



Collaborative regulation: A foundational element for achieving the SDGs



Sofie Maddens,
Head, Regulatory and Market Environment
Division, ITU, BDT

Digital Divide to Digital Inclusion

Current Status

- 50% of the world's population was connected to the Internet by 2019 – but many are still unconnected and unable to benefit from key social and economic resources in our expanding digital world

2025 Targets

- By 2025, all countries should have a funded National Broadband Plan or Strategy, or include broadband in their Universal Access and Services definition

Action Items

- Governments must work more diligently to rethink Universal Access Strategies to connect and empower people, disperse the funds collected, ensuring that the UAS meet their mandate of enabling marginalized and underserved citizens to get online for digital inclusion.

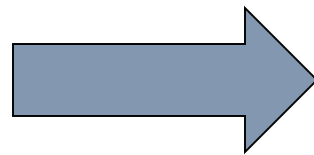
Background

- ▶ The World Telecommunication Development Conference (Buenos Aires, 2017) declared:
 - ▶ *that **universally accessible, secure and affordable telecommunications/ICTs** are a fundamental contribution towards achievement of the WSIS action lines and the 2030 Agenda for Sustainable Development and towards the development of the global information society and the digital economy;*
 - ▶ *that policy-makers and regulators should continue to **promote widespread, affordable access to telecommunications/ICTs**, including Internet access, through fair, transparent, stable, predictable, non-discriminatory enabling policies and legal and regulatory environment*



Background

- International best practice shows that a clear vision and strategy is key and must include a solid institutional framework with detailed regulatory basis. This is a key requirement to accelerate infrastructure roll-out and stimulate the development of new digital goods and services



Leveraging ICT4SDG: Key Questions

Digital Infrastructure Regulation: There are new technologies, players and business models: where is the balance, what more can be done, how to connect the other half?

- What is the economic impact of BB, digitization and ICT regulation?
- New regulatory issues?
- What financing/partnership models?

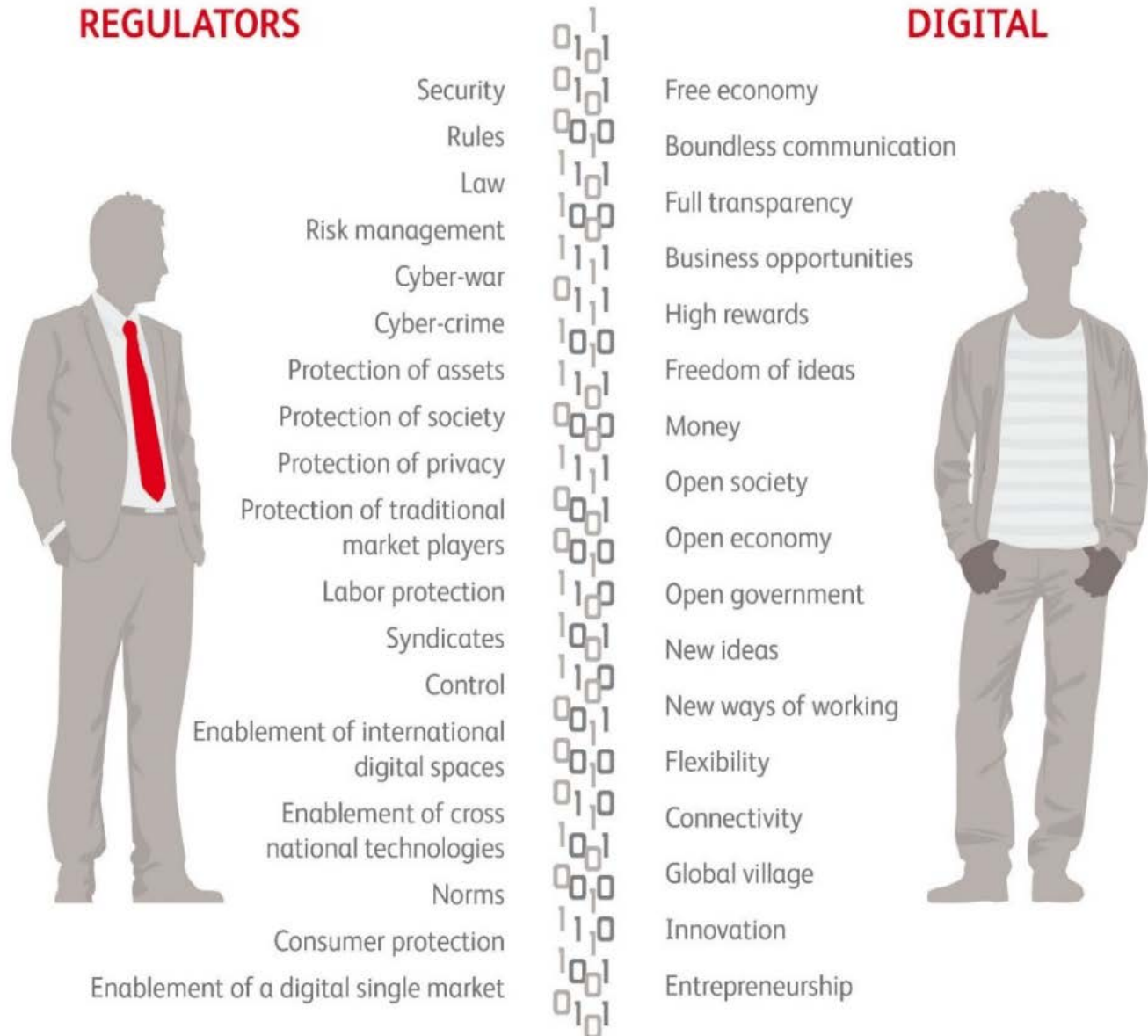
Digital Transformation: New kind of policy and regulatory frameworks and approaches are needed to leverage ICT4SDG

- Ladders of regulation
- Stakeholders: Who to include?
- Collaborative regulation



Striking the balance!

Digital Infrastructure Regulation: There are new technologies, players and business models: where is the balance, what more can be done, how to connect the other half?



Impact of BB, digitization and regulation

A 2018 ITU study shows that

- An increase of 1 per cent in fixed broadband penetration yields an increase in 0.08 per cent in GDP.***
- An increase of 1 per cent in mobile broadband penetration yields an increase in 0.15 per cent in GDP.***

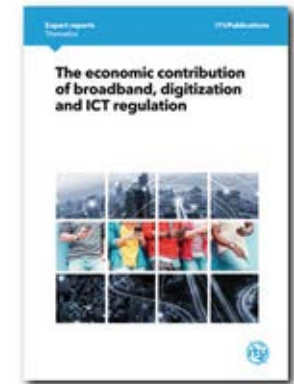
HOWEVER

- the economic impact of digitization is higher than the one found for fixed broadband and fairly on par with mobile broadband.***

Full economic impact of ICT is achieved through the CUMULATIVE adoption of all technologies, in addition to the assimilation and usage in the production and social fabric.

Achieving broadband penetration is only one aspect of required policies; maximization of economic impact can only be achieved through a holistic set of policies ranging from Internet access and adoption to computing to electronic commerce.

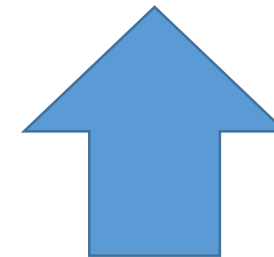




Impact of fixed broadband

- 2010-2017: significant economic impact
- Investment and labor force critically affect economic growth
- Prices for services are the key enablers for adoption
- Income levels affect the revenues and investments of operators
- Critical mass effect: the impact of fixed broadband appears at higher levels of economic development
- Return to scale effect: fixed broadband economic impact tends to increase with economic development
- Fixed to mobile substitution going on

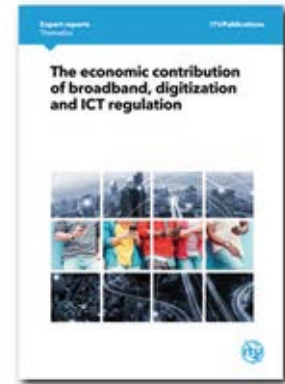
0.8% increase in GDP



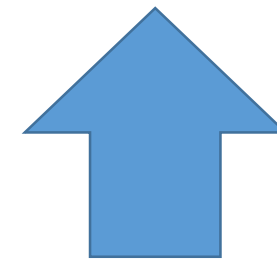
10% increase in fixed
broadband penetration

Impact of mobile broadband

- Higher average impact on economic growth than fixed broadband across all income groups
- Higher importance of investment than for fixed broadband
- Affordability is less of a barrier for mobile than for fixed broadband
- Mobile broadband contribution is higher in less developed countries than in more developed
- The lower the income level, the higher the economic impact of mobile broadband

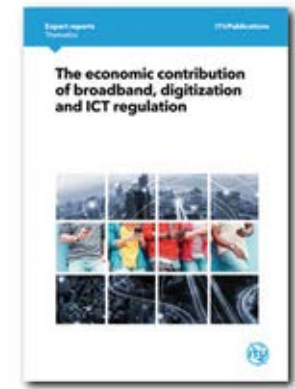


1.5% increase in GDP



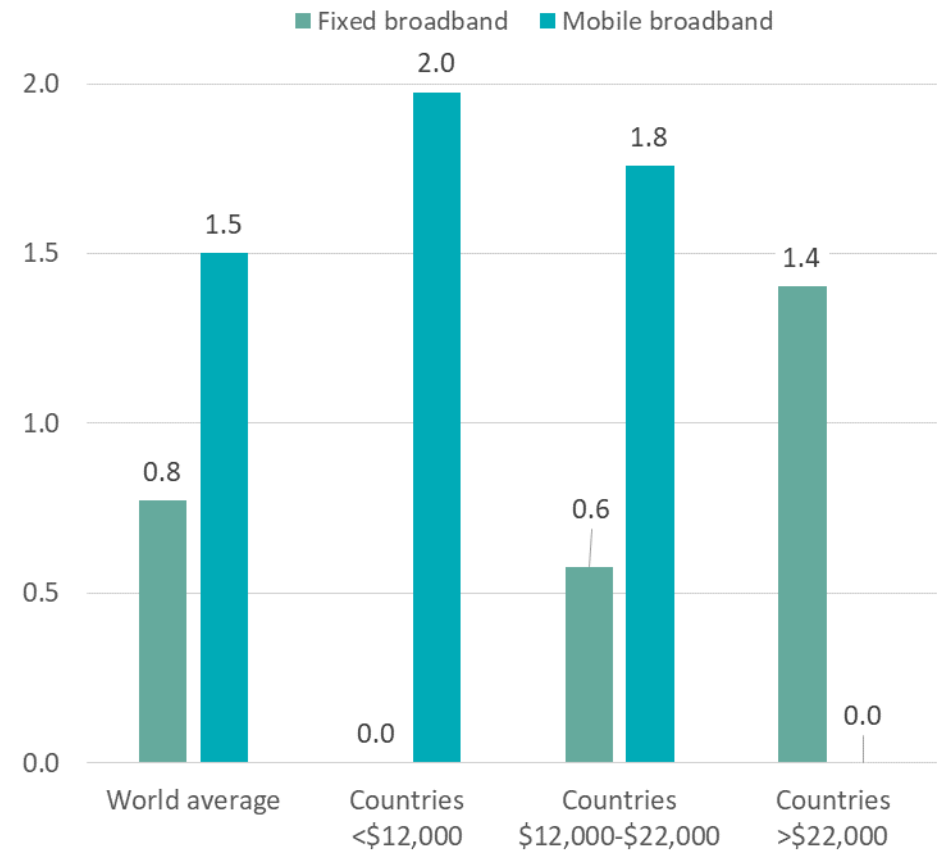
10% increase in mobile broadband penetration

Impact of broadband



In summary, the broadband economic impact models confirm that:

- At the aggregate level, mobile broadband appears to have a higher economic impact than fixed broadband;
- The economic impact of fixed broadband is higher in more developed countries than in less developed;
- On the opposite, the economic impact of mobile broadband is higher in less developed countries than in more developed.



Impact of regulation

- Regulatory and institutional frameworks are essential in driving digital ecosystem growth and the effect builds up over time
- The connectivity of digital services is significantly correlated with the level of advancement of ICT policies and regulations, and the competition and market power regulatory set-up in particular
- Investment in the digital ecosystem is directly and positively influenced by the maturity of ICT regulatory frameworks and by ICT competition frameworks in particular
- ICT regulatory frameworks important for the development of infrastructure for digital services



- Digital players not influenced by the level of openness and competition of the traditional ICT sector, having a competitive advantage
- Level playing field in the digital marketplace hard to achieve
- New policies and regulations need to be built in and onto existing ones in order to increase their relevance and impact on the development of the digital ecosystem.

Digital Transformation: New kind of policy and regulatory frameworks and approaches are needed to leverage ICT4SDG

- ***Evolution of Policy and Regulatory Frameworks and approaches***
- ***Stakeholders: Who to include?***
- ***Generations of regulation***
- ***Collaborative regulation***



Digital Transformation: New kind of policy and regulatory frameworks and approaches are needed to leverage ICT4SDG

Before the 1990's, telecommunications services were largely provided under monopoly conditions and thus, limited regulation existed as government was acting as both operator and regulator.

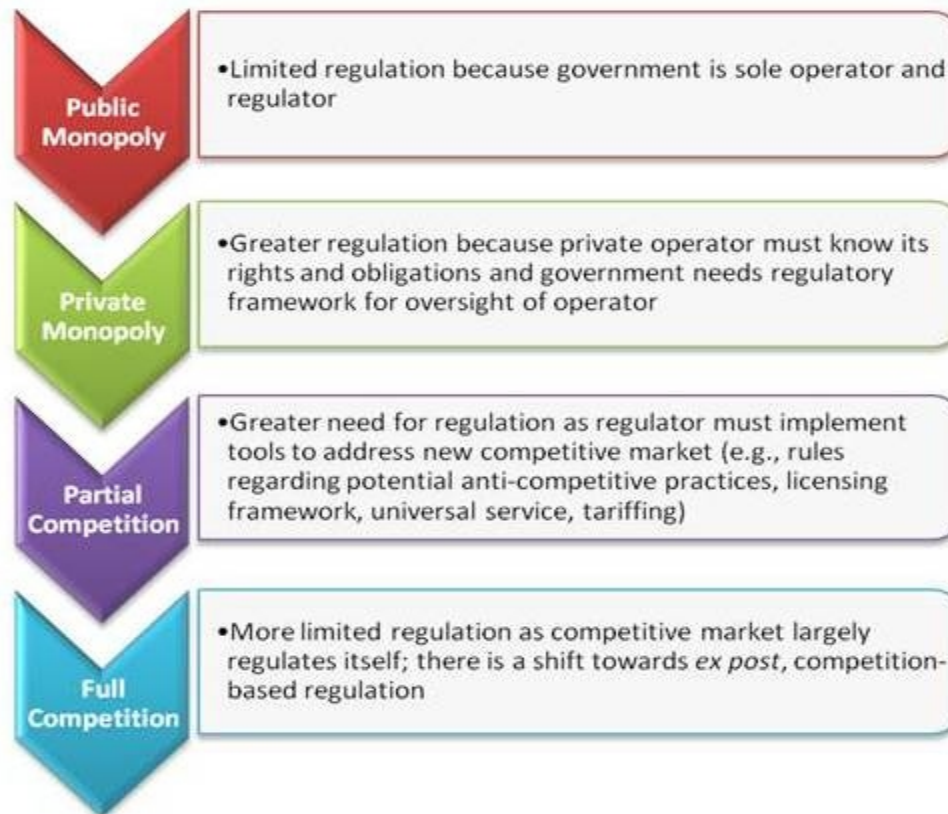
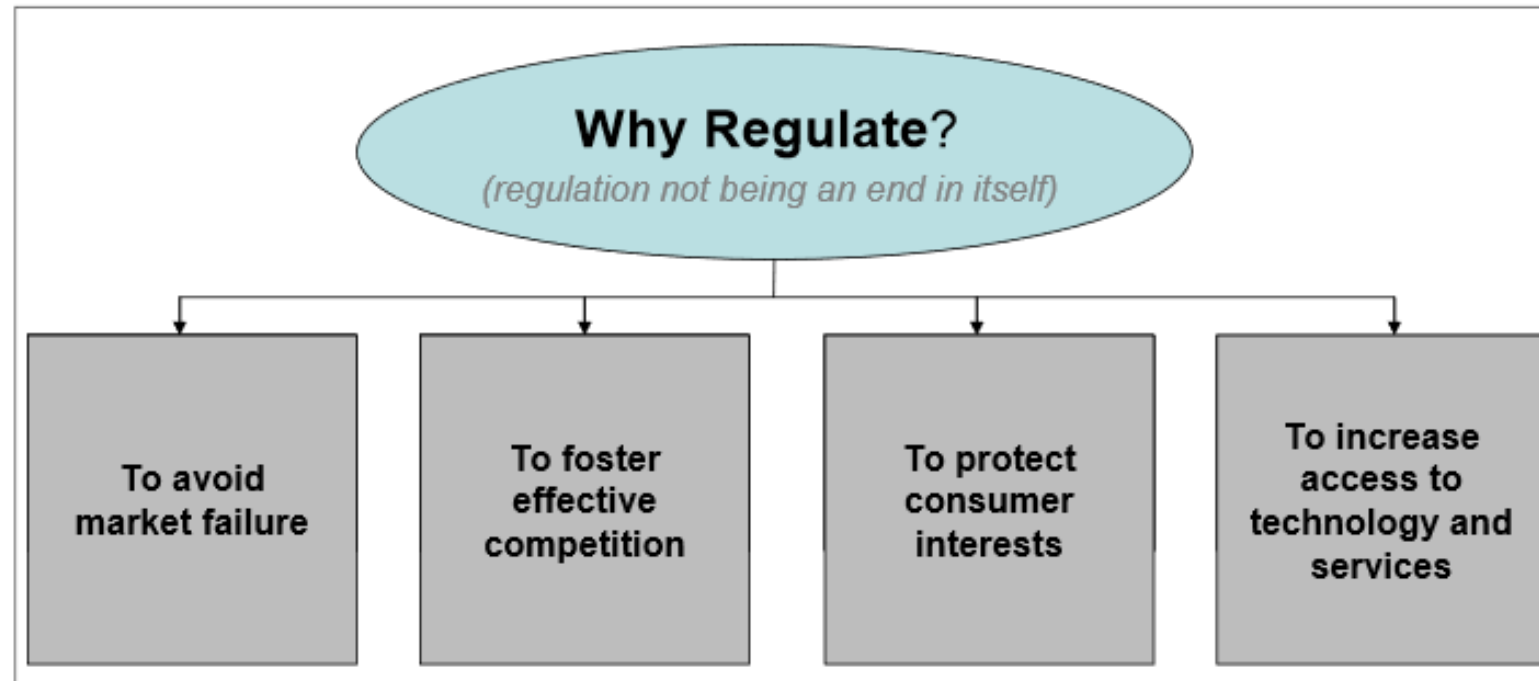


Image Source ICT regulation toolkit 6.2

Institutional Framework – Why Regulate?



Source: ICT Regulation Toolkit



Institutional Framework – Regulator Functions

Rulemaking function: Allows regulators to issue proposed regulations setting forth the intended procedures before issuing new rules

Need for internal procedures detailing the rule-making process

Oversight Function: The ability of the regulator to monitor the performance of telecommunications companies and ensure compliance with subordinate rules and regulations

Need for detailed regulations such as:

- *Dispute resolution*
- *Enforcement procedures*
- *Sanctions*

Regulatory Function: Dealing with issues such as licensing, competition policy and safeguards, tariff regulation, interconnection, quality of service, consumer protection, universal service – differs according to mandate of regulator

Need for clear mandate and competent human resources with industry experience and economic, legal and technical skills



Evolution of policy and regulatory frameworks and approaches

Function	Responsible Organization
Policy development	Government, ministry or executive branch
Regulation	Separate regulatory authority
Network operation/service provision	Privately and/or commercially operated telecommunications operators

ICTs need an appropriate framework in which to develop

- Such a framework must promote rather than hinder the development of key technologies
- This includes the legal and regulatory framework and a coherent, holistic and effective institutional framework



New kind of policy and regulatory frameworks: Stakeholders and their roles

Role of Government

- Build National Leadership for Digital Infrastructure
- Foster Digital Infrastructure - Supply
- Create Critical Demand : e-government applications
- Reduce taxes and import duties on telecom/ICT equipment & services
- Digital Inclusion and Skills
- Digital Entrepreneurship

Role of Regulator

- Predictable regulatory framework & mandatory transparent consultation process
- Review and adapt legal frameworks to take into account digital economy: licensing, universal service, Rights of Way (RoW), Infrastructure sharing
- Make available Spectrum for Wireless Broadband Services at affordable prices

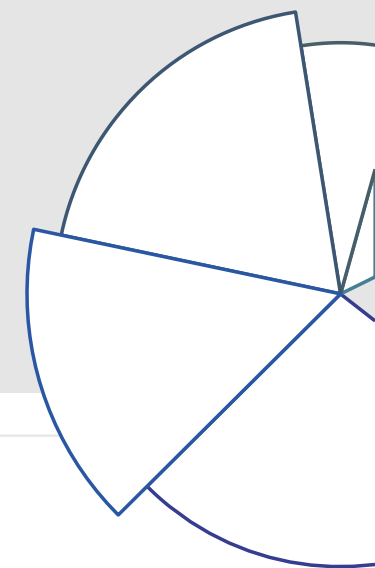
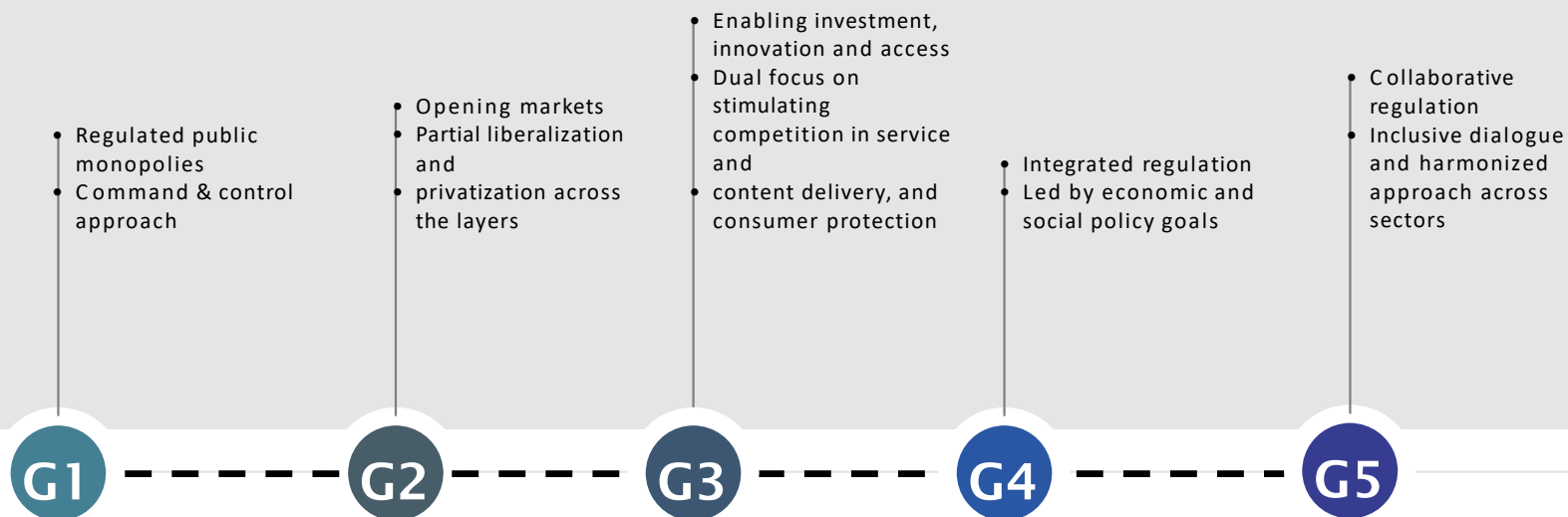
Role of Industry

- Investment in infrastructure
- Innovation and deployment of new technologies
- Develop different business models and introduction of e-government services
- Infrastructure Sharing
- Join PPP initiatives for a win-win outcome



GENERATIONS OF ICT REGULATION

The ICT Regulatory Tracker tracks the **transition of countries** through generations one to four



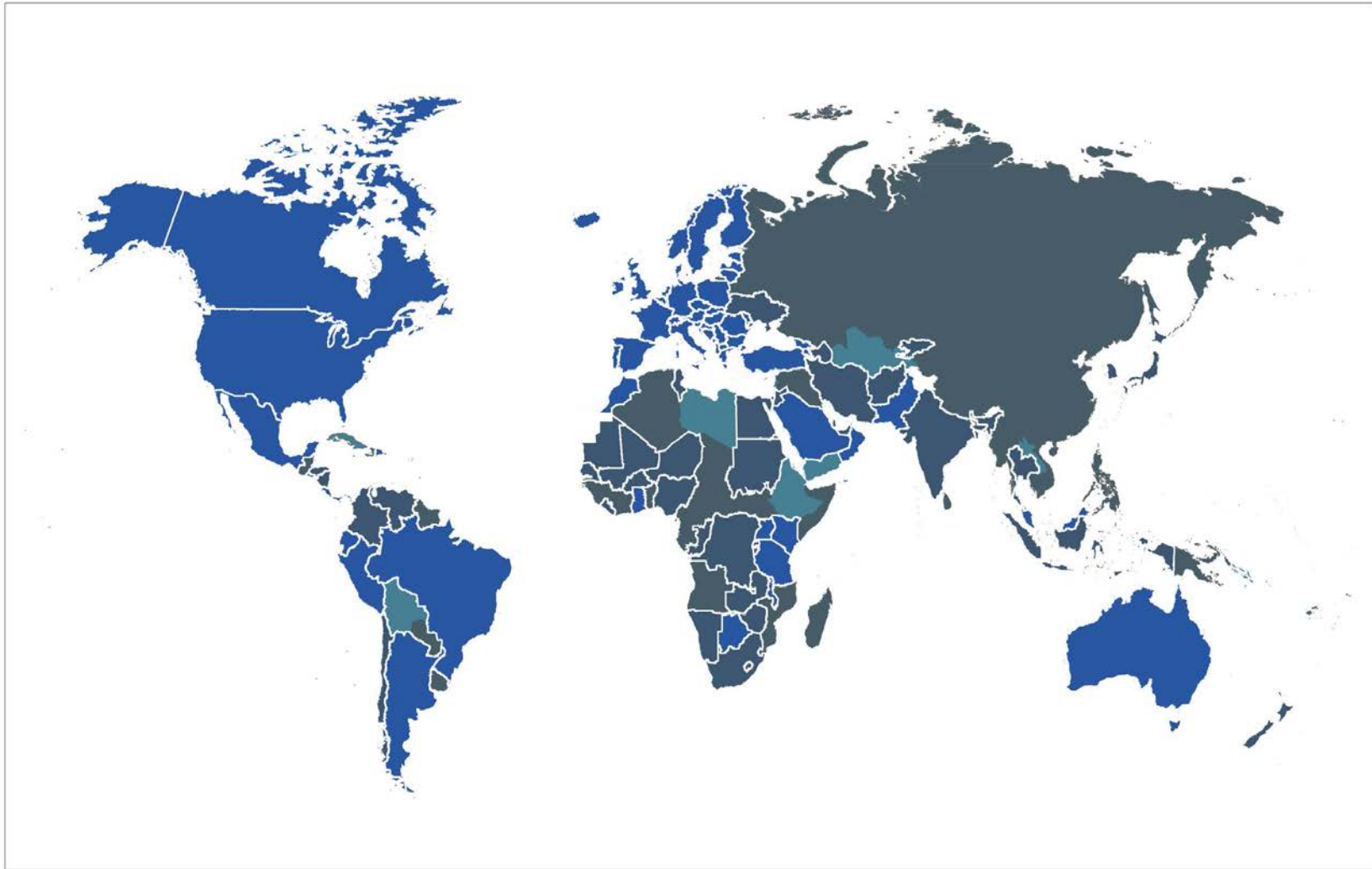
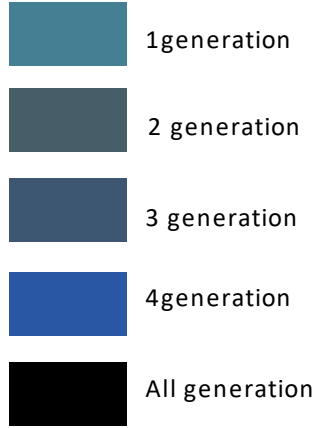
1. Regulatory authority

2. Regulatory mandate

3. Regulatory regime

4. Competition framework

	1. Regulatory authority	2. Regulatory mandate	3. Regulatory regime	4. Competition framework
G1	Consolidated with policymaker and/or industry	Business as usual	Doing as we have always done	State-owned monopoly
G2	Separate agency	First wave of regulatory reform	Doing more	Liberalization
G3	Separate agency, autonomous in decisionmaking	Advanced liberalization of ICT sector	Doing the right things	Partial competition
G4	Separate agency with enforcement power	Adjacent issues become core mandate	Doing the things right	Full competition
G5	Separate agency as part of a network of partner regulators	Separate agency as part of a network of partner regulators	Doing things together	Intra-modal competition



The ICT Regulatory Tracker tracks the transition of countries through generations one to four.

ICT regulatory tracker World in 2018

Nb of countries in G4 in 2018:

65 out of **193** (or 34%)

First country to reach G4:

Belgium, 2007

Gap between the highest and lowest scoring country:

Lowest: **Djibouti, Libya, 4.5**

Lowest: **Italy, 97.3**

Regional averages per pillar/area

Regulatory authority: **15/20**

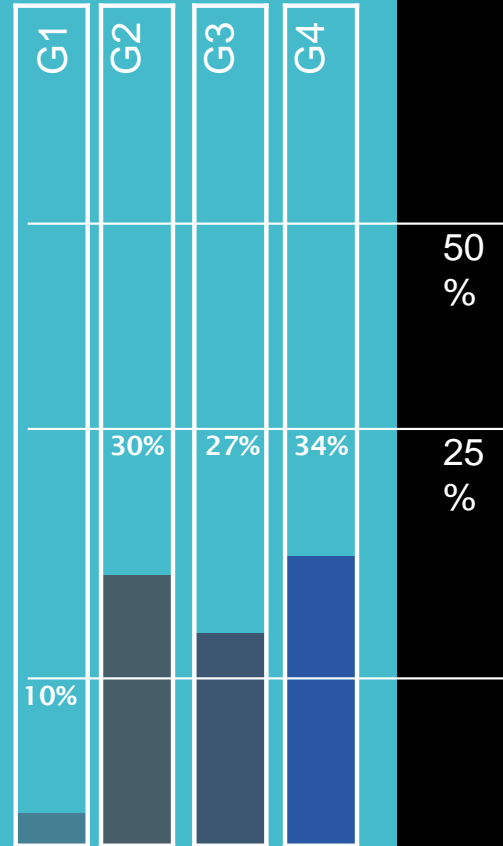
Regulatory mandates: **17/22**

Regulatory regime: **19/30**

Competition framework: **20/28**

Average score, world

71



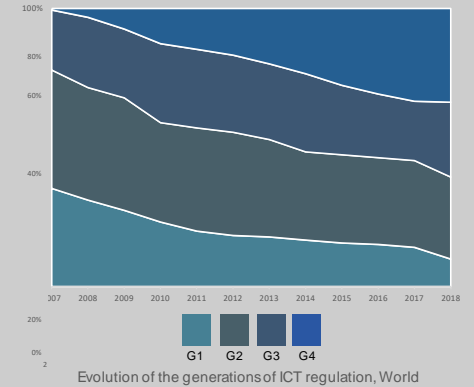
The rise of G4 regulation has proved unstoppable. By the end of 2018, a third of countries had climbed aboard the bandwagon – no longer an exclusive club – of fourth generation regulators. In just over ten years, G4 has become the gold-standard for every ICT regulator.

Italy tops the table with an overall score of 97.3 for a second consecutive year. Europe largely leads the way, with only two non-European countries in the top ten, and three non-European countries in the top 25.

Australia and the Dominican Republic are the highest ranked non-European countries, sharing the eighth world rank.

Although the race at the top is tight, the gap between the top ranking and the lowest ranking countries is over 90 per cent.

Country	Score	GEN	Rank
1 Italy	97.3	4G	1
2 Hungary	97.0	4G	2
2 Ireland	97.0	4G	2
4 Norway	95.5		
	4G	4	
5 Lithuania	95.0	4G	5
5 Malta	95.0	4G	5
6 United Kingdom	95	4G	5



Insights from the first G5 benchmark

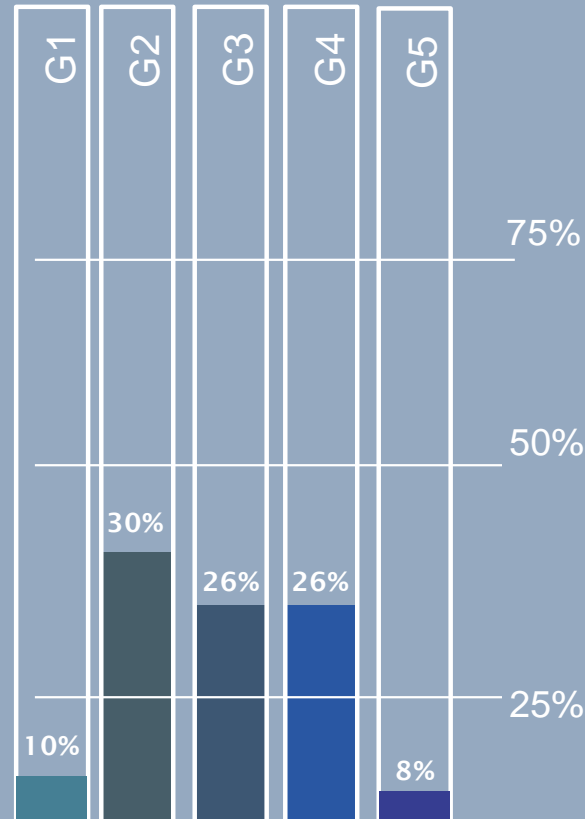
Norway and Singapore lead the way to collaborative regulation with a score of 39 out of 50.

Europe comes on top with 10 countries out of the 16 global G5 champions.

Against the backdrop of a majority of G4 countries, two G3 countries make it into G5 –Albania and Japan.

Few of the top countries in terms of the maturity of their ICT regulatory frameworks have shifted to collaborative regulation. On the other hand, countries such as Estonia and Kenya have prioritized regulatory reforms benefiting the broader digital economy, as opposed to the ICT sector alone.

The benchmark is set to evolve and we invite ITU Members to provide their comments, views, suggestions or questions on the methodology, structure or any other aspect at treg@itu.int.



G5 Benchmark 2019			
	Country	Score	Rank
1	Norway	39	1
2	Singapore	39	1
3	Japan	37	2
4	Estonia	37	2
5	United Kingdom	37	2
6	Canada	37	2
7	Kenya	37	2
8	Croatia	36	3
9	Romania	36	3
10	Spain	36	3
11	Germany	36	3
12	Albania	35	4
13	Brazil	35	4
14	Netherlands	35	4
15	Sweden	35	4
16	Morocco	35	4

9 in 10 countries' regulation still deals with ICTs as a separate economic sector while 1 in 10 countries has a holistic, forward-looking regulatory framework enabling the digital transformation across the economy

A third of all countries have achieved G4, integrated ICT regulation led by social and economic goals.

As many as 40 percent of countries

36 are still in G1 or G2, missing on development opportunities.



Regulators involved in the digital ecosystem

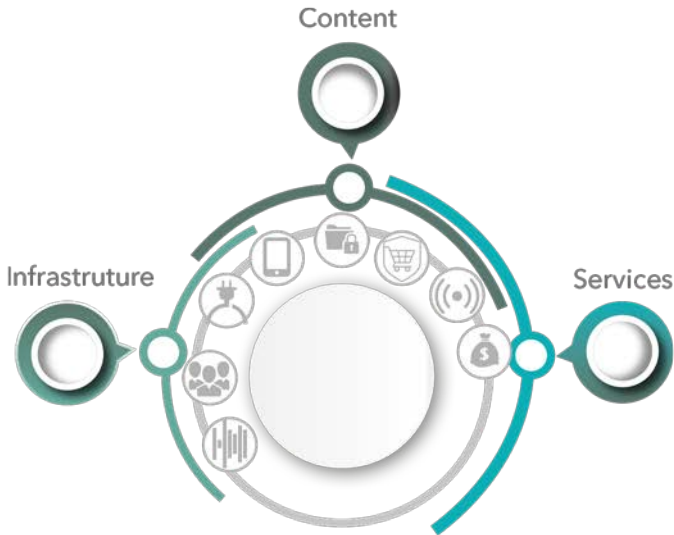
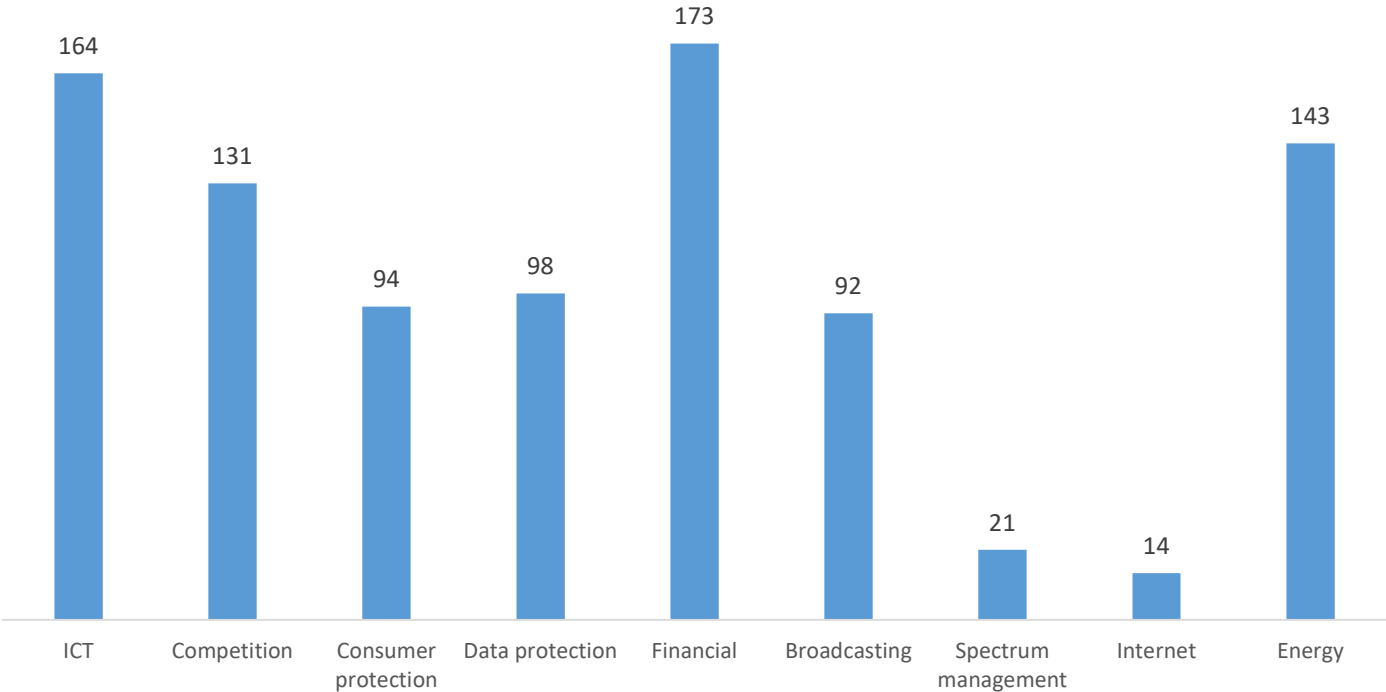


Figure1. Regulatory ecosystem for digital/3.0

- ICT regulator
- Data protection regulator
- Nat committee
- Consumer protection
- Broadcasting regulator
- Financial regulator
- Energy regulator
- Competition regulator
- Spectrum regulator

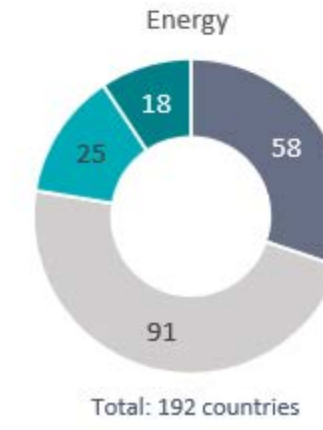
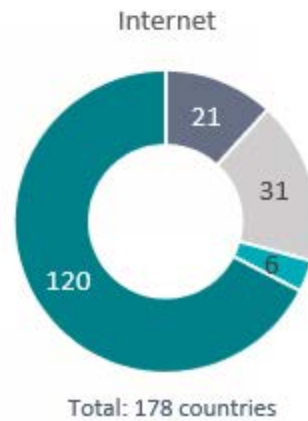
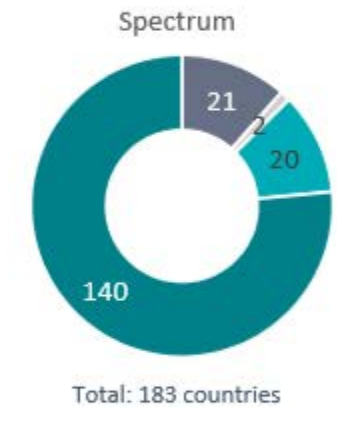
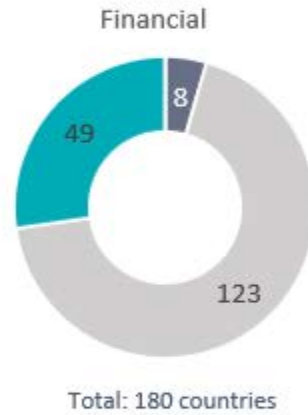
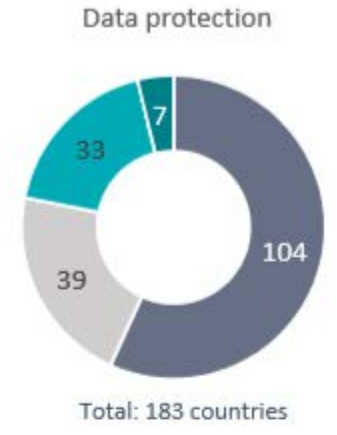
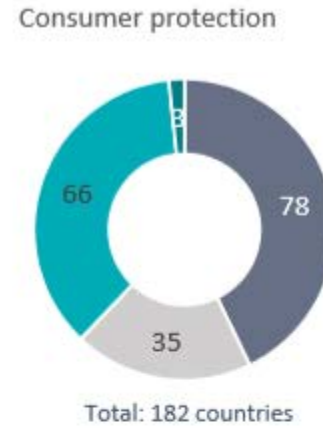
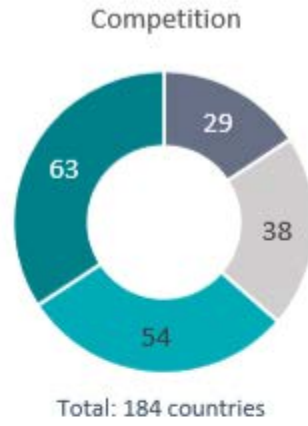
Regulators involved in the digital ecosystem, worldwide, 2018



Source: ITU



Collaboration between ICT Regulators and other Regulatory Authorities



- No institutional setup
- Do not collaborate
- Collaborate
- Same agency

Collaborative Regulation



Benefits

- Strengthened **institutional capacity**, legal mandate of the regulator, sound regulatory regimes and **enhanced competition**
- **Hands-on, inclusive regulation** and decision-making featuring tools and processes
- Teaming with other sector regulators to address multi-sector issues – **shared sector-specific expertise and responsibility for decision-making**
- Focus on **how** to collaborate and **with whom**
- Not a silver bullet

Challenges

- Slow pace or difficulties to carry out a **policy review/development**
- Develop new **strategic thinking** about regulatory priorities and challenges
- Comply with **government procedures & rules**, jurisdiction issues
- **Capacity** of the ICT regulator to handle new issues (expertise & staff development, motivation)
- Get the **evidence** to support decision-making
- The more important the matter, the more complex the collaboration
- Institutions working in **silos**, turf wars

Top 3 most important actions towards collaborative regulation



UCC Uganda

- Review of regulatory frameworks
- Market review
- Clear identification of roles & responsibilities and areas of collaboration

HACOM Croatia

- Get operators on the table to discuss investment and price reduction
- Serve as an interface in the negotiations between government and industry
- Develop a regulatory thinking about new business concepts models such as the sharing economy and the digital transformation

CA Kenya

- Gap analysis to identify areas lacking collaboration
- Map agencies and entities to collaborate with
- Have a strategic outlook or plan what needs to be achieved through collaboration

PTA Pakistan

- Work with Government to shape new progressive policy guidelines
- Work out concrete mechanisms for collaboration with entities whose mandates overlap
- Skill up regulatory professionals, especially at the executive level

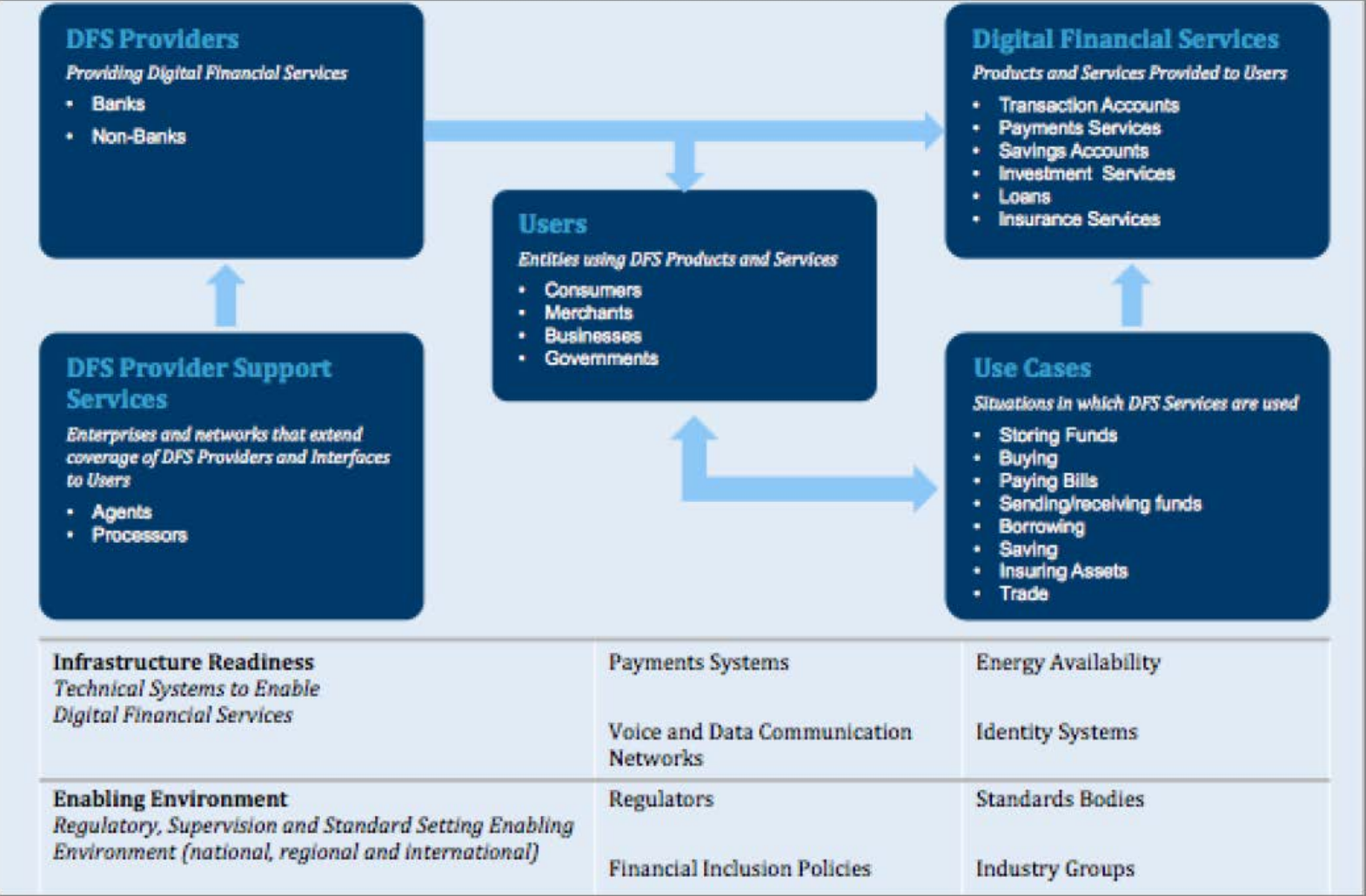
MICT Russian Federation

- Define mechanisms for effective collaboration
- Hold an inclusive dialogue across verticals
- Share guiding principles and best practices on how regulation can be leveraged for ICT development

ARCEP France

- Gather evidence on market performance and reg impact
- Promote innovation: Adopt an open approach to ensuring access to scarce resources
- Data-driven regulation as a new tool

Example of Collaboration: Digital Financial Services Ecosystem



ICT Infrastructure

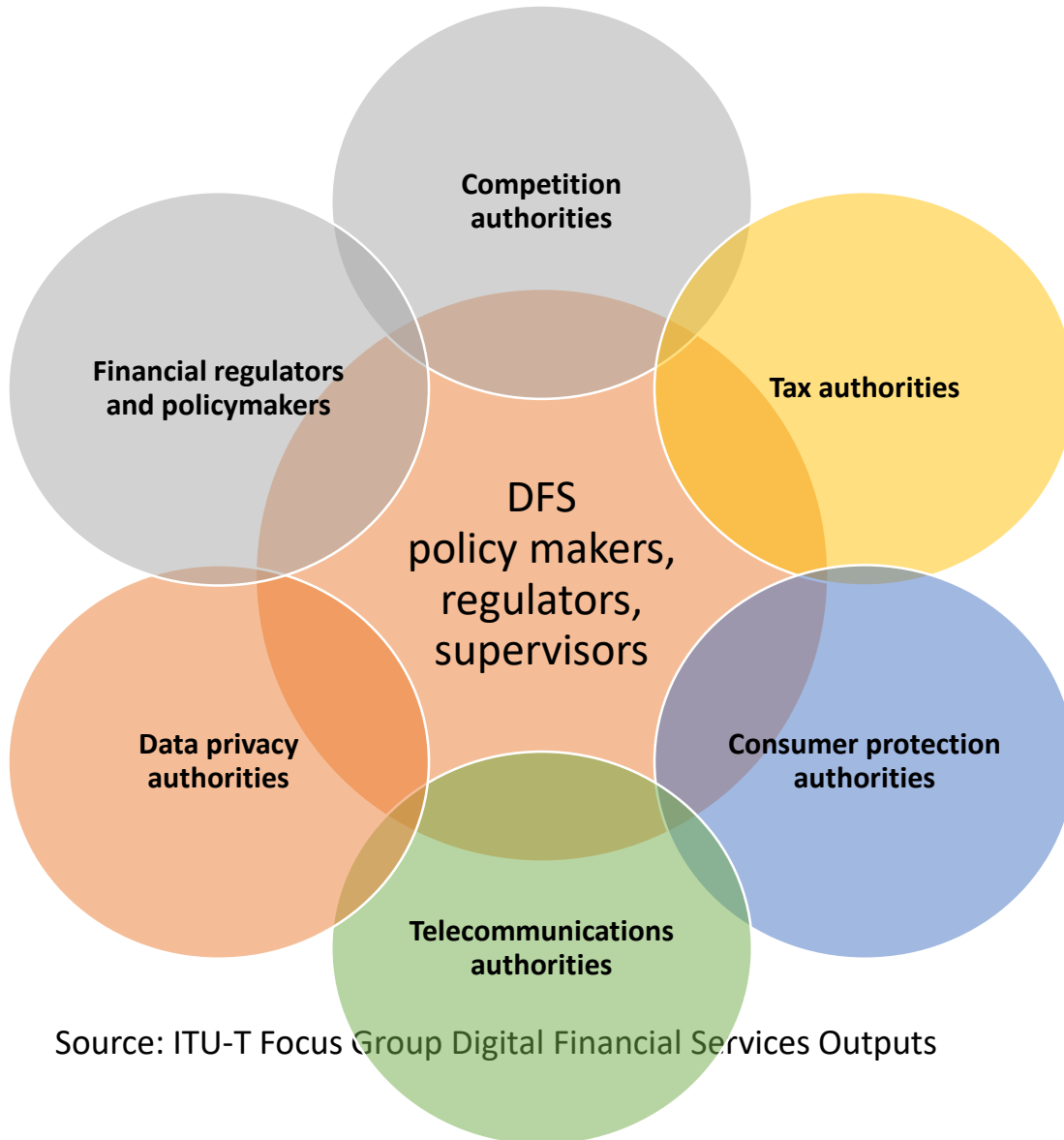
ICT applications and services

Devices

Source: ITU-T Focus Group Digital Financial Services Outputs



DFS Enabling Environment: regulatory authorities involved

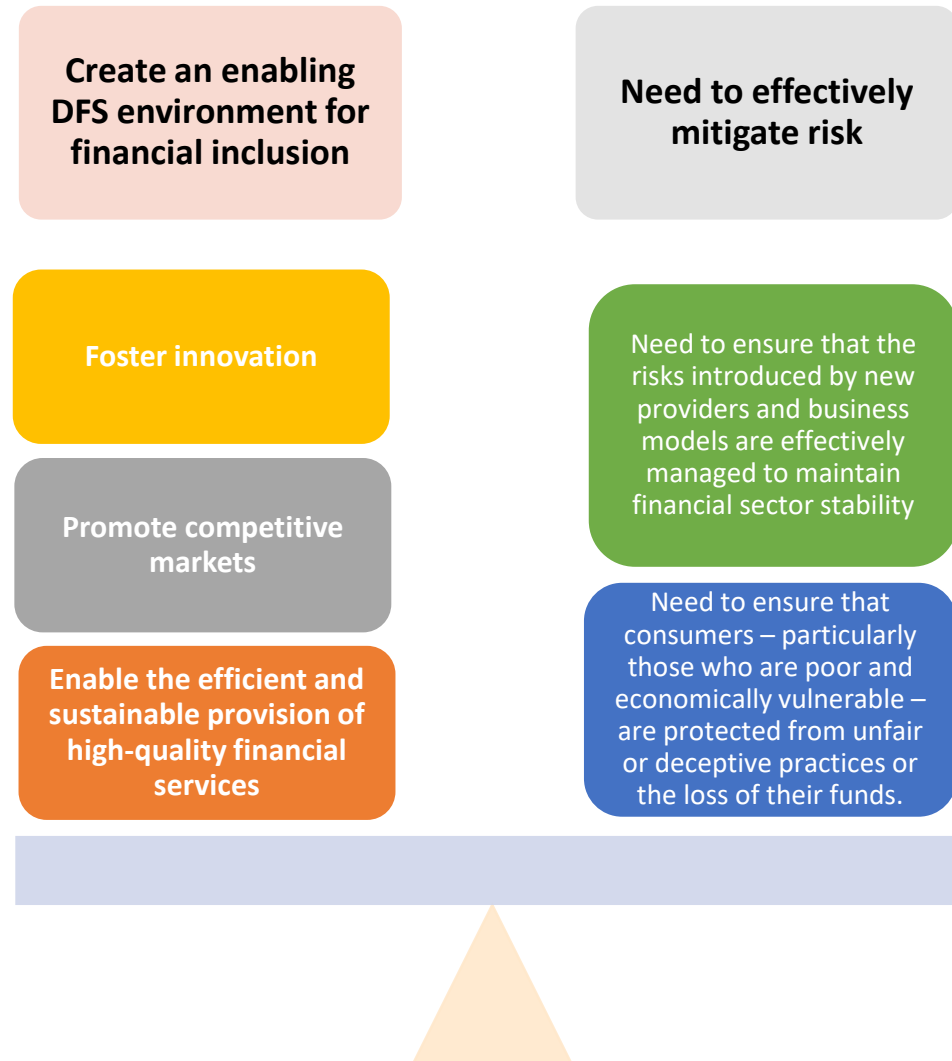


Source: ITU-T Focus Group Digital Financial Services Outputs

Brookings: “dimensions” of financial inclusion:

- country commitment,
- mobile capacity,
- regulatory environment, and
- the adoption of traditional and digital financial services.

DFS Enabling Environment: Striking Balance



- Take steps to promote competition and a level DFS playing field;
- Collaborate and coordinate with public- and private-sector stakeholders when developing policy and regulation; and
- ensure that DFS providers are effectively supervised.

DFS Enabling Environment: Collaboration and Coordination

Effective collaboration and coordination is critical to the development of a safe and enabling DFS ecosystem

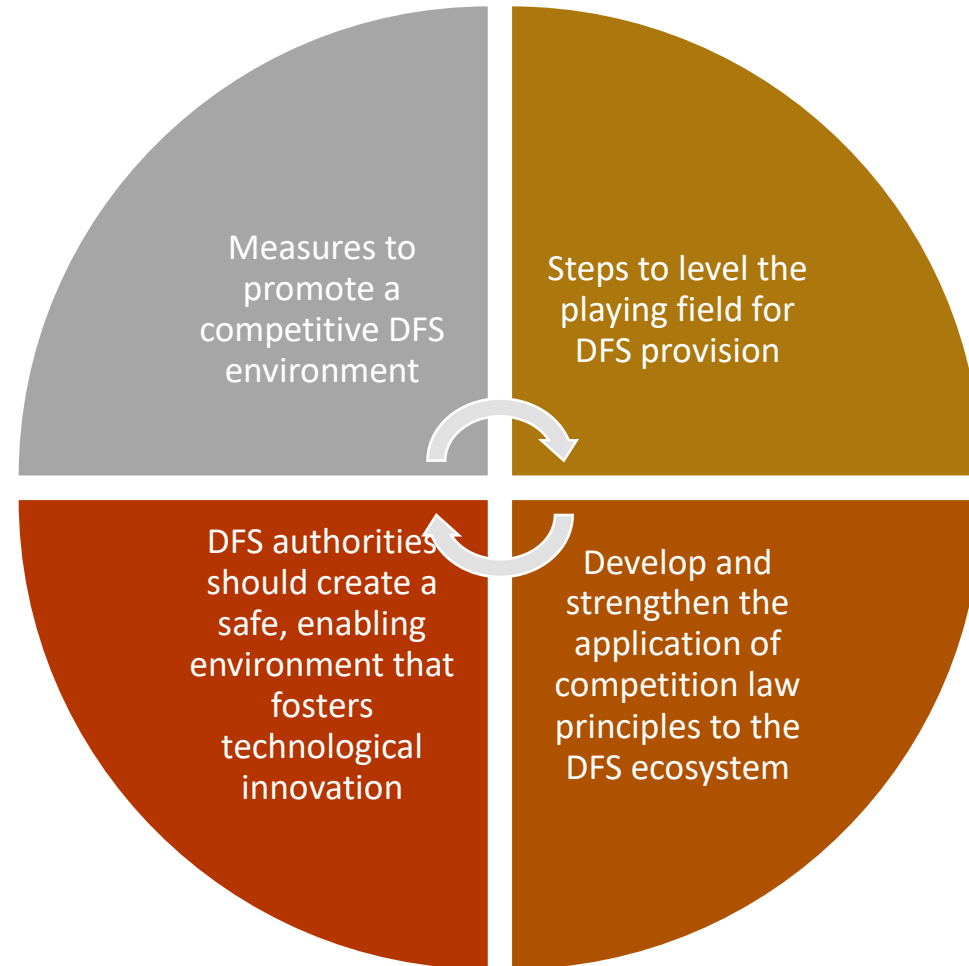
Financial authorities should regularly engage with other public-sector actors (e.g., authorities responsible for telecommunications, competition, data protection, and taxation), DFS providers, consumer advocates, DFS technical experts, development partners, and other DFS stakeholders

(issues e.g. interoperability, third generation mobile (3G) coverage, service quality, fraud mitigation, data privacy, or digital credit)

DFS authorities should establish formal mechanisms for coordination

Mechanisms such as a national payments council can facilitate a collaborative approach to DFS regulation. Financial and telecommunications authorities should also consider signing a memorandum of understanding (MoU) or similar agreement to guide their collaboration to foster the development of a safe and enabling DFS ecosystem

DFS Enabling Environment: Competition and Level Playing Field



ITU Policy and Regulatory Tools for Evidence Based Decision Making

ICTEYE

- ✓ *Knowledge Sharing Platforms and Strategic Dialogues*, in particular *The Global Symposium for Regulators (GSR)*, our annual flagship event for and with ICT Policy Makers and Regulators and Members to network, exchange, learn and collaborate
- ✓ *Cutting-edge data, research and publications for evidence-based decision making*, including:
 - **Global ICT Regulatory Outlook Report**, tracking market, regulatory and policy trends in the ICT sector and their implications across the sectors and the economy
 - **ICT Regulatory Tracker** – a unique tool covering 185+ countries for the period 2007-2016, showcasing regulatory progress within the same country, amongst regions and worldwide
 - **Various Thematic Reports and Portals** focusing on the evolution of and role of ICTs on digital transformation including on Collaborative Regulatory Frameworks, Digital Financial Inclusion, Affordable Access to Digital Services, the ITU International Mobile Roaming Portal, Digital Ecosystem Portal, Quality of Service Portal, etc.
 - **ICT Regulation Toolkit**, offering an online resource designed to address complex policy and regulatory challenges
 - **ICTeye**, a unique one-stop shop for telecommunications/ICT regulatory data collection and dissemination resulting from the annual Telecommunication/ICT Regulatory Survey and the Tariff Policies Survey



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. Brahim Sanou, Director,
ITU Telecommunication Development Bureau (BDT)

ICT Regulation Toolkit

A global resource for policy-makers, regulators, the telecom industry, and consumers.

Global ICT Regulatory Outlook 2018

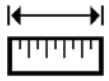


ICT regulatory tracker

6687



The ICT Regulatory Tracker is:



composed of
50 indicators,
organized in
4 pillars



for
193
countries



over
12 years,
2007-2018



first-hand data
from ICT
regulators/Ministries



robust structure
verified by
external audit



solid findings
to support
evidence-based
decision-making

Tracker pinpoints the changes taking place
in the ICT regulatory environment.

It facilitates benchmarking and the identification of trends
in ICT legal and regulatory frameworks.

The Tracker does not measure the quality, the level of implementation or the performance
of regulatory frameworks in place; it records their existence and features.

It helps track progress and identify gaps in regulatory frameworks, making the case
for further regulatory reform towards achieving a vibrant
and inclusive ICT sector and opening the way for digital transformation.

Structure of the ICT Regulatory tracker

01
REGULATORY
AUTHORITY
Separate ICT regulator

02
REGULATORY
AUTHORITY
Separate ICT regulator

03
REGULATORY
REGIME
What regulation exists
In major areas

04
COMPETITION
FRAMEWORK
Level of competition
in the Main market
segments



The Trackers' indicators correspond closely to the guiding principles outlined in the ITU Best Practice Guidelines of the Global Symposiums for Regulators (GSR) adopted annually by the global community of ICT regulators. The Best Practice Guidelines are considered as the core of modern ICT regulation and the expression of collective wisdom of the current bodies in charge of ICT regulation.



Benchmark for collaborative regulation, G5

Regulatory upheaval from new technologies will give rise to the fifth generation of regulation.

Countries need to leap forward to the next level of regulation, with a new attitude and a new toolbox.

At the core are principles of strengthening institutional capacity and collaboration, principle-based regulation and new tools and processes while building on the acquis of previous generations of regulation.

G5 does not mean more regulation, but rather more hands-on, inclusive and evidence-based regulation and decision-making.

Degree of collaboration between the ICT regulator and:

- Competition authority
- Consumer protection commission
- Data protection commission
- Spectrum agency
- Broadcasting regulator
- Financial regulator
- Energy regulator
- Internet agency

G5 toolbox: Cross-sectoral policies on

- Competition
- Data protection
- Cybersecurity
- e-Commerce/e-Transactions
- Digital financial services
- OTT/digital platforms
- Internet of things
- Accessibility
- Taxation of Internet services
- Infrastructure mapping

Policy design principles

- Forward-looking
- Holistic
- SDG-oriented
- Evidence-based
- Market-proof
- Incentive-based
- Innovation-based
- Inclusive
- Technology-neutral



