

# ITU-D Regional Development Forum for the Asia Pacific Region

“NGN and Broadband, Opportunities and Challenges”  
Yogyakarta, Indonesia, 27 – 29 July 2009

## INFRASTRUCTURE SHARING An Indian Experience

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# AGENDA

- **Current Status**
- **Telecom Infrastructure**
- **Government initiatives**
- **Future Concerns and Way Forward**



# Current Status

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# Present ICT Status

(As on 31st March, 09)

Population of India	1.2 Billion
Geographical Area	3,287,000 Sq. Km
Fixed Line Subscriber	37.96 Million
Mobile Subscriber	391.76 Million
Internet subscribers	13.54 Million
Broadband subscribers	6.22 Million
Tele Density	36.98
English Speaking Population	> 350 Million

# Broadband Potential

## Target & Forecast

Government Target		
Year	Target of Broadband	Status
2007	09 Million	2.34
2010	20 Million	6.40*

\*status as on 31<sup>st</sup> May 09

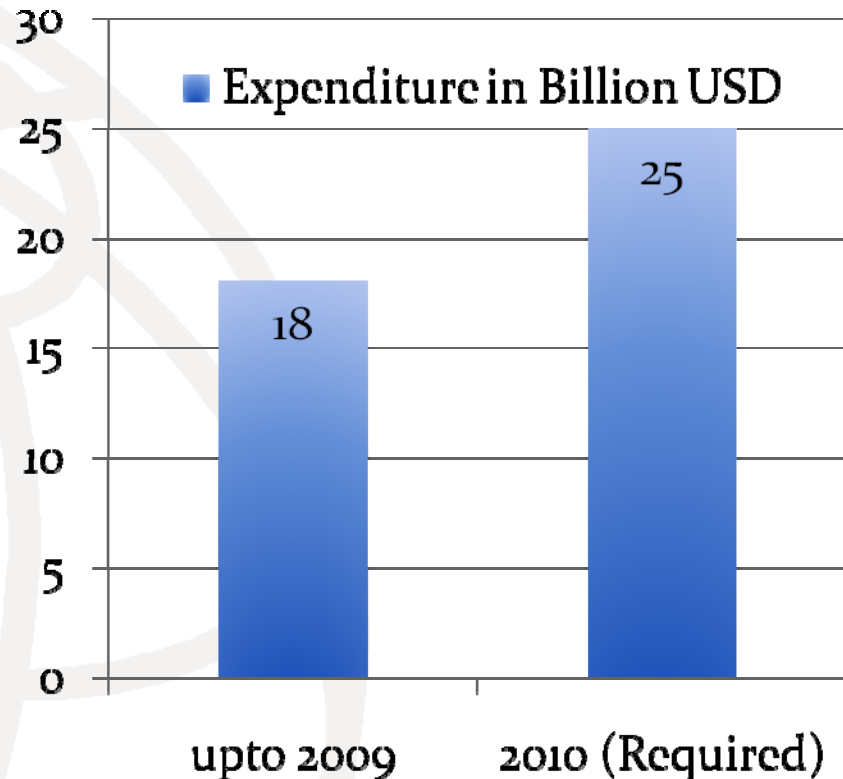
Desirable Target			
Year	No of Households	% of Households to be covered for broadband	Number of Broadband Subscribers
2010	236 Million	10%	23 Million
2012	241 Million	20%	48 Million
2015	250 Million	30%	75 Million

# Targets & Requirement (by 2010 )

**500 Million telephones &  
20 Million Broadband**

**Towers required to reach  
the target are  
3,30,000**

**Required investment only  
to setup towers is US\$  
25 Billion.**



**Infrastructure Sharing becomes vital at  
such juncture.**



# Telecom Infrastructure

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# Licensing Framework

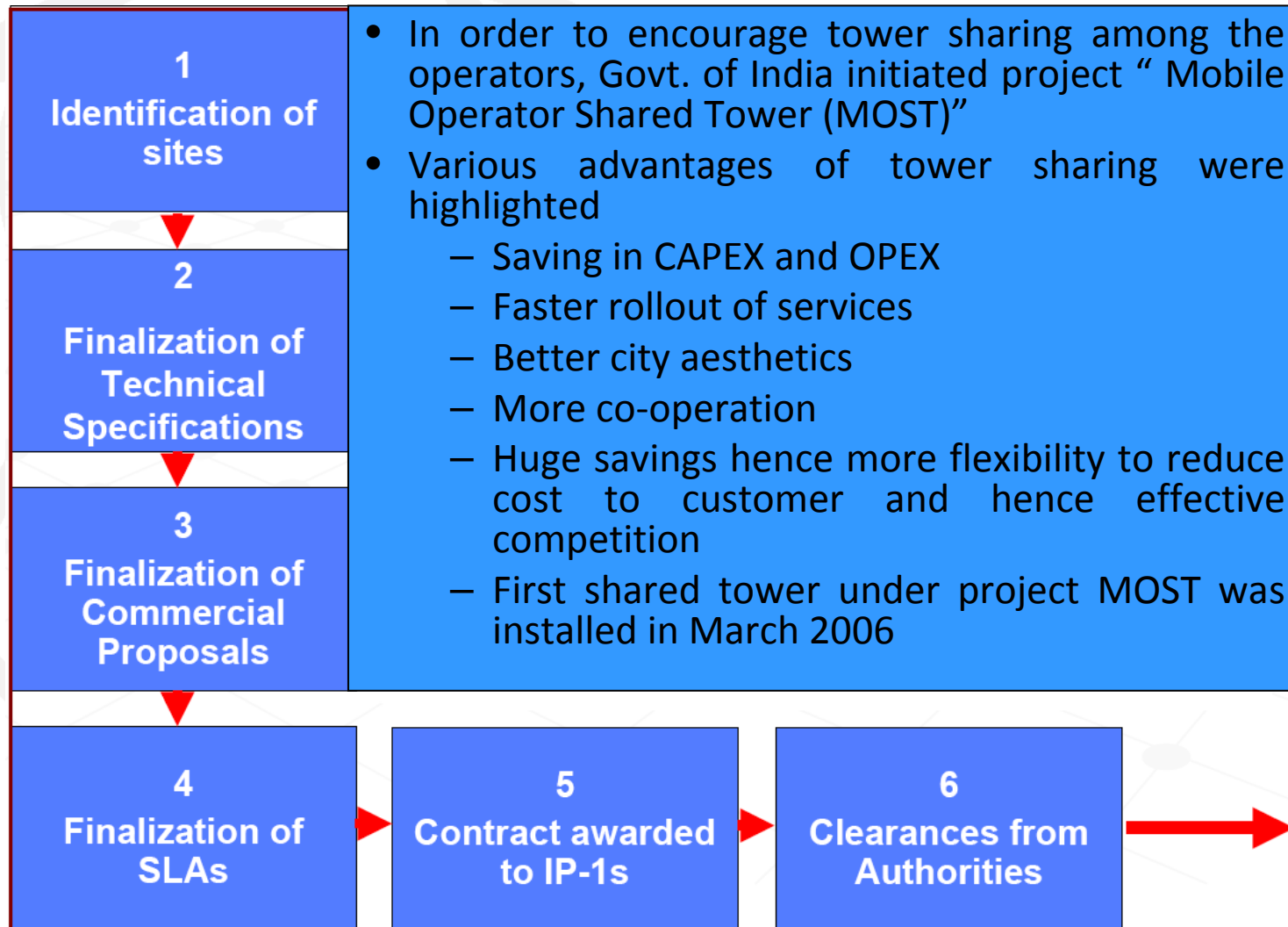
- In order to develop an independent business model to encourage creation of towers, Department of Telecommunication (DoT) introduced a new class of service providers called Infrastructure Provider Category – I on 13.08.2000
- The salient features of this scheme
  - Permission through simple registration
  - 100% Foreign Direct Investment (FDI) permitted
  - No license fee
  - They can create/ lease/ outright sale towers etc.



# Licensing Framework...

- In spite of all this, willingness of the service providers to share tower was initially low.
  - Apprehensions were that sharing of towers with their competitors would result in huge churn as later will have almost same coverage area and QoS
  - Some service providers ironically assumed that denying sharing may give them advantage over competitor by delaying competitor's service rollout in that area

# PROJECT MOST



# PROJECT MOST (contd.)

## FLAGSHIP SITE – DELHI HIGH COURT



- ✓ 2 Roof-top Towers of 15 Meter height
- ✓ First Tower – 3 Operator Sharing (GSM)
  - Single tower supporting 3x3 GSM & 3 Microwave Antennas
- ✓ Second Tower – 3 Operators Sharing
  - 1 GSM + 2 CDMA

# PROJECT MOST (contd.)

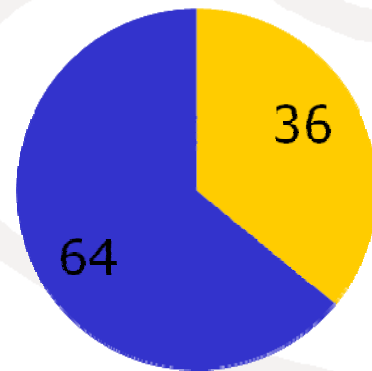
## *FLAGSHIP SITE - DHANDSA*

- ✓ Ground Based Towers of 40 Meter height
- ✓ Six operators sharing (4GSM+2 CDMA)
- ✓ Single tower supporting 4x3 GSM, 2x3 CDMA & 6 Microwave Antennas
- ✓ Tower design certified by IIT Delhi, a premier Technical Institute of India



# Sharing of Towers

Total towers : 0.37 Million  
(as on 31.03.2009)



■ Shared  
■ Unshared

Enabling environment and appropriate regulatory framework has helped to encourage Infrastructure Sharing



# **Government Initiatives**

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# TRAI's INITIATIVES

- Consultation process in November 2006
- Emphasis
  - Developing mutual cooperation among service providers
  - Pursuing Mobile Operators to adopt infrastructure sharing and avoid mandating
  - Facilitate active infrastructure sharing also
  - Provide incentive to develop towers and infrastructure to roll out mobile services in rural and far flung areas.
  - Encourage use of non conventional energy sources by teleocm operators where power supply is erratic.

# TRAI's INITIATIVES

TRAI recommendation on Infrastructure sharing were sent to Govt. on 11.04.07

Salient features of recommendations are:

- Encourage passive infrastructure sharing among service providers on mutual agreement basis.
- To bring in transparency, reasonability and well defined time frame to facilitate infrastructure sharing.
- To facilitate infrastructure sharing in critical areas (where possibility to erect towers is limited).
- Facilitate active infrastructure sharing by modifying restrictive clauses in the existing license.
- Financial support for creation of infrastructure in rural and far flung areas.
- Encourage use of non conventional energy sources in areas where electric power supply is erratic



# Broadband Growth

## Projects for Network Creation

- Projects under Department of Telecom (DoT) through USO fund
- Projects under Department of Information Technology (under National e-Governance Plan (NeGP))
  - Common Service Centers (CSCs)
  - State Wide Area Network (SWAN) Project

# USOF Measures

- 10000 towers are being established With USO fund assistance, for provisioning of mobile services.
  - Three service providers have already been identified to ride in 81 selected clusters to provide 2G services.
  - Same towers can be employed for expansion of Broadband services
- Second phase is being initiated to support creation of 11000 more towers in rural and far flung areas
  - Three service providers will share the tower
  - Service rollout possible in one year time

# USOF Measures (contd.)

## Increasing Broadband Penetration

Government has planned to provide wireless broadband connectivity in 5,00,000 villages through USOF.

- Broadband coverage to all secondary and higher secondary schools, public health care centers and Village Panchayats in a phased manner.

Broadband connectivity would be provided

- 100,000 Community Service Centers (CSC) covering 20000 CSCs by ADSL
- 1000 blocks by wireless broadband
- Remaining 5000 blocks by wireless broadband with USO support

Presently 1035 towns covered by broadband coverage

Incumbent has planned to deploy 1.8 Million DSL ports spanning over 20000 Exchanges in rural areas connected through optical fiber

# USOF Measures (contd.)

## Increasing Broadband Penetration

- Incumbent will provide 8,61,459 wire-line Broadband connections to individual users and Government Institutions from 27,789 DSLAMs, installed at existing rural and remote exchanges over a period of 5-years, i.e., by 2014.
- A proposal is also under consideration of the Government to provide subsidy support for Broadband connectivity in rural and remote areas of the country in a phased manner by utilizing the existing passive and core infrastructure available with the Service Providers. It is proposed to provide broadband connectivity to Gram Panchayats, Higher secondary schools and primary health centers in order to provide e-governance and data services to the rural areas.

# National e-Governance Plan (NeGP)

- **Common Service Centers (CSCs)**

- 40750 CSCs has been setup by March 09 out of total planned 104881 CSCs.

- **State Wide Area Network (SWAN)**

- The SWAN Scheme for 29 States & 6 Union Territories was approved by Govt. of India, in March 2005 to set up State Wide Area Networks (SWAN), interconnecting each State / UT Head Quarter with District Head Quarter and below each District Head Quarter with the Block Head Quarters with minimum 2 Mbps leased line.
- The objective of the Scheme is to create a secure close user group (CUG) government network for the purpose of delivering G2G and G2C services. The duration of project is 5 years.
- SWAN has been Implemented in 7 states. Implementation is at advanced stage in 19 States.

# Other Stakeholders

## Projects for Application Development

- Various state governments has started projects like e-seva, bhoomi,, Akshaya, CARD, GramSampark, Gyandoot etc.
- State Data Centers (SDCs)
  - initiated in 10 states
- Ministry of Health
  - e-health,
  - tele medicine
- Ministry of Human Resource Development (HRD)
  - e-education,
  - sarv siksha abhiyaan



# Looking Ahead

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# WiMax Broadband Solution

## An estimation

Particular	
Coverage of Base station (approx 10km radius)	300 Sq km
Area of India	3,287,000 Sq. Kms
Total number of BS required to cover the country (approx)	<b>11000</b>

**This indicates that sufficient number of towers are being created to cater the broadband demand/ requirement.**



# Future concerns

- Ensuring reasonable pricing for sharing of infrastructure on non-discriminatory terms and conditions to all access service providers
- Identification of Critical Infrastructure and Efficient use of resources for infrastructure sharing
- Ensure that tower may not become bottleneck facilities to rollout wireless services in view of increasing restriction by local bodies
- Ensure guaranteed SLA by Infrastructure Providers Category-I

# Way Forward

- **Telecom Infrastructure sharing will become important for speedy growth and rollout of telecom services especially in developing countries**
- **Governments has to take initiatives to facilitate proper framework for infrastructure sharing**
- **Proper regulatory and policy framework for infrastructure sharing is important to boost this sector.**



# Thank you

A Presentation by

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