Outcomes Report:

Consultation on ITU-Academia Collaboration
Barcelona, 8 December 2015

VENUE: Casa Convalescència - Aula Magna, Sant Antoni Mª Claret, 171, 08041 Barcelona, Spain

This consultation on ITU-Academia collaboration provided an opportunity to exchange views on what ITU can do to best meet the needs and expectations of Academia. The format was informal and interactive, involving 26 professors representing 28 institutions from various parts of the world, as well as representatives from ITU. The programme is available **here**.

Following an opening presentation by Dr. Chaesub Lee, TSB Director, ITU, Dr. Mostafa Hashem Sherif, AT&T and Member of the ITU Kaleidoscope Steering Committee, served as moderator of the Consultation. The Secretariat was represented by staff from the General Secretariat and the three Sectors of ITU.

1) About ITU/International Activities

A presentation on ITU and its Academia related activities was made by Mr. Christopher Clark, Head, Partnership and Resource Mobilization Division, ITU. Dr. Eva Ibarrola, University of the Basque Country, Spain then presented the experiences and perspectives of her university an ITU Academia Member. She highlighted that her university got many benefits from their participation in Kaleidoscope and ITU, including collaboration with the Spanish government, prizes and profile for their work, as well as networking opportunities. She cited several challenges, including a lack of resources to cover costs related to participating in ITU meetings and difficulties in getting proper recognition from her university for contributions to ITU and related standardization activities. She also noted that each of the various study groups in ITU is "an island", so she needs to follow multiple groups which cover themes related to her research.

This was followed by a discussion on the following questions:

1.1) What role do international standards play in your work? Some noted that international standards play a key role in their work, including establishing a scope for their research projects or in their teaching responsibilities. On the other hand, some noted the challenge of remaining updating on which standards that have been deprecated. Also, some noted that new areas of technologies may force them to rely on costly proprietary solutions. It was also mentioned that open source standardisation is becoming more important but they do not replaceinternational standards. Rather, open source is seen as being complementary to international standards.

1.2) What is the role of academia in the telecom/ICT ecosystem? Academia serve as a neutral source of information, research and knowledge. For example, Academia can evaluate new systems prior to introduction to market to ensure that they are as advertised. Also, they provide a forward-looking, strategic view, based on a longer-term time horizon rather than the more direct market focus of industry. Unlike some incumbent industry players, universities can also challenge the status quo because they do not have a specific interest in maintaining the status-quo. That said, the role of industry funding for university research can raise questions about independence and neutrality. Universities are training the next generation of engineers, legal professionals and business leaders for the sector. Universities are also seen as innovators within the ecosystem. They work with other parts of the ecosystem, but sometimes the focus and timelines with industry or government are not well-aligned with those of academia.

1.3) What challenges do you face in contributing to telecom/ICT eco-system, taking into account international standards? Most highlighted resource challenges, including difficulty in securing funding for research and participation in standardization activities. This is made more difficult by the fact that participation in standards activities are generally not recognized when professors are being evaluated and the standards development process can take significant time and effort. This is a very significant barrier, especially for younger professors that have not yet secured tenure and who are thus focused on publishing in recognized/cited journals. Also, for any given challenge, academia are trying to develop the best solution, whereas standards processes are focused on finding compromise solutions. Some also mentioned the challenge of losing bright young researchers to industry which is willing to pay higher wages/support better funded projects. Some professors asked that ITU – taking into account the views of governments and industry - help universities define new topics of research so that the students feel that they are working on something useful and cutting edge. This will help with retention. As a first attempt, some topics were identified in SG 11 (contact Eva Ibarolla), SG 13 (contact Ved Kafle) and SG 17 (c/0 Alessia Magliarditi).

The difficulty for professors and students to find relevant standards/information on the ITU web site was underlined. Some noted that standards education is in decline, and that only a handful of professors are teaching the economic impact of standards. It was also noted that we need more emphasis on standards in business and legal programmes to address key issues such as intellectual property and the role of standards in business strategy, market development etc. The moderator mentioned a paper on how participation in standards can complement the education of engineers ("ICT standardisation strategies and interactive learning spaces – the case of China") that was sent to all participants after the event.

1.4) How is ITU relevant to your work? Most participants have been ITU recomendations, statistical databases, reports and other sources of information. Some are directly involved in ITU processes, including standards development. A number of participants highlighted the value of networking and sharing their research with ITU's industry members, as this can lead to potential partnerships, projects and related funding. Some expressed an interest in being able to post their papers in areas of interest and share with other ITU members. It was also noted that ITU provides a forum to learn about how

various countries, companies are dealing with upcoming, hot topics. Some raised the issue of patents, and the related complexities and challenges. A few participants have applied for patents but they did not know if their patents were standards essential. Mr. Reinhard Scholl, Deputy Director of TSB, ITU, noted that ITU-T only deals with standard essential patents. He added that having a patent is a rationale for joining ITU so that the university can work to have it included in international standards. Some asked if ITU could help with materials/curricula to support teaching on standards. The Secretariat noted that some information is available, but more could be done to tailor content to the needs of universities. Several universities asked if ITU publications could be provided at a significant discount for universities, especially for students.

1.5) Have you participated in Kaleidoscope? If so, what has been your experience? Of those who have participated, they indicated that Kaleidoscope provides a good platform to share their research with a global community and to network with others. They liked the fact that Kaleidoscope covers a wide range of topics from technical and non-technical angles and does not have registration fees. They appreciated that Kaleidoscope provides a basis for Academia to make a first contact with ITU, and to learn about how they can get involved in standardization and other ITU activities. It was also noted that having their work published in IEEE is an important benefit of the event.

2) Outcomes of Previous Consultations

The outcomes of the online academia consultation held in the month of November were presented by Mr. Christopher Clark, Head, Partnership and Resource Mobilization Division, ITU. This was followed by a presentation of the Outcomes of the ITU-D Academia Network Meeting by Dr. Ahmad Sharafat, Chairman, ITU-D SG 2.

3) Publications/ITU Journal

The participants were asked the following questions:

3.1) What are the challenges you have experienced in contributing to publications on standards? Some noted that it is often difficult to have papers on standards and standard development accepted in well-established journals. Also, publications are expensive to purchase and many universities are cutting on their subscriptions in response to their budgetary constraints. Some open source journals charge the authors and this solution was vehemently rejected.

3.2) What do you think about the relevance of a Scientific and Technical Journal in ITU? What themes would you like to see covered by an ITU Journal? What advice do you have for ITU in order to establish a journal? The group shared the general view that ITU should develop a journal along the following lines:

- Each issue focused on a specific theme (i.e. 5G, cloud computing, trust/security, wireless communications, big data etc)

- Cover both technical and non-technical aspects of the theme, but with separate, specialized contribution and editorial streams and peer review, with well-respected reviewers/editorial board. Selected papers that make it through the specialized review streams would then be submitted to an editorial coordination group (with representatives from each stream)
- Provide an overall vision that pulls all of it together, and providing a context, perhaps as a message from the ITU Secretary-General
- Regularly produced (perhaps quarterly) primarilyy electronic publication, but allow print on demandNo or low cost for universities and students to access/download the publication
- No cost to make submissions, and open to anyone to contribute (i.e. neither limited to Academia only nor to members of ITU only)
- Include tutorials, surveys and case studies
- Be used to stimulate debate and discussion in various ITU activities

Numerous participants noted that there are already plenty of publications that specialize in one area or another, from a technical or regulatory/policy perspective. What is missing is a publication that takes a particular theme from a standardization perspective, and treats it from both the technical angle, as well as societal/regulatory/policy angle.

As ranking of the journal is important, it was proposed that ITU explore potential partnership with existing publications/publishers. To ensure that wide, free/low cost distribution would be possible, some suggested that ITU partner with a non-profit publisher, such as some of the professional organisations in engineering, management of technology, etc. This would be the fastest way to get recognition. Otherwise, it could take a decade to be indexed.

4) Future Collaboration

What should be the future areas of collaboration between Academia and ITU? Participants expressed an interest in working with ITU on a journal, as above. Some noted the potential to work with ITU on curricula/teaching modules for schools on standards, including technical as well as policy-regulatory and development aspects. Participants expressed interest in contributing to ITU study groups and standards development, as well as reports and other publications. Some professors expressed an interest in working with ITU to help define new topics of research which are relevant to governments and industry.

5) Conclusions/Proposals

To address some of the challenges and opportunities raised during the discussions, ITU may wish to consider the following proposals raised during the course of the consultation:

5.1) Conceive and implement an ITU journal/publication, taking into account the criteria proposed in section 3 above;

5.2) Create incentives for professors/universities to include standardization and international collaboration with ITU and other standards-making bodies, such as by developing guidelines that national/regional/global funding organizations can include in their project/funding criteria to

encourage standardization and multi-stakeholder collaboration, as well as experimenting with new ways to recognize academia contributions to ITU activities;

5.3) Summarize the key themes being addressed by ITU Study Groups in non-technical or administrative way so that this can be shared within universities. Start with several groups for quick win: ITU-T Study Groups: 17, 13, 11; and, ITU-D Study Group 2 (these SGs have been mentioned by some professors participating at the Consultation meeting);

5.4) Develop case studies that can be used in business schools;

5.5) Organize and promote additional opportunities for Academia to network with industry and government members, which could lead to new partnerships and funded research projects. This could be combination of events and online networking/sharing of content;

5.6) Implement more significant discounts on ITU publications/reports/databases for Academia member institutions, especially for students;

5.7) Undertake new efforts to increase knowledge of ITU reports and handbooks and widen access in schools; and,

5.8) Explore intellectual property issues with Academia to increase awareness of patent related considerations in standards development.

5.9) Improve the ITU web site.

5.10) Reduce the cost of access to ITU publications and reports for universities.