

National Network & Affordable Internet Initiatives

Presented By

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Overview

From our study nearly 190 thousands sites majority of which includes schools, colleges, government offices, health, agri & growth centers require high speed broadband internet. The presentation will focus on the various initiatives so far been taken place as well the ongoing & upcoming projects to address the identified areas to connect, considering the unconnected ones and sustainable modus operandi.

Topics

- Historical Ride & Our Data Services Systems & Projects
- Project initiatives and National Network Design
- Possibilities and Way Forward



a2i is the world's first Innovation Lab+ and the key driver from the Prime Minister's Office of the government's public service innovation agenda. We work with a whole-of-government approach leveraging the rapid expansion of technologies to foster truly unprecedented transformations that are taking public services to citizens' doorsteps

Leapfrogging in 8 Years



Area	2008	2016
Poverty	40%	23%
Literacy	49%	65%
Electricity	27%	75%
Wireless	2G	Wiman, 3G
Internet	0.4%	30% +
Mobile	20 M	140 M
Social Media	Insignificant	14 M +
e-Services	Handful	200 + in major Dev
Service Access Point	<10	5000 +
Policy	Dysfunctional ICT Policy	Policies: ICT, Broadband, Edu, Health, PPP etc.

Where do we stand



Index	Present	Previous	Key Factors
ICT Development Index (176 Countries)	145 (2016)	143 (2015)	Below marked Infrastructure Development, internet price, internet use in individual level
Networked Readiness Index (139 Countries)	112 (2016)	109 (2015)	Low mark in individual usage, infrastructural development, digital content
Telecommunication Infrastructure Index (Component of E-Government Ranking)	124 (2016)	148 (2014)	Back dated data, less internet penetration in root level
Inclusive Internet Index (75 Countries)	46 (2017)	46 (2016)	141.5 Million people offline. Availability, Affordability, Relevance, Readiness
Global Connectivity Index (50 Countries)	49 (2017)	49 (2016)	Fundamental infrastructure development, need faster broad band connection, Digital technology literacy

Synergy



Success & Potentials

Demographic Dividend
65% of youth (18-35Yrs)

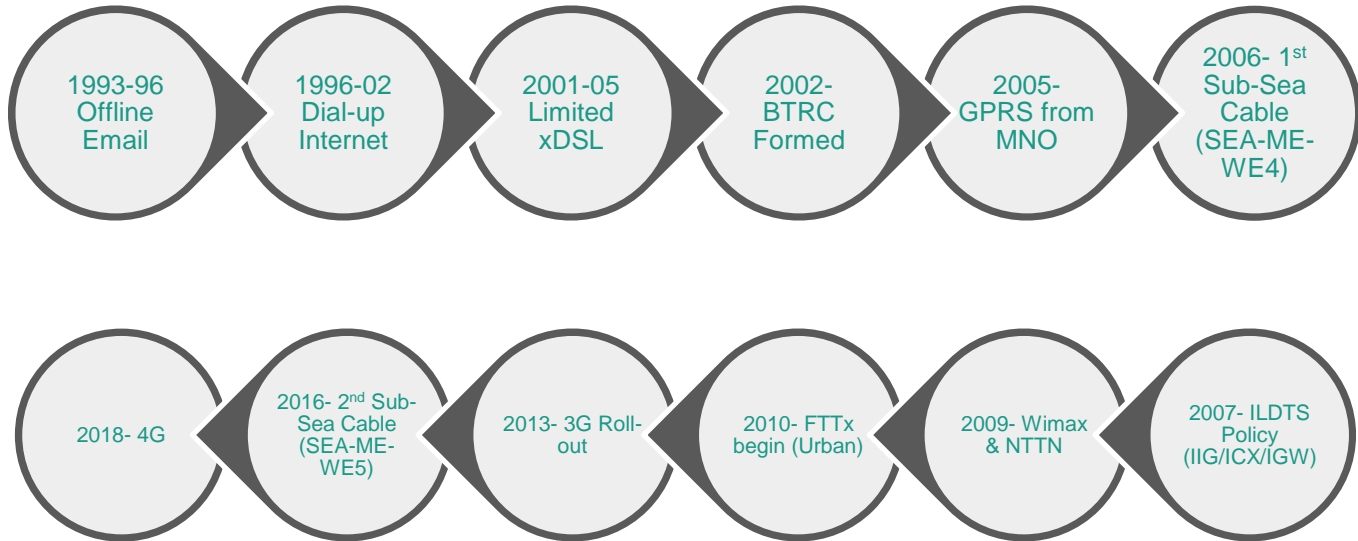
77% Narrow & Semi-
Broadband penetration
through MNOs

Over 5200 UDC- Public
Access Service Centers

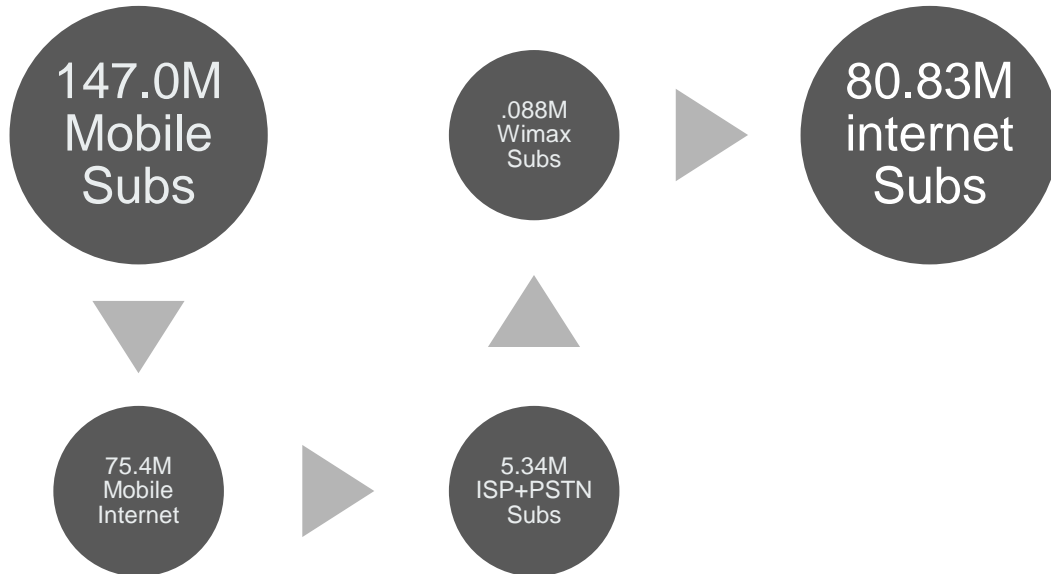
Appx 190K Site requires
True Broadband with
Tbs of transmission
capacity

Historical Ride & Our Data Services Systems & Projects

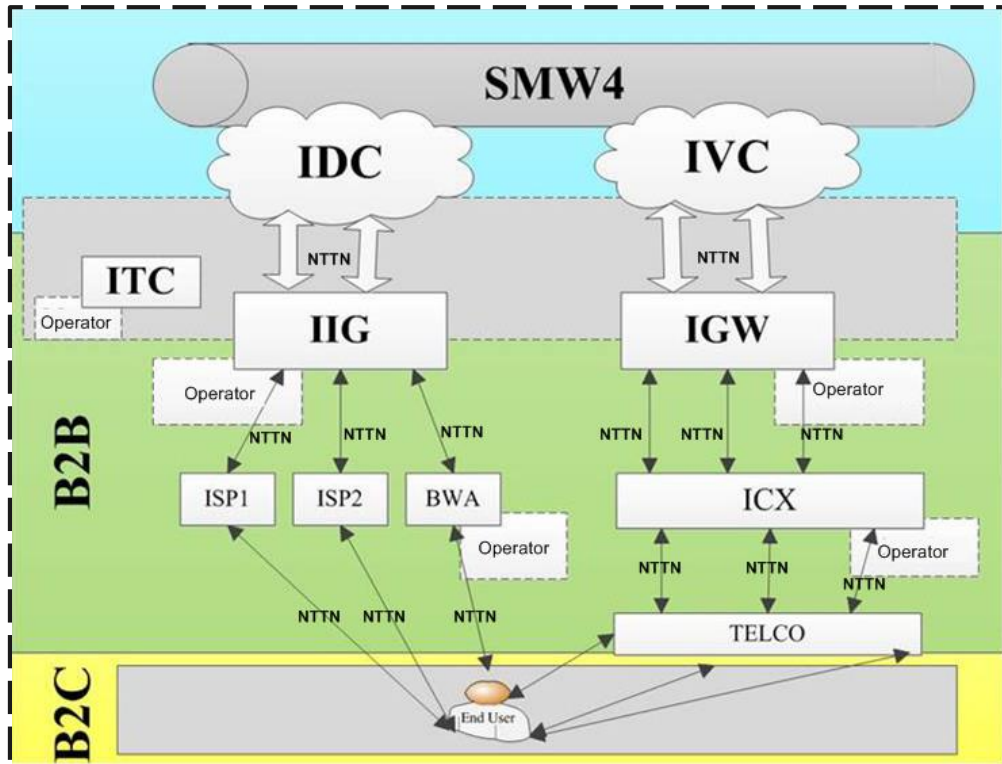
Timeline to Internet Journey



BTRC Statistics as of Jan-2018



ILDTS 2010 Value Chain



Value Chain Players

Sub-Sea
Cable- 02

Int'l Terrestrial
Cable- 06

Int'l Internet
Gateway- 37

Interconnection
Exchange
(ICX)- 26

Wimax/BWA
Operator- 03

GSM Operator-
04

ISP- 126

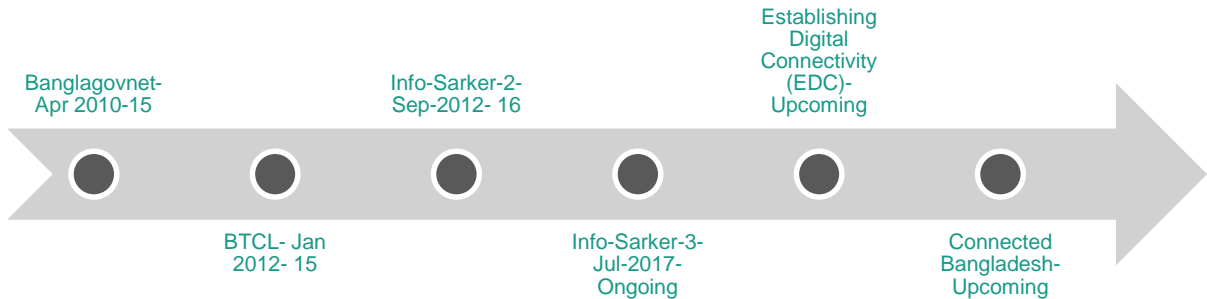
NIX- 02

Vsat- 12

Visible Challenges

- Lack of adequate infrastructure facility for FTTx
- Growing domestic transmission network
- Fairly complex Data service value chain from wholesale to access market
- Inadequate footprint in broadband wireless access
- Still expensive 3G/4G Telecom wireless internet services from Telcos
- Inadequate domestic online contents and ICT services
- Lack of local effective application services and ICT business development activities

GOB Initiatives to address e-services



BTCL 1000 Union Fiber Connectivity

OFC Network development in 1212 Union Parishad (1006 Union Parishad). Project began 1 Jan 2012 and till date 1048 unions covered. BTCL laid over 11 Thousand of fiber till these unions.

Banglagovnet & Info- Sarker-2

Implemented by BCC builds the ICT Backbone Network up to the district headquarters. Info-Sarker extends this network up to upazilla level, connects the offices at district and upazilla level.

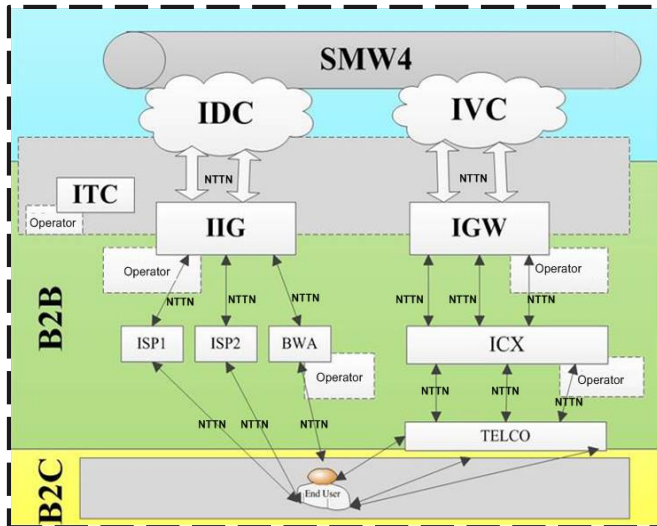
Info-Sarker-3

Optical Fiber Connectivity to 2600 unions with nearly 19 Thousand of fiber deployment worth nearly 158 M USD. Project status- on- going.

Establishment Digital Connectivity (EDC) & Connecting Bangladesh Upcoming

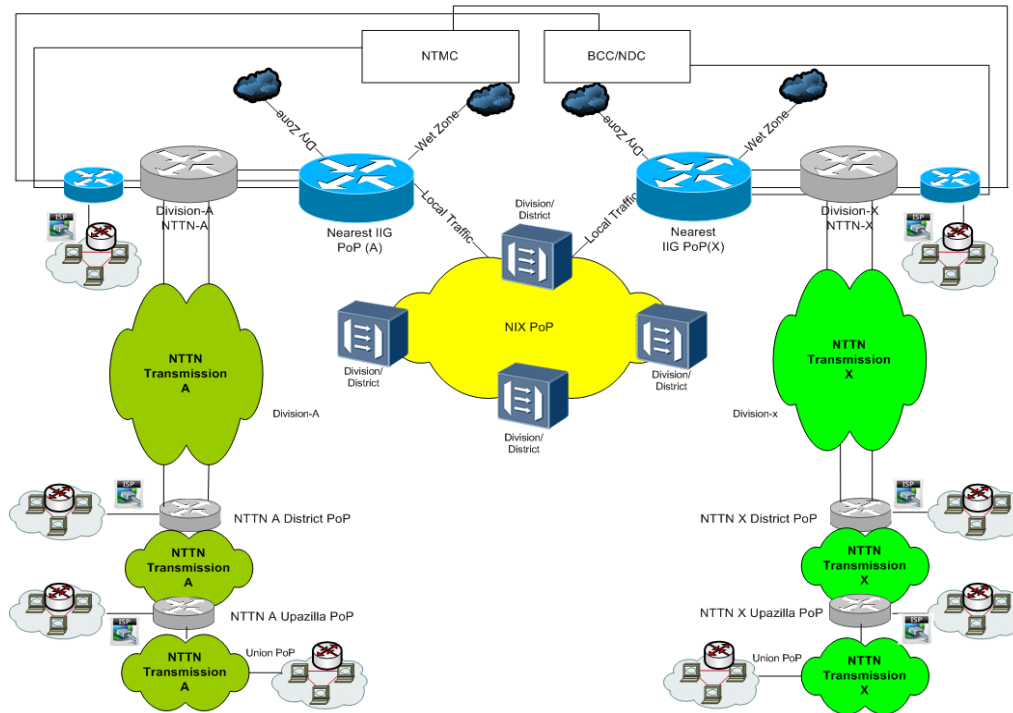
In Progress that would cover 200K location connectivity, Project Worth 1 B USD. Through Connecting Bangladesh The remaining unions are to be connected

Need for a National Network Design

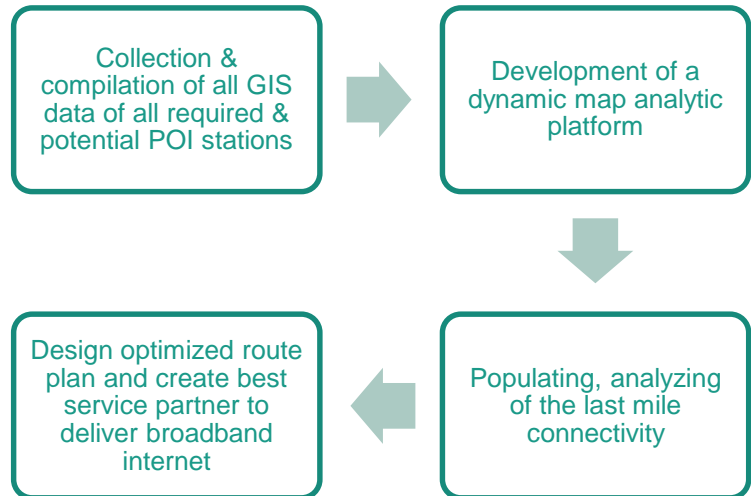


- Coordination of licensed operators regime between transit, transmission and access service provider
- Lack of content delivery network services (VOD, CDN, IM, IoT...)
- Data & content security within geo-boundary
- Lack of active NIX delivery point to maintain an effective QoS
- Last mile Enterprise FTTX/LAN/Public Access delivery nodes
- Service convergence between Telco & ICT ecosystem

National Network High Level Design

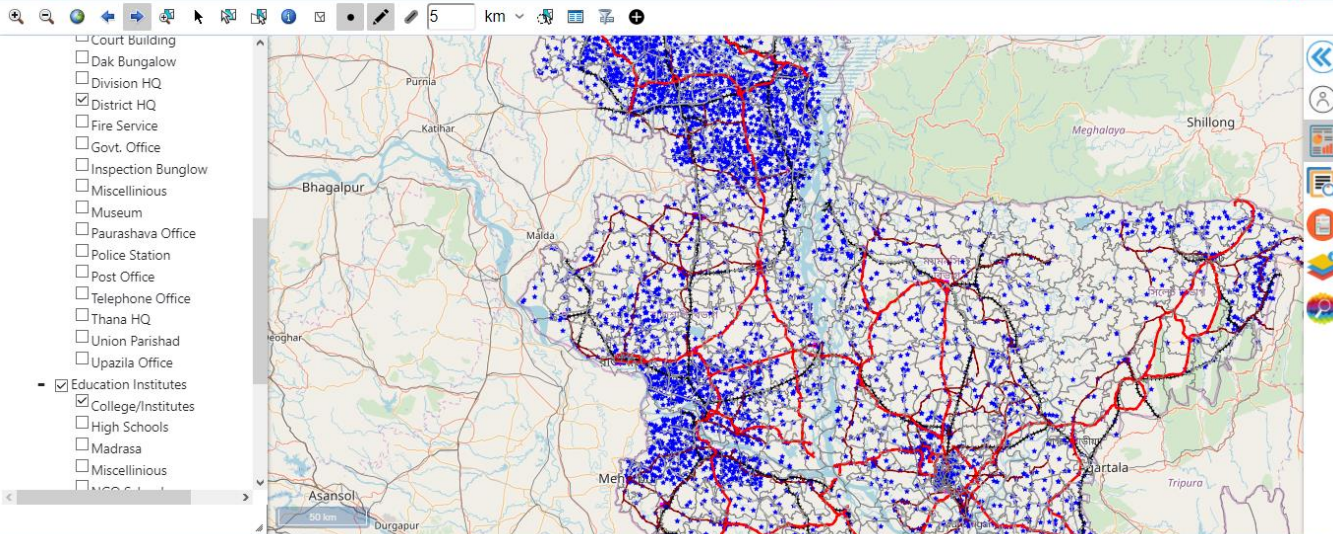


A2I has identified the potential connectivity end entity which is about 190 thousand, but, most of these POIs (point of interests) have no visibility comparing to the existing fiber optic network in the country. Therefore, A2I already took an initiative to build a ICT-GIS system which is a decisional platform to bring visibility and perform necessary analytical task by collecting GIS source data from various relevant stakeholders. Currently BTRC is expanding the platform.

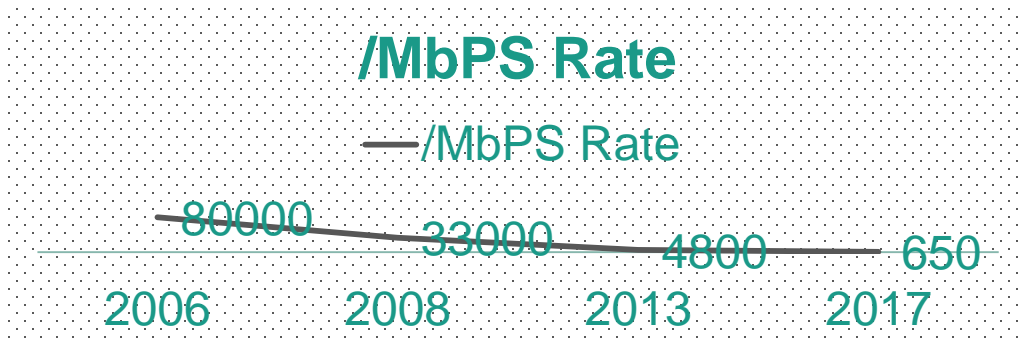


ICT Infrastructure Information System (ICT-IIS)

Government of the People's Republic of Bangladesh



Internet Price at gateway level





41%
**INTERNET
PENETRATION**
(A4AI, 2016)



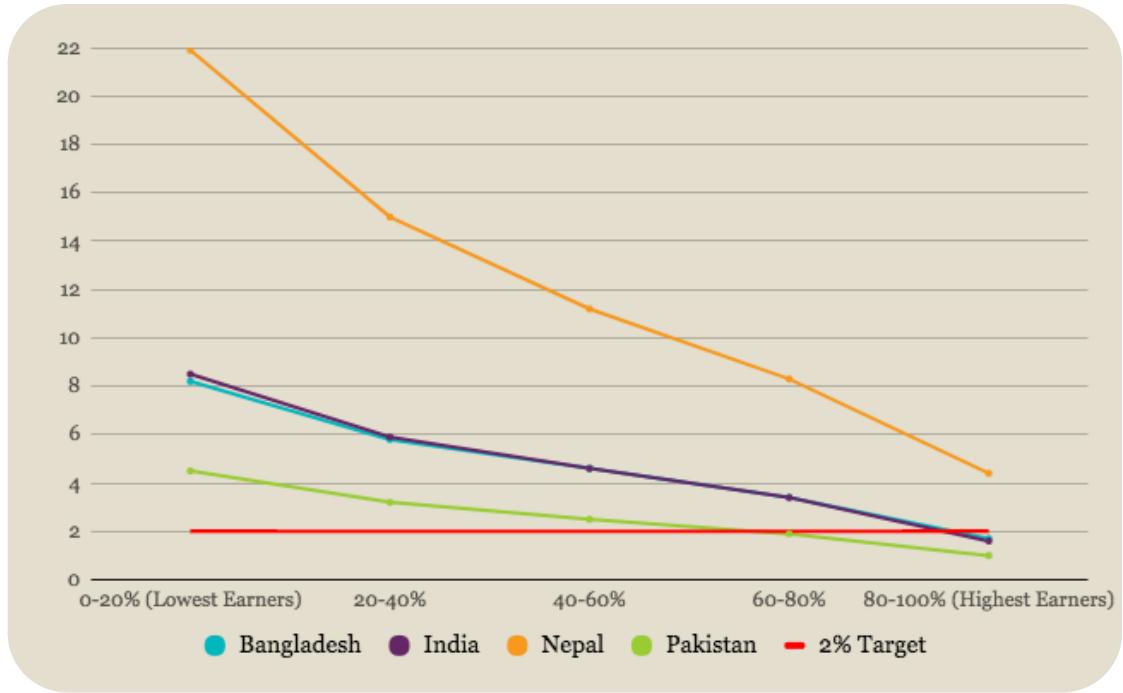
18%
**MOBILE
BROADBAND
PENETRATION**
(GSMA, 2016)



4%
**COST OF 1GB
MOBILE PREPAID
DATA**

*Internet Affordability in Bangladesh (A4AI-2016)

Affordability amongst Neighboring Countries



Considerable Components in thought process



- Coming up with decisional GIS based last mile connectivity infrastructure design.
- Effective planning of fiber resource. We already have more than 78 thousand KM of fiber laid. Reaching to unreached (upazilla to union) to be build by GoB initiative.
- Already reached 1000+ union fiber nodes. Upcoming 2600 unions more to be connected by Dec-2018. Remainings are coming up.
- Establishing nationwide point of interconnection centers to empower access network service players.
- Develop key locations of area under public wifi services.
- 4 Tier Data Center for rapidly growing national content hosting and delivery network establishment.
- Ensuring QoS through various initiatives, such one domestic traffic retention.

Broadband Commission for Sustainable Development 2025 Targets



1. By 2025, all countries should have a funded national broadband plan or strategy, or include broadband in their universal access and services definition.
2. By 2025, entry-level broadband services should be made affordable in developing countries, at less than 2% of monthly gross national income per capita.
3. By 2025 broadband-Internet user penetration should reach: a) 75% worldwide b) 65% in developing countries & c) 35% in least developed countries
4. By 2025, 60% of youth and adults should have achieved at least a minimum level of proficiency in sustainable digital skills.
5. By 2025, 40% of the world's population should be using digital financial services.
6. By 2025, un-connectedness of Micro-, Small- and Medium-sized Enterprises should be reduced by 50%, by sector.
7. By 2025, gender equality should be achieved across all targets.

Looking Forward

- Proper broadband strategy and action plan focused for citizen centric public internet access
- Focus on fundamental Infrastructure Development instead Ad-Hoc.
- Establishing capacity in other ICT enablers
- Create Public Internet Service Access Points/zones
- Prioritize on Wireless Data Services (4G/5G/LTE)
- Expand online contents and services
- Building partnership with relevant national & International communities
- Escalation of institutional capacity to increase digital literacy
- Incentivize infrastructure deployment and resource sharing
- Priorities & expand public access initiatives
- Make actionable strategy and work plan to address Year 2025 Sustainable Development target by ITU's Broadband Commission

Set Our Goal

formulate our own Broadband Strategies with set milestone with action plan and thus developing Broadband Infrastructure Road-map with short, mid and long term achievements

Thank You