18th Global Symposium for Regulators (Geneva, 2018)

New Regulatory Frontiers

Presentations

Regulatory Toolkit and Guidelines

Donna Bethea-Murphy, SVP Global Regulatory, Inmarsat and SSDM Vice-Chair

Working Group On The Regulatory Toolkit And Guidelines

Goals of the Working Group on the Regulatory Toolkit

- Assess the needs, gaps and existing mechanisms and tools to develop concrete actions to facilitate the smooth transborder movement of telecommunications equipment into affected countries during emergencies

- Identify concrete actions to create a policy and regulatory environment to facilitate the development and the smooth transborder movement of telecommunications equipment into affected countries during emergencies

- Research, gather, report and make available online a toolkit of best practice regulatory measures fostering the development and the smooth transborder movement of telecommunications equipment into affected countries during emergencies

Working Group On The Regulatory Toolkit And Guidelines

Three Sections to the Regulatory Toolkit and Guidelines Report

Section 1: Overview of Key Stakeholders and Gap Analysis

- Analysis of key concepts and issues regarding the trans-border movement of telecommunications equipment

- Identify Key Stakeholders and their respective roles

- Examine Needs, Gaps, and Existing Mechanisms for facilitating the trans-border movement of ICT equipment

Section 2: Opportunities and Best Practices

- Identify concrete actions to create the proper policy and regulatory environment to facilitate smooth trans-border movement of telecommunications equipment into affected countries during emergencies

- Identify key messages to motivate policy-makers to adopt these best practice regulatory measures to provide rapid response when disaster strikes

Working Group On The Regulatory Toolkit And Guidelines

Three Sections to the Regulatory Toolkit and Guidelines Report

Section 3: Toolkit Checklist

- Intended to assist administrations in facilitating the smooth trans-border movement of telecommunications equipment into countries affected by an emergency

Four Categories:

1. **Preparedness** – Putting a plan and policy in place prior to emergency/disaster situations

2. **Policy Guidelines and Tools** – Establishing regulatory procedures and policies to promote an efficient response

3. **Communication** – Ensuring all involved entities are informed and coordinated

4. **Pre-positioning and Training** – Have equipment in country and provide regular training

Working Group On The Regulatory Toolkit And Guidelines

Using the Toolkit Checklist

- Each category in the Toolkit Checklist builds upon the information in the previous sections of the report to identify gaps and best practices, then provides questions to assist a country's self-assessment and planning

- The Guiding Questions will assist administrations in identifying gaps in their current preparedness and measures that can be taken to address them

- Annex to the Report includes Emergency Communications Checklist contained within the Final Report of ITU-D Study Group Question 5/2 for the 2014-2017 Study Period

    - Intended to provide additional assistance to administrations, leveraging previous work of ITU-D

    - Outlines the types of activities and expected decision points that could be considered for inclusion in a National Disaster Communications Plan

1AU VENTURES

ARTIFICIAL INTELLIGENCE.
GSR-18 LEADERSHIP DEBATE.

DR. ANASTASSIA LAUTERBACH
GENEVA, JULY 10TH 2018

1AU VENTURES

FIVE OF TOP 10 FORTUNE 500 COMPANIES ARE 'AI-FIRST'.

1AU VENTURES

MACHINE LEARNING WILL GET EMBEDDED INTO EVERY APPLICATION, PROCESS AND BUSINESS.

*"The business plans of the next*

10,000

startups are easy to forecast:
Take X and add AI"
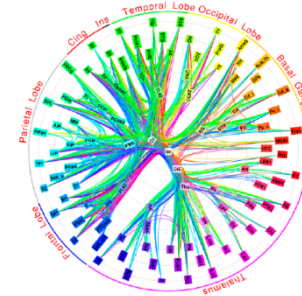
Kevin Kelly, Founder 'Wired'

THE DEFINITIONS, OBJECTIVES AND METHODS OF "ARTIFICIAL INTELLIGENCE" CONTINUE TO EVOLVE.

- Mimic human behavior
- Mimic thinking
- Project human intent
- Advise humans
- Behave intelligently
- Behave rationally
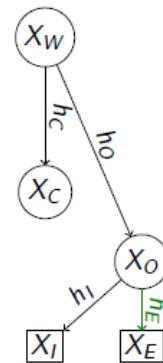- Behave empathetically

… explicitly model the human brain
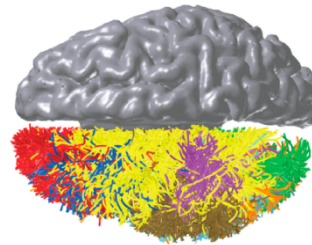
Architecture of the "projectome"

Network model of 'target' and 'source' *nodes* via anatomical tracing

… or loosely approximate the mental models

Multistate Markovian Survival Model

Bayes' Network of perfume characteristics

Source: Research 1AU-Ventures

KNOWN TECHNOLOGY-BASED RISKS OF AI.

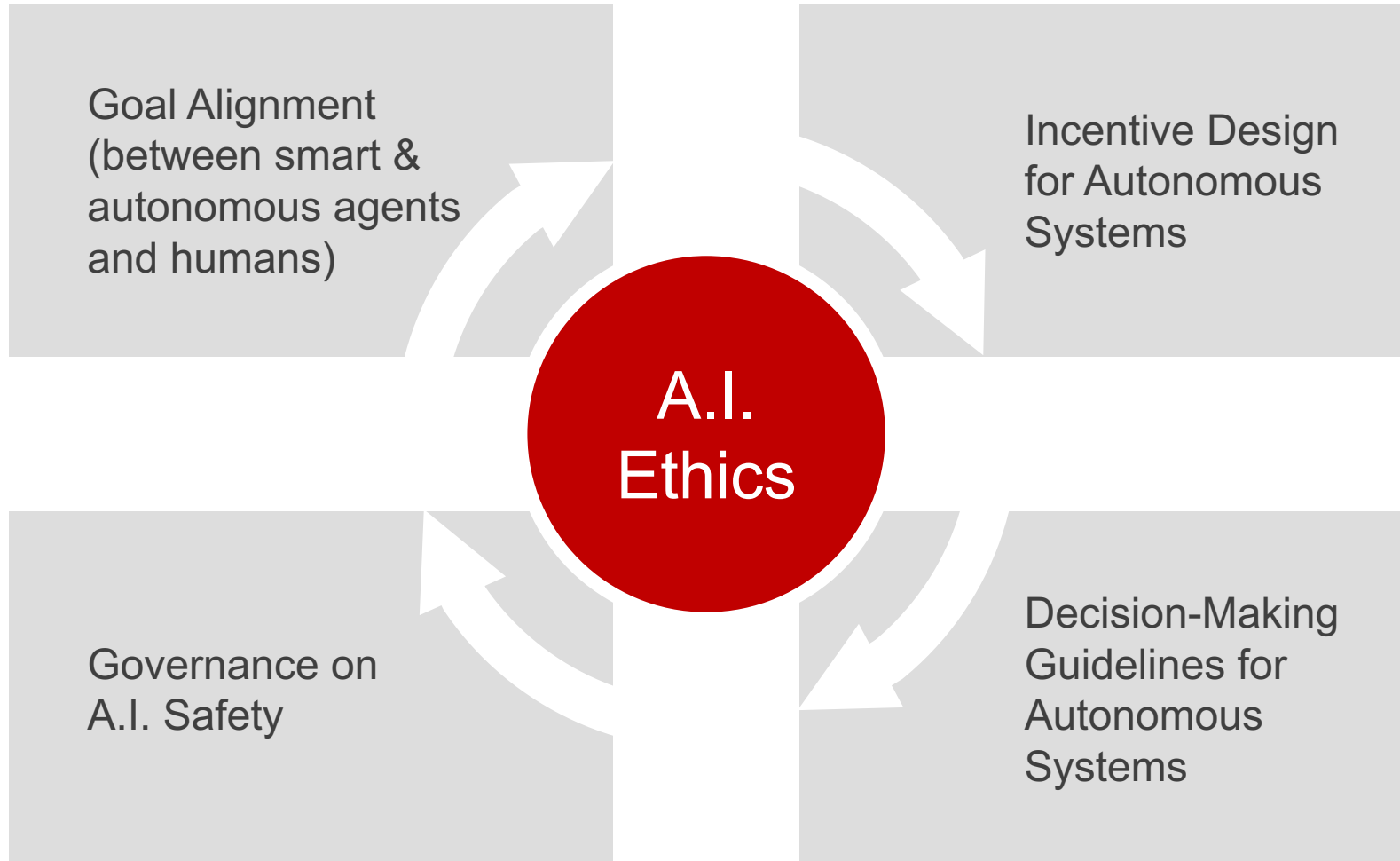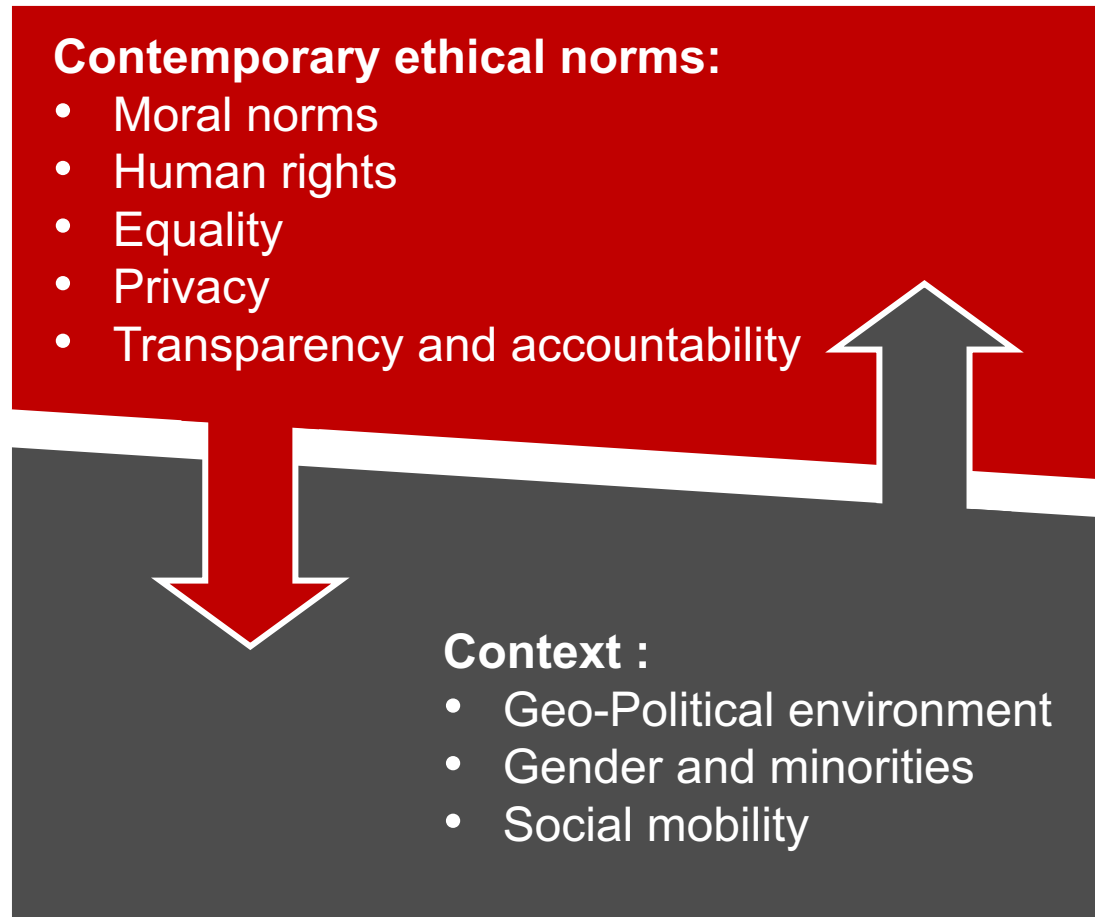| Design Mistakes	Malicious Intent	No Human in the Loop
• Bias in technology reflecting its creators, lack of diversity in gender, age, ethnics and lack of interdisciplinarities • Potential rise in inequality in Legal, Social Services, Education	• Unethical behaviors of system makers to exploit users for financial gain or cover up for bigger issues of their technology • Impact on reputational risk • New forms of Cyber-hacking	• Systems becoming capable to reuse data and experiences from other tasks when trying solving new tasks
• Google Translate attributes 'he' to soldiers, doctors and enterpreneurs, and 'she' to nurses and teachers while translating from Turkish (language with a single gender-neutral pronoun 'o'); • Alexa misunderstanding accents; • FAIR Lab matching Obama image to 'basketball'	• New ethical standards, e.g. BS 8611 Guide to the Ethical Design and Application of Robots and Robotic Systems, or IEEE P700X 'human standards' to support OEMs and ODMs in the ethical application of robots • Adversarial attacks on data models, e.g. hacking into a fleet of self-driving cars, faking video images	• Future coding will be dominated by automated systems without significant human involvement.

MAJOR THEMES IN A.I. ETHICS FRAMEWORK.

Goal Alignment (between smart & autonomous agents and humans)

Incentive Design for Autonomous Systems

A.I. Ethics

Governance on A.I. Safety

Decision-Making Guidelines for Autonomous Systems

ETHICAL NORMS VS. CONTEXT.

Contemporary ethical norms:
- Moral norms
- Human rights
- Equality
- Privacy
- Transparency and accountability

Context :
- Geo-Political environment
- Gender and minorities
- Social mobility

SOCIAL GOVERNANCE ON AI.

Ethic Advisory Boards

Full stack AI companies

AI as a part of sustainability frameworks

Companies

Transparency over online resources to learn about AI

Schools

Municipalities

Open hacktons with access to data and participance of local companies, startups and individual innovators

1AU VENTURES
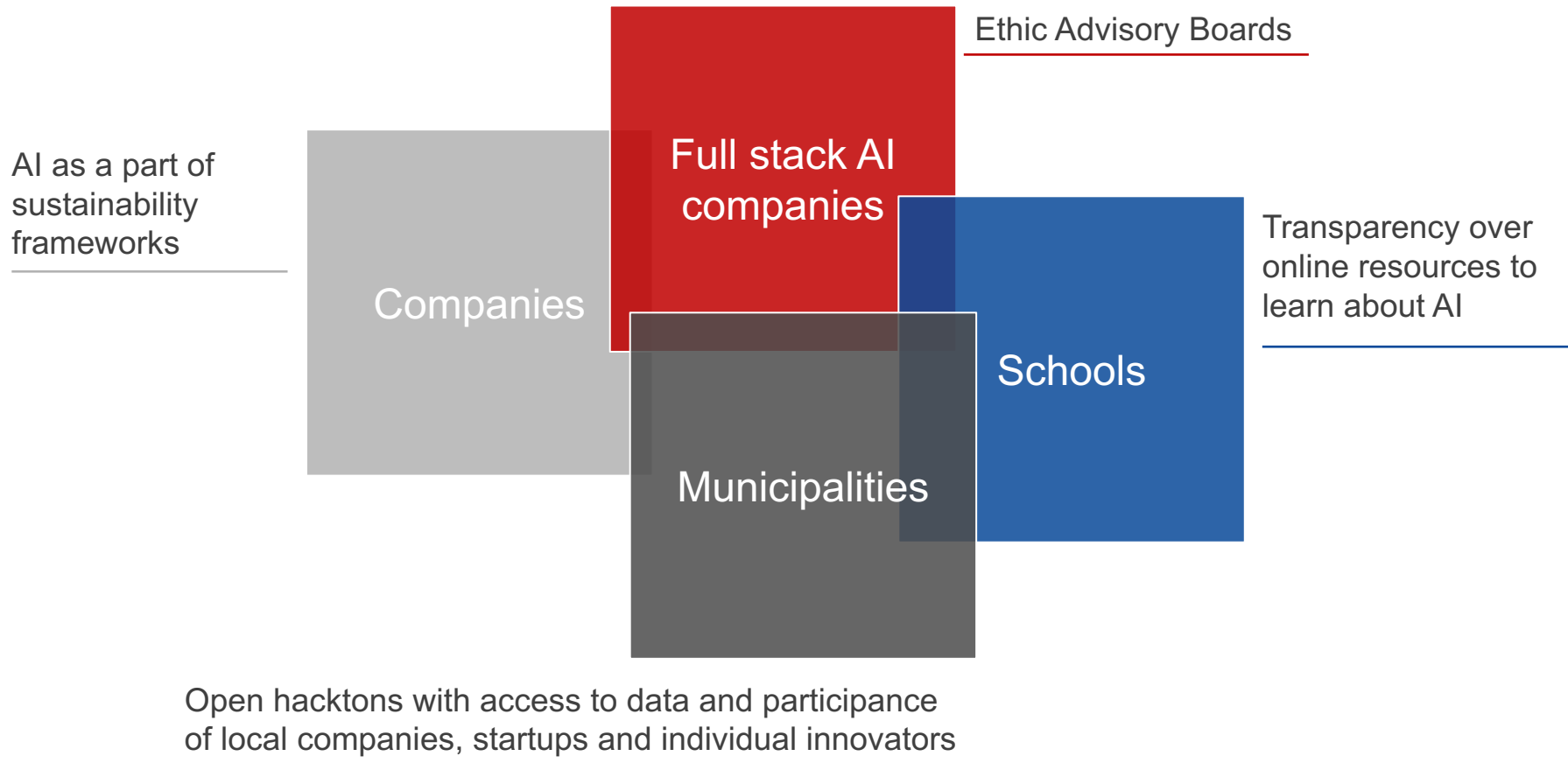
"People can't understand new ideas if their livehood depends on the old ones."

Upton Sinclair

ITU Global Symposium for Regulators (GSR-18)

Session 2: Mastering the New Regulatory Frontiers

Sofie Maddens, ITU BDT

ITU Telecommunication Development Bureau (BDT)

Regulatory and Market Environment Division (RME)

Mastering the (new) Regulatory Frontiers

Digital Ecosystem
Artificial Intelligence
Personal Data Economy
Collaborative Regulation

Connectivity
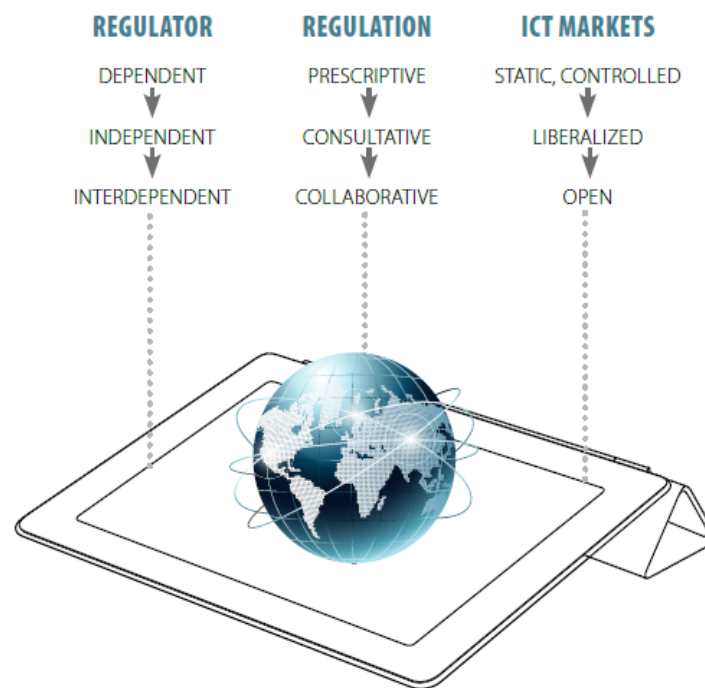Affordability
Privacy
Security
Trust
Quality

Regulation for the digital economy?

➤ Digital economy comes of age

➤ Regulation serves as the interface between governments, investors, service and content providers, and consumers

➤ New market realities call for new regulatory approaches and tools

➤ Challenges and opportunities go hand-in-hand and ICT regulators are under pressure to make the most of it

CHANGING PATHS OF THE ICT REGULATOR, REGULATION AND MARKETS

Source: ITU.

REGULATOR	REGULATION	ICT MARKETS
DEPENDENT	PRESCRIPTIVE	STATIC, CONTROLLED
INDEPENDENT	CONSULTATIVE	LIBERALIZED
INTERDEPENDENT	COLLABORATIVE	OPEN

ITU BDT: Policy and Regulatory Tools for Evidence Based Decision Making

✓ *Knowledge Sharing Platforms and Strategic Dialogues*

✓ *Cutting-edge data, research and analysis for evidence-based decision making*

ITU BDT Digital Ecosystem Portal

Research, data and Analysis on:
- ✓ New Business Models
- ✓ The dynamic perspective of Telecommunicating/ICT regulation in the changing markets and new opportunities
- ✓ Socio-economic impact of the App Economy
- ✓ Region/countries case studies (e.g. Africa)

Source: ITU

ITU Digital Ecosystem Portal

"To meet the expectations of a rapidly evolving digital ecosystem, policy makers and regulators need to adapt and develop more flexible, innovative and light-handed regulatory frameworks expanding beyond the traditional core telecom sector to take into account the multi-facet and multi-stakeholder dimensions of the digital world."

Mr Brahima Sanou, Director,

ITU Telecommunication Development Bureau (BDT)

ITU International mobile roaming (IMR) Portal

IMR STRATEGIC GUIDELINES

IMR Strategic Guidelines

NRAs — MNOs

Bi/Multilateral & Regional Initiatives
- General principles
- Legal Mandate
- Taxation
- Pricing Regulation

General principles

National Markets
- General principles
- Competition principles
- Pricing principles and regulation

Pricing Issues

Consumer Protection

Consumer Protection

The IMR Strategic Guidelines were developed with inputs from stakeholders during the ITU Consultation Process (held during 2016 and 2017), including from regional regulatory associations (RAs), international organizations, consumer and private sector associations. The aim of this report is to build the foundation for harmonized guidelines around the world to improve the delivery of IMR services for the benefit of consumers, to reduce what are generally perceived as high mobile roaming retail prices, and to enhance efficiency and transparency of retail roaming prices and services.

"*I am sure that these IMR Strategic Guidelines will become an important tool that enables all stakeholders to have a common understanding of the complexities of IMR to foster harmonized solutions at national regional and international level. We all need to continue working together to make ICTs even more affordable for all, including when roaming the world.*"

Mr Brahima Sanou, Director,
ITU Telecommunication Development Bureau (BDT)

LET'S ROAM THE WORLD - ITU International Mobile Roaming (IMR) Resources Portal

- Download the ITU IMR Strategic Guidelines

Quality of Service (QoS) Portal

QOS MANUAL

The QoS Regulation Manual serves as a one-stop shop for QoS regulation in ICTs. It refers to different standards and regulatory practices from various regions and countries worldwide.

It is intended to be used as a guiding tool for telecommunication/ICT regulatory agencies or ICT Administration (e.g., ICT Ministry) in charge of Quality of service (QoS) and Quality of Experience (QoE) parameters and measurements, as defined by the ITU-T, as well as enforcement mechanisms.

CONTENT

2. Quality of Service (QoS) framework (technical)
3. QoS Regulatory Framework - Role of NRAs
4. Traffic Management
5. QoS Parameters and KPIs
6. Broadband QoS measurements
7. Economic principles of QoS regulation
8. Network neutrality and its regulation
9. Consumer Protection and Privacy
10. QoS enforcement
11. Conclusion and guidelines

EVENTS AND TRAINING

Training:
ITU Academy: Quality of service training programme

RESOURCES

- SADC QoS country experiences (2017)
- WATRA QoS country experiences (2017)
- BEREC guidelines, NN regulatory assessment methodology (2017)

- ITU-T Study Group 12 on Performance, QoS and QoE (Work Programme)
Technical Recommendations

www.itu.int/en/ITU-D/Regulatory-Market/Pages/Quality-of-Service-Regulation.aspx
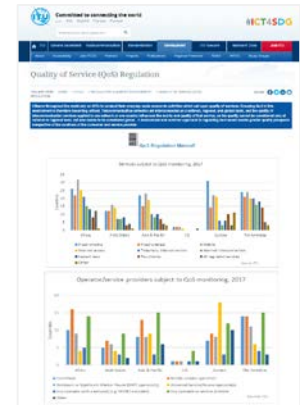
GLOBAL ICT REGULATORY

OUTLOOK
2017

ICT Regulatory Tracker 2016
#ITUdata

Tracker by Country   Country Card   Tracker by Region   Comparison   Map   Generations of Regulation   Abou

Select an option

ICT Regulatory Tracker 2016

Cluster	C1: Regulatory Authority	C2. Regulatory Mandate	C3. Regulatory Regime	C4. Competition Framework	Overall Score
Max Score:	20	22	30	28	100
Country					
Afghanistan	15.00	20.00	22.00	16.67	73.67
Albania	18.00	17.00	26.00	21.00	82.00
Algeria	19.00	17.00	16.00	9.00	61.00
Andorra	6.00	8.00	8.00	3.00	25.00
Angola	17.00	20.00	18.00	10.67	65.67
Antigua & Barbuda	8.00	11.50	8.00	15.33	42.83
Argentina	18.00	20.00	23.00	28.00	89.00
Armenia	19.00	18.50	17.00	28.00	82.50
Australia	18.00	21.50	28.00	27.00	94.50
Austria	18.00	16.50	28.00	27.00	89.50
Azerbaijan	8.00	11.00	20.00	23.33	62.33
Bahamas	19.00	18.50	20.00	25.33	82.83
Bahrain	17.00	18.00	26.00	26.33	87.33

International Telecommunication Union

Committed to connecting the world

OPPORTUNITIES

Global Dialogue on AI, IoT and Cybersecurity

Tech Mahindra

By Manish Vyas

President, Communications, Media &
Entertainment Business, and the CEO, Network
Services,
Tech Mahindra

THE 5TH WAVE OF NETWORKS

1ST WAVE 01

2nd WAVE 02

50 KB

3RD WAVE

500 KB

Hello World!

4TH WAVE

"Check it out"

5 MB

5th WAVE 05

5 GB

#LiveWorkPlayBetter
By the next decade, our world would change dramatically ….

The world is changing dramatically
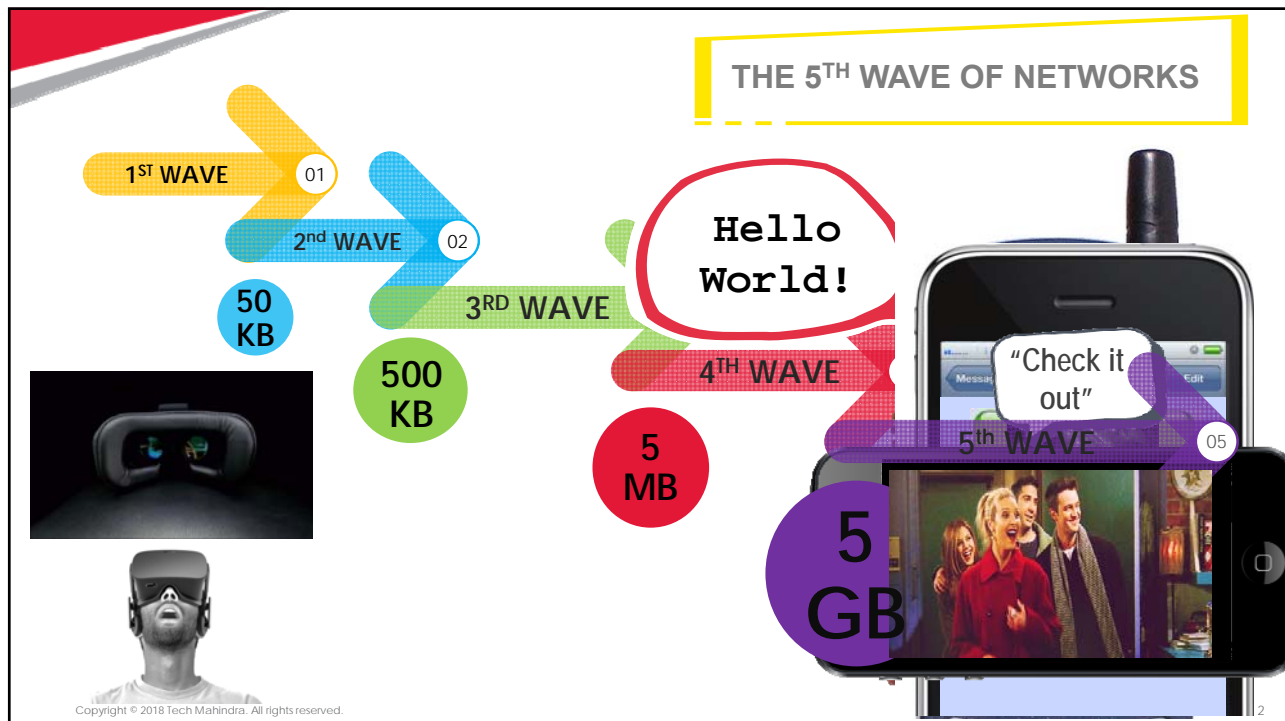
TELCOS AT THE CORE

$582 Billion Telco 5G market by 2026[1]

50 Billion Connected devices by 2020[2]

5X data traffic growth by 2021[3]

HYPER-PERSONALIZATION OF MICRO-MOMENTS

Engagement
Live on Social Media

IoT & AI

Pay and Play
Micro-moments for users

CINEMA
$51.7 BN

VIDEO
GAMES
$132 BN

AUDIO
$100 BN
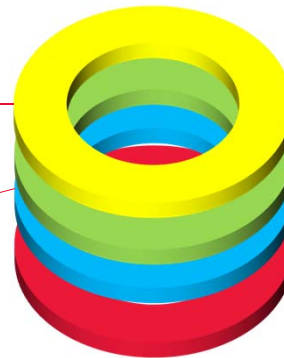
ESPORTS
$1.5 BN*

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*Projected for 2020   Source : Newzoo, 2017-2018

8

SIMPLIFYING THE COMPLICATED

Customer experience
Flexibility & Agility
Cost efficiency
Drone control

ARE OUR POLICIES AGILE?

THANK YOU!

Thank You

Disclaimer