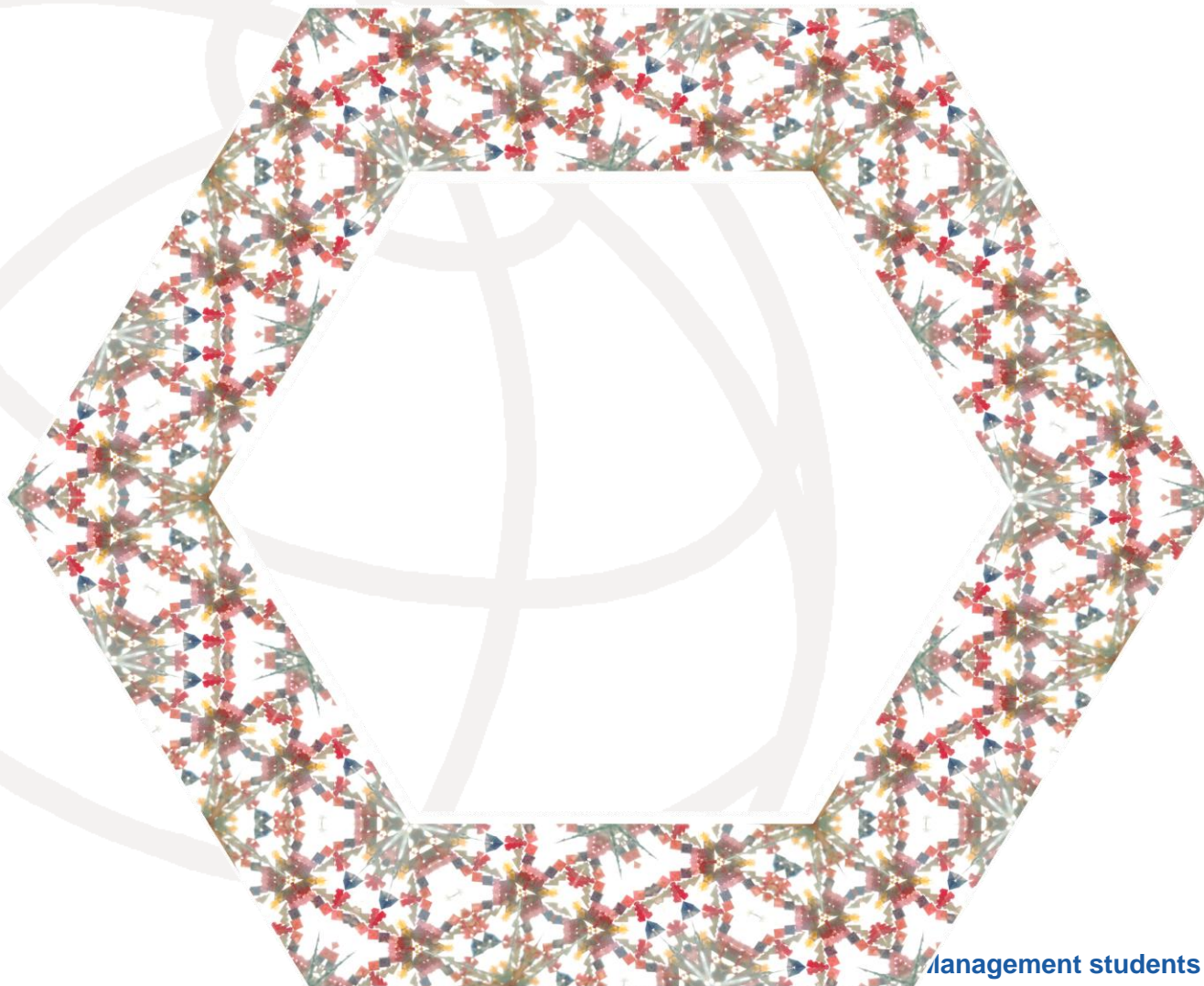


# What's in it for academia?

- Networking opportunities
- Global exposure
- Access to resources
- Prestige
- Education



# 2. ITU Kaleidoscope





# New series of academic conferences: Kaleidoscope

- **Call for papers** on technology innovation and its socio-economic implications
- International Organizing Committee (10-20 experts)
- International Programme Committee (> 100 ICTs experts, comprises many university profs)



# Double-blind paper review process

- Each paper reviewed independently by at least three reviewers
- Acceptance rate of papers:  $\sim 30\%$
- Best papers published in IEEE Communication Magazine
- Best paper award



# BEST PAPERS AWARD

A prize fund totaling

**\$10,000**

for the best 3 papers

- First prize: \$5,000,
- Second prize: \$3,000
- Third prize: \$2,000



# Technical co-sponsorship



The world's largest professional association for advancement of technology

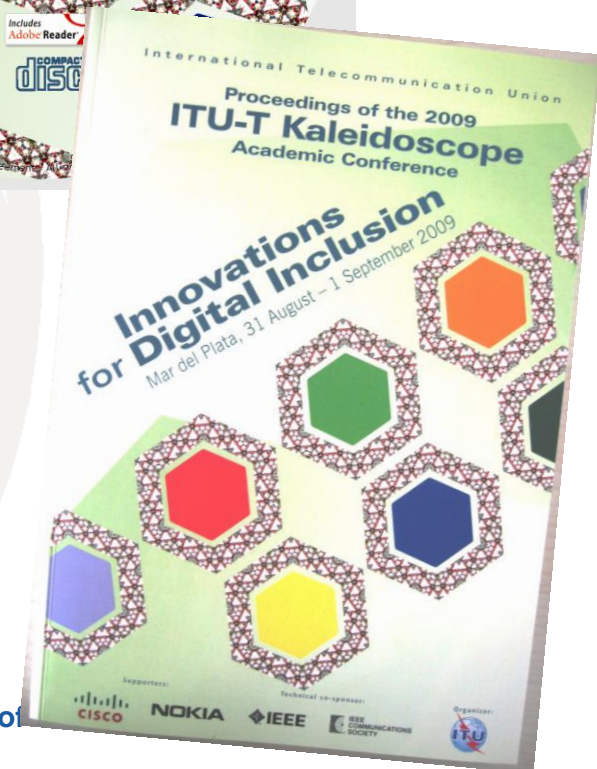
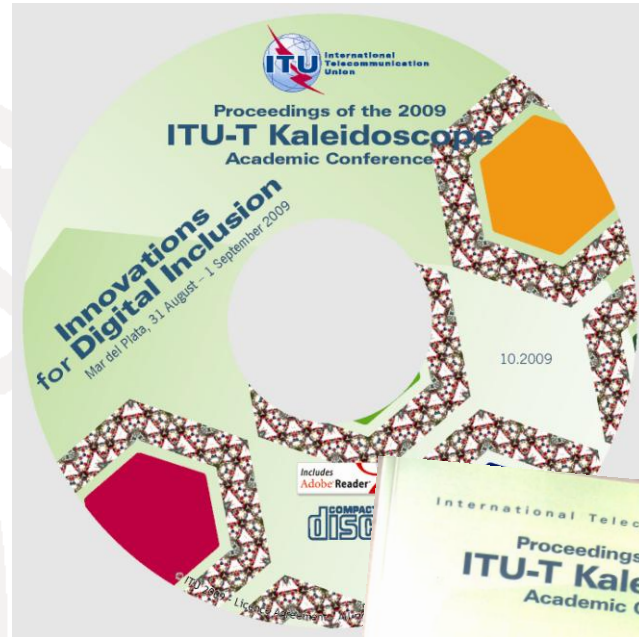
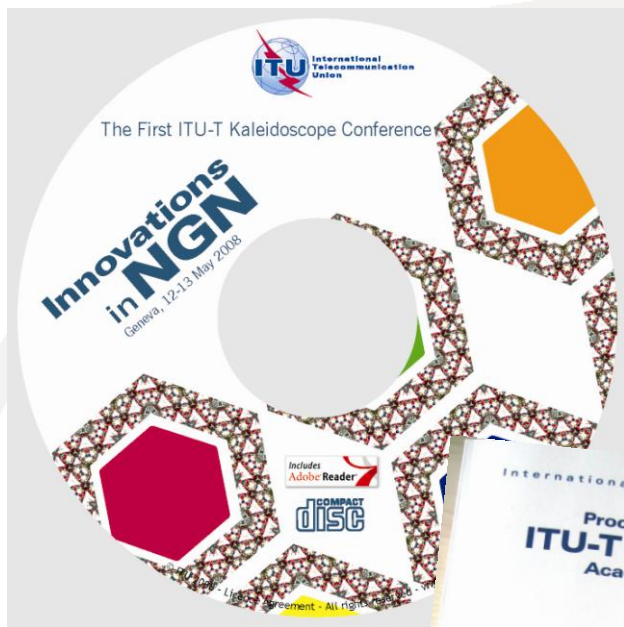
The world's leading membership organization for communications professionals



IEEE  
COMMUNICATIONS  
SOCIETY



# Proceedings distributed by IEEE Xplore





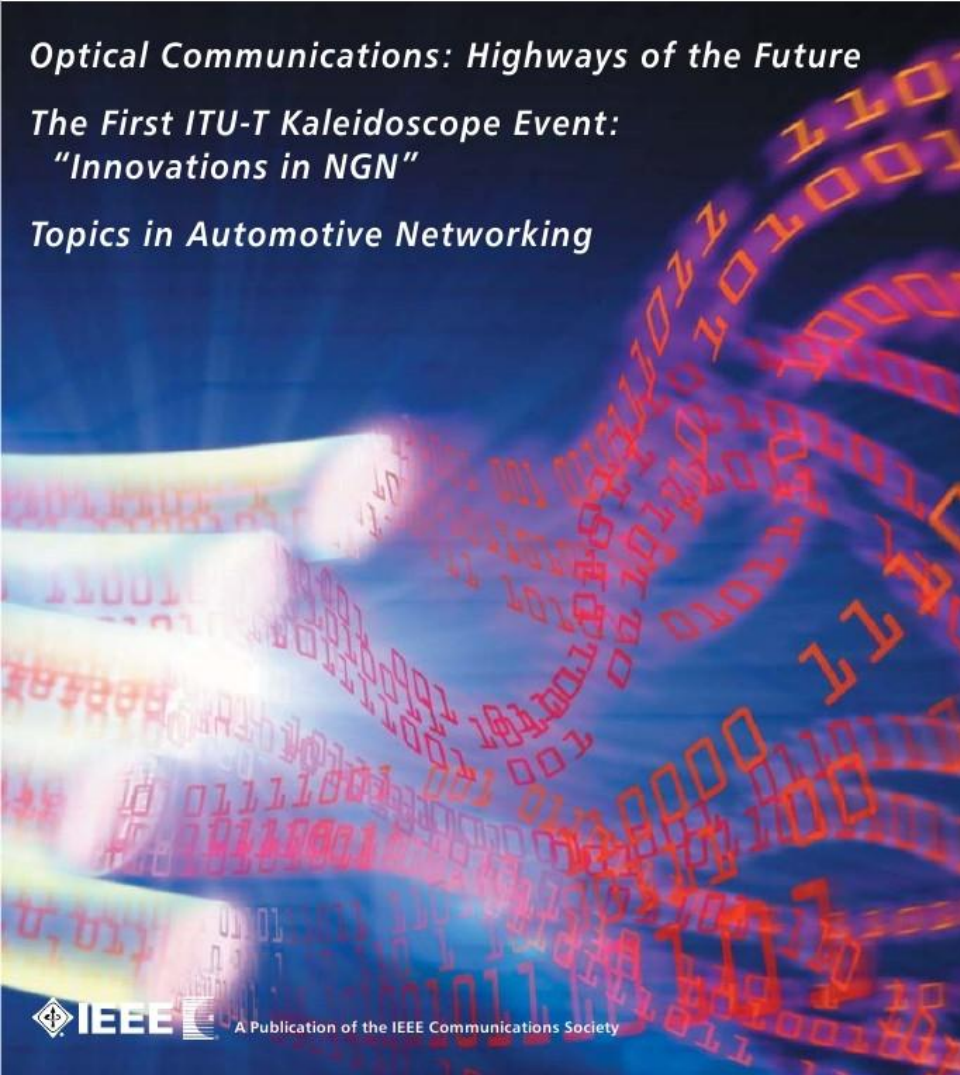
IEEE  
**Communications**  
www.comsoc.org  
MAGAZINE

May 2009, Vol. 47, No. 5

*Optical Communications: Highways of the Future*

*The First ITU-T Kaleidoscope Event:  
"Innovations in NGN"*

*Topics in Automotive Networking*



IEEE  
A Publication of the IEEE Communications Society

... featuring  
**ITU Kaleidoscope  
2008**

IEEE Communications  
Magazine  
Issue May 2009

S Thunderbird School of Global Management students




IEEE  
**Communications**  
www.comsoc.org  
MAGAZINE

February 2010, Vol. 48, No. 2

- *LTE Update*
- *Optical Communications*
- *ITU-T Standards: Innovations for Digital Inclusion*

Free ComSoc Tutorial — 4G  
See Page 9

... featuring  
**ITU Kaleidoscope  
2009**

 IEEE  
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IEEE Communications  
Magazine  
Issue February 2010  
Thunderbird School of Global Management students



# Sponsors

2008



ICF



Sun  
microsystems



2009



NOKIA

2010



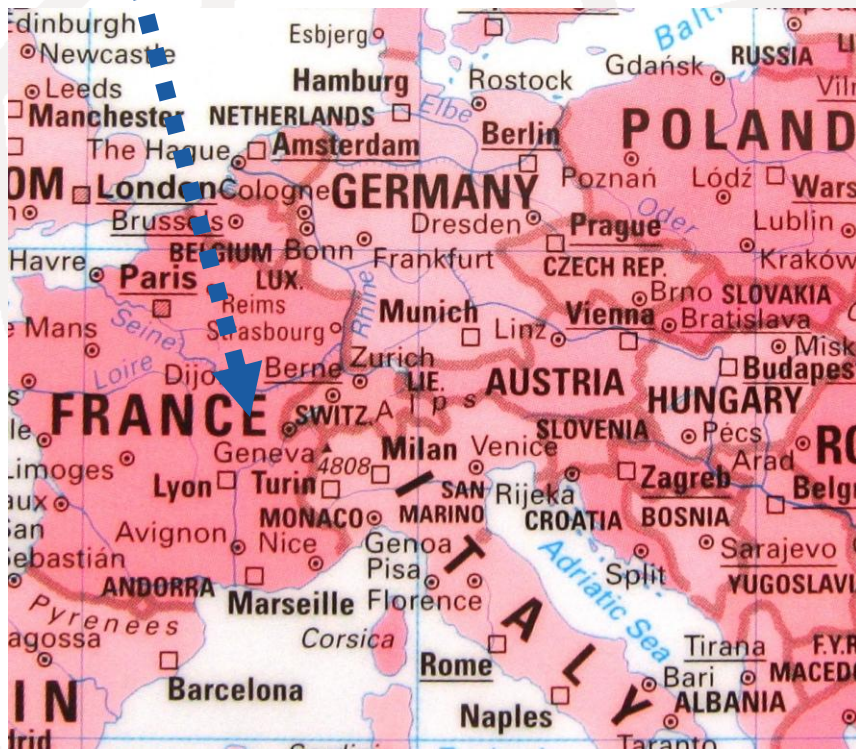
Nokia Siemens  
Networks



# Kaleidoscope 2008

## *Innovations in NGN*

### Geneva, Switzerland



12 – 13 May

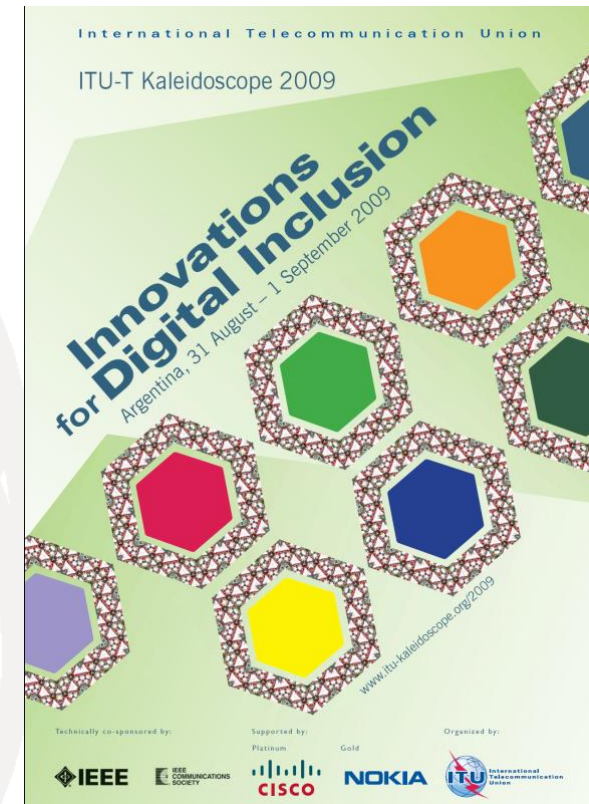
**Practical outcomes** → Focus Group on Future Networks (FG-FN) inspired by a Conference paper

<http://www.itu.int/ITU-/uni/kaleidoscope/2008>

# Kaleidoscope 2009

## Innovations for Digital Inclusion

- Mar del Plata, Argentina
- 31 Aug – 1 Sept
- **New** → Local University Exhibit



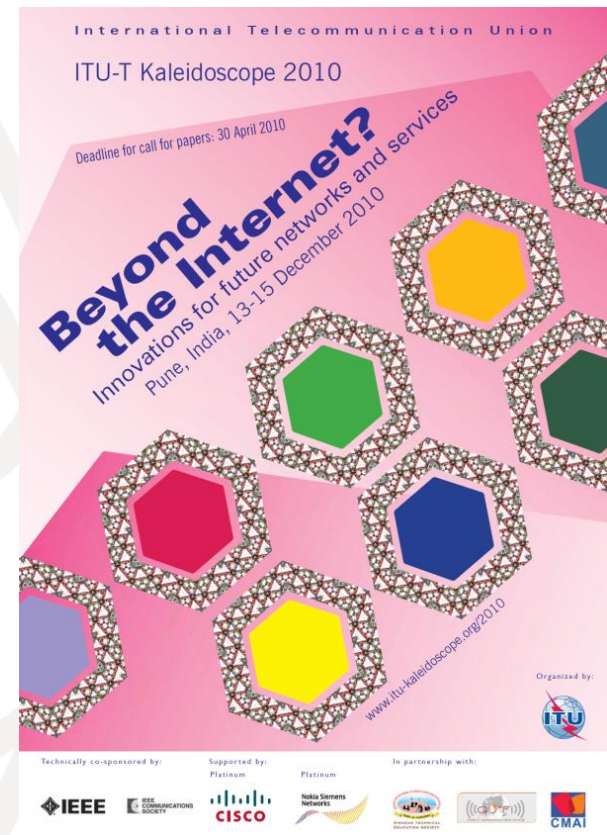
<http://www.itu.int/ITU-/uni/kaleidoscope/2009>



# Kaleidoscope 2010

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

## Pune, India

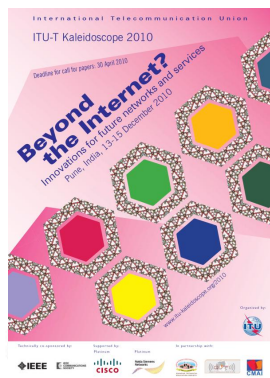
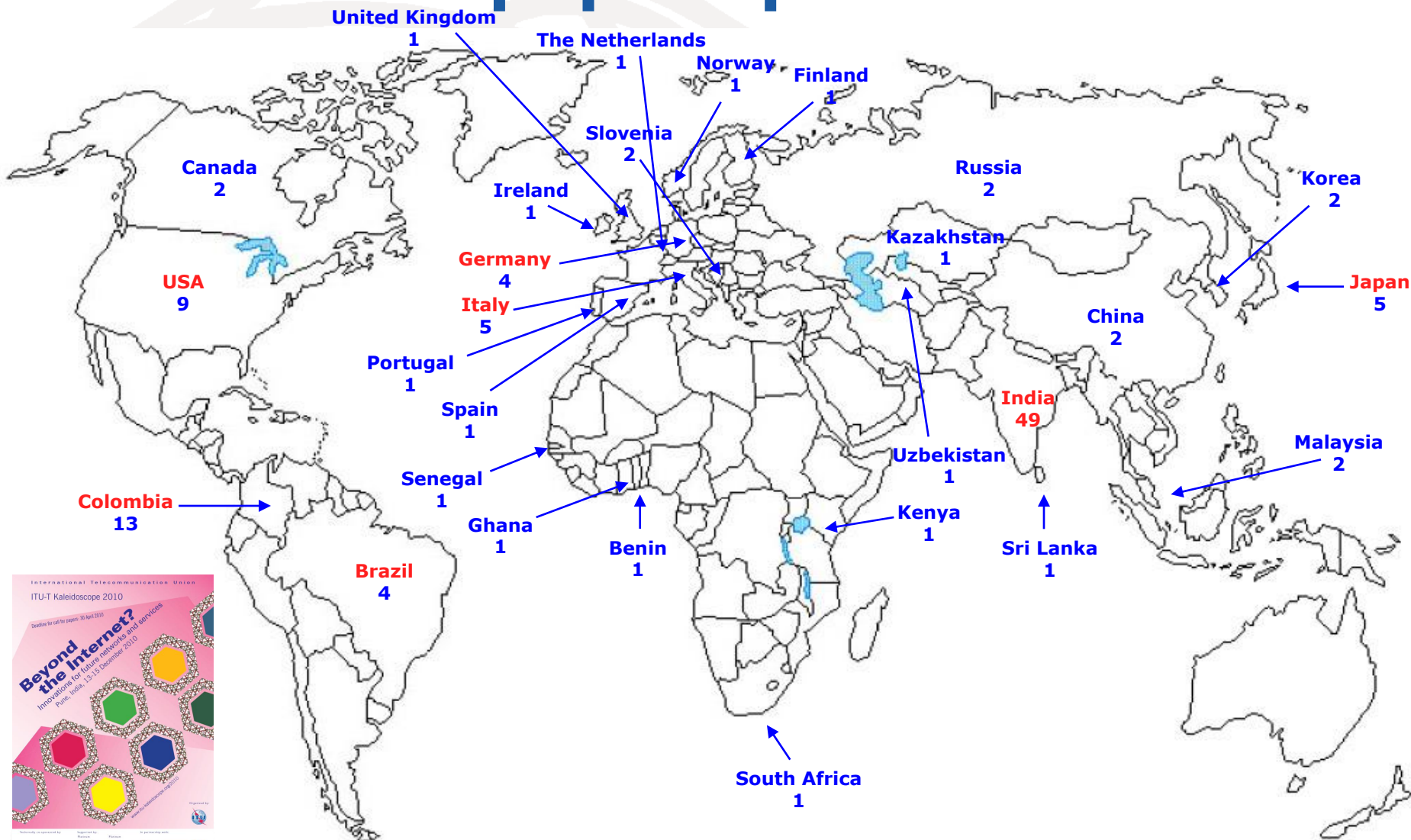


<http://www.itu.int/ITU-/uni/kaleidoscope/2010>



# Kaleidoscope 2010

## Submitted papers per Countries





# Kaleidoscope 2010



*Pune, India, 13-15 December 2010*

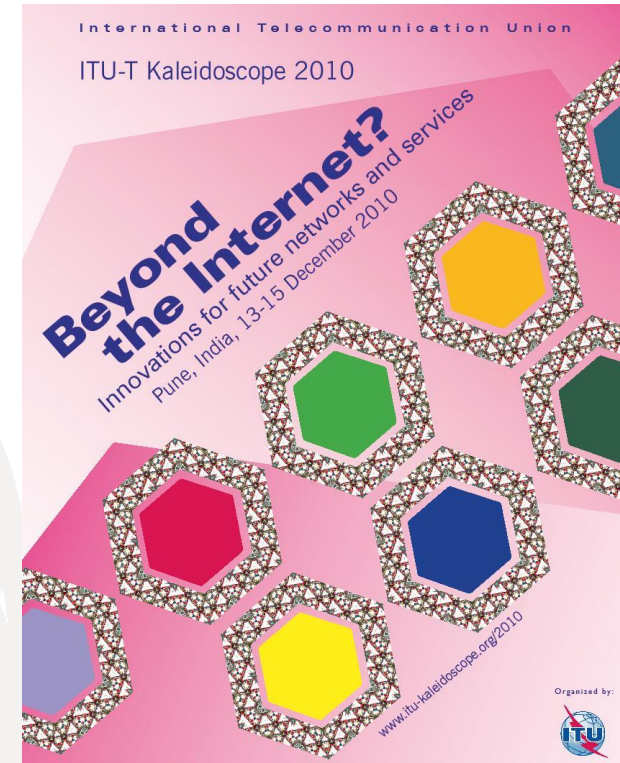
- Invitation of Indian Government
- Hosted by:
- Supported by:



- Partnership with:



Technically co-sponsored by



# ITU Kaleidoscope 2010



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

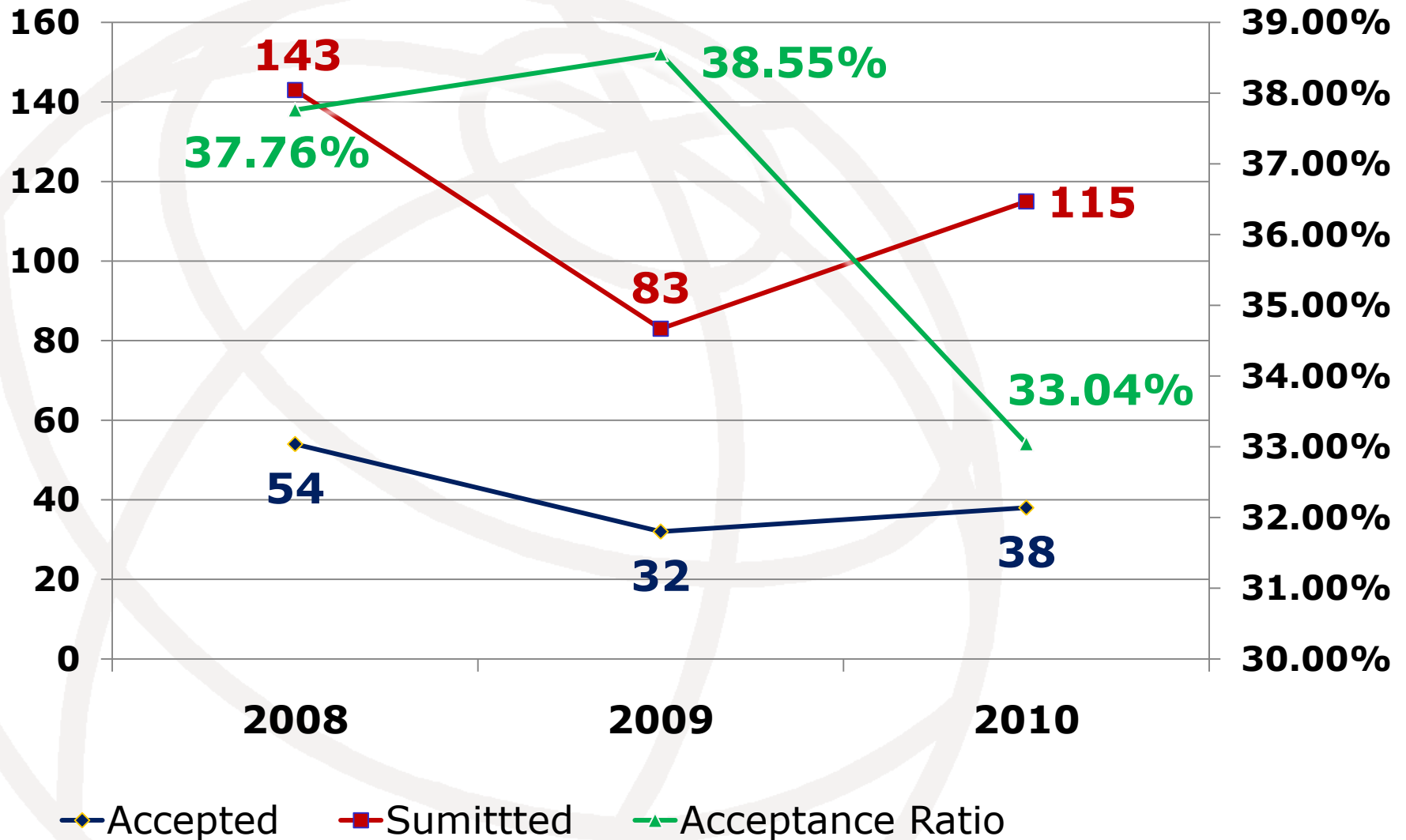
- **115** *Papers submitted for review*
- **37** *Papers accepted for publication and presentation (23 Lecture / 14 poster)*
- **4** *Invited papers*
- **3** *Keynote speakers*
- **2** *Special sessions:*
  - *Jules Verne's corner*
  - *Standards corner*

*Local University Exhibition*

[www.itu-kaleidoscope.org/2010](http://www.itu-kaleidoscope.org/2010)

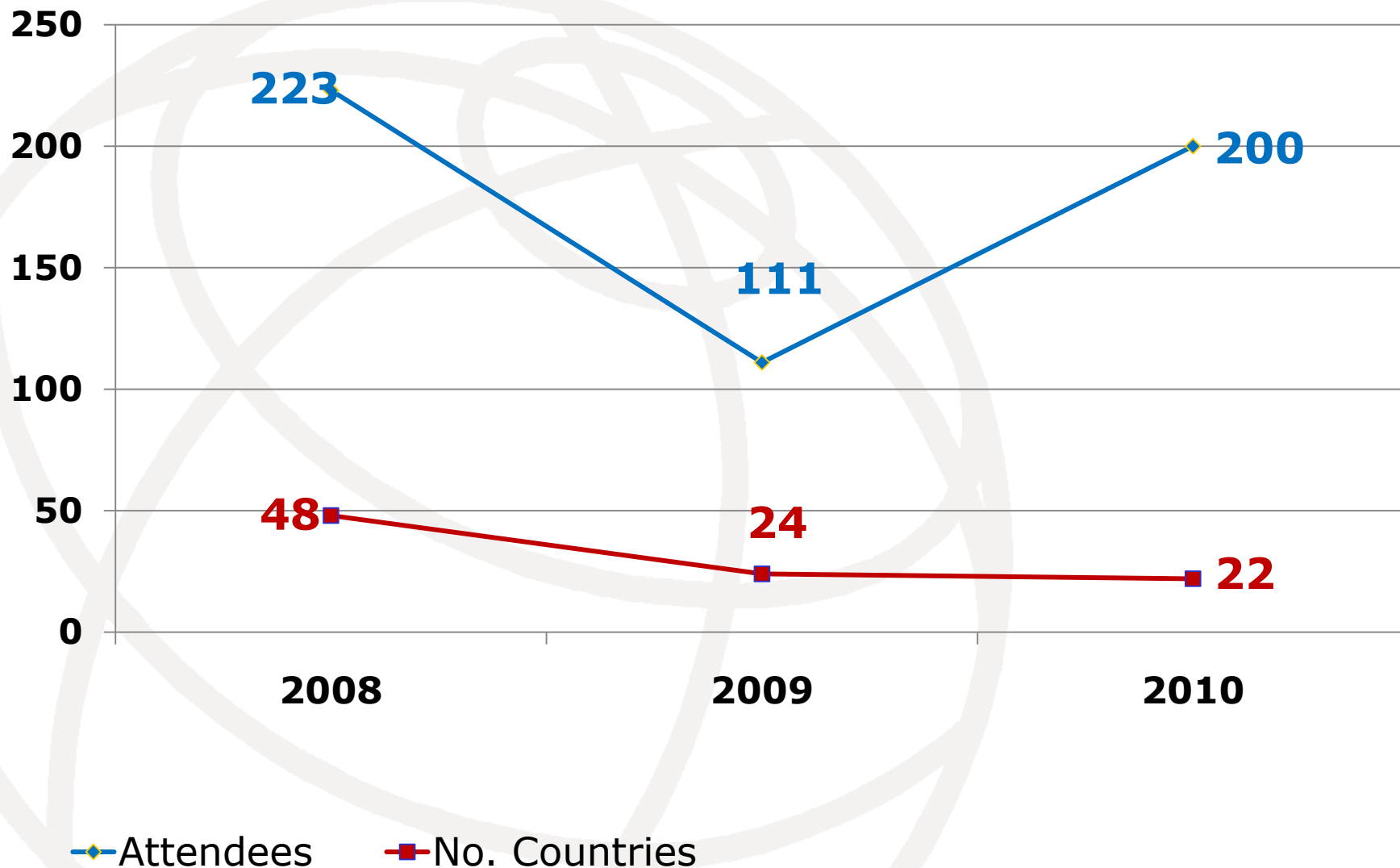


# Paper Acceptance

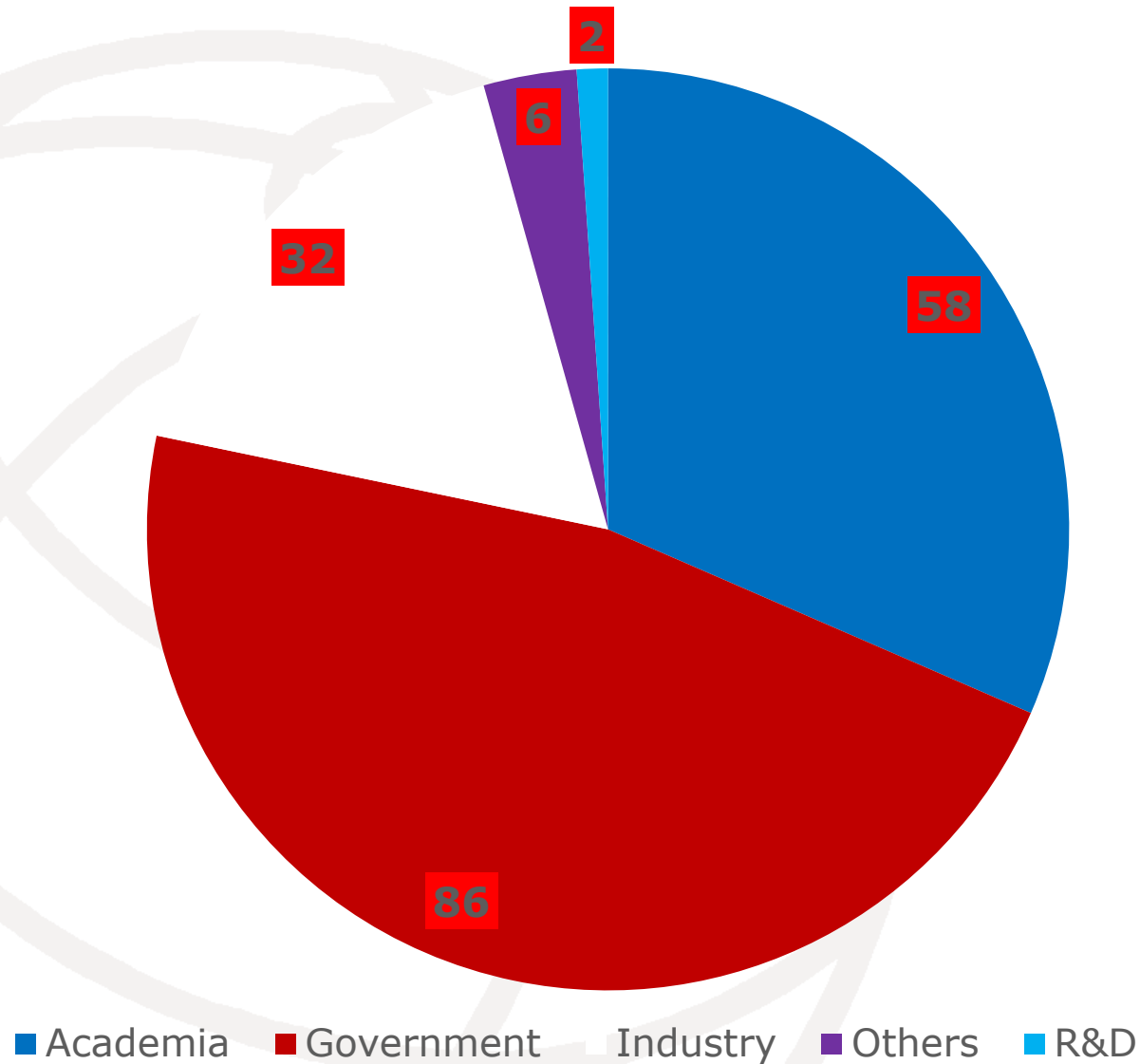




# Attendees

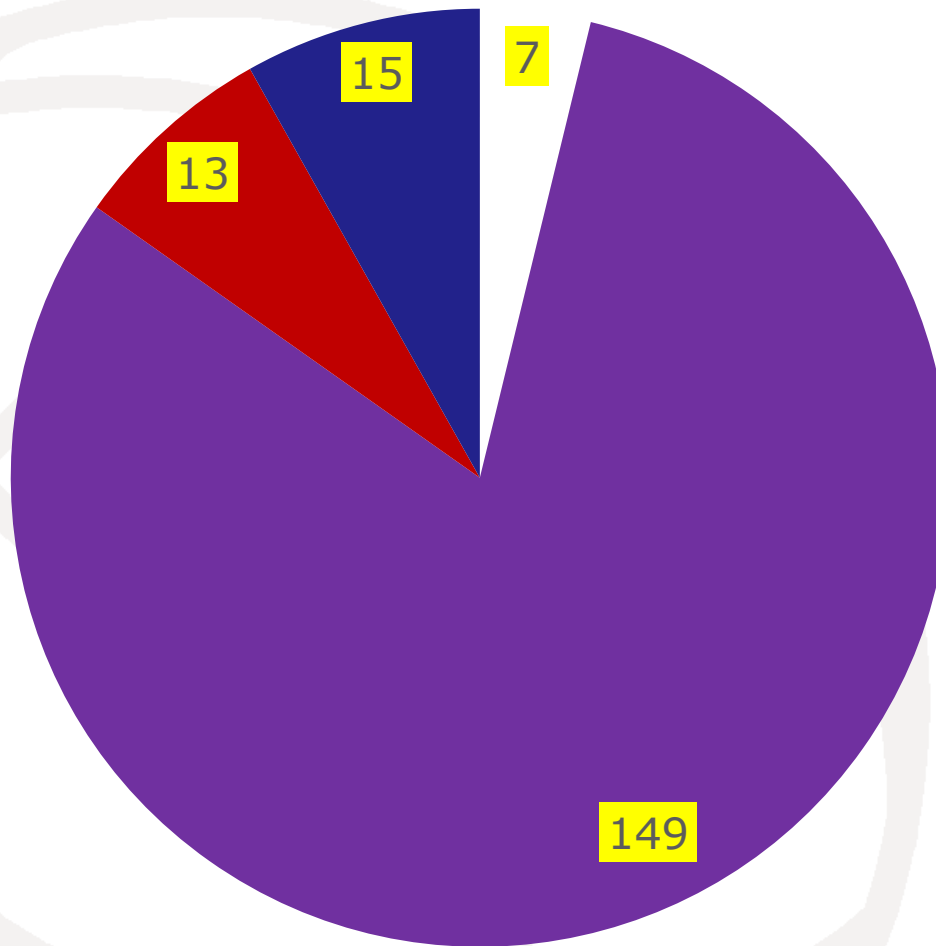


# Attendees per Organization



■ Academia ■ Government ■ Industry ■ Others ■ R&D

# Attendees per Region K2010



Africa ■ Asia and Australasia ■ The Americas ■ Western Europe



# Stay tuned for Kaleidoscope 2011 ...

- [itu-kaleidoscope.org/2011](http://itu-kaleidoscope.org/2011)

ITU-T Kaleidoscope 2011

# The fully networked human?

Innovations for future networks and services  
South Africa, December 2011

[www.itu-kaleidoscope.org/2011](http://www.itu-kaleidoscope.org/2011)







ITU-T Kaleidoscope 2011

# The fully networked human?

Innovations for future networks and services  
South Africa, December 2011

## Call for Papers

ITU-T Kaleidoscope 2011 **The fully networked human?** — *Innovations for future networks and services* — is the fourth in a series of peer-reviewed academic conferences organized by ITU-T that bring together a wide range of views from universities, industry and research institutions. The aim of Kaleidoscope conferences is to identify, formalize and coordinate research efforts (R&D) in which the development of standards can turn innovations into successful products and services.

The theme of the research is on the first cybernetic generation of products and services that will improve lives, but also raises some legitimate concerns. Ever smaller and smarter sensors proliferate, wireless networks are omnipresent, smart phones are abundant. Future devices will not only be able to measure everything from users' whereabouts to their physical well-being but also to control just about anything from a distance.

Information and communication technologies (ICTs) are creating a new world of possibilities for financing and access to communications. Through implanted sensors, e-health applications will support senior citizens communicating automatically through their cars to emergency services, but what if the information goes to the wrong hands? Modern heating systems and the world would be programmed, via hands-free devices, while driving to work ... but what happens if this is done via a text message distracting the driver? How can we make increasingly complex devices user-friendly?

The design architecture of future Information and Communication Technologies (ICTs), as well as the services and applications that arise, will have a significant impact on individuals and on human existence, ranging from cognitive functioning, health, security, national economic development and, more generally, the society of the future. Technology should be designed to benefit humans, not the other way around. Human-Centric ICTs must be promoted in research and development circles.

**The fully networked human?** — *Innovations for future networks and services* — is calling for original, academic, technical papers offering innovative and bold approaches to foster the research and development of human-centric ICTs as we move towards future networks and services.

### Awards

Awards of USD 5k, 3k and 2k will be granted to selected best papers, as judged by the organizing and programme committees. In addition, young authors presenting accepted papers will also receive a Young Author Recognition certificate.

- **Submission deadline:** 15 May 2011
- Inquiries should be addressed to [kaleidoscope@itu.int](mailto:kaleidoscope@itu.int)
- Additional information at: [www.itu-kaleidoscope.org/2011](http://www.itu-kaleidoscope.org/2011)



Technology should be designed to benefit Humans, not the other way around.

Human-centric ICTs must be promoted in research and development circles.



... and stay tuned for latest ITU  
standardization activities:

**ITU-T News feed**

<http://www.itu.int/ITU-T/newslog>



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