



FEATURED ARTICLES

Opportunity Amid Adversity: The Task Ahead for Penang in 2021 | Manufacturing in Penang: A Look Back on an Arduous 2020 | Penang: The Silicon Valley of the East | On the Ground

About **INVEST** penang

InvestPenang is the Penang State Government's principal agency for promotion of investment. Its objectives are to develop and sustain Penang's economy by enhancing and continuously injecting business activities in the State through foreign and local investments, including the spawning of viable new growth centres. To support the realization of its objectives, InvestPenang also runs initiatives like SMART Centre (to assist SMEs), Penang CAT Centre (to assist talents) and i4.0 seed fund (to elevate start-up ecosystem).



ATTRACTION, DEVELOPMENT & RETENTION OF TALENTS

- > Resource centre and point-of-contact for employers and talents
- > Policy advocacy on addressing talent gap
- > Secretariat for Penang Future Foundation (PFF)

TALENT ATTRACTION & RETENTION

- > Awarding scholarships to outstanding and deserving students from the field of Science, Technology, Engineering, Mathematics, Accounting & Finance
- > Upon graduation, recipients will become part of the diverse talent pipelines in Penang's workforce



ASSISTING SME TO MOVE UP THE VALUE CHAIN

- > Advisory for market intelligence and financial resources from state & national agencies
- > Assist in creating new business opportunities and capacity building initiatives to develop SMEs' value proposition

FUNDING EARLY STAGE TECH START-UPS

- > Assist high potential tech start-ups with innovative technology products & services to attain commercialization.
- > Enhance local tech start-up ecosystem, encapsulating 'Powered in Penang' capabilities.

About **INspire**

INspire is a periodic newsletter produced by InvestPenang. This publication aims to give our stakeholders an update on the industry landscape and emerging opportunities in Penang, along with the State's initiatives to support industries. For more information, visit <https://investpenang.gov.my/> or contact us via email at enquiry@investpenang.gov.my or call us +604-646 8833.

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Opportunity Amid Adversity: The Task Ahead for Penang in 2021



Dato' Seri Lee Kah Choon
Special Investment Advisor to the
Chief Minister of Penang

As we embarked on the new year, we continue to see challenges that have lingered on from 2020. Yet, we also see opportunities.

This outlook is premised on the following:

1) The Covid-19 pandemic

While inoculation is available, there are still a multitude of issues that have yet to be settled, pertaining to the vaccines' efficacy, the ability to scale up production, distribution logistics and priority of vaccination, to name but a few.

In the meantime, the speed of transmission is escalating unabated and new strains of the virus are emerging, raising concerns over the efficacy of the existing vaccines against the new strains.

In short, the following trends will continue, at least through the first half of 2021:

- Closure of international borders;
- Sluggish economic activities;
- Periodic disruptions to manufacturing production; and
- A deferment of direct investments.

2) US-China Trade War

Despite the transition in the US Presidency, the US-China trade war will continue, and potentially escalate with a more coordinated response against China from the industrialised world.

Meanwhile, China is likely to maintain its stance, and not allow its domestic policies and national security to be dictated by industrialised nations. China will continue to forge ahead on her own and the decoupling of the world economy will accelerate.

The opportunities

Against this backdrop, we are cognisant that the trajectory of the recovery will largely depend on policy responses. Toward this end, we must quickly adjust to the structural changes brought by the pandemic and geopolitical tensions, and look to capitalise on emerging opportunities for a sustainable, long term recovery.

The Covid-19 pandemic and US-China trade war have triggered a shift away from prioritising cost cutting manufacturing, in favour of practices that ensure reliability, consistency and security of supply. This, in turn, has prompted corporates to diversify their geographical footprint, including into locations such as Penang. Concurrently, the current trade and geopolitical dynamics have also created opportunities for Penang-based companies to penetrate supply chains that were previously closed to us, as well as emerging business blocks that were previously monopolized by multinational companies.

In all of this, time is of the essence. The State will need to capitalise on this new wave of opportunities, or face losing out to other countries in the race to fill the gap. And to ride the wave, we need talent.

The way forward

Penang will continue to focus on strengthening its competitive edge to attract high-quality foreign and domestic direct investments (FDI and DDI).

It is already well-established as a thriving, regional manufacturing hub for global companies in the electrical and electronics (E&E), automation and E&E-related equipment, and medical technology sectors. In addition to housing elite foreign corporations, Penang also boasts numerous homegrown companies that are thriving on the international stage.



This success is attributed to the State's robust supply chain, good infrastructure and conducive living environment. Equally important is also the State's high-quality talent pool, which is essential to further propel its advanced manufacturing and knowledge-intensive service sectors. With this in mind, to enhance Penang's comparative and competitive advantages, the State will embark on a massive drive to grow its talent pool and increase its population of knowledge workers.

Penang, the talent magnet in the northern region.

The availability of qualified talent is a critical factor in attracting FDI and DDI, and the State's success in attracting strategic investments translates into thousands of new, high-quality job opportunities every year. This has made Penang the talent magnet in the northern region, mitigating the "brain drain" and loss of talent to other countries.

"Nurturing talent pool is Penang's utmost priority in 2021, and the State Government will endeavour to identify, nurture and develop local talent, and the economy, to its fullest potential."

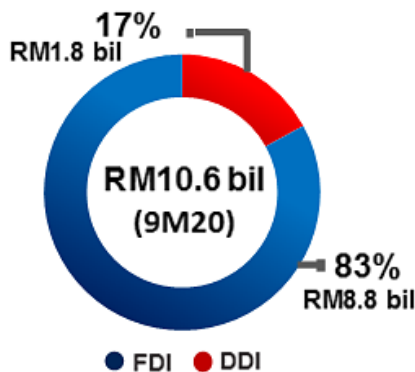
**By Dato' Seri Lee Kah Choon
Special Investment Advisor to the
Chief Minister of Penang**

Manufacturing in Penang: A Look Back on an Arduous 2020

Commendable investment performance in a difficult year

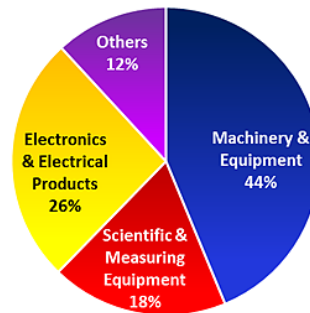
The far-reaching repercussions of the Covid-19 pandemic have undoubtedly thrown many plans into disarray. Yet, despite the many unexpected developments and disruptions, Penang continued to attract sizeable direct investments into the State, underscoring investor confidence in the State's ability to navigate the pandemic. Penang recorded RM10.6 billion in approved manufacturing investments during the January to September 2020 period (9M20), which is equivalent to 63% of 2019's full year investments and well above the RM5.8 billion achieved during the whole of 2018.

Penang: Approved Manufacturing Investments (9M20)



Source: MIDA

Penang: Approved Manufacturing Investments by Sector (9M20)



Source: MIDA



Dato' Loo Lee Lian
CEO of InvestPenang

According to data from the Malaysian Investment Development Authority (MIDA), Penang secured 108 projects during 9M20. These projects, once completed, are expected to generate 9,137 new employment opportunities in the State. Foreign Direct Investments (FDI) accounted for 83% or RM8.8 billion of approved manufacturing investments in Penang during the 9M20 period, making the State the second highest FDI recipient in Malaysia, with 22% of the country's total FDI during the period. Concurrently, domestic direct investments (DDI) in Penang jumped 42% year-on-year to RM1.8 billion, which is testament to the State's robust industrial ecosystem as a platform in which local players can participate and thrive.

Total approved manufacturing investments in Penang were primarily related to the State's key promoted industries, i.e. the Machinery & Equipment, Scientific & Measuring Equipment





(including medical devices) and Electronics & Electrical industries. Cumulatively, investments into these sectors accounted for 88% of Penang's total approved manufacturing investments during 9M20, which in turn, accounted for 60% of Malaysia's investments in these three sectors.

Notable FDI projects that were announced in 2020 included plans by Bosch Automotive Electronics, Dexcom, Lam Research and UCT. Many existing MNCs also announced plans to expand and raise their presence in Penang. Meanwhile, eminent DDI projects in 2020 included those from Federal Oats Mills, Iconic Medicare, Straits Orthopaedics and Vitrox Technologies.

Our promise: Ensuring smooth project implementation

The disruptions to international travel and domestic movement restrictions caused by the Covid-19 pandemic invariably created challenges for project implementation and execution at ground level. In anticipation of delays and disruptions, the State government proactively launched a response plan to help investors catch up on implementation timelines. These facilitation efforts were particularly critical to new investors without an existing presence in Penang. Today, I am pleased to report that all strategic projects are largely on track in terms of construction progress, and we will continue to monitor their progress and keep close contact with the investors in driving their plans forward.

Snapshot of Selected New Strategic Investment Projects in Penang

| Company |  BOSCH |  SN |  Lam RESEARCH | dexcom |  UCT |
|------------------------------|---|--|--|--------------------|---|
| Country of Origin | Germany | UK | US | US | US |
| Industry | Automotive electronics | Medical technology | Wafer fabrication equipment | Medical technology | Fluid & gas delivery critical subsystems |
| Estimated Job Creation | 400 | 800 | 350 | N/A | 650 |
| Commencement of Construction | Early-2021 | Mid-2020 | Mid-2020 | Early-2021 | End-2020 |
| First Shipment/ Production | 2023 | End-2022 | By 2021 | N/A | 2Q2021 |

Note: This is not a comprehensive list, but rather, a snapshot of selected projects.

Source: InvestPenang, Respective Companies

Penang's significant role in supporting the country's economy in the current pandemic

In terms of external trade, exports began to trend lower from February 2020, dipping to a 15% year-on-year contraction in May. The downtrend was mainly due to disruptions caused by the imposition of the MCO, as well as disruptions to the global supply chain. However, industry players were quick to adjust and adapt, and have posted strong recoveries since then. Penang's exports have rebounded strongly, with double digit year-on-year growth since June 2020, including a sharp, 35% year-on-year spike in September 2020*.

*Exception in October 2020 that recorded 2% drop. All figures are rounded up to the nearest whole number.

The impressive recovery in exports amid the sluggish broader global economy reiterates Penang's significance in the global E&E value chain, which is experiencing strong demand from data centres, work and learn from home, gaming and e-commerce activities. Selected medical device products have also seen surging demand.



Note: Except in October 2020, when exports dipped 2% year-on-year. All figures are rounded up to the nearest whole number.

Source: DOSM

Overall, Penang's exports for 2020 grew 7% year-on-year to RM310 billion. The State's exports accounted for 32% of Malaysia's total exports during the period, and its trade surplus of RM110 billion over the same period accounted for 60% of the nation's total. This demonstrates the significance of Penang's resilient manufacturing industry to the country's overall economy, especially in mitigating the impact of the adversely-hit, contact-intensive service sectors in the current pandemic.

Forging ahead together

Leveraging on the strong foundation of its industries, Penang's manufacturing sector will be underpinned by a broadening global recovery, tech upcycle, robust medical technology sector and resilient demand from Asian trading partners in 2021. In addition to the positive demand dynamics, the on-going reconfiguration of the global supply chain will also continue to provide tailwinds for Penang.

The State's overall economic recovery is expected to become more broad-based over time, with services and consumption to pick up progressively in the coming years.

"The InvestPenang team is fully committed to consistently providing the best possible service to our local and foreign investors. We will continue to work closely with the federal government and relevant state agencies to anchor Penang's position as a destination of choice for investments."

By Dato' Loo Lee Lian
CEO of InvestPenang

Penang:

The Silicon Valley of the East

Penang's E&E industry plays a significant role in the global value chain

True to its reputation as the Silicon Valley of the East, Penang is the most important manufacturing base for electrical and electronic (E&E) products* within Malaysia, and is among the most vibrant hubs in the region. In 2014-2019, Penang's E&E exports grew steadily, recording a 5-year CAGR of 12% to reach RM210 billion in 2019. Concurrently, Penang's contribution to

Malaysia's total E&E exports also rose from 47% in 2014 to 57% in 2019.

In the semiconductor segment alone, Penang accounted for an estimated 5% of global semiconductor exports in 2019, according to statistics compiled from the Department of Statistics Malaysia (DOSM) and UN Comtrade.

The State is also a growing hub for professional, scientific and controlling instruments, with exports in these segments having recorded an impressive

5-year CAGR of 15% to reach RM23 billion in 2019.

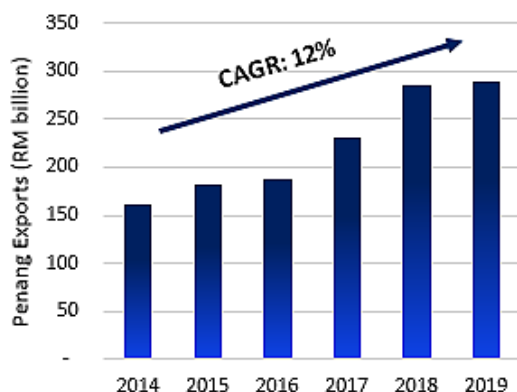
Overall, Penang's total exports also recorded a decent 12% CAGR in 2014-2019, reaching RM284 billion in 2019. E&E products, alongside professional, scientific and controlling instruments, collectively contributed between 77% and 82% of the State's total annual exports during 2014-2019.

Penang accounted for an estimated 5% of global semiconductor exports in 2019.

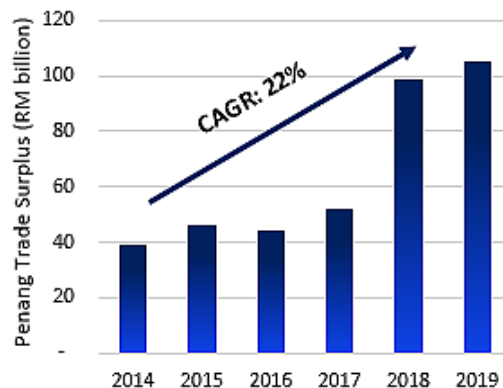
[*] E&E products include parts and accessories for office machines & automatic data processing equipment, telecommunications equipment, parts & accessories, electrical apparatus & parts, electronic integrated circuits, piezo - electric crystals & parts, other valves & tubes, photocells and other electrical & electronic products.

An Overview of Penang's External Trade by Numbers (from 2014 to 2019)

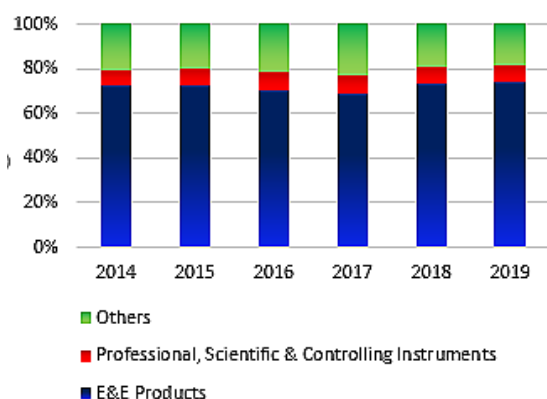
Penang: Exports grew at a CAGR of 12% from 2014 - 2019



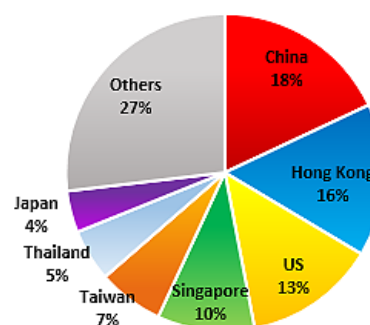
Penang: Trade surplus grew at a CAGR of 22% from 2014 - 2019



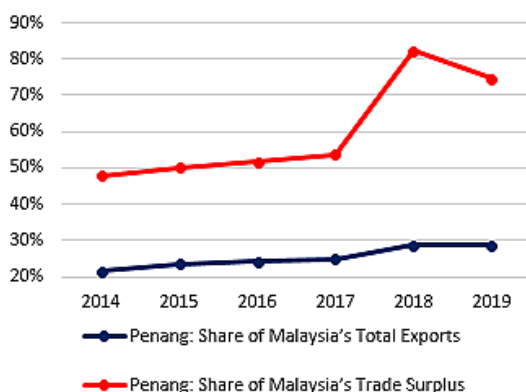
About 80% of Penang's exports in 2014-2019 comprised of E&E as well as professional, scientific & controlling instruments



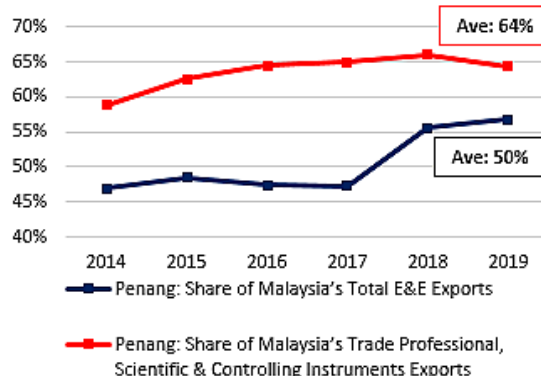
Penang: Main Export Destinations in 2019



Penang contributed 29% and 73% of the nation's total exports and trade surplus respectively in 2019



On average, Penang's E&E and Scientific instruments exports in 2014 - 2019 contributed to 50% and 64% of the nation's total export in the respective commodities



Penang: Driving the country's external trade

Penang's prominence as a key driver of Malaysia's external trade has grown in recent years. The State's contribution to the country's total exports increased from 21% in 2014 to 29% in 2019.

Penang's trade surplus amounted to RM105 billion in 2019, representing a 5-year CAGR of 22%.

Meanwhile, the growth of its trade surplus has significantly outpaced that of its exports. In 2019, Penang's trade surplus amounted to RM105 billion, more than 2.5 times of that recorded in 2014 (RM39 billion), representing a CAGR of 22%. In turn, the State's contribution to Malaysia's total trade surplus also rose from 2014's 48% to 2019's 73%. The strong trade performance demonstrates the importance of Penang's E&E and equipment industries, which have moved up the value chain, focusing on high value-added manufacturing activities, driving the country's economy and creation of knowledge-intensive jobs.

Resilient in 2020

Despite the disruptions from the COVID-19 pandemic, Penang's exports still grew 7% year-on-year to RM310 billion in 2020 and generated a trade surplus of RM110 billion*.

Upholding Penang's competitive edge in advanced manufacturing

The State government is cognisant that the dynamics of the global value chain, especially for the technology sector, has evolved at a rapid pace in the past two years, due to the complex combined implications from trade protectionism among major economies, COVID-19 pandemic-driven issues, and the proliferation of disruptive technologies.

Thanks to its strong fundamentals and versatile ecosystem, Penang's manufacturing industry has remained resilient amid these uncertainties. Riding on the strong presence of multinational corporations (MNCs) and large local companies (LLCs) in the E&E, automation and E&E-related equipment, and medical technology sectors, the State government will proactively scout and attract more investments from global leaders across these value chains (from product & process research, design and development to manufacturing) to further strengthen Penang's industry clusters.

As the global supply chain grows increasingly more complex, any disruption could create severe ripple effects. Strong, geographically localised industry clusters could help companies mitigate such risks, in addition to

enabling companies to improve time-to-market at a lower cost. These, in turn, will further increase Penang's attractiveness for high quality investments.

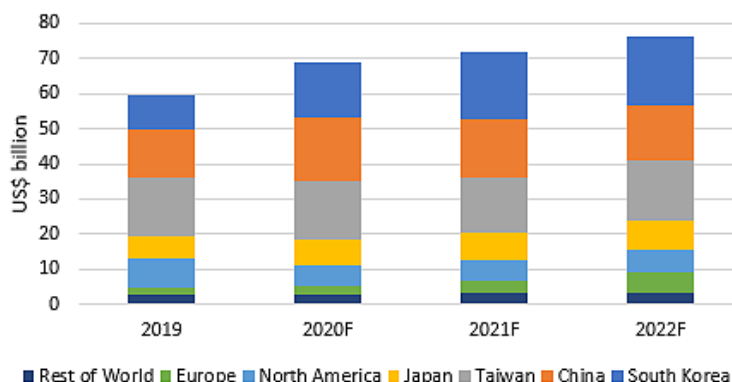
Capturing tremendous opportunities arising from the APAC market and secular trends

Home to 60% of the world's population, the Asia Pacific region (APAC) is rapidly emerging as a consumer powerhouse with increasing influence on the global technological landscape. This has drawn global corporates to establish a significant presence in the region, for proximity to high growth markets, particularly in geopolitically neutral territories. With the State's strong industry foundations, these global trends lend tremendous opportunities for Penang, if we employ the right strategies.

The pandemic and geopolitical overhang have not impinged on the E&E industry. Instead, digital transformation and work & learn from home models have elevated global demand for E&E products. The Penang E&E industry is in a prime position to ride on the positive secular E&E trends, such as the accelerating adoption of 5G technology, a proliferation of datacenters and high-performance computing, the Internet of Things (IoT) and artificial intelligence (AI), just to name a few.

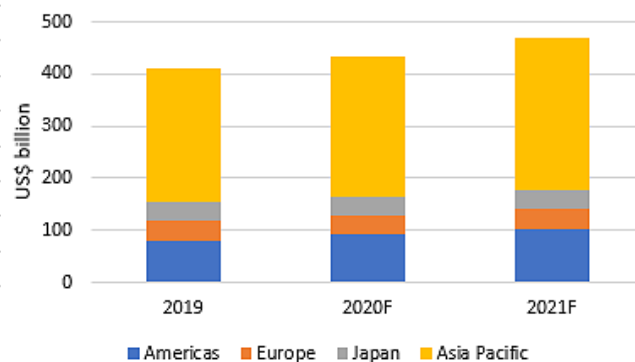
In addition to leveraging on its existing strengths to ride on the industry upcycle, new opportunities have started to emerge for Penang. In particular, the arrival of wafer fabrication heavyweight Lam Research in 2020, has prompted the State government to further promote the development of the equipment supply chain industry, with the aim of transforming Penang into a regional, if not global, front-to-back end E&E equipment manufacturing hub.

Global semiconductor equipment sales to reach all-time high in 2022



Source: SEMI

Global semiconductor sales to grow 8.4% in 2021



Source: WSTS

Beyond this, Malaysia and Penang, together with selected ASEAN countries, have the potential to collectively create a strong regional ecosystem for the electric vehicle (EV) industry, which is still at its infancy. Collectively, the region has extensive strengths in semiconductor capabilities, know-how in automotive assembly and rich nickel reserves, which are key components for the EV sector.

For the medical device industry, APAC has been the strongest growth market in recent years, and the region could overtake Europe as the world's second largest market, right behind the United States, by as early as 2022. In the past, medical device players having offshore location in the APAC region were less common than the E&E industry, but this trend has changed in recent years. As a pioneer offshore location for the medical device industry since the 1970s, Penang has gained increasing traction recently, particularly from medtech leaders who value Penang's expertise in electronics.

The State government is ready to promote Penang as a leading location for medtech, particularly to attract elite companies that have yet to establish their manufacturing presence in Southeast Asia or the APAC region.

The State government will redouble its effort to encourage MNCs to localize their supply chains and help homegrown companies penetrate the global value chain. Towards this end, the State is bridging foreign and local companies through business matching, creating awareness about locally-designed technologies, advocating and supporting local start-ups, and educating SMEs on the importance of compliance with international standards.

The State government will redouble its effort to encourage MNCs to localize their supply chains and help homegrown companies penetrate the global value chain.

Leveraging on RCEP to boost trade and investment

The Regional Comprehensive Economic Partnership (RCEP) was inked by 10 ASEAN countries and five ASEAN FTA partners (Australia, China, Japan, Korea & New Zealand) on 15 November 2020. Parties to the agreement would need to ratify the agreement for it to come into force, which is expected by 2021. Once ratified, the RCEP will be the world's largest free trade agreement (FTA), covering nearly one-third of the world's population, 30% of global GDP and 27% of global trade.

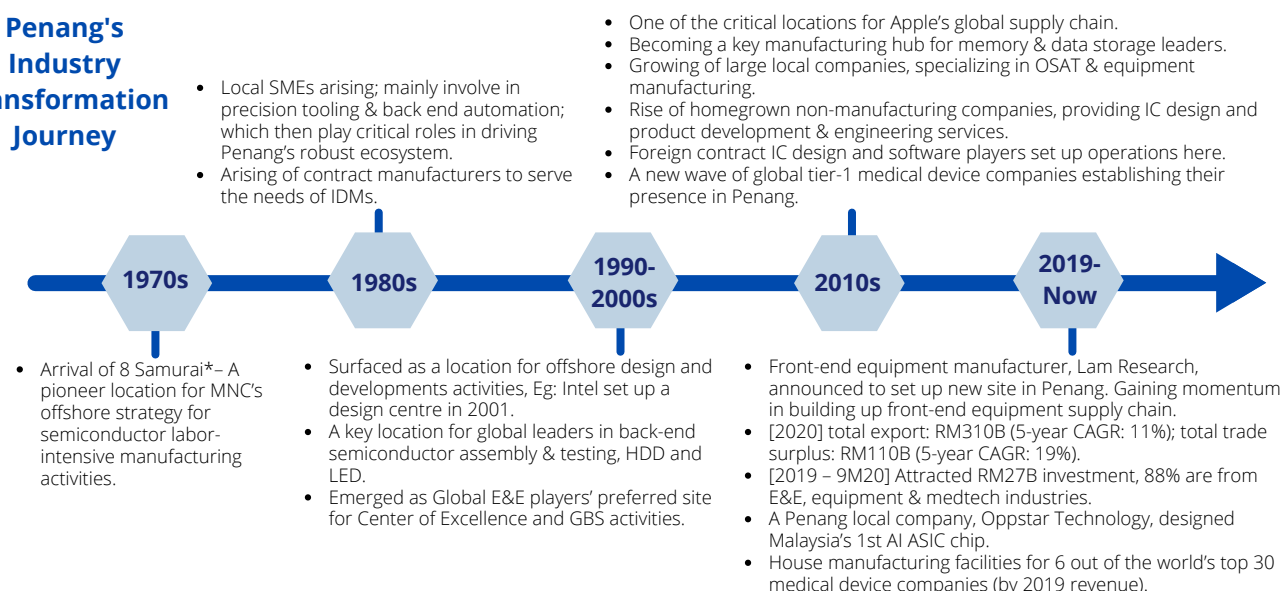


With the broadening and deepening of economic and trade linkages through its platform, member countries such as Malaysia stand to benefit from lower tariffs, an increase in trade, services and investment flows even from beyond the ASEAN region, as well as enhanced protection in areas such as e-commerce and intellectual property.

With the RCEP, it is expected that supply chains will be further integrated among its members, as regional cumulation allows businesses to include the use of raw materials and parts sourced from any of the RCEP markets as originating content. This makes it easier for businesses to meet the required rules of origin for their exports, and thus benefit from preferential treatment and greater cost-savings.

That said, the FTA would also mean each member would have to liberalise their protected industries in exchange for market access for the industries in which it has competitive advantages. Protected local industries and non-efficient SMEs may lose out once the RCEP is enforced. The Penang State government is committed in communicating the implications of RCEP with industries, particularly SMEs.

Penang's Industry Transformation Journey



The precondition for a successful 2021 is SOP compliance

Looking ahead, there is much optimism that a COVID-19 vaccination programme will be deployed in 2021. However, for now, it is critical that we, as a nation, continue to stay vigilant in adhering to COVID-19-related SOPs and protocols. A bull or a dull 2021 economy will be determined by every one of us. Towards this end, the Penang State government urges all organizations and individuals to continue strict compliance with SOPs from the Ministry of Health and the relevant authorities. Together, we can put our economy on track for a speedy and sustainable recovery!

[*] Intel, Hewlett Packard (now Keysight Technologies and Agilent Technologies), Robert Bosch, AMD, Litronix (now Osram Opto Semiconductor), Hitachi (now Renesas), Clarion and National Semiconductor (no longer presence in Penang due to corporate M&A).

On the Ground

InvestPenang's Regular Engagement with Stakeholders

Stay Connected

Engaging and sharing of current business and industry landscape with our stakeholders.



Dato' Loo Lee Lian as panelist for MICCI Penang Annual Dialogue



InvestPenang's virtual press conference by Dato' Seri Lee Kah Choon



Dato' Seri Lee Kah Choon as presenter at RHB Small Cap Corporate Access Event 2021



Dato' Loo Lee Lian as presenter at Maybank's virtual conference, Future Tech Day



Dato' Seri Lee Kah Choon & Dato' Loo Lee Lian as panelists in TECHFEST2020 LIVE ft. ROAD TO WCIT MALAYSIA



Dato' Loo Lee Lian as moderator for MDEC's Malaysia Tech Month 2020

Note: InvestPenang's industry engagements are not limited to the pictures showcased above.



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