Issue Brief

Securing Telecommunications Infrastructure

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Improvements in telecommunications infrastructure are a vital component of the Belt and Road Initiative. Communication projects are critical to businesses and economic growth. Pakistan, presently, is connected to world-wide internet traffic via five under-sea fibre optic cables.[1] A submarine cable laid on the sea, connects landing stations along the seaboard in various countries, it is linking to global internet traffic.

Cables connecting Pakistan to world-wide internet also provide a telecommunications link between South East Asia, Middle East, Indian subcontinent and Western Europe. Three more fibre-optic cables are under construction.[2] Pakistan Telecommunications Company Limited. (PTCL) and Transworld Associates Private Limited (TWA) operate Pakistan section of these cables and provide internet and communication services to consumers and businesses across the country.[3] In recent years, with the launch of 3G/4G networks number of internet users in Pakistan have also grown exponentially. These users are generating data traffic which requires setting up of new fibre-optic cables.

The global network of under-sea cables experience disruptions regularly at choke points such as the Straits of Malacca or the Suez Canal, where numerous fibre-optic cables pass through narrow channels. Most disruptions occur when ships drag their anchors across cables lying on the ocean bed.[4]

Pakistan has faced communications and data disruptions at regular intervals over the past decade.[5] Abrupt internet shutdown and temporary data disconnectivity across the nation can have direct impact on the economic activity and cyber security. Moreover, regional rivals can also tap into the international data traffic, at the landing sites that pass through their ports. The data and internet traffic can be

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[1] Pakistani internet bandwidth to increase by 24Tbps, DAWN, December 19, 2016, http://www.dawn.com/news/1303258

[2] These include: 1) a submarine cable called 'Africa-Asia-Europe-1'. PTCL is part of the consortium constructing it. see https://www.ptcl.com.pk/Home/PressReleaseDetail/?ItemId=394&linkId=0 ; 2) Silk Road Project 1, with landing stations in Gwadar and Karachi. It's a joint venture of Oman-Pakistan and U.S. telecom companies. See, http://www.zmscable.com/news/809.html; 3) China-Pakistan Fibre optic cable. Construction work is underway. See, http://nation.com.pk/newspaper-picks/03-Dec-2016/optic-fiber-to-connect-pakistan-with-china-next-year

[3] Network expansion: PTCL to add another submarine cable by 2015, The Express Tribune, September 7, 2013, https://tribune.com.pk/story/600890/network-expansion-ptcl-to-add-another-submarine-cable-by-2015/

[4] Franz Stefan Gady 'Undersea Cables: The Achilles Heel of our Economies', The Huffington Post, May 25, 2011, http://www.huffingtonpost.com/franzstefan-gady/undersea-cables-the-achil_b_799808.html

[5] Few examples: 2005 disruption See, http://news.bbc.co.uk/2/hi/south_asia/4630457.stm ; 2008, http://www.dawn.com/news/933490 ; 2013, https://tribune.com.pk/story/527643/underwater-cable-damaged-internet-speed-plummets-by-60-nationwide/ ; 2015, http://www.dawn.com/news/1190493 ; and 2016, http://www.dawn.com/news/1304593

monitored and disrupted, thus, threatening country's sensitive communication networks and endangering cyber security.

As part of China-Pakistan Economic Corridor (CPEC), Beijing and Islamabad agreed to construct a back-haul fibre-optic cable between Rawalpindi to Khunjerab, a distance of 820 KM, at the cost of $44 million.[6] This cable will link Pakistan to world's longest terrestrial cable Trans-Asia Europe (TAE) in China.[7] It will give Pakistan an alternate route for connecting with global internet traffic. It will connect Pakistan to China, Central Asia, Europe and from there to the United States. Similarly, a construction of an under-sea cable with a land-station at Gwadar has been proposed by Special Communications Organisation (SCO).[8]

Pakistan requires multiple communications and data connections to the world to prevent another major internet outage. In case of disruption at one cable, the country should be able to swiftly switch to an alternate cable, minimising the impact of the disruption. Similarly, a data connectivity network that is out of reach of regional rivals is a *sine-qua-non* for the security and strategic communications of the country. A data cable will be better protected if goes through hubs located in friendly nations, instead of sharing landing stations with hostile states and rivals. The significance of a secure communications and data networks becomes evident during a major international crisis or in the event of war, when the risk of potential interception of critical political, economic or security information is high. Thus, securing the communications infrastructure and making it reliable for strategic communications should be the goal for the Special Communications Organisation and PTCL.

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[6]   'Pak-China optic fibre: Project to digitalise trade corridor', The Express Tribune, September 20, 2016, https://tribune.com.pk/story/1184547/pak-china-optic-fibre-project-digitalise-trade-corridor/
[7]   'Transit Europe-Asia (TEA) Terrestrial Cable Network', Submarine Cable Network, http://www.submarinenetworks.com/systems/asia-europe-africa/tea/tea-cable-network
[8]   'Cyber security: Army proposes new network along CPEC', The News, January 25, 2017, https://www.thenews.com.pk/latest/181678-Cyber-security-Army-proposes-new-network-along-CPEC