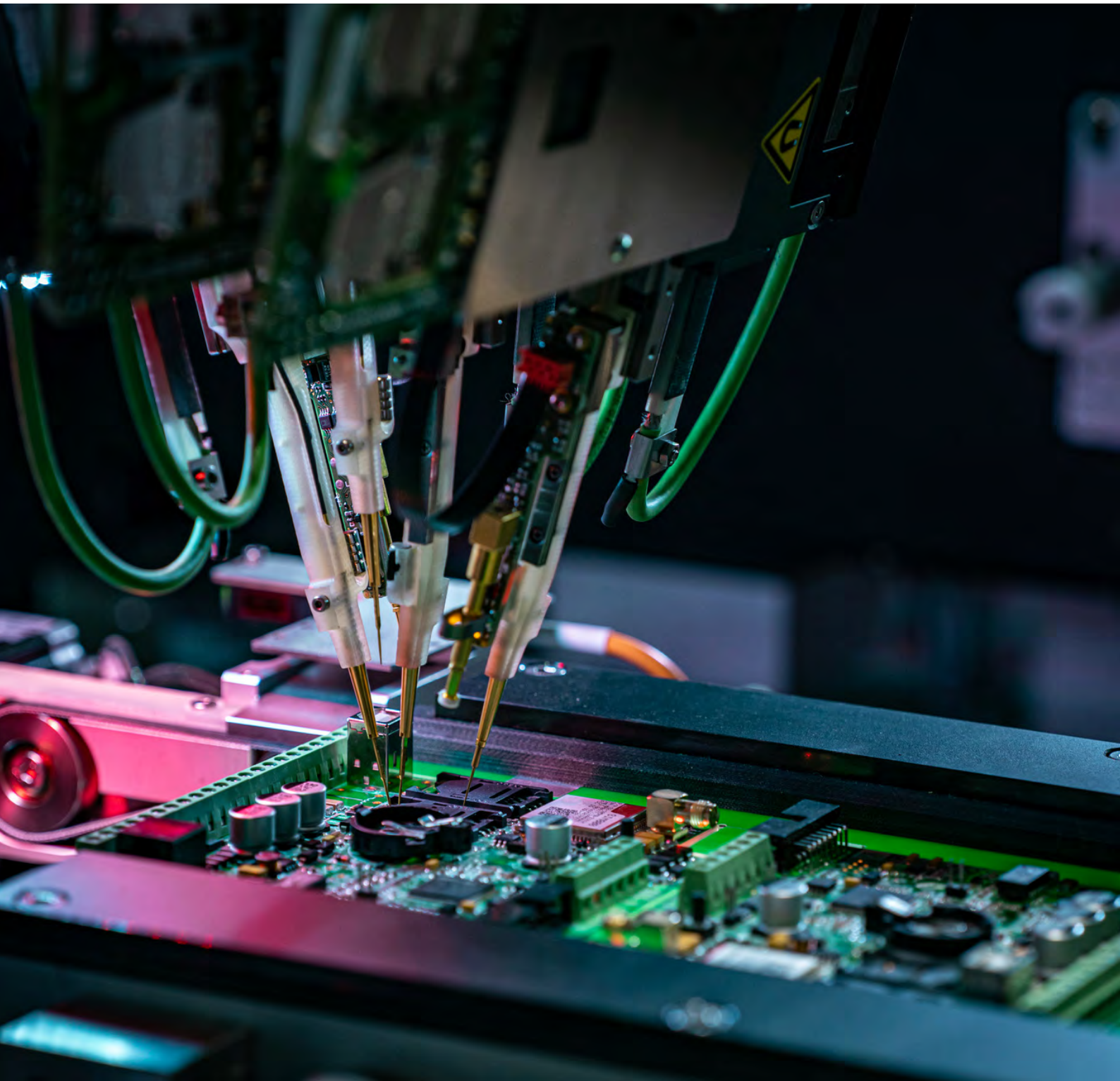

Thailand Manufacturing Property

Market Overview 2022



HIGHLIGHTS



THE TOTAL SUPPLY OF SILP IN THAILAND INCREASED BY 3,157 RAI TO 174,481 RAI.



LAND SOLD ROSE BY 26% FROM THE PREVIOUS YEAR, REACHING A 5-YEAR HIGH OF 4,041 RAI, 63% OF WHICH WAS IN THE EEC.



THE CUMULATIVE SALES RATE GREW BY 0.7% PTS TO 81%, WHILE THE AVERAGE ASKING PRICE REMAINED STEADY AT 5.7 BAHT PER RAI.



According to data released by the Thailand Board of Investment (BOI) on January 13th, pledges by local and foreign investors in the country saw a 39% increase in the previous year. Investment applications reached a total of Bt664.6bn (approximately \$20bn), with a significant portion of foreign direct investment (FDI) directed towards key sectors such as electronics, the electric vehicle supply chain, and data centers.

The majority of the increase in investment was concentrated in the Eastern Economic Corridor, with notable contributions from global leaders such as BYD Auto, Foxconn, and Amazon Web Services.

Chinese investors were the most active, leading the FDI rankings with 158 projects worth a combined Bt77.4bn. Japan followed closely with 293 projects worth Bt50.8bn, followed by the United States (33 projects worth around \$1.52bn) and Taiwan (68 projects worth \$1.37bn).

As we look towards 2023 we expect investment flows in the electric vehicle and data center categories to continue to grow, although investment growth may be tempered by global economic headwinds stemming from ongoing geopolitical tensions, amidst growing concerns regarding cost-push inflation and pressure on interest rates.



MARCUS BURTENSHAW
Executive Director,
Head of Occupier Strategy & Solutions

SERVICED INDUSTRIAL LAND PLOT MARKET INDICATORS

	174,481 SUPPLY (rai)	4,041 LAND SOLD (rai)	81.0% OCCUPANCY RATE	5.7M ASKING PRICE (THB/rai)
% Change Y-o-Y	▲ 1.8%	▲ 25.6%	▲ 0.7% pts.	▲ 0.6%

MARKET OVERVIEW

In 2022, the Thai economy expanded by 2.6%, up from 1.5% in 2021. Meanwhile, the GDP for 2023 was revised down to 3.2% due to the continued severe global headwinds, according to NESDC.

Exports of goods and services expanded by 21%, led by the export growth in gem, jewellery, electronics, and electrical appliances. However, the imports of goods and services grew faster by 25% during the same period, mainly driven by crude oils, petroleum and natural gas, and electronic components. For the internal sectors, private consumption improved by 6.3%, supported by the country's full reopening, tourist arrivals and robust labour market. Fixed capital investment declined to 2.3% in 2022 from 3.4% in 2021, attributed to the contraction of public investment. Government consumption contracted slightly by -0.2% in 2022 from the expansion of 3.2% in 2021 due to reduced purchase orders of goods and services and social transfer in kind.

Headline Inflation rose by 6.2% in 2022, much higher than the Bank of Thailand's target of 2%, because of the elevated food and energy prices, which rose by 10% from 2021. The rise in prices, particularly natural gas, diesel and imported coal, profoundly impact electricity costs as they account for more than 70% of power generation. According to the recent Energy Regulatory Commission (ERC) announcement, the household sector will experience no change in electricity bills. However, the non-household sector, comprising businesses of all sizes, will face a rate hike of 13% to 5.33 baht per unit in the first four months of 2023.

Thailand's manufacturing productivity index declined to 94 in December 2022 from 103 at year-end 2021 due to the economic slowdown in the vast majority of major trading partners and the relentless war in Ukraine. Overall, the lower-level production in data storage devices, chemicals products and construction materials has been a drag on the MPI. Meanwhile, sub-components, such as refined petroleum and food manufacturing, demonstrated healthy growth rates during the same period.

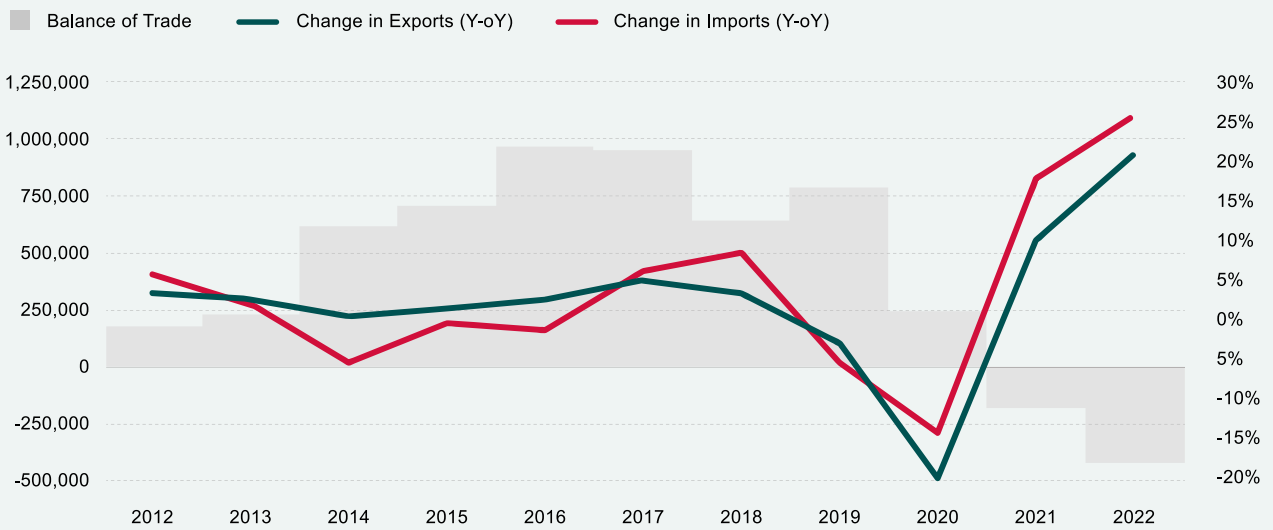
According to BOI, the number of foreign and local applications for investment promotion approved in 2022 remained steady at 1,554 projects, while the investment value increased by 21% to 619 billion Baht. The largest contributor was the

investment in automotive and parts, particularly electric vehicles, tires and batteries, which increased by 336% to 105 billion in 2022. The significant increase in EV-related investment was attributed primarily to government tax subsidy programmes and the 30@30 roadmap, which states that by 2030, 30% of all vehicles manufactured

in the country will be zero-emission vehicles (ZEV). Other sectors that have seen a significant increase in investment value include the digital industry, agriculture and food processing, growing by 268% and 86%, respectively.

F1 | THAILAND GOODS & SERVICES BALANCE

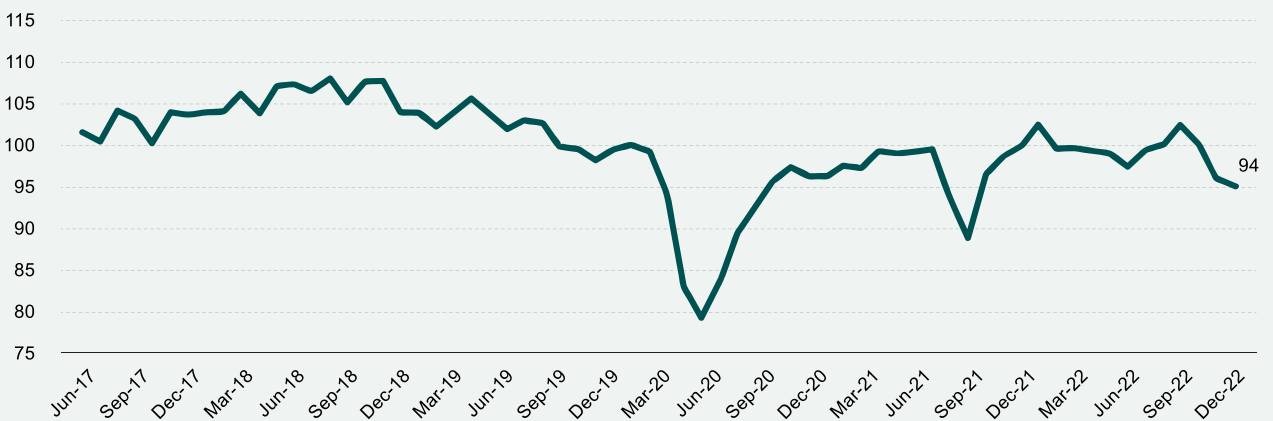
THAI BAHT (MILLIONS)



Source: NESDC

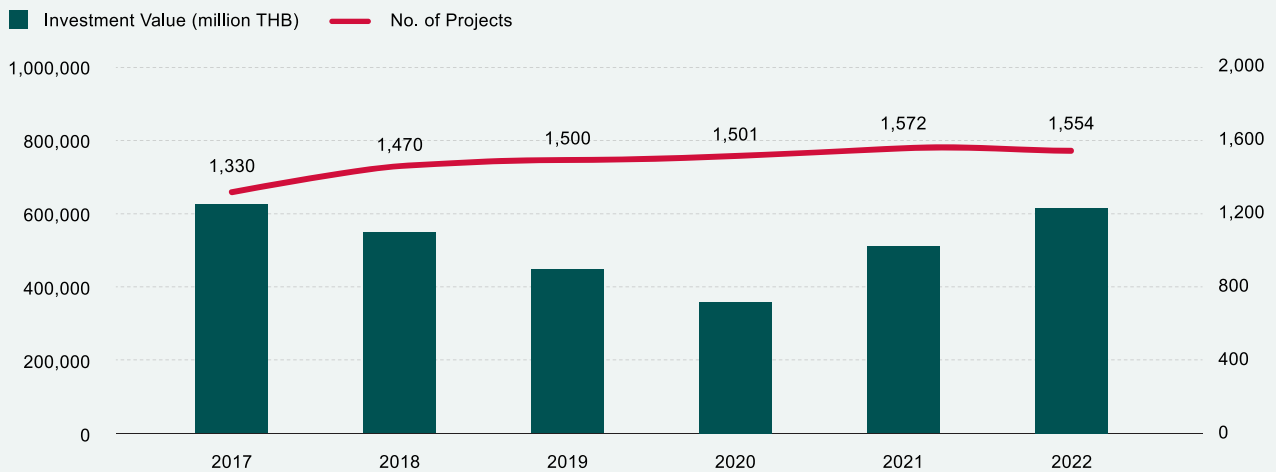
F2 | THAILAND MANUFACTURING PRODUCTIVITY INDEX

(MPI – SEASONALLY ADJUSTED)



Source: Office of Industrial Economics

F3 | THAILAND FOREIGN DIRECT INVESTMENT (FDI) APPROVED BY THE BOI THAI BAHT (MILLIONS)
(MPI – SEASONALLY ADJUSTED)

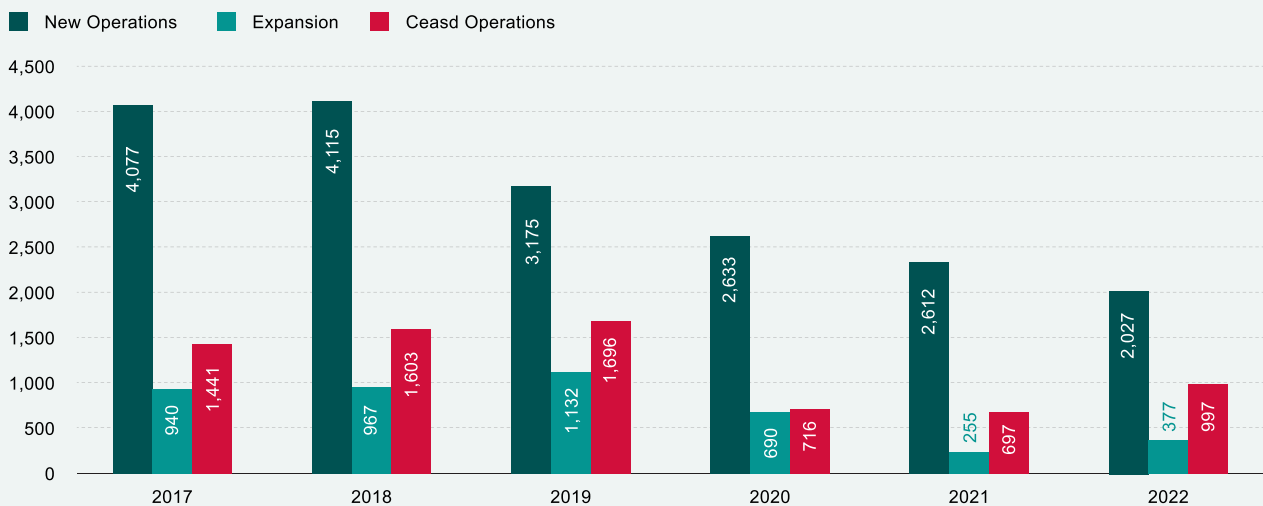


BOI APPROVAL		
	No. of Projects	Investment Value (million THB)
2021	1,572	551,900
2022	1,554	618,620
Change	-1.1%	20.8%

Source: Thailand Board of Investment

Thailand Factory activities slowed to a six-year low. The number of new factory operations and expansion in 2022 was tallied at 2,195, down by -16.1% from the previous year's. Meanwhile, the number of factories that ceased operations increased significantly, up by 43.0% to 997.

F4 | THAILAND FACTORY OPERATIONS
NUMBER OF FACTORIES

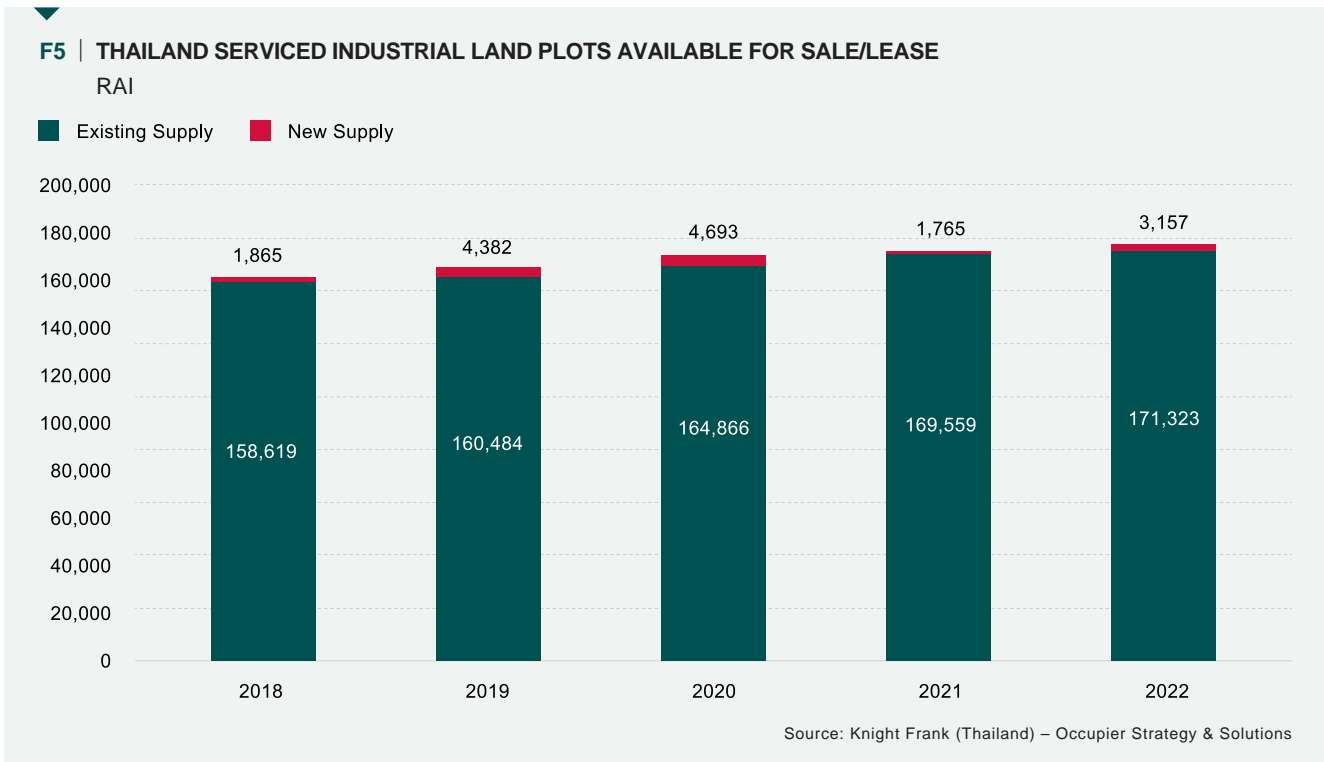


THAILAND FACTORY OPERATIONS			
	New Operations	Expansion	Ceased Operations
2021	2,612	255	697
2022	2,027	377	997
Change	-22.4%	47.8%	43.0%

Source: Department of Industrial Works

SERVICED INDUSTRIAL LAND PLOTS (SILP)

Three new projects were ready for sale or lease in 2022, including Rojana Nongyai, Smart Park and S Ang Thong. The total amount of serviced industrial land plots (SILP), land made available for sale or lease in industrial estates, zones, and parks, increased by 1.8% or 3,157 rai to a total of 174,481 rai.



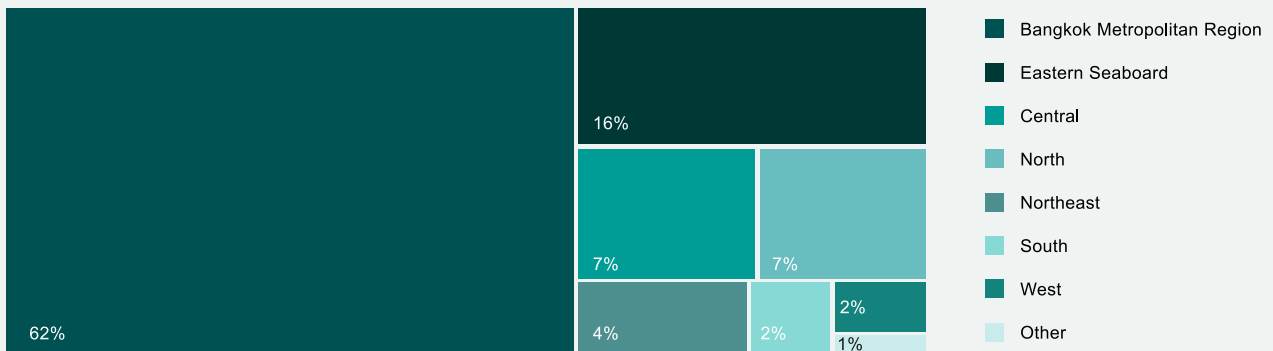
SUPPLY DISTRIBUTION

SILP in Thailand remains heavily concentrated on the Eastern Seaboard with a market share of 62%. Rayong tops the list with a 63% share of the total Eastern Seaboard's SILP area, followed by Chonburi (30%) and Chachoengsao (7%), respectively. These provinces are well-established centres for manufacturing, particularly in the automotive, electronics and petrochemicals. The region benefits from well-developed infrastructure, a highly

skilled labour force, economic policies and proximity to Laem-Chabang port, the most crucial port in Thailand that constitutes nearly 60% of the country's import and export goods. In 2022, supply in the Eastern Seaboard grew by 2.0% Y-o-Y to reach 107,824 rai from the official launch of two new industrial estates - Rojana Nongyai and Smart Park, which together provided an additional supply of 2,130 rai.

The Central Region, consisting of Ayutthaya, Pathum Thani and Saraburi, has the second largest market share, accounting for 16% of the total SILP supply or 26,200 rai. The new industrial estate, S Ang Thong, added around 1,000 rai or 3.8% growth Y-o-Y to the region. Bangkok Metropolitan Region came in third place at 12,652 rai, with no change in the total SILP area from the previous year, as was the case elsewhere in Thailand.

F6 | THAILAND SERVICED INDUSTRIAL LAND PLOTS DISTRIBUTION BY REGION



Source: Knight Frank (Thailand) – Occupier Strategy & Solutions

T1 | THAILAND SERVICED INDUSTRIAL LAND PLOTS DISTRIBUTION BY REGION

RAI

Region	Saleable / Lettable Area	% Change (Y-o-Y)
Total	174,481	▲ 1.8%
Bangkok Metropolitan Region	12,652	0.0%
Eastern Seaboard	107,824	▲ 2.0%
Central	28,141	▲ 3.8%
North	3,204	0.0%
Northeast	6,630	0.0%
South	2,221	0.0%
West	942	0.0%
Other	12,867	0.0%

Source: Knight Frank (Thailand) – Occupier Strategy & Solutions

T2 | THAILAND SERVICED INDUSTRIAL LAND PLOTS FOR FUTURE SUPPLY

RAI

Industrial Estate	Province	Area Size	Projected Completion Year
EGCO Rayong Industrial Estate	Rayong	621	2023
Chachoengsao Bluetech City	Chachoengsao	831	2023
Nong Khai Industrial Estate	Nong Khai	2,961	2023
Asia Clean Industrial Estate	Chonburi	1,300	2023
Mukdahan Industrial Estate	Mukdahan	1,081	2024
Tak Industrial Estate	Tak	837	2024
Amata City Chonburi Project 2	Chonburi	8,226	TBA

Source: Knight Frank (Thailand) – Occupier Strategy & Solutions

DEMAND

According to the IEAT report, demand for SILP improved as 4,041 rai was sold or leased in 2022, increasing by 26% from the previous year. This year's transactions also exceeded the 5-year average of 2,602 rai of industrial land transacted annually. As expected, the Eastern Seaboard remained the most active sub-market, with 2,564 rai sold or leased, representing 63% of the total. The second-most active location

belongs to the central region, with 589 rai transacted, dropping from the peak of 859 in 2021. Elsewhere, 888 rai was sold or leased.

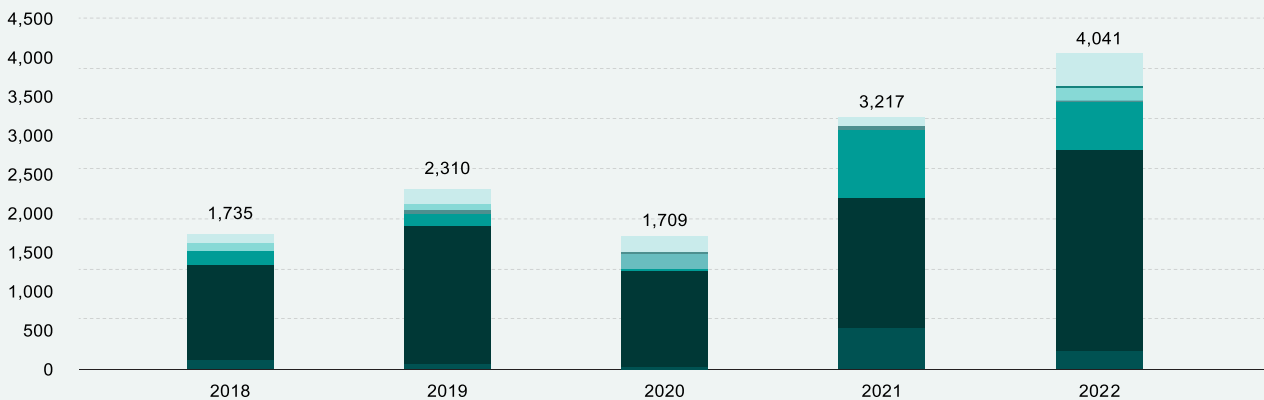
The market cumulative sales rate rose by 0.7% to 81% as new supply was exceeded by sale and lease transactions. The Bangkok metropolitan region, Eastern Seaboard, continued to expand by 2.0%

and 0.7% Y-o-Y, respectively. In turn, the cumulative sales rate for Central region declined by -1.2% to 88%, the 8-year low figure. The cumulative sales rates in other areas fluctuated in the low-single-digit percentage, except in the South, which witnessed a marked improvement of 7.5% pts. Y-o-Y to 71% supported by the substantial incentive programmes from IEAT this year.

F7 | THAILAND SERVICED INDUSTRIAL LAND PLOTS SOLD/LEASED BY THE REGION

RAI

Legend: Bangkok Metropolitan Region, Eastern Seaboard, Central, North, Northeast, South, West, Other



Source: Knight Frank (Thailand) – Occupier Strategy & Solutions

T3 | THAILAND SERVICED INDUSTRIAL LAND PLOTS CUMULATIVE SALES RATES BY REGION

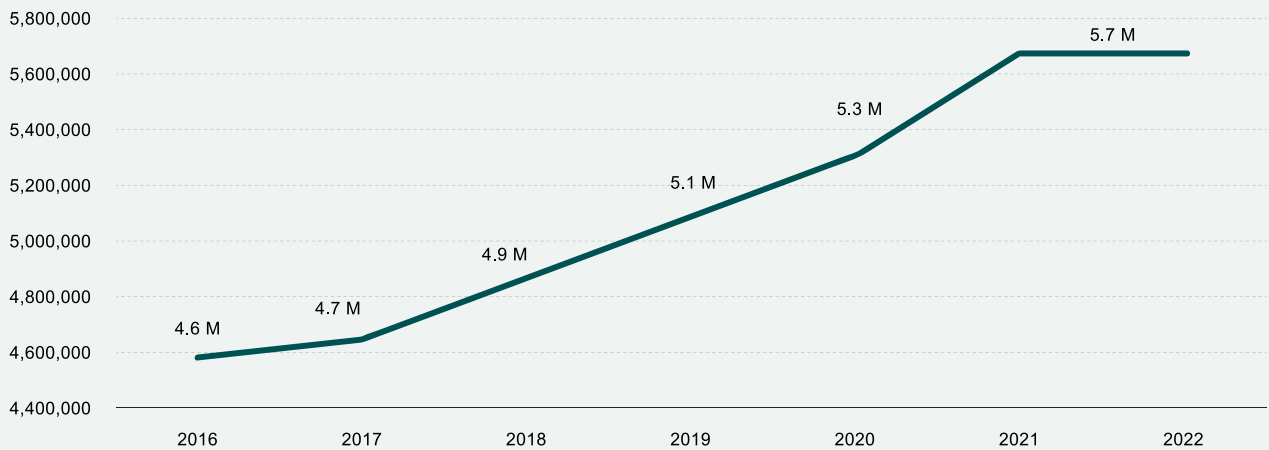
Region	2022	% pt. Change Y-o-Y
Overall	81%	▲ 0.7%
Bangkok Metropolitan Region	86%	▲ 2.0%
Eastern Seaboard	80%	▲ 0.7%
Central	88%	▼ 1.2%
North	87%	▲ 0.5%
Northeast	63%	▼ 3.3%
South	71%	▲ 7.5%
West	77%	▲ 2.1%
Other	71%	▼ 3.3%

Source: Knight Frank (Thailand) – Occupier Strategy & Solutions

ASKING PRICES

The market rate in 2022 climbed 0.6% to 5.7 million baht per rai. This year's price growth was the lowest in the last decade, in which prices generally increased by 4% per annum. Among the three major manufacturing regions, the central part witnessed the highest rise in price by 5%, while the Bangkok metropolitan region and eastern seaboard prices fell by -5% and -1%, respectively. The asking price spread in the Eastern seaboard is still widest across the markets, starting from 2.5 million baht up to 12.5 million baht, indicating the variation in geographical and logistical factors of SILP available in Thailand's largest submarket.

F8 | THAILAND SERVICED INDUSTRIAL LAND PLOTS AVERAGE ASKING PRICE BAHT PER RAI

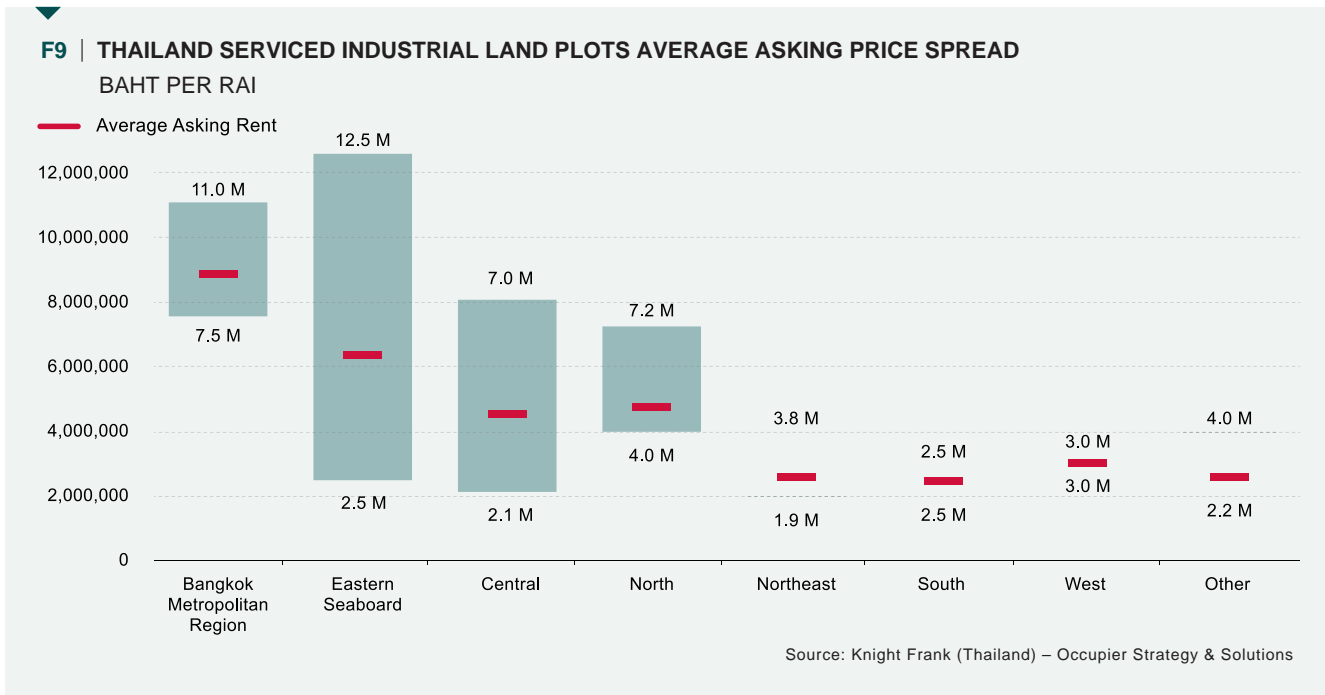


Source: Knight Frank (Thailand) – Occupier Strategy & Solutions

T4 | THAILAND SERVICED INDUSTRIAL LAND PLOTS WITH AVERAGE ASKING PRICE BY REGION BAHT PER RAI (MILLION)

Region	2022	% Change Y-o-Y
Overall	5.7	▲ 0.2%
Bangkok Metropolitan Region	8.8	▼ 5.2%
Eastern Seaboard	6.4	▼ 0.6%
Central	4.6	▲ 5.4%
North	4.7	▼ 0.9%
Northeast	2.6	▼ 1.7%
South	2.5	▼ 7.4%
West	3.0	▼ 6.3%
Other	2.6	▼ 3.6%

Source: Knight Frank (Thailand) – Occupier Strategy & Solutions



REVIEW & OUTLOOK

The Thai manufacturing property market experienced a slower growth rate in 2022 due to several global headwinds. Relentless price pressures have prompted policymakers in major countries to adopt more restrictive policies, resulting in a reduction in global demand for investment and spending. The rising costs of production, primarily from imported materials, fuels, and electricity, also have a negative impact on manufacturing profitability if they cannot be passed on to consumers.

Over the past few years, the global supply chain has been hit by numerous shocks, such as the COVID-19 pandemic, factory shutdowns in China and geopolitical conflicts that have erupted around the world. One specific example of the global supply chain disruption is the chip shortage, which has been exacerbated by the war between Russia and Ukraine, as both countries are significant exporters of neon and palladium, essential materials for chipmaking. Chip producers have prioritized tech companies, the largest share of their revenue, leading to shortages in other industries, notably the automotive industry.

The lack of chips caused several car manufacturers to delay production and handover dates. Thailand, the world's 10th largest automotive producer, saw its motor vehicle production index fall by -13.5 percentage points for the first nine months of 2022, compared to the same period of 2019. This decline is greater than the overall production index, which dropped by -3.8 percentage points, highlighting the particularly severe impact of the chip shortage on Thailand's automotive industry.

Another trend we have noticed is multinational companies looking for additional manufacturing bases out of China. The move towards diversification, driven by concerns about supply chain resilience, rising labour costs, trade restrictions, and political issues, has had a positive effect on nearby regions such as Southeast Asia. However, Thailand may not see as much benefit from FDI inflows compared to neighbouring countries like Vietnam and Indonesia, which have more competitive wages and larger domestic markets.

The challenges confronting Thailand's manufacturing sector were reflected in negative indicators such as the marginal SILP price growth, a larger trade deficit, a decrease in the manufacturing production index and the lowest level of new factory registration in the past six years.

Regarding the macro outlook of Thailand, the World Bank and IMF predicted that the Thai Economy will grow by 3.6 – 3.7% in 2023, with the country's full reopening, tourism upbeat and private consumption acting as tailwinds. However, the recovery is expected to be uneven across different sectors. The manufacturing sector will still face challenges from the economic slowdown in developed markets such as the US, EU and Japan. In addition, the appreciation of the Thai Baht by more than 10% in the last quarter of 2022, will have a negative impact on the manufacturing sector that is heavily reliant on exports. Other factors, such as geopolitical tensions in different regions and lingering inflation, will also continue to weigh on the industrial outlook of Thailand.

GLOSSARY

Serviced Industrial Land Plots

Land made available for sale/lease in industrial estates, zones and industrial parks

Bangkok Metropolitan Region

Includes Bangkok, Samut Prakan, Samut Sakhon

Eastern Seaboard (EEC)

Includes Chachoengsao, Chonburi, Rayong

Central

Includes Ayutthaya, Pathum Thani, Saraburi

West

Includes Ratchaburi, Petchaburi, Prachuap Khiri Khan

South

Includes Songkhla, Pattani

Northeast

includes Nong Khai, Nakhon Ratchasima

North

Includes Lamphun, Pichit

We like questions, if you've got one about our research, or would like some property advice, we would love to hear from you.



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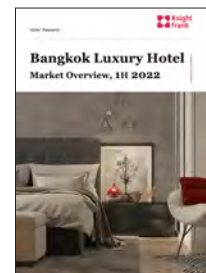
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