6th SG13 Regional Workshop for Africa on
"Standardization of future networks: What opportunities for Africa?"
(Abidjan, Côte d'Ivoire, 26-27 March 2018)

SG13 introduction and workshop objectives

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SG13 Overview

❑ ITU-T Study Group 13: "**Future networks, with focus on IMT-2020, cloud computing and trusted network infrastructures**" *(WTSA-16 Resolution 2)*

❑ **SG13 is the lead Study Group on:**
  – future networks such as IMT-2020 networks (non-radio related parts)
  – mobility management
  – cloud computing
  – trusted network infrastructures

❑ **SG13 key areas of competence include also:**
  – Software-defined networking (SDN)
  – Open-source aspects
  – Next-generation network (NGN) evolution
  – Information-centric networking (ICN) and public packet telecom data network
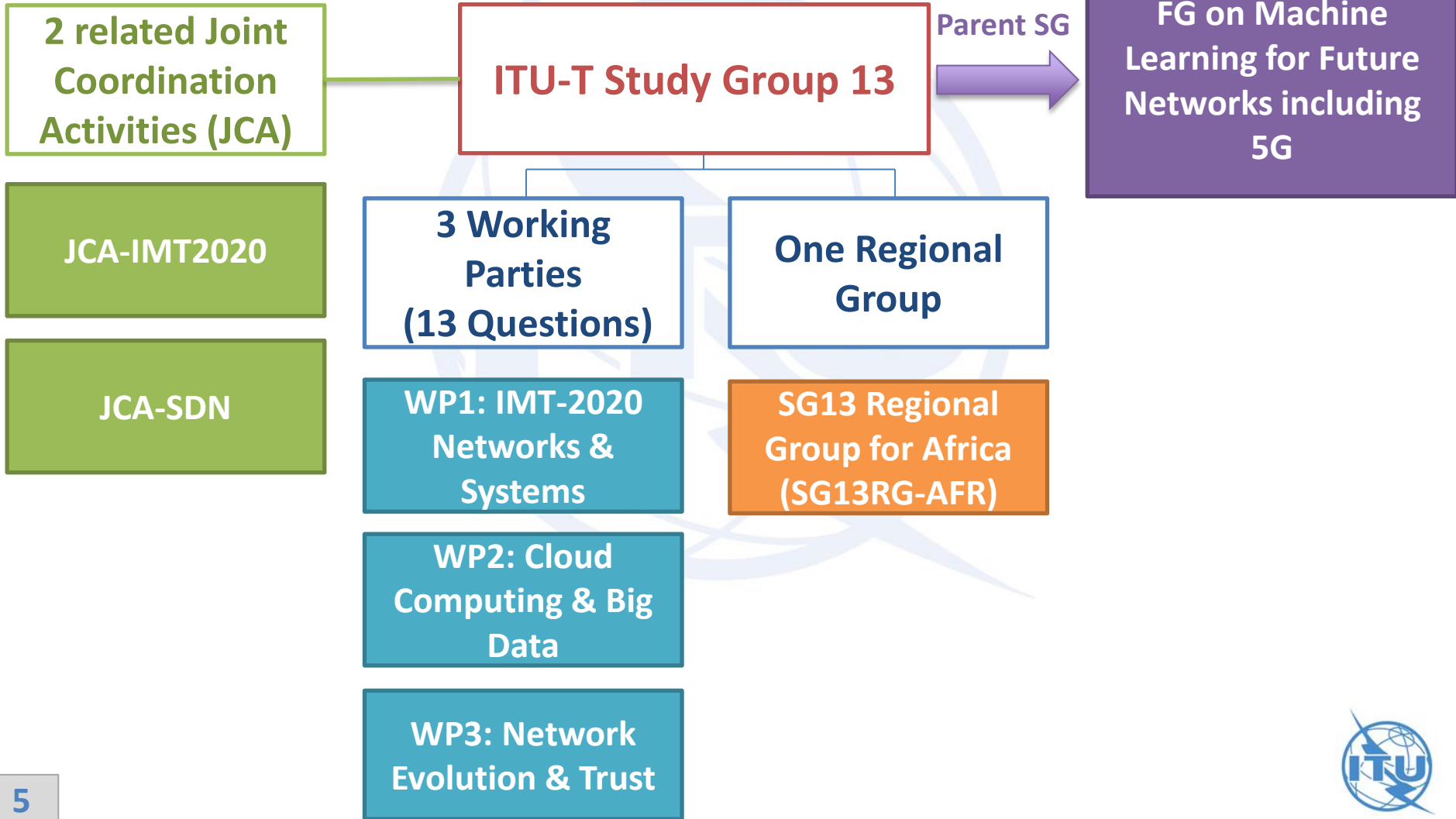 – Fixed-mobile convergence (FMC)
  – Big data

SG13 Mandate

❑ Studies relating to the requirements, architectures, capabilities, and APIs as well as softwarization and orchestration aspects of converged future networks (FN), specifically focusing on IMT-2020 non-radio related parts

❑ IMT- 2020 project management coordination across all ITU-T study groups and release planning and implementation scenarios

❑ Studies relating to cloud-computing technologies, big data, virtualization, resource management, reliability and security aspects of the considered network architectures

SG13 Mandate

❑ Studies relating to FMC, mobility management, and enhancements to existing ITU-T Recommendations on mobile communications, including the energy-saving aspects

❑ Studies on emerging network technologies for IMT-2020 networks and future networks, such as Information Centric Networking (ICN)/Content Centric Networking (CCN)

❑ Studies relating to standardization of concepts and mechanisms to enable trusted ICT, including framework, requirements, capabilities, architectures and implementation scenarios of trusted network infrastructures and trusted cloud solutions in coordination with all study groups concerned

SG13 Structure
(Study Period 2017-2020)

2 related Joint Coordination Activities (JCA)

JCA-IMT2020

JCA-SDN

ITU-T Study Group 13

Parent SG

FG on Machine Learning for Future Networks including 5G

3 Working Parties (13 Questions)

One Regional Group

WP1: IMT-2020 Networks & Systems

WP2: Cloud Computing & Big Data

WP3: Network Evolution & Trust

SG13 Regional Group for Africa (SG13RG-AFR)

SG13 Structure
(Study Period 2017-2020)

WP1: IMT-2020 Networks & Systems

Q6/13	Quality of service (QoS) aspects including IMT-2020 networks
Q20/13	IMT-2020: Network requirements and functional architecture
Q21/13	Software-defined networking, network slicing and orchestration
Q22/13	Upcoming network technologies for IMT-2020 and future networks
Q23/13	Fixed-mobile convergence including IMT-2020

❑ 12 Recommendations were approved since January 2017

❑ Around 30 new work items under study

SG13 Structure
(Study Period 2017-2020)

WP2: Cloud Computing & Big Data

Q7/13	Big data driven networking (bDDN) and deep packet inspection (DPI)
Q17/13	Requirements, ecosystem, and general capabilities for cloud computing and big data
Q18/13	Functional architecture for cloud computing and big data
Q19/13	End-to-end cloud computing management and security

❑ 5 Recommendations were approved since February 2017

❑ Around 19 new work items under study

SG13 Structure
(Study Period 2017-2020)

WP3: Network Evolution & Trust

Q1/13	Innovative services scenarios, deployment models and migration issues based on future networks
Q2/13	Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)
Q5/13	Applying networks of future and innovation in developing countries
Q16/13	Knowledge-centric trustworthy networking and services

❑ 10 Recommendations/supplements were approved since February 2017

❑ Around 13 new work items under study

SG13 Structure
(Study Period 2017-2020)

**ITU-T Focus Group
on Machine Learning for Future Networks including 5G**

❑ FG ML5G was established by ITU-T Study Group 13 at its meeting in 11/2017

❑ **Main Objective:** conduct an analysis of ML for future networks in order to identify relevant gaps and issues in standardization activities related to this topic

❑ FG ML5G will draft technical reports and specifications for ML for future networks, including interfaces, network architectures, protocols, algorithms and data formats

❑ FG ML5G has 3 working groups on "Use cases, services and requirements", "Data formats & ML technologies" and "ML-aware network architecture"

❑ FG ML5G conducted its 1st meeting in Geneva, from 29/01 to 01/02/2018
+ Workshop on Machine Learning for 5G and beyond (29/01/2018)

❑ The 2nd meeting of FG-ML5G will be held in Xi'an, China on 24, 26 - 27/04/2018
+ Workshop on Impact of AI on ICT Infrastructures (25/04/2018)

SG13 Structure
(Study Period 2017-2020)

Related Joint Coordination Activities (JCA)
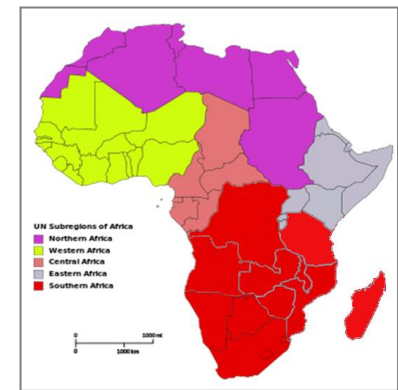
JCA-IMT2020

- ❑ Established by ITU-T SG13 in February 2017
- ❑ JCA-IMT2020 reports to the SG13 as its parent group
- ❑ **Scope:** coordination of the ITU-T IMT2020 standardization work with focus on non-radio aspects within ITU-T + coordination of the communication with SDOs, consortia and forums also working on IMT2020 related standards

JCA-SDN

- ❑ Established by TSAG in June 2013
- ❑ Since June 2015, JCA-SDN reports its progress to SG13

SG13 Structure
(Study Period 2017-2020)

SG13 regional Group for Africa

Objective: Encourage national authorities and operators from countries in Africa to work together and better contribute to ITU-T SG 13 activities in general and to Cloud Computing in particular in line with SG 13 mandate

Main Tasks:

Encourage active participation of African administrations, regulators and operators in the work of ITU-T SG 13

Encourage African countries to contribute to the development of new/revised ITU-T Recommendations on cloud computing and future networks

Reflect the relevant priorities of the continent as per ITU-T SG 13 mandate

Act as a liaison body between administrations, operators, regulators and ITU-T in matters relating to cloud computing and future networks

Establish training needs on CC and future networks and coordinate the organization of technical tutorials in the region on such topics with ITU-T SG 13

Encourage participation of African countries in workshops, Rapporteur meetings and other ITU-T SG13 events

SG13 Structure
(Study Period 2017-2020)

SG13 regional Group for Africa : Regional Workshops

	Theme	Place	Date	Host
1	Standardization on IMT, M2M, IoT, Cloud Computing and SDN	Algiers, Algeria	8 September 2013	ARPT
2	Future Networks: Cloud Computing, Energy Saving, Security & Virtualization	Tunis, Tunisia	28 April 2014	Tunisie Telecom
3	ITU-T Standardization Challenges for Developing Countries Working for a Connected Africa	Livingstone, Zambia	23-24 February 2015	ZICTA
4	Future Networks for a better Africa: IMT-2020, Trust, Cloud Computing and Big Data	Accra, Republic of Ghana	14-15 March 2016	NCA
5	ITU-T Standardization Work on Future Networks: Towards a Better Future for Africa	Cairo, Egypt	2-3 April 2017	NTRA
6	**Standardization of future networks: What opportunities for Africa?**	**Abidjan, Côte d'Ivoire**	**26-27 March 2018**	**ARTCI**

6th SG13 Regional Workshop for Africa
At a Glance

Date	**26-27 March 2018**
Venue	**Hotel AZALAÏ, Abidjan, Côte d'Ivoire**
Organized by	**The International Telecommunication Union (ITU)**
Hosted by	**Telecommunications Regulation Authority of Côte D'Ivoire (ARTCI)**
Theme	**Standardization of future networks: What opportunities for Africa?**
Target Audience	**Regulators, operators, manufacturers, service providers, engineers, academic members , students, …**

Objectives of the Workshop

1 Emphasize the importance of standardization for developing countries in general and African countries in particular

2 Give an overview of SG13 standardization work in areas of currently high interest, such as IMT-2020 network aspects, Machine Learning for future networks, Cloud Computing and Big Data, Trust in ICT Infrastructures and Services and technology convergence

3 Share the main issues in African Countries related to the workshop's topics and raise awareness about the priorities of SG13 standardization in the current study period

4 Present Africa's involvement in ITU-T Standardization as well as user experiences from African countries

Workshop's Program
Day 1 : 26/03/2018

9H30 — **Opening Ceremony**

10H40 — **Keynote Presentation**

11H10 — *Tea/Coffee Break*

11H30 — **Session 1: ITU-T SG13 Standardization & Africa-related involvement**

13H00 — *Lunch*

14H30 — **Session 2: Standardization Hot Topics1, IMT-2020**

16H30 — *Tea/Coffee Break*

16H45 — **Session 3: Standardization Hot Topics2, Machine Learning for Future Networks**

18H15 — **Closure of day 1**

Keynote Presentation

Title	**The position of ITU-T Study Group 13 in global 5G Standardization: Softwarization, Fix Mobile Convergence and Data Aware Networking**
Duration	30 minutes [10H40 – 11H10]
Presenter	**Dr. Leo Lehmann** SG13 Chairman

Session 1

Title	**ITU-T SG13 Standardization & Africa-related involvement**
Objectives	❑ Discuss the **main issues and challenges** that African Countries are facing to participate to the international standardization ❑ Present some proposals in order to **increase the involvement of Developing Countries in general and African countries in particular**, in the standardization processes and the ITU-T activities, mainly SG13 activities
Duration	1 hour & 30 minutes [11H30 – 13H00]
Moderator	**Mr. Elliot Kabalo** ZICTA, Zambia

Speeches in Session 1

1

Prof. Viliam Sarian

Radio R&D Institute, Russian Federation

The importance of the development and adoption of socio-technical standards for developing countries

2

Dr. Rim Belhassine-Cherif

Tunisie Télécom, Tunisia
SG13 Vice-chair

Africa's Involvement in SG13's Standardization activities

3

Mr. Max Jonga

PURA, Gambia

Importance of In-country engagement with stakeholders in SG13 group and activities

4

Mr. Dja Rodrigue

ARTCI, Côte d'Ivoire

Strategies to increase the participation of African countries in SG13 activities

Session 2

Title	**Standardization Hot Topics 1, IMT-2020**
Objectives	❑ Present the **main achievements of SG13** in IMT-2020 standardization and its **ongoing related standardization work** ❑ Give an overview on the **ITU-T future plan** (but not limited to ITU-T) in relation with IMT-2020 infrastructures and applications ❑ Discuss the current **IMT-2020 technical issues** from the industry's perspective **+** focus on the **requirements of African countries** (including ongoing work of Q5/13) regarding this topic
Duration	2 Hours [14H30 – 16H30]
Moderator	**Mr. Simon Bugaba** UCC, Uganda

Speeches in Session 2

1

Mr. Gbegbe Raymond

INPHB, Côte d'Ivoire

Optimization of energy efficiency in 5G H-CRAN networks

2

Eng. Charles Asadu
University of Nigeria, Nigeria

Need for handbook to guide effective participation in developing IMT-2020

3

Mr. Luca Pesando
Telecom Italia,
WP1/13 Co-Chairman

Tim progress towards 5G

Speeches in Session 2

4

Mr. Nicholas Muzhuzha
POTRAZ, Zimbabwe

IMT-2020 Requirements and use cases: The case for IMT-2020 in developing countries

5

Mr. Scott Mansfield

Ericsson Canada
SG13 Vice-chair

JCA-IMT2020 Update

6

Engr. Dr. Fidelis Onah

Nigerian Communications Commission, SG13 Vice-chair

Update on IMT-2020 in Africa

Session 3

Title	**Standardization Hot Topics 2, Machine Learning for Future Networks**
Objective	Give an overview on the concept **of Machine Learning in the context of future networks and the related technologies, use cases and platforms**, while articulating visions on the current requirements and possible future standardization work on this topic
Duration	1 hour & 30 minutes [16H45 – 18H15]
Moderator	**Mr. Nicholas Muzhuzha** POTRAZ, Zimbabwe

Speeches in Session 3

1

Mr. Antony Adopo

 ARTCI, Côte d'Ivoire

Regulatory issues of machine learning usage in future networks

2

Eng. Charles Asadu

University of Nigeria

Report on the first meeting of the FG ML5G

3

Prof. Ridha Hamila

Qatar University

ML Applications for 5G Network Enhancement

Workshop's Program
Day 2 : 27/03/2018

9H30	• **Brief summary of Day 1 discussion & program of day 2**
9H40	• **Session 4: Standardization Hot Topics 4, Cloud Computing & Big Data**
11H10	• *Tea/Coffee Break*
11H30	• **Session 5: Trust Technology Convergence**
13H00	• *Lunch*
14H30	• **Session 6: Experiences & Successful Stories from Africa**
16H00	• *Tea/Coffee Break*
16H20	• **Panel Discussion: SG13 hot topics standardization and Africa's vision**
17H10	• **Closing session**

Summary of Day 1 Discussions

Objective	Give a **brief Summary of Day 1** and present the discussion and the program of Day 2 of the workshop
Duration	10 minutes [9H30 – 9H40]
Presenter	**Mr. Kevin Yao N'Guessan** ARTCI, Côte d'Ivoire

Session 4

Title	Standardization Hot Topics 3, Cloud Computing and Big Data
Objectives	Highlight the main achievements in technologies, services and standards related to cloud computing and Big Data **+** the major current and future activities of SG13 and ITU-T on these topics
Duration	1hour & 30 minutes [9H40 – 11H10]
Moderator	**Mr. Simon Bugaba** UCC, Uganda

Speeches in Session 4

1

Mr. Yves MAO

ORANGE, Côte d'Ivoire

Data Management services and Big Data

2

Dr. Chen Nan

China Telecom, Associate rapporteur Q17/13

ITU-T SG13 Cloud Computing & Big Data activities

3

Mr. Elliot Kabalo

ZICTA, Zambia

Supplement No. 146 to Y Series of Recommendations 'Requirements and Challenges Regarding Provision and Consumption of Cloud Computing Services in Developing Countries'

4

Ms. Soumaya Benbartaoui

ARPT, Algeria

Cloud Computing : Advantage and Obstacle - African countries

Session 5

Title	**Standardization Hot Topics 4, Trust and Technology Convergence**
Objectives	❑ Present the main updates regarding SG13 ongoing and future standardization work in the field of Trusted ICT infrastructures and services ❑ Highlight the requirements of African Countries in this field ❑ A specific focus will be given on the role of Trust in technology convergence as well as the other issues related to this technology convergence concept which could be addressed by standards
Duration	1hour & 30 minutes [11H30 – 13H00]
Moderator	**Dr. Leo Lehmann** SG13 Chairman

Speeches in Session 5

1

Mr. Eloge Beonao

MTN Côte d'Ivoire

Confiance et convergence technologique

2

Dr. Gyu Myoung Lee

LJMU, UK/KAIST, Korea

Trust Standardization in SG13 and Trust in Technology Convergence

3

Mr. Kadio William

Vodafone Egypt

Digital trust issues for African countries

4

Dr. Ramy Ahmed

NTRA, Egypt

Blockchain as a Trust Enabling Infrastructure: Opportunities and Challenges

Session 6

Title	Experiences & Successful Stories from Africa
Objective	Present some **experiences and successful stories** of different African telecommunication stakeholders in the workshop's topics, with focus on the efforts made by these stakeholders to initiate standardization activities on these topics or **to get involved in the existent standardization activities of the ITU-T or other SDOs**
Duration	1 hour & 30 minutes [14H30 – 16H00]
Moderator	**Dr. Rim Belhassine-Cherif** Tunisie Télécom, Tunisia SG13 Vice-chair

Speeches in Session 6

1

Mr. Kevin YAO N'Guessan

ARTCI, Côte d'Ivoire

Comité de Normalisation des Télécommunications/TIC

2

Mr. Max Jonga

PURA, Gambia

Experience and Success stories- The Gambian Regulator

3

Mr. Simon Bugaba

UCC, Uganda

The Uganda Standardization Process: Level of utilization of ITU Standards

4

Mr. Elliot Kabalo

ZICTA, Zambia

Zambia National Standardization Organization Audit

Panel Discussion:
SG13 hot topics standardization and Africa's vision

Objectives	❑ Discuss the importance of the SG13 hot topics, debated during the workshop, for African countries and the role of standards to facilitate and increase the adoption of the related cutting-edge technologies in these countries ❑ Present the vision of African Countries regarding the future standardization activities on these topics and their proposals for new work items which respond to their needs
Duration	50 minutes [16H20 – 17H10]
Moderator	**Dr. Leo Lehmann** SG13 Chairman

Panel's Participants

Mr. Simon Bugaba

UCC, Uganda

Ms. Christina Nsofwa Lesa

ZICTA, Zambia

Mr. Charles Asadu

University of Nigeria

Prof. Viliam Sarian

Radio R&D Institute, Russian Federation

Dr. Rim Belhassine-Cherif

Tunisie Télécom, Tunisia
SG13 Vice-chair

A Representative from the host

Closing Session

- ***Presentation of results and final summary on lessons learnt during the workshop:***

  Mr. Simon Bugaba, UCC, Uganda

- ***Closure of the Workshop:***

  - **Dr. Leo Lehmann,** SG13 Chairman

  - **Mr. Bilé Diéméléou**, CEO of ARTCI

Mark your Calendar!

6th SG13RG-AFR meeting

Date	**28-29 March 2018**
Venue	**Hotel AZALAÏ, Abidjan, Côte d'Ivoire**
Organized by	**The International Telecommunication Union (ITU)**
Hosted by	**Telecommunications Regulation Authority of Côte D'Ivoire (ARTCI)**
Target Audience	❑ **Administrations of Member States of the Union** ❑ **ITU-T Sector Members** ❑ **ITU-T Associates participating in the work of Study Groups 13** ❑ **ITU Academia** ❑ **the African Telecommunications Union** ❑ **the ITU Regional Office for Africa Region**

6th SG13 Regional Workshop for Africa on
"Standardization of future networks: What opportunities for Africa?"
(Abidjan, Côte d'Ivoire, 26-27 March 2018))

Thank you for your Attention

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