

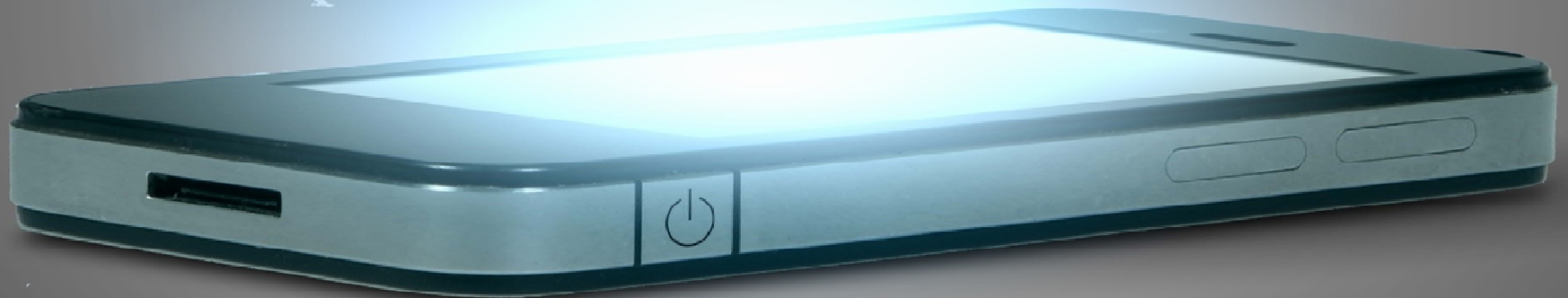


# Turning mobile growth into broadband success: Case Study of Pakistan

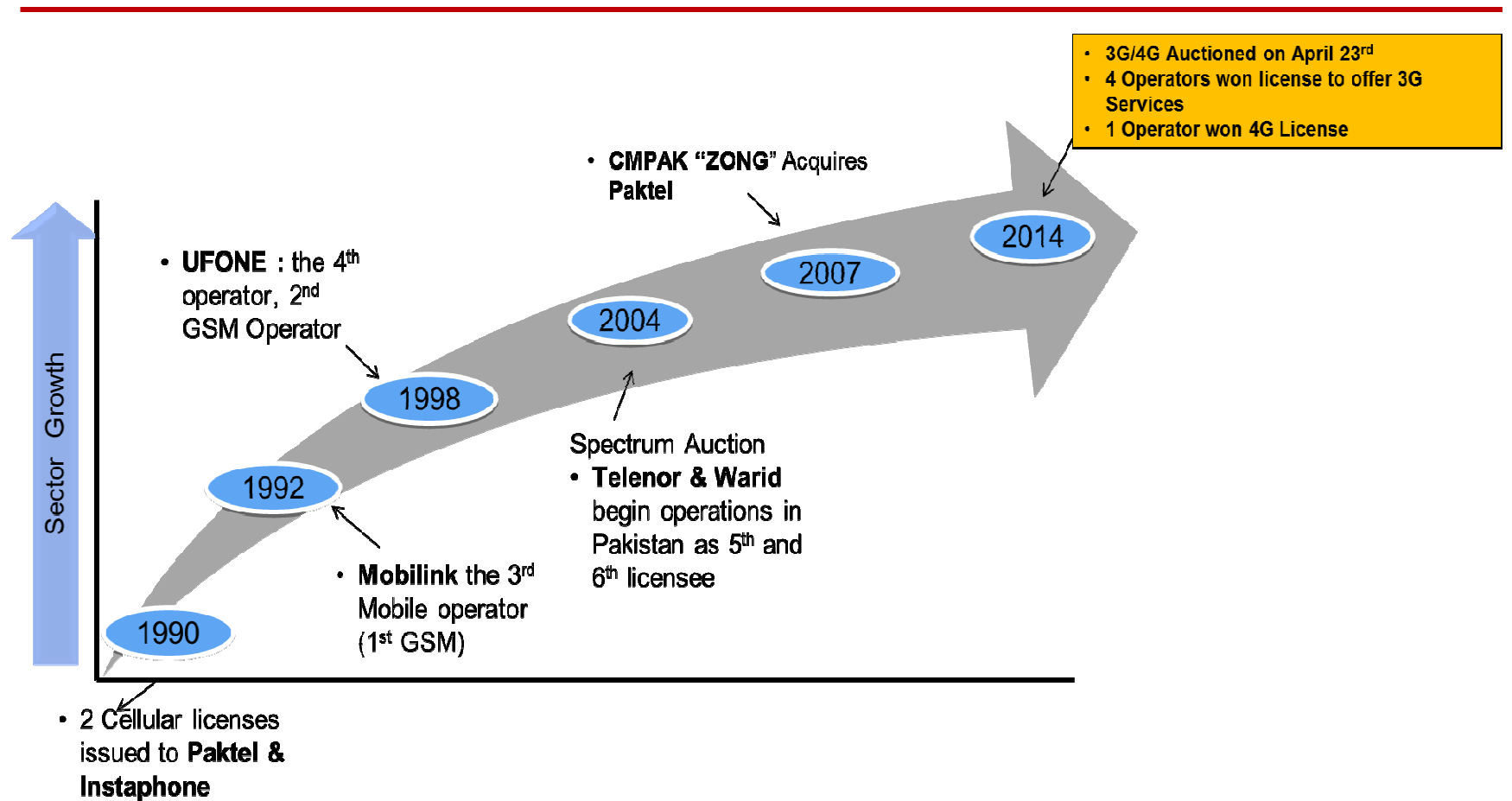
Syed Ismail Shah, PhD

Chairman, Pakistan Telecommunication Authority

E-mail: [ismail@pta.gov.pk](mailto:ismail@pta.gov.pk)



# Evolution of Cellular Mobile Communication in Pakistan



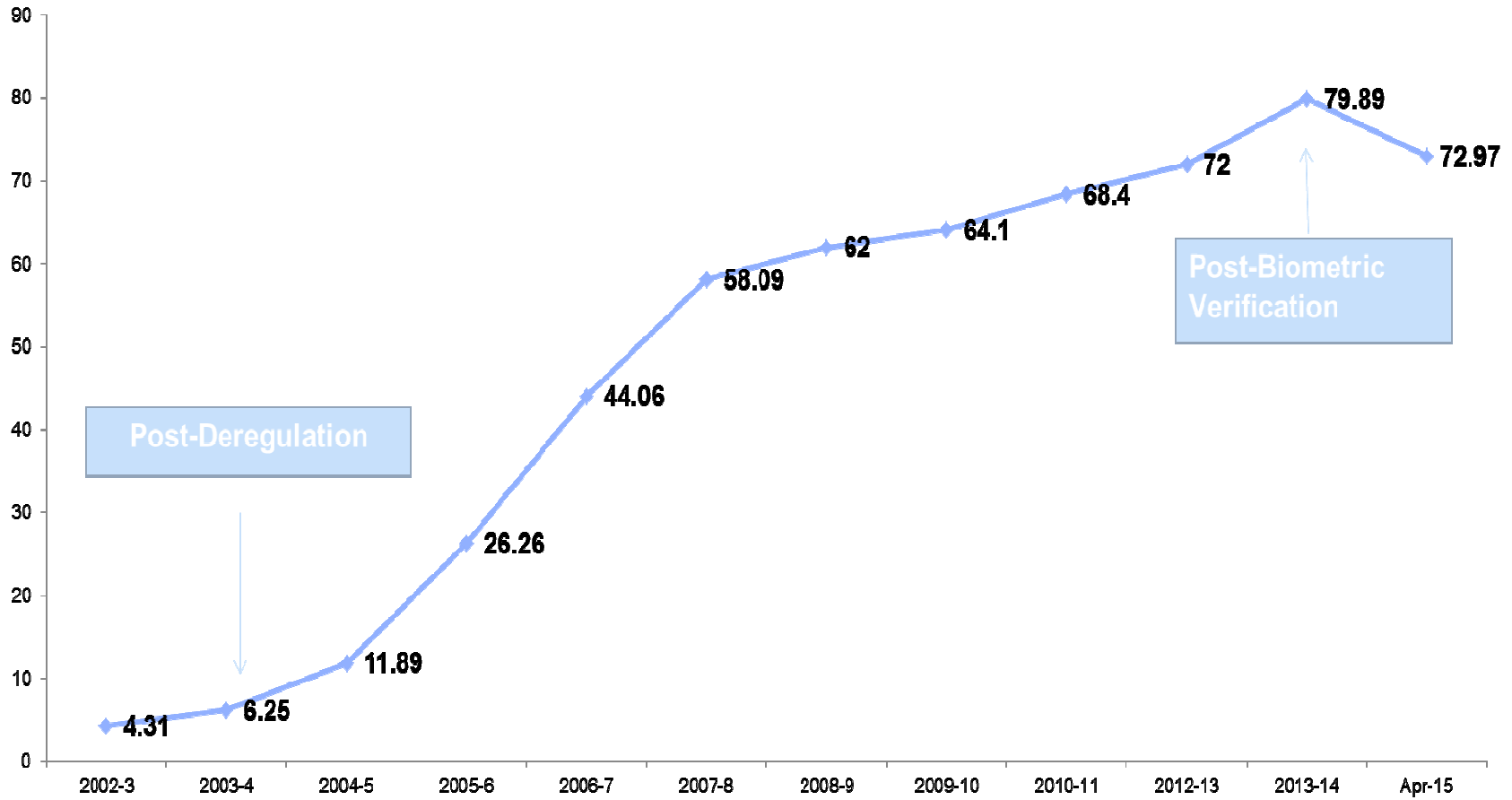
# Evolution of Cellular Mobile Communication in Pakistan

3

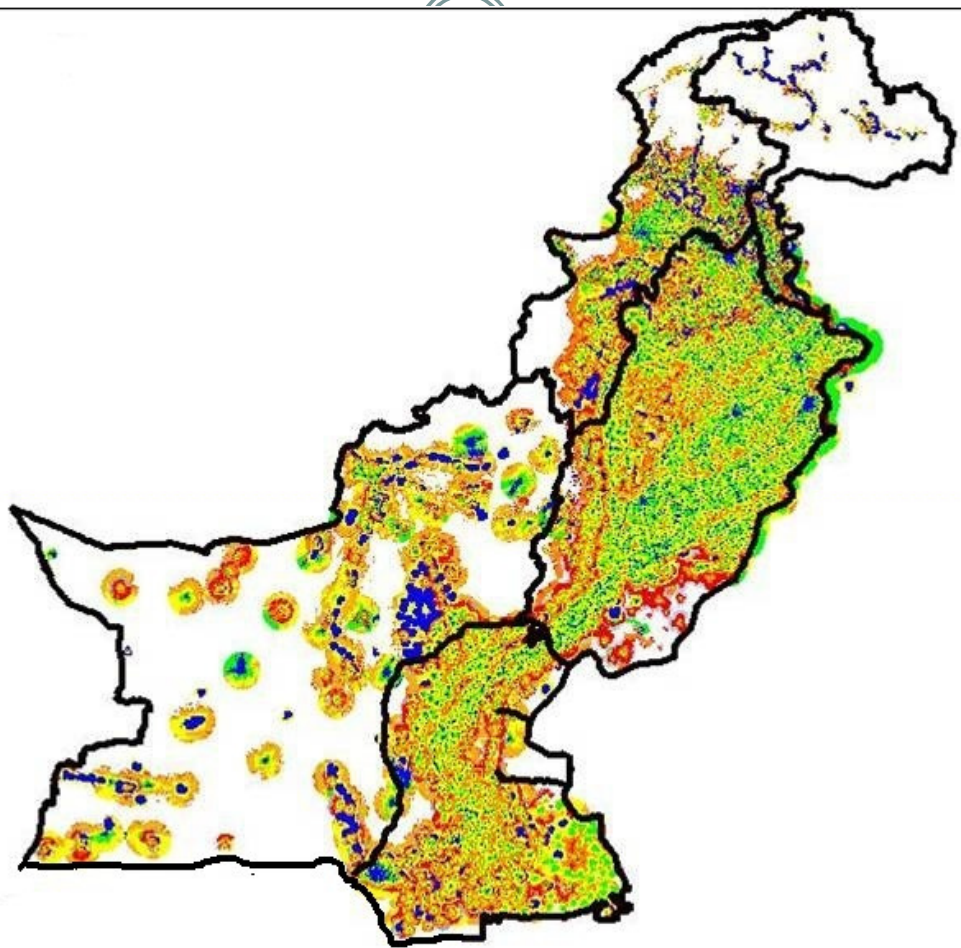
- Total Spectrum offered was 2 lots with the following configuration:
  - Total Spectrum 2X13.6MHz
  - 2X4.8MHz in 900MHz band and 2X 8.8MHz in 1800MHz band
- Existing Operators were to pay the same amount upon expiry of license with spectrum normalization except for Instaphone, who were only offered 2x7.38MHz in the 850 MHz band

# Total Teledensity (Millions)

4



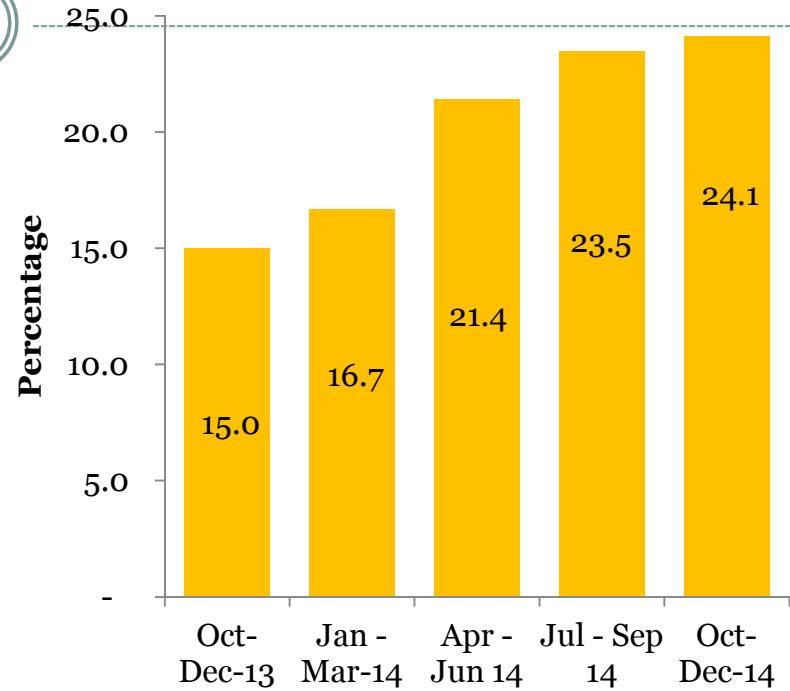
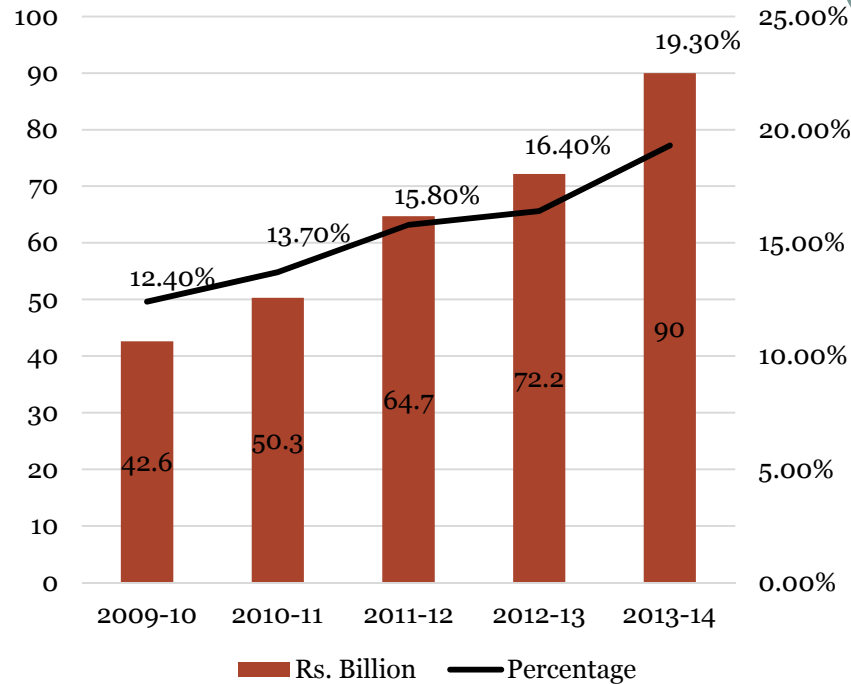
# GSM Coverage



# Data revenues

**Data Revenues in the Telecoms Sector**

**Quarterly Shares of Data Revenue in Total Cellular Revenue**

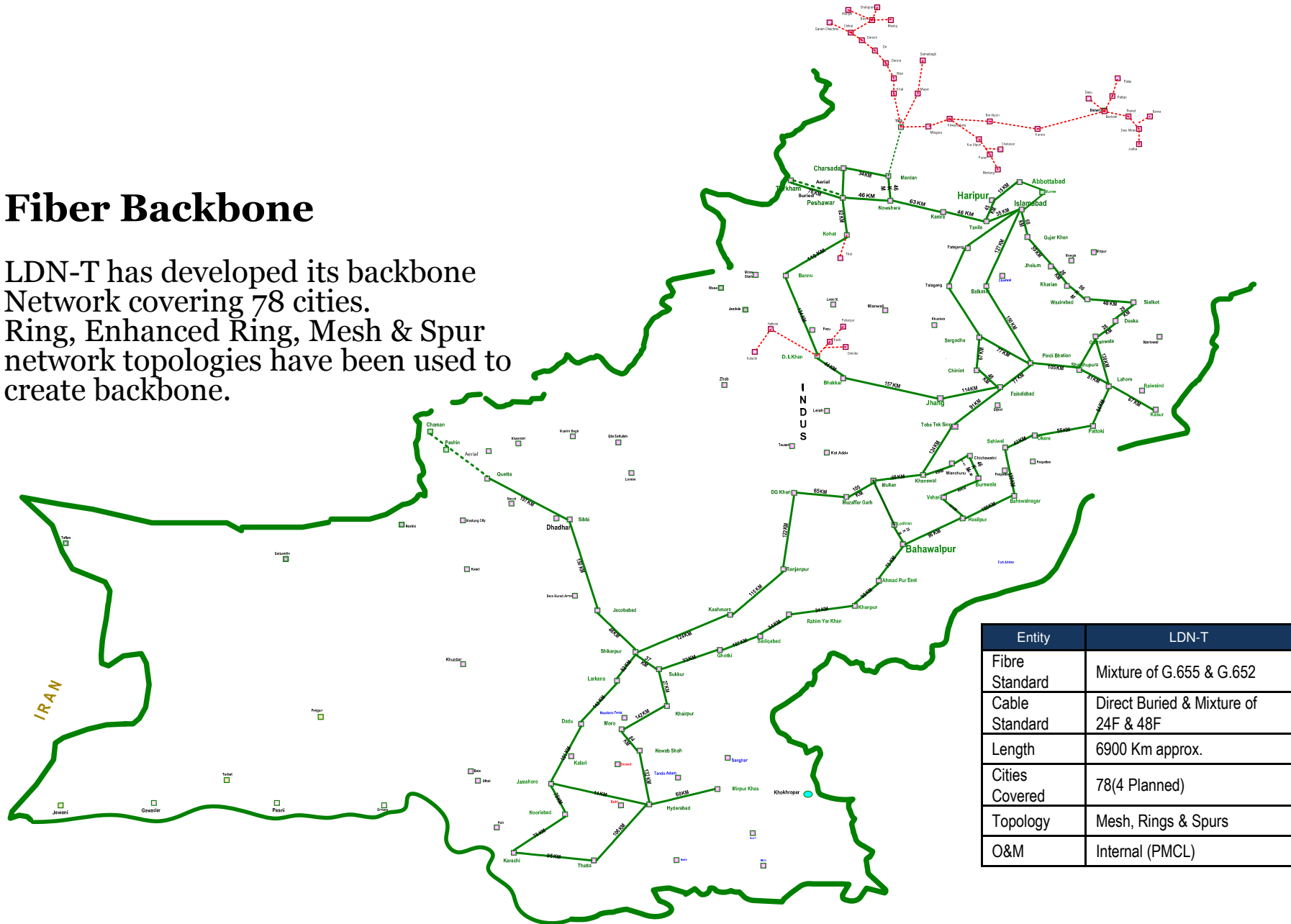


- Revenue from data is now more than double what it was five years ago
- For cellular mobile segment, share of data revenue has crossed 24%

# LDN Network Diagram

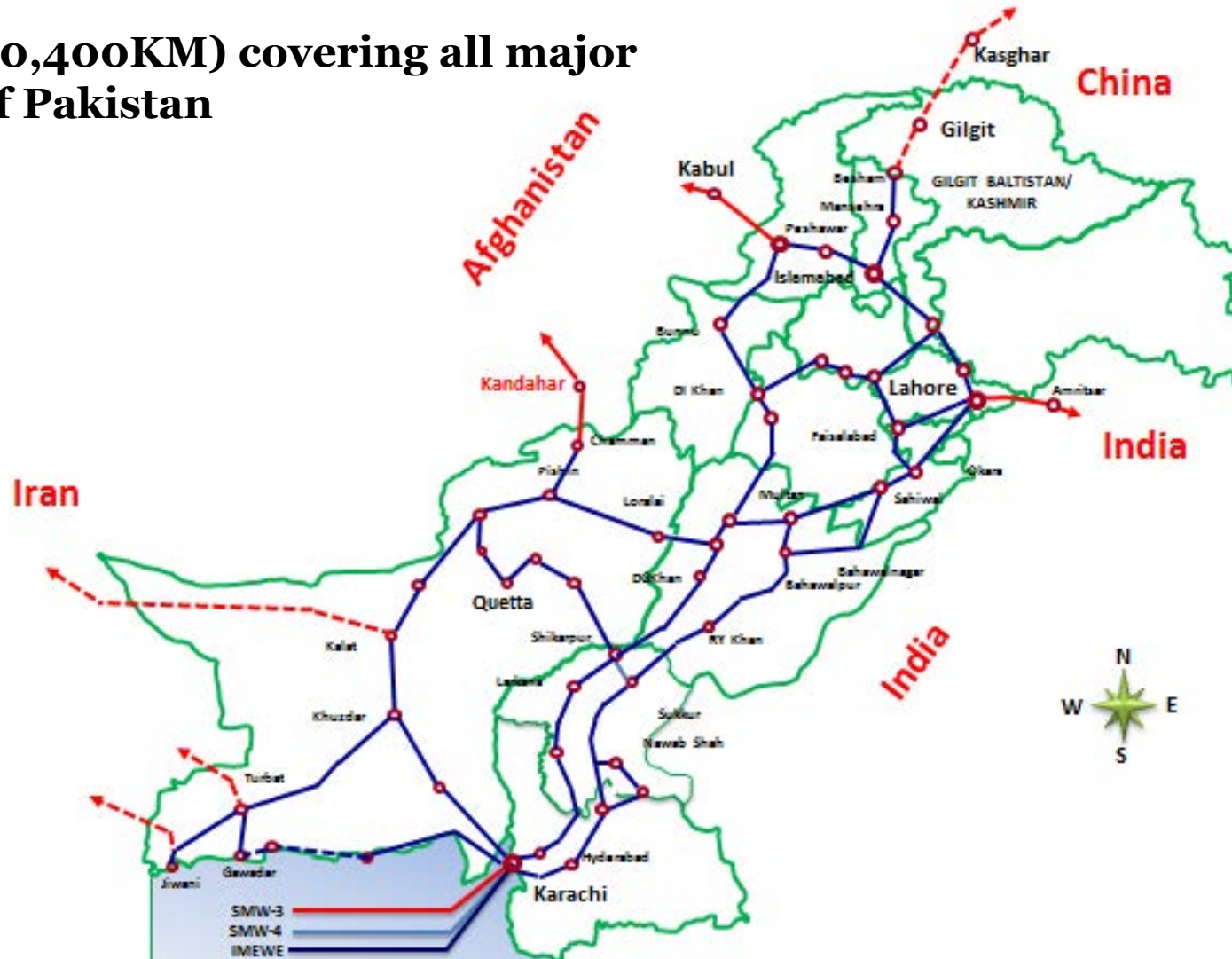
## Fiber Backbone

LDN-T has developed its backbone Network covering 78 cities. Ring, Enhanced Ring, Mesh & Spur network topologies have been used to create backbone.



# PTCL Fiber Footprint & Cross Border Links

**PTCL(10,400KM) covering all major cities of Pakistan**

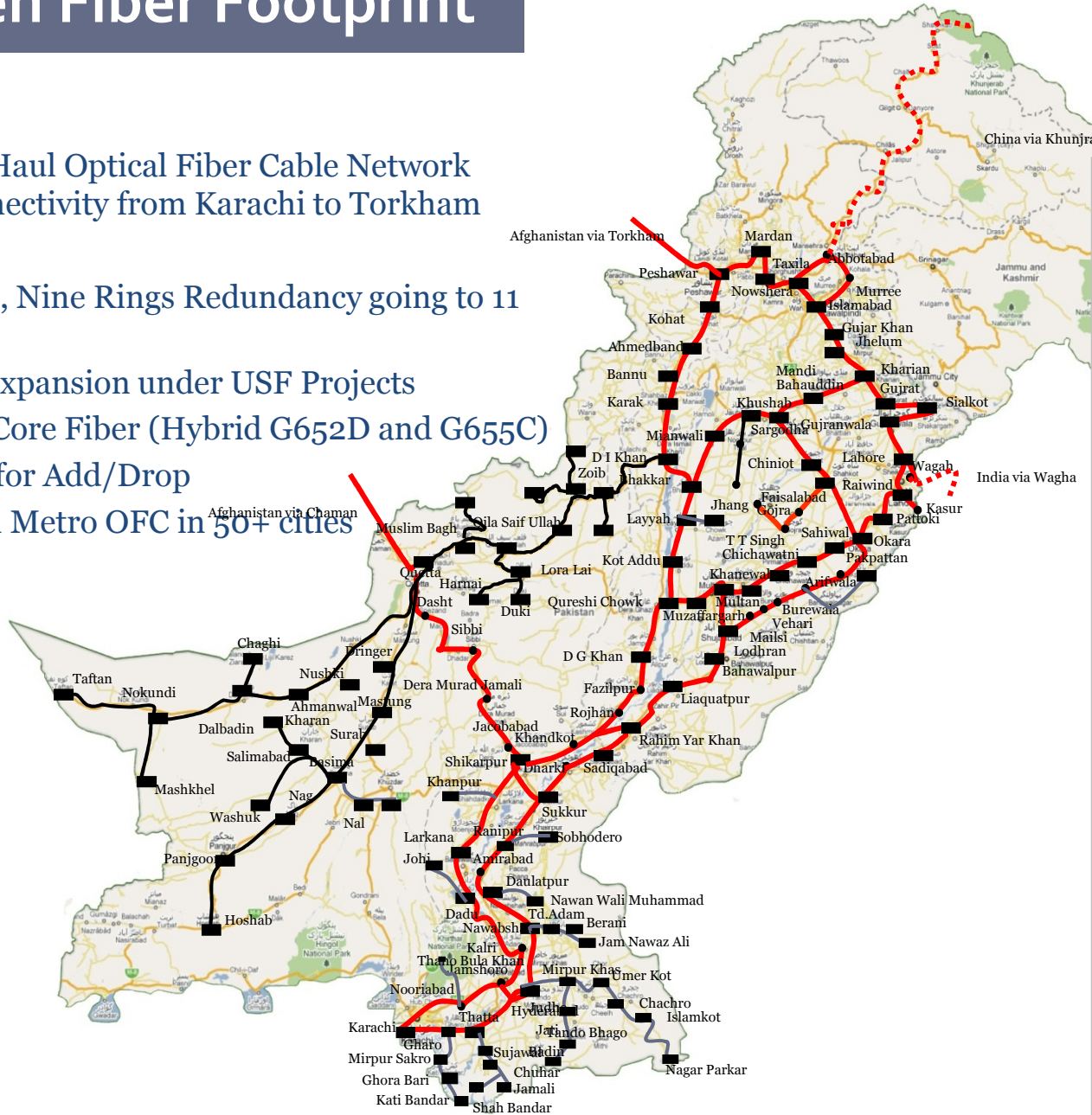




# Wateen Fiber Footprint

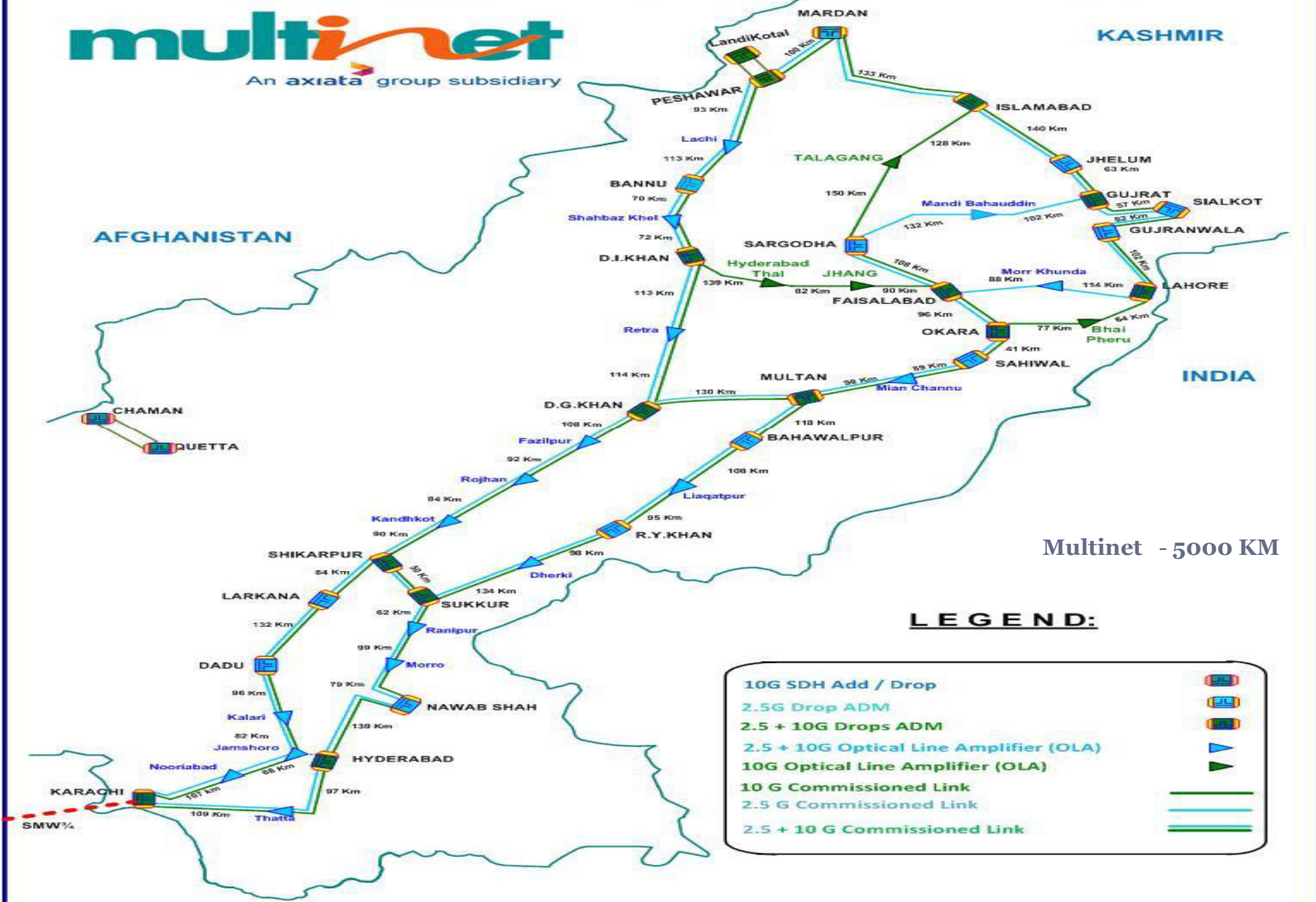
Wateen Long Haul Optical Fiber Cable Network providing connectivity from Karachi to Torkham

- 6000 + km, Nine Rings Redundancy going to 11 Rings
- 4649 Km Expansion under USF Projects
- 24 and 96 Core Fiber (Hybrid G652D and G655C)
- 163+ Sites for Add/Drop
- 4500 + Km Metro OFC in 50+ cities



- ### Major Metro Fiber Cities
- Karachi
  - Lahore
  - Quetta
  - Islamabad
  - Faisalabad
  - Sialkot
  - Gujranwala
  - Gujrat
  - Sahiwal
  - Sargodha
  - Multan
  - Jhelum
  - D. I. Khan
  - Peshawar
  - Sukkur
  - Hyderabad
  - Abbotabad
  - Rawalpindi
  - Bahawalpur
  - R.Y.Khan

# PROJECT ITTEHAD NETWORK MAP

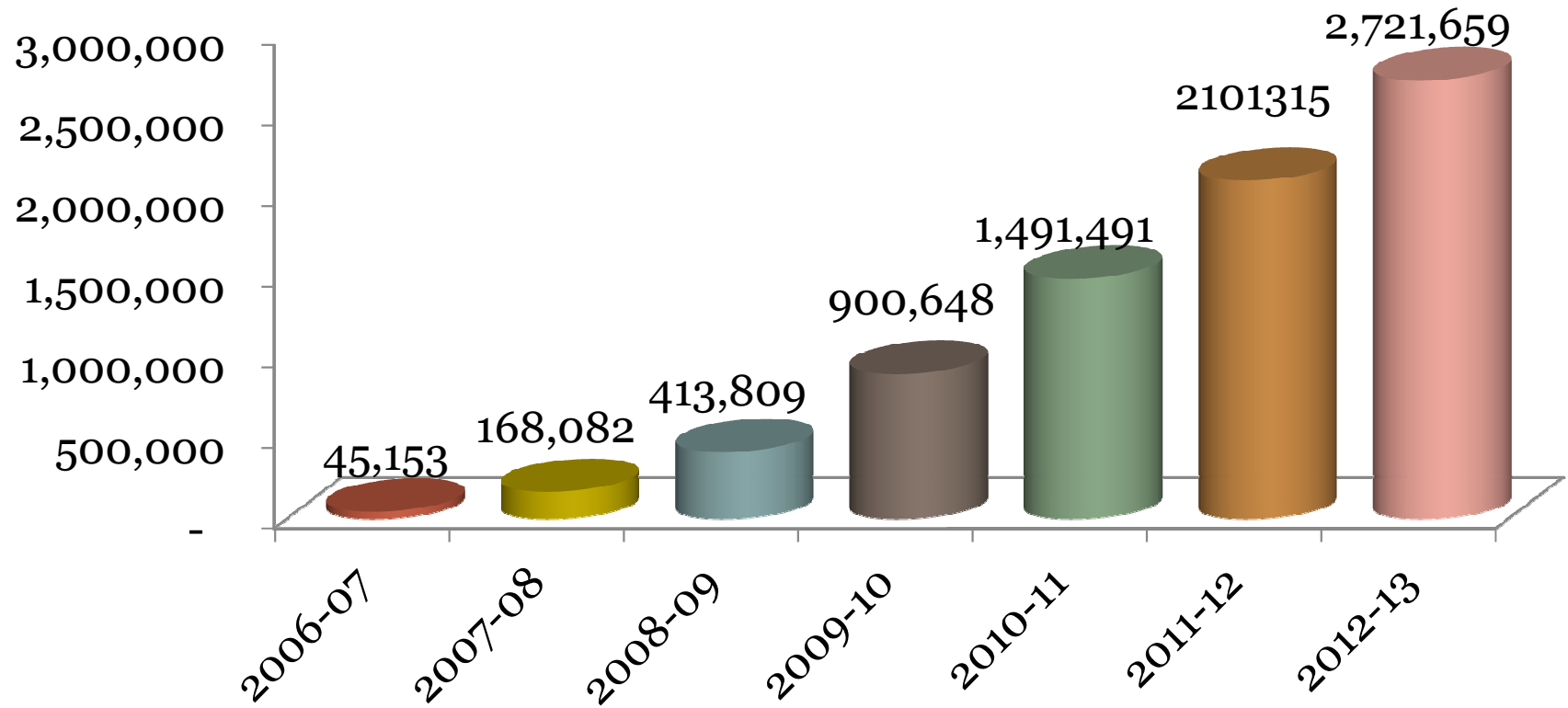


Multinet - 5000 KM

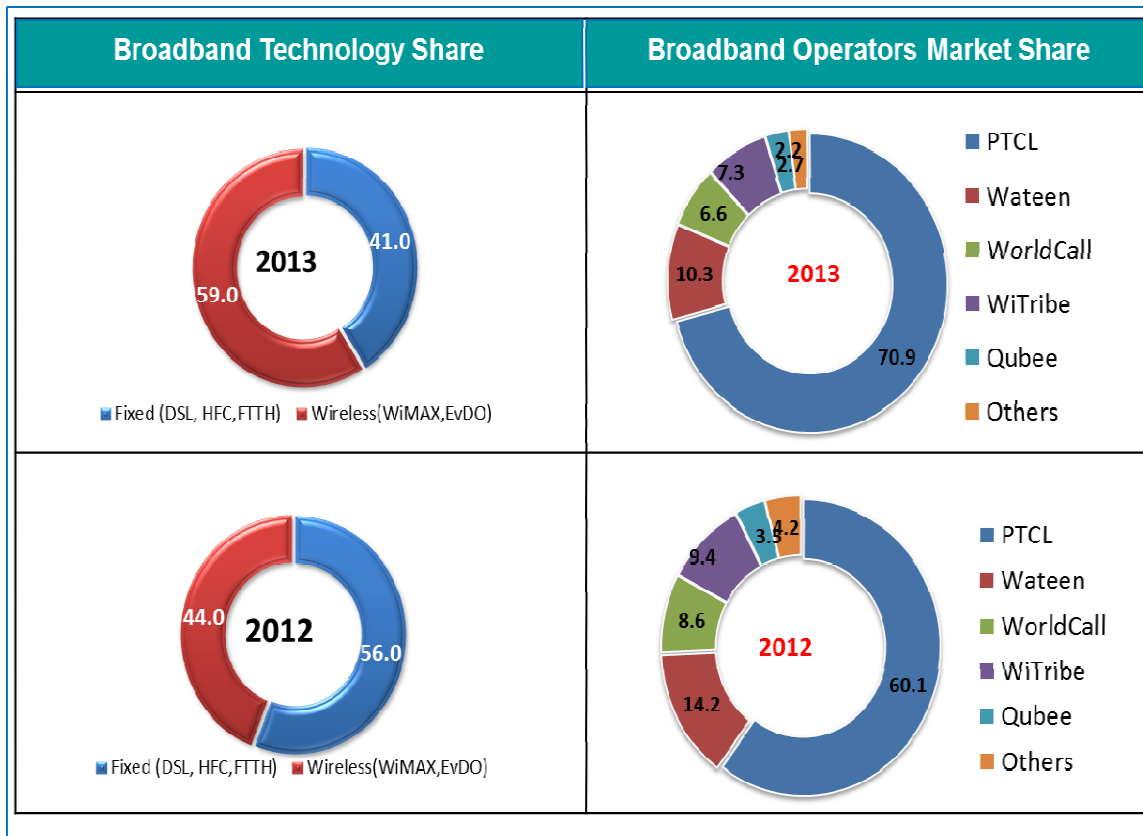
## LEGEND:

10G SDH Add / Drop	
2.5G Drop ADM	
2.5 + 10G Drops ADM	
2.5 + 10G Optical Line Amplifier (OLA)	
10G Optical Line Amplifier (OLA)	
10 G Commissioned Link	
2.5 G Commissioned Link	
2.5 + 10 G Commissioned Link	

# Broadband Technology Penetration in Pakistan before 3G/4G



# Broadband Technology Penetration in Pakistan before 3G/4G



### Conclusion

- A lot of potential remains within the Industry to maximize the revenues
- Spectrum Auction and introduction of faster mobile data services will trigger a Technological growth
- Companies will be able to capitalize on revenue generation from Data
- High un-met demand for faster mobile services

SOURCE: PTA Data

# The era of New Generation Mobile Services (3G & 4G Mobile Broadband

13

Government issued a Policy Directive for 3G/4G auction on 7th October 2013

Consultant was contracted on 19<sup>th</sup> December 2013

Auction took Place on 23<sup>rd</sup> April 2014 through Simultaneous Multiple Round Ascending (SMRA)

NGMS Licenses were awarded to 4 Mobile Operators on 22<sup>nd</sup> May 2014

4 Mobile operations launched their 3G/4G services during September 2014

## 3G & 4G- Progress so far

14

**3 Mobile operators launched 3G & 1 operator launched 3G & 4G services**

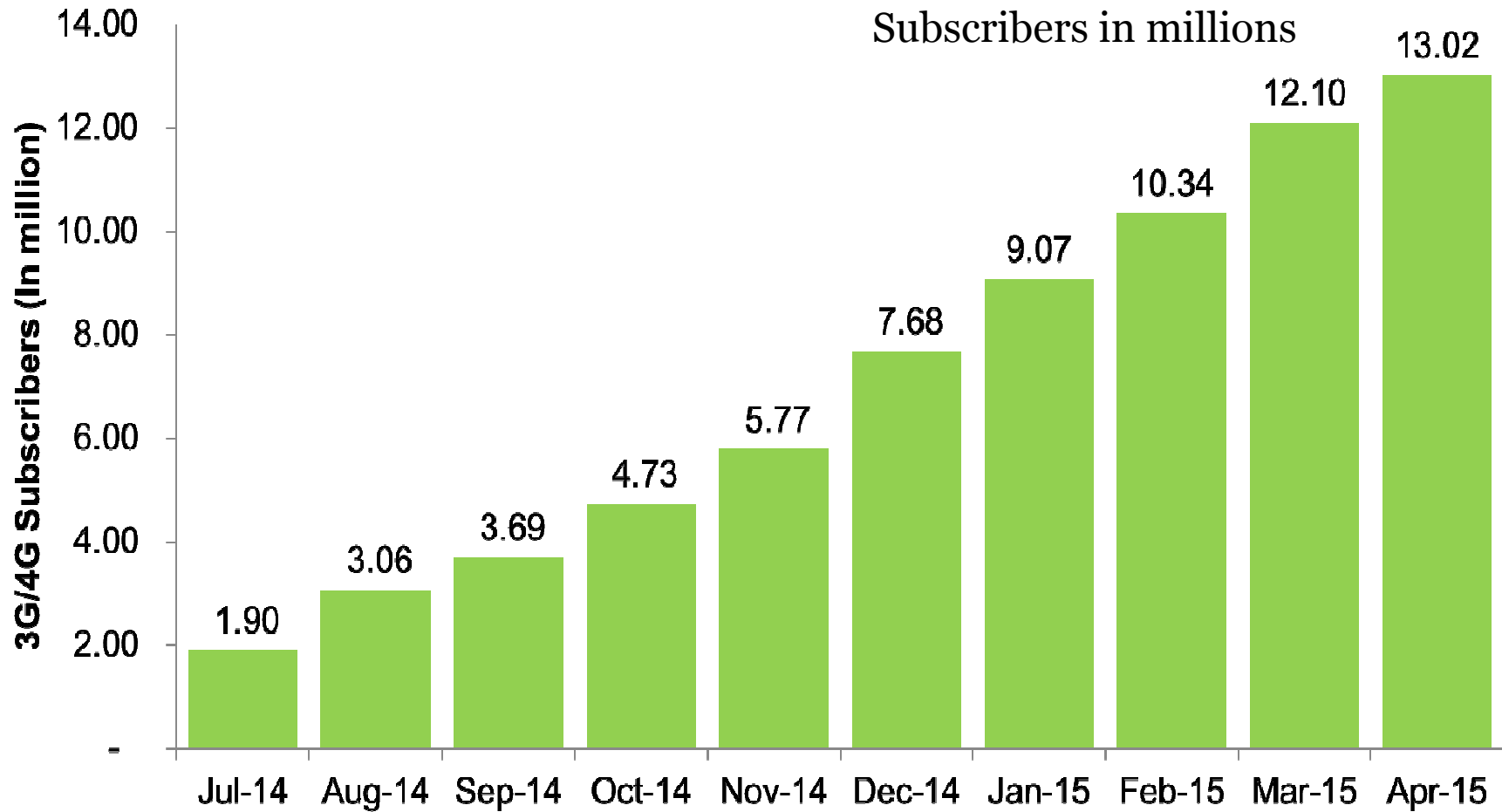
**The Auction generated USD 1.2 Billion for the Government**

**Exponential growth of 3G & 4G subscribers- 12 Million subscribers ( as of March 2014)**

**Sudden surge in usage of Mobile Applications- Opening up a new immense opportunity in the county**

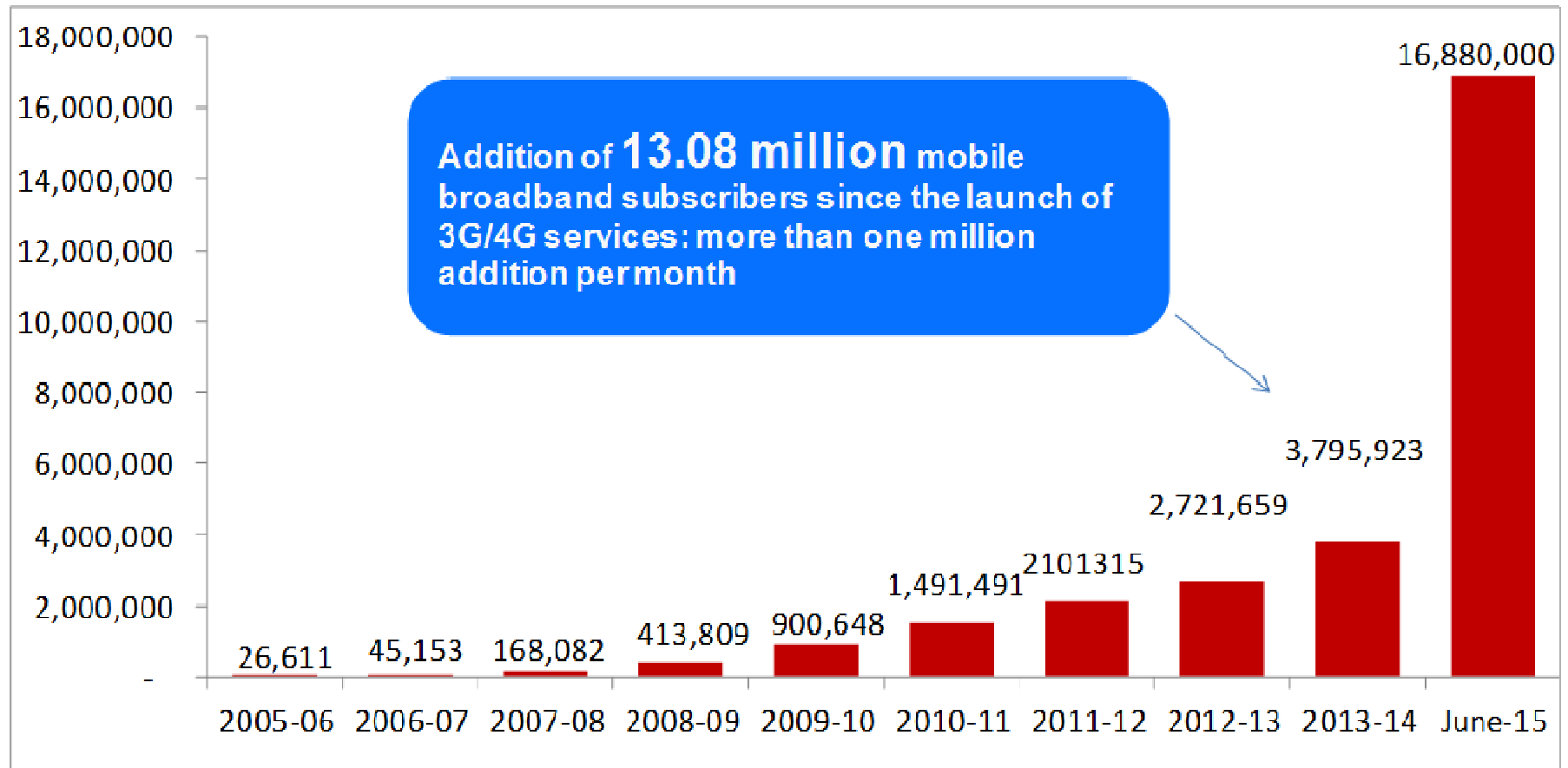
## Exponential Monthly Growth in 3G/4G subscribers

15



## Outstanding growth in Mobile Broadband after spectrum auction

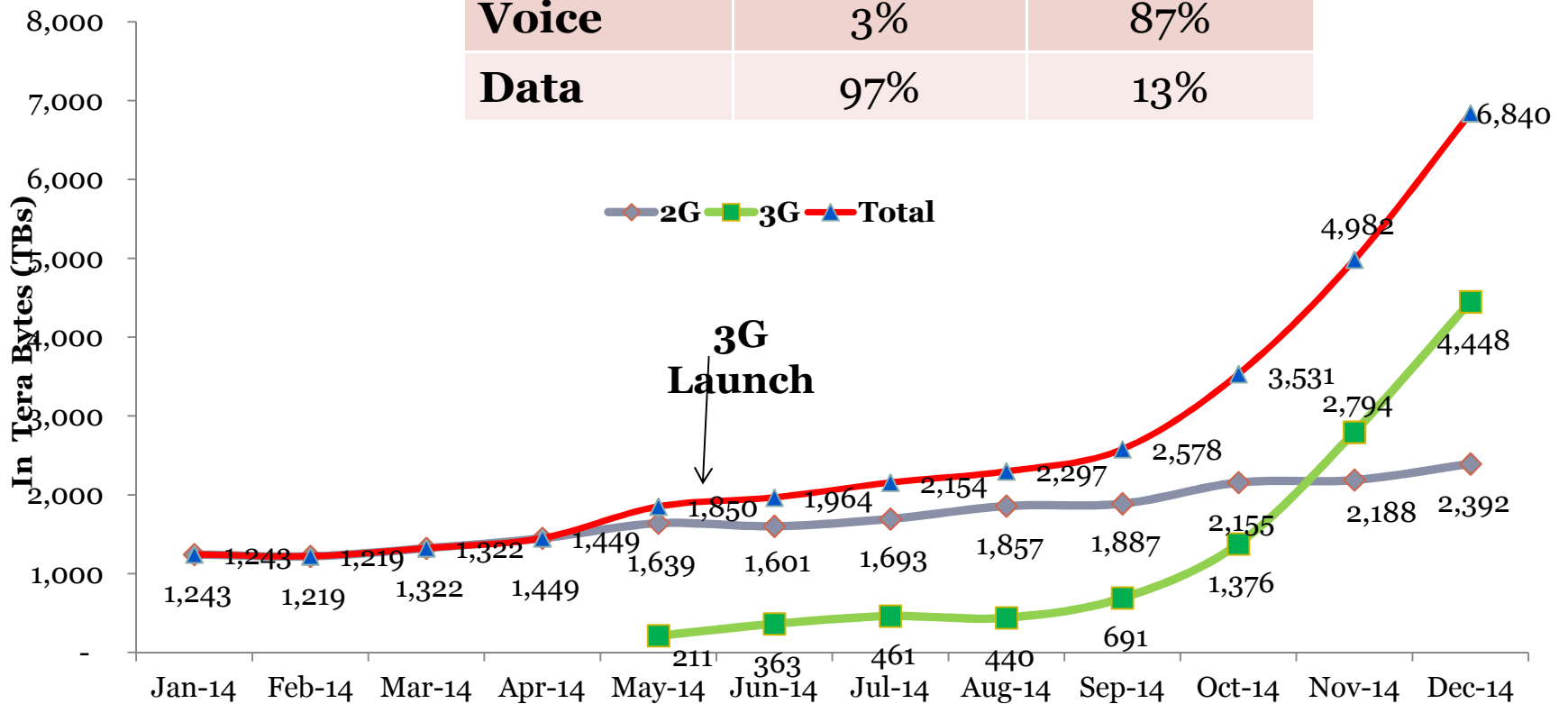
16





# Extensive Data Usage on 3G Networks

	3G shares %	2G shares %
<b>Voice</b>	3%	87%
<b>Data</b>	97%	13%

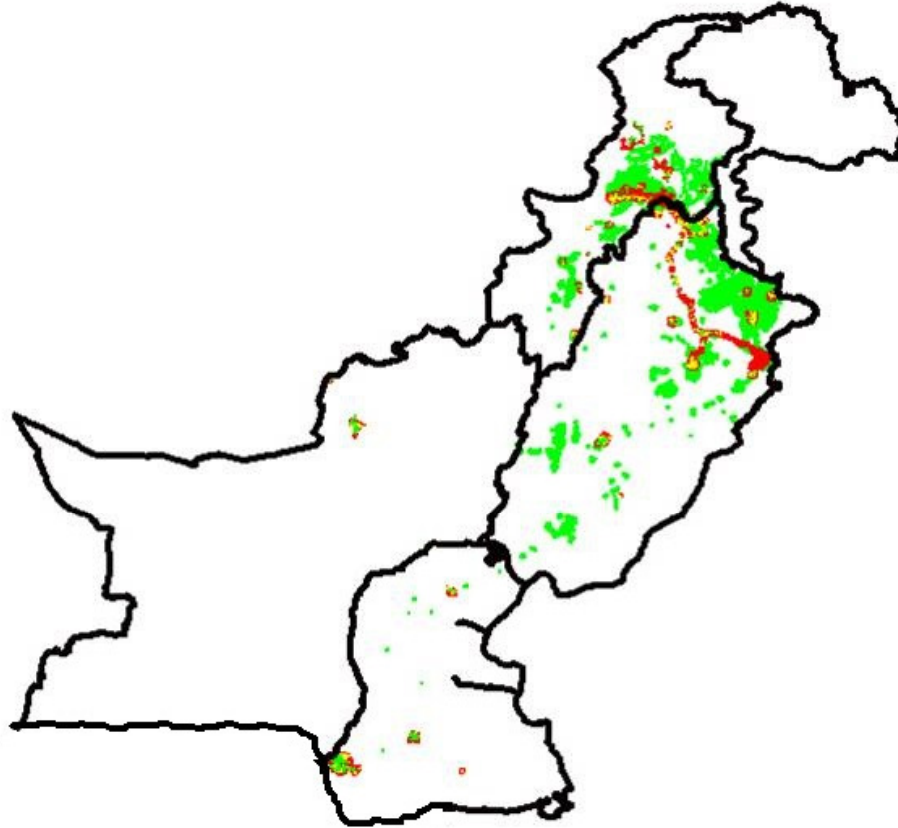


## MBB comparison with other countries (December 2014)

18

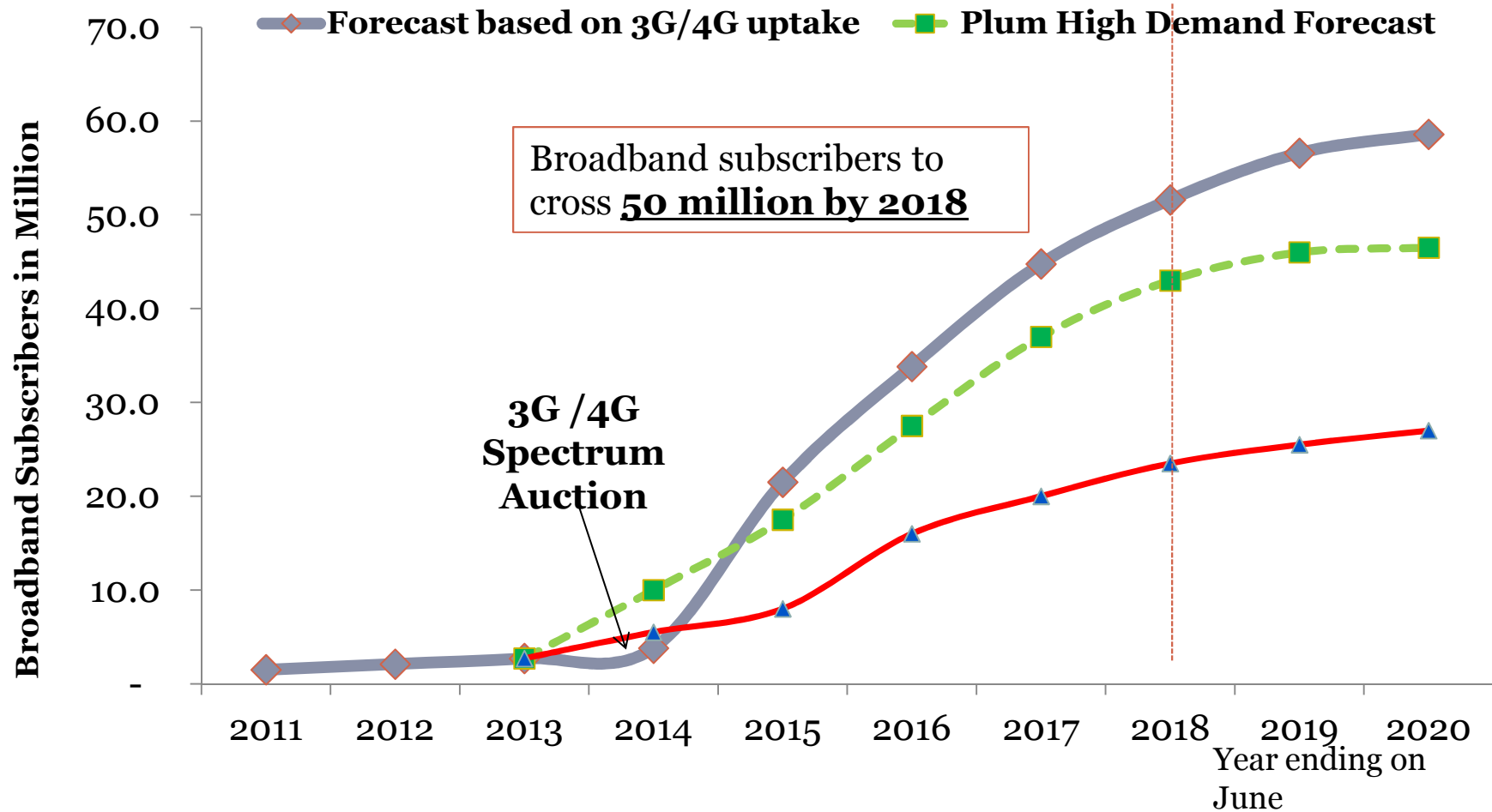
<b>Country</b>	<b>MBB Penetration</b>	<b>Growth Rate</b>	<b>SIM Penetration</b>	<b>Auction</b>
<b>Pakistan</b>	<b>7%</b>	<b>592.86%</b>	<b>74%</b>	<b>2014</b>
<b>Bangladesh</b>	<b>6%</b>	<b>232.26%</b>	<b>76%</b>	<b>2013 (3G)</b>
<b>India</b>	<b>11%</b>	<b>46.06%</b>	<b>74%</b>	<b>2011</b>
<b>Indonesia</b>	<b>34%</b>	<b>46.76%</b>	<b>122%</b>	<b>2006 (3G)</b>

# 3G and 4G Coverage



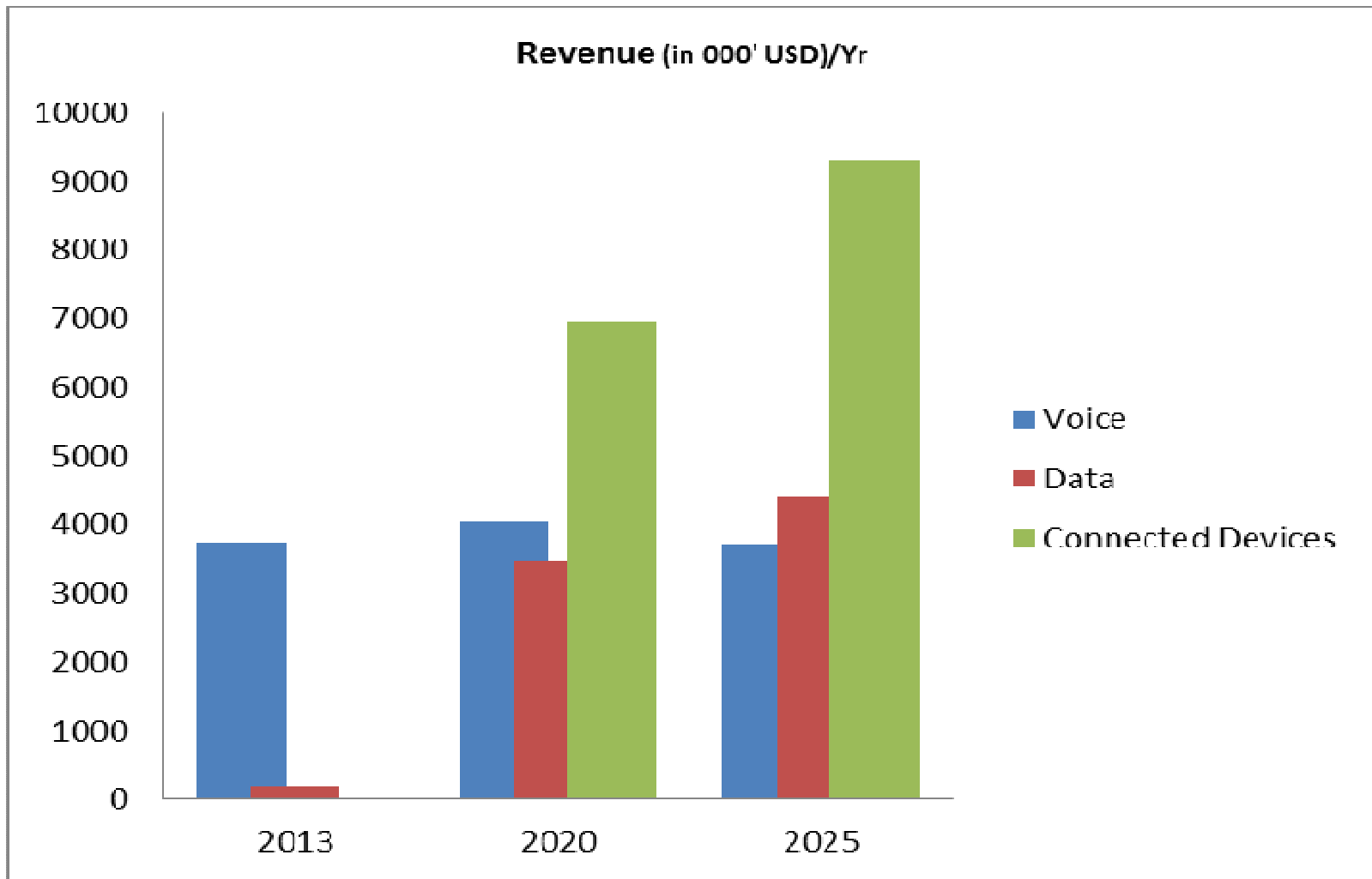
# Projected Broadband Growth in Pakistan

20

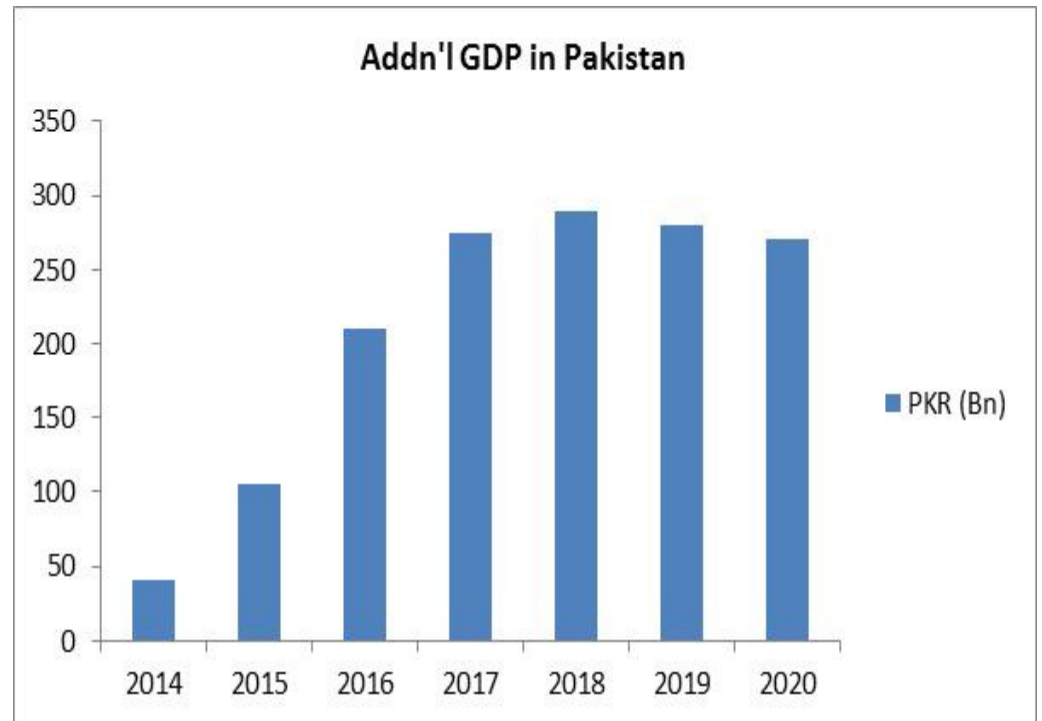
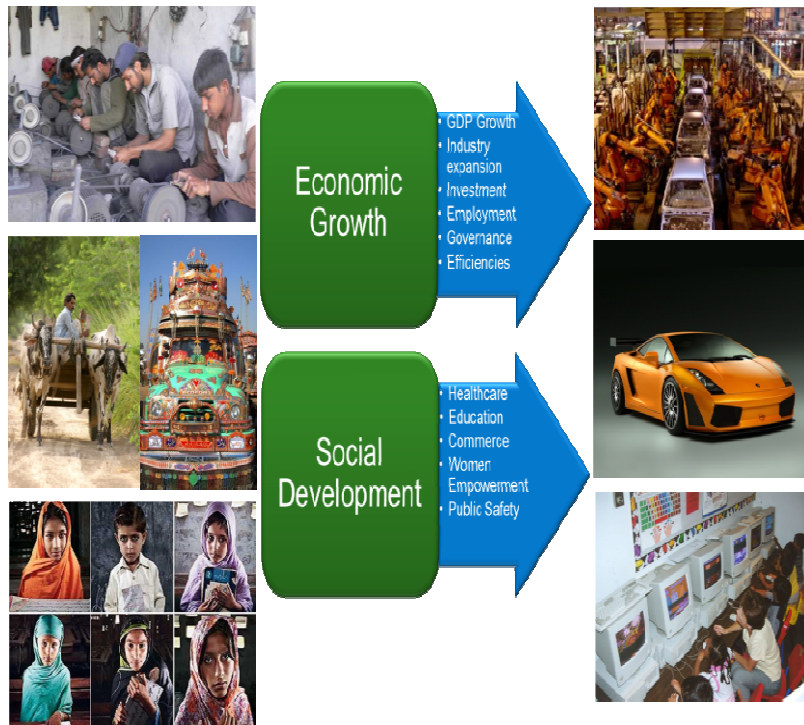


# Market (Revenue)

---



# Market (Socio-Economic Development)



# 3G and 4G – an enabler for accelerated socio-economic development through mobile broadband

23

**CONNECTED COMMUNITIES**

**INTERNET OF THINGS**

Increasing number of connected devices per person

**M-COMMERCE**

Doing business and make payment from mobile

**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

**WOMEN EMPOWERMENT**

**PERSONAL ECOSYSTEM**

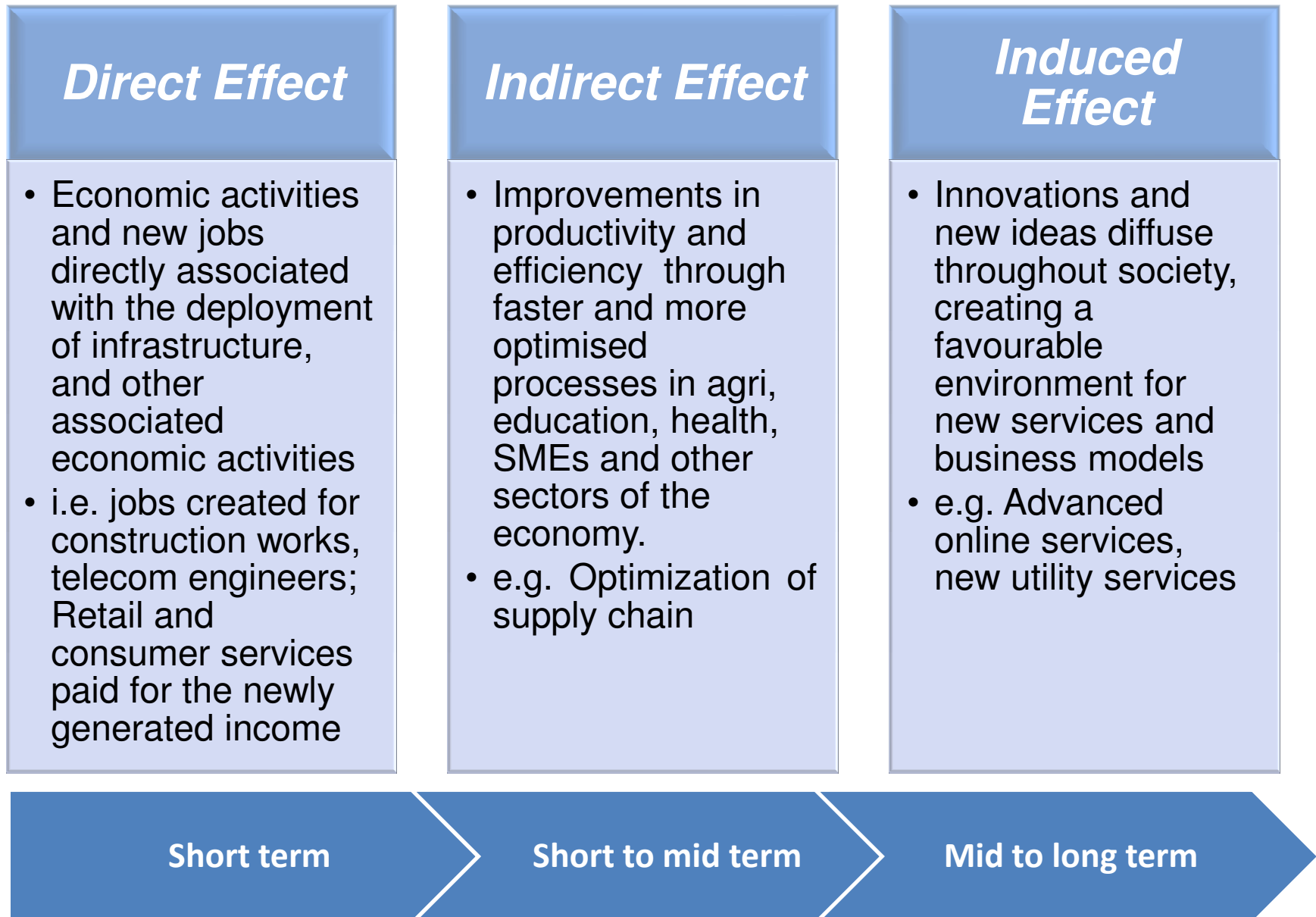
Access and control of connected devices remotely from mobile

**DIGITAL ME**

Mobile carries digital access for payment, transport etc

# Economic Impact of Mobile Broadband

---





# Additional GDP due to 3G and 4G services

---

## International evidence / estimates

The World Bank estimates show that a 10 percent increase in mobile broadband penetration drives a 1.4 percent increase in GDP for low-to-middle income countries.

*(The World Bank and ITU)*

A 10 percent point increase in broadband connections penetration leads to 0.92% increase in GDP in developing countries.

*(GSMA)*

Direct, indirect and induced economic effects

Short-term and medium to long-run effects

## Additional GDP during 2014-2020

- Estimated **Rs. 1,200 Billion** addition expected in GDP due to 3G and 4G services in Pakistan during 2014-20.

Source: PTA , World Bank, GSMA, Plum Report 2013

# GDP growth translates into Job Creation

---

## International estimates

Addition of 1,000 new broadband connections results in the creation of 33 new jobs (Direct, Indirect and Induced jobs in industries that make use of broadband networks)

**GSMA**

The recent GSMA Report on Digital Inclusion and Mobile Sector Taxation in Pakistan shows that for every new job created in Pakistan's Mobile sector, 11 are generated in the wider economy

**GSMA Deloitte**

For every percentage point increase in broadband penetration, employment would increase by 0.2 to 0.3 percentage points per year.

**Planning Commission and GSMA**

## Additional Job Creation:

- Expected 1 to 1.5 million employment generation during 2014-2020.

Source: PTA , GSMA, World Bank, Planning Commission and Plum Report 2013

Thank You!