

## Trend of Investments in Batu Kawan Industrial Park

By **Dr Lee Siu Ming** (Senior Analyst, Socioeconomics & Statistics Programme)

### Executive Summary

- This brief analyses the investment inflows and developments in Batu Kawan Industrial Park (BKIP), and includes a discussion on job creation, clustering, and economic spillovers.
- The percentage share of approved manufacturing investments in Seberang Perai Selatan (SPS) as a portion of the total approved manufacturing investments in Penang increased from 6% in 2015 to 27% in 2019. Investments in BKIP consist of a good combination of FDI and DDI in promoted sectors, especially in electrical and electronics (E&E), machinery and equipment (M&E), and medical technology.
- Companies from United States, Germany, United Kingdom, Japan, Singapore, and Malaysia are among the largest sources of investments and re-investments into BKIP. With record-high approved FDI reported in 2019 and several mainly high-technology projects in the past few years; the multiplier effect is expected to spur the growth and development of local firms.
- In terms of linkages and spillovers: BKIP (1) is an extension of Penang's solid industrial foundation, (2) promotes industry clusters and SME development, (3) can be capitalised upon to spur developments of global business services in purpose-built offices (PBOs), and (4) upgrades the socioeconomic status of SPS.
- As the state develops 1,156 acres in Batu Kawan Industrial Park 2 (BKIP2) (and more industrial areas), some key challenges persist and require attention from stakeholders in the following areas: (1) better progress in moving up the value chain, (2) cooperation to provide investors with a more seamless experience in doing business, (3) investment promotion and investor handholding, and (4) development of long-term roadmap for industries and talent in Malaysia.

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## Introduction

Batu Kawan Industrial Park (BKIP)<sup>1</sup>, which received its first investment slightly more than a decade ago, has emerged as one of the most dynamic industrial hubs in the country. In Malaysia's Budget 2021 speech, the industrial areas of Batu Kawan in Penang and Kulim in Kedah were specifically highlighted when the investment package for high-technology and high value-added investments (including research and development (R&D) investments in aerospace and electronics cluster) was announced. This reflects on the prominence of Batu Kawan as a premier technological hub, not only for the northern region but for the country as a whole.

The state government has also announced that the Penang Development Corporation (PDC) will be developing 1,156 acres of land at Byram, Nibong Tebal, as Batu Kawan Industrial Park 2 (BKIP2). This indicates the robustness of developments taking place in the existing BKIP, and a positive outlook for Penang's industrial development. Notwithstanding the prevailing debates on investments into Malaysia, there is a great need to discuss positive cases of investment promotion and attraction (both foreign direct investments (FDI) and local direct investments (DDI)). Developments in BKIP project the industrial park as a good case for cogent discussion. This is also in line with the Federal government's aspiration to create more investment destination and for companies in Malaysia to move up the value chain in high-technology sectors such as the semiconductor industry (see PMO: Malaysia pledges to further create attractive investment destination, 14 September 2020).

This brief analyses the investment inflows and developments in BKIP, and includes a discussion on job creation, clustering, and economic spillovers.

## Beyond a Decade of Investments in BKIP

Since BKIP is located in the Seberang Perai Selatan (SPS) district, this study uses approved manufacturing investment data (publicly available since 2015) in SPS as indication of investments in BKIP and the surrounding areas.

In 2015, SPS's approved manufacturing investments were only 6% of the total approved manufacturing investments in Penang (inclusive of approved manufacturing FDI and DDI, new investments and re-investments) (Figure 1). The share increased steadily each year, contributing more

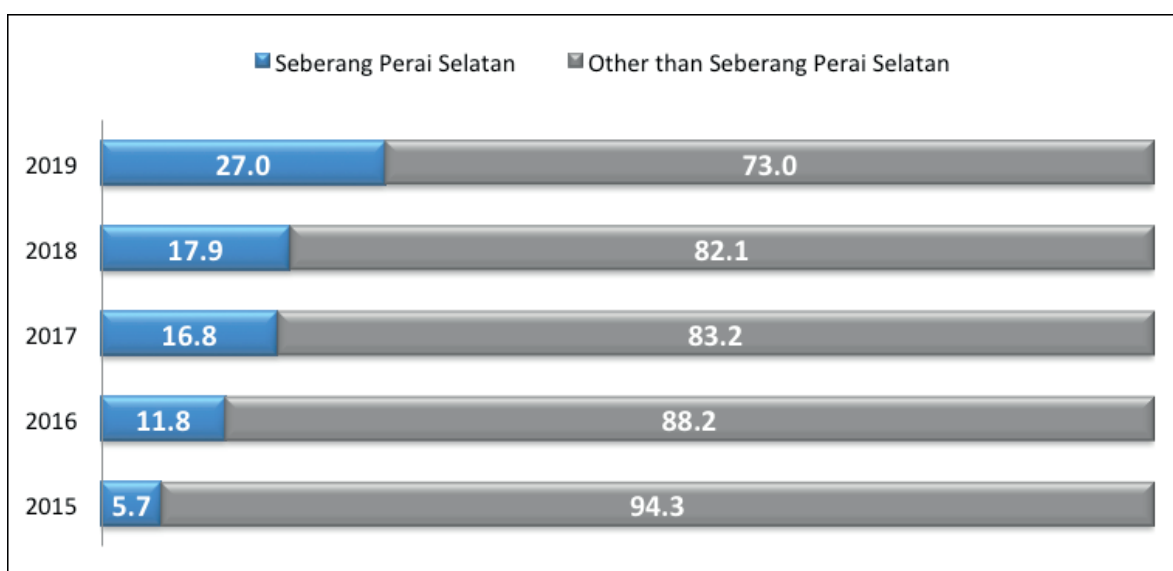
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<sup>1</sup> See BKIP map at <https://www.pdc.gov.my/index.php/en/industrial-land-sbmn/batu-kawan-industrial-park>

than a quarter of Penang's total approved manufacturing investments in 2019. This is a positive development alongside the high absolute approved investments recorded by the state in recent years (see Table 2 in Appendix).

Investments in BKIP consist of a good combination of FDI and DDI in sectors promoted by the state. Based on the data in Table 1, many of these investors are industry leaders in their respective segments. The key industries are electrical and electronics (E&E), machinery and equipment (M&E), and medical technology. Notably, Penang continues a strong and sustained relationship with investors, as reflected in the continued inflow of re-investments in BKIP. Arguably, the most immediate effect of investments at state level is the creation of jobs.

**Figure 1: Percentage share of investments in Seberang Perai Selatan and other districts in Penang, 2015-2019**



Source: Author's own compilation, based on data from MIDA via State Economic Performance Reports/State Socioeconomic Reports (various issues), Department of Statistics, Malaysia

**Table 1: Public Announcements of Investments by Companies in BKIP (2011-2020)**

Year	Company	Details
2011	Boon Siew Honda^	RM188mil to set up a new plant (five times larger than the existing facility in Mak Mandin) for motorcycle production. It is expected to create 100 additional jobs from the existing 1,000.
2012	Vat Manufacturing Malaysia	Investment in a 6,000sq m facility, the company's largest ever capital investment to expand production, and its first vacuum valve manufacturing factory outside of Switzerland.
	Bose Systems Malaysia	The company's first combined manufacturing and development facility in the Asia Pacific.
	Venture Electronics (Malaysia)^	This is part of the operations and business activities of global electronics services provider.
2013	Mforce^	An investment for production of motorcycles consisting of various capacities.
	PKT Logistics	The company's investment includes development of a logistics centre with a 'One Auto Hub' concept. Among the components of this project is a warehouse building known as 'The 12 Waves'.
	Classa Industrial	
2014	UWC Holdings^	Investment of RM150mil in a 32,516sq m facility equipped with state-of-the-art machinery and assembly lines for the production of diffusion pumps, semiconductor test equipment and heavy-duty handler products.
	Qdos Technology^	The company's business activity involves the production of molded interconnect substrates (MIS) and flexible printed circuit (FPC), which are used in the telecommunications and automotive sectors.
	Simfoni Bistari^	Investment by the company for electronics manufacturing.
	Vitrox Technologies^	Investment for a facility for research, design and development, manufacturing of advance automated machine vision system (MVS) and equipment, intelligent robotic vision system & modules and electronics embedded system for semiconductor, automotive, electronics, medical and healthcare industries.
2015	Pentamaster Tehnology^	Investment of RM20mil in a new manufacturing facility to manufacture a new generation of test and robotic equipment for the semiconductor industry.
	Walta Engineering^	Investment of RM15mil in a manufacturing plant to focus on the new range of equipment to be produced under the Walta brand name.

	Jabil Circuit <sup>^</sup>	Investment in a total build-up area of one million square feet, with focus on manufacturing products for the Enterprise, Industrial, Medical and Aerospace sectors.
	Hewlett-Packard Malaysia Manufacturing	The company's facility serves as the company's global consumer ink business headquarters and manufactures ink supplies by utilising its innovative and environmentally-friendly technologies.
2016	Avago Technologies Malaysia <sup>^</sup>	Setting up of its global distribution warehouse. Broadcom's global inventory for products being manufactured in the US, Taiwan, South Korea, Thailand and Malaysia is centrally stored before being distributed globally.
	Boston Scientific Medical Device (Malaysia)	Investment in a 375,000 sq ft manufacturing facility by the medical device giant – the company's first in Asia. The facility produces the company's medical products that are used in cardiovascular, endoscopy, and urology product families.
	MI Equipment <sup>^</sup>	Investment in a 90,000 sqft facility to expand the capacity in the company's business involved in design, development, manufacture and sale of wafer level chip scale package sorting machines with inspection and testing capabilities for the semiconductor industry.
	Sunningdale Tech Penang	This manufacturing facility in Penang is for mass production in the Consumer/IT segment.
2017	Qdos FRI <sup>^</sup>	In the same group of company as Qdos Technology reported above. Disparate information on investments by both entities not available.
	Penang Automation Cluster	Investment by three locomotive LLC Vitrox, Pentamaster and Walta in the first SME precision metal fabrication or automation cluster in Malaysia, to serve as a one-stop metal component supply chain hub for MNCs and LLCs. It aims to further support and enhance the development of existing supply chain ecosystem. The cluster with participation of SMEs <sup>iv</sup> will create an estimated 500 skilled jobs.
	TC Jewellery <sup>^</sup>	Investments by five goldsmith and jewellery manufacturing companies under the Penang Goldsmith Association with a total investment of RM49.6 mil. An estimated creation of 730 jobs, including high value professional gold and jeweller goldsmith craftsman jobs.
	LKT Luck <sup>^</sup>	
	Jin Huo Gold and Jewellery Industries <sup>^</sup>	
	TC Success Jewellery <sup>^</sup>	
	G2 Gold <sup>^</sup>	

	Hotayi Electronic^	Reinvestment of RM1bil in expansion of 350,000sq ft production. The firm offers electronics manufacturing services, and this investment increases Hotayi's staff headcount to more than 1,000 from 850 staff in Penang.
	Towam^	Investment of about RM100mil as part of the semiconductor moulding equipment company's expansion.
2018	Micron	An initial RM1.5bil investment within five years to build centre of excellence for Solid State Drive (SSD) Assembly and Test. This investment is expected to create about 1,000 jobs.
2019	Smith+Nephew	Investment in a 250,000 sq ft facility (initial phase) to support Smith+Nephew's Orthopaedics. Job creation of up to 800 jobs over the next five years, including roles in manufacturing, engineering and supply chain.
	Federal Express	Investment in a single-storey warehouse facility with a built-up area of 44,000 sq ft.
2020	Lam Research	Investment of about RM1 billion in a manufacturing facility – the largest facility within the whole Lam Research group. This is the production company's only facility in Southeast Asia. This investment is expected to create over 400 jobs.
	DexCom	The global continuous glucose management company's investment focuses on the manufacturing of sensors and applicators for its system. This is the company's first facility outside of the United States.
	Ultra Clean Holdings	Investment by a major industry player in the fluid delivery critical subsystem within the semiconductor supply chain, which supplies to wafer fabrication equipment (WFE) players in a manufacturing facility. About 650 jobs to be created over the next five years, including roles in manufacturing, engineering, research and development as well as quality management.
	Bosch Automotive^	An investment in a facility focusing on semiconductor components and sensor testing, part of the Bosch Automotive Electronics division. 400 jobs to be created.
	Iconic Medicare^	Investment of RM155.5mil in the manufacturing of personal protective equipment (PPE), including gloves and disposable face masks.
2021	JHM Consolidation^	Investment as part of the company's expansion into telecommunication equipment manufacturing industries that serve multiple multinational corporations in North American, Europe and Asia, tapping into the growing demand for Internet of Things application, as well as Cloud/Data Center.
	Greatech^	Investment in a new facility a built-up area of 200,000 sq ft to increase its capacity to cater for future orders.

Note:

i.^ refers to re-investment

ii. There may be a difference between years of investment announcement and year of land purchase, the years reported in this table are based on Appendix to ‘Answers to Written Questions’ at the First Meeting of the First Term of 14th Penang Assembly (where available).

iii. For full list of industrial land and unit sale in BKIP until 2018, see Appendix to ‘Answers to Written Questions’ at the First Meeting of the First Term of 14th Penang Assembly

iv. For list of SMEs in the Penang Automation Cluster, see <https://pa-cluster.com/>

v. Non-exhaustive list

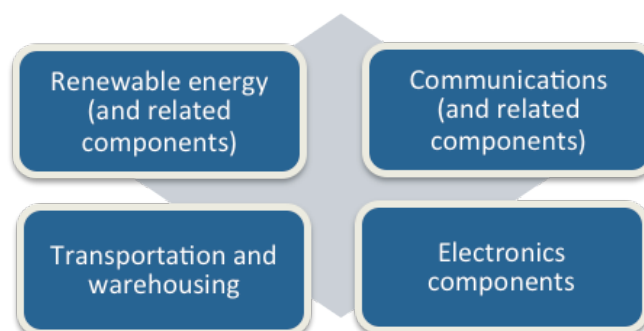
Source: Author’s own compilation, based on Penang State Legislative Assembly Hansard (Appendix) (2018), PDC Annual Reports (various years), various companies’ announcements and Penang Chief Minister’s speeches

In parallel with the trend of the state’s total approved manufacturing investments; companies from United States, Germany, United Kingdom, Japan, Singapore, and Malaysia are among the largest source of investments into BKIP. Another noticeable trend is that many investments in BKIP are re-investments, indicating continued confidence in expanding operations in Penang.

With record-high approved FDI reported in 2019 and several mainly high-technology projects in the past few years, the multiplier effect is expected to spur the growth and development of local firms in segments such as semiconductor and semiconductor-related industries, wafer fabrication equipment and critical sub-systems, 5G, automotive electronics and electric vehicle related supply chain. Domestic investments are expected to rise as more of the announced FDI projects are being realised. Unsurprisingly, in the first month of 2021, two companies that announced their expansions in BKIP are Malaysian companies with plans to expand their capacities.

The investments in BKIP are well-positioned in areas of future trends too. Apparent approved investments in BKIP which match FDI Markets 2020 investment matrix include investments in the areas of electronics components, renewable energy (and related components), communications (and related components), and transportation and warehousing (Figure 2).

**Figure 2: Apparent investment sectors in BKIP matching FDI Markets 2020 investment matrix**



Note: For the full investment matrix by FDI Markets, see [www.fdiintelligence.com/article/79290](http://www.fdiintelligence.com/article/79290)  
 Source: Author's own compilation, modified based on FDI Markets 2020 investment matrix

## Linkages and spillovers

### *1. BKIP is an extension of Penang's solid industrial foundation*

Penang has a cumulative industrial experience of about 50 years from the period of the Bayan Lepas Free Trade Zone (FTZ), the first FTZ in Malaysia. Penang positioned its industrialisation with a focus on the E&E industry. Branch plants of multinational corporations (MNC) were successfully attracted to set up here. In the 1970s and 1980s, ancillary companies emerged to meet the supply chain demands of the major firms. The textile and garments industry also prospered. In the 1990s, the expansion in industrial sectors included plastics and chemicals. Today, over 300 MNCs and over 3,000 supporting small and medium enterprises (SME) have made Penang their destination of choice.

It is clear that BKIP plays an important role to support Penang's industrial growth. The foundation built during the past decades allow for more robust activities in the state, and BKIP plays its role as a factor of production for many corporations. Evidently, many investments and re-investments are still in the E&E and M&E industries which the state has a proven strength in. Re-investments show upgrading from previous activities and/or expansion to other business and operations functions. It is also pertinent to note that more local companies have shown strength in respective sub-segments<sup>2</sup>, and tapped on BKIP to expand capacities and capabilities further.

### *2. Industry clusters and SME development*

It is encouraging to note that several industry clusters form part of the BKIP development. In particular, the Penang Automation Cluster features three locomotive local large companies (LLC) namely Vitrox, Pentamaster and Walta spearheading the first SME precision metal fabrication or automation cluster in Malaysia. The spillover and multiplier effect is expected in terms of expansion

<sup>2</sup> This includes in the sub-segments of outsourced semiconductor assembly and test (OSAT), automated test equipment (ATE) manufacturing and automation.



of capacities and capabilities. The participating SMEs (expected 17 participants) have opportunities to gain knowledge, skill and technology transfer in this one-stop metal component supply chain hub. The details of the project imply that there will be opportunities for the SMEs participating in the project to increase capacity and achieve better economies of scale.

Meanwhile, in the investments by five goldsmith and jewellery manufacturing companies under the Penang Goldsmith Association, the investments also showcase marked expansion in capacity in an industry with a long-standing history in the state. The clustering also allows for shared common benefits such as higher visibility to the industry, and shared security.

Industry clustering has shown successes in economies like Taiwan and South Korea (see Wang (2002) and Dayton (2020)), and strategic clusters that develop innovation and localisation through technology and knowledge transfers should continue to be promoted and facilitated by the government.

### ***3. Capitalise on the growth trajectory of the industrial park***

BKIP is undoubtedly the core of industrial activities alongside innovation and R&D stimulation in the promoted industries in Penang. As these activities increase in terms of robustness in BKIP, the surrounding purpose-built offices (PBOs) should also capitalise on such developments. Global business services (GBS) activities have grown significantly in Penang and key PBOs developed by PDC such as GBS@Mayang and GBS@Mahsuri in Bayan Baru<sup>3</sup> serve well-known names that have set up their GBS operations in Penang, adjacent to Bayan Lepas Industrial Park. PBOs developers and owners in Batu Kawan and state agencies could replicate such a model and encourage high-quality GBS operations in BKIP.

### ***4. Upgrading in socioeconomic status in SPS***

Notable spillovers in terms of socioeconomic improvements in SPS district have been recorded in recent years. In terms of household income, SPS recorded the highest CAGR (2016-2019) for median income at 6.0%. In 2019, SPS also showed an increase in the income share of the state at 10.2% compared to 8.7% the previous year. SPS held the smallest income share in the state compared to four other districts, but this is also linked to the fact that SPS has the smallest share of population. SPS also exhibited a rise in income share for T20 (from 2.7% to 3.3%) and M40 (from 3.6% to 4.7%), and at the same time a reduction in B40 (from 2.4% to 2.2%) (see Penang Economic and Development Report 2019/2020 for more discussion on socioeconomic analysis in Penang).

However, it is challenging to (1) quantify the direct contribution from developments in BKIP or Batu Kawan, or (2) nett off factors of production not within SPS (such as workers from other districts that travel daily to BKIP); but undeniably, BKIP as the core industrial, innovation and economic zone in SPS has spurred the rise in socioeconomic status in SPS district, and the mainland of Penang.

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<sup>3</sup> Notably, PBOs are not only in Bayan Baru area.

### ***A note: Details matter, really***

Often, public investment announcements and data presented include investment value, job creation and the business activities that will take place. However, due care should be exercised when examining available data. For example, publicly-announced investment data are usually committed investments for a certain period, for a projected number of jobs. Hence, when one only views investment value per se to ascertain whether a committed investment is better than another, it may lead to inaccurate inferences.

The quality of investment, quality of jobs created, potential technological and economic spillover, and localisation opportunities require much deeper analysis. Such data may or may not be publicly available for each investment project. Complementary but vital indicators such as gross fixed capital formation (GFCF), rate of realised investments, new products and lines introduction and potential higher-segments investments should be part of the process to examine investments inflows.

## **Moving Forward**

As the state develops 1,156 acres BKIP2 (and more industrial areas), some key challenges persist and require attention from various stakeholders:

- While Penang and Malaysia experienced rapid industrialisation in the 1980s and 1990s, there have been arguments that the progress may have been slower than envisioned (Hussain, 2021; Chew, Cheong and Aslam, 2020) Industries may not have moved up the value chain as swiftly as other companies which ventured into promoted industries later than Penang.
- Good infrastructure and high ease of doing business remain among key criteria in investors' site selection matrix. Cooperation between key government agencies and service providers in providing investors with a more seamless experience in setting up and running their operations is vital.
- While investment incentives are equally accessible to foreign and domestic investors, lack of promotion has at times created the perception that domestic investors are unable to have access to some incentives. Greater promotion and hand-holding would encourage interest from more domestic investors.
- Long-term roadmaps in important areas such as promoted industries and talent development are necessary to keep Penang and Malaysia on the radar of investors. With the ongoing state of emergency, there is uncertainty on when the Twelfth Malaysia Plan 2021-2025 will be tabled to Parliament. There is also a need for Malaysia to strategise on long-term human capital development plan.

In this brief, it is discussed that BKIP internalises and is a reflection of Penang's cumulative industrial experience. The industrial park also shows the case of Penang and Malaysia augmenting comparative advantage to further the progress of key promoted industries. Nonetheless, with more emerging investment hubs in the region, expanding BKIP's, Penang's and the country's industrial development requires more synergistic co-operation between all parties.

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## Appendix

**Table 2: Approved manufacturing investments in Penang, 1980- September 2020**

<b>Year</b>	<b>Employment</b>	<b>Domestic Investment (RM million)</b>	<b>Foreign Investment (RM million)</b>	<b>Total Investment (RM million)</b>
1980	5,522	96.1	79.3	175.4
1981	3,655	66.3	42.6	108.8
1982	3,842	211.1	129.8	340.9
1983	7,275	157.8	101.4	259.1
1984	5,158	201.8	66.7	268.4
1985	8,184	228.4	117.2	345.7
1986	4,101	87.2	88.6	175.8
1987	16,662	86.7	549.1	635.7
1988	17,833	172.8	556.7	729.6
1989	27,032	151.2	1,031.9	1,183.1
1990	24,952	377.9	1,489.4	1,867.3
1991	22,455	515.7	1,009.4	1,525.1
1992	14,295	471.8	624.2	1,096.0
1993	10,378	257.5	259.3	516.8
1994	15,203	276.5	658.0	934.5
1995	13,779	966.0	640.6	1,606.7
1996	11,993	1,093.4	2,092.0	3,185.4
1997	9,736	1,030.8	418.3	1,449.1
1998	10,911	1,410.6	1,274.7	2,685.3
1999	14,928	180.8	4,597.0	4,777.8
2000	15,327	895.1	3,564.5	4,459.6
2001	14,630	259.5	3,577.7	3,837.3
2002	13,487	411.4	1,987.0	2,398.3
2003	9,890	467.2	1,455.8	1,923.0
2004	9,235	1,016.0	1,014.2	2,030.3
2005	21,642	717.4	3,907.5	4,624.8
2006	13,539	1,432.5	3,918.2	5,350.7
2007	8,833	1,625.2	3,143.4	4,768.7
2008	22,215	5,068.7	5,087.6	10,156.3
2009	8,696	716.7	1,448.5	2,165.2
2010	21,618	1,786.9	10,451.1	12,238.0
2011	14,293	1,960.4	7,145.6	9,106.0
2012	10,359	1,344.9	1,126.5	2,471.5

<b>Year</b>	<b>Employment</b>	<b>Domestic Investment (RM million)</b>	<b>Foreign Investment (RM million)</b>	<b>Total Investment (RM million)</b>
2013	14,515	2,117.9	1,794.4	3,912.3
2014	17,896	3,048.8	5,113.6	8,162.4
2015	18,725	2,225.6	4,498.7	6,724.3
2016	10,816	1,237.0	3,056.9	4,293.9
2017	13,553	2,271.4	8,540.5	10,811.9
2018	9,499	2,087.6	3,693.4	5,781.0
2019	18,886	1,854.9	15,000.4	16,855.4
2020 (Jan-Sep)	N/A	1,783.3	8,824.2	10,607.5

Source: MIDA

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