



Policy Reforms and Investment Opportunities

India's Communications Sector

5 October 2016, New Delhi

Presentation Outline

- › **The India opportunity**
- › **Indian Telecommunications Sector**
- › **Break through initiative: High speed broadband for all**
- › **New opportunities for investment and partnerships**
- › **DoT led reforms: Policy, Ease-of-Doing Business, pro-Investment**
- › **TRAI led reforms: Improving regulations, tech friendly, pro-competition**

Communications Sector



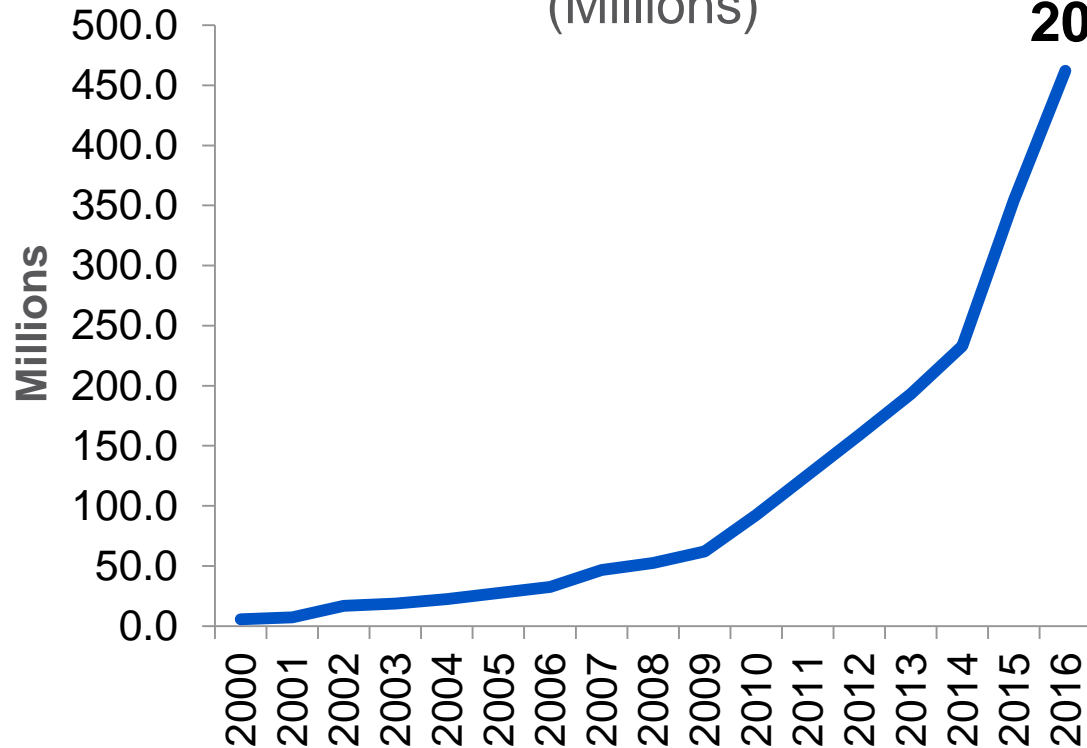
The India Opportunity

- › **World's fastest growing large economy**
- › **Large middle-class, rule of law and pro-investment policies**
- › **Exponential growth in data, video and smart devices**
- › **New and expanding investment opportunities in the telecommunications sector**
- › **E-Commerce expected to grow 30X by 2023**
- › **US \$100 Bn investment planned in 100 smart cities**
- › **US \$40-42 Bn mobile network investments by 2018**

Internet Users and Potential for Growth

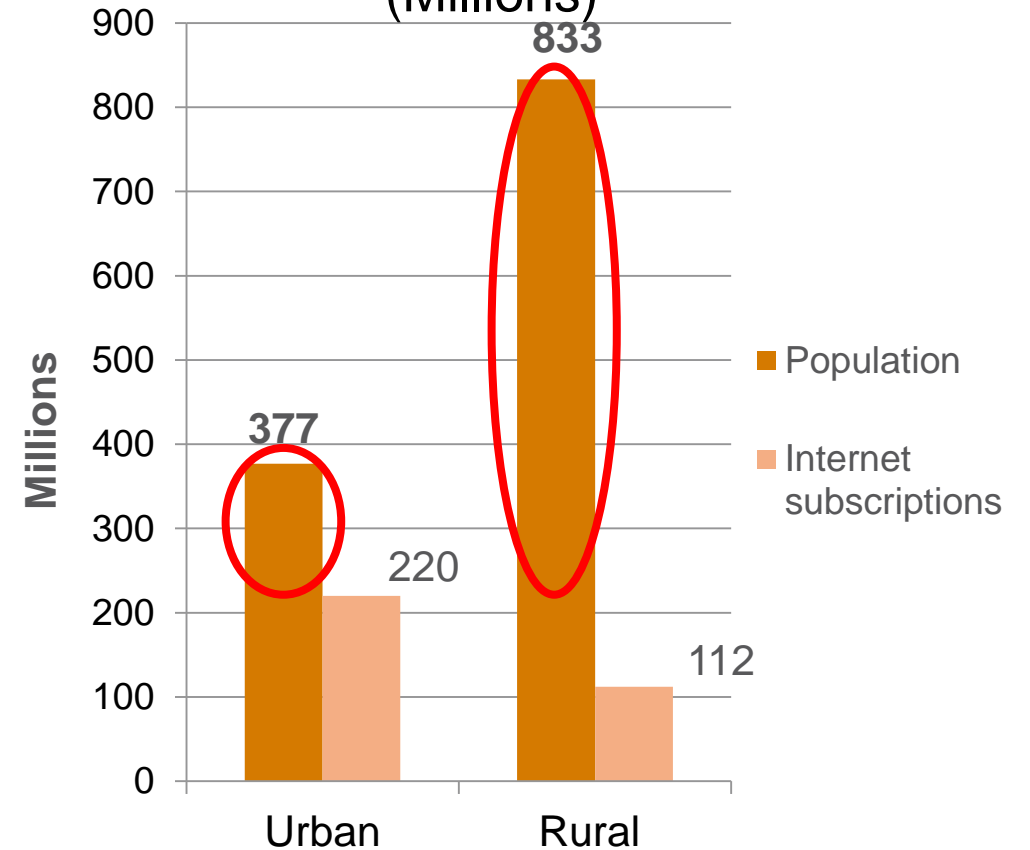
Internet Users

(Millions)



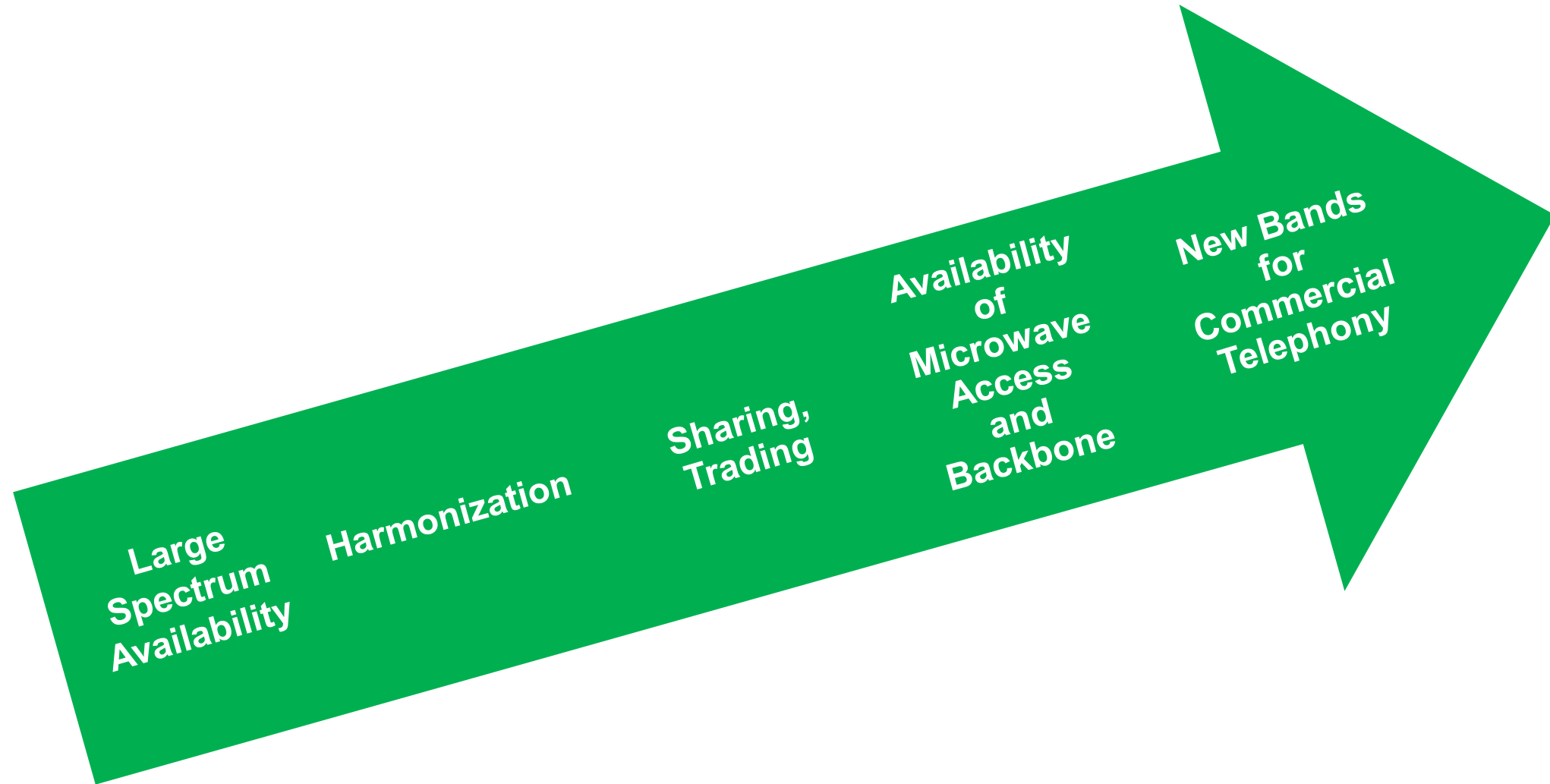
Addressable Market

(Millions)



Source: <http://www.internetlivestats.com/internet-users/india/> ; Census India 2011

Mega Auction in 2016 and Spectrum Reforms



Mega Spectrum Auction in 2016

›Ease of participation

- Liberal eligibility conditions
- eAuctions

Today's auction value:
US\$ 10 bn

›Quantity

- Over 2350 MHz spectrum on table

›Flexibility

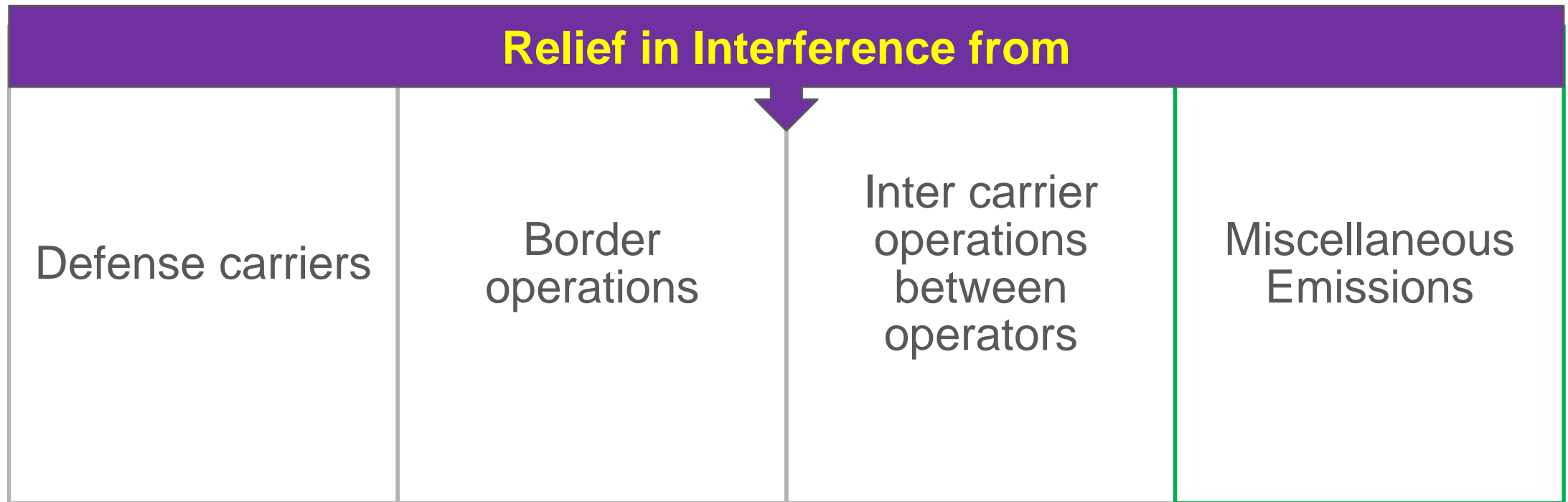
- Spectrum in 7 bands to be auctioned simultaneously

›Payment terms

- Easy terms for spectrum payments

Spectrum Reforms: Harmonization

Harmonization in 800, 1800 MHz bands



Fibre Rollout – High Speed Broadband (HSBB) for All

- › **2 Phase approach to provide HSBB to all 250,000 Gram Panchayats (GPs) on optical fibre**
- › **Rollout to 100,000 GPs by March 2017**
- › **WiFi hot-spots for last mile connectivity**
- › **Involvement of states and private sector**
- › **Funding from USOF**

New Opportunities – Virtual Network Operators

› Virtual Network Operators (VNOs): Resellers permitted

- VNOs to resell full range of telecom services**
- Can obtain bulk voice and data and use franchisee model**
- Offer own tariff plans, branding and marketing**
- Provide services in niche areas including airports, suburbs, campuses**
- VNO enables cable service providers: TV, voice, data services**
- Leads to efficient utilization of spectrum and infrastructure**

New Opportunities – M2M / Internet of Things

› Ecosystem being prepared for takeoff

- National M2M Roadmap 2015 lays the framework
- KYC norms for SIM embedded M2M devices being finalized
- 13 digit numbering scheme for M2M under consideration
- Roaming rules, cross border data, spectrum needs, being firmed up
- India specific standards based on global best practices being developed
- Draft IOT Policy inviting public comments placed online by MeitY
- M2M Service Provider Guidelines being finalized. Wide consultation by DoT

New Opportunities – Startup Ecosystem

› Nurture Innovation and Startups

- Easy entry through paperless regime and self certification
- Easy compliance and handholding
- Venture funding support and incentives
- Industry-Academia partnership and incubation
- Easy exit
- Access to public procurement
- Tax breaks on capital gains and exemption for 3 years

Source: <http://startupindia.gov.in/actionplan.php#>

New Opportunities – Smart Cities

Enormous opportunities in telecommunications infrastructure, services and applications for

› Physical infrastructure

- Energy, transportation, water, waste management, housing, public works, etc.

› Social Infrastructure

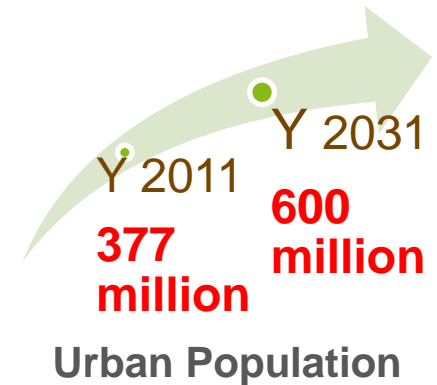
- Safety and security, health care, education, entertainment, environment

› Institutional infrastructure

- Service delivery, transparency and accountability, citizen participation, judicial systems

› Economic infrastructure

- Job creation, livelihood activities, taxation, banking services



DoT: Recent and Ongoing Reforms

› Norms Eased for Customer Acquisition : eKYC

- Customer acquisition norms eased. Move to paperless, online, biometric identification, eKYC

› Licensing

- IP based interconnection from April 2016 for telcos.

› Easy of Entry

- Liberal and simple FDI norms in telecom service provision, infrastructure and manufacturing.
- Merger and acquisition rules in telecom sector eased.
- Reseller route allows entry opportunity.

› Infrastructure

- Active infrastructure sharing permitted for efficient utilization of resources
- Limited Liability Partnership (LLP) form permitted for Infrastructure Providers Category I (IP- I)

› Quick Rollout / Right of Way Clearances

- RPW policy formulated in consultation with state governments and stakeholders

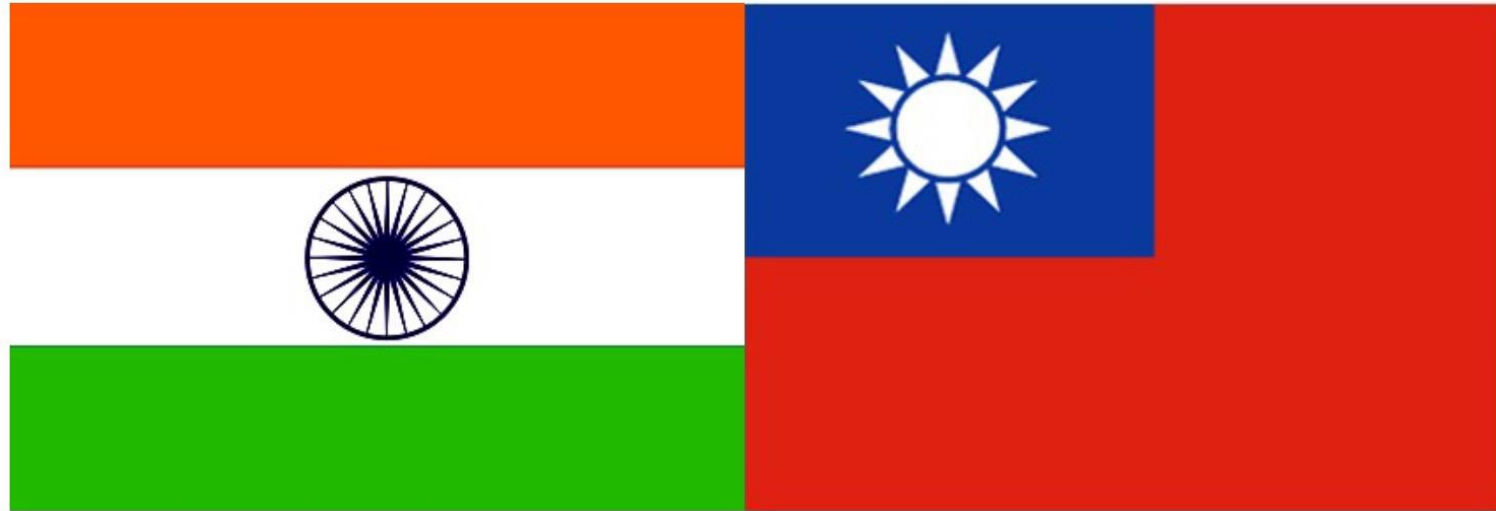
TRAI: Recent and Ongoing Reforms

Sl. #	Name of Paper	Status of Consultation
1.	Regulatory framework for Over the Top (OTT) services.	In progress
2.	Review of Reporting System on Accounting Separation Regulation (ASR), 2012	Completed
3.	Compensation to the consumers in the event of Dropped calls	Completed
4.	Implementation model for Bharat Net	Completed
5.	Valuation and reserve price of spectrum in 700, 800, 900, 1800, 2100, 2300 and 2500 MHz bands	Completed
6.	IP Based Interconnection	Completed
7.	Differential Pricing for Data Services	Completed
8.	Review of Reporting System on Accounting Separation Regulation, 2016	Completed
9.	Free Data	In progress
10.	In-building access by TSPs	In progress

TRAI: Recent and Ongoing Reforms (contd..)

Sl. #	Name of Paper	Status of Consultation
11.	Cloud Computing	In progress
12.	Review of Voice Mail / Audio Text Services	In progress
13.	Internet Telephony (VoIP)	In progress
14.	Pre-Consultation on Net Neutrality	In progress
15.	Proliferation of Broadband through Public Wi-Fi Networks	In progress
16.	Complaints / Grievance Redressal in Telecom Sector	In progress
17.	Review of regulatory framework for the use of USSD for mobile financial services	In progress
18.	Interconnect Usage Charges	In progress
19.	Review of network related quality of service standards for CMTS	In progress
20.	Spectrum usage charges and presumptive Adjusted Gross Revenue for ISP and Commercial Very Small Aperture Terminal Service Provider	In progress

**16th Joint Meeting of
India-Taiwan Business Cooperation Committee**



Thank you