SUBREGIONAL WORKSHOP ON ICT CO-DEPLOYMENT ALONG PASSIVE INFRASTRUCTURE IN SOUTH ASIA

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Opportunities, Challenges in Co-deployment in ICT and Transport Sectors: India-Bangladesh Scenario

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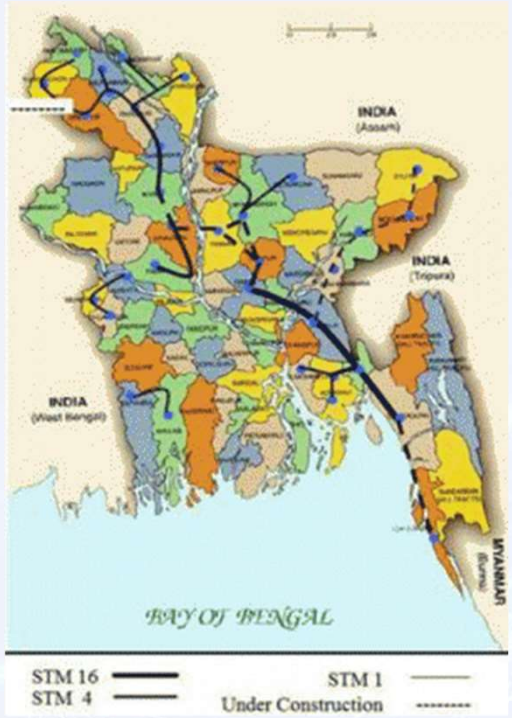
AGENDA

- Transboundary Infrastructure Co-deployment in ICT and Transport Sectors
- Bangladesh and India Scenario
- Challenges and Emerging Opportunities

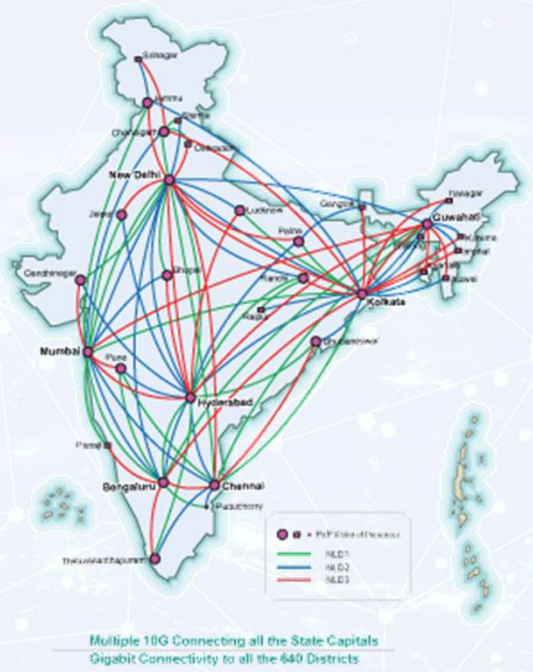
Co-deployment

- Passive communications infrastructure
- Dark fibre and ducts
- Co-deployment, therefore, refers to the strategic installation of OFC alongside any utility infrastructure like roads and railways.
- Simultaneous or post-construction.

India-Bangladesh Co-deployment Scenario

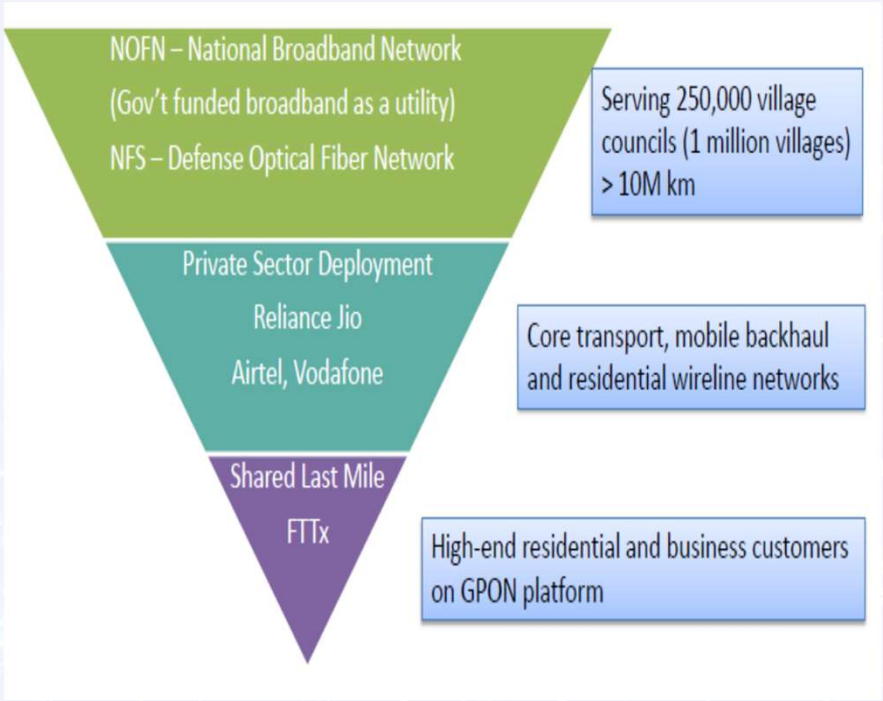


Source: STRC



Source: NKN

Optical Fibre Connectivity Drivers in India



INDIA

- India: State-wise length of National Highways (NH) in India as on 30.11.2018: 1,31,326 km (NHAI data)
- India: National Highway Length as on 01.03.2019 : TOTAL 132499 km (NHAI data)
- RailTel- a government project started in 2000 to lay fiber optic cables along the routes of the railyway tracks. With bandwidth up to 400Gbps and redundancy re-routes they have a network of over 30,000KM
- BharatNet - to provide 1 Gbps (gigabit per second) bandwidth capacity at panchayat level.
- Targeting to connect 250,000 panchayat under the BharatNet network by March, 2019.
- Under the Phase I : 100,000 panchayats are targeted to be connected
- Phase II high-speed broadband to all panchayats by March 2019
- Under the Phase II, the government aims to lay 1 million kilometers of additional OFC & give bandwidth to private telecom players at nearly 75% cheaper price for broadband and wifi services in rural areas.

BANGLADESH

- Vision 2021: Digital Bangladesh’
- BTRC there are currently 54,228 kilometres of fibre optic cable where the nationwide telecom transmission network
- Co-development of fibre optic has been done along the Highway by both government organizations and private companies
- ‘Establishment of ICT Network to Remote Areas (Connected Bangladesh)’
- RHD permitted several government organizations like ICT Division, BTCL and private companies GP, BL, Summit, Fibre Bangladesh etc. to install fibre optic work along Highway.
- Bangladesh’s government has undertaken a project to extend fibre-optic connectivity to an additional 772 union councils – the country’s smallest rural administrative sub-divisions – by end of 2018

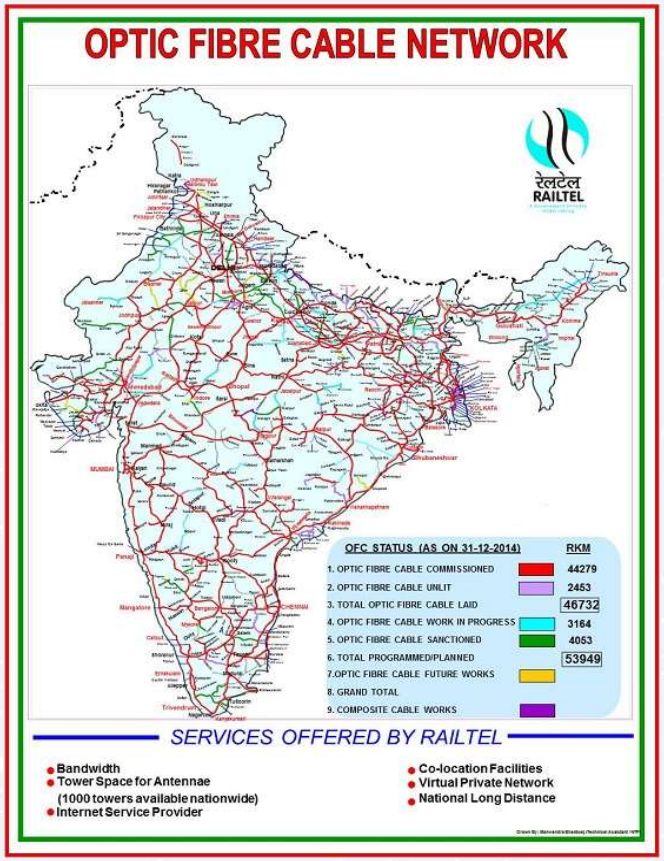
BANGLADESH RAILWAY

- Co-deployment of optical fibre has already been done along the Railway Route.
- Out of total 2877 km railway route, Bangladesh Railway has about 2300 km co-deployed with optical fibre
- Part of which have been leased out to Grameenphone Limited (GP) and Robi Axiata Limited.
- In addition, 380 km optical fibre is being laid along the construction of new railway lines.
- Bangladesh Railway has submitted Project Proforma to the planning commission for laying 575 km optical fibre along the rest secondary railway route.

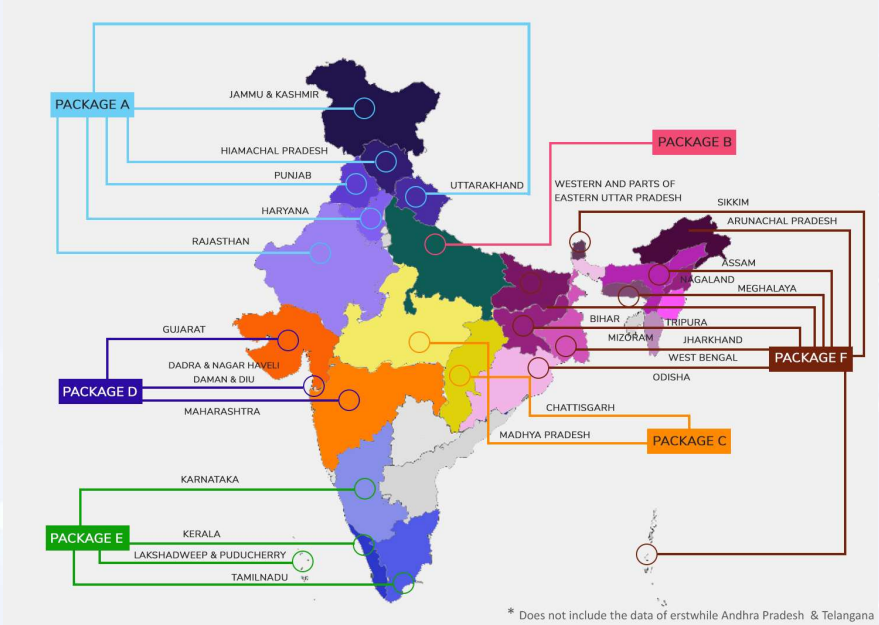
OFC Scenario in Bangladesh

Licence Holder / Operator	OFC Coverage
NTTN	
Summit Communication	20,670 km
Fibre@Home	15,468 km
Bangladesh Telecommunications Company Limited	4,935 km
Power Grid Company of Bangladesh	4,402 km
Bangladesh Railway	2,105 km
Mobile Phone Operators	
Banglalink	3,000 km
Grameenphone	2,500 km
Other operators	1,157 km

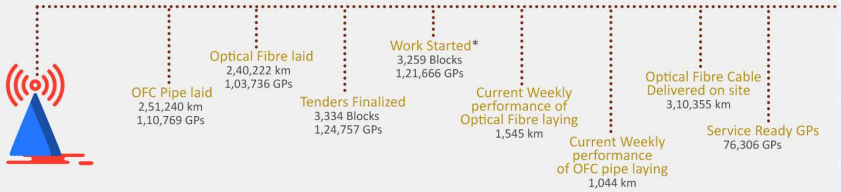
Indian Railtel Network



Bharatnet



STATUS OF BHARAT NET AS ON 12 NOVEMBER 2017



STATUS OF BHARATNET

Updated On: 12/11/2018

Description of Work	Status
OFC Pipe laid	2,81,715 Kms (1,21,469 GPs)
Optical Fibre laid	2,92,304 Kms (1,20,061 GPs)
Tenders Finalized	3291 Blocks / 1,22,828 GPs
Work Started*	3285 Blocks / 1,22,383 GPs
Current Weekly performance of Optical Fibre laying	134 Kms
Current Weekly performance of OFC Pipe laying	87 Kms
Optical Fibre Cable Delivered on site	3,41,568 Kms
Service Ready Villages (GPs)	1,15,997 GPs

BharatNet Usage Status as on 24-06-2019

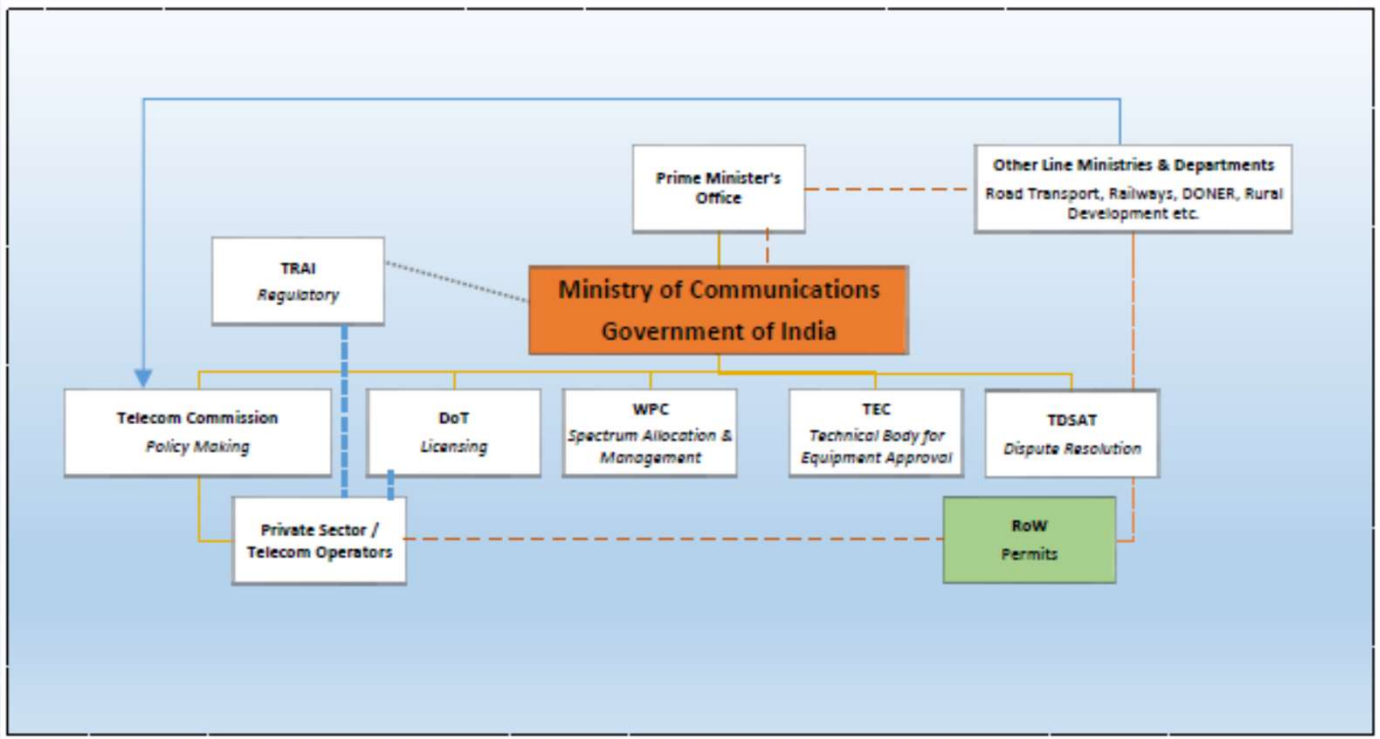
- Length of OFC Laid: 3,40,085 Km
- Number of Gram Panchayet (GPs) where OFC Laid : 1,29,760
- GPs to which OFC Connected & Equipment Installed : 1,19,741
- **Usage:**
- No. of GPs for which agencies decided to install Wi-Fi: 1,05,000
- Wi-Fi installed in GPs: 44,054 GPs
- Wi-Fi operational in GPs: 14,005 GPs
- No. of Users (April,2019) : 11,92,966
- Total Data used per month (April,2019) : 78,538.71 GBs

Fibre to the Home (FTTH) connections on BharatNet

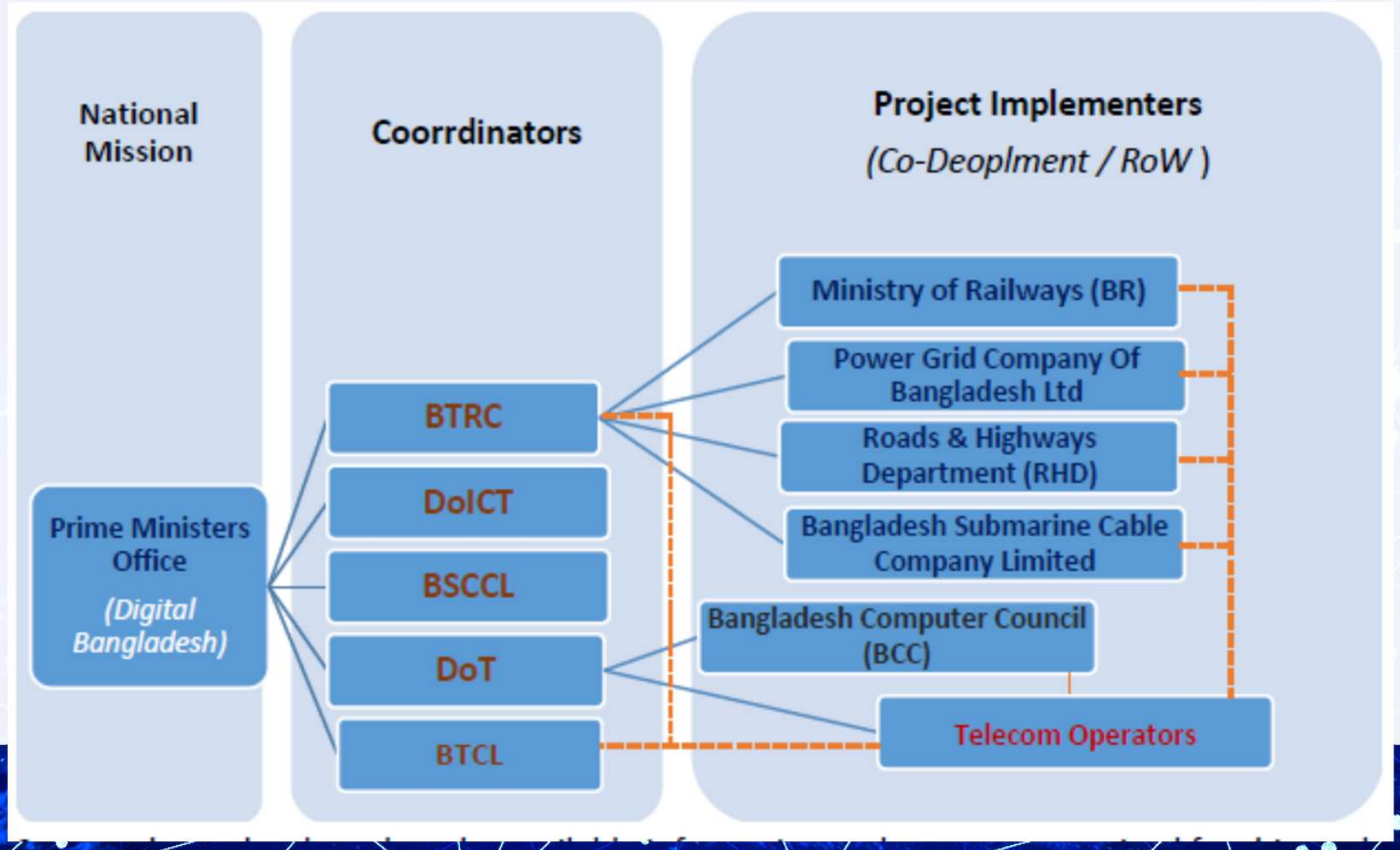
Status as on 24-06-2019

- FTTH connections taken by the States: 21,549
- FTTH connections provided by BBNL for the interim period at GP level: 79817
- SWAN connections: 5196 GPs.
- Utilisation by TSPs and ISPs
- Locations finalised and approved
- TSP: 354
- ISP: 5437
- Connections provisioned: TSP: 142 ISP: 1678

Coordination Structure (India)



Coordination Structure (Bangladesh)



Illustrative Cases of Opportunities

- **COMMON DUCT PILOT PROJECT IN INDIA**
- Duct sharing in Deoghar District of Jharkhand
- “Common Duct Policy” project
- Common duct would be built on PPP (public private partnership) structure
- Revenue for the local government
- The owner of the duct infrastructure (the local government) will maintain the duct.
- There will be no need to secure frequent RoW (Right of Way) permission from the Ministry of Road and Highways.

PPP Model (TRAI)

- The government as anchor client (to purchase min bandwidth at market rate).
- Ensure that the concessionaire does not discriminate between service providers Reserving 50 percent of the optical fibre for telecom and cable service providers.
- The government - minority partner of the concessionaire with 26 percent stake - lower cost of financing the project, solve the risks associated with windfall profits.

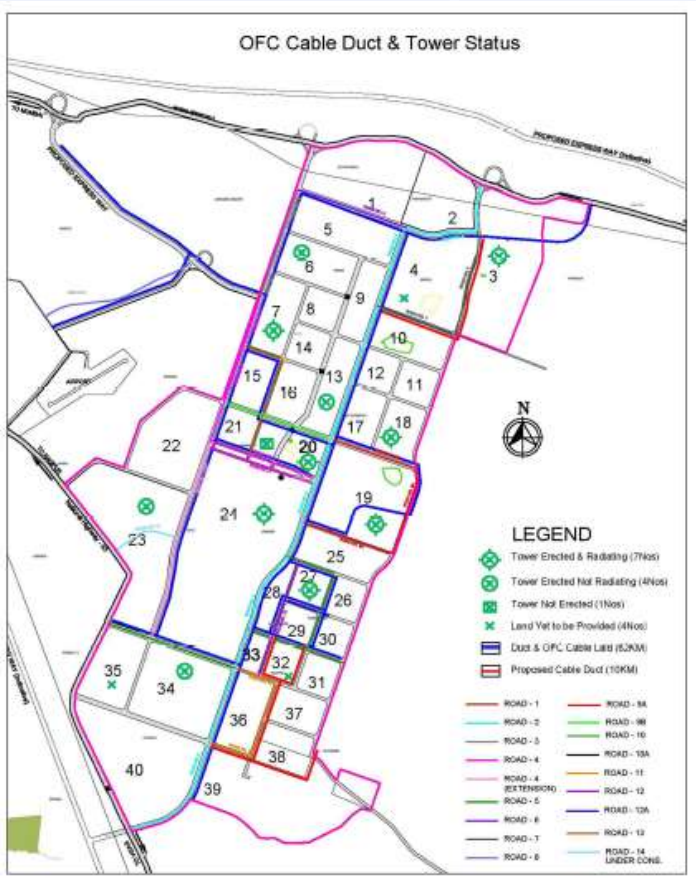
Railtel Partners with Cable TV Operators for Rural Connectivity

- In Tamil Nadu, RailTel is partnering with local cable TV operators to cover the last mile for broadband connectivity in rural India.
- Fibre optic network to cable TV cables to deliver high speed internet to homes.
- Local operators will bear the cost of laying the last mile cables between the RailTel's nearest point of presence (PoP) and the end-user households.
- Currently *RailWire* delivers Internet speeds ranging from 256 kbps to 10 Mbps to about 2,500 subscribers in 16 of the 32 districts in the state.
- Tariffs are competitive

PPP Model for BharatNet Project

- TRAI build-own-operate-transfer (BOOT) model - A public private partnership (PPP) that aligns private incentives with long- term service delivery
- Broadening of the work of the private sector company or concessionaire to include deployment and implementation of optic fibre cable as well as operating the network (25 years, extension in blocks 0, 20 or 30 yr)
- Concessionaires should be selected through a reverse-bidding process to determine minimum viability gap funding (VGF)

Naya Raipur


OFC Cable Duct & Tower Status
LEGEND
Tower Erected & Radiating (7Nos)
Tower Erected Not Radiating (4Nos)
Tower Not Erected (1Nos)
Land Yet to be Provided (4Nos)
Duct & OFC Cable Laid (5.2KM)
Proposed Cable Duct (10KM)
N

Bangladesh Scenario

- In both countries, stakeholders emphasised collaborations and partnerships between government departments and private companies.
- PPPs may be the key to the success
- Private sector participation can fill many gaps and offer many services
- In the case of Bangladesh, PPP is still a largely unexplored area according to the Road Transport and Highways Department.
- Bangladesh Railway has its own experience in co-deployment of fibre cables- in future for extension of existing activities, PPP models may be considered.
- The Road Transport and Highways Department has worked with Private Sector

EMERGING OPPORTUNITIES

- BTRC has adopted an infrastructure sharing approach in order to minimize the cost of network deployment and to protect the environment by reducing the proliferation of telecom installations like mobile towers.
- Bangladesh Telecommunication Regulatory Commission (BTRC) 2008 Infrastructure Sharing Guideline (ISG)
- Indian Ministry of Road Transport and Highways, Government of India, in 2013, issued a fresh set of guidelines allowing private parties to deploy fibre optic cables along the highways
- Indian regulator Telecom Regulatory Authority of India (TRAI) : Infrastructure sharing at backend would not damage the sector's competitive landscape and in fact, such partnerships are necessary to make robust infrastructure project successful.

Thank you

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