CONNECTING DATA.
POWERING TOMORROW.

SMARTER LOGISTICS SOLUTIONS
FOR DATA CENTRES

SUPPLY CHAIN STRATEGIES FOR SCALING DATA CENTRE DELIVERY & MANAGING RISK



Zane Morton
Managing Director NZ & FJ
DHL Global Forwarding

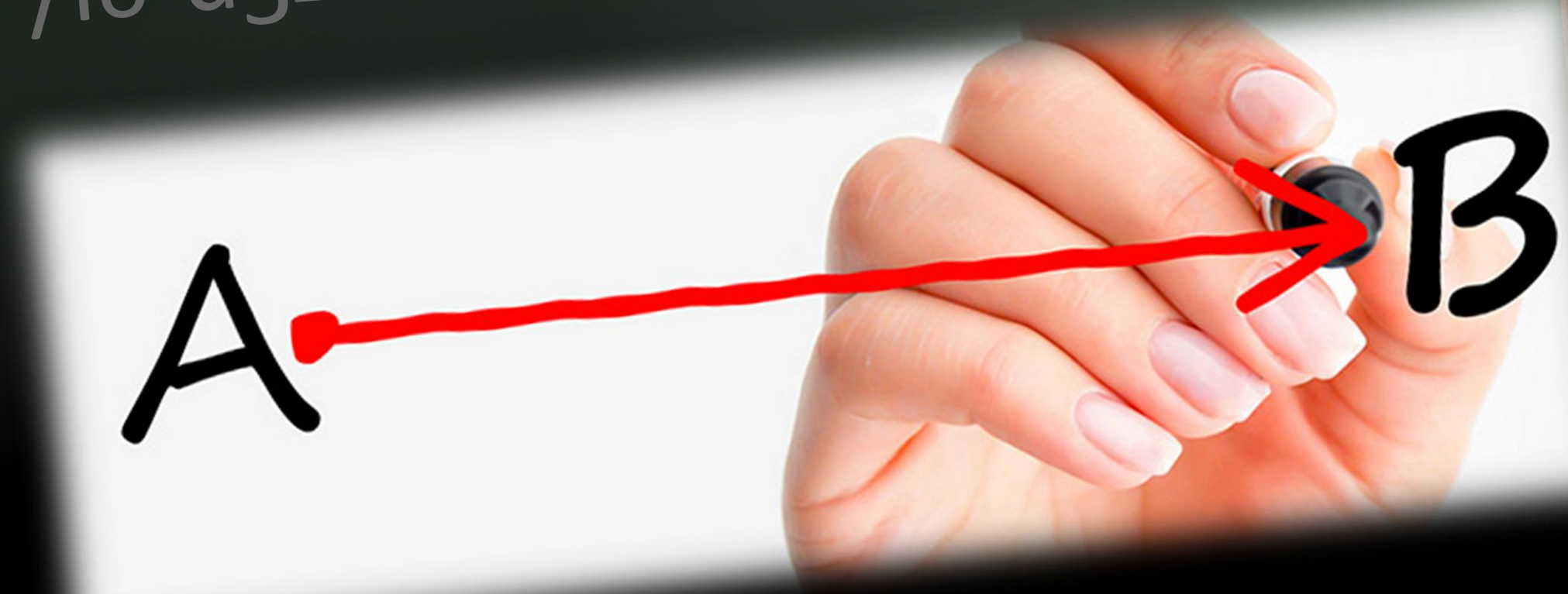
August 2026

SECURE HANDLING | RELIABLE NETWORKS | GLOBAL REACH | DATA DRIVEN SOLUTIONS

EXCELLENCE. SIMPLY DELIVERED.

logistics

/ləˈdʒɪs.tɪks/



However, the concept of A to B becomes more difficult when you add war, tariff barriers, oil supply chaos, climate change, Artificial Intelligence (AI) and geopolitical mayhem.

We face an enormous level of disruption – plus, add the Middle East War!

To continue to survive in these volatile times, let’s understand today's risk profiles and visit approaches to drive supply chain resilience.

So, what do we need to navigate today to deliver Data Centre Logistics excellence?

Supply Chain Disruptions

THE BUSINESS TIMES

Singapore port congestion shows global ripple impact of Red Sea attacks

FIERCE Healthcare

Trump tariffs will escalate costs and disrupt the medical supply chain, industry execs warn

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Attackers Delight: Why Does Healthcare See So Many Attacks?

S&P | Journal of Commerce

Europe's port congestion forcing Gemini to switch up Asia service

WPN WebProNews

AI Transforms Supply Chains: Resilience, Analytics, and 15% Cost Savings

Claims · AI, supply chain disruptions are fueling strategic cargo theft

AI, supply chain disruptions are fueling strategic cargo theft

aviNews.com

Magazine aviNews International June 2026 30 May

Market

When the Supply Chain Breaks: Poultry Prices and the Economics of Maritime Disruption in the Middle East

Source: DHL Consulting, based on desktop research



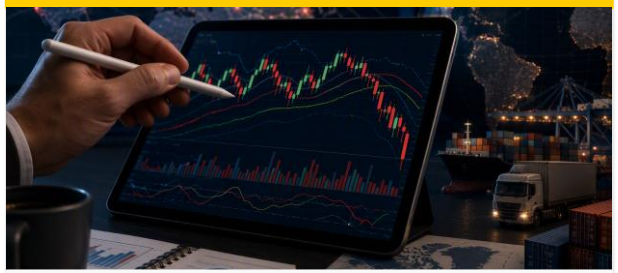
Drivers of Supply Chain Disruptions

Geopolitics & Regulations



Tariffs, changing regulatory process, stricter customs requirements

Economic Uncertainty



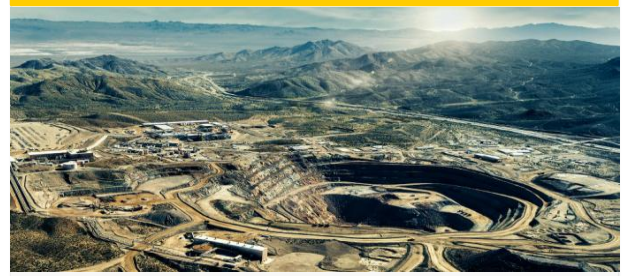
Inflationary pressures on costs, forecasting challenges

Safety & Security



Product quality, technology reliance, cybersecurity

Rare Earth & Mineral Scarcity



Mineral Shortage, Diminishing sources (Scarcity)

Disasters & Extreme Weather



Typhoons, monsoon rain impacting production and distribution

Capacity Constraints



Material and labor shortages, port congestion, flight disruptions

Technology



Opportunities and threats from AI and other innovations

Human Exploitation

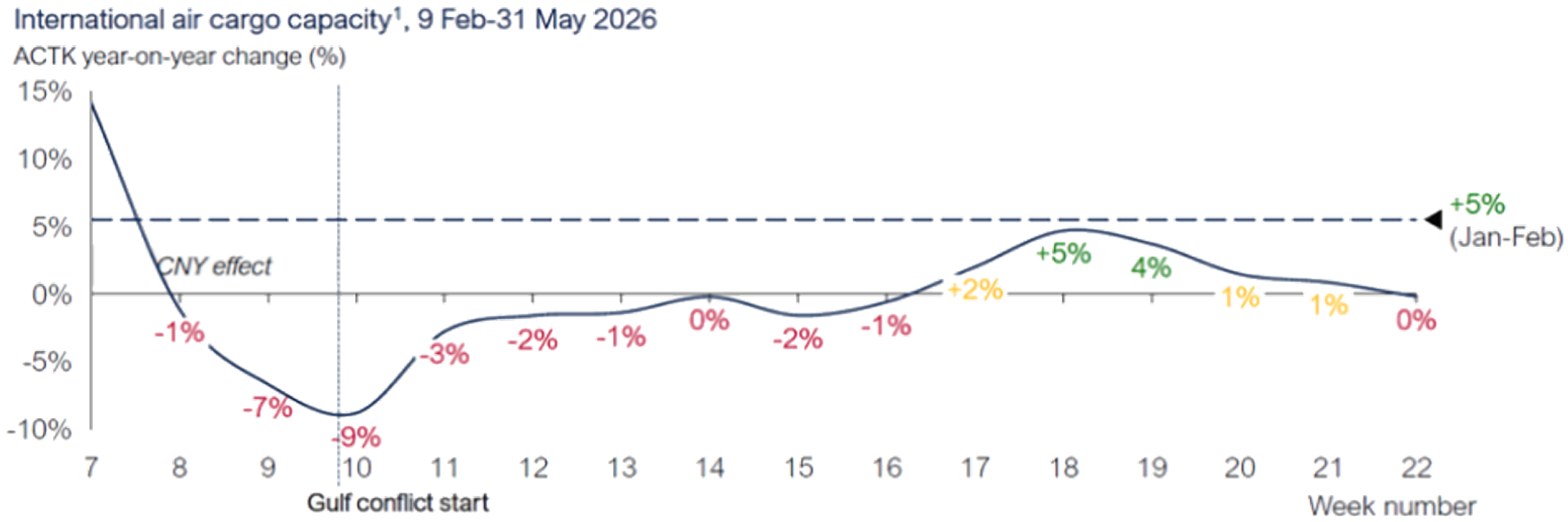


Child Labour / Sweatshops



Global Air Cargo Capacity View

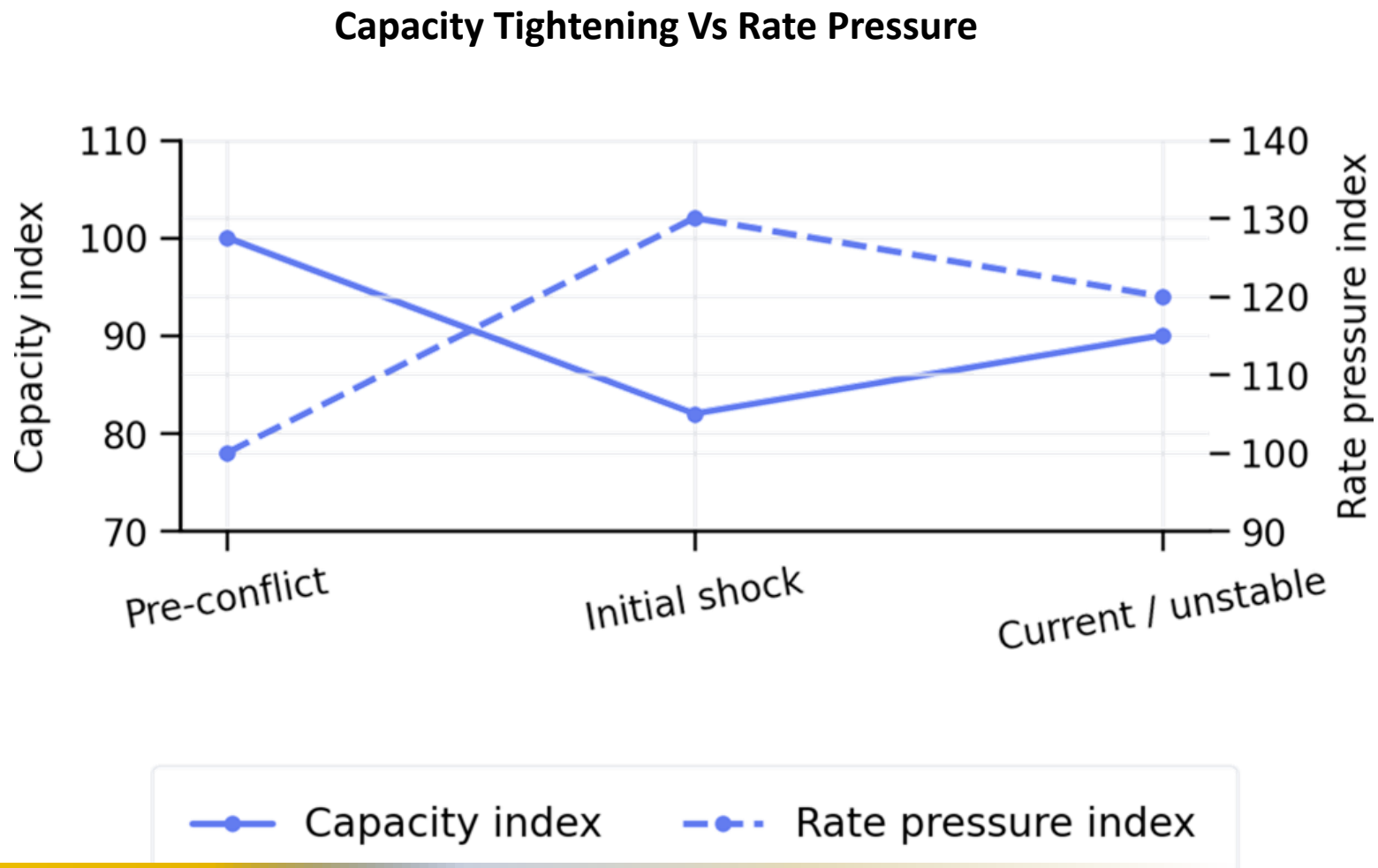
Gulf Conflict has supressed international air cargo capacity growth, now at ~ 0% vs +5% pre-conflict





Impact: Capacity Tightening & Rate Pressure

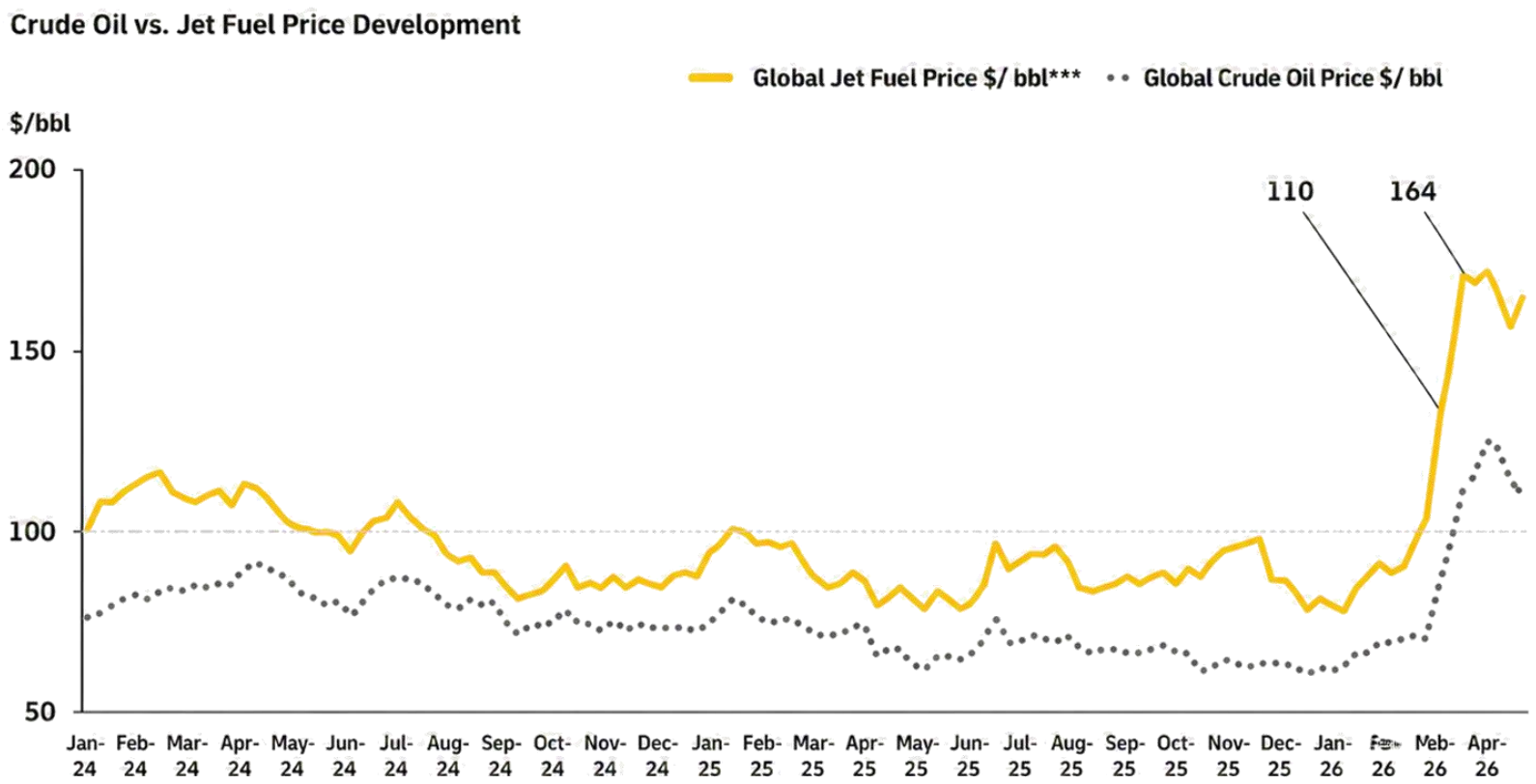
- Capacity fell sharply during the initial shock, then partially recovered but remained unstable.
- Longer routings reduced effective aircraft productivity and payload flexibility.
- Rate pressure rose as available uplift tightened and fuel / risk surcharges increased.
- Impact was concentrated on Asia–Europe and hub-dependent long-haul flows.





Impact: Aviation Fuel Costs

JET FUEL PRICE DEVELOPMENT



Economy
Global growth, inflation, interest rates

Supply & Demand
Crude supply levels, demand trends, refinery output

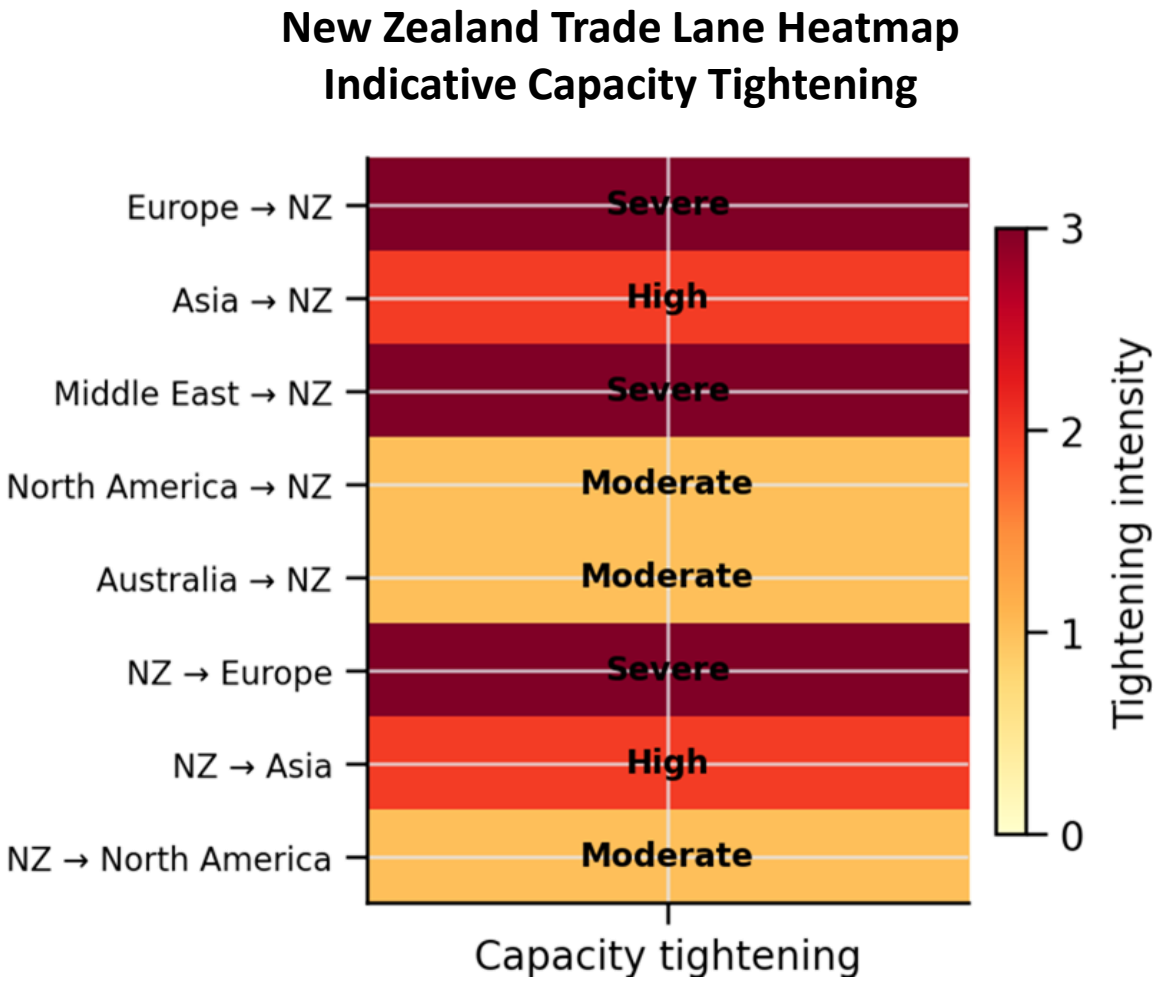
Geopolitics
Conflicts, sanctions, trade tensions, policy changes

Market Dynamics
Inventories, OPEC+ decisions, currency movements



NZ Implications: Trade Lane Capacity Tightening

- Most exposed: Europe ↔ NZ and Middle East → NZ due to dependence on hub connectivity.
- Moderate exposure: Asia ↔ NZ where displaced cargo competes for limited widebody capacity.
- Lower but visible exposure: North America and Australia lanes, mainly through network spill-over.
- **Planning response**: protect allocations, diversify routings via SIN/HKG/Australia, and communicate rate volatility early.





Global Ocean Freight – Executive Summary

Peak season is here to stay through summer

Rates continue to remain elevated as demand growth ex Asia expected to stay strong through summer, as the Middle East geopolitical situation puts further strain on capacity

Market capacity	**+4%** YoY[1)]	• **4% YoY fleet growth** expected for 2026, **below average** of approx. 6% annual growth over last decade • **Effective capacity remains tight** as port congestion is back to 2022 post-Covid highs and Suez detour continues • **Orderbooks are full** as carriers replace vessels and pursue market share, but impact only from 2027+
Market demand	**+5%** YTD[2)]	• **5% YTD demand growth** in 2026[2)], driven by continued volume surge out of Asia • **4% YoY demand growth** demonstrates resilience of global container freight demand • While **peak season intensity is reducing**, growth trajectory expected to continue
Market rates	**+107%** YoY[3)] **+67%** vs. Apr	• **Peak season is here to stay through summer** – stabilizing rates on high levels as demand meets additional capacity • **Rate hike is demand-induced** with summer peak season, as **Asian exports remaining strong** from (1) upcoming **holiday season**, (2) no major changes to US tariff levels, and (3) increased **New Energy** product demand • **Geopolitical situation does not offer relief**, with trade to/from/passing the Middle East constrained after announced Houthi naval blockade of Saudi Arabia, as Red Sea becomes a choke point with carriers struggling to find crew
Bunker prices	**+50%** vs. Feb[4)]	• Bunker prices remain **significantly above** pre-war levels after **recent increase** • **Strait of Hormuz remains de facto closed** after recent vessel attacks, with volatility, risk premiums and operational uncertainty persisting, and **oil prices expected to remain elevated** throughout 2026

Sources: DHL Global Forwarding, Drewry, Container Trade Statistics, SCFI, Bunker Index; 1) Year over year forecast, 12/26 vs. 12/25; 2) Year to date, 01-05/26 vs. 01-05/25; 3) Year over year, 07/26 vs. 07/25; 4) VLSFO/Compliant Bunker Fuel, last day of 07/2026 vs. last day of 02/2026



Direct Middle East Impact

Persian gulf ports are not called

with impact to cargo to and from the Gulf – cargo is being discharged into alternate, congested ports (e.g., Jeddah, SA; Salalah/Sohar, OM; Khor Fakkan, AE), and requires costly overland re-routing to its destination

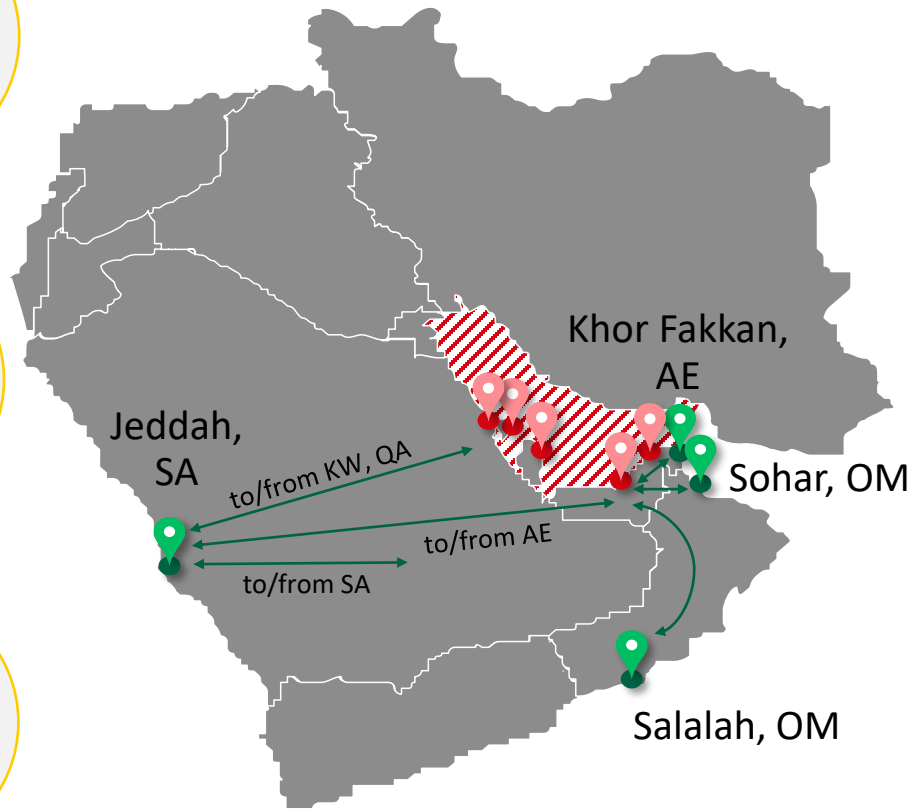
Approx. 130 vessels are still in the Persian gulf

with capacity of approx. 300,000 TEU, approximately 1.5% of global capacity - some vessels have managed to leave the Persian Gulf in the recent weeks, so feared capacity shortage is not a global issue

Large-scale Suez return is unlikely in near future

but higher fuel prices make Cape detour more costly; so while Houthi threats remain on the map, CMA CGM is testing the waters again with upcoming Suez transits

Alternative routing options



Sources: DHL Global Forwarding, Linerlytica

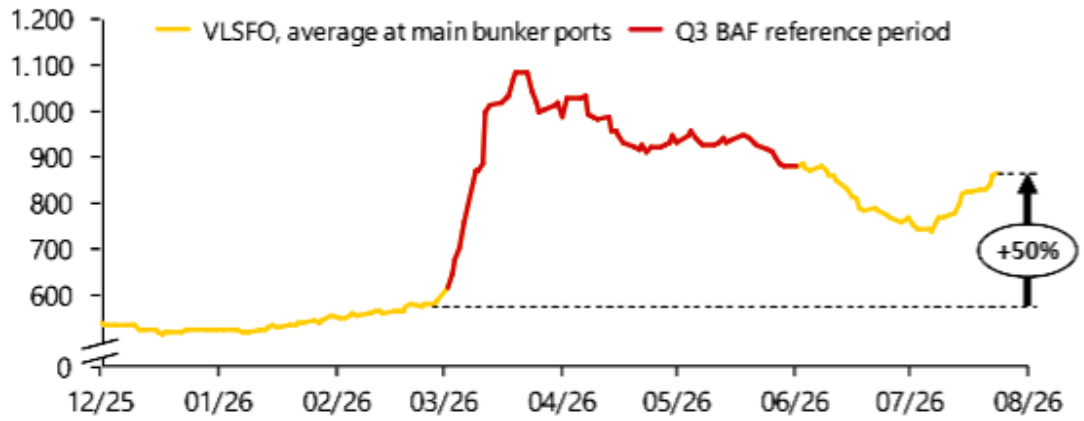


Deep Dive: Ocean Bunker Prices

Oil price volatility translates into unpredictable operational cost

Given unprecedented volatility in oil prices, carriers continue to offer customers to remain on Emergency Bunker Surcharges for existing business, instead of a fixed Q3 BAF

Bunker fuel prices, last 8 months
in USD/ton



- This year's volatility **in bunker fuel prices** is unheard of in last decade and beyond
- Recently, **oil prices have been rising again**, with geopolitical volatility and uncertainty around Hormuz reopening remaining as ships continue to be attacked
- The latest VLSFO bunker price level sits at **50% above the pre-war** baseline

Current status for oil price-related surcharges

- **New business** is quoted by carriers and forwarders alike subject to regular BAF
- **For existing business, multiple options exist:**
  - Customers **may return to fixed Q3 BAF**, at the same or higher amount of Q2 BAF + Emergency Bunker Surcharges
  - Instead, a **frozen Q2 BAF and continuation of Emergency Bunker Surcharges** may also be an option, to participate in potentially reducing but **volatile oil prices**
  - Many **shippers have also transitioned to monthly bunker fuel updates** where Emergency Bunker Surcharges do not apply
- **Inland haulage surcharges** remain in place **as oil prices are remaining elevated**
  - **Diesel prices** have increased by **up to 50%** since 12/2025, depending on geography
  - For **inland transportation**, fuel typically accounts for **30-50%** of operating cost, a higher percentage compared to ocean freight

Sources: DHL Global Forwarding, Bunker Index, Alphaliner

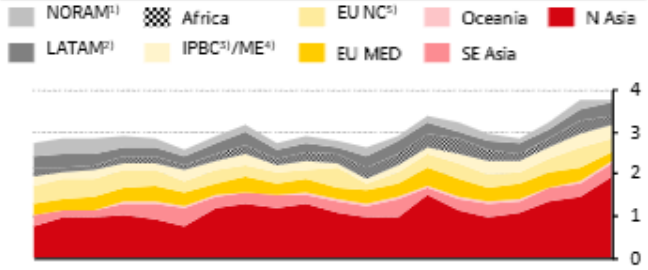


Port Congestion

More than 3.7mn TEU remain tied up in congested ports, impacting reliability

Recent spike in cargo volumes and typhoons in China keep port congestion at 2022 peak levels; with lack of infrastructure in Asia and Europe making the path to recovery challenging

Port congestion, by region, 2025-2026
in mnTEU



Port congestion increasing to 2022 highs, due to:

- **Typhoons** hitting Chinese ports in July
- **Asian export** demand congestion
- **European infrastructure** limitations

Port congestion, key ports

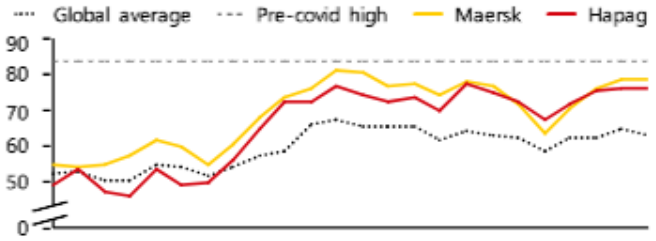
In **Middle East**, severe disruption due to vessel re-routing, inland constraints, and equipment shortages continues, further exacerbated by recent Houthi announcement to stop passage to/from Saudi Red Sea ports

In **North Europe**, yard utilization remains high as capacity is tight, worsened by severely reduced inland waterway connectivity (required for some industries) due to low Rhine water levels

In **China**, typhoons hit in mid-July causing port closures for multiple days, making a congested export situation even worse

- **Congestion** is typically result of **volatile demand** meeting a rather **fix port and landside capacity**
- **Global port congestion reaches** top-Covid (2022) levels, this time driven by Asia and Europe instead of North America

Schedule reliability, global, 2024-2026
measured by vessel arrival ±1 day of schedule



- **Gemini Cooperation** (comprised of **Maersk** and **Hapag**) continues to outperform competition
- Similar to Gemini, **HMM announced transition to hub-and-spoke model** on back of feeder vessel order to **bring up schedule reliability**
- **Reliability for a specific shipment** is **often less** due to blanked sailings, omitted calls, feeder dwell times, schedule changes, and rolled cargo

Sources: DHL Global Forwarding, Linerlytica, Sea Intelligence; 1) North America; 2) Latin America; 3) Indian subcontinent (India, Pakistan, Bangladesh and Sri Lanka); 2) Middle East; 3) North Continent, incl. UK



Capacity vs. Demand | Short-Term Outlook

Capacity ex Asia remains limited

While peak season is ongoing, carriers continue firm capacity discipline whenever demand is tapering off, causing tight cargo space and reflected in elevated rates, while operational bottlenecks

Market development on regional tradelanes, 2025-2026
for top 18 regional tradelanes

Origin	Destination	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		Aug	Sep	Oct
Asia (excl. IPBC)	Asia (excl. IPBC)	R	R	R	R				R	R			R	
	North America		G	R	G	G			R			R		
	Europe		R	R					R	R		R		
	Middle East	R		R		R	R	R	R	R		R	R	R
	IPBC		R	R	R	R	R	R	R	R			R	
	Latin America (WC)	G		G	G		G	R	R	R				
	Latin America (EC)	G		G	G		G	R	R	R				
	Africa				G							R		
	Oceania	R	R	R	R		G	G		R		R	R	R
IPBC	Asia (excl. IPBC)	G	G	G	G	G	G	G	G	G		G		
	North America	G			G		G	G		R		R		
	Europe	G					G		G	R		R		
Europe	Asia (excl. IPBC)	G	G	G	G	G	G	G	G	G		G	G	G
	North America	G	G	G	G	G				R		R	R	R
	Latin America (WC)	R	R		R	R	R	R	R	R		R	R	R
	Latin America (EC)	G	G	G	G	G	G	G	G	R		R		
North America	Asia	G	G	G	G	G			G			G	G	
Latin America	North America				G	G				G		G	G	G

Forecast

Source: DHL Global Forwarding

Key themes
based on DHL Global Forwarding expertise

- **Capacity remains tight:** Carrier controls, vessel redeployments, congestion, and equipment shortages continue to suppress effective supply
- **Disruption remains structural:** Middle East instability, prolonged rerouting, and port congestion continue to extend transit times and reduce schedule reliability
- **Demand remains strong but uneven:** Robust demand across major Asia export trades continues to create booking backlogs, rollovers, and equipment imbalances, particularly on headhaul corridors
- **Rates remain elevated:** Tight space, resilient demand, and ongoing carrier surcharges continue to support firm freight rates across major trade lanes

Previously not assessed
G Capacity exceeds demand
Capacity and demand balanced
R Demand exceeds capacity

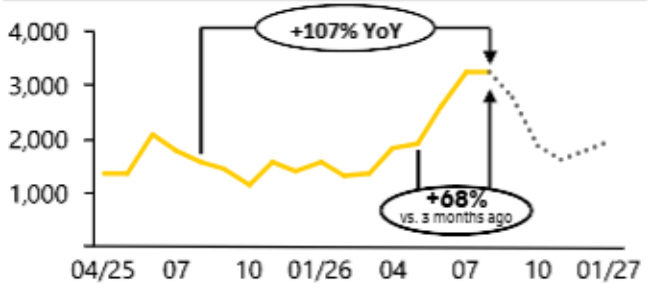


Freight Rates

Peak season is still around but becoming less intense as additional capacity arrives

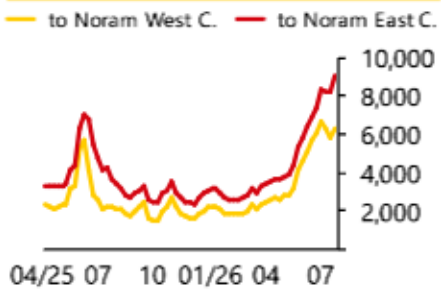
Rates are stabilizing on high levels, with gradually reducing rates as peak season is becoming less intense and extra loader capacity starts to alleviate demand surge on some trades

Shanghai Containerized Freight Index (SCFI)
in USD, weighted average of rates ex Shanghai



- Despite recent gradual decline, **rates have risen more than 100% YoY** and are **68% higher** compared to their level **3 months ago**
- **Peak season** gradually becoming less intense, with rates expected to reduce in the absence of disruption but remaining above 2025 levels

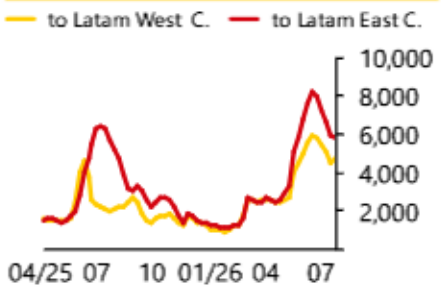
Rates to North America
2025-2026, in USD/FEU[1)]



Rates **are exceeding** tariff-induced spike from 2025:

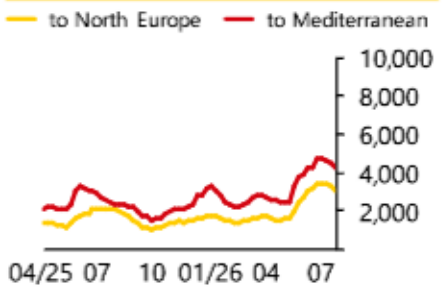
- **EC rates continue climbing** given strong demand and limited ability to add capacity
- **WC rates stabilizing**

Rates to Latin America
2025-2026, in USD/TEU



- **Asia-Latam** trade is also exceeding 2025 summer rates from capacity shortage
- **Rates are reducing from peak** as additional capacity is added

Rates to Europe
2025-2026, in USD/TEU



- **Rates slightly reducing** as carriers added capacity
- **Increasing port congestion on both ends of the trade** continues to reduce available capacity

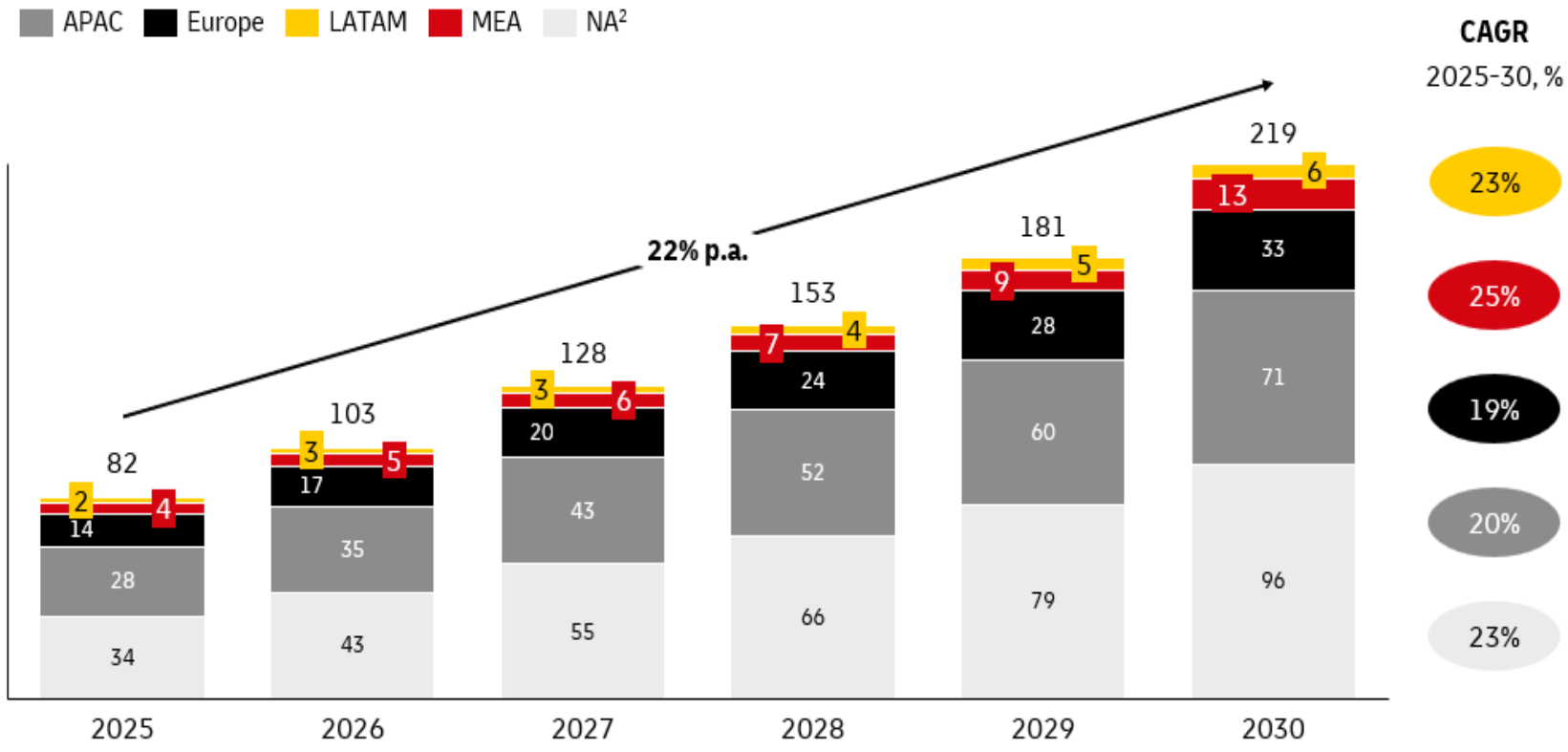
- **Freight rates have reached their summer peak** driven by demand, which has caused **rates to surge** as carriers were unable to inject more capacity
- As per SCFIS futures, **rates are expected to pull back as peak season becomes less intense** in the absence of further geopolitical disruption

Sources: DHL Global Forwarding, SCFI, Linerlytica; 1) 40-Foot Container Equivalent Unit



Market Dynamics

Global Data Center Demand expected to reach 219 GW by 2030



Source: McKinsey Data Center Demand Model, McKinsey Data Center Capex model, Turner & Townsend



~$70 -100bn **Est. cumulative transportation spend 2025-2030**

Logistics remains mission-critical

1. Includes both owned and third-party / leased data centers
2. Skews very heavily towards the US (vs. Canada / Mexico)



Market Dynamics – Technology Sector Trends (2025 – 2030)

Summary of Trend Landscape

The key trends with the broadest Impact

AI & Semicon Driving Explosive Growth

AI accelerating demand for chips, data centers, and advanced electronics
- Supply chains remain tight, high-value, and precision-driven

Logistics Implication

- Premium on speed, reliability, and secure capacity
- Shift toward high-value, time-critical and specialized handling

Supply Chains Becoming Regional & More Complex

Shift from global to regional / “local-for-local” manufacturing
- Rising geopolitical risk, dual sourcing, and network diversification

Logistics Implication

- Shift to flexible networks with multiple routes and touchpoints
- Forwarders become end-to-end coordinators of complex supply chains

Digital & AI Redefining Supply Chains

Visibility, automation, and predictive insights becoming baseline requirements
- Integration into customer digital ecosystems increasingly critical

Logistics Implication

- Differentiation moves to data, visibility, and control towers
- Logistics becomes a strategic partner, not just execution provider





VOC & Competitive Landscape

Voice of Customer in DC Industry

Commercial:

85% want end-to-end (E2E) logistics provider;

only ***43%*** have one today

Top priorities:

1) Transport & freight,
2) Warehousing & staging
3) White-glove
4) Rack-and-Stack

Account Management:

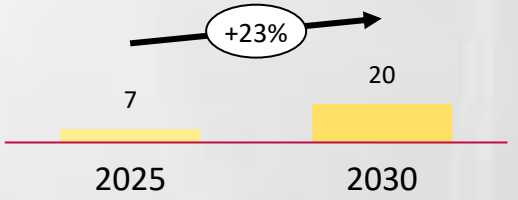
- 90% value a single account manager; 80% value a single ops contact

Common Service Needs points:

- Exceptional Customer service & Ccommunication,
- Full E2E offering

Market Forecast & Expectations

US DC logistics market (in $bn):



Hyperscalers with ~60-65% of overall market spend in logistics



Spend mix: Transport (~48%), Warehousing (~24%), VAS (~28%)



Every DC is a complex global Supply Chain

High-value technology.

Mission-critical equipment.

Data Center Logistics

Time-sensitive deployments.

Customers who cannot afford delays.

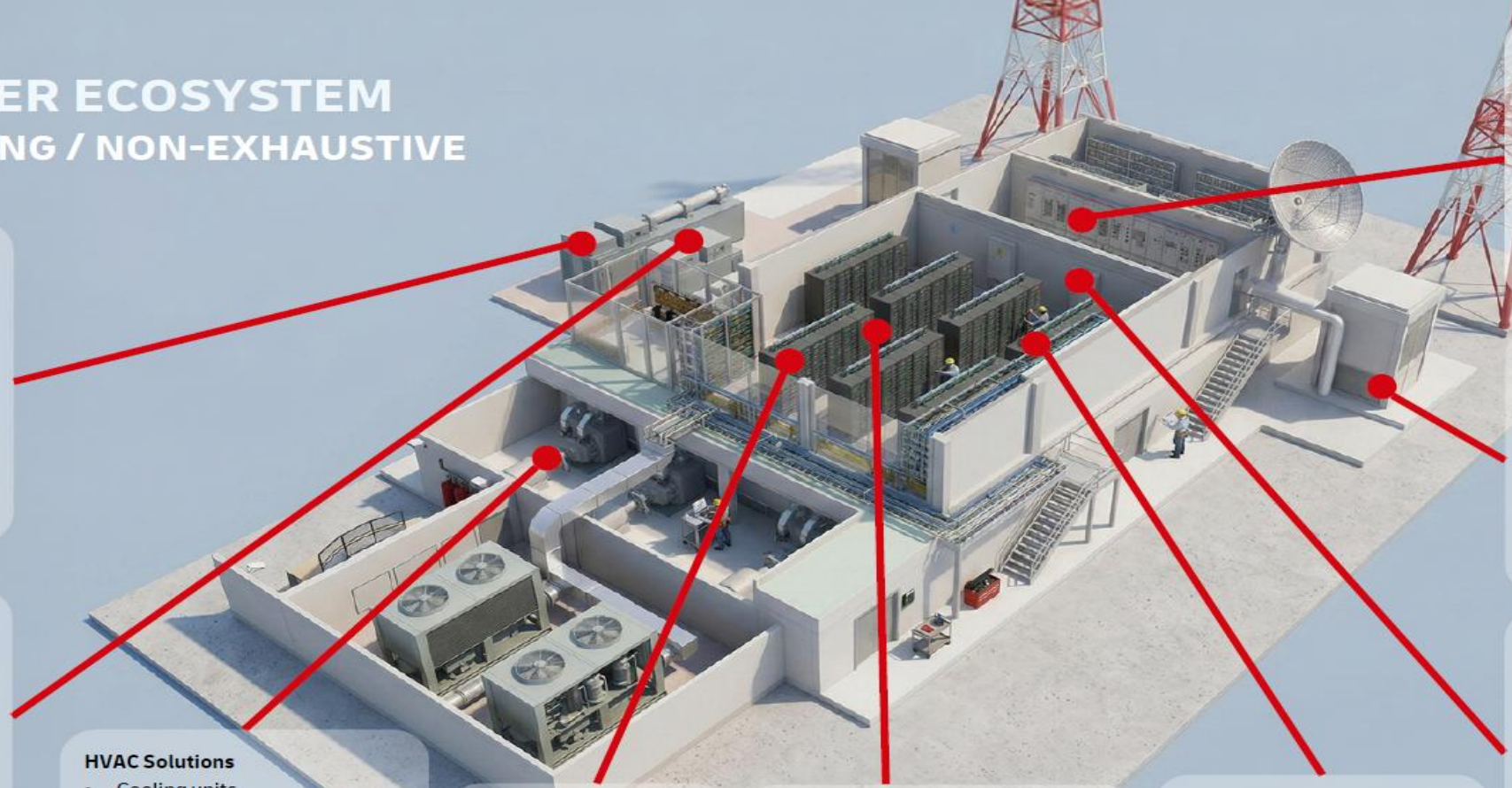
A single missed delivery

- can delay a deployment,
- leave valuable capacity unused,
- or impact continuous operations.



DATA CENTER ECOSYSTEM

UNDERSTANDING / NON-EXHAUSTIVE



Uninterruptible Power Systems

- UPS products
- Diesel generators
- Batteries
- Service Contracts
- Transfer Switches

Backup Power

- Diesel generators
- Electrification
- Gas turbines

CM's

- Original Equipment
- Manufacturers, Contract MFG
- Server Rack Integrators.

HVAC Solutions

- Cooling units
- EFF1 electric motors
- Variable speed drive
- PLCs
- Components for control panels

Semiconductors

- CPU's
- GPU's
- RAM Memory
- Storage

Server Cabinets

- Servers
- Racks
- Communication cabling
- Lighting system

Building Automation

- Remote power panels
- Power measurement
- KNX/EIB
- Data communication

LV Power Distribution

- LV Switchgear & MCCs
- Intelligent PDUs
- Active filters
- Power factor correction
- Network analyzer

MV Power Distribution

MV switchgear & MCC:

- Active voltage conditioning
- Network management

Security Systems

- Fire protection
- Security alarms/cameras
- Cybersecurity hardware

Colocation Providers

- Lease white space, power, cooling to multiple tenants.

EXCELLENCE. SIMPLY DELIVERED.

SUPPLY CHAIN STRATEGIES FOR
SCALING DATA CENTRE DELIVERY & MANAGING RISK



Logistics – Management of a Data Centre

Data centre operators must carefully balance delivery timing, specialised equipment handling, and site infrastructure limits.

Delivery Timing and Synchronization

- Just-in- time delivery – impeccable coordination
- Construction sequencing & standardized workflows: end-to-end delivery

Equipment Sensitivity and Transportation

- Fragile Hardware – prevention of micro fractures / white glove services
- Heavy infrastructure – site heavy lift capacities

Site Access and Utilities

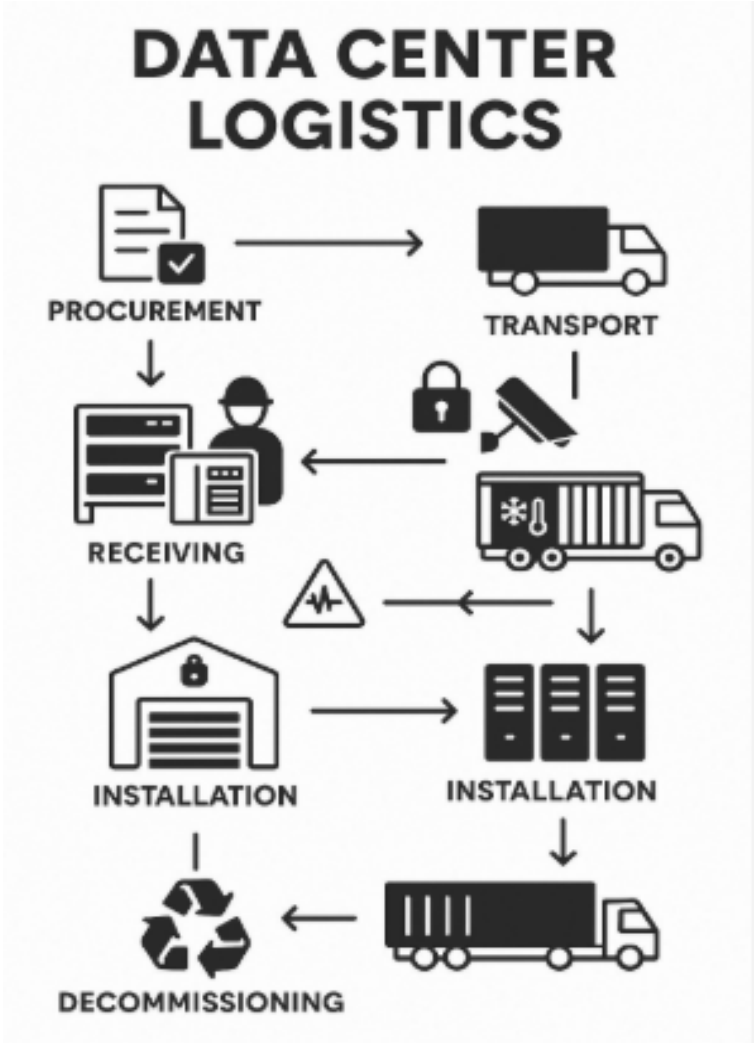
- Transportation constraints – vehicle access
- Power & Grid proximity - components staging and running

Compliance and Sustainability

- Cross-border Customs – efficient, accurate Customs clearance
- Packaging and waste management – reusable or recyclable

Optimize for efficiency and performance.

- Ensure high uptime and reliability
- tightly controlled operations, precise planning, and accurate resource usage





Supply Chain Diversification

What is supply chain diversification?

At DHL, we define supply chain diversification as a proactive strategy that involves embedding one or more of four dimensions into the supply chain network:

- multi-shoring,
- multi-sourcing,
- adding modes of transport,
- diversifying logistics operations.

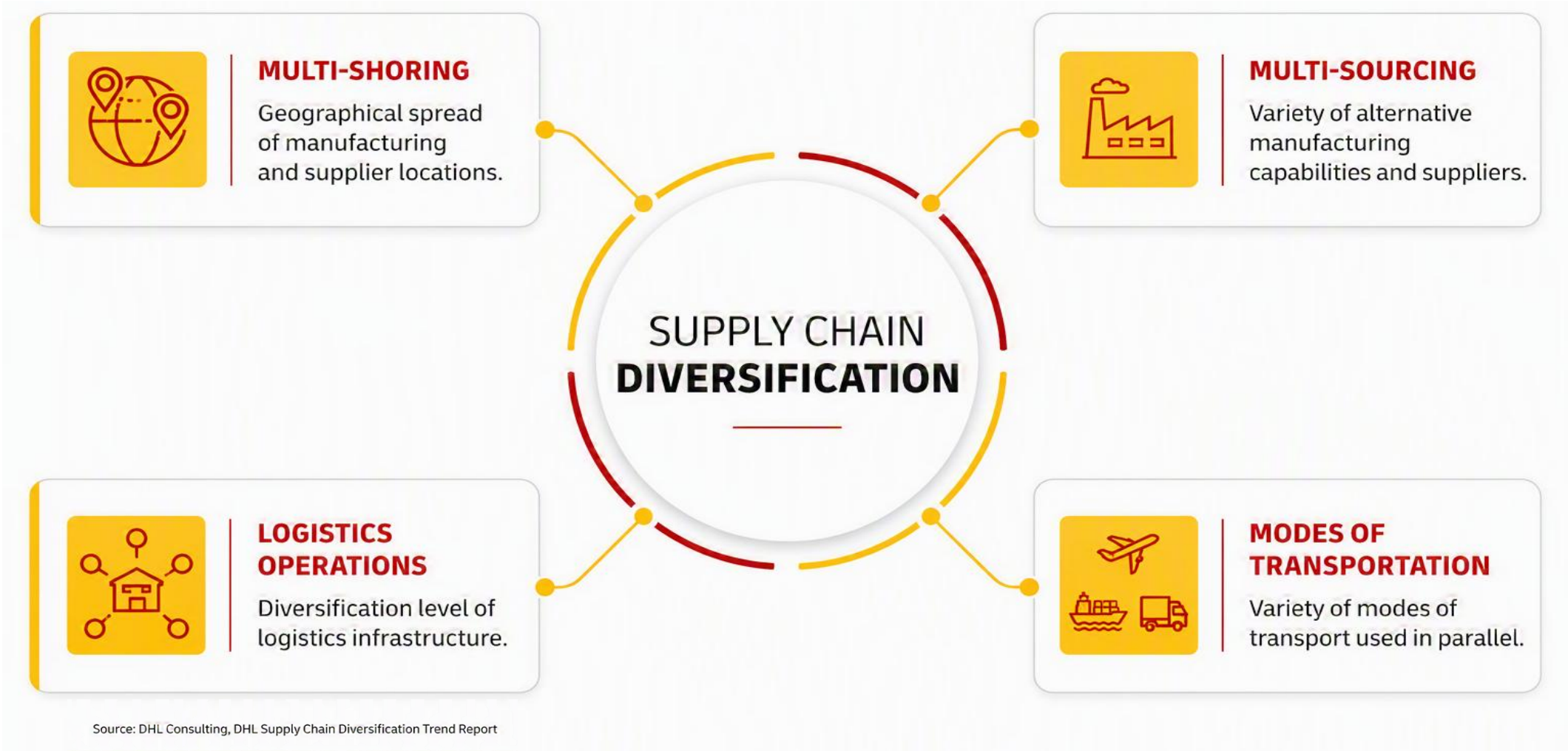
Overall, supply chain diversification is about developing flexibility and redundancy to reduce risk while increasing agility and resilience in a sustainable way.

A diversified supply chain is an enabler, giving companies the tools and options, they need to respond to external shocks, changing customer needs and market developments.

It’s important to note that supply chain diversification is facilitated by state-of-the-art technology and proactive relationship management and depends on multi-stakeholder collaboration.



Supply Chain Diversification



Source: DHL Consulting, DHL Supply Chain Diversification Trend Report



Predictive Analytics for Demand Forecasting
Reduce Logistics Risk / Increase Resilience

Network Mapping



Create a digital twin of your network to detect vulnerabilities and optimize supply and...

Global Monitoring & Alerting



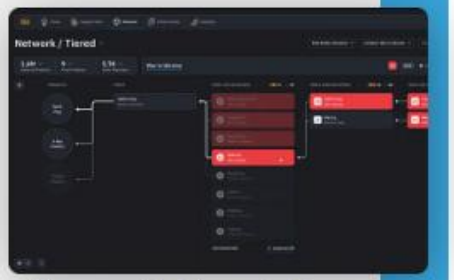
AI-driven risk alerts and insights for suppliers, shipments, and locations, 24/7.

Risk Assessment



Automated scorecards to assess supplier vulnerability with predictive modeling and...

Sub-Tier Visibility



Uncover hidden sub-tier relationships to enhance compliance, sourcing, and risk management.

Insights-to-Action



Integrate AI insights into planning and execution systems for real-time decision optimization.



THANK YOU





SUPPLY CHAIN STRATEGIES FOR
SCALING DATA CENTRE DELIVERY & MANAGING RISK

