

## IGF 2016 Workshop Report

Session Title	Harnessing the Internet of things to realize the SDGs: What's required?
Date	Wednesday 7 December 2016
Time	16:30 – 18:00
Session Organizer	Sophie Tomlinson, ICC BASIS
Chair/Moderator	Paul Mitchell, Microsoft
Rapporteur/Notetaker	Jennie Irving, ICC BASIS
List of Speakers and their institutional affiliations	Ariel Barbosa, Colnodo (remotely) Jennifer Chung, DotAsia, Noelle Francesca De Guzman, ISOC Peter Major, UN Commission on Science and Technology for Development (CSTD) Ricardo Pedraza Barrios, Communications Regulatory Commission of Colombia Paul Rowney, Africa Information & Communication Technologies Alliance (AfICTA) (remotely) Jackie Ruff, Verizon
Key Issues raised (1 sentence per issue):	<ul style="list-style-type: none"> <li>• Internet of things (IoT) can be applied to all of the sustainable development goals (SDGs) in varying degrees.</li> <li>• Stakeholders should not forget the human element of using technology to make sure that no one is left behind.</li> <li>• Light touch and flexible policy approaches are needed to avoid stifling innovation and progress of IoT application for the SDGs.</li> <li>• Development of IoT applications need to address local environments and community needs.</li> <li>• Prevailing digital divides highlight the need for capacity building programmes to identify opportunities for using IoT for the SDGs</li> <li>• Security and privacy implications of IoT should be addressed while ensuring policies do not create barriers to the cross border nature of the types of services that will be important to achieve the SDGs.</li> <li>• Multistakeholder input on policy development is very important to ensure full benefits of IoT are realized.</li> </ul>
If there were presentations during the session, please provide a 1-paragraph summary for each Presentation	<b>Ariel Barbosa, Colnodo</b> described the ways in which IoT can be used for agriculture. For examples drones can be used to take photos of crops and send them for chromatographic analysis in a mini lab. Ariel noted security as one key challenge for IoT application that needs to be overcome as smart things will be active participants in information and social processes. Ariel also highlighted two specific ideas: 1.) IoT and health, in an example about the real-time air quality monitoring platform to avoid risk situations for people with asthma and 2.) IoT can optimize

systems towards higher performance and more energy efficiency, a key point to achieve the SDGs.

**Jennifer Chung, DotAsia** explained why the deployment of IPv6 is crucial to fully reap benefits of IoT globally. DNS Security Extensions (DNSSEC) are also important to mitigate privacy challenges. Each device would have its own domain name and be on their own local network. Jennifer suggested that this could help build trust and mitigate the security issues.

**Noelle Francesca De Guzman, ISOC** gave examples of how IoT can be used in disaster management. For example, in India it can be used to monitor temperatures; in Japan, solar powered sensors are used to monitor changes in weather as a type of early warning system to alert communities if there is higher risk of flash floods etc. If a victim is trapped under rubble, sensors can detect where he or she is. Noelle encouraged clarity on policy, legal, and regulatory structures and consideration for privacy and security challenges.

**Peter Major, UN Commission on Science and Technology for Development (CSTD)** highlighted that the SDGs are inclusive and should leave no one behind. Peter described why this is important to remember as we tend to forget about the human factor in the Internet governance environment and focus only on the technical elements.

**Ricardo Pedraza Barrios, Communications Regulatory Commission Colombia** suggested IoT could be the next technological divide and noted that governments from developing economies, should be more involved in facilitating policy conditions to foster IoT locally. Colombia, as a developing economy, is working to structure policies in an open manner with local multistakeholders.

**Paul Rowney, AfICTA** underscored that without good infrastructure, the deployment of Internet of Things remains problematic. In Africa, whilst striving towards universal access, a massive digital divide exists denying the majority of its citizen's affordable and accessible internet. This is compounded by poor and often absent legislation. Whilst governments understand the role that the Internet can play in development, with a lack of infrastructure and enabling legal and regulatory frameworks, internet for all will remain a dream.

**Jackie Ruff, Verizon** noted the importance of considering spectrum investments and the commitment by all players. IoT will have a wide range of uses. To drive this innovation, a flexible regulatory environment is needed, with removal of barriers to the deployment of IoT and avoidance of new IoT specific regulatory requirements. Services using IoT need to be seamless across

	<p>borders to embrace their potential (healthcare for example). There is a need to deal with privacy and security, but care should be taken so that policies do not create a barrier to the kinds of services that will be important to achieve the SDGs.</p>
<p>Please describe the Discussions that took place during the workshop session: (3 paragraphs)</p>	<p>Co-organised by the International Chamber of Commerce (ICC) Business Action to Support the Information Society (BASIS), Government of Colombia, Colnodo, and DotAsia, the workshop focused on how Internet of things (IoT) can contribute to addressing the United Nations Sustainable Development Agenda and achieving the 17 Sustainable Development Goals. Participants shared policy options on how the global community can harness IoT and the technologies and systems required to make it work. The discussion highlighted how IoT is already playing a key role in supporting local and global initiatives and catalyzing inclusive and sustainable growth.</p>
<p>Please describe any Participant suggestions regarding the way forward/ potential next steps /key takeaways: (3 paragraphs)</p>	<p>Digital divides were noted as key hurdles to overcome to ensure that all populations can reap the full benefits of IoT. Case studies from Colombia, Africa and India highlighted both the need for solid infrastructure and the importance of universal access to ensure that IoT can be used in developing countries as a tool to meet the SDGs.</p> <p>Interoperable voluntary technical standards were highlighted as important for IoT which needs to be interoperable across world. In addition, participants noted multistakeholder input on policy development and flexible light touch policy and regulatory approaches as important for IoT to succeed. SDG 17 was flagged as being about partnerships and examples were shared on substantial possibilities for partnerships such as private public partnerships.</p> <p>Participants underlined the ways in which policy needs to encourage bottom up innovation and innovation from communities themselves. Communities need to be able to use applications and repair technical issues. Capacity building was flagged as particularly important in this regard.</p>