



ISO/IEC/ITU “Internet of Things”
workshop
hosted by (DIN) in Berlin
May 13, 2016

Workshop Summary Report

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AGS Meeting, Vienna, 24 May 2016

IoT Workshop

- At its February, 2015 meeting, the ISO Technical Management Board (TMB) recommended that an IoT workshop be organized in cooperation with the IEC and ITU, and asked ISO/IEC JTC 1 to take the lead in organizing this event:
 - share their experiences in the area of IoT
 - gain insights into ISO, IEC and ITU ongoing development in the area of Internet of Things
 - examine how the Internet of Things will impact your sector



Overview of IoT Activities in ISO (Henry Cuschieri)

- ISO Technical Management Board (TMB) SAG Industry 4.0/smart manufacturing
 - Definition, overview on available standards, use cases and current work related to industry 4.0
- ISO and smart cities
- JTC 1 WG1
- Aircraft and Space Vehicles ISO/TC 20
- Road vehicles ISO/TC 22
- Intelligent transport systems ISO/TC 204
- Robotics ISO/TC 299



Overview of IoT Activities in JTC 1 (Norbert Bensalem)

- JTC 1 JAG-Systems integration facilitator
- WG 10 IoT
 - Standardization Gaps, Use Cases, Ref. Architecture, System, Functional, Communication, Information and Usage View
 - ISO/IEC AWI 30141 IoT Reference Architecture (under development)
 - ISO/IEC NP 20924 IoT Vocabulary (CD ballot 3rd week of June)
 - TR IoT use cases (first batch is due in July)
 - NWIP on IoT Interoperability is under ballot
- WG 7 Sensor Networks, WG 9 Big Data, SG 27 IT Security and SC 6 sensor network security framework



Overview of IoT Activities in IEC (Gilles Thonet)

- Digitization of processes
- Interoperability of devices from different vendors
- Support wide range of communication, monitoring, control, safety and security techniques
- SG 8 Industry 4.0 Strategy and roadmap for smart manufacturing
- SG 9 Communication Technologies
- SG 10 Wearable Smart Devices
- Shift from components to systems:
 - 3 Systems Committees
 - AAL
 - Smart Energy
 - Smart Cities
- SyCs publish international standards, use cases, reference architectures
- Address increasing complexity of technologies and the need for interoperability
- Whitepaper: Internet of Things: Wireless Sensor Networks
- Whitepaper: Factory of the Future
- See <http://www.iec.ch/whitepaper/>



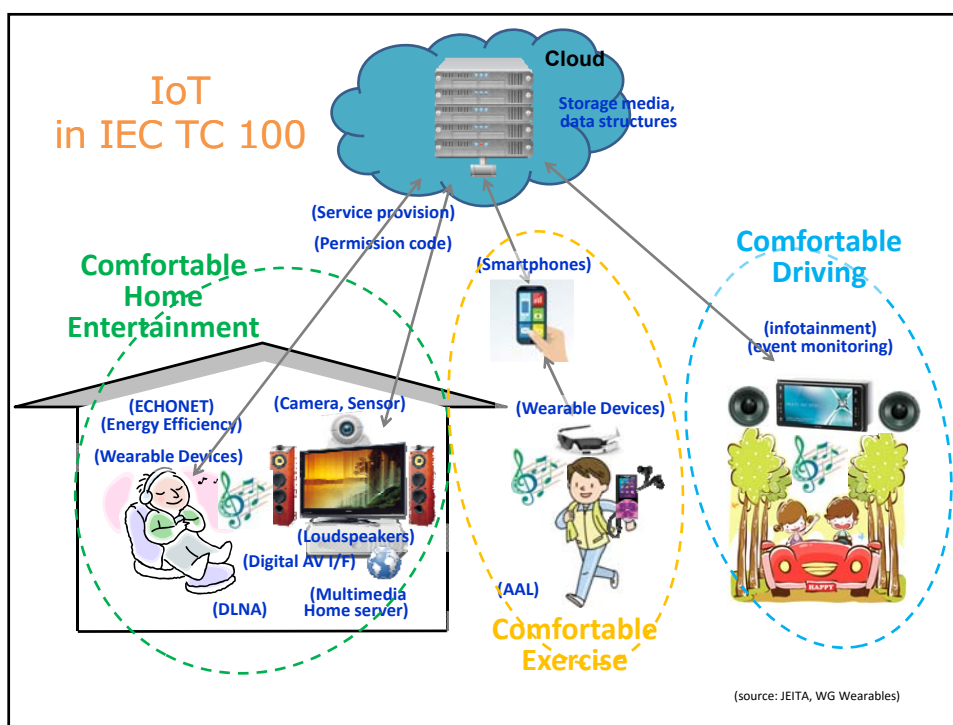
Overview of IoT Activities in ITU-T SG 20 (Marco Carugi)

- ITU-T SG 20 IoT and its applications including smart cities and communities (SC&C) established in June 2015
- SG20 will develop standards and guidelines that leverage IoT technologies to address urban-development challenges
- The standardization of end-to-end architectures for IoT and mechanisms for the interoperability of IoT applications and datasets employed by various vertically oriented industry sectors
- Develop framework and roadmaps for the harmonized and coordinated development of IoT, including M2M communications, ubiquitous sensor networks and smart cities and communities
- Assess how the use of IoT has an impact on the smartness of cities
- <http://www.itu.int/en/ITU-T/studygroups/2013-2016/20/Pages/structure.aspx>
- List of Questions: <http://www.itu.int/en/ITU-T/studygroups/2013-2016/20/Pages/questions.aspx>



IoT Perspectives from different sectors

- Smart Grid (Richard Schomberg)
- Smart Cities (Paolo Gemma)
- Industry 4.0 / Smart Manufacturing (Detlef Tenhagen)
- RAIN enabled IoT case studies (Chuck Evanhoe)
- Wearables (Kate Grant)



Use cases on IoT in IEC TC 100, AV and multimedia

Comfortable Home Entertainment

- Wearable devices sense user's vital signs and send them to the Cloud with environmental information
- The cloud determines if the user is comfortable or not and self learns
- Depending on the user's environment, the Cloud provides most appropriate content to the user's home AV equipment

Comfortable Exercise

- Wearable devices sense user's vital signs and send them to the Cloud with the information on the volume of exercise
- The Cloud determines the user's body condition
- Depending on the user's condition, the Cloud provides a content with appropriate tempo to the user's wearable audio device

Comfortable Driving

- Car senses environmental information such as speed, acceleration ratio, temperature, time, surroundings and destination, and sends them to the Cloud
- Wearable device sends user's preference to the Cloud
- The Cloud determines the situation and user's preference
- Depending on the situation, the Cloud provides most appropriate content to the user's car AV equipment

(source: JEITA, WG Wearables)