

India's Cross-border Connectivity and Its Participation in the Global Supply Chains: A Discussion Note

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India's Transport Corridors and their Linkage to Global Value Chains

Transport connectivity is a determining factor for trade cost and its efficiency. It is often argued that even if tariffs are reduced to zero, trade may not achieve its optimum level unless there is agreement towards trade facilitation encompassing transport connectivity, efficient transport, transit and trade logistics¹. Improved transport connectivity leads to reduced transaction costs; transparent and predictable decision making; and speedy resolution of disputes. This finally leads to trade and economic integration, creating resilient value and supply chains in the region and beyond.

India has duly recognised the importance of both intra- and inter-regional transport connectivity for economic and trade integration, and also for boosting local area development. This is reflected in the Prime Minister of India remarks in his Keynote Address at Shangri La Dialogue, where he emphasised connectivity as the country's new strategic imperative:

Connectivity is vital. It does more than enhance trade and prosperity. It unites a region. India has been at the crossroads for centuries. We understand the benefits of connectivity. There are many connectivity initiatives in the region. If these have to succeed, we must not only build infrastructure, we must also build bridges of trust.¹

In view of its importance in the emerging global trade and economic development, and also to cater to geo-political interests, government of India has been pursuing several initiatives over the last one-decade period to establish and strengthen transport connectivity corridors with partner countries, including countries in South Asia which share land borders with India. Major one includes:

1. International North-South Transport Corridor (INSTC);
2. India-Myanmar-Thailand (IMT) Trilateral Corridor;
3. BIMSTEC Transport Corridor;
4. Mekong-India Economic Corridor (MIEC);
5. Bangladesh-Bhutan-India-Nepal (BBIN) Transport Corridor;
6. Afghanistan-India-Iran (AII) Corridor; and
7. India-Middle East-Europe Economic Corridor (IMEC).

¹ Suresh Singh (2022), Transform Transport Corridors into Economic Corridors: Towards Inclusive Growth & Trade in the BBIN Sub-Region, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4271046

A brief profile of these corridors, their origin, membership and trade and economic potential are presented in Annexure 1. In addition to the above-mentioned initiatives, there are few more initiatives at bilateral levels to promote regional cross-border connectivity with India's neighbouring countries, particularly with Bangladesh, Bhutan and Nepal.

Among the mentioned multi-country corridors, while some like INSTC are partly operational, others are at different stages of planning and implementation. In July 2022, the Russian logistics company, RZD Logistics, completed its first transportation of goods via container trains from Russia to India through the eastern branch of the INSTC in coordination with the Iranian shipping firm, the Islamic Republic of Iran Shipping Line Group (IRISL)². The AII corridor is also operational, though its full operational capacity is yet to be achieved. The corridor connects Mumbai seaport to Chabahar seaport and then links up through the Iranian road network to the Afghan border town of Zaranj (in Nimruz province) and Delaram (in Farah province). It may be noted that the 200 km road from Zaranj to Delaram has been built at a cost of Rs.600 with India's support³. India used this corridor for the first time in November 2017, when the first shipment through the Chabahar port took place after the conclusion of the 'Transport and Transit' agreement among India, Iran and Afghanistan in May 2016⁴.

Considering that India is charting its way to be more involved in the global supply chains⁵ as it aims to be the third largest economy by 2030⁶, these operational and planned corridors could play crucial role. Success of these connectivity initiatives have potential to positively impact India's trading ecosystem in several ways.

Firstly, seamless movement of goods across borders is one major benefit, and this in turn will facilitate the integration of Indian businesses into GVCs by allowing them to import raw materials and intermediate goods and export finished products.

² The Cradle (July 2022) Iran announces completion of transport of Russian goods to India through INSTC.

³ India Today, India's new silk roads: First shipment passes through Chabahar port, 13 November 2017. <https://www.indiatoday.in/magazine/up-front/story/20171113-chabahar-port-india-iran-afghanistan-transport-and-transit-agreement-1077204-2017-11-05>

⁴ Ministry of External Affairs, Agreement on Establishment of an International Transport and Transit Corridor among India, Iran, and Afghanistan, <https://www.mea.gov.in/Portal/LegalTreatiesDoc/016P2941.pdf>

⁵ A supply chain refers to every step involved in delivering a finished product or service to customers. A disruption at any level leads to delays, unavailability or even rise in prices, affecting the markets at large.

⁶ Explained: India's Bid To Become The Global Supply Chain Guru, <https://www.ndtv.com/india-news/explained-india-eyes-key-role-in-global-supply-chains-4335301>

Improved transport connectivity will also contribute to cost reduction in trading across border, and will also be helpful in optimization of their supply chains. Lower transportation costs also make it more cost-effective for Indian firms to source inputs from other countries and participate in GVCs.

Studies also reveal that improved connectivity with neighbouring countries and beyond, helps in gaining access to a wider market base for businesses, particularly those involved in industries like manufacturing and agriculture that rely on export markets as part of GVCs. Besides, India's proximity to countries like Bangladesh, Nepal, and Sri Lanka could foster regional production and supply networks.

Technology Transfer is another important area that will get a boost from improved transport corridors. There are research studies which demonstrate that cross-border connectivity facilitates the exchange of technology and knowledge, which is critical for industries aiming to upgrade and become more competitive within GVCs.

India's participation in regional/global value chains

India's present participation in global value chains, referred as integrated process of production of goods and services from conception to end-use⁷, is miniscule, and thus it has a long way to go despite its impressive performance with regard to growth in GDP over the last few years. A research paper⁸ on global value chains indicate that India's participation in global value chains has remained marginal over the past two decades, as reflected by India's share of global merchandise exports which is lower than 2 per cent. The paper also demonstrates that India's weak linkages into global value chains in the manufacturing sector are not just lower relative to other major regional emerging market economies but they have also consistently declined since 2013⁹.

India's GVC participation is significantly lower than China, Vietnam, Korea and other Southeast Asian countries. Products for which GVCs are the dominant mode of production – such as electronics, computers, telecommunication equipment and vehicles, account for only 10 per cent of India's total merchandise exports compared to about 50 per cent of the exports of China, Japan and Korea.

⁷ Value chain refers to an integrated process of production of goods and services from conception to end-use, Gereffi, G. and Fernandez-Stark, K. (2016). Global value chain analysis: a primer. (2nd Edition).

Duke University. Available at: <https://dukespace.lib.duke.edu/dspace/handle/10161/12488>

⁸ Global value chains, the missing link in India's trade strategy, East Asia Forum, 5 February 2023

⁹ *ibid*

A similar scenario of low level of participation in regional value chain is observed in case of India's neighbouring countries as well. This is despite that fact that these countries have taken several trade facilitations measures over the last few years.

There are several challenges hindering India from playing a prominent role in the regional value chains. Some of the major challenges¹⁰ emerge from:

- lack of functional economic corridors in the region;
- conflicting political interest leading to mistrust between neighbours;
- slow progress on trade facilitation and free trade agreements in the region; and
- non-tariff barriers that prevent skills and technology transfer in the region

It is expected that most of these challenges relating to global and regional value chains could be significantly addressed, if corridors which are under various stages of planning and implementation become fully functional. For instance, functional corridors among BIMSTEC member states could help in strengthening regional value chains for several products:

Fruits: Fruits from Nepal and Bhutan exported to Bangladesh – Fruits Processed in Bangladesh – Processed Fruit Exported back to Nepal, Bhutan

Limestone, etc.: Limestone, etc exported from India and Myanmar – Processed into Cement in Bangladesh – Cement Exported back to India

Auto parts: Auto parts exported from India – Assembled in Bangladesh – Exported back to India.

Considering recent endeavours toward trade facilitation on the one hand and upcoming transport corridors on the other, India is in position to strengthen its participation in the regional and global value chains in several products. The scope further increases in view of ongoing trade war between China and the US leading to shifting of manufacturing bases by several countries, particularly, US, Japan, and many EU's countries. The potential of India will be further boosted by landmark agreement on India-Middle East-Europe Economic Corridor (IMEC), which has the potential to make India an Asian hub in global supply chains¹¹.

¹⁰ Vaqar Ahmed, Abid Q. Suleri, Asif Javed, Strengthening South Asia Value Chain: Prospects and Challenges, South Asia Economic Journal · September 2015.

¹¹ Expert Explains: With the announced India-Europe Economic Corridor, a look at India's supply chain opportunity, The Indian Express, 15 September 2023, <https://indianexpress.com/article/explained/explained-economics/g20-india-economy-imec-corridor-indias-supply-chain-opportunity-8938924/>

Potential Gains from Improved Value Chains in South Asia: The Case of Textile and Garments (T&G)

A report UNESCAP demonstrates that about 1722 potential products (at HS 6-digit level), including both inputs and outputs of the T&Gs industry, have a combined scope for increasing intra-regional trade at least by US\$ 1.9 billion. Furthermore, by sourcing low-cost inputs from within the region, South Asia can potentially save US\$ 3.7 billion in textile machinery, US\$ 2.7 million in raw fibers, US\$ 2.4 million in yarn and US\$ 2 million in fabric. There are about 223 products with high trade potential, in which there is an aggregate supply capacity gap of about US\$ 7.5 billion, requiring enhanced cross-border investment flows. To achieve the potential, key policy reforms required for strengthening RVCs in the subregion, include tariff liberalization, pruning of sensitive lists under SAFTA, addressing non-tariff barriers (NTBs), implementing trade facilitation measures and promoting FDI in the T&G sector.

Source: UNESCAP, <https://www.unescap.org/kp/2022/developing-regional-value-chains-textile-and-garment-sector-south-asia>

Increased participation in global value chains will, however, require member states agree on common global standards, adopt international regulations, comprehensive labour laws, and industrial codes. It may be noted that differences in environmental standards, a plethora of labour laws, a myriad of product codes and regulations simply add to the trade costs and lead to a reduction in the efficiency of the production network¹².

¹² Prachi MittalJahnvi Aggarwal, Global value chains in the BIMSTEC: An opportunity untapped, Observer Research Foundation, February 2020, <https://www.orfonline.org/expert-speak/global-value-chains-in-the-bimstec-an-opportunity-untapped-61221/>

Annexure 1**International North-South Transport Corridor**

The International North South Transport Corridor (INSTC) is a joint initiative launched by India, Iran, and Russia in September, 2000 to facilitate shipments and logistics. The agreement came into effect in May, 2002 after being ratified by all three signatory states. Currently, there are 13 official members, including three founding members. Economic strength of this group is provided below:

Table 1. Collective Economic Strength of INSTC Member States

Participating countries (13)	Azerbaijan, Belarus, Bulgaria, Armenia, India, Iran, Kazakhstan, Kyrgyzstan, Oman, Russia, Tajikistan, Turkey, and Ukraine
Corridor Classification	Multi-modal
Current Status	Under implementation
GDP Size (2022)	US\$ 7.70 trillion
Share in world GDP (2022)	7.65%
Population (2022)	1.84 billion
Share in world population (2022)	23.17%
Share in world trade (2022)	12%

Source: Data source: WDI, The World Bank

The International North South Transport Corridor (INSTC) is a 7,200 km multi-mode transport network linking Indian Ocean and Persian Gulf to the Caspian Sea via Iran, and onward to northern Europe via St. Petersburg, Russia. Throughout this network, freight between India, Russia, Iran, Europe and Central Asia move through sea, rail, and road. This route is very different from much longer and costlier Suez Canal that India used earlier to transport goods to Russia. A major advantage of this route is that it helps connect India with Russia within 16-21 days, compared to a much longer traditional route Suez Canal route.

After few trials, the first commercial consignment using this corridor, and which is considered a historic milestone, commenced in July 2022.

India-Myanmar-Thailand Trilateral Corridor

IMT Trilateral Highway Corridor is an in-progress 1360 km transport corridor involving India, Myanmar, and Thailand. Also, part of the Asian Highway, the corridor starts from Moreh in Manipur, India, and passes through Myanmar before reaching Mae Sot in Thailand. The project was approved in 2002 and the construction began in 2012. The project is being implemented in a phased manner. In addition to the three countries, discussion is underway to extend the corridor up to Vietnam through Cambodia and Lao PDR.

Table 2. Collective Economic Strength of Member States of Trilateral Corridor

Participating countries (6)	India, Myanmar, Thailand, Cambodia, Lao PDR and Vietnam
Corridor Classification	Land-based
Current Status	Under implementation
GDP Size (2022)	US\$ 4.4 trillion
Share in world GDP (2022)	4.4% %
Population (2022)	1.66 billion
Share in world population (2022)	20.8%
Share in world trade (2022)	4%

Source: Data source: WDI, The World Bank

As per the report, the construction of this trilateral transport corridor is almost complete except the 121 km Kalewa-Yagyi section which includes construction of 69 bridges and adjacent approach roads. Work on this section is delayed for several reasons, including steep grades, sharp curves and political instability. Till July 2023, only 50 percent of the work has been completed.

It is mentioned that there is also initial discussion between India and ASEAN countries to extend this corridor up to Vietnam through Laos and Cambodia.

For fuller utilisation of this upcoming transport corridor, and to facilitate smooth flow of passenger and cargo vehicles, India, Myanmar, and Thailand are negotiating a Motor Vehicle Agreement (MVA) since 2015. In this regard, a few rounds of negotiations have been held to discuss and finalise the provisions and the protocols to implement the agreement. The last meeting IMT MVA and its Protocols was held in Bangkok, Thailand on 24-25 September 2019.

With regional connectivity gaining lot of traction in the recent years, it is expected that the agreement would soon be finalised and implemented by the three countries.

BIMSTEC Transport Corridor

Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) formed in December 1997 is a grouping of seven South Asian and Southeast Asian countries. These are Bangladesh, Bhutan, India, Nepal and Sri Lanka Myanmar from South Asia, and Myanmar and Thailand from the ASEAN region. Transport & Communication is one of the 14 areas of cooperation among the BIMSTEC member countries, as mentioned in the BIMSTEC Summit Declaration, March 2022.

The BIMSTEC Summit Declaration in Colombo, Sri Lanka in March 2022 witnessed the adoption of the BIMSTEC Master Plan for Transport Connectivity (BMPTC) as recommended by the Ministerial Meeting. Further, the Summit resolved to intensify regional cooperation in

several areas, including strengthening economic and physical connectivity to enhance regional trade, investment, tourism, technology, energy and other forms of exchanges.

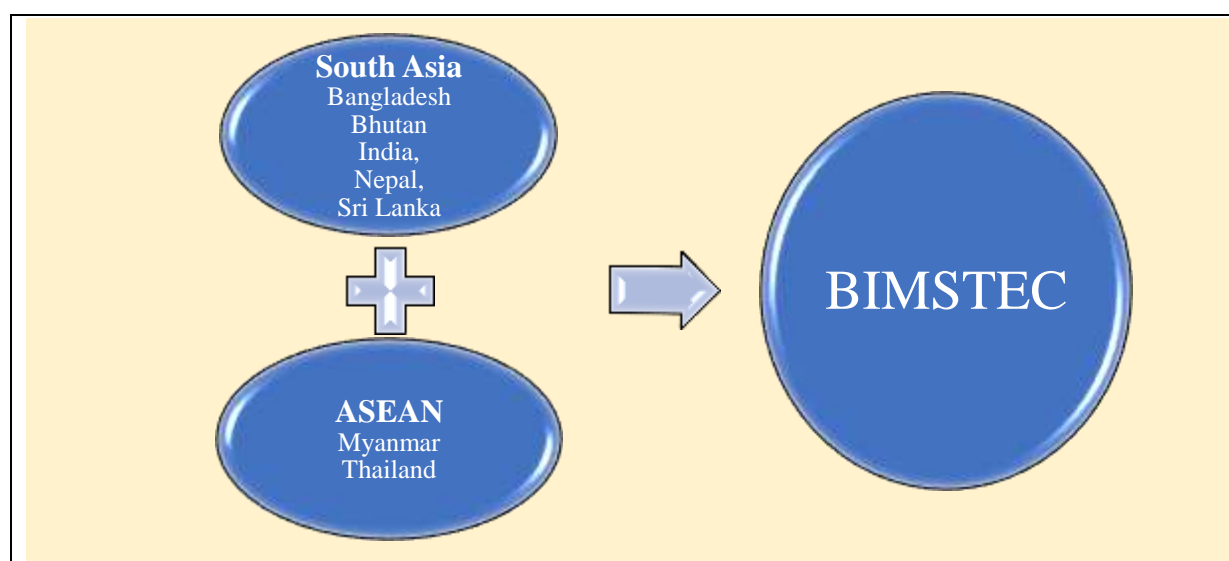
Table 3. Collective Economic Strength of BIMSTEC Member States

Participating countries (7)	Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand
Corridor Classification	Multi-modal
Current Status	Under implementation
GDP Size (2022)	US\$ 4.5 trillion
Share in world GDP (2022)	4.5% %
Population (2022)	1.77 billion
Share in world population (2022)	22.2%
Share in world trade (2022)	7%

Source: Data source: WDI, The World Bank

The Master Plan lays down a very clear roadmap for multimodal connectivity, covering ongoing and planned roadways, railways, waterways and civil aviation between and among member states which have potential for cross-border connectivity, or to serve as a supporting corridor.

BIMSTEC member states are also negotiating a Motor Vehicles Agreement since 2019. Though not much progress has been achieved, but it is expected that its implementation would boost trade and investment, people-to-people connectivity and tourism. It could also have significant impact on local development, employment and livelihood generation.



Mekong-India Economic Corridor

The Mekong-India Economic Corridor seeks to integrate the four Greater Mekong Countries viz. Myanmar, Thailand, Cambodia and Vietnam and Japan with India through its Northeast States. For this purpose, the Mekong - India Economic Corridor (MIEC) is considered a bridge between India and the Mekong sub-region, including the CLMV countries (Cambodia, Laos, Myanmar, Vietnam). This corridor intends to connect Ho Chi Minh City in Vietnam with Dawei in Myanmar via Bangkok in Thailand and Phnom Penh in Cambodia and further to Chennai in India. This corridor is expected to create further momentum for trade and investment not only between India and the four Mekong countries, but other countries in the Southeast Asia as well.

Table 4. Collective Economic Strength of MIEC Member States

Participating countries (6)	India, Cambodia, Myanmar, Thailand, Vietnam, Japan
Corridor Classification	Multi-modal
Current Status	Proposed
GDP Size (2022)	US\$ 4.4 trillion
Share in world GDP (2022)	8.5%
Population (2022)	1.66 billion
Share in world population (2022)	20.8%
Share in world trade (2022)	8%

Source: Data source: WDI, The World Bank

Importance of this corridor has further increased as trade relations between India and ASEAN countries has significantly improved over the last one-decade period. The bilateral trade between India and ASEAN countries has risen from \$57 billion in 2010-11, when the FTA came into effect, to \$ 131 billion in 2022-23.

Put together, this corridor has potential to give a further boost to trade and cooperation, and would strengthen supply and value chains between and among the countries.

Bangladesh-Bhutan-India-Nepal Transport Corridor

The Bangladesh-Bhutan-India-Nepal (BBIN) Transport Corridors are linked to the Motor Vehicles Agreement (MVA) signed by the four countries in June 2015. The primary goal of the BBIN MVA is to enhance intra-regional trade and cooperation among the countries of the subregion by facilitating seamless movement of cargo and passenger vehicles that can help in the faster and more economical movement of goods and people across their territories. This implies that passenger or cargo vehicles of one country would be able to enter into the territories of the other member nations without the need for

changeover or trans-shipment of goods from one country's truck to another. The Agreement also provides for tracking of cargo vehicles electronically, online issue of permits and fulfilling other requirements to facilitate the seamless movement of vehicles across borders in the subregion.

Table 5. Collective Economic Strength of BBIN Member States

Participating countries (4)	Bangladesh, Bhutan, India, Nepal
Corridor Classification	Road-based
Current Status	Under implementation
GDP Size (2022)	US\$ 3.9 trillion
Share in world GDP (2022)	3.9%
Population (2022)	1.62 billion
Share in world population (2022)	20.4%
Share in world trade (2022)	3%

Source: Data source: WDI, The World Bank

However, for its implementation, the Agreement requires ratification by all four countries, followed by signing the two protocols – cargo and passenger- separately. In this connection, while Bangladesh, India and Nepal have ratified the Agreement, Bhutan has withheld its ratification citing environmental concerns. However, Bhutan consented in 2017 to implement the Agreement among the other three countries: Bangladesh, India and Nepal.

Several rounds of negotiations have been held on the tool (MoU) to implement the four-country agreement among three countries and on the cargo and passenger protocols. One can hope that with growing realisation on the importance of connectivity and regional trade for economic development, the agreement would soon be implemented.

The BBIN MVA encompass several corridors connecting one or more countries in the subregion. While some of these seek to connect three countries, other corridors connect two countries.

Afghanistan-India-Iran Corridor

In May 2016, India, Iran and Afghanistan (AII) signed a tripartite agreement to use the Iranian port of Chabahar into a transit hub bypassing Pakistan, which for long has been the only route for war-stricken Afghanistan to the Indian Ocean. The Agreement is to regulate the international transport and transit of goods and passenger through the territories of contacting parties carried out by any means of transportation along the agreed routes.

Table 6. Collective Economic Strength of AII Member States

Participating countries (3)	Afghanistan, India, Iran
Corridor Classification	Multi-modal
Current Status	Under implementation
GDP Size (2022)	US\$ 3.8 trillion
Share in world GDP (2022)	3.8%
Population (2022)	1.55 billion
Share in world population (2022)	19.0%
Share in world trade (2022)	3%

Source: Data source: WDI, The World Bank

Under the Agreement, while Chabahar Port in Iran is connected to India by sea, connectivity between Iran and Afghanistan will be multimodal, with scope for using both road and railways.

As far as operation of this corridor is concerned, there is already a roadway connectivity Chabahar to Zahedan in Iran to Zaranj and Delaram in Afghanistan, a rail line from Zahedan to Chabahar is also being laid down to strengthen connectivity on the corridor. The Zahedan-Chabahar railway project, in the southeastern province of Sistan-Baluchestan, is scheduled to be completed by March, 2024. It is mentioned that the India funded highway project from Zaranj to Delaram in Afghanistan was completed and inaugurated in January, 2009.

Once fully operational, the corridor will boost India’s connectivity and trade with Afghanistan and countries in the Central Asia.

Figure 1 AII Transport Corridor Connecting Afghanistan to Iran



Source: Map adopted from Mint Article India, Iran and Afghanistan ink trade corridor pact, Mint (23 May 2016)

India-Middle East-Europe Economic Corridor (IMEC)

In the sideline of G20 Summit in September 2023 in New Delhi, the Governments of the Kingdom of Saudi Arabia, the European Union, the Republic of India, the United Arab Emirates (UAE), the French Republic, the Federal Republic of Germany, the Italian Republic, and the United States of America signed an MoU to work together to establish the India - Middle East - Europe Economic Corridor (IMEC) to stimulate economic development through enhanced connectivity and economic integration between Asia, the Arabian Gulf, and Europe.

The IMEC will be comprised of two separate corridors, the east corridor connecting India to the Arabian Gulf and the northern corridor connecting the Arabian Gulf to Europe. It will include a railway that, upon completion, will provide a reliable and cost-effective cross-border ship-to-rail transit network to supplement existing maritime and road transport routes - enabling goods and services to transit to, from, and between India, the UAE, Saudi Arabia, Jordan, Israel, and Europe.

Figure 2 India-Middle East-Europe Corridor Route Map



Source: Adopted from *The Hindu*, India-Middle East-Europe Economic Corridor: A passage of possibilities

Further, along the railway route, member countries intend to enable the laying of cable for electricity and digital connectivity, as well as pipe for clean hydrogen export. It is expected that this corridor will secure regional supply chains, increase trade accessibility, improve trade facilitation, and support an increased emphasis on environmental social, and government impacts. At the same time, it will increase efficiencies, reduce costs, enhance economic unity, generate jobs, and lower greenhouse gas emissions -- resulting in a transformative integration of Asia, Europe and the Middle East.

Table 7. Collective Economic Strength of IMEC Member States

Participating countries (7)	USA, India, Japan, Saudi Arabia, UAE, France, Germany, Italy and the EU
Corridor Classification	Multi-modal
Current Status	Launched in September 2023 at the sideline of 18th G20 summit
GDP Size (2022)	US\$ 39.3 trillion
Share in world GDP (2022)	39.1%
Population (2022)	2.0 billion
Share in world population (2022)	35.2%
Share in world trade (2022)	3%

Source: Data source: WDI, The World Bank

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