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China's 'Digital' Belt and Road Initiatives: Potentials for India in ASEAN's Technological Sector

There has been a surge in Chinese investments in the Association of Southeast Asian Nations (ASEAN) states after the Belt and Road Initiative (BRI) was announced in 2013. The digital focus by the Chinese government and among Chinese firms has seen a growth in trade and investment opportunities in the ASEAN technology sector. As ASEAN-India relations mark their 25th anniversary, digital connectivity remains an important agenda. This paper discusses the potential for digital economic cooperation between the ASEAN countries and India against the backdrop of significant BRI developments in the region.

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The present day Chinese-initiated Belt and Road Initiative (BRI) is a decade-long collective effort. Initially presented as the 'New Silk Road' by Premier Wen Jiabao in an October 2011 impromptu Warsaw Summit with 22 heads from the Central and Eastern European (CEE) countries, it was later changed to the '21st Century Maritime Silk Road', following the Chinese leadership transition at the 18th Politburo Standing Committee in 2012.[2] It was then officially

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[2] Following with the party leadership transition to President Xi Jinping in 2013, Xi's address to the Indonesia Parliament in October 2013 saw another '21st Century Maritime Silk Road' that reflected a similar concept of inter-regional economic connectivity as with his predecessor.

announced as the BRI in 2013. It has since seen the participation of 70 countries, excluding China, which span across Central Asia, South Asia, Africa, Europe, and Southeast Asia. While they have distinctive resource advantages and economies, cooperation and consensus has been built on promoting policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds.[3] With the combined goal of facilities connectivity and financial integration, the BRI has seen at least US$314.8 billion (S$415.5 billion) of Chinese investments being pumped into the participating countries since 2013. These investments are concentrated mainly in the energy, transport, and real estate sectors.[4]

In ASEAN, Chinese investments accounted for approximately a third (US$165.56 billion [S$218.51 billion]) of its total investments into the BRI-partner countries between 2007 and 2016, with a compound annual growth rate (CAGR) of 21.3 per cent in that period.[5] On the other hand, Chinese investments in India accounted for only about 11 percent (US$18.94 billion [S$25 billion]) of the amount that it invested in ASEAN in the same period.[6]

In comparison, ASEAN's investments in India were more than seven times (US$137.2 billion [S$179.8 billion]) that of the Chinese in India in the same period.[7] India also places a strong emphasis on ASEAN as an external market. While investments from India to ASEAN in the same period only amounted to over a third of total Chinese investments in ASEAN (US$58.86 billion [S$77.15 billion]), they grew at a CAGR of 24.8 per cent. Furthermore, technology developments have also become increasingly relevant, with the Asia-Pacific region witnessing a rise in technological advances such as the Internet of Things (IoT) and block chain applications which can provide further cross-industrial synergies and opportunities between countries and regions. In short, the digital sector has the potential of creating investment opportunities between ASEAN and India.

As ASEAN-India relations mark their 25th anniversary, digital connectivity continues to be an important agenda item. The recently concluded ASEAN and India Connectivity Summit in

[3] Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road. http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html. Accessed on 14 February 2018.

[4] 2013-2016 data from Chinese Global Investment Tracker across the countries in BRI, except Albania, Armenia, Bhutan, Estonia, Lebanon, Lithuania, Moldova, Palestine, Slovakia and Latin America (joined in 2018).

[5] Data available from Global Chinese Investment Tracker Database.

[6] Ibid.

[7] Data available from CEIC Database. It includes only complete data for Singapore, Malaysia, Thailand, Philippines and Indonesia in this case.

December 2017 placed strong emphasis by both sides in "powering digital and physical linkages for Asia in the 21st century" in order to enhance cross-border production chains.[8] ASEAN is looking to become a digital enabled and single-market economy under its ASEAN Information and Communication Technology (ICT) Masterplan 2020, while India is rapidly embracing digitalisation domestically. This paper seeks to discuss the potentials for digital-economic cooperation between the ASEAN countries and India against the backdrop of BRI developments in the region.

Developments in the Digital BRI

The concept of digital connectivity in the BRI remains broad and ongoing. In a March 2015 white paper jointly issued by the National Development and Reform Commission, Ministry of Foreign Affairs, and Ministry of Commerce of the People's Republic of China, an Information Silk Road was first introduced as one of the sub-goals of facilities connectivity.[9]As part of international transport facilitation, port cooperation, customs information exchange, enhancement of information technology (IT) cooperation in maritime logistics and environmental monitoring, the construction of cross-border optical cables and trunk line networks was outlined in it. In addition, the need to establish international technology transfer centres was highlighted, along with the development of cross-border e-commerce and other modern business models.

Shortly thereafter, in July 2015, such a conceptualisation resurfaced at a China-European Union digital cooperation forum. Chinese delegates at the forum proposed that higher digital connectivity between China and Europe could be achieved by building a public-private collaborated Digital Silk Road, where Chinese and European based internet companies are encouraged to be key players in network infrastructure investments.[10] In another 2016 international symposium on earth observation for the One Belt One Road, the agenda for digital BRI expanded further – data monitoring and exchanges could also help to cope with economic,

[8] Suyash Desai (2017). *ASEAN and India Converge on Connectivity.* https://thediplomat.com/2017/12/asean-and-india-converge-on-connectivity/. Accessed on 14 February 2018.

[9] Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road, op. cit

[10] Zhao Huanxin (2015). Web Companies asked to support 'digital Silk Road'. http://www.telegraph.co.uk/sponsored/china-watch/technology/11764541/tech-companies-to-build-digital-silk-road.html. Accessed on 14 February 2018.

developmental and environmental challenges pertinent to the BRI countries and ongoing projects.[11]

More recently, at the May 2017 'Leaders Roundtable of the Belt and Road Forum for International Cooperation', the digital aspects within the BRI became clearer – they are geared at "strengthening cooperation on innovation, by supporting innovation action plans for e-commerce, digital economy, smart cities and science and technology parks, and by encouraging greater exchanges in innovation and business start-up models in the Internet age in respect of intellectual property rights."[12] The promotion of e-commerce and digital economy is also believed to eventually link with the larger development of regional free trade areas.

On the part of the Chinese government to enhance such international digitalisation, preliminary but substantial arrangements have been made for digitalisation to first 'take off' domestically, along with the larger international cooperation within the BRI. For instance, the number of smart cities in China has been on the rise – more than 500 cities have been proposed for the transition to smart cities, while a Shanghai-Hangzhou-Ningbo 'internet highway' has incorporated mobile payments and data exchanges.[13] Smaller cities such as Xiamen, Wuxi and Yinchuan (Northern region) have also begun smart urban management, with Yinchuan in particular, using novel innovations such as facial recognition for payment and solar powered trash bins.[14] These cities illustrate the potentials of data applications.

The Chinese Academy of Sciences Institute of Remote Sensing and Digital Earth has also established two regional research centres, one in Sanya (Hanan Province) and Kashi (a city in Xin Jiang) to focus on the Maritime Silk Road and Silk Road economic belt respectively.[15] They are tasked to monitor and manage a variety of artificial and natural risks along the BRI routes. In addition, the BeiDou Navigation Satellite System (BeiDou-2), a Chinese-constructed and operated global satellite navigation system, set to consist of 35 satellites by 2020, was also

[11] S Jialan (2016). DBAR Initiative: Big Earth Data for "Belt and Road" Development. http://www.english.cas.cn/bcas/2016_2/201607/P020160722472279008627.pdf. Accessed on 14 February 2018.

[12] Joint communique of leaders roundtable of Belt and Road forum. http://www.xinhuanet.com/english/2017-05/15/c_136286378.htm. Accessed on 14 February 2018.

[13] China's 'smart cities' to number 500 before end of 2017. http://www.chinadaily.com.cn/china/2017-04/21/content_29024793.htm. Accessed on 14 February 2018.

[14] Ken Hanly (2017). Yinchuan China's model for a smart city. http://www.digitaljournal.com/tech-and-science/technology/yinchuan-china-s-model-for-a-smart-city/article/498423. Accessed on 14 February 2018.

[15] S Jialan (2016). DBAR Initiative: Big Earth Data for "Belt and Road" Development. http://www.english.cas.cn/bcas/2016_2/201607/P020160722472279008627.pdf. Accessed on 14 February 2018.

opened for commercial use across the Asia-Pacific region as early as in 2012 to connect and provide data across cities, public infrastructures and mode of transportations.[16] More recently, the BeiDou-2 has been given greater emphasis by the State Council Information Office – there are plans to integrate its functions into 'relevant' countries along the BRI routes.[17]

ASEAN Digital Developments in the Context of the BRI

On the policy front, the ASEAN ICT Masterplan 2020 complements the ongoing developments of the digital BRI initiatives, which include Southeast Asia. Firstly, the Masterplan seeks five key outcomes by 2020 that resonates with Chinese efforts, as mentioned above:

1. An accessible, inclusive and affordable digital economy;
2. Deployment of Next-Generation ICT as enablers of growth;
3. Sustainable Development through Smart City Technologies;
4. Multiple ICT opportunities across a Single Regional Market; and
5. Secure Digital Marketplaces, Safe online communities.

Secondly, in its strategic thrusts, the development of standards for e-commerce, the IoT, Machine-to-Machine and ICT for Disaster Risk Reduction and Management Systems policies are emphasised, in which the Regional Comprehensive Partnership (RCEP) involving 16 countries in Asia-Pacific has yet to deal with in detail.

Substantially, the ASEAN countries have also been working to regulate and standardise norms in their respective digital economies, such as Internet Protocol versions, e-commerce taxation regime, and intellectual property protection.[18] Individually, the ASEAN countries are also working on different areas within their own digital economies. For instance, Malaysia is looking to implement its Digital Free Trade Area; Singapore its Smart City initiative; Indonesia the digitalisation of its small-medium enterprises; and Thailand, its government-centric Digital

[16] China's Beidou GPS-substitute opens to public in Asia. http://www.bbc.com/news/technology-20852150
[17] http://www.scio.gov.cn/zfbps/ndhf/34120/Document/1480623/1480623.htm. Accessed on 14 February 2018.
[18] Robbie Mitchell (2016). Event Wrap: IPv6 Adoption by ASEAN Government Agencies, Jakarta. https://blog.apnic.net/2016/05/20/event-wrap-ipv6-adoption-asean-government-agencies-jakarta/. See also John Reed (2018). Southeast Asian nations poised to launch ecommerce tax. https://www.ft.com/content/2fb53b78-f781-11e7-88f7-5465a6ce1a00. Accessed on 14 February 2018.

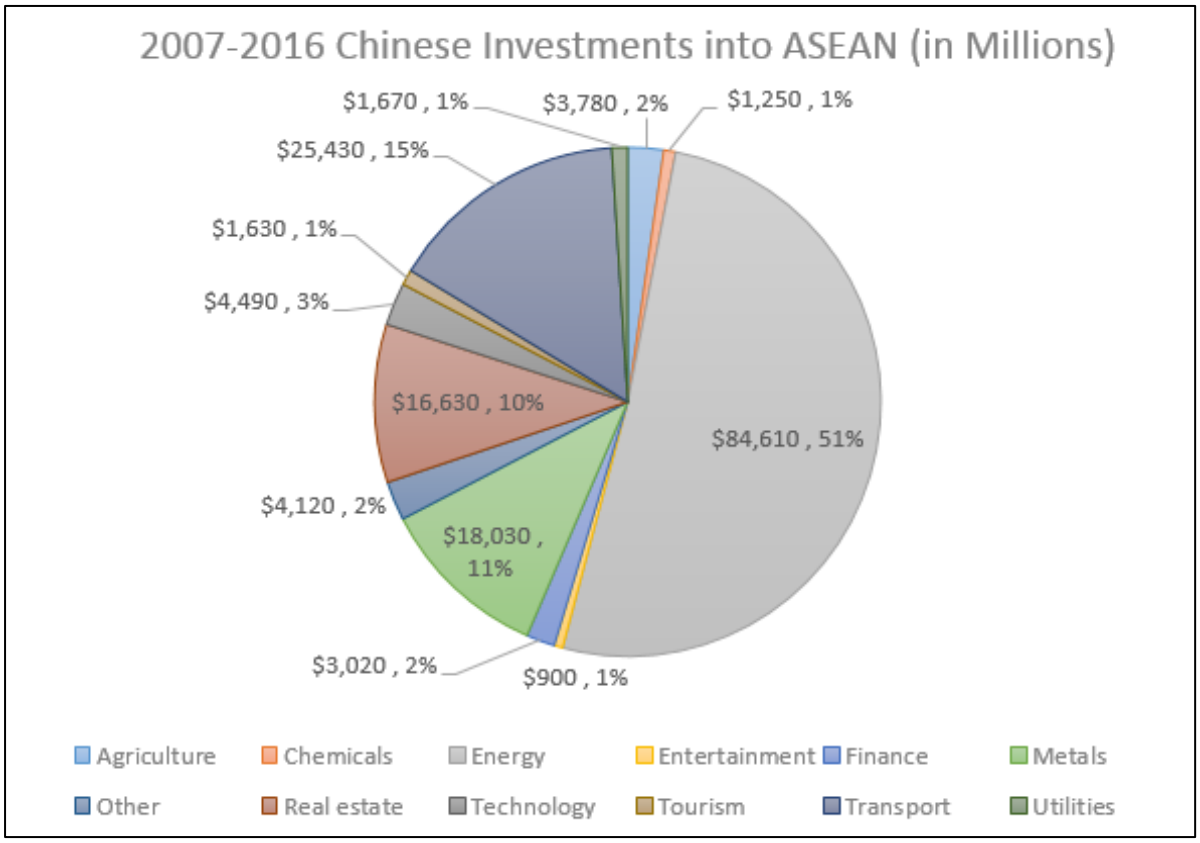
Government Plan 2017-2021. These initiatives point to the readiness in adoption, implementation and facilitation of new technologies by the ASEAN countries, as with the Chinese's BRI.

With common goals, the Chinese appear keen to digitalise ASEAN. There is evidence to support this. While the ASEAN technology sector itself only accounted for approximately three per cent of Chinese investments inflow with a CAGR of -13.9 per cent from 2007 to 2016 (See Figure 1), the amount invested in the ASEAN's technology sector by Chinese firms accounted for nearly a third of all Chinese investments into the technology sector across all the BRI countries in the same period.[19]

In addition, while investments in the energy sector can be conceived of as being resource seeking, the general outlook of Chinese investments into ASEAN also shows an inclination towards a market-seeking strategy, given that service industries such as transport and real estate experienced a CAGR of 25.6 per cent and 31.6 per cent respectively in the same period. In another instance, nearly the full amount of Chinese investments in Singapore from 2007 to 2016 was invested in valued-added service sectors such as technology, transport, energy and finance.[20] Overall, based on Trade in Services Balance data from 2010 to 2016, some countries like Thailand, Cambodia, and Philippines are also largely seen as net service exporters, while others like Singapore, Malaysia, Vietnam, and Indonesia play the role of both service importers and exporters.[21]

[19] Data available from Global Chinese Investment Tracker Database.
[20] Ibid.
[21] Data available from https://www.adb.org/sites/default/files/publication/357006/ki2017.pdf, p 192.

Figure 1: Breakdown into sectors of Chinese investments into ASEAN from 2007-2016



Source: Data from Global Chinese Investment Tracker

This, in turn, suggests that the long-term growth in services relates to investments where ICT can be incorporated in the ASEAN market. There are further observations to support this.

First, a deeper review into Chinese investments in ASEAN's technology sector reveals their main focus being on telecommunications.[22] However, the exponential digital opportunities in the ASEAN market appear to be more dynamic in nature – the actual investments of technology and digital infrastructure can be cross-sectoral and cross-border, which becomes difficult to track. Their capital gains and value-add for the economy can be produced in e-commerce, transport, finance, utilities, and entertainment sectors, or, at the same time, reproduced under several sectors across several economies.

For instance, while Alibaba invested US$400 million (S$527.92 million) in Singapore Post (Singapore) in 2014-2015, the *'vertical spill-over'*, in which the digital returns on investments and value-added flows over to Singapore Post's various value chain segments and respective

[22] Data available from Global Chinese Investment Tracker Database.

firms, often goes unaccounted. Even as Alibaba placed a stake in Lazada[23], it became clearer Alibaba may have strategised Singapore Post to facilitate an end-consumer market, the multiplier effect of value and opportunities created for firms in between Singapore Post and Lazada remain largely unexplored.

In another instance, cross-border opportunities and linkages capitalised by ASEAN-based firms, for example when corporate giants like China Investment Corporation and Didi Chuxing invested in Grab Taxi (Singapore) in October 2015, appear to be tremendous but largely untapped by smaller players in intra-ASEAN and extra-ASEAN terms. Yet, the transference of know-how, consumer behaviour trends, operationalisation in the digital economy has seen substantial enhancement and growth for both traditional (for example, Singapore Post) and digital based (Grab Taxi) business entities as they begin to build forward and backward linkages between the traditional and digital economy.

There are also untapped investment opportunities, of which *'horizontal spill-over'*, which cuts across various resources and sectors through digital connectivity to boost further investments and synergies, remain unconceived by intra-ASEAN and extra-ASEAN market players. Conversely, Chinese investments appear to have discovered these potentials and have attained first mover advantage. For instance, in May 2013, when CDH Investments, a Beijing-based major alternative asset management firm, first invested into Vietnam's technology sector by acquiring 20 per cent share of Mobile World Investment Corporation that focuses on distributing consumer goods through e-commerce, its motivations and targets for collaborations were largely undefined. [24] Nonetheless, tracing CDH's past investment experiences into a wide spectrum of sectors, including innovative engineering technology, modern services, retail and new media, suggests market access and digitalisation motivations using cross-sectoral resources. Similarly, other non-digital conglomerates, such as the China National Machinery Industry Corporation, have also partnered with digital procurement companies like Thailand's Win Net, in which a combination of goods and services are being produced and transacted.[25]

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[23] Ibid.

[24] Ibid.

[25] Steven Zolman (2014). NET(net) Launches WIN(win)™ - New SaaS Platform for IT Strategic Sourcing and Strategic Supplier. http://www.netnetweb.com/content/it-optimization-news/news/netnet-launches-winwin-new-saas-platform-for-it-strategic-sourcing-and-strategic-supplier-management. Accessed on 14 February 2018.

The rise of the IoT application demands is, therefore, expected to see a rise in similar trends of traditional infrastructure companies cooperating with cross-border technological firms to bridge a traditional and digital economy gap for end consumers within the ASEAN region.

India's Digital Development and Investment Potentials

Domestically, in India, there appears to be substantial efforts in the last decade, both in the public and private sectors, to enhance digital inclusion. In 2015, a 'Digital India' initiative was launched by Prime Minister Narendra Modi to boost digital infrastructure, including a broadband highway, universal access to mobile connectivity and a national e-governance plan. These were added on top of the already existing nation-wide *Aadhaar* initiative, which is a nationwide biometric identity record system that aims for nation-wide financial inclusion, security surveillance and, subsequently, on the go mobile payments.[26] More recently, as the Indian government plans to double its allocation for the 'Digital India' initiative in the Union Budget 2018, the focus by the IT ministry is clearly shifting towards research on artificial intelligence and electronic manufacturing as part of its 'Made in India' initiative.[27]

In the private sector, e-commerce volume has performed well. In terms of online retail sales in India, its volume has at least increased by 10 times between 2009 and 2016.[28] E-commerce sales, as a share of all retail sales in India, also saw rapid increase from 0.8 per cent in 2014 to 2.6 per cent in 2016.[29] Several India-based e-commerce companies have also initiated transnational business-to-business cooperation. One prominent example is Flipkart, an initial e-book firm that acquired domestic e-commerce firms such as Letsbuy.com and Myntra.com and payment start-up firm, PhonePe. In 2017, Flipkart acquired e-Bay's business operations in India.

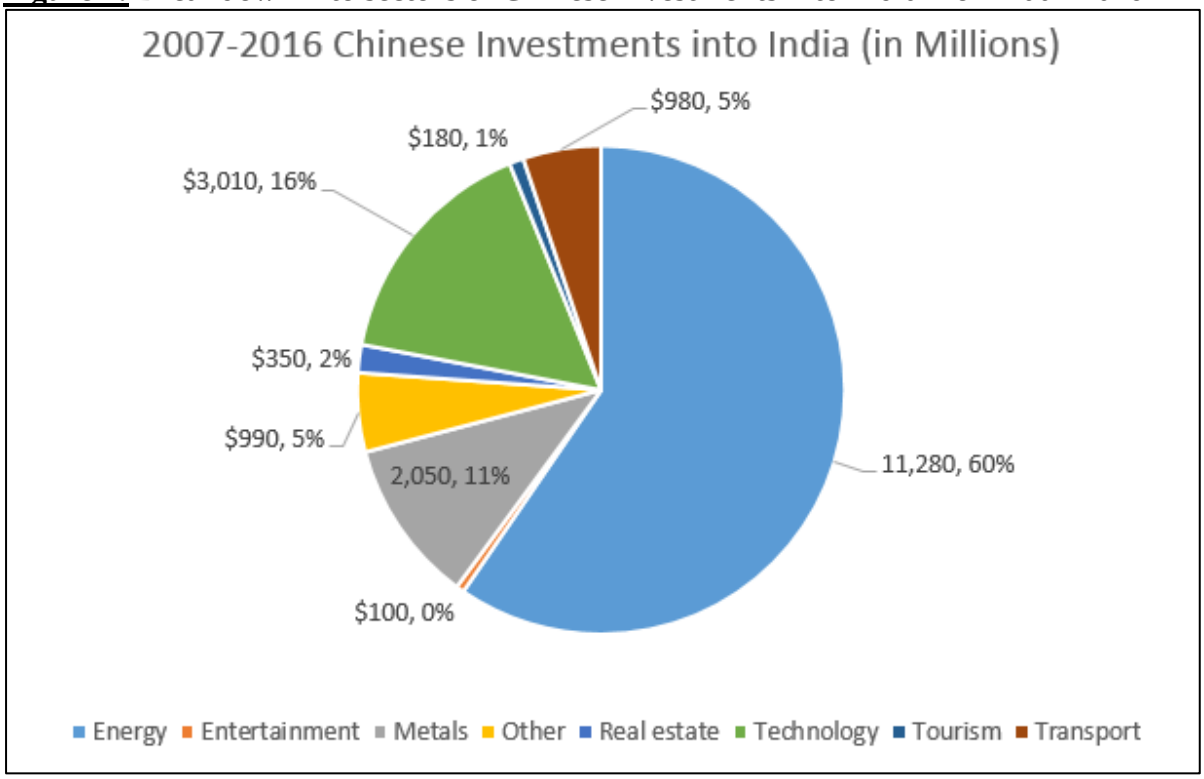
India's technology sector has also elicited some Chinese interest. For example, Alibaba invested US$880 million (S$1.16 billion) in 2015 in One97 Communications Limited, which

[26] Siddharth Dhamija (2017). How Aadhaar is Powering Digital Payments in India. https://razorpay.com/blog/how-aadhaar-is-powering-digital-payments-in-india/. Accessed on 14 February 2018.
[27] Komal Gupta (2018). Digital India: IT ministry set up four committees to encourage AI research. http://www.livemint.com/Politics/h2NthxiA7u5VhiDJqfTjcM/Digital-India-IT-ministry-set-up-four-committees-to-encoura.html. Accessed on 14 February 2018.
[28] Data available from Statista Database.
[29] Ibid.

is also connected to PayTm, a major domestic player in the field of e-commerce and mobile e-wallet.[30] Others like Fosun International, a Chinese conglomerate with portfolios in technology and healthcare, acquired 86 per cent of India's Gland Pharma's share.[31]

Nonetheless in general, India's technology sector appears to be of lesser interest to Chinese investors. Out of Chinese investments inflow into India from 2007 to 2016, only about 16 per cent is invested in India's technology sector, while approximately 60 per cent is channelled to the energy sector, which is highly resource seeking (See Figure 2). Total Chinese investments in India also account for only approximately 11 per cent (US$18.94 billion [S$ 25 billion]) of the amount invested in ASEAN by Chinese investments in the same period.[32]

Figure 2: Breakdown into sectors of Chinese investments into India from 2007-2016



Source: Data from Global Chinese Investment Tracker

On the other hand, some ASEAN countries' investments into India appear to be significantly higher than the above. For instance, Singapore's investment in India in 2016 amounted to

[30] Data available from Global Chinese Investment Tracker Database.
[31] Ibid.
[32] Ibid.

US$27.7 billion (S$37.53 billion).[33] This amount was almost 1.5 times the total Chinese investments India received from 2007 to 2016. ASEAN-based companies have also shown interest in India's technology sector, mainly in such areas as fintech, e-logistics and IT consulting. For instance, Singapore's *NETS* signed a memorandum of understanding with the National Payments Corporation of India in 2017, aiming at cross-national digital payments.[34] Others like Singapore-based *Anchanto* have taken the opportunity to enter India's market e-commerce warehouse management.[35] Small-medium enterprises like Web Synergies (S) Pte Ltd are also providing IT and e-commerce consultation services in the India market.

Enhancing ASEAN-India Digital Cooperation

The size of the global digital economy stood at US$11.5 trillion (S$ 15.18 trillion) or 15.5 per cent of global gross domestic product as at 2016. ASEAN has been benefiting significantly from Chinese investments, especially in its technology sector, both in terms of volume and opportunities.[36] This is further boosted by the launch of the BRI. India has also evidently stepped up digitalisation in the areas of e-commerce and e-governance through its own domestic entrepreneurship and governmental efforts rather than rely on Chinese investments. This is despite the fact that Chinese investments into India's technology sector are not expected to grow.

There also remains the potential for growth in India's and ASEAN's overall technology sectors if both ASEAN and India can further boost mutual investments. On India's end, the growing interest but low priority given to its technology sector by Chinese investments may mean less transfer of technology know-how from China to India, as opposed to what ASEAN receives from China. India-ASEAN cooperation at the government-to-government and business-to-business levels could witness technology transfer between ASEAN and India.

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[33] Singapore's Direct Investment Abroad. http://www.singstat.gov.sg/docs/default-source/default-document library/statistics/visualising_data/singapore-direct-investment-abroad2016.pdf. Accessed on 14 February 2018.

[34] NETS Ties Up with India's National Payments Corporation of India to Facilitate Cross-Border Usage & Acceptance. https://www.nets.com.sg/company/newsroom/nets-ties-up-with-india-s-national-payments-corporation-of-india-to-facilitate-cross-border-usage-acceptance. Accessed on 14 February 2018.

[35] ASEAN Investment Report 2016. https://www.asean.org/storage/2016/09/ASEAN-Investment-Report-2016.pdf. Accessed on 14 February 2018.

[36] Huawei and Oxford Economics (2017). http://www.huawei.com/minisite/gci/en/digital-spillover/index.html. Accessed on 14 February 2018.

Secondly, while India's total foreign domestic investments (FDI) to ASEAN are not impressive, with the CAGR of -19.3 per cent between 2010 and 2016, its FDI in the ICT sector in ASEAN, in fact, experienced a positive CAGR of 92.33 per cent between 2012 and 2016.[37] This reflects a strong interest on India's end in ASEAN's technology market. India's 'Act East' policy could provide a further boost to the investment from India to ASEAN.

Finally as this paper mentioned earlier, the *horizontal spill-over* and *vertical spill-over* within the ASEAN market has yet to realise its maximum potential. This is also given that ASEAN's combined ICT sector alone will hit a market demand of US$0.66 trillion (S$0.90 trillion) by 2020, which amounts to approximately 2.35 times that of India's ICT sector market demand.[38] Both ASEAN and India can cooperate to narrow this gap through international trade in services, particularly in cross border supply (Mode 1), consumption abroad (Mode 2) and foreign commercial presence (Mode 3). They remain to be developed within the ASEAN-India connectivity agenda and, to a larger extent, within the RCEP Trade in Service area, which are pending ongoing negotiations.

Conclusion

As China makes inroads into the ASEAN technology sector, there are likely to be security concerns, both within and across countries in the Asia-Pacific. However, in spite of these perceived security threats, there are economic opportunities for private stakeholders. As the ASEAN market continues to be an investment gateway for South Asia, Europe and East Asia, and thereby connecting them, it also serves as an important platform for cross-regional actors to transfer technology, and build commercial linkages and networks for long-term gains.

These opportunities and developments provide the avenue for India to stake a claim in the ASEAN technology sector. However, it needs to capitalise on its strong relationship with the Southeast Asian countries, and forge greater trade and investment collaboration in the technological sector. It has much to gain in this sector, despite the BRI shadow starting to loom large in the region.

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[37] Latest data available from ASEANStats Database.
[38] Latest forecast available from Economist Intelligence Unit.