ASEAN's chapter in global supply chain

ASEAN Ports and Logistics 2026

Kuala Lumpur, 8th July 2026

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Roland Berger

Roland Berger is a European-rooted, leading global consulting firm with a strong foothold in Asia and a trusted partner for clients

In-depth expertise in all industries

Full industry coverage along with **4** industrial expertise platforms, each with rich project experiences:

Full industry coverage

Industrials
Auto, Industrial Products & Services, Chemicals

Regulated & Infrastructure
Civil Economics and Infrastructure, Transportation, Energy and Utilities

Health & Consumer
Consumer Goods & Retail, Pharma & Healthcare

Services
TMT, Financial service

Our senior experts and advisor network with extensive experiences covering all **major economic regions** and **industry sectors**

Long-term trusted partner of industry leaders

We serve ... ... the largest international companies

30%	40%	75%
of the Global 1000	of Europe's leading companies	repeat clients

Client trust

Source: Roland Berger

Founded in Germany, Roland Berger has increasingly expanded into the Southeast Asia and Australia region with offices in all major countries

Our global presence[1)]

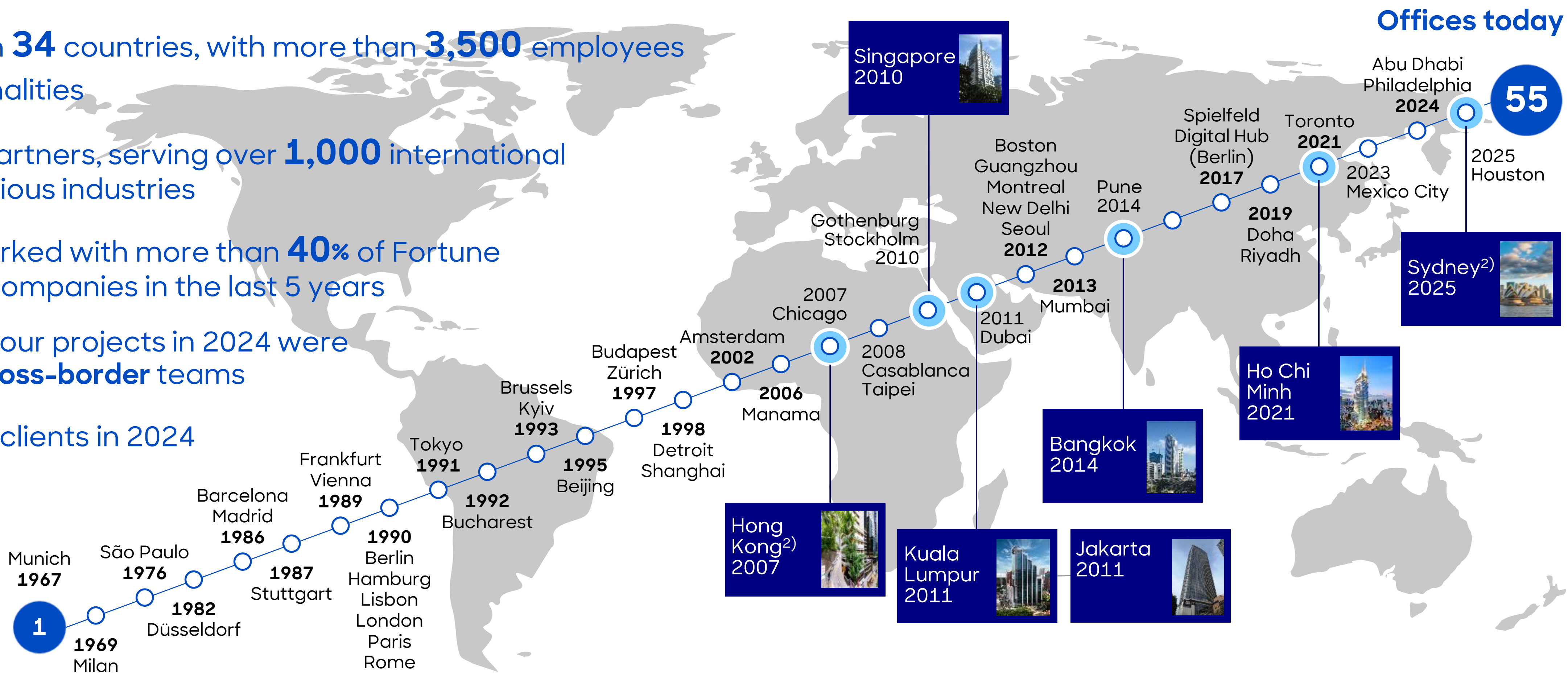
55 offices in **34** countries, with more than **3,500** employees of **74** nationalities

Over **350** partners, serving over **1,000** international clients in various industries

We have worked with more than **40%** of Fortune Global 500 companies in the last 5 years

One third of our projects in 2024 were served by **cross-border** teams

55% repeat clients in 2024



1) As of December 2025; 2) Managed as part of Southeast Asia

Our maritime practice is a key pillar of the firm and comprises of diverse verticals within commercial and leisure maritime

Selected Roland Berger clients in commercial and leisure maritime

	Shipping	Ports & terminals	Shipyards	Logistics
Typical project topics	• M&A and post-merger integration • Sales and growth strategy • Business model (re-)design • Fleet & network strategy • Refinancing/ Restructuring concepts • Organizational concepts • Feasibility studies of greenfield projects	• Internationalization and M&A • Operational performance improvement • Digitalization • Concession tenders • Master plan development • Feasibility studies of greenfield projects	• Operational performance improvement • Market entry strategy • Offshoring • JV partnership agreements • Restructuring concepts • Feasibility studies of greenfield projects	• Sales and growth strategy • Cost optimization • Organizational concepts • Restructuring concepts • Feasibility studies and M&A • Operational performance improvement
Selection of clients				

Source: Roland Berger

Non-exhaustive

We have worked with many port authorities, global ports, shipping lines and maritime companies all around the world

Selected clients in maritime industry/transportation

Port authorities

Yantai Port, Ports de Paris, PAT

Conglomerates

MMC, Sime Darby, Mitsui & Co., wienholding, Gulftainer

Port operators

Pelindo, Marsa Maroc, JohorPort, Portek (Knowledge & Solutions in Port Business), IPC, APM Terminals (Lifting Global Trade), VIMC, PenangPort, DP World, PSA

Shipping liners

misc, Hapag-Lloyd, P&O Nedlloyd, NYK Line, VIMC, NOL, Maersk, Milaha

Shipyards

Drydocks World, Public Investment Fund, ASRY (Arab Shipbuilding & Repair Yard Company), Nobiskrug, DCNS, DSME, Fincantieri, Navantia, Pella Sietas GmbH, Blohm+Voss, Dehler, SSW Schichau Seebeck Shipyard GmbH

Logistics service providers

aramex, Sinotrans, Maruba, DHL, Geodis, SF Express 顺丰速运, Kuehne+Nagel, Cainiao 菜鸟, Yusen Logistics, EMS

Maritime transportation

Qatar Navigation (Q.S.C), Scandlines, Acciona Trasmediterranea, Sinotrans

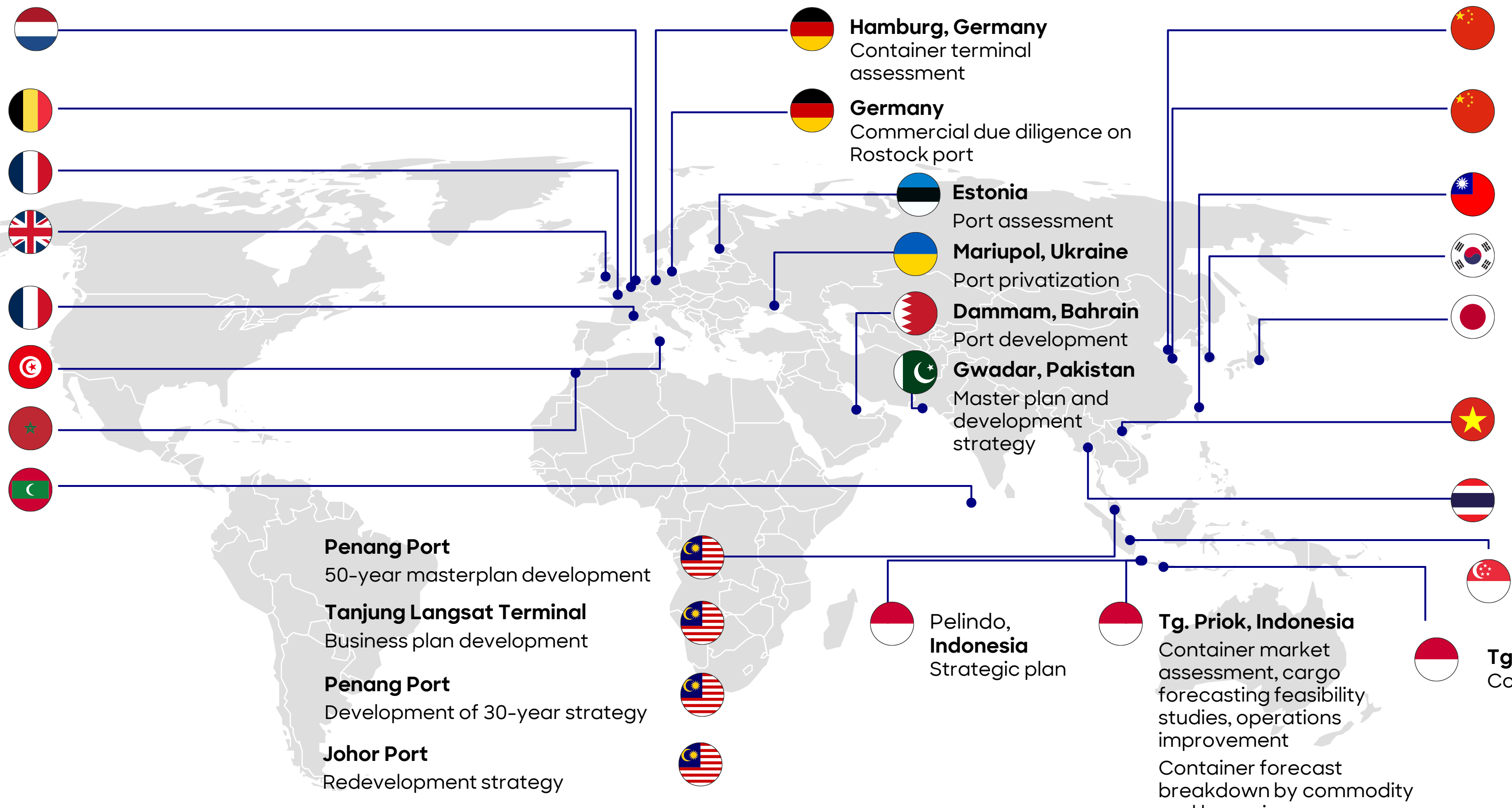
Suppliers

Constantia Industries AG, WTM Engineers

Non-exhaustive

Our port and logistics expertise covers all continents, with a particular focus on emerging markets

Recent port projects – selected samples only



Rotterdam, the Netherlands
Railway exploitation study

Antwerp, Belgium
Chemical cluster design

Calais, France
Traffic assessment

United Kingdom
Commercial due diligence on ABP

Marseille, France
Land planning and commercial dev.

La Marsa, Tunisia
Port development

Casablanca, Morocco
Export strategy

Maldives
Port re-development plans

Penang Port
50-year masterplan development

Tanjung Langsat Terminal
Business plan development

Penang Port
Development of 30-year strategy

Johor Port
Redevelopment strategy

Hamburg, Germany
Container terminal assessment

Germany
Commercial due diligence on Rostock port

Estonia
Port assessment

Mariupol, Ukraine
Port privatization

Dammam, Bahrain
Port development

Gwadar, Pakistan
Master plan and development strategy

Pelindo, **Indonesia**
Strategic plan

Tg. Priok, Indonesia
Container market assessment, cargo forecasting feasibility studies, operations improvement
Container forecast breakdown by commodity and by region

Tg. Perak, Indonesia
Container market study

Weifang, China
Market study and technical review

Qingdao, China
Port development plan

Kaoshiung, Taiwan
Port development plan

Busan, S. Korea
Financing strategy

Tokyo, Japan
Container port market study

Haiphong, Vietnam
Port and marine services market assessment

Laem Chabang, Thailand
Commercial due diligence

Singapore
Identification of port investment opportunities

Since the Industrial Revolution, six major globalization-driven industry shifts have profoundly reshaped the global supply chain – accelerated by recent disruptions

First – Late 18th to 19th century

UK → Continental Europe, USA
- Labor-intensive industries like textiles and coal

Second – 1950s-60s

USA→ Germany, Japan
- Labor-intensive industries like textiles and coal
- Capital and labor-intensive industries like manufacturing, electromechanics, shipbuilding

Third – 1970s-80s

Germany, Japan → "Four Asian Tigers"
- Labor-intensive industries
- General tech-intensive industries

Fourth – 1990s

USA, Europe, Japan, " Four Asian Tigers" → China
- Labor-intensive industries
- General tech-intensive industries

Fifth – Post-2008 Financial Crisis

China → Southeast Asia, South Asia
- Labor-intensive industries
- Export-processing industries

Sixth – Post-2022 Covid-19 pandemic

Southeast Asia, South Asia → multi-nodal clusters
- Nearshoring and friendshoring for 'just-in-case' supply chain planning

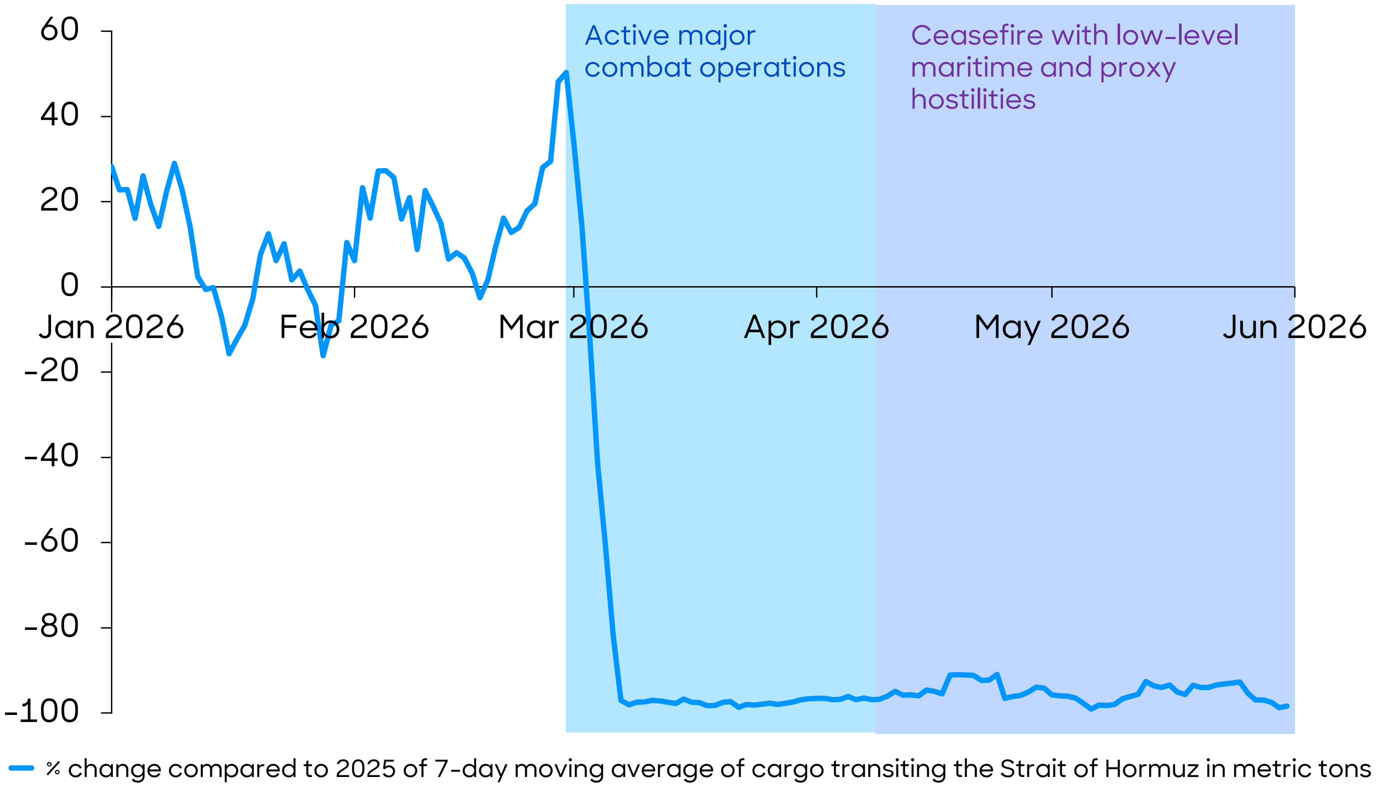
Geopolitical friction has shifted supply chain, resiliency is now a key consideration.

Source: Guosen Securities; Roland Berger

Closure of the Strait of Hormuz and the cessation of cargo transit triggers immediate oil & gas market volatility and commodity supply disruptions

What the shock does immediately to prices and supply

Changes in volume of trade (in metric tons) transiting through the Strait of Hormuz, Q1 to Q2 2026 [% change compared to previous year]



Immediate effects of closure

Increased volatility of oil and gas prices

- Hormuz carries ~30% of seaborne oil and ~20% of LNG - any disruption moves global prices at once
- Blockade, vessel attacks and lost marine insurance tighten supply and add a war-risk premium
- Prices now swing on every escalation or ceasefire headline, leaving them high and unstable

Disruptions to commodities and critical materials supply

- Gulf is a key source of fertilizer, petrochemical feedstock and refined products – all squeezed by the same chokepoint
- Rerouting around the Red Sea adds weeks and cost to deliveries
- Shortages have spread to resins, chemicals and metals, raising prices and lengthening lead times

Source: IMF, Roland Berger

Longer-lasting and deeper impact from closure are reshaping the global economy, investment, trade and capital long after the initial price shock fades

What the shock then triggers – across the wider global economy

Global Economy

Slower growth, higher inflation

- Higher energy and material costs keep inflation high
- Weaker demand and spending slow growth, hitting trade-reliant economies hardest
- Interest rates stay high for longer, raising borrowing costs

Investments

Structural shifts in global FDI

- Investors delay new greenfield and expansion projects
- As material and input costs keep rising, more of those projects are cancelled outright
- New investment slows and reorganizes – shifting to safer, better-aligned and more resilient locations

Trade

Supply chains and trade re-route

- Businesses diversify suppliers to reduce single points of failure
- Longer shipping routes add cost and time
- Production moves closer to home, trading efficiency for security

Capital

Capital turns cautious

- Risk premiums and volatility elevated but episodic
- Conflict-driven inflation has priced out 2026 rate cuts with hike risk re-emerging
- Capital rotates to resilient, neutral markets and differentiates within emerging markets
- FX and portfolio flows more volatile and selective

Broader secondary effects

- **Higher risk premium** – geopolitical risk is now priced into everything: energy, insurance, freight and the cost of capital
- **Higher cost baselines** – energy, logistics, financing and inventory reset to a structurally higher floor that won't fully reverse, even if the conflict ends
- **Security over efficiency** – businesses and governments accept redundancy over lean optimization: more suppliers, more reserves, more buffer stock
- **Global fragmentation** – trade, capital and supply chains tilt toward trusted, regional blocs, unwinding decades of globalisation gains

Source: Desktop research, Roland Berger

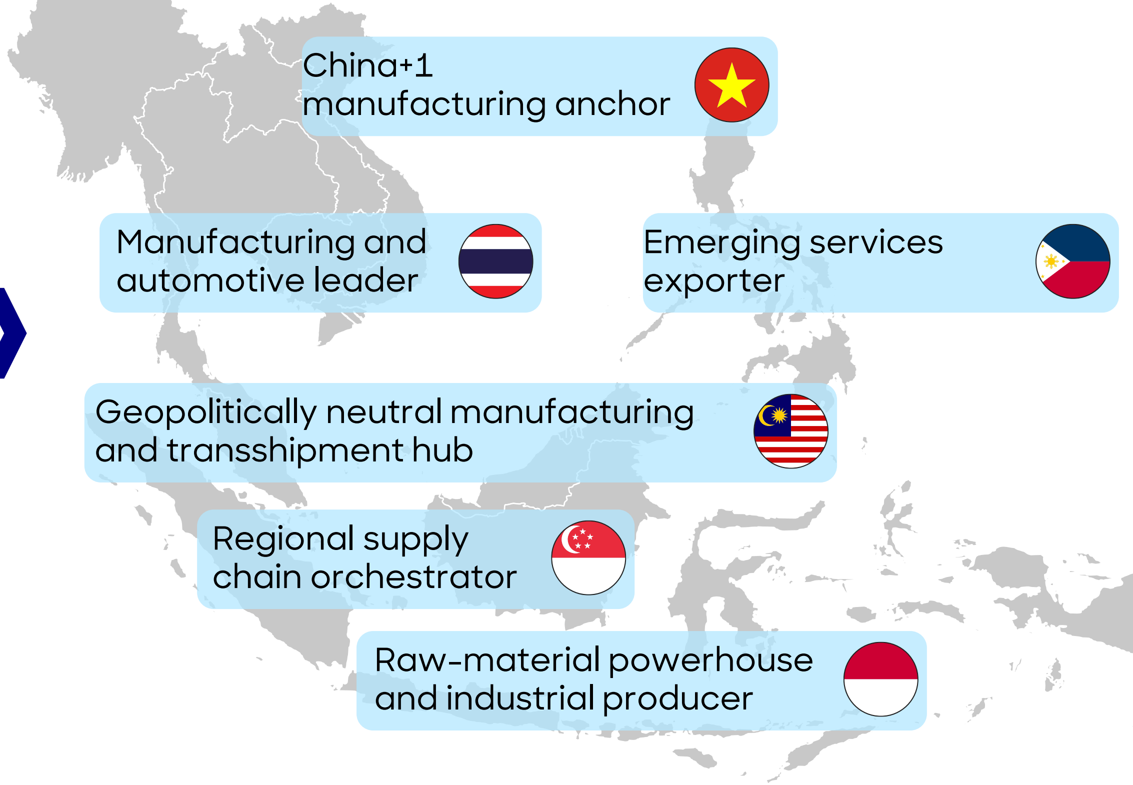
Global supply chain fragmentation is creating a structural and time-sensitive growth opportunity for ASEAN

Why the disruption favors ASEAN?

Key implications for ASEAN

- **ASEAN is primary destination of redirected global supply chains** – with the region absorbing the largest share of global redirected FDI
- **Southeast Asia can function as an integrated, multi-country production hub** – combining low-cost manufacturing, resource rich economy, tariff resilient markets, and emerging logistics hub

Potential supply chain role of each ASEAN economy



Key highlights

- Global supply chain fragmentation creates **structural opening for ASEAN** to strengthen its role as a transshipment and logistics hub
- **Challenges** such as reduced demand from potential manufacturing reshoring, rising trade barriers and shifting regulatory landscape **could erode the region's advantage**
- Three **critical capability gaps must be addressed** if ASEAN is to capture opportunities:
  - Digitalization of ports and customs
  - Improved logistics capabilities
  - Green port development

Strengthening competitiveness will unlock ASEAN's full potential to capture the reshaping of global supply chain

1. Digitalization and automation key to boost regional competitiveness

2. Levelling up regional logistics capabilities – cold chain, warehousing, logistics hub

3. Strengthen green ports development to meet sustainability imperatives

Source: Roland Berger

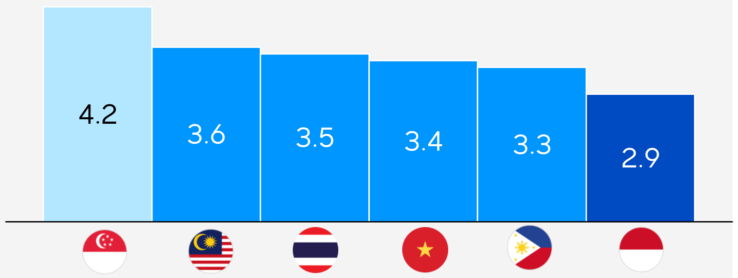
Currently, ASEAN logistics readiness still fall short in capabilities, infrastructure and regulatory framework

Supply chain metrics for Southeast Asia

Metrics | Description | Countries readiness[1] (1=lowest, 5=highest)

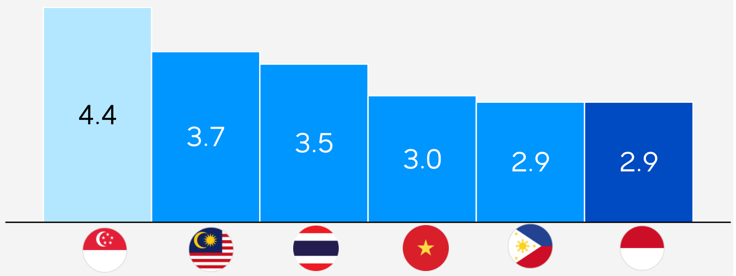
Capabilities

Cold chain, warehousing & value-add logistics
- Cold storage capacity still trails regional demand
- LCL consolidation, reworking & bonded warehousing capabilities are fragmented, strong in SG/MY, largely absent in ID/PH
- Inconsistent capabilities prevent ASEAN from moving up the manufacturing value chain



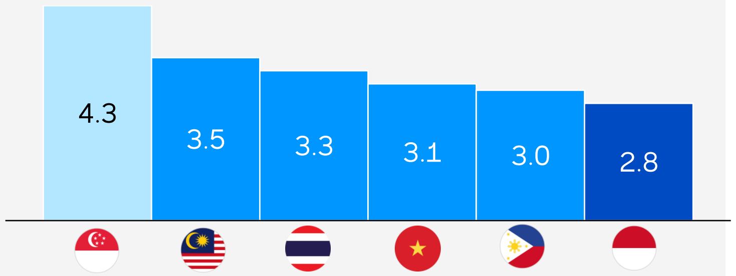
Infrastructure

Ports, road, rail & last-mile connectivity
- Port investment has accelerated (Carey Island, Cai Mep-Thi Vai, Tuas), however inland connectivity lags behind ports' development
- Limited rail-to-port last-mile links and highway networks likely result in underutilization of terminal capacity



Regulatory

No unified ASEAN customs clearance framework
- Each border crossing adds 2-5 days
- Manual customs processes in ID and PH, digital only at SG and MY
- RCEP and CPTPP remained underutilized, intra-ASEAN trade costs stay structurally high without customs clearance harmonization



Strong (≥4.0) | Developing (3.0 – 4.0) | Needs improvement (<3.0)

1) Readiness based on World Bank Logistics Performance Index 2023

Source: World Bank, Roland Berger

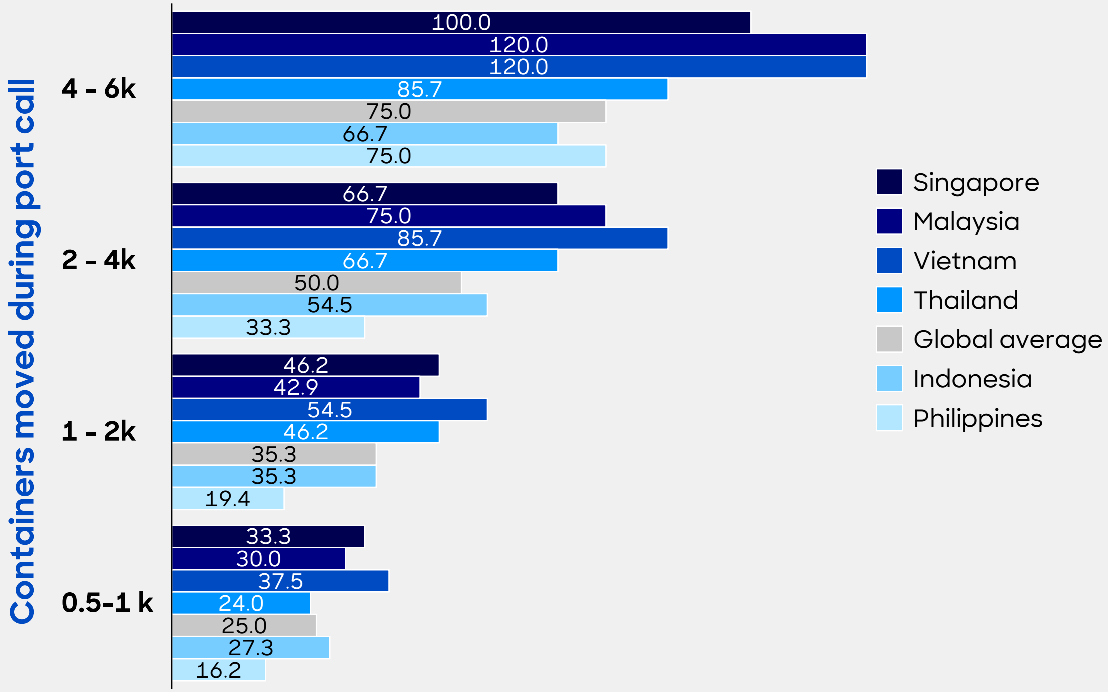
Investment in digitalization and automation can reduce the regional gap in customs and port productivity performance

Port operations upgrade deep dive

Context

- **Port dwell times:** 2-4x longer than leading hubs, uneven digitalization prevents reliable schedules and holds back cargo
- **Uneven customs capabilities:** manual in ID and PH; fully digital clearance in SG and MY
- **Lack of clearance harmonization:** intra-ASEAN trade costs stay structurally high

Berth productivity[1] [gross moves/hour per vessel call]



Notable gap in productivity within the region – Singapore, Malaysia, Vietnam as leaders and consistently above global average, Indonesia and Philippines as laggards

Where to invest next?

1. Brownfield terminal automation (gates, yards, cranes, TOS)

- Retrofitting in Qingdao paid off in <1 year, high potential for SEA ports to improve competitiveness amidst demand growth

2. ASEAN Single Window (ASW) customs interoperability

- Enhance pre-arrival clearance, mutual AEO recognition and shared data standards to fully unlock RCEP/CPTPP potential
- For countries without National Single Window, to invest in digital capabilities to narrow the gap in customs performance

1) Based on UNCTAD Review of Maritime Transport 2025 average minutes per container move - converted to moves per hour by applying moves per hour = 60 / minutes per container move. Value reflects gross productivity per vessel call and rise with vessel size as more quay cranes are deployed

Source: UNCTAD, Desk research, Roland Berger

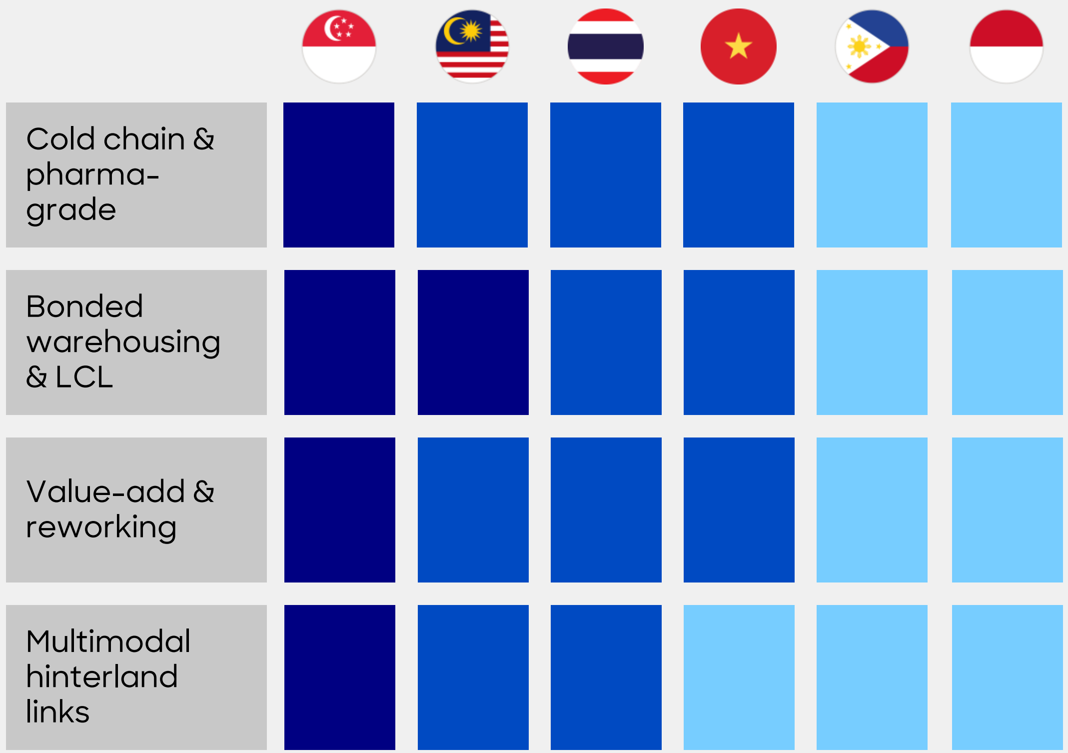
Levelling up capabilities will help ASEAN fully capture additional demand from ongoing cargo flow shift

Logistics capabilities upgrade deep dive

Context

- **Strong momentum:** Maersk World Gateway 2 in SG; Malaysia's JS-SEZ driving logistics hub upgrade
- **Fragmented capabilities:** cold storage trails demand, LCL reworking & bonded warehousing strong in SG/MY, largely absent in ID/PH

Capabilities heatmap by country



Strong | Developing | Needs further investment

Where to invest next?

1. Move up the value chain

- Establish regional distribution centers, focusing on pharma- and semiconductor
- Deepen halal-certified cold chain , where premium yields justified capacity expansion

2. Close foundational gaps

- Cold storage projects in Vietnam to capitalize on >US$9bn seafood exports
- Greenfield bonded & LCL in ID/PH

Why now: Demand currently outstrips supply, manufacturers relocating to ASEAN are looking for countries that can offer capacity, prompting first-mover advantage.

Source: Desk research, Roland Berger

Alt. fuel bunkering will become condition to win, ports that pivot quickly are poised to secure future demands as carriers reroute

Green ports development deep dive

Context

- **Newbuild tonnage:** 38% of newbuild ordered in 2025 is alternative-fuel capable, carriers will increasingly route tonnage to ports that are equipped with green bunkering capabilities
- **Early-stage in ASEAN:** Diesel-dominant equipment fleets, minimal shore power and alternative-fuel bunkering

Increasing convergence in carbon cost regulatory

2025: FuelEU Maritime live, requiring vessels > 5k GT to reduce GHG intensity

2028: Target USD100/ t CO_2 equivalent pricing

2030: 5% near-zero fuel target

As regulatory converges, **carriers will start routing alternative fuel tonnage to ports that can provide bunkering**. For ASEAN this turns green-port capex into advantage of retaining cargo volume

Where ASEAN stands in green port infrastructure:

Diesel/ baseline	Shore power & electrification	Alt-fuel bunkering	Ammonia-ready	Green corridors

Widening in ASEAN green port maturity – Singapore has established 9 green corridors, Malaysia is ramping up methanol bunkering capabilities, while others are operating with diesel-dominant model

Where to invest next?

Short term: Electrify equipment and shore power	Lowest risk entry with proven tech, EU mandates will push carriers to pre-select equipped ports
Mid term: Alt-fuel bunkering	Low energy density of alt. fuel means more frequent bunkering, favoring ASEAN's position for Asia-Europe lane
Long term: Intra-ASEAN green corridors + green financing	Corridors convert pledges into contracted volume, securing demand commitment, green-fuel provides hedges against fuel cost fluctuations in current macroeconomic

Source: Maritime & Port Authority Singapore, Desk research, Roland Berger

ASEAN's moment to capture global supply chain is now, investment across digitalization, capabilities and green ports will be key to secure growth

Summary of investment areas

1 Digitalization & automation

Faster customs clearance and higher terminal productivity

- Brownfield terminal automation – gates, yards, cranes, TOS
- ASEAN Single Window interoperability – pre-arrival clearance & mutual AEO recognition

2 Logistics capabilities

Cold chain, warehousing & regional hubs to capture supply chain rerouting

- Tier 1 (SG/MY/TH): move up the value chain – pharma, semiconductor & halal cold chain
- Tier 2 (VN/ID/PH): close gaps – cold storage, bonded & LCL warehousing

3 Green ports

Decarbonization will become condition to win

- Short term: electrify equipment + shore power · Mid term: alt-fuel bunkering (methanol now, ammonia-ready)
- Long term: intra-ASEAN green corridors + green financing

Source: Roland Berger

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