



## **16<sup>th</sup> Global Symposium for Regulators (Sharm el-Sheikh, 2016)**

*Be Empowered, Be Included!*

*Building Blocks for Smart Societies in a Connected World*

### **Presentations**

This PDF is provided by the International Telecommunication Union (ITU) Library & Archives Service from an officially produced electronic file.

Ce PDF a été élaboré par le Service de la bibliothèque et des archives de l'Union internationale des télécommunications (UIT) à partir d'une publication officielle sous forme électronique.

Este documento PDF lo facilita el Servicio de Biblioteca y Archivos de la Unión Internacional de Telecomunicaciones (UIT) a partir de un archivo electrónico producido oficialmente.

یجر ی نورکتلا فملنم تذخوما ی هو ت اظوفحموال ٲمکتبال قسم ، (ITU) للاتصالات الدولي الاتحاد من مقدمة PDF ینسق النسخة هذه امیرس ٲعداده.

本PDF版本由国际电信联盟（ITU）图书馆和档案服务室提供。来源为正式出版的电子文件。

Настоящий файл в формате PDF предоставлен библиотечно-архивной службой Международного союза электросвязи (МСЭ) на основе официально созданного электронного файла.

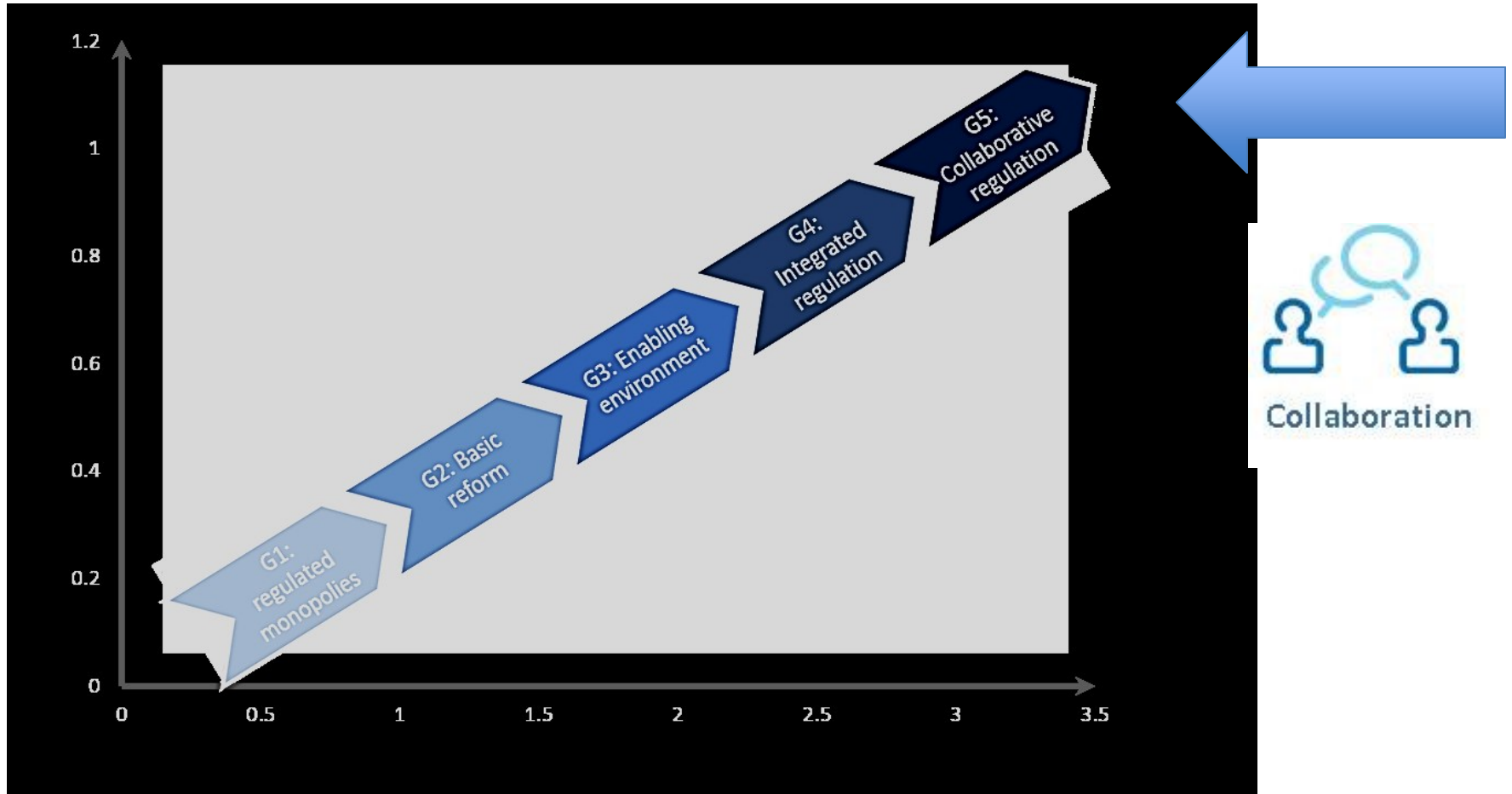
# Building Blocks for Smart Societies in a Connected World: A Regulatory Perspective on Fifth Generation Collaborative Regulation



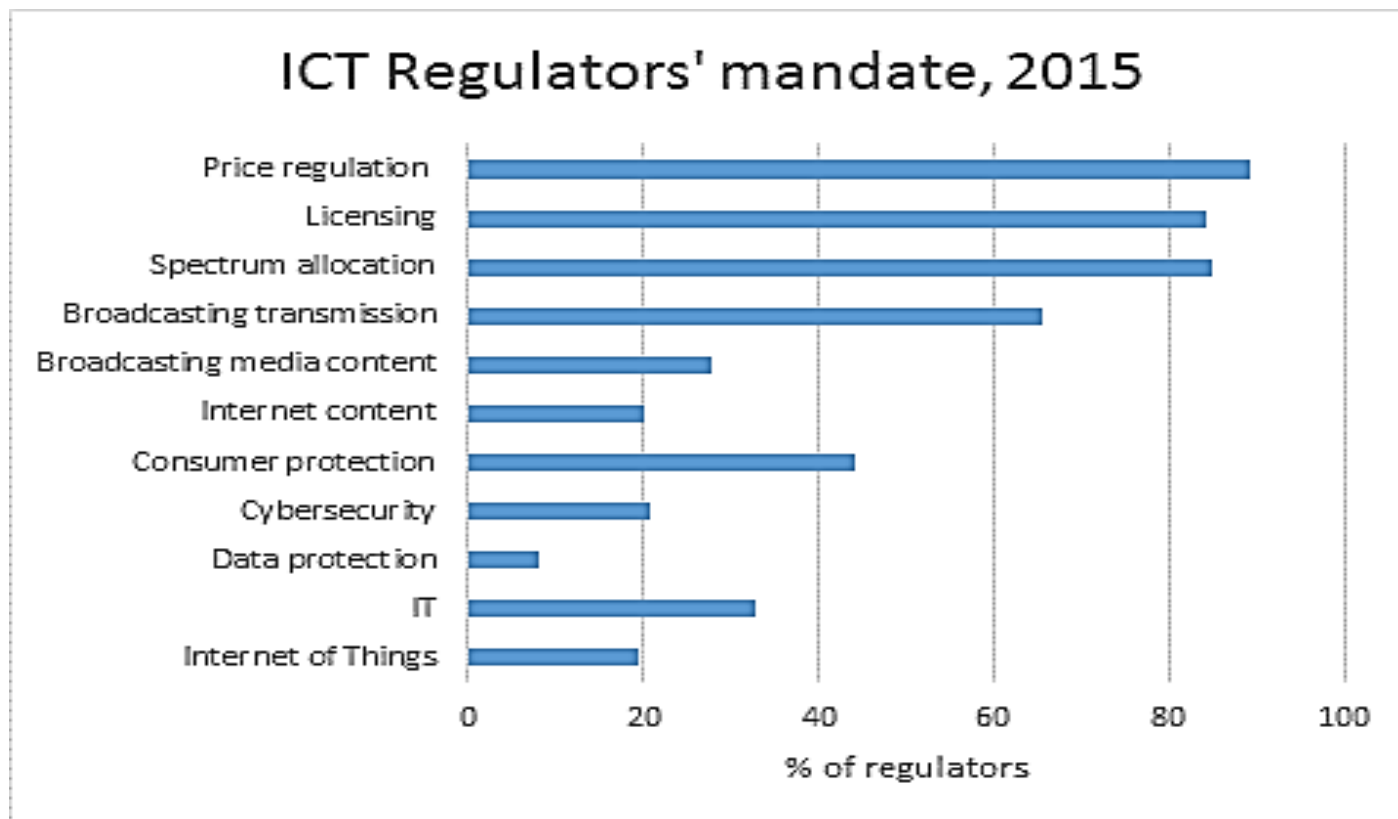
Sofie Maddens  
ITU Telecommunication Development Bureau  
May 2016



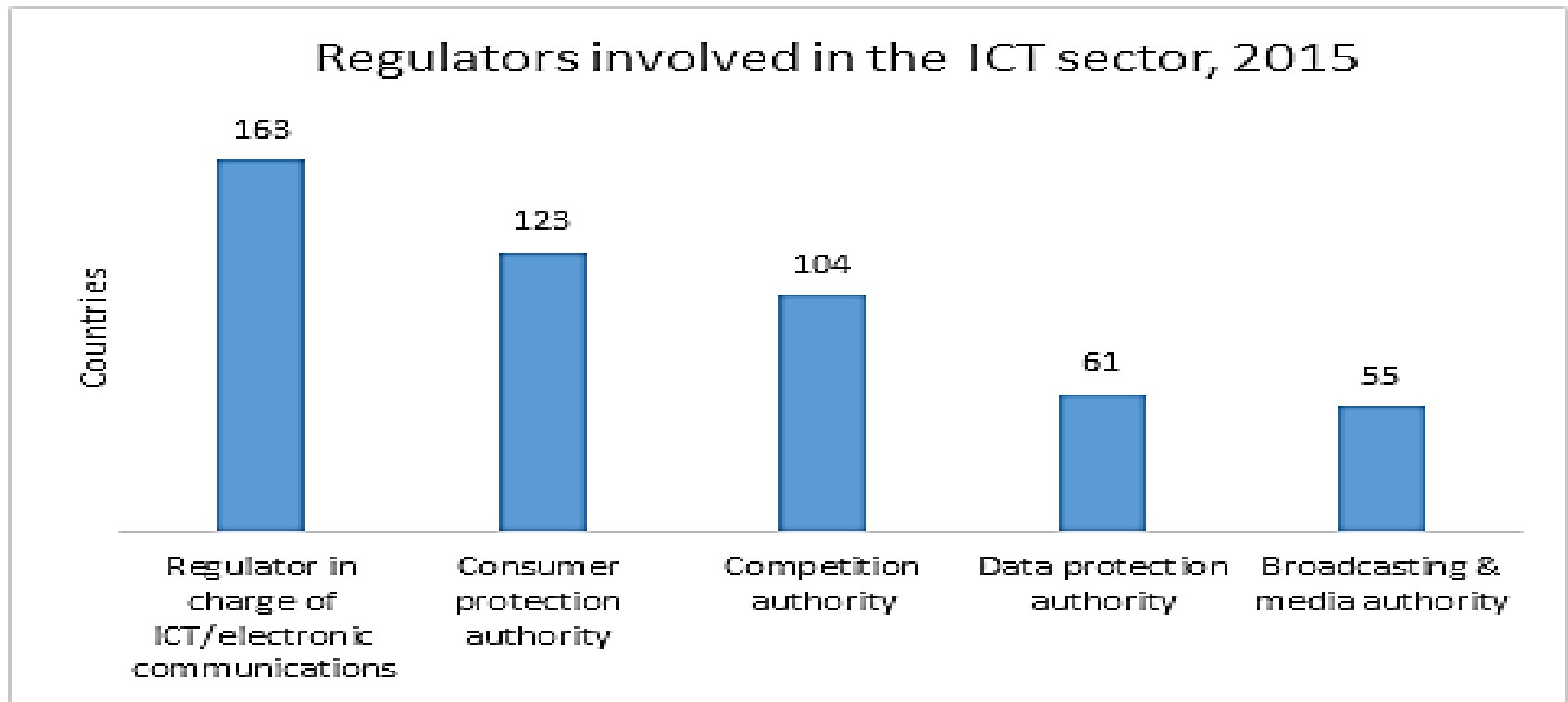
# Evolution of ICT Regulation



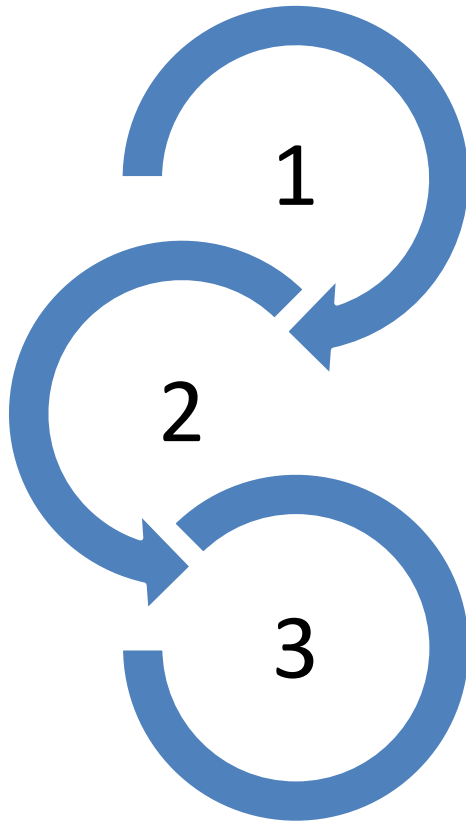
# What is the Mandate of ICT Regulators?



# Which Regulators have been involved in the ICT Sector?



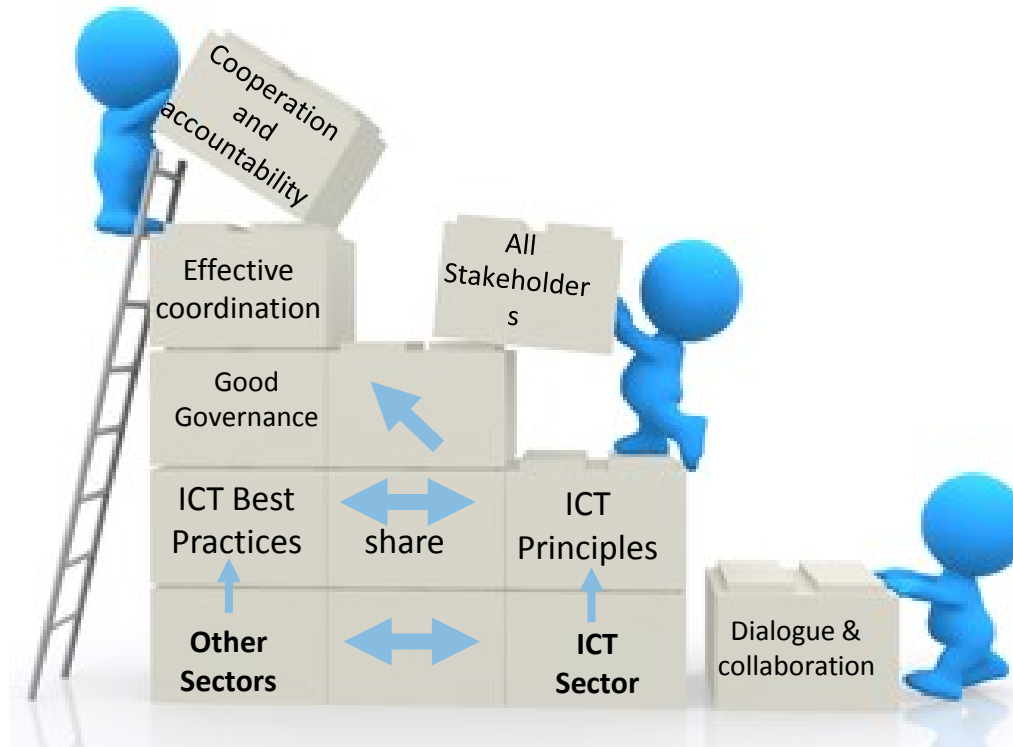
# Collaborative Regulation



- Common Principles
- Common Challenges



# Building Blocks for Collaborative Regulation



# Summary

- hold an inclusive dialogue across the sectors
- share guiding principles and best practices with other sectors on issues where ICT/telecommunications may be leveraged in other sectors
- define mechanisms for effective coordination, cooperation and accountability across the sectors



# THANK YOU!







# Global Symposium for Regulators 2016

**Under the theme “Be empowered, Be included: Building Blocks for Smart Societies in a Connected World”, this year’s programme includes compelling discussions and debate around:**

- Artificial intelligence, smart sensors & smart networks
- Digital financial inclusion – the challenges of bringing the unbanked online
- The regulatory road towards the ‘Internet of Things’ and M2M communications
- New digital platforms – empowering or enslaving?
- Privacy, trust and cybersecurity
- Strategies to encouraging digital entrepreneurship

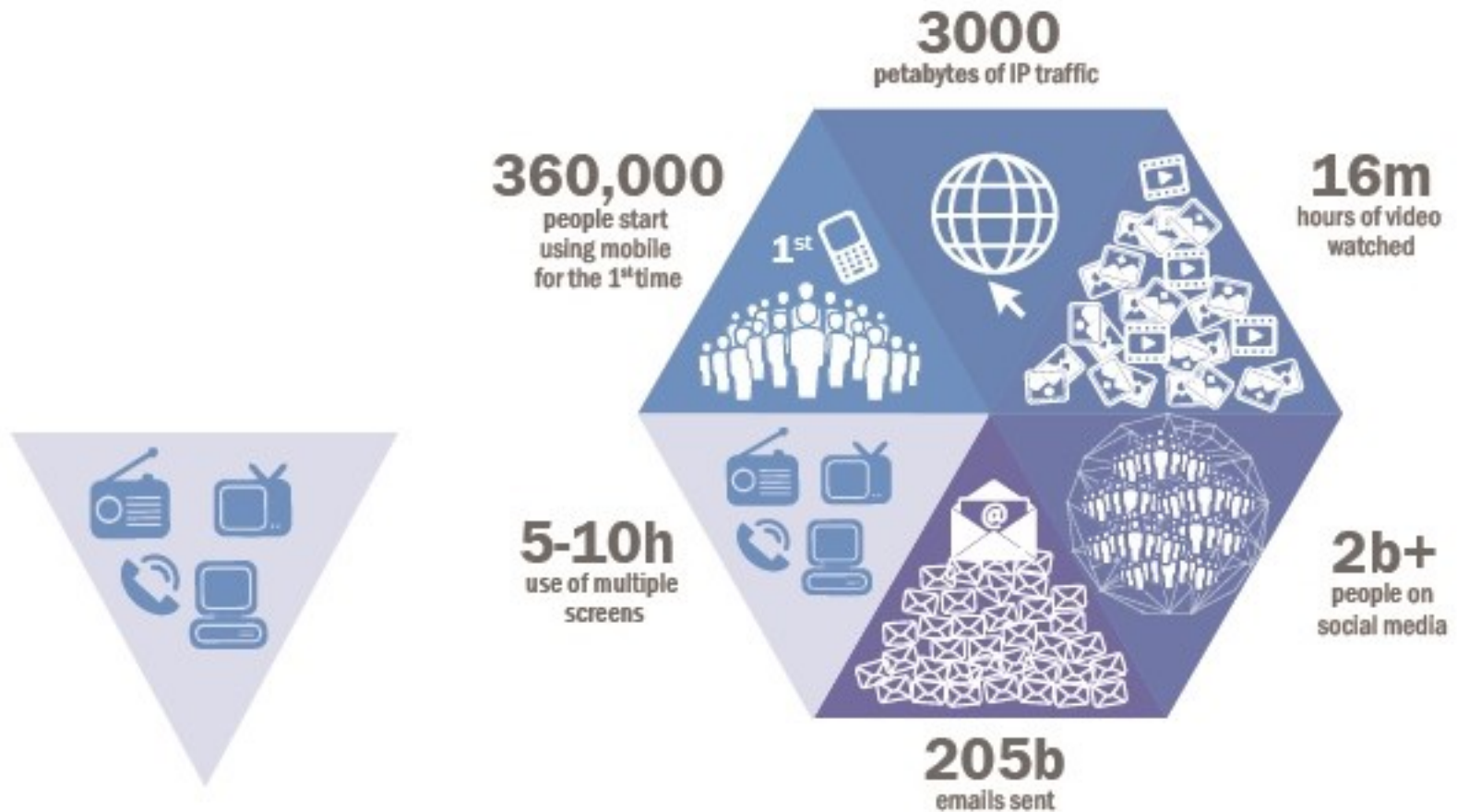


For more information: [www.itu.int/gsr16](http://www.itu.int/gsr16)

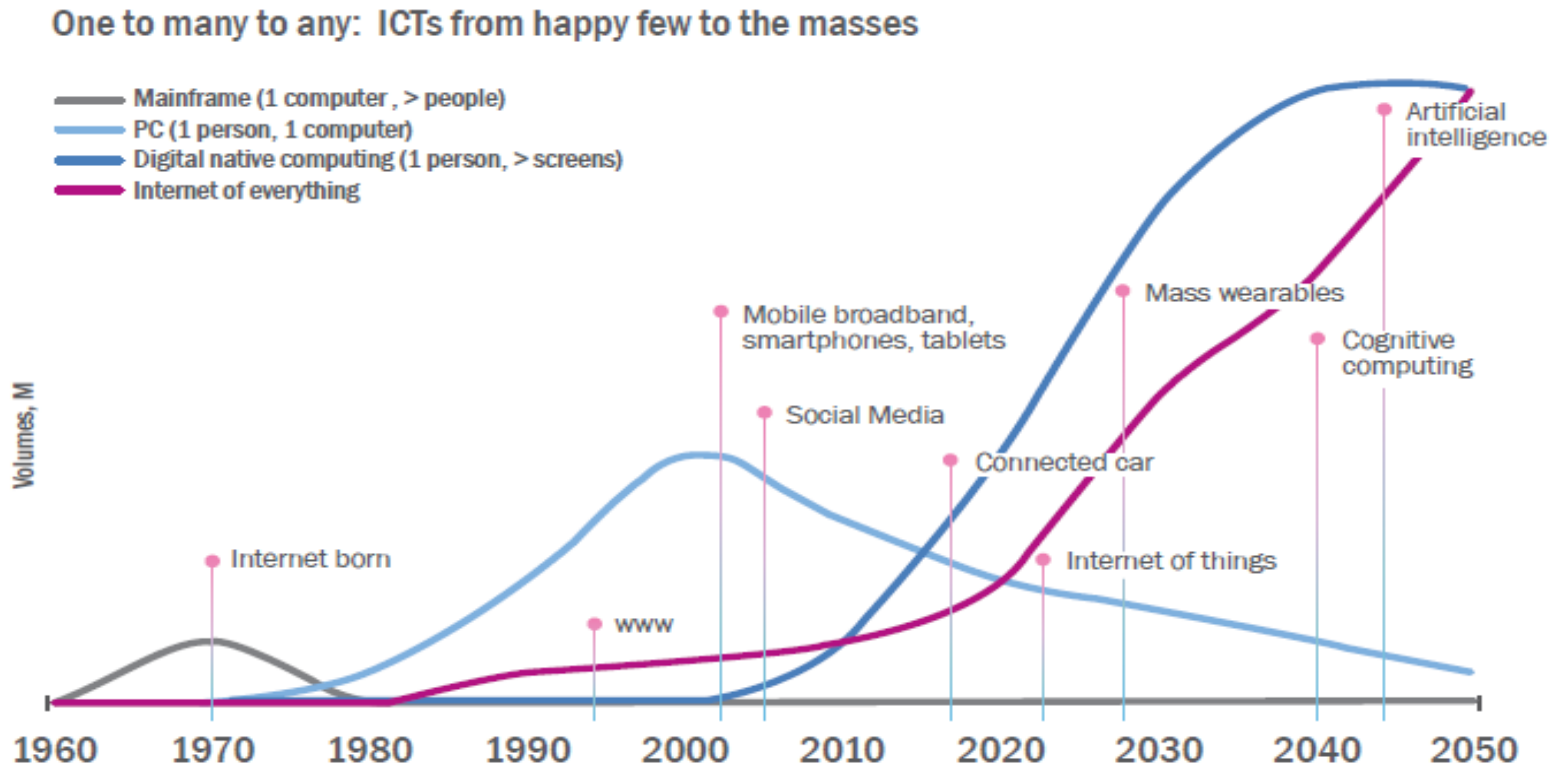
# We ARE a Smart Connected Society

1994

2015



# History of the Future



Source: ITU

# We are Living the Future'



Source: <http://thefuturesagency.com>

# Issues to Consider



**“Our greatest hopes could become reality in the future.**

**With the technology at our disposal, the possibilities are unbounded.**

**All we need to do is make sure we keep talking.”**

**— Stephen Hawking**





**GSR-16:**  
**Be Empowered. Be included!**

Discussion Paper Talking Notes:  
The Race for Scale: Market Power, Regulation and the  
App Economy

Scott W Minehane  
Sharm el Sheikh, Egypt  
18 May 2016

## Starting Point

In 2006, the year before Apple released the first iPhone and thereby launched the app economy, the biggest publicly traded company in the world by market capitalisation was Exxon Mobile. Microsoft, at number three was the only technology company in the global top 10. In 2016 Apple was the biggest company in the world and Google (now Alphabet), Microsoft, Facebook and Amazon trade positions in the top 10 quarter-by-quarter. **This is ten years of dramatic industrial change. Economic transformation of this speed and scale a rare indeed.**

The app economy, over the top services and the sharing economy are all new names for a set of phenomena that represent a new episode of growth of the global ICT industry.

This growth is based on the rapidly approaching ubiquity of handheld computing devices, increasing wireless bandwidth, the maturation of cloud computing services and the ongoing development of mobile operating systems and their associated apps.

A core element of the brief for our paper was to develop a “**proposed qualitative and quantitative economic methodology to analyze the contribution of ICT digital services and apps to the economies of developed and developing countries**” which will then lead to strategic dialogue and recommendations to assist policy makers and regulators to define policy frameworks and other tools for collaborative regulation.

## Agenda - Today's presentation

1. What is the App economy?
2. How do we measure the App economy?
3. What are the key questions concerning the regulation of the app economy?

## 1. What is the App economy? (1)

- The The app economy is best understood as a new industry or subsector of the ICT industry. For the purposes of ourpaper, the app economy is defined:

*as the sum of all economic activity, products and services, required to deliver app functionality to end users via mobile broadband services.* Until recently, this revolution has been a developed world phenomenon, but now it is well established in the developing world

- This new industry segment is itself a potentially important source of economic and social development as it creates new companies and new jobs.
- But potentially even more importantly in emerging economies, the widespread availability of smart devices will enable greater levels of access to a wide range of services and information that would otherwise be unachievable. This access to services and information will create new markets and new economic opportunities and this can be expected to significantly accelerate economic development in these countries.
- The app economy will also drive ongoing productivity gains across all industries.

## 1. What is the App economy? (2)

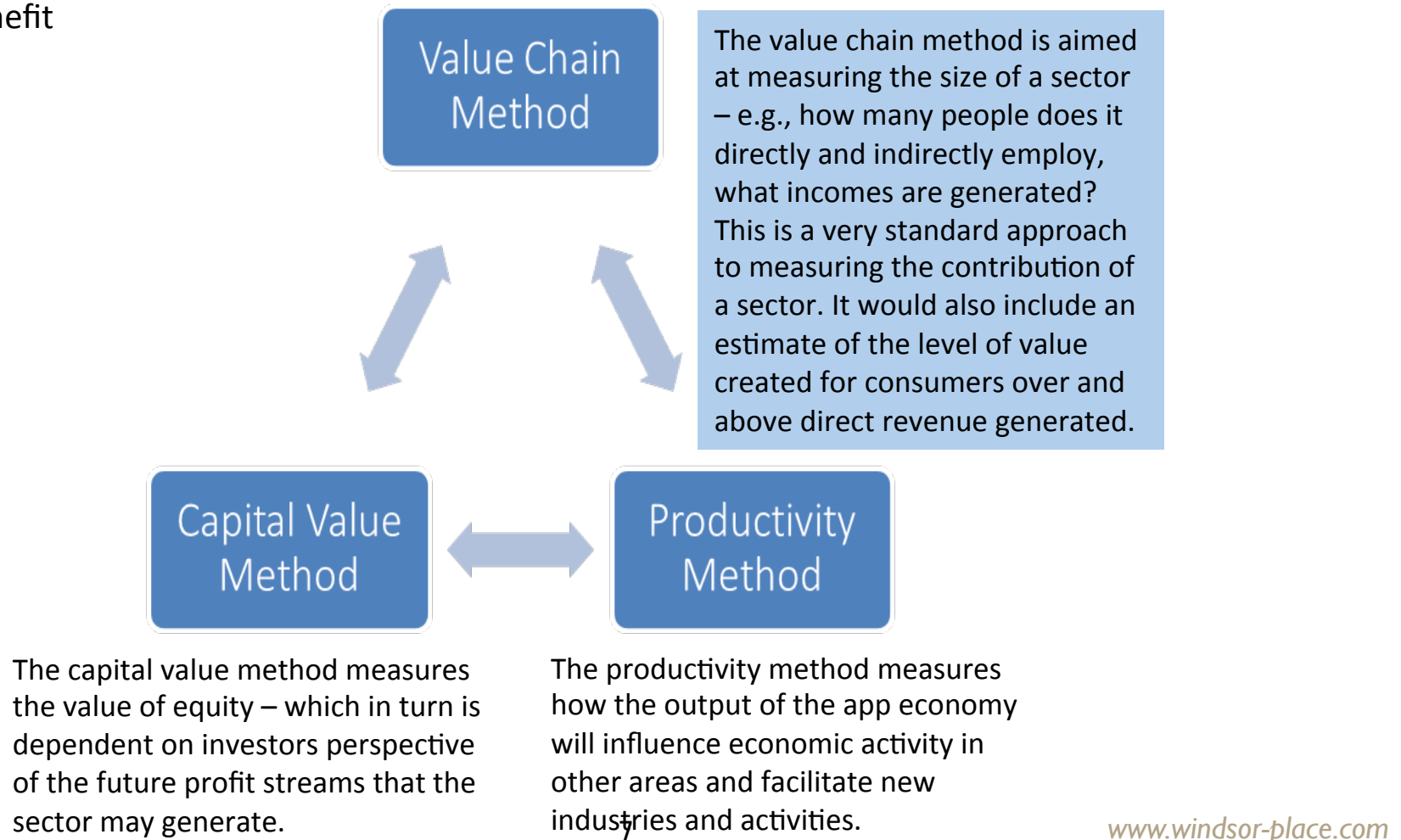
- App companies are building software and hardware systems that span nations or even the globe. As each app company acquires a new user, its costs per unit fall and its competitive position improves.
- App companies are in a '**race for scale**' which has led (or has to the potential to lead) to a series of monopolies or near monopolies occupying various market niches. Critically, it is not only economies on the production side that drive the race for scale.
- App markets are also driven by **network effects**. Network effects mean that app systems become more valuable to every user when the total number of users increases – one of Facebook's greatest attraction to new users is that it has the greatest number of users.
- App systems such as Uber and Airbnb are more attractive to users the greater the number of drivers or rooms available, and more users attract more drivers and rooms.
- This is a 'virtuous circle' that drives the growth of the biggest players.
- App economy platforms often exist in regulatory **grey areas**, operating outside the scope of the specific regulations that apply to their industry also making them more competitive.

## 2. How do we measure the App economy? (1)

- The traditional measure of economic benefit or increases in social welfare is 'value added'. The problem for measuring the apps economy is that it is part a 'barter economy' – app companies offer services and functionality in return for personal information and attention. This means that valuation cannot be based on observable market prices. This does not mean value is not being created – just that it is more difficult to observe and measure.
- Since the statistical collections that directly measure the value of the app economy are not available, and given that there are multiple ways in which the sector contributes to the economy, it is suggested that there are three different ways in which the impact of the sector can be measured:
  - The Value Chain and Consumer Surplus Method
  - Capital Value Method
  - Productivity Method
- Each measures different aspects, but, taken together, they can be considered as a way to triangulate the broader impacts of the app economy.
- The onset of the App Economy has prompted widespread industrial change. However, quantifying the scale and scope of these changes is difficult. Established metrics and categories that national governments use for data collection are not applicable to the App Economy.
- There are significant economic impacts of the App economy especially when it is estimated that in Europe up to 2% of the labour force (depending on the market) is already engaged in the App Economy.

## 2. How do we measure the App economy? (2)

- The app economy not only disrupts not only traditional businesses and business models, but also traditional definitions of industries. The statistical collections of national statistics agencies are based on conventional industry definitions and are therefore of limited use in describing and measuring the app economy. So some approximations are needed to compute the net economic benefit



### 3. What are the key questions concerning the regulation of the app economy? (1)

- For the digital economy to thrive, an inclusive dialogue is needed to discuss and define appropriate legal and regulatory provisions, and at the same time there is the recognition that the applicable body of law must not hamper the spread of innovation and progress within the digital economy.
- Regulators and policy makers must ensure consumer security, product quality and other protections in transactions, while at the same time avoiding over-regulating new collaborative business models.
- While initially it may seem that the sharing economy promotes competition against legacy providers, there is a danger, as these businesses grow, that they may be tempted to exercise their own expanding market power. Competition regulators will need to be watchful that the digital economies of scale and scope are not exploited contrary to law.
- Thus, central to the discussion of the growth and regulation of the sharing economy is the ***question of how to balance regulations for established businesses and new, innovative businesses.***
- Governments should not impose legacy regulations on new business models simply because they happen to fall outside of existing regulatory schemes. Nor should regulators give into claims by existing incumbents that merely seek to protect their own market position or the primacy of their businesses.

### 3. What are the key questions concerning the regulation of the app economy? (2)

- The approach taken by different regulators globally to OTTs has varied thus far. However, the establishment of a 'two-track' regulatory regime for legacy telecommunication players and OTT providers in the ICT sector is also neither sustainable nor optimal.
- ***Established business models should not be punished for complying with regulations, nor should new businesses be punished for innovating.***
- Harmonizing regulations between new and old businesses is desirable and arguably necessary as all industry sectors are transformed.
- Harmonizing regulations between new and old industries should be able to preserve consumer protections without hindering innovation. The challenge is to adopt more collaborative regulatory measures where the applicable regulation on all market players is converged, coherent, promotes competition and provides incentives to invest and be innovative.

### 3. What are the key questions concerning the regulation of the app economy? (3)

- Globally, a range of organisations are ***arguing the case for less rather than more regulation for the sharing economy. Where is the market failure we need to address?***
- Alternative approaches, which may have merit depending on the market and services concerned, are:
  1. **Temporary Licensing**
    - Apply temporary rules/grant licenses for a limited period in order to permit greater study.
  2. **Transition Arrangements**
    - Put in place transition schemes to compensate existing stakeholders
  3. **Deemed class licensing.**
    - Another alternative approach which has been used in Singapore and has been debated in Malaysia and Indonesia is to use deemed class licensing for say web content such that services while not being located in the jurisdiction may be subject to a country's classification regime (eg with respect to nudity, violence etc.).

### 3. What are the key questions concerning the regulation of the app economy? (4)

## RECOMMENDATIONS

- **Undertake a review of the regulations applicable to network operators and OTT players:** Assess whether such regulations are appropriate, whether forbearance should be applied to network operators, whether additional rules should apply to OTT providers and map how regulation of market participants – especially for substitute/competing services - should converge over time.
- **Update the licence conditions and as required provide deeming provisions for non-resident OTT providers etc.**
- **Assess and continually monitor the state of competition in the market.** It is critical to assess and critically monitor the state of competition in ICT markets. Ensure there are no gaps in regulation between telecommunications regulators and general competition regulators including where services are offered from outside the jurisdiction. Promote competition whilst recognising that ICT services markets are no longer national and that there is a range of competing services which are domiciled domestically.
- **Collaborate with tax authorities:** Ensure that there is, to the extent possible a level playing field for competing services. Such analysis should include the applicable income and value added taxes applicable to competing services.
- **Promote and facilitate ubiquitous broadband (especially wireless broadband)**

### 3. What are the key questions concerning the regulation of the app economy? (5)

- **Ensure adequate and up to date data protection, privacy and cyber security legislation based on global exemplars:** The scope of such legislation should be wide and include legacy and new systems including the Internet of Things ('IoT'). It is also critical to enact digital identification ('digital ID') legislation.
- **Establish co-ordination procedures between regulators:** Establish co-ordination procedures between communications sector regulators and regulators of broadcasting/content (if separate), competition, financial services and privacy/data protection to ensure consistent regulation and comprehensive inter-working arrangements.
- **Engage in greater public awareness and advocacy campaigns in relation to digital/ICT services:** It is important that the public including all sections and age groups in society are well-informed as to their digital rights and responsibilities.
- **Regulators must engage more broadly with education and training sector:** Ministries, universities, tertiary institutions, schools and other places of learning to ensure that curriculum and syllabus reflect the app economy and the move to a digital society.

## Closing remarks

- As part of this process of regulatory revision it will be necessary to consider explicitly and carefully the original motivations for traditional regulatory intervention and the ways in which new technologies can potentially or actually provide new mechanisms to address these original motivations.
- It is **unlikely that any policy maker or regulator will get app/sharing economy regulation right on the first try**. The relevant markets are still evolving rapidly and all the regulatory targets are moving.
- Alternative approaches that may have merit depending on the market and services concerned include temporary licensing or putting in place transition arrangements where legacy industry players are compensated for changes.
- Consequently, regulating OTT services as incumbent operators is not viable; nor is the continuation of current regulation on operators possible without change. The challenge is to adopt more collaborative regulatory measures where the applicable regulation on all market players is converged, coherent, promotes competition and provides incentives to invest and be innovative.
- A conservative approach adopting only as much regulation as is obviously necessary and giving markets the opportunity to both innovate an attempt to find solutions to meet consumer needs, would seem to have considerable merit.

# **Thank you**

**I am happy to answer any  
questions**

## Should OTT players be regulated? Regulatory imbalances between traditional and OTT operators (1)

Areas of Regulation	Network Operators	OTT Players
1. <b>Applicable laws</b>	Domestic law or in Europe EU regulations	Home jurisdiction maybe; many gaps in applicable laws
2. <b>Taxes</b>	Local and domestic taxes	Located in low cost locations and tax havens
3. <b>Licensing</b>	Must be granted or acquire licence from national Governments	Mostly exempt
4. <b>Operating Area</b>	Only serve customers within the jurisdiction	Serve any user globally
5. <b>Infrastructure/ Network</b>	Investing in new technology networks to deliver services to end users	No investments in networks that reach end users while telcos must deliver competitors services
6. <b>Competition</b>	Strict rules applying including ex ante & per se rules, M&A restrictions	Mostly exempt except M&A if OTT subject to domestic competition law
7. <b>Fees</b>	Customers' charges contribute to the costs of network provisioning	<ul style="list-style-type: none"> <li>Services offered without any relationship to the underlying costs; two sided markets</li> </ul>
8. <b>Quality of Service</b>	License requirements include SLAs and/or mandatory QoS standards	<ul style="list-style-type: none"> <li>No QoS guarantee</li> <li>QoS issues blamed on network provider</li> </ul>
9. <b>Inter-connection</b>	<ul style="list-style-type: none"> <li>Required as part of regulatory regime</li> <li>Additional costs</li> </ul>	OTTs have no interconnection requirements for calling or messaging

## Should OTT players be regulated? Regulatory imbalances between traditional and OTT operators (2)

Areas of Regulation	Network Operators	OTT Players
<b>10. Net neutrality</b>	<ul style="list-style-type: none"> <li>If applicable, best effort data transport without discrimination, independent of source or nature of data.</li> <li>Only typically traffic management permitted</li> </ul>	No obligations (control over content and freedom of choice concerning customers)
<b>11. Emergency services</b>	Mandatory provisioning as part of licence conditions	Typically no such obligations
<b>12. Interception</b>	Strict regimes with costs borne by operator	Typically no such obligation
<b>13. Retail Prices</b>	Regulators' approval is typically needed in advance	No need for approval and maybe free for users
<b>14. Universal Service</b>	<ul style="list-style-type: none"> <li>Mandated</li> <li>USO contributions as a percentage of network revenues</li> </ul>	No contribution
<b>15. Spectrum fees</b>	Required to acquire in an auction or pay market based fees for usage	No additional costs for OTT
<b>16. Privacy</b>	Strict data protection and privacy requirements for users	Practiced on a limited and generally voluntary basis
<b>17. Number Portability</b>	Obligation to offer number portability between providers	OTT service independent from mobile number

# **ITU Global Symposium for Regulators 2016 Egypt, 11-14 May 2016**

## **Information Session**

# **LET'S ROAM THE WORLD - The ITU International Mobile Roaming Initiative**

**Ms. Carmen Prado Wagner,**  
Regulatory and Market Environment (RME)  
Telecommunication Development Bureau (BDT)  
[prado@itu.int](mailto:prado@itu.int)

# AGENDA

- Introduction – the roaming issue today
- Regulatory aspects of international roaming
- ITU/BDT Director, Mr. Brahima Sanou LET'S ROAM THE WORLD – Building blocks for Strategic Best Practices Guidelines
- The ITU IMR Resources Portal

# The Roaming Issue Today\*

- International Mobile Roaming incurs additional charges that often are not cost based;
- Action by regulators to counter overcharging for IMR requires that NRAs understand the real cost-based wholesale and retail charges;
- To understand and get clear data on both national MNO costs and those within international wholesale IOTs (inter operator tariffs) international co-operation is required;
- IMR also relies on inter-MNO negotiation and co-operation. In this sense, any IMR counter-measures, by their nature, must be multi-country;
- Roaming alternatives such as OTT services should also be considered when examining policy or regulatory measures;
- It is important to build on the success of ITU-T Recommendation D-98, and subsequent new ITU Recommendation on the way.

# Why is roaming so costly?



- Insufficient attention on the part of the consumer at point of purchase

## Inelastic Demand



- Low demand-elasticity for **IMR voice** services (changing over time)

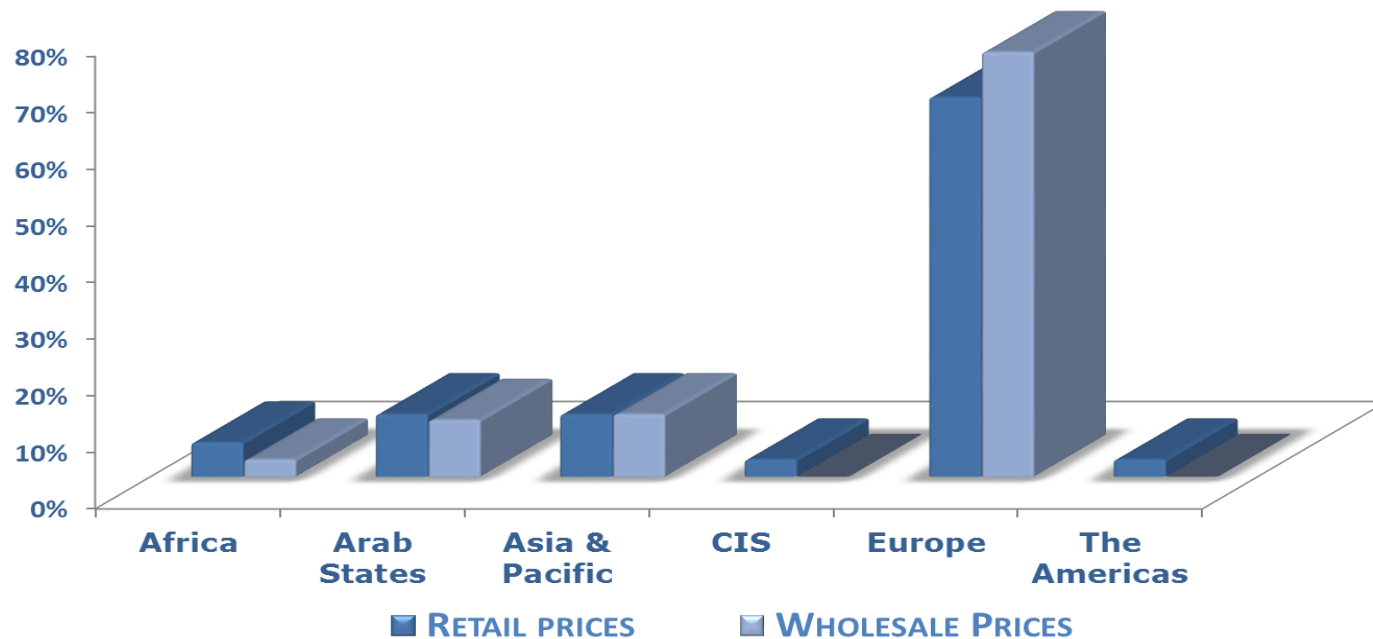

$$\text{Home NW Retail Margin} + \text{Visited NW Wholesale Margin} = \text{Home NW Retail Price}$$

- Cross-border nature of the IMR service

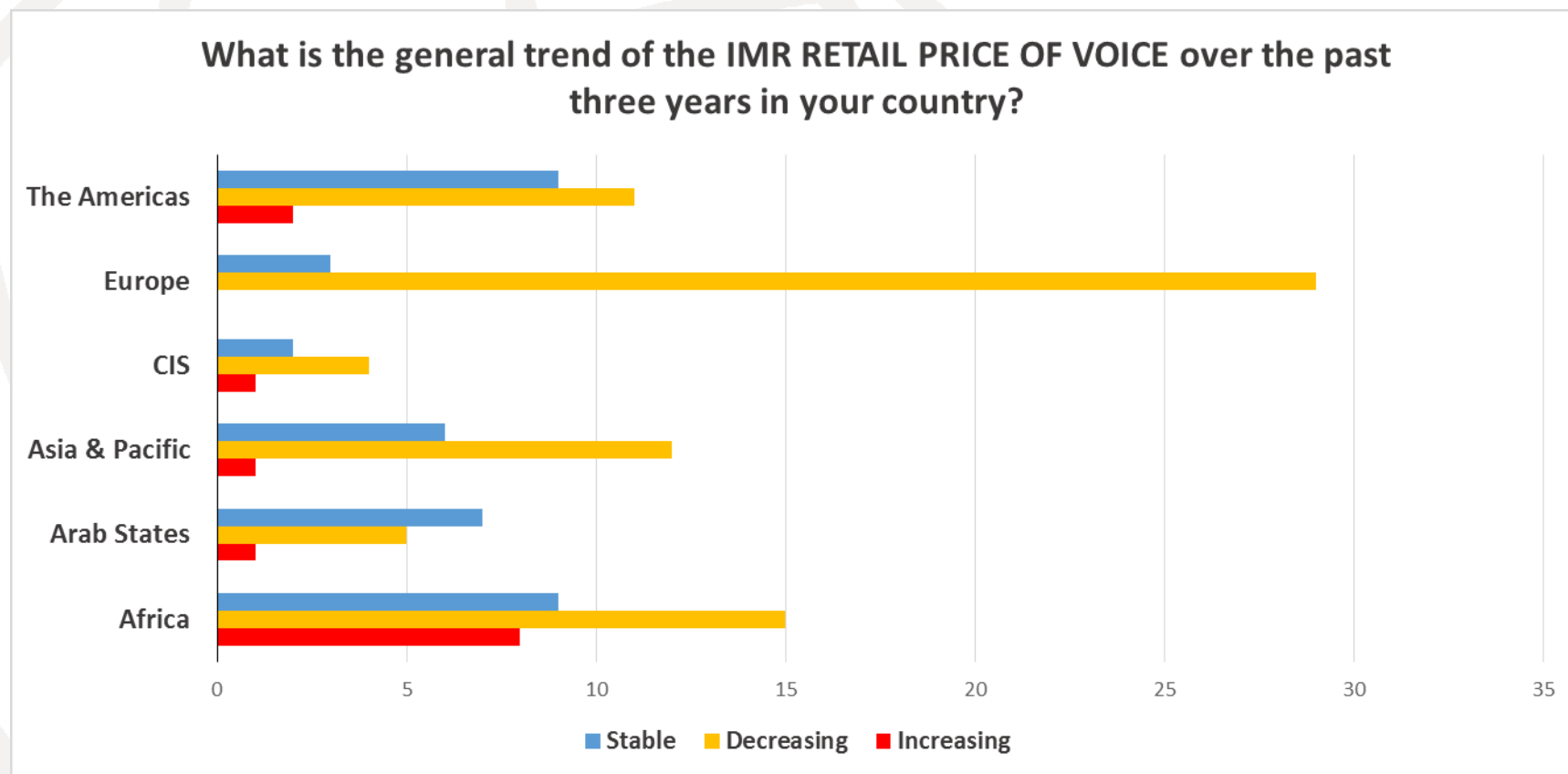
# Regulatory aspects of International Roaming

## Are countries regulating IMR prices?

Percentage of countries that regulate IMR prices by Region, 2014



# General trends of IMR Prices over the past three years



Source: ITU Tariff Policies database, ICTEye ([www.itu.int/net4/itu-d/icteye/](http://www.itu.int/net4/itu-d/icteye/))

# IMR price still remains a very important issue

- Despite price reduction for IMR
- The emergence of a range of alternative technologies and calling solutions
- Prices still diverge significantly from costs

# ITU/BDT Director, Mr. Brahima Sanou

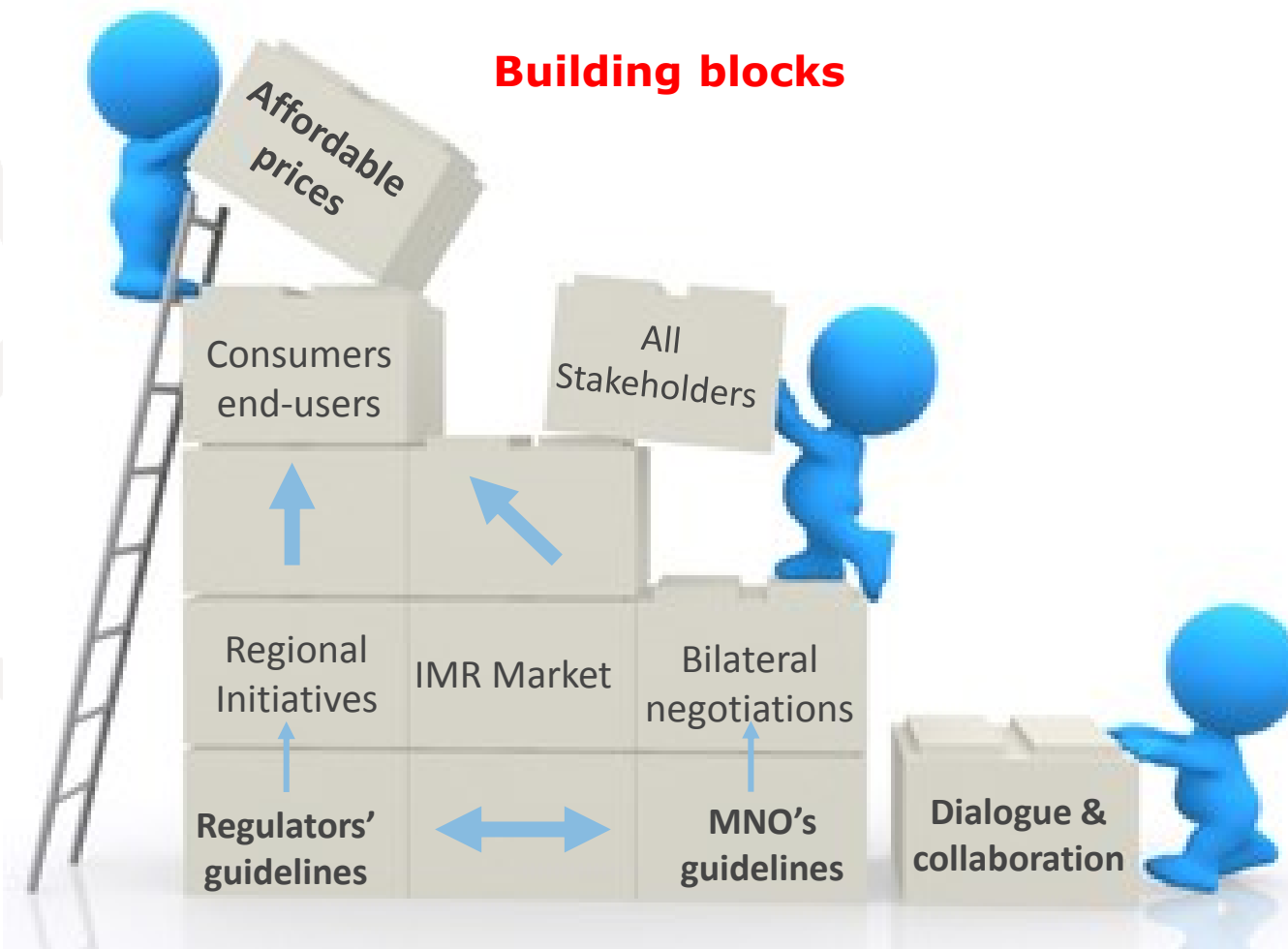
## LET'S ROAM THE WORLD

- ITU is a neutral platform actively working on IMR (research, data collection, studies, development of tools...)
- ITU can enhance dialogue with all stakeholders (e.g. IMR Round-Tables)
- Together all stakeholders to develop “IMR Strategic best practices guidelines” building blocks
- Ensure its high level adoption (through the organization round tables and high Level IMR Meetings)
- ITU can work together with Regional Regulatory Associations (RA) to facilitate the dissemination of the results through various channels, such as:
  - ITU Events;
  - Regulatory Regional Association events, and
  - Capacity building



# LET'S ROAM THE WORLD

## The ITU Initiative -Roadmap





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

INTERNATIONAL



YOU ARE HERE [HOME](#) > [ITU-D](#) > [REGULATORY & MARKET ENVIRONMENT](#) > LET'S ROAM THE WORLD - ITU INTERNATIONAL MOBILE ROAMING (IMR) RESOURCES PORTAL

SHARE [f](#) [t](#) [in](#) [e](#)



ITU successfully organized the **LET'S ROAM THE WORLD: The ITU Global Dialogue on International Mobile Roaming (IMR)** that took place at the ITU Headquarters in Geneva, Switzerland, on 18 September 2015 in conjunction with the annual meeting of the ITU-D Study Groups (Study Group 2 on 7-11 September and Study Group 1 on 14-18 September) and back-to-back with the Mobile Roaming rapporteur group Meeting of ITU-T Study Group 3 (16-17 September), as part of the **Global Initiative launched in 2013 by Mr Brahima Sanou, Director of the ITU Telecommunication Development Bureau in coordination with the ITU Telecommunication Standardization Bureau (TSB).**

During the last several years significant policy and regulatory actions have taken place to tackle the problem of high International Mobile Roaming (IMR) service prices at national, regional and international level. The aim has been to reduce what is viewed as excessively high mobile roaming retail prices but also to find longer term solutions to introduce competition in this market which is still viewed as not being contestable. Despite price reduction for IMR and the emergence of a range of alternative technologies and calling solution which, though not always offering close substitutes to roaming, may help in averting some of the challenges, there is no agreement that prices diverge significantly from costs and that actions to reduce prices have been taken place to date across different regions is encouraging and to improve the delivery of IMR services to the end user. (IMR) Resources was developed as a one-stop portal to provide information on activities done by other regional and international level.

Other interesting IMR links More ITU-D resources News

- EU First results of the roaming public consultation (March 2016)
- EU New rules on roaming charges and open Internet (October 2015)
- Final Report on the GCC International Mobile Roaming consultation (June 2015)
- Bilateral agreement between Belgian and Luxembourg telecoms regulators (April 2015)
- GSMA - GSM Roaming and Coverage Maps
- African Union (AU) International Mobile Roaming Guidelines (September 2013)
- APT Working Group Report on IMR (May 2012)
- Trans-Tasman mobile roaming - joint Australia-New Zealand IMR investigation
- Symposium on International Mobile Roaming organized by OMC and Australia Delegation, Geneva, Switzerland March 2012

ITU's website on IMR for UK consumers  
International Mobile Roaming Explained, source

### RECENT ITU ACTIVITIES ON ROAMING

- [ITU-BDT Arab Regional Workshop on Mobile Roaming: National & International Practices](#), Khartoum, Sudan, 27-29 October 2015
- [LET'S ROAM THE WORLD: The ITU Global Dialogue on International Mobile Roaming \(IMR\)](#), Geneva, Switzerland, 18 September 2015
- [ITU International Mobile Roaming \(IMR\) Cost Analysis Tool](#)
- [ITU Guide for NRAs on International Mobile Roaming Cost analysis, Technical Paper](#) September 2015

- ITU Guide for NRAs on International Mobile Roaming Cost analysis
- ITU International Mobile Roaming Cost Analysis Tool

### FOR BEST PRACTICES

ITU's website on International Mobile Roaming (IMR) In September 2015, ITU organized a session of stakeholders to discuss developments in the area of international mobile roaming, in particular the regulatory measures being employed to reduce the prices that users pay for roaming services. Set against the backdrop of an ICT industry playing host to the emergence of machine-to-machine communications and the Internet of Things, the dialogue provided a neutral platform to

- International Roaming: Analysis of the impacts of "Roam Like at Home" (RLAH) - December 2014
- International Roaming BEREC Benchmark Data Report April 2013 - September 2013

ITU developed the **International Mobile Roaming (IMR) Resources Portal** as a one-stop portal to show all the work done by ITU in this area as well as to inform about activities done by regional and international organizations and initiatives at the national, bilateral, regional and international level.

## More Information

- Telecommunication Development Sector
  - [www.itu.int/ITU-D/](http://www.itu.int/ITU-D/)
- Standardization Sector
  - [www.itu.int/ITU-T/](http://www.itu.int/ITU-T/)
- Regulatory and Market environment information
  - [www.itu.int/treg](http://www.itu.int/treg)
- International Mobile Roaming Resources
  - [www.itu.int/en/ITU-D/Regulatory-Market/Pages/Roaming\\_info.aspx](http://www.itu.int/en/ITU-D/Regulatory-Market/Pages/Roaming_info.aspx)
- International Mobile Roaming Cost Analysis Tool
  - [www.itu.int/net4/roamingtool/](http://www.itu.int/net4/roamingtool/)

# International Telecommunication Union

Committed to connecting the world