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Pakistan

Trend in ICT Industry & respective Policy / Regulatory measures (Network/Infrastructure)

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Pakistan Telecom Authority



ICT Industry Trends & Policy / Regulatory Measures

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ICT Society Transformation

- Information based to Networked based
- Next step is connecting things.....
- Blend of computing and communication
- Socio-Economic well being.
- Why , What and How to regulate.
- Better, smarter and equitable regulations.

Internet of Things



Source: Cisco Systems

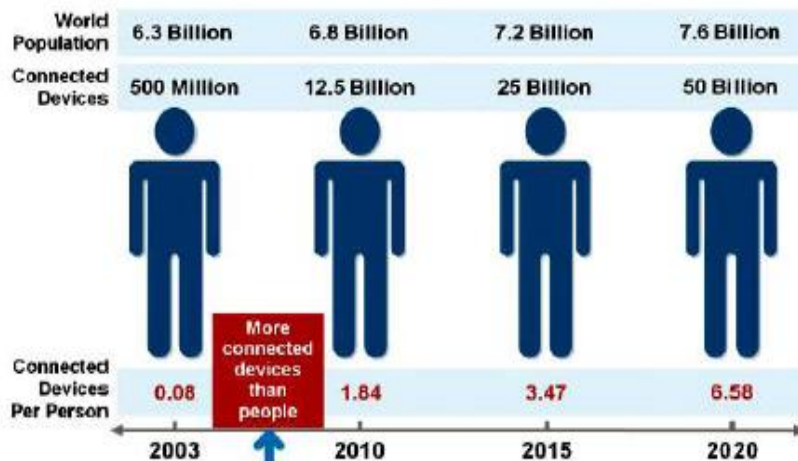
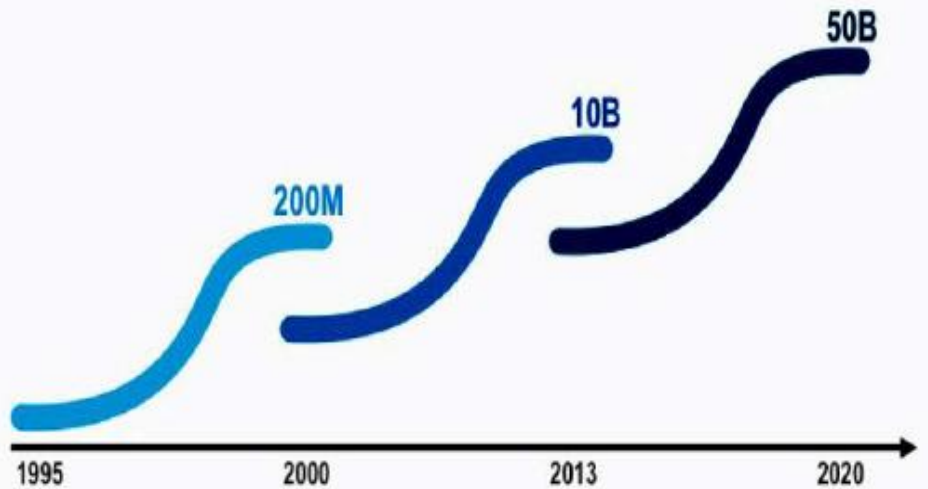
Internet of Things

"Fixed" computing
(you go to
the device)

Mobility / BYOD
(the device
goes with you)

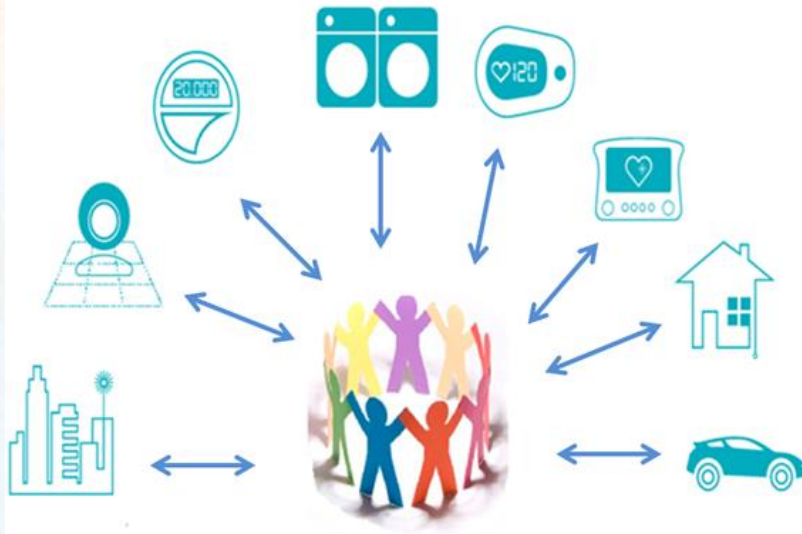
Internet of Things
(age of devices)

Internet of Everything
(people, process,
data, things)



Source: Cisco IBSG, April 2011

Connected Society



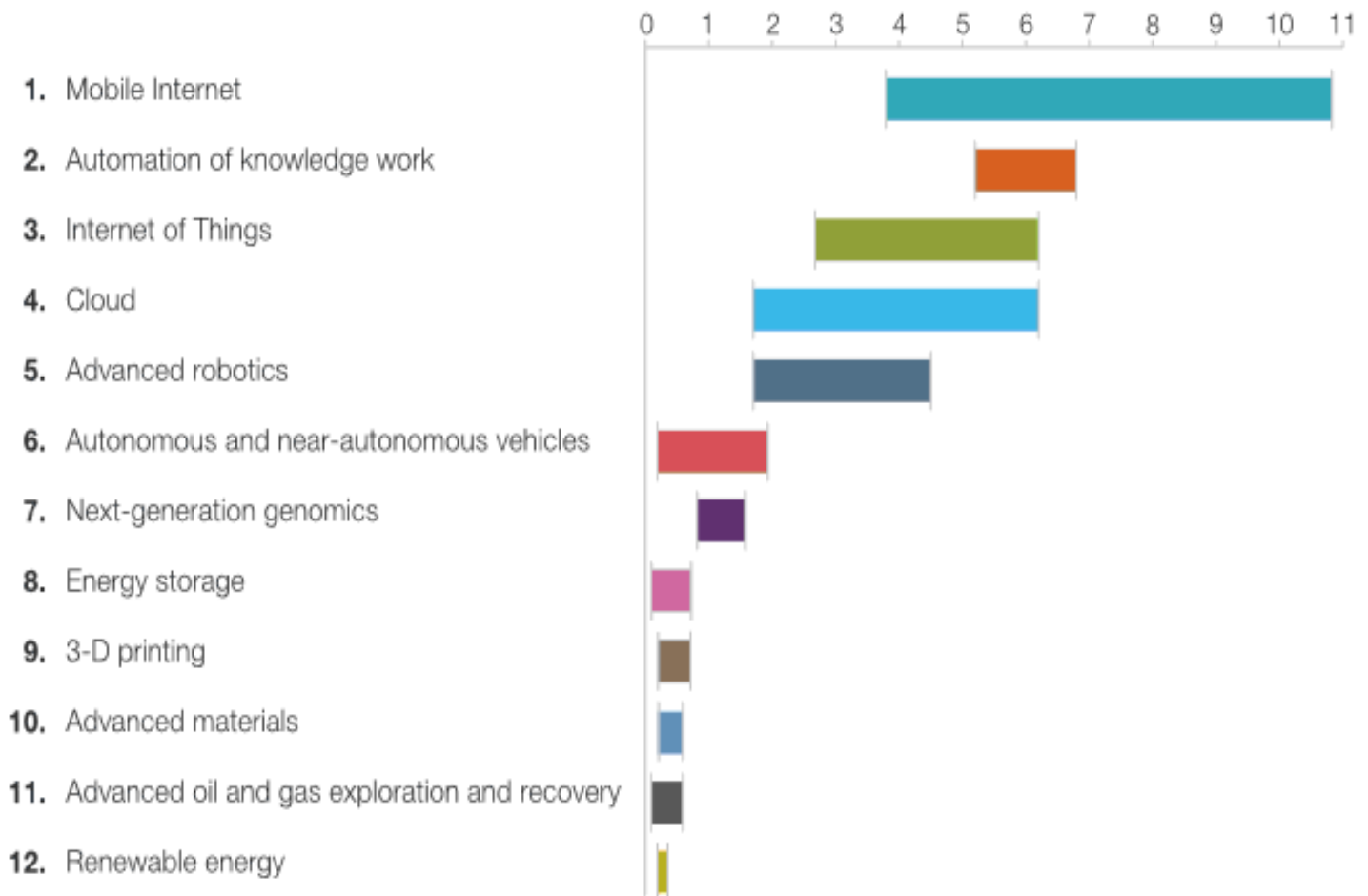
Connected Community

Connected Devices



A gallery of disruptive technologies

Estimated potential economic impact of technologies across sized applications in 2025, \$ trillion, annual



SOURCE: McKinsey Global Institute

Mobile Broadband socio-economic development

**CONNECTED
COMMUNITIES**

**INTERNET OF
THINGS**

Increasing number of
connected devices per person

M-COMMERCE

Doing business and make
payment from mobile

**WOMEN
EMPOWERMENT**

M-HEALTH

Medical advice in remote areas

M-EDUCATION

Education for all

M-AGRICULTURE

More than 60% of our population live
in rural areas, mainly dependent on
agriculture

3G/4G

Next Generation Mobile
Services

**INTERPERSONAL
COMMUNICATION**

Communicate, play and share
content with friends from mobile

ENTERTAINMENT

Use of mobile as a portable
TV

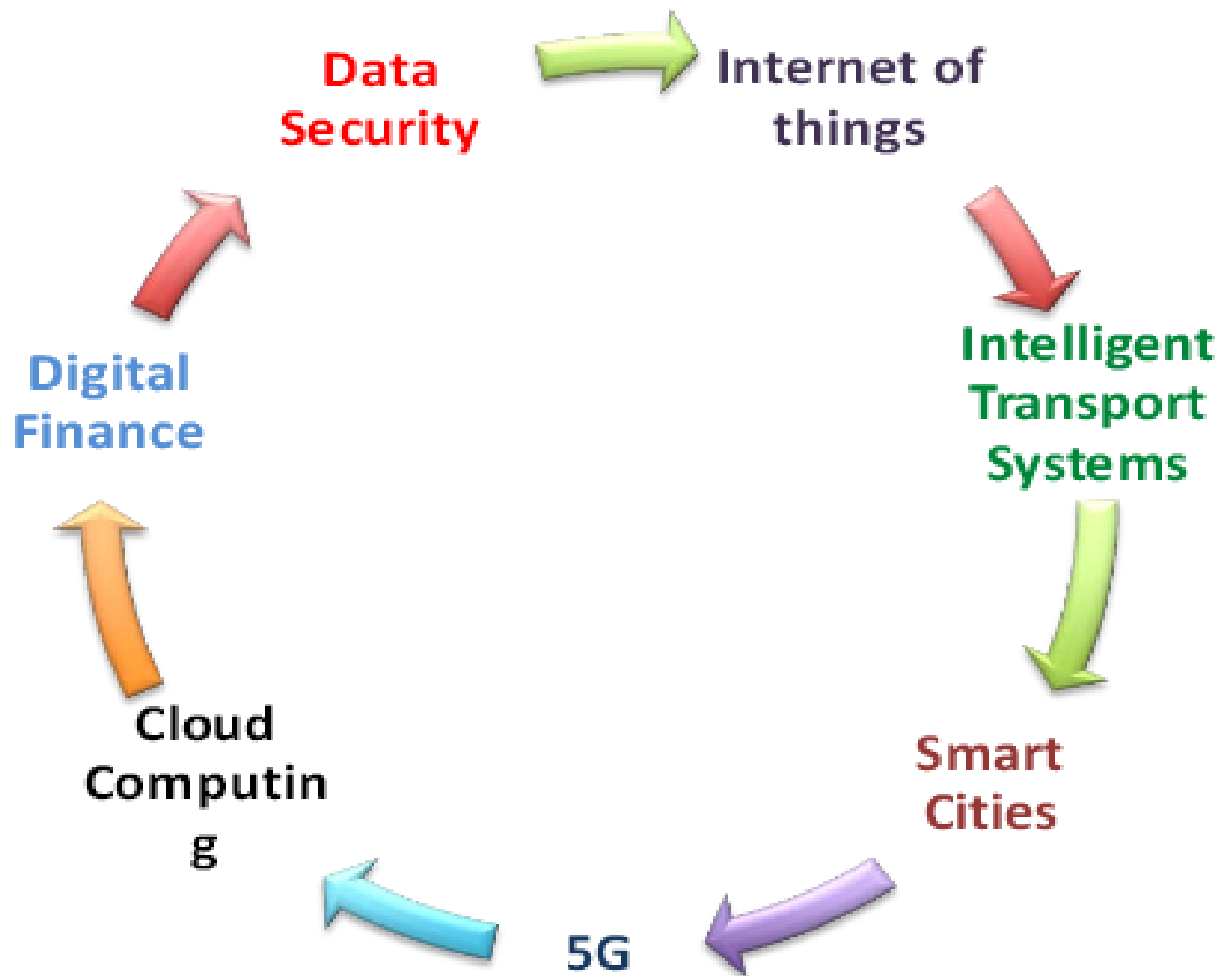
DIGITAL ME

Mobile carries digital access for
payment, transport etc

**PERSONAL
ECOSYSTEM**

Access and control of connected
devices remotely from mobile

EMERGING STANDARDS IN ICT





Regulatory Measures



Regulations

Why, What & How

- Why to regulate
- What are objectives to regulate
- How to regulate: Matching Objectives with regulatory instruments

Key Policy/Regulatory Issues

- National ICT plans with focus on Broadband.
- E-Gov policies.
- Network rollout and infrastructure sharing.
- Spectrum Management.
- Cyber protection. Laws and Regulations
- Convergence of broadcasting and ICT. Issue of content regulations.
- Data protection.
- Internet Governance.
- Policies to promote innovation in ICT.

POLICY & REGULATIONS

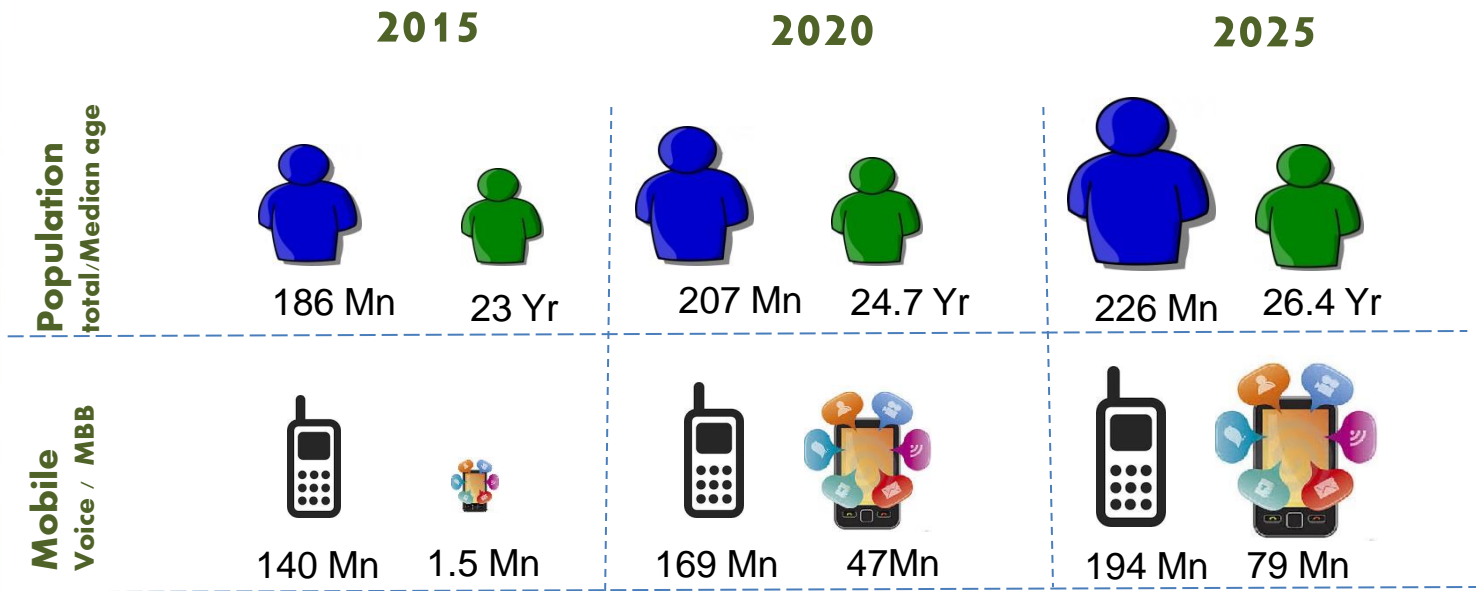
FOCUS AREAS

1. Developing and identifying expertise to better understand the issues.
2. Regulatory impact assessment.
3. Citizen-focused e-government services
4. ICT regulation and policy's role in improving access to education.
5. Encouraging Open source software's growth.
6. The availability of localized/indigenous digital content and its policies to accelerate the process.

Policy & Regulations Pakistan

- Policies by Ministry of I.T & Telecom (MoIT&T)
- Regulations by P.T.A as per PTA ACT and MoIT&T policies.

Market (Growth)



Auction for 3G/4G – 23rd April, 2014



- Zong won 10 MHz each in 1800 MHz band and 2100 MHz band @ **US\$210.0 Million & US\$ 306.92 Million**



- Mobilink won 10 MHz in 2100 MHz band @ **US\$300.9 Million**

Government got a total of **USD 1.22 Billion** from the auction and advance tax



- Ufone won 5 MHz only in 2100 MHz band @ **US\$ 147.5 Million**

10 MHz in 1800 and 10 MHz in 850 MHz still remain unsold with the Government for possible next auction

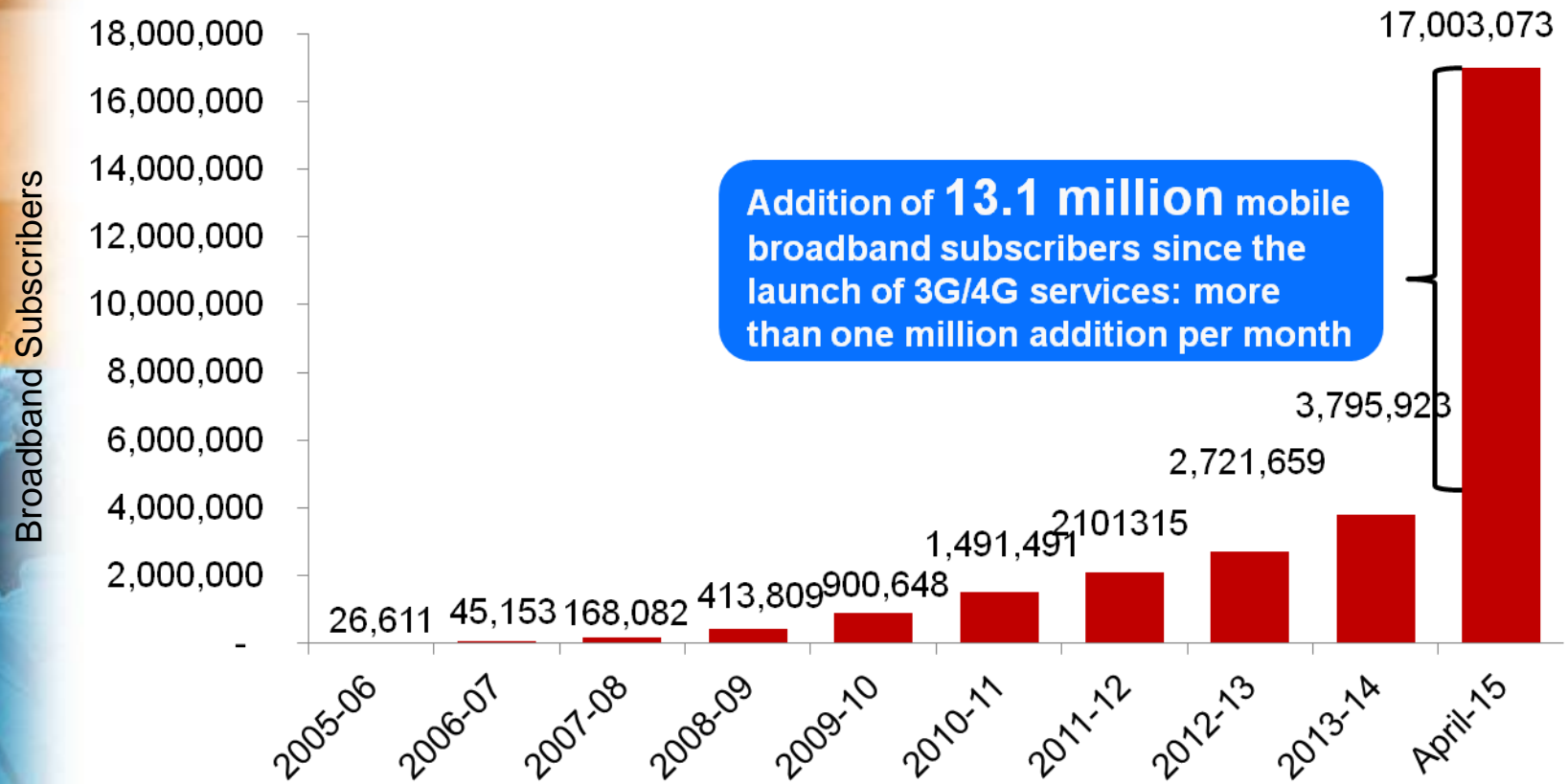


- Telenor won 5 MHz in 2100 MHz band @ **US\$147.5 Million**

Broadband Scenario in Asia

Country	BB Penetration	Growth Rate	SIM Penetration	Year of 3G/4G Auction
Pakistan	7%	590.82%	74%	2014
Bangladesh	6%	232.26%	76%	2013 (3G)
India	11%	46.06%	74%	2011
Indonesia	34%	46.76%	122%	2006 (3G)

Outstanding growth in MBB after Spectrum Auction



- The availability of MBB has created the opportunity for Pakistan to have all the key drivers for mobile commerce

Socio - Economical Impact

Social Prospects of ICTs

e/m-Health

One doctor for every 1,297 persons and one dentist for every 22,681 persons

e/m-Education

One teacher for every 38 Primary Students

e/m-Banking

There are 24 Million Bank Accounts

e/m-Government

60% of our population lives in Rural Areas

Economical Prospects of ICTs

- Every 10 points in Internet Penetration per 100 translates into 1.21 % GDP growth (World Bank)
- More job creation
- New businesses and entrepreneurship opportunities

What mobile broadband could mean for Pakistan's economy



The introduction of 3G could raise Pakistan's economic output by 1.1% of Gross GDP, resulting in an increase of 1.6 to 2.4 percent in employment.



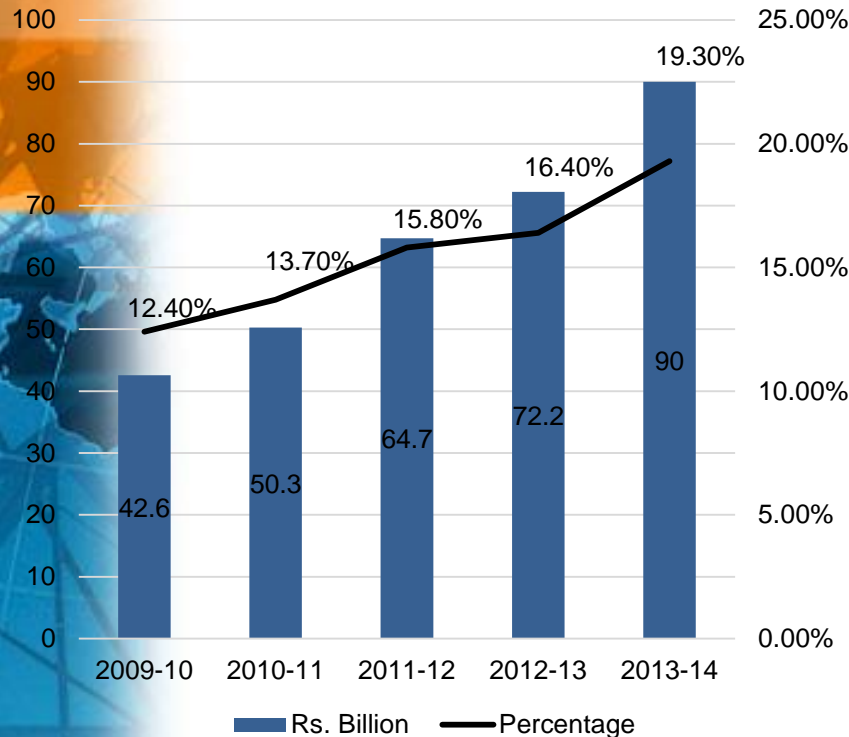
A doubling of mobile data use is associated with an increase in the GDP per capita growth rate of 0.5 percentage points



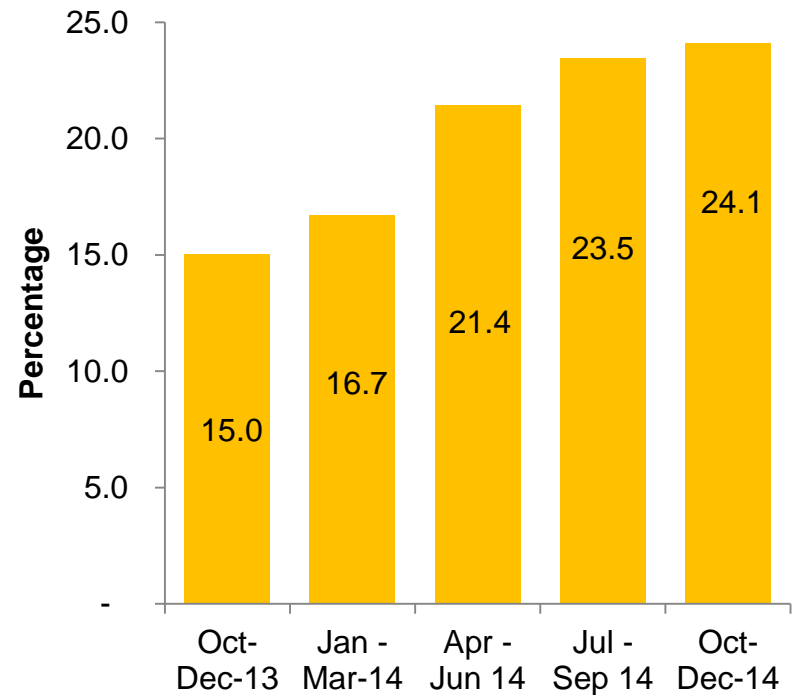
Could help to address the ITU's listing of Pakistan at 127th position among 155 countries in its global ICT Development Index report

The way people use their mobile connection in Pakistan is changing

Data Revenues in the Telecoms Sector

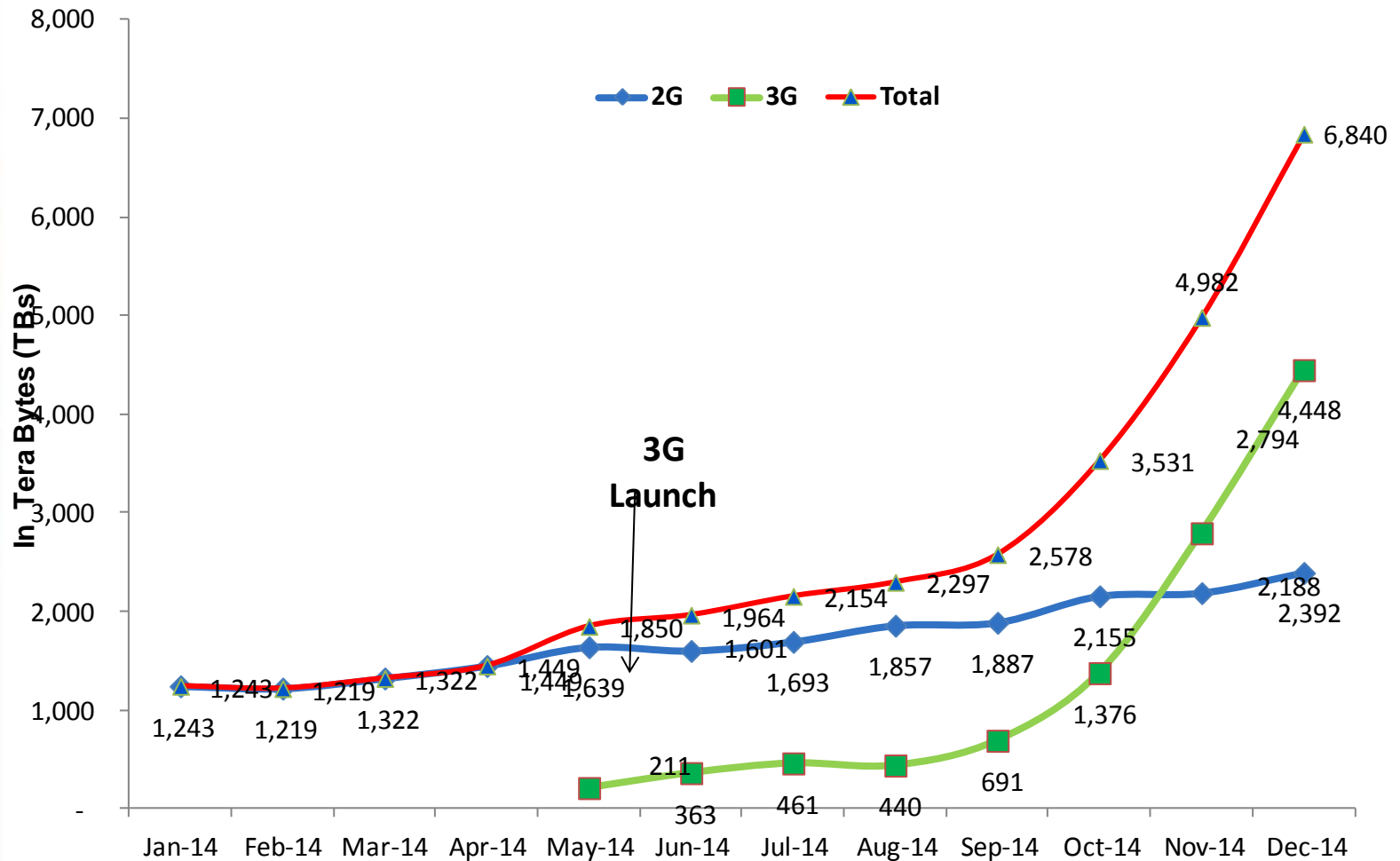


Quarterly Shares of Data Revenue in Total Cellular Revenues



- Revenue from data is now more than double what it was five years ago
- For cellular mobile segment, share of data revenue has crossed 24%

Cellular Data Trends in Pakistan



Mobile Broadband: Challenges

- Availability of Network
- Cost of ownership, including the price of handsets, services and charging
- Perceived lack of need
- Cultural barriers (e.g. women's ownership of productive assets)
- Fear of technology, lack of technical literacy
- Lack of basic literacy
- Lack of in-depth research on needs
- Need for vetted quality life-enhancing mobile content

PTA's Approach for the Regulations

- Facilitator: Regulations to facilitate the industry & reliance on market forces
- Transparent & non-discriminatory
- Technological neutrality
- Consumer Protection
- Introduced number of regulations to protect investment, consumers. All published regulation are available at PTA's website (<http://www.pta.gov.pk>)

ICT Development - Industry Facilitation

Expert Network Platforms

- Multi-Stakeholder task Force on IPv6
- Voice over IP
- OTT
- Mobile innovation lab “m-lab”

Broadband Stakeholders Group

- Unique platform for related stakeholders
- Report Prepared & Published
- Broadband User Survey

Mobile Banking Regulations

- Mobile Banking regulations Have been prepared in consultation with State Bank of Pakistan
- Industry consultation

Establishment of Local Internet Exchange Points

- Cost and Routing Efficiency at International Bandwidth
- Always On Local Internet Availability
- Proxy Services, Google Cache

Regional Cooperation

- Developed regional cooperation for the growth of local and Regional industry
- Arranged training for Afghan Telecom regulator

Content and Applications

- Innovative Mobile Application Competition with Industry Partners
- Promoting ICT Research Work (MoU signed with Academia)
- Conference on Promoting ICT Sector

Consumer Protection

Establishment of Consumer Protection Directorate

- Launch of Consumers' Redressal of Grievances Mechanism (24th July 09)
- Lodging of complaints through Toll Free Number, Tel, Fax , Email & Web

Regulatory Initiatives

- Consumer Protection Regulation, 2009
- SPAM, Obnoxious, Fraudulent & Unsolicited Communications Regulations 2009
- User Antecedents Regulations

Robust Complaint Management

- Dedicated Team for handling Complaints
- 97% redressed ratio
- Analysis of Complaints
- IVR

Future Plans

- Consumer Perception Surveys
- "Consumers Forum" at all Provincial HQs
- Media Campaigns by PTA & Operators
- Publication of Consumer Manual



GoP Policies to Encourage Investment

- Market liberalization
- Investor-friendly policies
- Ensure benefits for the investors and the end users
- Utilization of USF for underserved areas.

* GoP (Government of Pakistan)





Consistent & Fair Regulatory Regime

Unprecedented Growth

Increase in Tele-density

Reduction in Tariff

Foreign Investment

Employment Opportunities

Impact on the Economy

Increase in Government Revenue

Customer Care & Quality of Service

Teledensity Comparison

2004

Total Population: 152.5 Million

Mobile Phone subscribers: 5 Million (3.3%)

Fixed Line subscribers: 4.5 Million (2.9%)

WLL subscribers: ---

Broadband subscribers: ---

April - 2015

Total Population: 189 Million

Mobile Phone subscribers: 140 Million (74%)

Mobile Internet subscribers: 13 Million (7%)

Broadband subscribers: 17 Million (8.9%)

Fixed Line subscribers: 3.0 Million (1.7%)

WLL subscribers: 2.8 Million (1.2%)



Thank You