

Illustrated (potential) Digital Connectivity Projects

TEPC prepared and submitted Project Proposals for ASEAN Countries that Indian Telecom Industry as TEPC Consortium can work out with Telecom Sector. Actual Projects will be based on 'REQUESTS Received' from the requesting country based on its 'DIGITAL CONNECTIVITY' requirements

Projects

1. Providing GSM & Broadband Internet Services for say 1000 Remote Villages/ Islands(SOLAR POWERED 33 DIGITAL VILLAGE) in each country.
2. Design and Construction of a nation-wide optical fiber network for delivering ubiquitous broadband and voice connectivity across country.
3. Deployment of Indian R&D Technology Products covering GPON and other components.
4. Telecom Training Centre: Mobile Network Training Modules with equipped Labs; OFC & SDH Network Training Modules with equipped Labs; Telecom Policy and Regulatory Training
5. Projects on e-Health & e-Education
6. Projects to provide Secured Communication System for Disaster Management
7. Establishment of Internet Exchanges.
8. Satellite-based Networks for connecting inaccessible areas
9. e-Governance Projects - Setting up of Govt. Data Centers, Land Records Digitization & other G2G and G2C Services, Trace and Track Technology for Security related applications, Resource Mapping using GIS, e-tendering Platform & Security and Surveillance solutions
10. Electronic Voting Management System
11. Defense and Police Communication Network Systems.
12. Smart City Project implementations
13. Projects with IoT and M2M Solutions

Further in addition, TEPC submitted projects for Malawi, Brunei, Tanzania, Iran, Bhutan, Bangladesh, Kenya, South Africa, and Nepal. TEPC has also prepared projects for Developing countries pacific Regions, Africa Region and Mexico. TEPC along with Department of Telecommunication (DOT) and Ministry of External Affairs (MEA) had organized a meeting with the High Commissioners/ Ambassadors of the 10 ASEAN countries on 2nd December 2016 at Le-Meridien Hotel, New Delhi to discuss on the DIGITAL COONNECTIVITY Project that can be implemented in ASEAN countries by TEPC exporters making use of Indian R&D, IPRs and indigenous manufacturing facilities. The meeting was chaired by Secretary, Telecom and Chairman, TEPC.



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Telecom Equipment & Services Export Promotion Council (TEPC)

**DIGITAL CONNECTIVITY PROJECTS FROM
INDIAN TELECOM INDUSTRY FOR DEVELOPING COUNTRIES**



Hon'ble Prime Minister of India announced US \$ 1 Billion Credit line for Digital Connectivity for ASEAN countries.



Telecom Equipment and Services Export Promotion Council (TEPC)

Telecom Equipment and Services Export Promotion Council (TEPC) has been set up by the Government of India to promote and develop export of telecom equipment and services from India.

Target

TEPC envisages meeting the following targets:

- Exports including mobile handsets are likely to reach over \$20 billion over next 5 years.
- Domestic telecom products growth of over 20% CAGR likely over next 5 years.
- Employment generation (direct and in-direct) of 5 million.
- Major domestic telecom needs are targeted to be met by products manufactured in India in coming years.
- At least a few IPR- driven Indian product companies with global success would become billion dollar companies by 2020.

TEPC as a Council plays a critical role in furtherance of Telecom export from the India and assists its member companies in easy facilitation of their respective exports. The Council caters to the complete Telecom Ecosystem including Telecom Hardware Manufacturers, Telecom Service Providers, Telecom Software Vendors and Consultants. Export promotion continues to be a major thrust area for the Government. In a view of the prevailing macro-economic situation. Government emphasis is on exports promotion activities and to facilitate it, various measures are being undertaken through Market Access Initiative Schemes from the Department of Commerce, Ministry of Commerce & Industry, India to support the various export.

TEPC has been working with the entire eco-system of Indian telecom exporters as well as various departments of Government of India to deliver and create end-to-end telecom solutions. Keeping in mind the caliber of Indian Manufactures and demand of developing countries, TEPC felicitates various projects in the field of Telecom Digital connectivity. TEPC has invited its members for consortium approach to provide a platform to perform and deliver their respective services to clients outside India. It will also help in sharing the individual expertise of the members and promote the Telecom equipments & services from India to the developing world.

List of verticals covered under TEPC umbrella are as below:

Access Network Antenna Battery & Power Plant Coaxial & Copper Cables Communication/ Radio/ Satellite/ Measurement / Recording Equipment Data Processing Equipments & Services Defence and Police Networks Infrastructure Projects (Telecom: For Power, Irrigation, USOF, Broadband) ICT Software (Information & Communication Technology) Mobile Network Equipment Mobile Towers/ Masts used in Communication Networks Networks & Communication (M2M Communication Networks and Devices including Smart City Networking) Optical Fibre Cable Optical Fibre Cable Accessories	Solar Gadgets used in Communication Networks Subscriber End Equipment/ Phone/ Mobile Handsets Switching Network Equipment Technical Audit of Service Providers' Networks Technology Transfer based on Indian R&D Telecom Applications (Web Based, Mobile Applications, Customized Software solutions for communication needs) Telecom Consultancy Telecom Services (Licensees: Wireline/ Wireless Voice, Data/ Broadband, Internet, Value Added Services, Infrastructure) Telecom Software (Internet & e-Commerce Services, e-Health Telecom Training & Skill development Telecom Training (including Educational Software, Skill Development, e-learning, Network Technical, Telecom Regulatory) Transmission Equipment
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Indian Experience: Partnership Opportunities



What India can offer..

- End-to-end solutions: from concept to implementation
 - Project design, Active Equipment, Passive elements, software
- Long-term financing under Line-of-Credit
- Skill Development and Local capacity building
 - Establishing Telecom training institutes
 - Local manufacturing, system integration & transfer of technology
- Projects being discussed (on country-specific basis)
 - Rural Broadband networks on optical fiber
 - Affordable wireless connectivity- from 2G to LTE
 - Secured police and defense networks
 - Digital village, E-governance, E-education solutions
 - Broadband connectivity to universities, colleges and schools
 - Redundant external connectivity (incl. undersea/terrestrial)

India companies can offer Innovation and proven, trusted Solutions with:

- Innovative, technologically leading, yet affordable solutions
- Deliver high quality of service, despite infrastructural challenges
- Proven experience of large scale deployment
- Customization and Local language support
- Secured and Trusted- local capacity building, training and sharing of know-how and know-why

Digital Connectivity

Developing Countries comprise of mixed geographies and economies with huge differences in telecom development indicators. Most developing world countries are characterized by young population with an average age of below 30 years. Although internet growth has increased in last few years in the developing countries also, it is largely due to proliferation of wireless networks. Fixed broadband penetration lags significantly in the developing nations. The digital divide between developing nations and developed ones, is huge and it is clearly visible in gap in tele-density, broadband penetration, international bandwidth (capacity) and usable bandwidth to end customers.

The 21st century is an era of information technology. Broadband penetration in any country positively impacts the economic and social growth as well as parity among different sections of society. Exploding data hungry e-services such as tele-education, tele-health, e-governance and applications such as interactive services, Internet of things and cloud based services, necessitates very careful selection of technologies which caters to not only the present requirements but also for sustainable development.

In spite of growing tele-density and Internet penetration across the developing world, most countries are beset by a growing urban-rural divide. There is a need to extend mobile telephony and broadband access to rural populations living in remote areas through a combination of wireless and fiber-based connectivity solutions that are both cost-effective and state-of-the-art. There are also significant urban-rural disparities in overall digital inclusion. Market reports quote indicate that the developing world has a young population with over 40% of its adult population being less than 30 years old. The policy-makers have clearly recognized that this demographic advantage presents a great opportunity for their countries to emerge as leaders in the new digital economy by transforming their national education systems with a more "technology-friendly" curriculum. There is an increasing government emphasis in the developing countries on making their citizens digitally literate and upgrade the skill sets of students, blue-collar workers and white-collar workers to be able to participate and contribute more effectively to the emerging digital economy and to leverage modern-day ICT technologies for increasing productivity and driving innovation.

How India Can Support In Developing Telecom Infrastructure

A set of PROJECTS from Indian Telecom consortium companies can facilitate development of Digital connectivity infrastructure requirements. The projects at this stage are for illustrative purpose and actual Projects will be based on 'REQUESTS Received' from requesting developing country for its 'DIGITAL CONNECTIVITY' requirements.

Official Request From The Country

First step in processing a case is receiving an 'official' request from the country along with Detailed Project Report (DPR) documents. Communication channels to generate such a request include brainstorming discussions with relevant ministries (including Finance, External Affairs, ICT, Rural/ Village/ disadvantaged/ maritime /island regions, Defense & Police/ Internal Security, and National planning agency etc.). Indian mission in the country visits to government agencies by Indian telecom industry stakeholders, organizing EXPOs, G2G/ B2B meetings and meetings with the foreign in New Delhi and interaction with industry associations and visiting delegates are some of the steps in this direction. Details of relevant stakeholders/ coordinators for each country are important so that actual project coordination, preparation of DPRs, execution support could be carried out with Indian Consortium of telecom stakeholders in 2017-18.

Potential Projects

The draft project proposals in this Brochure are envisaged to facilitate and identify the actual 'Digital Connectivity' requirement of the developing nations that can be used for seeking various financing mechanisms including long-term credit financing from Government of India, to extend infrastructure development assistance. The projects include design and construction of a state-of-the-art National Digital Network that delivers high-speed broadband access while also establishing a unified and shared market for products and services across them. The proposed projects cover a wide range of subjects including building high-speed Optical networks for e-governance (citizen-to-government, business-to-government and government-to-government) services using fiber-optic, provisioning of GSM connectivity to remote rural areas, interconnect exchange points establishment and setting up OFC and Mobile skill development centers and advanced telecom technology certification programs to train and groom next-generation leaders in local economies. The projects can be implemented using telecom equipment and services from Indian companies who have the necessary experience and expertise in implementing similar projects worldwide.

Self Reliance In Manufacturing And Development - Opportunity For Technology Transfer

Importantly, there is an opportunity for technology transfer for some of the CDoT (Indian Govt's premier R&D Centre) products to produce them in the respective country encouraging domestic manufacturing and providing self-reliance in telecom sector.

Detailed Project Report

On receipt of interest from a country with clearly identified 'DIGITAL CONNECTIVITY PROJECT', a Detailed Project Report shall be required to be worked out in coordination with the country. In the normal circumstances, for Credit Lines, Sovereign Guarantees are required and generally in most countries infrastructure projects get government support including from universal service funds. Service Providers with Government equity are also likely to qualify on 'sovereign guarantee' requirements.

Execution

These PROJECTS are proposed to be completed by a CONSORTIUM of Telecom Stakeholders from Government and private sector in India under the umbrella of Telecommunication Equipment & Services Export Promotion Council (TEPC). Every country is making efforts to fulfil their Digital Dreams real, but are at times constrained by initial capex requirements and credit lines for the same would be immensely helpful to them. Indian companies have tremendous expertise in this arena and they are collaborating their resources so that a number of projects can be successfully completed. The TEPC will coordinate with Indian government to explore possible credit lines.