Promoting Connectivity – Exploring the Services Dimension
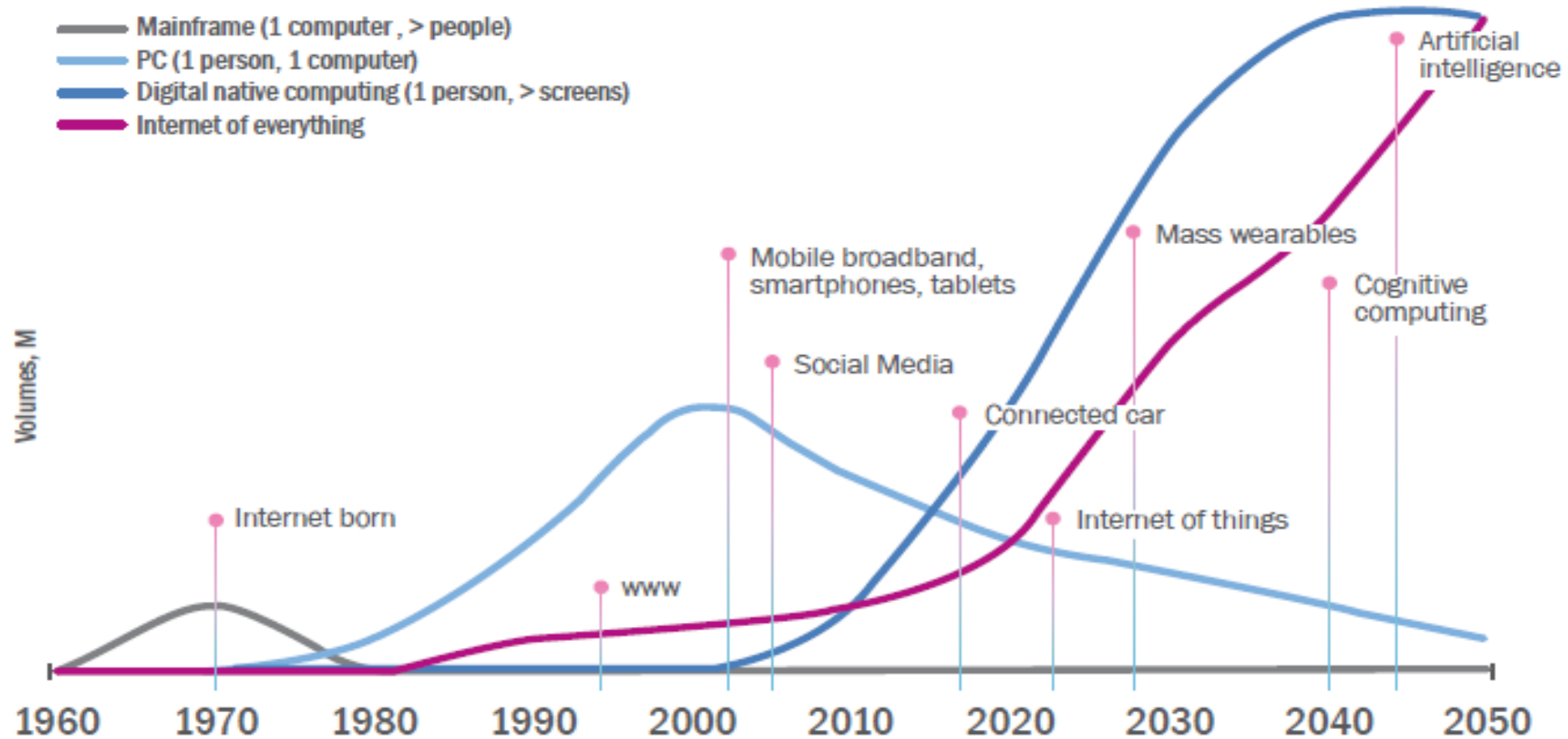Aid for Trade Workshop (WTO)
17 October 2016

# Global Perspectives on Bridging the Digital Divide

**Dr Kemal Huseinovic**
Chief, Department of Infrastructure, Enabling Environment and E-Applications
Telecommunication Development Bureau (BDT)
International Telecommunication Union
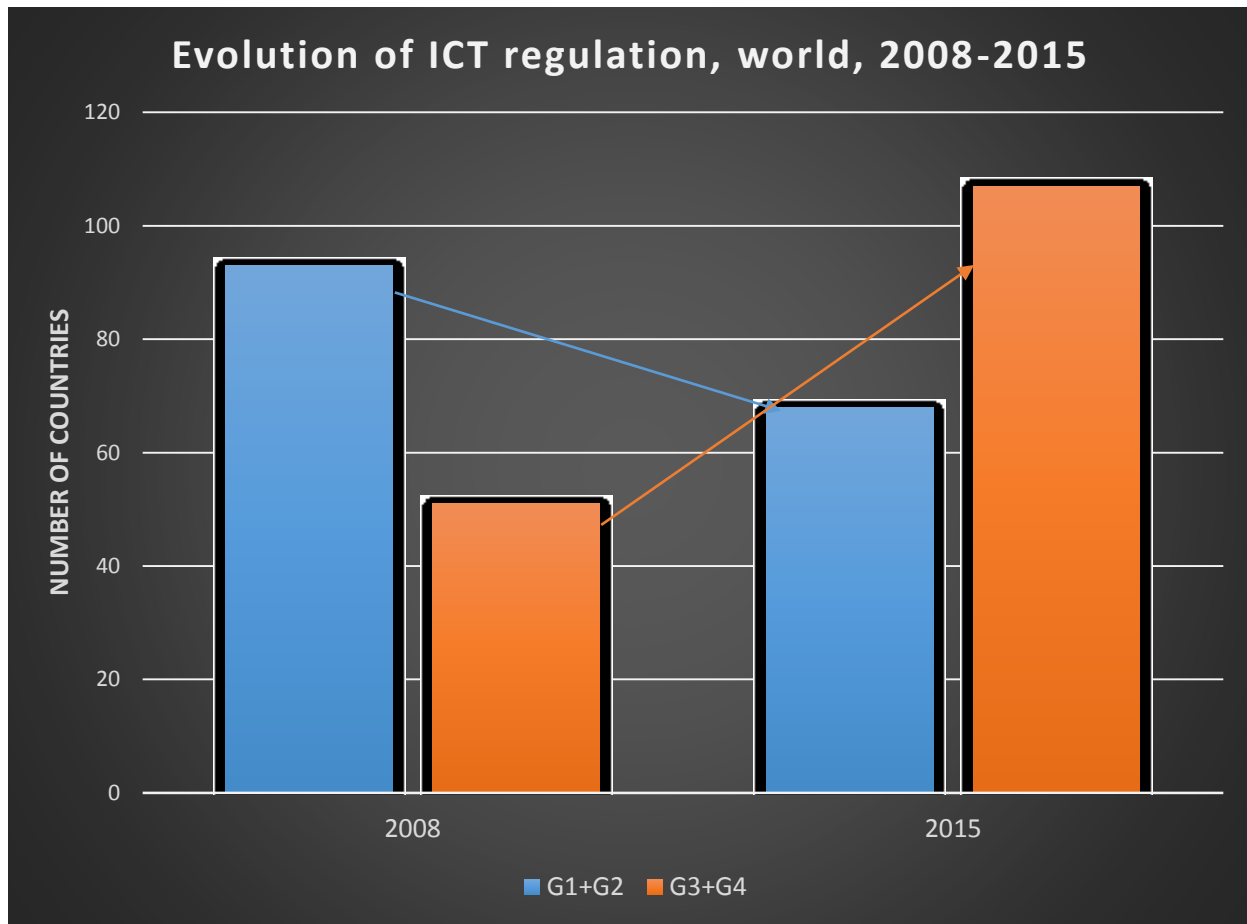
# History of the Future



One to many to any: ICTs from happy few to the masses

Legend:
- Mainframe (1 computer, > people)
- PC (1 person, 1 computer)
- Digital native computing (1 person, > screens)
- Internet of everything

Annotations: Internet born, WWW, Social Media, Mobile broadband, smartphones, tablets, Connected car, Internet of things, Mass wearables, Cognitive computing, Artificial intelligence

Y-axis: Volumes, M
X-axis: 1960, 1970, 1980, 1990, 2000, 2010, 2020, 2030, 2040, 2050

# ICTs today

# The interplay of ICT markets and regulation

## Evolution of ICT regulation, world, 2008-2015



## Evolution of penetration of key ICTs, 2008-2016*



- Fixed telephony
- Fixed broadband
- Mobile telephony
- Active mobile-broadband subscriptions
- Households with Internet access
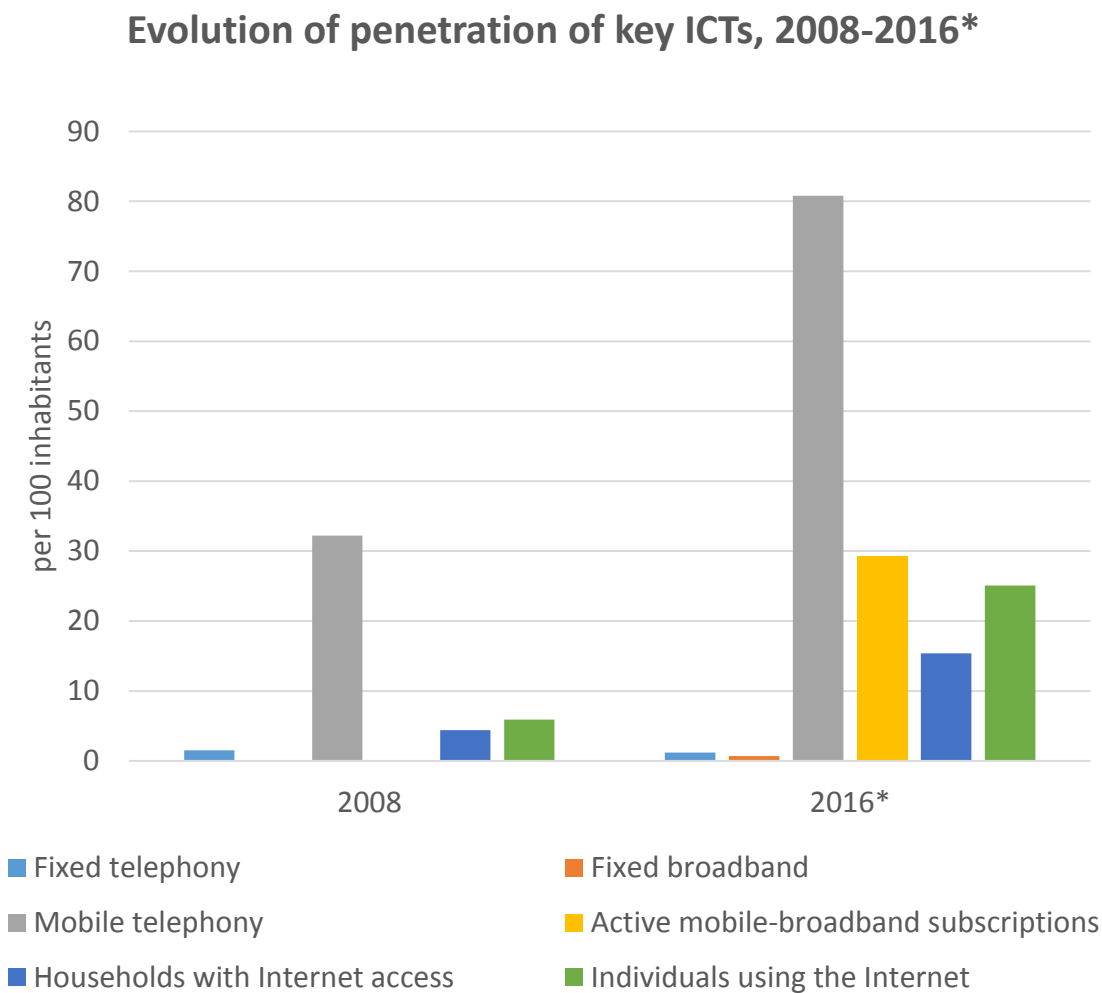- Individuals using the Internet

## Generation of Regulation

**G1: Regulated public monopolies** without an independent regulator

**G2: Basic reform**, separate regulatory bodies, partial liberalization and privatization
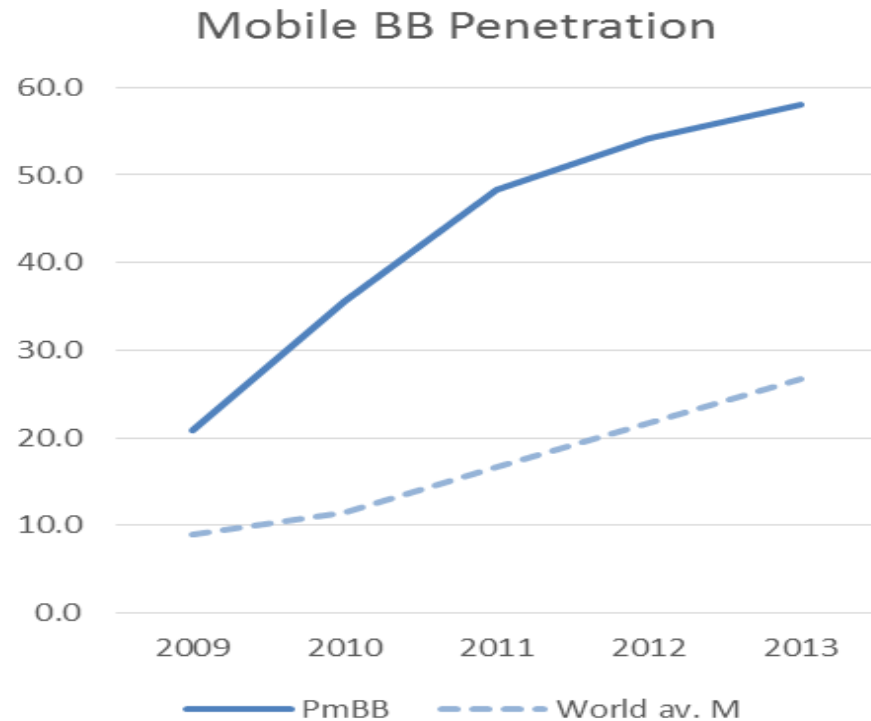
**G3: Regulation for enabling investment**, innovation and access, stimulating competition

**G4: Integrated regulation**, the regulator as a partner for development and social inclusion

**G5: Collaborative regulation**, define the foundation, platforms and mechanisms for working with other sector regulators
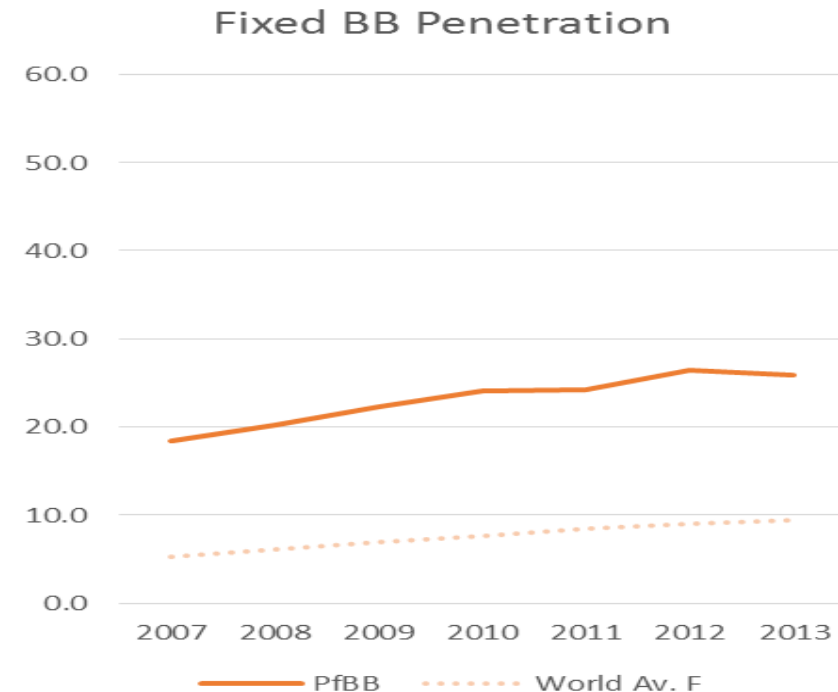
# Winning formulas for broadband

## Mobile BB Penetration

- Competition in mobile broadband
- Competition in international gateways
- Mobile number portability enabled
- Band migration allowed
- Infrastructure sharing for mobile (either allowed or mandated), including MVNOs
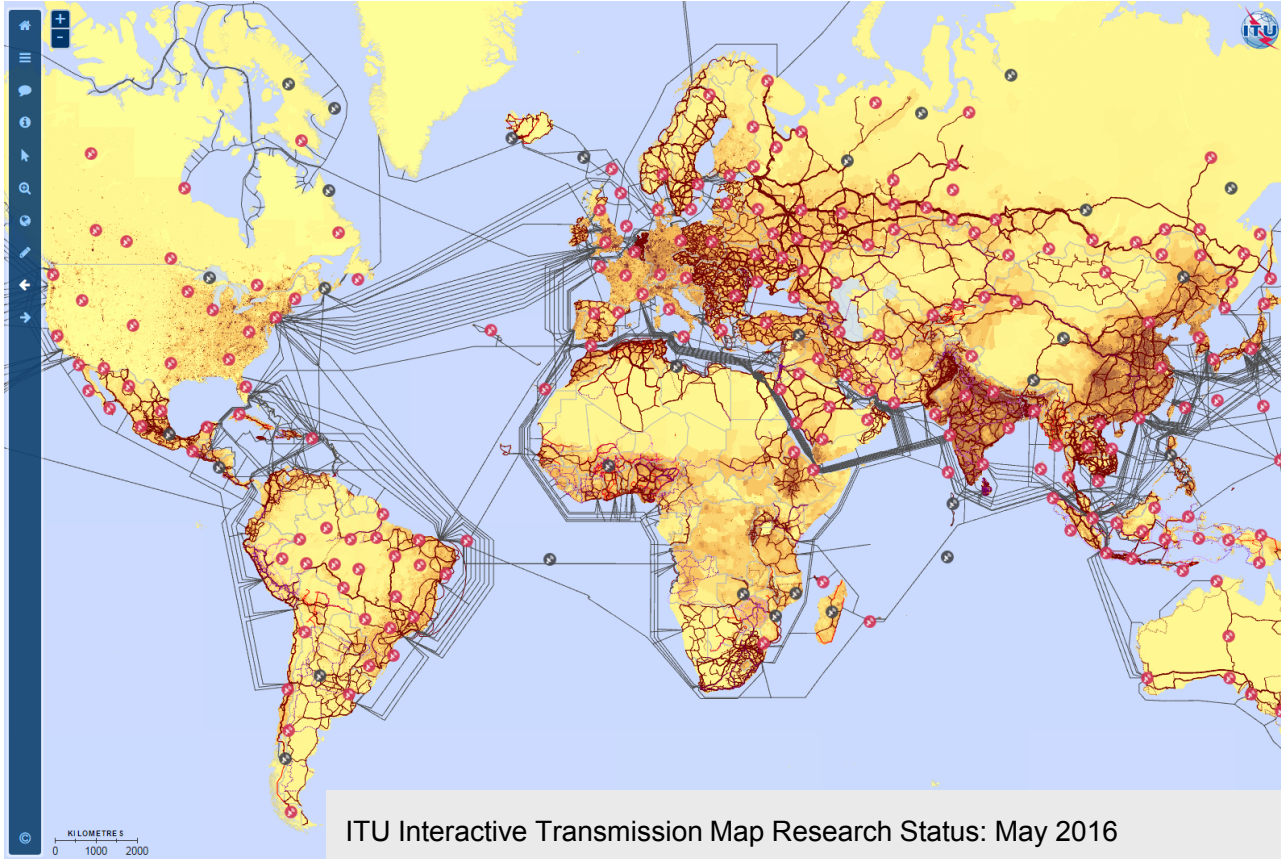- National broadband plan adopted

## Fixed BB Penetration

**Regulatory measures**

- Competition in DSL/cable
- Fixed number portability enabled
- Infrastructure sharing for fixed either allowed or mandated
- Converged licensing framework in place
- National broadband plan adopted

# ITU Interactive Transmission Maps – The Database
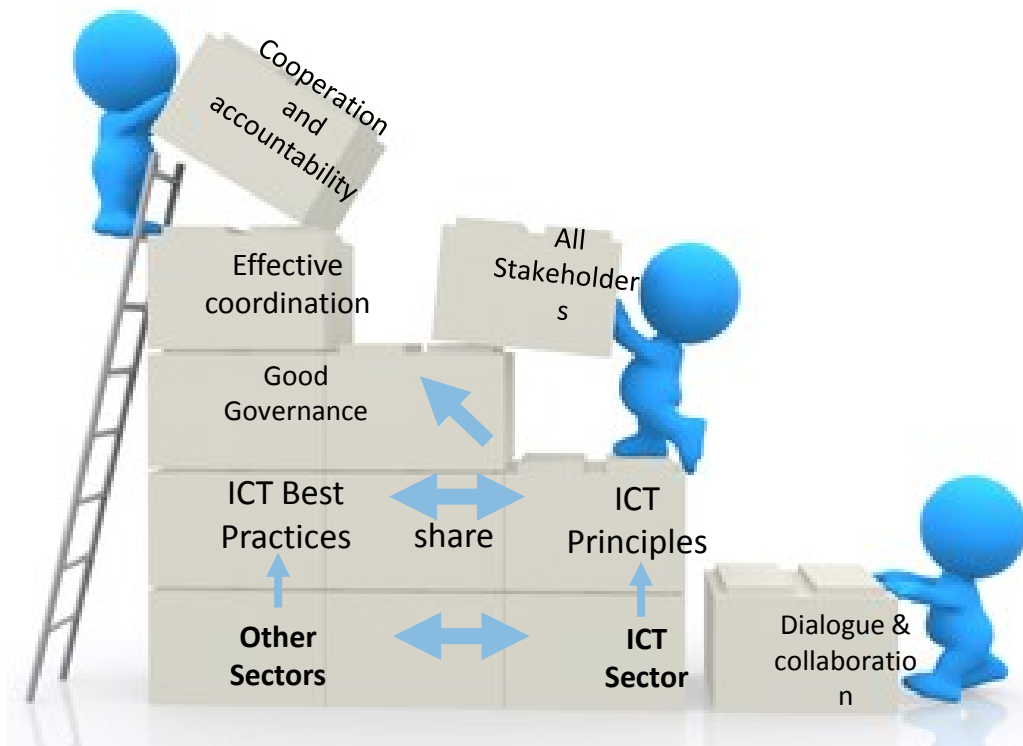


**Broadband Transmission Capacity Indicators**

Indicator 1: **Transmission network length (Route kilometres)**
Indicator 2: **Node locations**
Indicator 3: **Equipment type of terrestrial transmission network**
Indicator 4: **Network capacity (bit rate)**
Indicator 5: **Number of optical fibres within the cable**
Indicator 6: **Operational status of the transmission network**
Indicator 7a: **Percentage of population within reach of transmission networks**
Indicator 7b: **Percentage of area within reach of transmission networks**

https://www.itu.int/itu-d/tnd-map-public/

ITU Interactive Transmission Map Research Status: May 2016

| Region | CIS | ARB | AFR | ASP | LAC | EUR | Total |
|---|---|---|---|---|---|---|---|
| **Operators** | 36 | 39 | 63 | 76 | 63 | 59 | **336** |
| **Links** | 2,097 | 1,265 | 3,633 | 6,155 | 3,448 | 4.086 | **20,684** |
| **Nodes** | 1,150 | 735 | 2,657 | 4,236 | 2,504 | 2,955 | **14,237** |
| | | | | | | | |
| **Route Kms** | 360,241 | 177,414 | 271,418 | 650,849 | 315,172 | 287,892 | **2,062,986** |
| **Total Kms** | 969,485 | 306,411 | 333,412 | 4,140,504 | 921,701 | 1,964,889 | **8,636,402** |

**Population within range of operational fibre node (millions), Dec 2015**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **10-km** | 97.5 | 78.0 | 177.7 | 670.3 | 196.6 | 137.2 | **1,357,591.2** |
| **25-km** | 183.8 | 182.4 | 366.5 | 1,595.1 | 397.9 | 233.5 | **2,949,525.9** |
| **50-km** | 231.9 | 262.5 | 554.6 | 2,558.0 | 498.0 | 268.0 | **4,373,348.5** |

# Building Blocks for 5th Generation Collaborative Regulation



Cooperation and accountability

Effective coordination

All Stakeholders

Good Governance

ICT Best Practices — share — ICT Principles

Other Sectors — ICT Sector

Dialogue & collaboration

**COLLABORATIVE NETWORK OF: POLICY MAKERS, REGULATORS & MARKET PLAYERS**

Finance · Security · Health · Telecom · Governance · Environment · Transport and Logistics · Education · Others

# BDT Initiative



m-POWERING DEVELOPMENT INITIATIVE

TELECOMMUNICATION DEVELOPMENT BUREAU

The Telecommunication Development Sector (ITU-D) fosters international cooperation and solidarity in the delivery of technical assistance and in the creation, development and improvement of telecommunication and ICT equipment and networks in developing countries.

**Please visit : www.itu.int/en/ITU-D/Pages/default.aspx**