

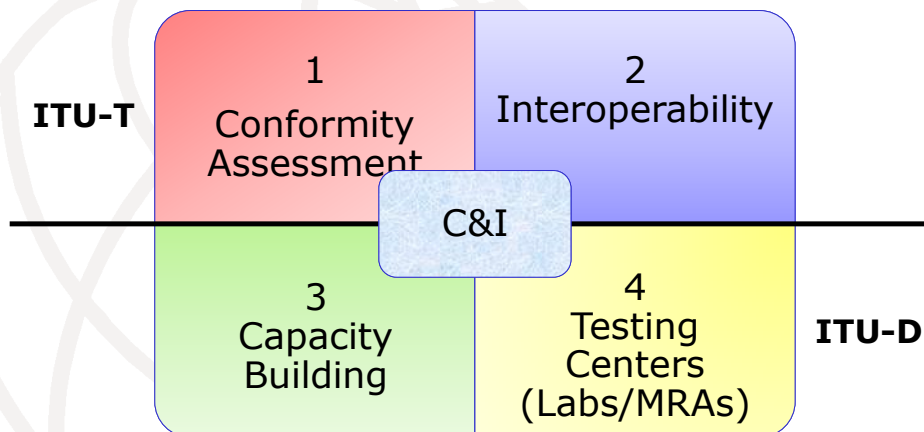
# Conformance and Interoperability (C&I) Validation Workshop for EAC Region

(Nairobi, Kenya, 21-23 Oct. 2015)

## ITU C&I Programme Pillars 1 and 2

**ISAAC BOATENG**  
ITU-T SG11 Vice-Chairman

### Structure of ITU C&I Programme





## **Pillar 1 - Conformity Assessment**

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### **Pillar 1 as defined in Resolution 177 (ITU PP-14)**

- “Instructs the Director of the TSB:**
  - to continue to carry out pilot projects for conformity to ITU-T Recommendations to increase the probability of interoperability**
  - to enhance and improve standards-setting processes in order to improve interoperability through conformity”**
- “Invited the Membership to populate the informative pilot conformity database with details of products tested to applicable ITU-T recommendations”**

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## Pillar 1 Key outcomes (1/2)

1. **First entries in [ITU Product Conformity Database](#)**  
(19 December 2014)
  2. A [whitelist of mobile phones](#) met the requirements of ITU-T P.1100/P.1110
  3. **Two [pilot projects](#)** of conformity assessment against ITU-T Recs
    - M.3170-series (ITU-T SG2)
    - Mobile Number Portability (ITU-T SG11)
  4. **Testing laboratory recognition (April 2015):**
    - Approved a "[guideline on testing laboratories recognition procedure](#)"
    - established ITU-T [Conformity Assessment Steering Committee](#) (ITU-T CASC) to elaborate detailed procedures
      - Chair: Mr Isaac Boateng (NCA, Ghana)
      - First meeting: *3 December 2015 (Geneva)*
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## Pillar 1 Key outcomes (2/2)

5. A [living list of ITU-T Recommendations](#) on key technologies suitable for C&I testing
  6. A [reference table of ITU-T Recs and corresponding test specification](#) under C&I testing
  7. **New work items**
    - [SIP-IMS conformity assessment](#)
    - "Unified methodology of [Internet speed quality measurement](#) usable by end-users on fixed and mobile networks"
    - "Conformance test plan for number portability requirements defined by ITU-T Q.Suppl.4" ([C-240](#), SG11)
    - Benchmarking of IMS platform - Work plan ([C-220](#), SG11)
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## ITU Recs tested/certified by TEs



Among 4000+ ITU-T Recommendations, ~5% are test spec

- **EMC** – ITU-T K.17, K.20, K.21, K.43, K.44, K.45, K.48, K.54
- **SS7** – ITU-T Q.118, Q.552, Q.701, Q.702, Q.703, Q.704, Q.705, Q.706, Q.707, Q.711, Q.712, Q.713, Q.714, Q.730, Q.731, Q.732, Q.733, Q.734, Q.735, Q.737, Q.761, Q.762, Q.763, Q.764, Q.765, Q.767, Q.781, Q.782, Q.784, Q.785, Q.786
- **Speech quality** – ITU-T P.57, P.313, P.340
- **Video codecs** – ITU-T H.261, H.263, H.264
- **xDSL, E1** – ITU-T G.703, G.823, G.991, G.992, G.993, G.8265, G.8275
- **Satellite services** – ITU-R M.1343-1
- **Spectrum Management** – ITU-R SM.326

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## ITU Product Database



Product Conformity Database

YOU ARE HERE: HOME > ITU-T > ITU CONFORMITY AND INTEROPERABILITY > PRODUCT CONFORMITY DATABASE

DISCLAIMER: This database is not certified to be either accurate or complete, but only reflects the information that has been communicated to the ITU secretariat. The ITU secretariat has not verified the veracity or accuracy of such information, nor the relevance of the products to ITU Recommendations.

Product	Company	Model Number	Conformity to ITU-T Recommendation
Autonion Application for Android	Intel	Asus Memo Pad 8	ITU-T H.810 (2013-12)
Digital Thermometer	A & D Medical	UT-2018LE	ITU-T H.810 (2013-12)
Digital Blood Pressure Monitor	A & D Medical	UA-4518LE as Type A	ITU-T H.810 (2013-12)
Energy Smart Blood pressure monitor	IDT	BPJ221 (as Type A)	ITU-T H.810 (2013-12)
Accu-Chek Active GB	Roche	GB revision 2	ITU-T H.810 (2013-12)
NTT Docomo - Mobile phone HDP manager platform, Android mobile phone	Fujitsu Limited	F-04G	ITU-T H.810 (2013-12)
Manager Platform for Android	Sharp	SHARP Manager Platform	ITU-T H.810 (2013-12)
Precision Health Scale	A & D Medical	UC-3528LE	ITU-T H.810 (2013-12)
A&D Digital Weighing Scale (with Body Composition Analyzer)	A & D Medical	UC-411PBT-C as Type D, AD-6299PBT-C, UC-359PBT-C, UC-351PBT-C and UC-325PBT-C as Type U.	ITU-T H.810 (2013-12)
Bosch Blood Pressure Monitor	Robert Bosch Healthcare GmbH	BP5000 BT	ITU-T H.810 (2013-12)
SHARP HDP Manager Platform for Android (XN-DLBT40)	Sharp	XN-DLBT40 (SH-G1F) as Type D, SHL23, 302SH, SH-G1F, ORAGON QUEST, QMS16SH and SH-G2F, 303SH, SHT22 and SHL24 as Type U.	ITU-T H.810 (2013-12)

Launched in Dec 2014

Current entries

- E-health devices: 79
- Mobile phones: 7

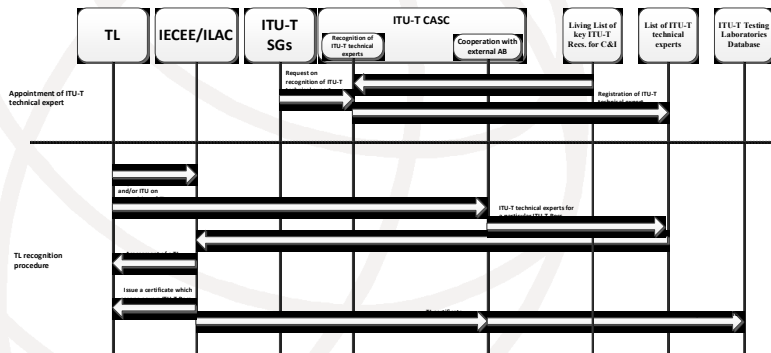
Mobile phones are also captured in a "white list"

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## TL recognition procedure work flow



- Detailed procedures will be developed by ITU-T CASC
- A general work flow will be as follows:
  - ITU-T CASC provide ITU-T technical experts as assessors to join existing TL assessment (e.g., IEC, ILAC, ...)
  - Candidate TL shall submit to ITU-T CASC an application for recognition
  - ITU-T CASC will recognize a TL based on IEC/ILAC's assessment decisions
  - The TL will be notified and added to the list of ITU-T recognized TL



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## Pillar 2 – Interoperability Events

## Objectives



- To test interoperability of products from different vendors
- To validate different implementations of standard, and feedback to standard-making
- To accelerate the development phases of technology as well as the standard-making process
- To showcase/promote products with demonstrated interoperability at the ITU events
- To organize other test events upon request from ITU members (e.g. performance assessment of mobile phones, conformance testing of e-health devices, etc.)

## ITU test events so far



- ✦ [3rd APT/ITU Conformance and Interoperability event](#)  
(Bangkok, Thailand, 7-8 Sep 2015)
  - ✦ [HATS Interoperability event on NGN supported by ITU and APT](#)  
(Tokyo, Japan, 14-16 July 2015)
  - ✦ [E-health testing and showcasing event](#)  
(Geneva, ITU Headquarters, 10-12 February 2015)
  - ✦ [2nd joint APT/ITU Conformance and Interoperability event](#)  
(Bangkok, Thailand, 25-26 August 2014)
  - ✦ [ITU test event](#) on Performance assessment of vehicle-mounted mobile phones in conjunction with Hands-free Terminals according to Recommendations ITU-T P.1100 and ITU-T P.1110  
(Geneva, ITU Headquarters, 12-16 May 2014)
- **Future event:**
- ✦ 2nd ITU-T testing event on performance assessment of vehicle-mounted mobile phones (Geneva, ITU Headquarters, date TBC)



**ITU Test Event**  
**Performance assessment of mobile phones in**  
**conjunction with vehicle's HFT in accordance with Recs.**  
**ITU-T P.1100/P.1110**



[www.itu.int/go/test-event](http://www.itu.int/go/test-event)

**Background**

Many mobile phones do not work properly with HFT's system and thereby significantly degrading the speech quality of the complete system

**Findings**

- ✓ an incorrect behavior of the mobile phone in the wireless connection to a vehicle's HFT
- ✓ an unacceptable quality of a voice-call inside the car and outside the car for the conversational partner

**Only 30 % of phones passed the tests!**

**Key outcomes**

- ✓ **"whitelist"** of mobile phones which meet the requirements is made publically available
- ✓ Updated Recs. ITU-T P.1100/P.1110 with the new values of performance have been approved (January 15)



**Venue:** ITU Headquarters

**TL:** HEAD Acoustics

**Date:** 12-16 May 2014

**Participants:** Mercedes-Benz, Volvo, Bosch, Toyota, Renault  
Number of tests: 40 (30 phones)

[ITU press-release](#)

[Test report](#)

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***Thank you!***

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**National Communications  
Authority, Ghana**

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## Backup Slides

## ITU's Mandate on C&I



- **Resolution 177** ITU Plenipotentiary Conference (PP-14)
- **Resolution 47** ITU World Telecommunication Development Conference (WTDC-10, rev. WTDC-14)
- **Resolution 76** ITU World Telecommunication Standardization Assembly (WTSA-08, rev. WTSA-12)
- **Resolution 62** Radiocommunication Assembly (RA-2012)
- **ITU Council Decisions** (2009, 2010, 2011, 2012, 2013, 2014, 2015)



## ITU C&I Portal

<http://www.itu.int/en/ITU-T/C-I/Pages/default.aspx>



**Overview**

Conformity with international standards such as ITU Recommendations is one of the core principles underlying the global interoperability of ICT networks, devices and services.

The ITU Conformity and Interoperability (C&I) programme was initiated at the request of ITU's membership to enhance the conformity and interoperability of ICT products implementing ITU Recommendations or part thereof, solicit feedback to improve the quality of ITU Recommendations, and reduce the digital divide and the Standardization Gap by assisting developing countries with human resource and infrastructure capacity building.

The ITU C&I Programme is organized in accordance with the ITU Plenipotentiary Conference Resolution 177 in four pillars (since Guadalajara, 2010):

**PILLAR 1. CONFORMITY ASSESSMENT**

Conformity assessment is the process used to demonstrate that a product, service or system conforms to specified requirements and commonly used by many standard development organizations (SDOs). By promoting conformity assessment relevant to ITU-T Recommendations and showcasing product conform to ITU-T Recommendations, Pillar 1 of the ITU C&I Programme aims to ensure the strategic goal of the ITU Recommendation Standardization Sector (ITU-T) to develop interoperable, non-discriminatory and demand-driven international standards for international telecommunication.

**PILLAR 2. INTEROPERABILITY EVENTS**

Although conformity assessment increases the probability of interoperability, interoperability can only be guaranteed through practical tests of interconnected equipment and services from different vendors. Self-funding "interoperability events" are run by many SDOs to verify their standards and facilitate their members to deliver standardized product ready to market. Under Pillar 2, ITU-TSS organizes interoperability testing and showcasing events upon request of ITU-T membership as an integral step of standard-making process.

**PILLAR 3. CAPACITY BUILDING**

ITU is implementing human resources capacity building in the regions on conformity, interoperability, and testing and will also be organized in cooperation with other relevant regional and international organizations to identify fundamental aspects as accreditation, certification, mutual recognition agreements and to explore the possibility to establish test centers in developing countries.

**PILLAR 4. ASSISTANCE IN THE ESTABLISHMENT OF TEST CENTRES AND C&I PROGRAMMES IN DEVELOPING COUNTRIES**

This activity is intended to facilitate the establishment of regional or sub-regional conformity and interoperability test centers and to encourage Mutual Recognition Agreements/Arrangements as appropriate. Guidelines have been prepared by the BCT in this aim and will provide base elements to establish a strategy to establish test centers, including technical, human and instrumental resources, international standards and financial issues.

**SUBC LISTS**

General Information

- ITU C&I related Resolutions
- ITU C&I Action plan
- List of activities on the implementation of the ITU C&I Action plan (Agreed by Council 12)
- ITU Council C&I related documents
- Presentations and promotional materials
- ITU-T Conformity Assessment Steering Committee (ITU-T CASC)

**ITU C&I Databases**

- Product Conformity Database (Application form)
- TL database (Application form)

**C&I Highlights**

- Council 13
- Council 14

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## ITU C&I Programme as a means to combat counterfeit



- ITU-T PP-14 New Resolution on Combating counterfeit telecommunication/ICT devices which refers to the Resolution 177 (PP-14) on Conformity and Interoperability
- ITU held an event on combating counterfeit and substandard ICT devices ([17-18 November 2014](#))  
**Note: In its conclusion, ITU was invited to contribute by "using standards and C&I programs as a means to combat counterfeit and substandard ICT devices"**
- ITU-T SG11 approved a "[Technical Report](#) on Counterfeit ICT Equipment". (Involvement of WTO, WCO, WIPO, MMF, GSMA etc.)
- The Framework on combating counterfeit goods is under study in ITU-T SG11

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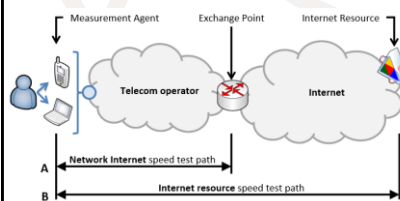
## Measurements of Internet speed (under ITU-T SG11 Q15/11 "Testing as a service TAAS")



### Two types of measurements:

- Network Internet speed test path
- Internet resource speed test path

[Web page](#)



### In progress:

- Draft Recommendation ITU-T Q.FW\_Int\_sp\_test  
**"Framework of Internet speed measurements for the fixed and mobile networks"**
- Draft Recommendation ITU-T Q.TM\_Int\_sp\_test  
**"Testing methodologies of Internet speed measurement system to be used on the fixed and mobile networks"**

## SIP-IMS conformance testing

<http://www.itu.int/en/ITU-T/C-I/Pages/SIP/IMS.aspx>



### Background

- Different implementation of SIP-IMS protocols requires additional operator's efforts (budgets) to adapt TE to the installed IMS platform
- Most telecom operators refer to ITU-T Recommendations in case of debatable issues with partner (operator – issues with interconnection, vendor – issues with equipment)

### Actions

- Establish the conformity assessment of SIP-IMS profile which may be used by all fixed telecom operators in the world for testing equipment based on SIP-IMS profile
- Create a list of TEs based on SIP-IMS profile which comply with ITU-T Recommendations
- Collaboration with ETSI TC INT

