

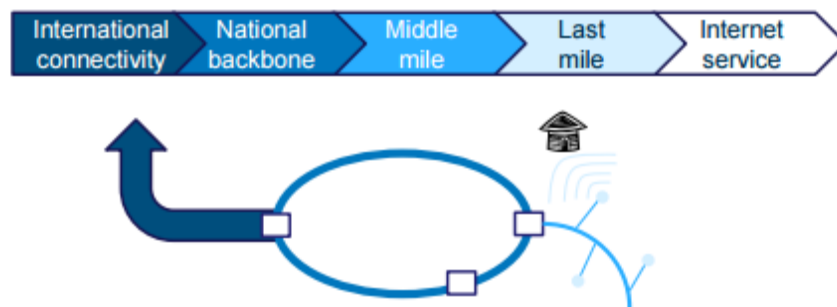
BRIEFING NOTE

SUBMARINE CABLE LANDING STATION@ BENGAL

Internet access can be divided into three components:

- **Connectivity**, which involves the submarine cables and exchange points needed for domestic networks to exchange traffic with each other and the rest of the world
- **Distribution**, which effectively extends the reach of the submarine cables to inland cities and other countries, where access can be provided by the ISPs (also referred to as backhaul or internal transit)
- **Access**, which involves the ISPs that are used by end-users to reach the Internet.

The Elements of the Internet access value chain is as follows:



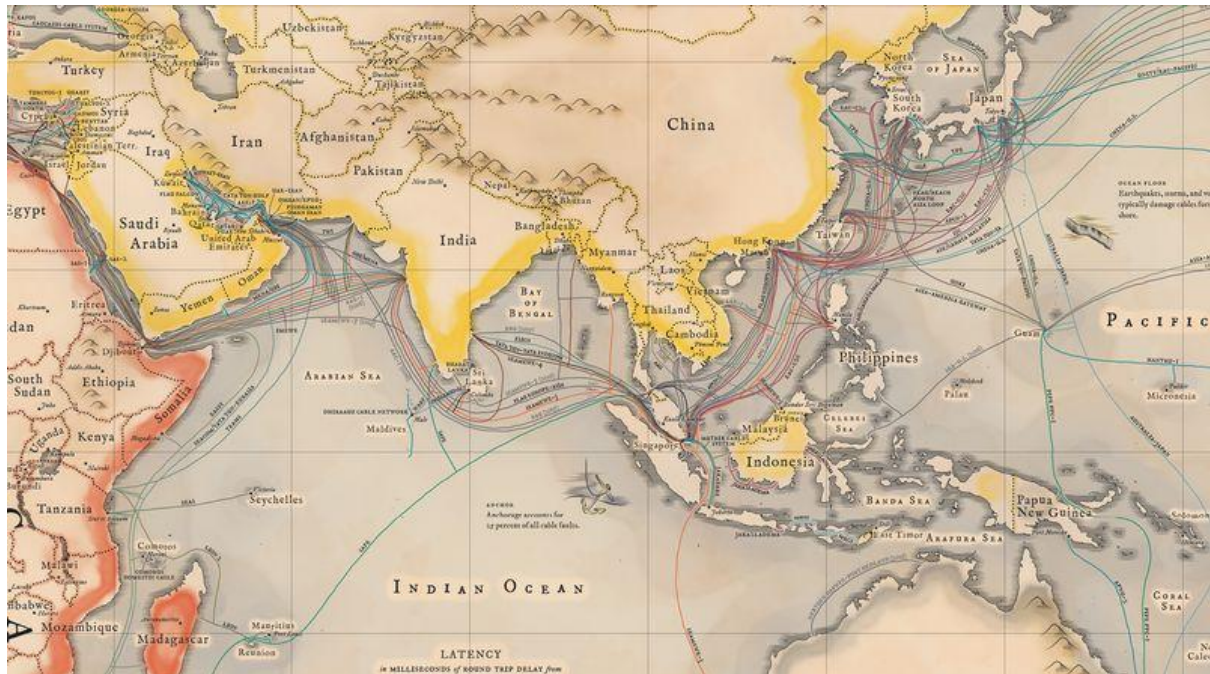
Source: Analysys Mason, 2013

The focus of this briefing paper is International Connectivity.

International connectivity is clearly fundamental to connecting users to the wider Internet. Cables lying on the seafloor bring the internet to the world. They transmit 99 percent of international data, make transoceanic communication possible in an instant, and serve as a loose proxy for the international trade that connects advanced economies. The cables are so widely used, as opposed to satellite transmission, because they're so reliable and fast: with high speeds and backup routes available, they rarely fail. And that means they've become a key part of the global economy and the way the world connects.¹

¹ <http://www.vox.com/2015/3/13/8204655/submarine-cables-internet>

Submarine Cables are the modern trade routes. Landing stations becomes the seat of heightened business and economic activity. Considering the fact that Bengal was the key point of business, in the changed time, it is just that Bengal needs to adopt the new method of interdependence because the economics has remained the same.



Source: Tele geography²

KEY POINTERS FROM TRAI CONSULTATION³

- Twelve (12) submarine cables connect India to the world. Out of the 12 submarine cables landing in India, six are consortium cables viz. Bharat Lanka cable System, EIG, IMEWE, SEA-ME-WE 3, SEA-ME-WE4, and SAT3/WACS/SAFE, while the remaining cables are privately owned.
- In reply to the TRAI's letter dated 06.10.2010, an ILD service provider has submitted a report to TRAI titled 'Future regulation of cable landing station charges in India' prepared by Plum consulting, London. The report emphasizes that the cable landing station market in India is highly concentrated. While Tata Communication Ltd. (TCL) has a market share of over 60%, TCL and Bharti Airtel Ltd. together have a 93% market share. The report further argues that the data suggests that the competition between international cables is likely to be limited by the lack of competition at the cable landing stations.

² <http://submarine-cable-map-2015.telegeography.com/>

³ http://www.trai.gov.in/writereaddata/consultationpaper/document/consultation_paper_on_cls.pdf

- Cable Landing Station (CLS) access charges now constitute 45- 55% of total charges on international capacity whereas the remaining 55- 45% cost includes undersea fibre transport, CLS charges and IP port charges at the foreign end. They argued that this clearly reflects a very high and disproportionate CLS access charges in India. Further, they submitted that owing to very high Access Facilitation Charges, the advantage of availability of international bandwidth at competitive prices is not passing on to the customers, which is adversely affecting the proliferation of broadband services in the country.
- According to 'Information Technology Annual Report 2010-11' released by Department of Information Technology, Government of India, the contribution of Information Technology- Business Process Outsourcing (ITBPO) industry to the Gross Domestic Product (GDP) of India is estimated to be 6.4% in 2010-11. The IT-BPO Industry has enormous potential to grow in the years to come. By the fiscal year 2015, the industry's aggregate revenue is expected to reach US \$ 130 billion, a CAGR of about 14 per cent from the year 2010-11 which would contribute about 7% to the GDP of India. (Source: Information Technology Annual Report 2010-11, Department of Information Technology, Government of India. Website: http://www.mit.gov.in/sites/upload_files/dit/files/annualreport2010-11.pdf)

LATEST IN INDIA

- The latest landing station in India has been created at Agartala. The BSNL will lay the optical fibre cable network from Agartala to the Integrated Check Post at Akhaura near the international border to connect Cox Bazar's submarine landing station. The cost of the project is Rs. 19.1 crore and annual operational expenditure is around Rs. 7.2 crore.⁴
- DoT vide its letter no. 70-01/2013-SU Vol-II dated 19th March 2014 had requested TCIL to prepare an Approach Paper for connectivity of Andaman and Nicobar Islands (ANI) through undersea optical fibre cable system to mainland India.

⁴ <http://indianexpress.com/article/technology/tech-news-technology/international-gateway-for-internet-at-agartala-to-boost-connectivity-in-north-east-india/>

- The details of the route length and the approximate cost considered for the reference purpose is as follows⁵

ROUTE LENGTH

SEGMENT	ROUTE LENGTH (KM)	CABLE LENGTH (KM)
Seg 1 Chennai to Port Blair	1424.57	1452.08
Seg 2 Port Blair to Little Andaman	138.18	141.36
Seg 3 Little Andaman to Car Nicobar	186.11	191.65
Seg 4 Car Nicobar to Kamorta (Western Route)	181.79	186.37
Seg 5 Kamorta to Great Nicobar (Western Route)	142.10	146.32
Seg 6 Port Blair to Havelock Island	45.97	46.43
Total	2118.73	2164.23

COST FOR THE ABOVE

S.No.	Item Heads	Cost (in USD Mn.) Phase -I	Cost (in Rs. cr.) Phase-I
1.	Submarine System	72.7	458.01
2.	Taxies & Duties	14.2	89.46
3.	Other CAPEX elements	5.0	31.5
	Sub-Total	91.9	578.97
4.	Contingency@2%	1.8	11.34
	Total	93.8	590.94
5.	Project Management Cost@10%	9.38	59.094
	TOTAL	103.18	650.034

Direct communication link through a dedicated submarine OFC from Mainland India [Chennai Cable Landing Station (CLS)] to Andaman & Nicobar Islands [Port Blair CLS] has been planned as per decision taken in Planning Commission (Now Niti Aayog) on 02.05.2014⁶ The decision was taken by the standing committee on information technology (2015-16) of 16th Lok Sabha in its Action Taken by the Government on the Observations/Recommendations of the Committee contained in their Seventh Report (Sixteenth Lok Sabha) on 'Demands for Grants (2015-16)'] Presented to Lok Sabha on 21.12.2015 Laid in Rajya Sabha on 21.12.2015⁷

⁵ http://www.usof.gov.in/usof-cms/GagendaPdf/ANI%20DPR%20for%2023rd%20June%2015_upload.pdf

⁶ http://164.100.47.134/lsscommittee/Information%20Technology/16_Information_Technology_21.pdf

⁷ Ibid of

IMPACT OF SUBMARINE CABLE LANDING STATION

- Investment in new submarine cables to Africa in recent years has totalled over USD3.8 billion, adding over 24Gbit/s of new capacity to the 13Gbit/s in place prior to 2011. On the terrestrial side, it was recently estimated⁴ that nearly 100 route-kilometres of new fibre network enters service each day in Africa, and there has been over USD8 billion investment in long-haul terrestrial networks.
- The quality of service, and more specifically the available speed of Internet access, is also a significant contributor to users' decisions to subscribe to Internet access services.
- Quality also serves as an indicator of obstacles on domestic and international routes for Internet access – in particular, the more expensive these routes are, the less capacity is likely to be provisioned per subscriber, which lowers the average speed of access⁸
- this could lead to the emergence of regional hubs where market conditions and economies of scale allow subcontinental markets in capacity – benefiting everyone in the region by attracting operators and content.

End-user pricing is, we believe, one of the strongest measures of a successful policy environment and bringing the Submarine cable landing station in Bengal will be a major step for the same.

In a news report on May 8, 2011 it was reported that The department of telecommunication (DoT) has given its approval on Thursday to set up a cable-landing station at Digha in West Bengal for the Rs 1600-crore submarine cable-laying project between India and South-east Asia.⁹

This note is to provide the basis for restarting and renewing the effort for the submarine cable landing station in Bengal.

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http://www.internetsociety.org/sites/default/files/Barriers%20to%20Internet%20in%20Africa%20Internet%20Society_0.pdf

⁹ <http://www.submarinenetworks.com/stations/asia/india/digha>