

# ‘MANUFACTURING POWERHOUSE’

By Sue Doerfler

The Association of Southeast Asian Nations (ASEAN) is an emerging force — as a region and as individual countries, each with their own supply chain strengths — that bridges East and West.

**F**or 20 years, Volkswagen has had a presence in Malaysia, including assembly of passenger cars that began in 2012. Volkswagen Malaysia now also assembles Porsche and Audi vehicles locally.

Southeast Asia — namely the ASEAN region, the Association of Southeast Asian Nations — is an important link in the supply chain not only for Volkswagen, but for many other companies as they look to diversify their supply chains, expand operations beyond China and be closer to customers. ASEAN is comprised of Malaysia, Singapore, Indonesia, Vietnam, Laos, Brunei, Thailand, Myanmar, the Philippines and Cambodia.





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— SUSANNE LEHMANN, Ph.D.  
Volkswagen Malaysia

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“I’ve worked in China many years during my career — and I love China,” says Susanne Lehmann, Ph.D., managing director of Volkswagen Malaysia. “Volkswagen China and its joint ventures have 22 factories there. Decoupling from China and the China-plus-one strategy are not going away.”

ASEAN has been neglected for a long time, she says. The region is the bridge between East and West, between two philosophies and cultures as well as commercially and technologically, she says. “It’s really one of the most interesting regions because of its cultural diversity,” she says.

ASEAN is projected to be the fourth biggest economy by 2030, according to the World Economic Forum. With cost-effective labor, a growing middle class and diverse industries, it’s a booming region.

“ASEAN’s emergence as a manufacturing powerhouse gives a compelling reason for such industries as electronics, automotive and EVs (electric vehicles) to shift production to the region,” says Stas Melnikov, an associate partner with McKinsey & Company in Singapore. “They can benefit from the expanding talent pool, cost-effective labor and government incentives across countries like Vietnam, Indonesia, Malaysia and Thailand.”

However, he adds, companies face notable challenges that include infrastructure gaps and changing regulatory environments, which require strategic planning and adaptability to successfully establish operations.

Still, despite these hurdles, Melnikov says, “the substantial inflow of foreign direct investment (FDI) into future-oriented industries shows that emerging Asia’s — including ASEAN’s — business environment and growth potential are strong enough to attract global manufac-

turers aiming to build resilient, diversified supply chains.”

### Inside ASEAN

As a region, ASEAN has a population of about 680 million and a gross domestic product (GDP) of more than US\$3.6 trillion. It is known for low-cost labor. It is part of the Regional Coalition Economic Partnership (RCEP), a free trade agreement with 15 member countries.

“Viewing Southeast Asia as a coalition could unlock scale,” Melnikov says. “But fragmentation in regulation, infrastructure and digital readiness remains a challenge.”

ASEAN is a region, but it is defined by separate countries with distinct strengths and challenges.

“Despite some perceptions of ASEAN as a cohesive bloc, the countries within the region are not homogenous,” Melnikov says, adding that each offers unique competitive advantages:

- Vietnam has competitive labor costs, existing ecosystem for high-end electronics manufacturing and connectivity to major markets.
- Indonesia has a large domestic market and availability of scarce resources for EV-battery production.
- Malaysia is the leader in advanced manufacturing, particularly in EVs and semiconductors.
- Singapore leads in advanced manufacturing and logistics infrastructure.

Eugene Tan, managing director of Emvolution Pte Ltd., a Singapore consultancy focusing on supply chain transformation and growth in Asia, calls Thailand the Detroit of the East. “All the major manufacturers tend to base in Thailand because it creates an ecosystem; there’s an industrial park with all the parts to bring it together,” he says. Malaysia has one of the largest semiconductor parks, with a variety of

manufacturers, he says.

Historically a large refining and manufacturing center, Singapore moved up the value chain and transformed into a finance and services hub by leveraging its connectivity, says Tan, who is program director of The Conference Board's Asia Supply Chain Management Council and Asia Procurement Leaders Council. "A lot of companies set up headquarters in Singapore and then use that to manage within Asia," he says.

### ASEAN, China and FDI

Although the term has been coined "China plus one," Melnikov says, supply chain diversification can be seen as two major trends: (1) global companies are diversifying supply chains into other regions like India or Vietnam and (2) Chinese conglomerates are establishing a footprint in other countries. Both trends create outward foreign direct investment (FDI) flows, but the nature of the investment is quite different, he says.

Among ASEAN nations, Vietnam, Malaysia and Indonesia, in particular, are emerging as prime alternatives, Melnikov says, noting that Vietnam's exports surged from \$320 billion in 2019 to \$440 billion in 2023, achieving a robust compound annual growth rate (CAGR) of 8.2 percent.

Announced FDI inflows into ASEAN remain substantial but have dipped slightly, falling by 5 percent from \$142 billion annually from 2015-19 to \$134 billion in 2022-25, he says, adding that this contrasts with a 24-percent rise in global announced FDI over the same period.

"Since 2022, 78 percent of announced FDI in ASEAN has targeted transformative sectors like advanced manufacturing, artificial intelligence (AI) infrastructure and critical resources —

up from around 50 percent in 2015-19 and slightly above the global average of 75 percent," Melnikov says.

"However, the nature of investments varies across ASEAN countries: Vietnam has emerged as a hub for high-end manufacturing, while Indonesia has attracted significant FDI in nickel and other critical resources. This reflects a shift in the region's role in global supply chains, with investment growth concentrated in select markets."

Most of the sources of FDI have come from investors from such nations as the U.S., China, Japan and South Korea, Tan says.

### The Export Environment

Export growth across the ASEAN region also demonstrates shared momentum, as countries like Vietnam, Indonesia and Malaysia have rapidly expanded their manufacturing and trade capabilities, highlighting ASEAN's broad-based industrial progress, Melnikov says.

By 2030, more than half the global middle class population will be in ASEAN and India combined, Tan says. By 2035, the two regions are expected to have a combined additional 1.15 billion to 1.5 billion middle class individuals.

"What you're seeing is a massive growth of consumers emerging in Asia over the next 10 years, which is why FDI is accelerating," he says. "In 2023, Penang, the semiconductor manufacturing center in Malaysia, had more FDI than the previous 10 years combined."

Still, despite diversification efforts, China continues to play a critical role in ASEAN's supply chains, Melnikov says. By 2024, China was expected to supply 25 percent of all ASEAN imports, up from 20 percent in 2017. This underscores the persistent inter-

connectedness between the regions, he says.

"Moreover, 89 percent of ASEAN's exports are landing in the Asia-Pacific region, highlighting the strength of intra-Asia trade flows," he says. "This reinforces the region's position as a key node in Asia's interconnected supply networks, with trade and investment increasingly concentrated within the broader Asia-Pacific ecosystem."

### Collaboration Is Making a Difference

A new project is designed to bring economic momentum to the area. The Johor Singapore Special Economic Zone between Singapore and Malaysia launched early this year as a collaborative location to capitalize on each area's strengths. At about four times the size of Singapore, the zone will serve as a hub for logistics, digital innovation, advanced manufacturing and more, bringing an expected 20,000 jobs to the area.

The project offers access to the competitive and well-skilled labor of Malaysia along with the connectivity and the skills of Singapore, Tan says. "It's a combination of both," he says. "A lot of companies are looking to invest."

Among the zone's other benefits, according to the Singapore Economic Development Board, are (1) improving cross-border goods movement between Singapore and the adjacent Malaysian state of Johor, (2) more freedom of movement of people and (3) strengthening the region's business ecosystem.

The Johor-Singapore Special Economic Zone, Melnikov says, "is an example demonstrating how cross-border partnerships can fast-track integration in supply chains, data flow and skilled labor mobility."



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He continues, "As interest in the region surges, ASEAN nations can respond with serious moves — not just positioning themselves individually, but also working collectively to shape the next chapter of global growth."

### Resiliency and Diversification

Of course, the coronavirus pandemic, the U.S.-China trade war, tariffs and other global geopolitical factors have influenced, impacted and even accelerated the ASEAN region's increased growth and development as a manufacturing hub.

Companies are searching for ways to make their supply chains more resilient and diversified, says Tay Ee Learn, chief sector skills officer for the National Trades Union Congress (NTUC) LearningHub, a continuing education and training provider in Singapore. "I think that has been the key driver of change so far," he says. The need for resiliency and diversified supply chains isn't likely to go away anytime soon.

Neither is uncertainty, which pervades today's supply chains and their organizations and is another driver: Companies want to ensure supply and products for their customers. AI, while a useful tool, also is driving uncertainty, with workers wondering about job stability. For many, factors like sustainability and security also are crucial considerations.

When shifting production to new locations, companies must conduct due diligence to understand requirements and the impact their operations will have. They must comply with regulations, which differ among ASEAN countries. Singapore, for example, has implemented phased-in climate reporting based on International Sustainability Standards Board (ISSB) standards.

### Singapore's Three Economies

Sustainability and climate are important to Singapore, which in 2021 set up the Singapore Green Plan 2030. Singapore is "the only country in the world to freeze the growth of the vehicle population. ... We do not subsidize the use of fossil fuel, and we tax the emission of carbon. Since the early 2000s, we have transitioned to natural gas, which is the cleanest form of fossil fuel for power generation," the Green Plan's website states.

Says Tay, "Instead of sustainability as a cost or extra constraint, Singapore's agenda is playing our part in saving the world while at the same time driving sustainability as an economy where you keep ahead of the clean energies equation in terms of the material usage equation."

A green economy, he says, is just one of the country's economic focuses. The others are:

- **The digital economy.** "Digitization is impacting everyone," he says.
- **The circular economy.** Historically, water has been the country's No. 1 constraint, Tay says: "The amount of time and effort given to finding a solution to recycling water and generating new water has spurred innovation and research in Singapore."

"Today, I think Singapore is seen as one of the (leaders) in new technologies in terms of water recycling and generation," he says. "Hopefully the same attitude and spirit can be adopted in terms of cleaner energy and waste management."

### An Automotive Stronghold

The ASEAN region, with its increasing middle class and manufacturing presence, offers many opportunities for the automotive industry. Indonesia and

Vietnam, in particular, are automotive showcases, says Lehmann, who took over as managing director at Volkswagen Group Malaysia in December 2023.

Previously, Lehmann served as executive director of logistics at SAIC-Volkswagen, the carmaker's largest joint venture in China, where she oversaw supply chain management during and after the country's COVID-19 lockdowns, launches of new production models and increases in electric vehicle production.

Besides Volkswagen, other carmakers like Toyota have a presence in the ASEAN region, but all are being challenged by Chinese companies. As PricewaterhouseCoopers (PwC) noted in its *Overview of the ASEAN-6 Automotive Market* report, "Chinese automakers are aggressively challenging Japanese dominance in ASEAN markets, rapidly gaining market share with affordable, cutting-edge electric vehicles."

By 2030, Thailand and Indonesia "are projected to dominate light vehicle production in ASEAN-6, capturing 37 percent and 35 percent, respectively," states the report, released in February by PwC's ASEAN automotive center of excellence. Malaysia, Singapore, Vietnam and Philippines make up the other four countries of the ASEAN-6.

"We cannot neglect this market," Lehmann says. "We cannot not be here."

ASEAN consumers are savvy consumers: They are educated, clever and well-informed, Lehmann says. "We have to be up to date with our products," she says.

The PwC report notes ASEAN's customer persona and preferences are changing: Consumers are tech-savvy and have (1) increasing spend capacity and (2) a focus on personalized and

customized experiences.

The area is not without challenges, Lehmann says, among them:

- **Natural disasters**, like flooding.
- **Shipping challenges**. Some of the countries border the Strait of Malacca, a highly utilized waterway that is experiencing increased volumes.
- **Port delays**. “This is normal,” Lehmann says, though ports are efficient overall.
- **Customs delays** due to mismarked imported parts.

Though following regulations that can differ by country can be challenging, the region holds much promise. “I’m bringing in the best possible product — and the newest product,” Lehmann says. “But I’m also focusing on exporting, because we cannot focus on one country alone here.”

Her vision is to establish Volkswagen Malaysia’s operations as a regional hub that features increased process efficiency and accuracy, as well as collaboration with area suppliers and companies to balance import and export trade.

“Malaysia is striving to have a stron-

ger trade balance in the automotive sector,” she says. “They want more localization. We want to be that hub.”

In coming years, Lehmann expects the ASEAN region to emerge as one of the world’s strongest economic areas, driven by technological innovation and the integration of both Chinese and Western technologies. That integration is already happening — cars in the region, for example, have both WhatsApp and WeChat, ensuring connectivity for everyone.

But more needs to happen. To be successful in the future requires adopting multiple standards — whether for communication, connectivity or homologation, she says: “For example, standards for electric car chargers are different in China than in the Western world.”

ASEAN can lead that integration: “The standardization, homologation and convergence of technologies will make this region especially interesting in the next five years,” she says.

### A Focus on Growth

ASEAN holds much promise as a China-plus-one alternative, a location for companies wanting to manufacture

closer to their customers and as an emerging region in general for supply chain sourcing and production.

ASEAN governments are “very focused on growth,” Tan says. “But they are focused on growth that would help their general population.”

“The future of work in ASEAN is focusing on the dual need for AI and human skills, government-funded training, and policies supporting workforce transitions,” Tay says.

A low-cost labor force, a rising middle class and a varied manufacturing landscape, with a focus on climate and sustainability, are among the region’s benefits.

“I think ASEAN is positioned in the right place with the right sets of policies,” Tay says. “But it’s not without challenges. The cross-border situation continues to be a challenge for some who don’t know how to navigate the space. But what’s reassuring is that government agencies are obviously doing what they can and they are all quite keen to work and attract FDI.” **ISM**

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## ASEAN Advice for Companies and Their Supply Chains

Is your organization thinking of shifting sourcing or production to the Association of Southeast Asian Nations (ASEAN) region? Stas Melnikov, an associate partner with McKinsey & Company in Singapore, says that, based on the consultancy firm’s research, business leaders should consider these three key factors:

- Evaluate a country’s attractiveness by assessing factors like labor costs, tax rates, geopolitical stability and infrastructure quality. Access to strong partners on the ground is necessary to unlock the regional opportunities.
- Be ready to play a long-term game — establish credibility, connections and partnerships. Often, businesses can start with partnerships with local companies and grow over time when trust is established.
- Prioritize resilience over cost alone by diversifying supply chain networks and reducing dependency on a single country or supplier. — *Sue Doerfler*