



cargo facts *asia* 2024



World Air Cargo Market Update

Tom Hoang
Regional Director, Market Analysis – Air Cargo
Boeing Commercial Airplanes
April 17, 2024
Singapore

Agenda

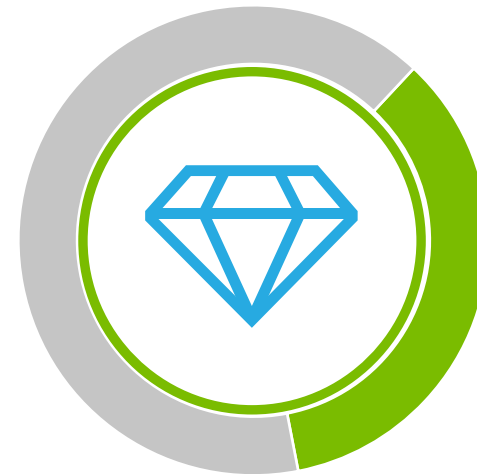


- Current state of the world air cargo market
- E-commerce and air cargo
- Boeing freighter family update



Air cargo has a unique role in global trade

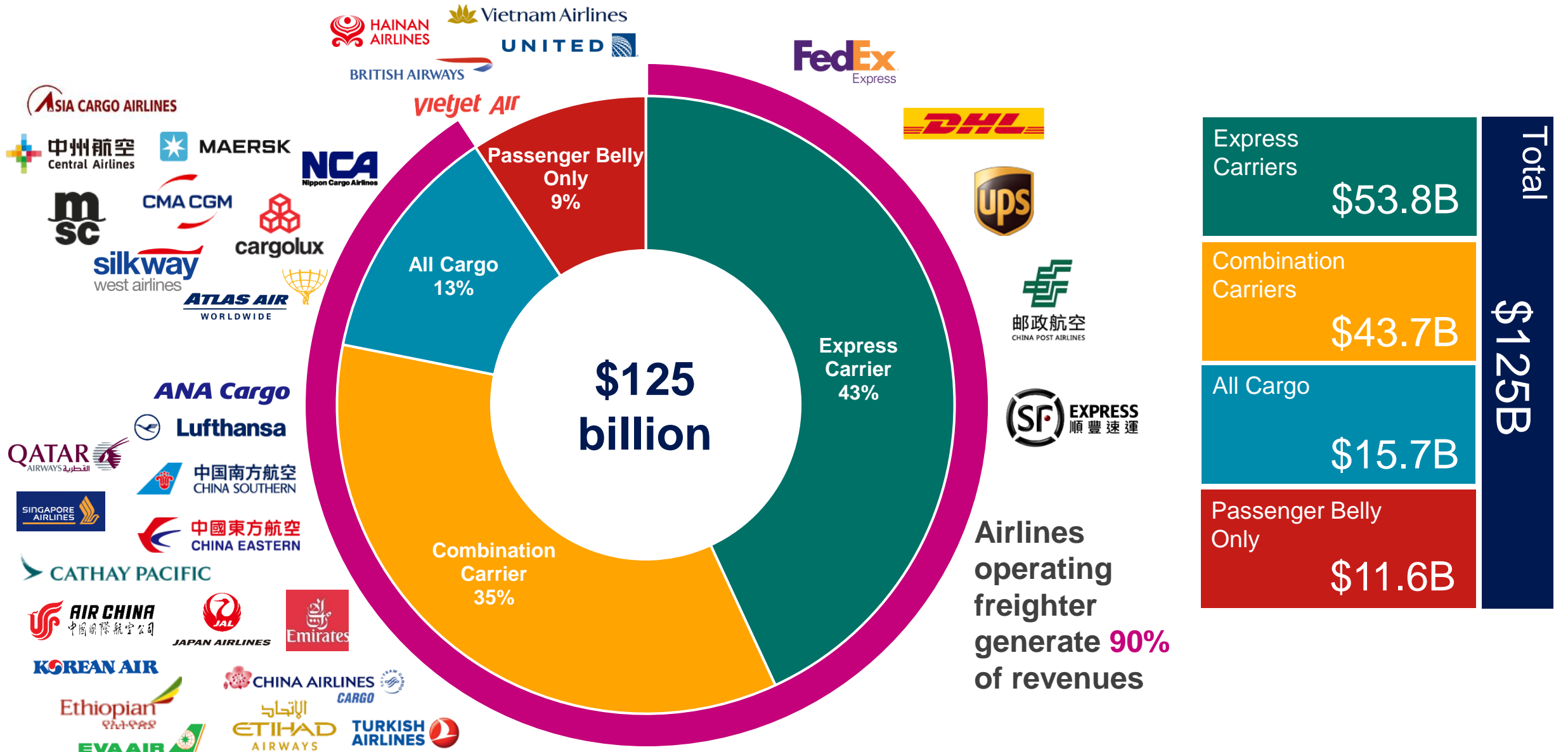
<1%
of reported world
trade **TONNAGE**
is carried by
Air Cargo



35%
of reported world
trade **VALUE**
is carried by
Air Cargo

SOURCES: IATA, ICAO, Flight Global, U.S. DOT, and airline financial reports, Boeing analysis

World air cargo industry is a \$125 billion a year industry



SOURCE: IATA, Cirium, U.S. DOT F41, and airline financial reports for 2023 cargo revenue

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Freighters play a key role in air cargo

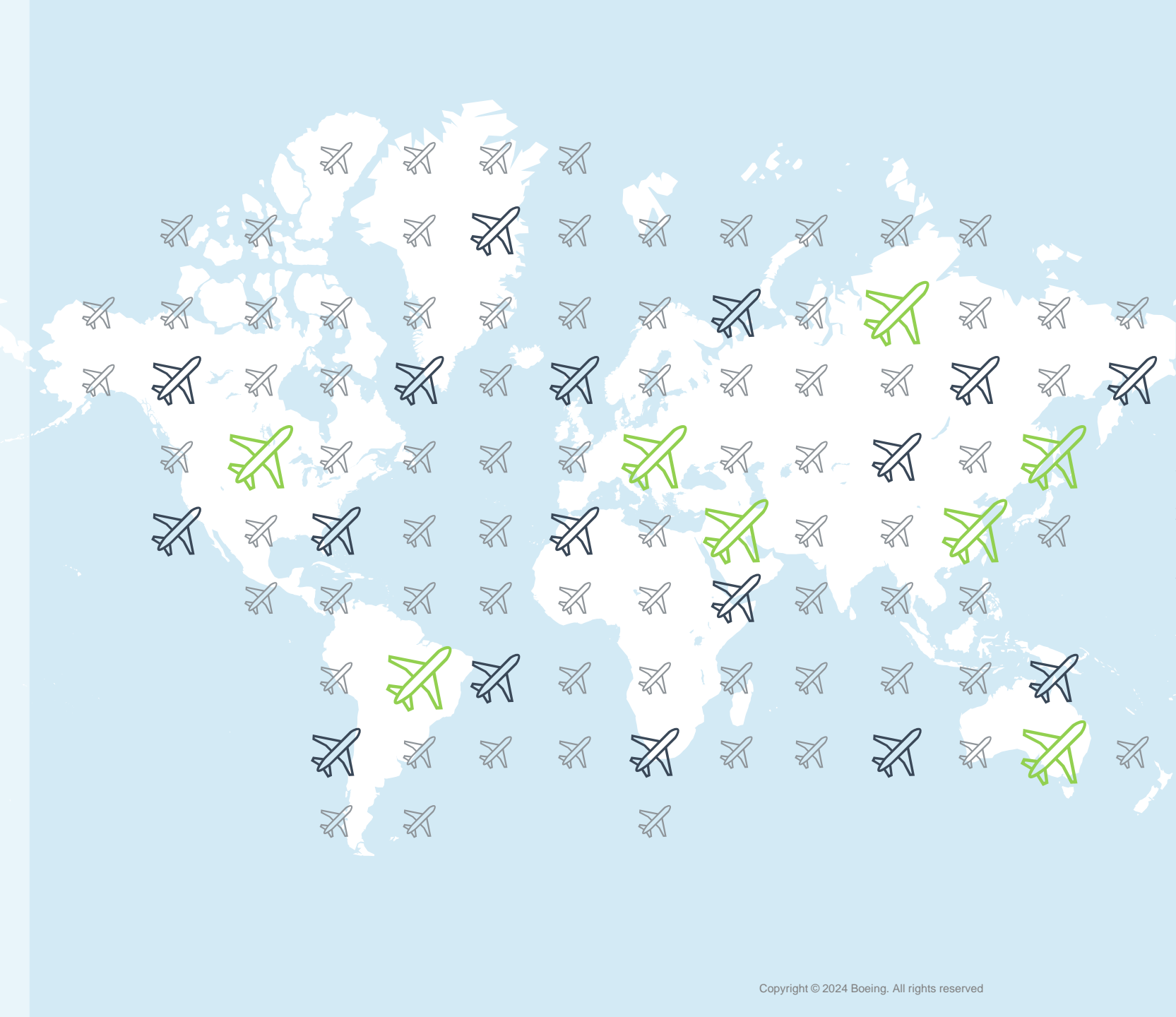
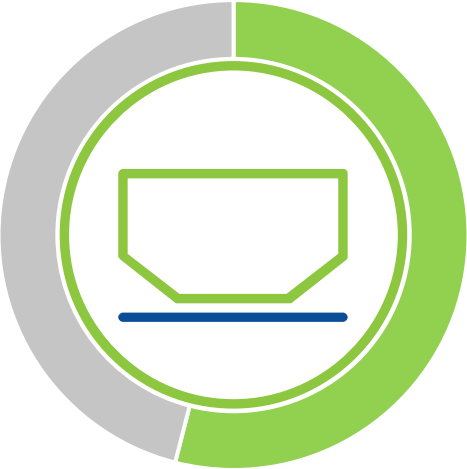
<8%

of commercial jet
AIRCRAFT
are
Freighters



54%

of air cargo
TRAFFIC
is carried by
Freighters

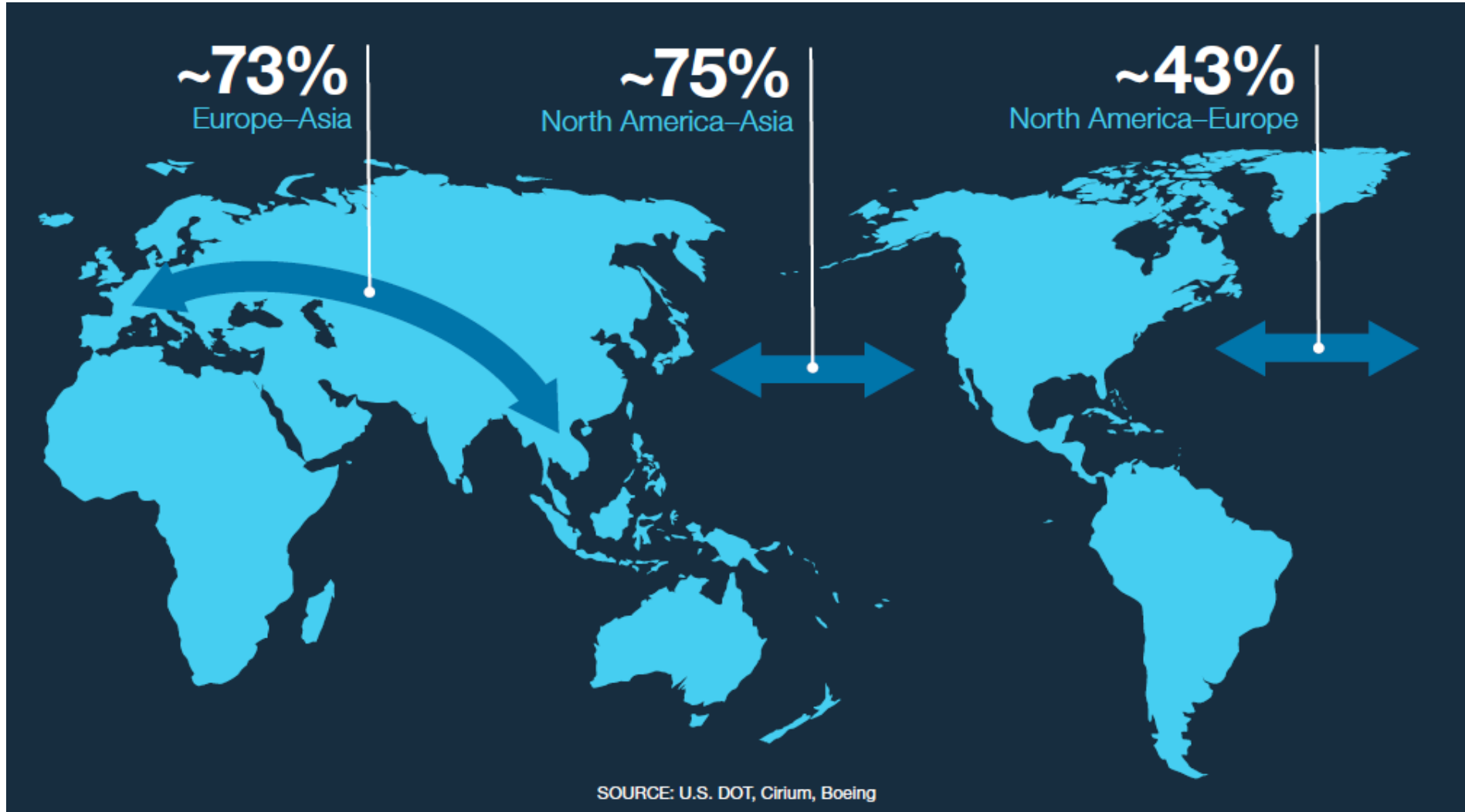


SOURCES: Cirium, Boeing analysis for 2019

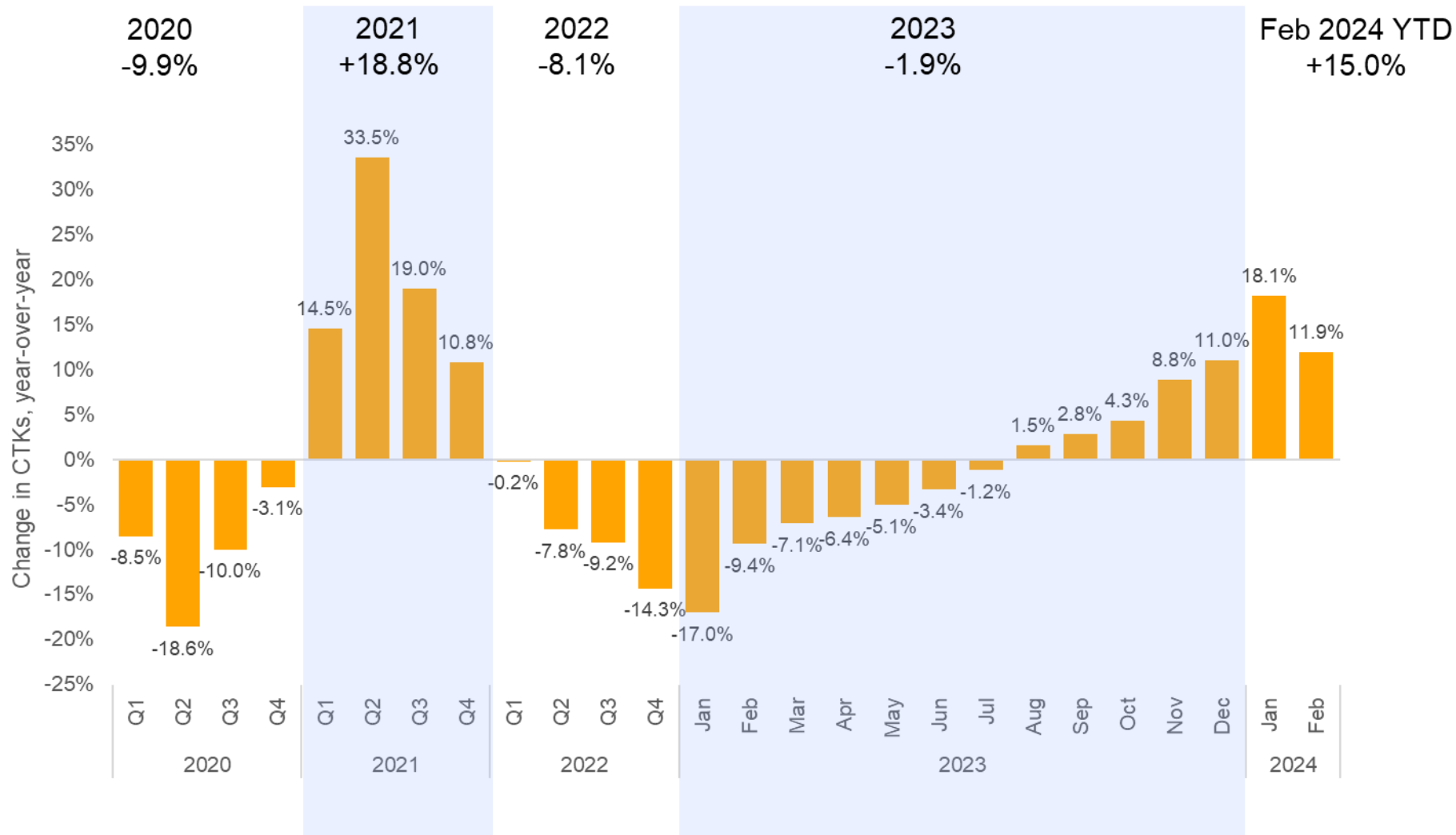
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Freighters play key role in major East-West markets

Share of air cargo traffic carried on freighters



World air cargo traffic recovering after bottoming out in January 2023



Source: IATA Monthly Tracker

Source://cargotrends.in/news/air-cargo-market-sustained-its-third-consecutive-month-of-11-demand-growth-in-march

World air cargo demand increases 11% in March according to Xeneta

“Global air cargo market demand rose +11% year-on-year for a third consecutive month in March, driven by buoyant e-commerce volumes and concerns over conflict in the Red Sea region impacting ocean freight services.

In typically weaker months for the airfreight industry, higher volumes in Q1 outpaced capacity growth (+8% YoY), resulting in a +2% pts YoY increase in the global dynamic load factor to 59%.

The surge in airfreight demand was influenced by increased volumes from the Middle East and South Asia, as shippers shifted from ocean to air to avoid Red Sea delays, alongside continuous e-commerce growth.

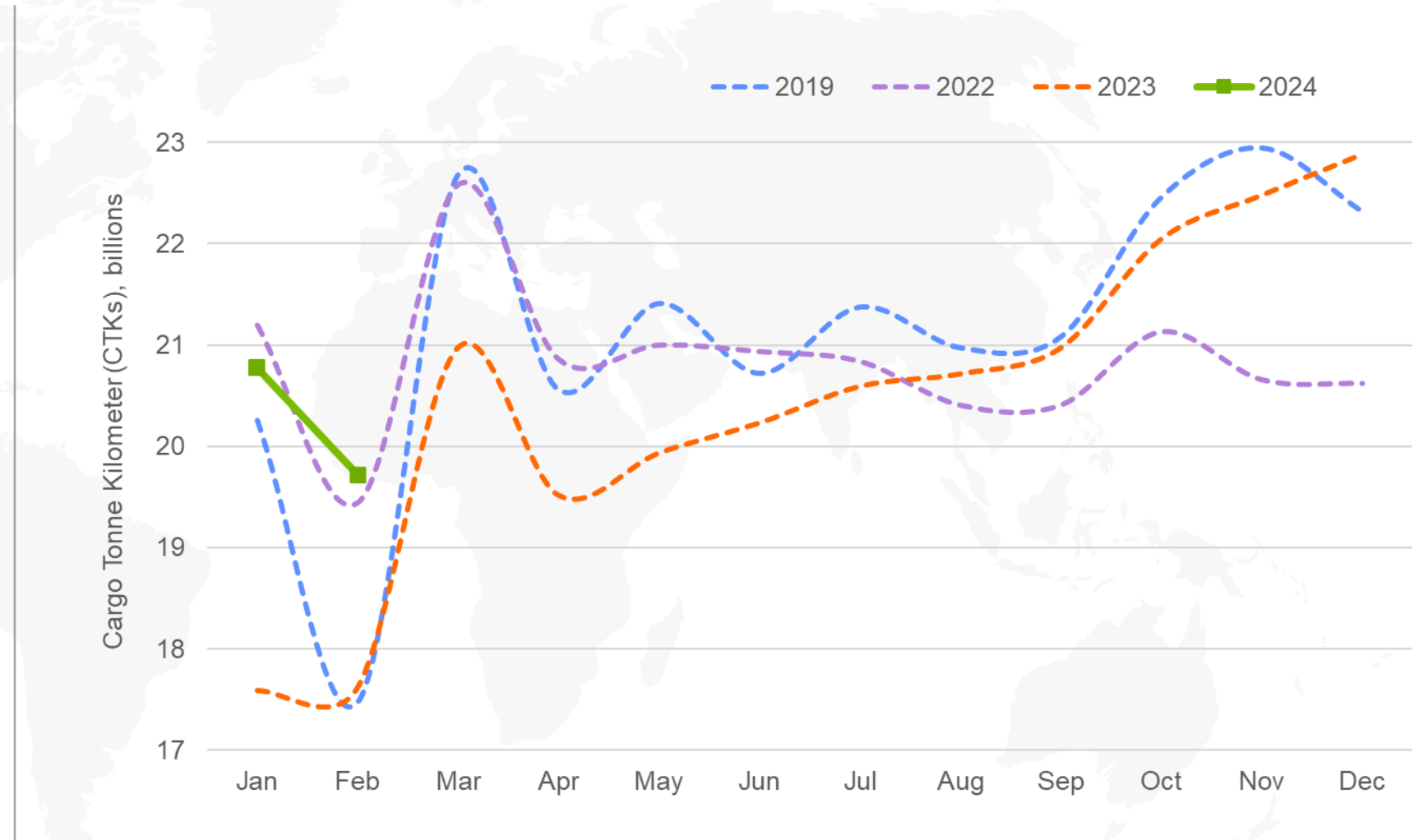
March saw the average global airfreight spot rate rise +7% to USD 2.43 per kg, with the Middle East and South Asia to Europe corridor experiencing significant rate increases (+46% month-on-month to USD 2.82 per kg).”

World air cargo traffic continues to recover from 2023 lows

World air cargo traffic grew

+7.3%

for Jan-Feb 2024 vs. Jan-Feb 2019



World trade growth to recover towards trend in 2024

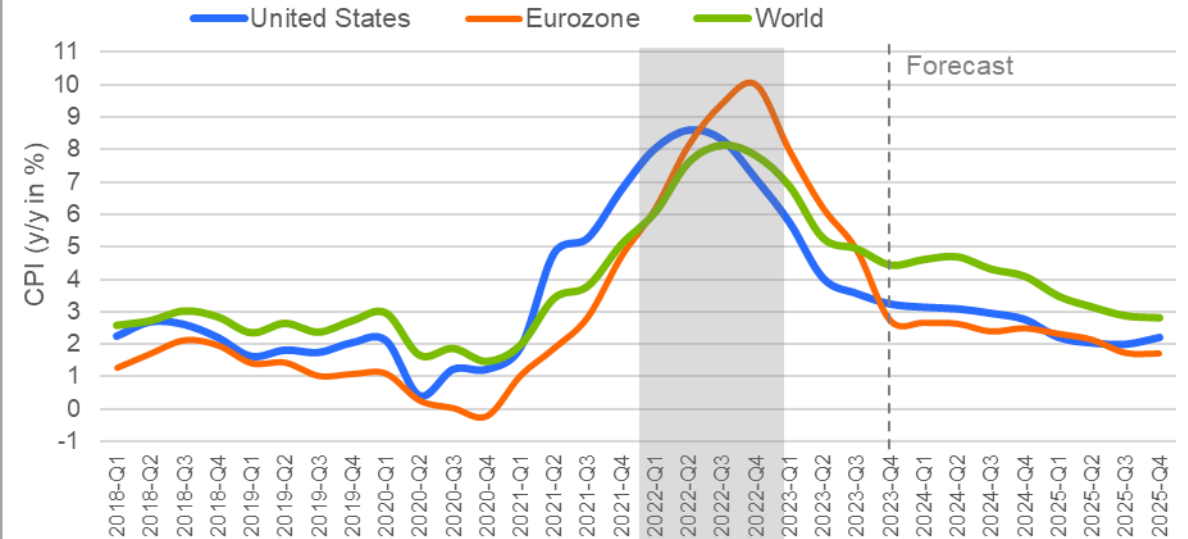


Note: Figures for 2023 and 2024 are projections.

Source: WTO for merchandise trade volume

Source: https://www.wto.org/english/blogs_e/ce_ralph_ossa_e/blog_ro_05oct23_e.htm

Inflation is past its peak in major economies



Sources: S&P Global Market Intelligence, March 2024

Global semiconductor sales is projected to grow by 16.8% in 2024, reaching \$624 billion



Source: Gartner (December 2023)

- The 2020-2023 global semiconductor shortage affected about 170 industries
- Consumer electronics accounts for the largest share of microchips at ~50%
- Automakers are the second largest, accounting for ~15% of the supply
- S&P Global Mobility estimates in 2021 that more than 9.5 millions units of global light-vehicle production was lost as a direct result in the semiconductor shortage

Consumer electronics, transportation equip/parts, and machinery & electrical equip account for ~40% of air cargo tonnes

IATA forecast world air cargo traffic to grow 4.5% for 2024



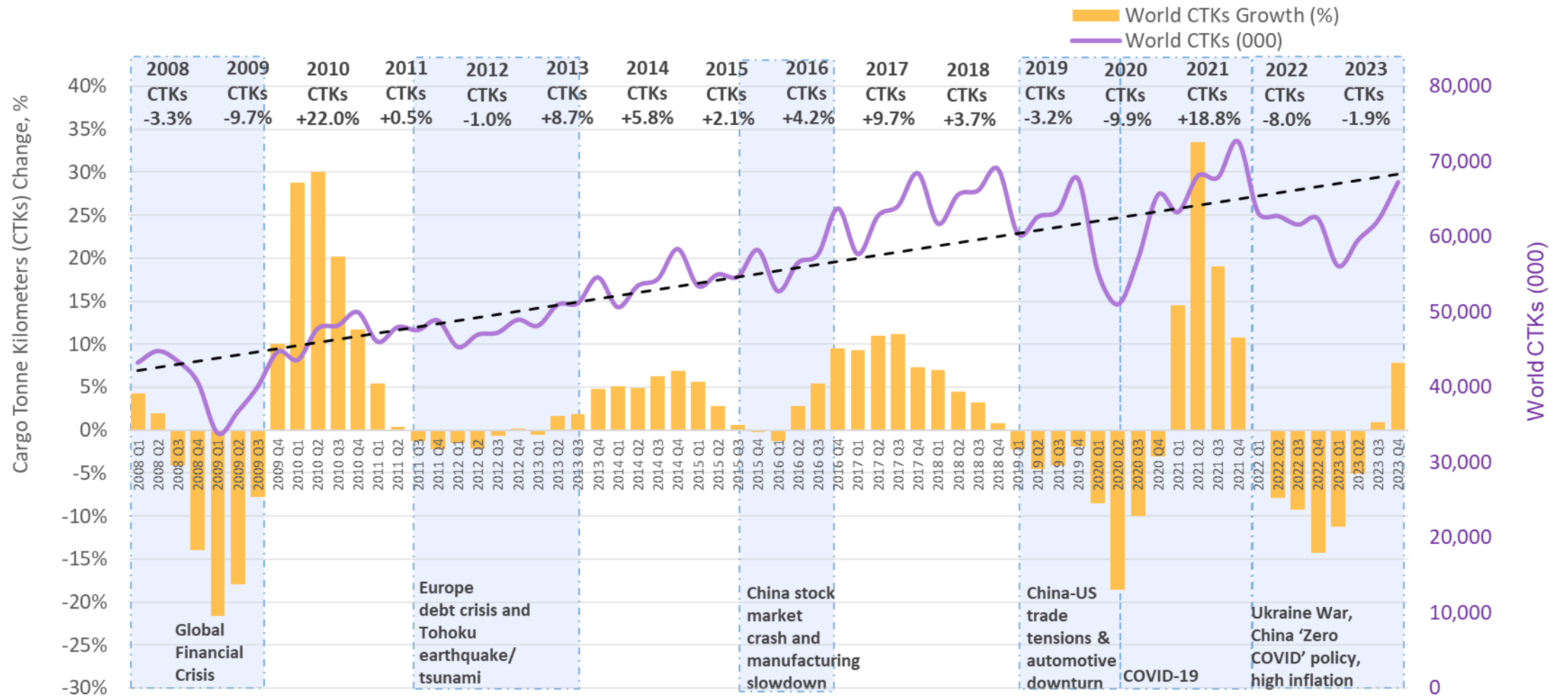
Industry Statistics

Fact Sheet

December 2023

System wide global commercial airlines	2019	2020	2021	2022	2023E	2024F
REVENUES, \$ billion	838	384	513	736	896	964
% change y-o-y	3.2%	-54.1%	33.4%	43.6%	21.7%	7.6%
% change vs 2019		-54.1%	-38.8%	-12.2%	6.9%	15.0%
Passenger, \$ billion	607	189	242	436	642	717
Cargo, \$ billion	100.8	140.4	210.0	206.5	134.7	111.4
Traffic volumes						
Passenger growth, RPK, %ch y-o-y	4.1%	-65.8%	21.8%	64.9%	38.4%	9.8%
% ch vs 2019				-31.2%	-4.8%	4.5%
Sched passenger numbers, millions	4,543	1,757	2,291	3,486	4,287	4,708
Cargo growth, CTK+MTK, %ch y-o-y	-3.2%	-9.9%	18.8%	-8.1%	-3.7%	4.5%
%ch vs 2019				-1.7%	-5.4%	-1.1%
World economic growth, %ch y-o-y nominal	1.7%	-2.5%	13.6%	5.4%	4.3%	5.0%
Passenger yield, %ch y-o-y	-3.7%	-9.1%	5.0%	9.5%	6.2%	1.8%
Cargo yield %ch y-o-y	-8.2%	54.7%	25.9%	7.0%	-32.2%	-20.9%

World air cargo market is resilient despite current difficulties

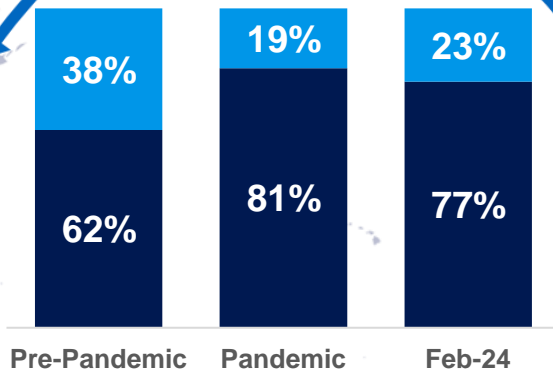


Source: IATA MonthlyTracker

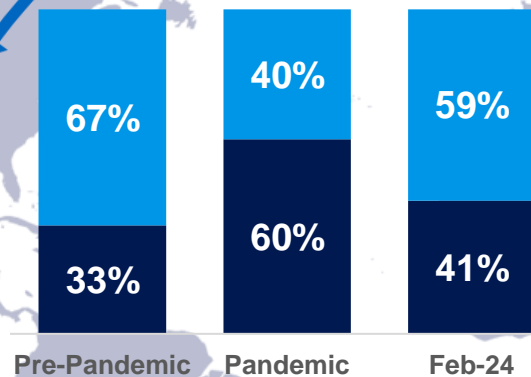
Industry remains reliant on freighters, even as passenger widebody capacity returns

Freighter vs. Passenger Widebody Cargo Capacity Share (%)

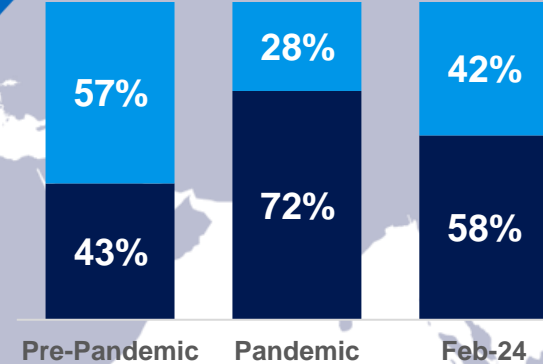
Transpacific



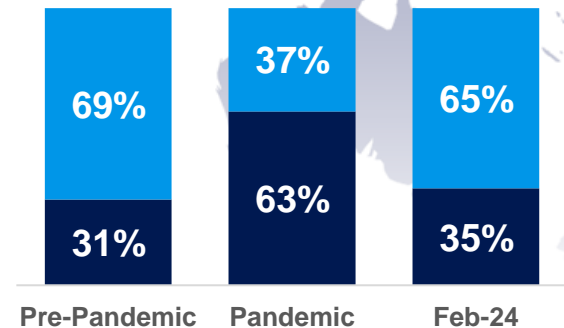
Transatlantic



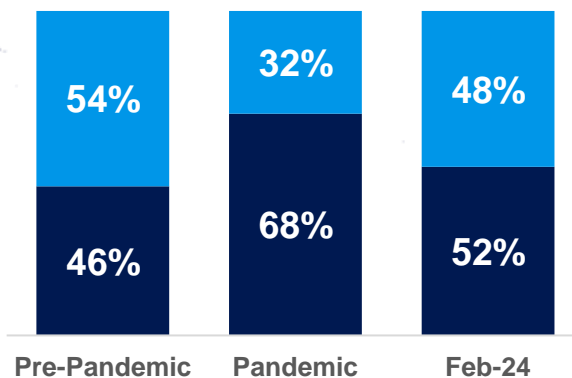
Europe – East Asia



Intra-East Asia



World



SOURCES: BR&T-E ADAPT/FlightRadar24

Pre-Pandemic = March 2018 to February 2020 | Pandemic = March 2020 to February 2022

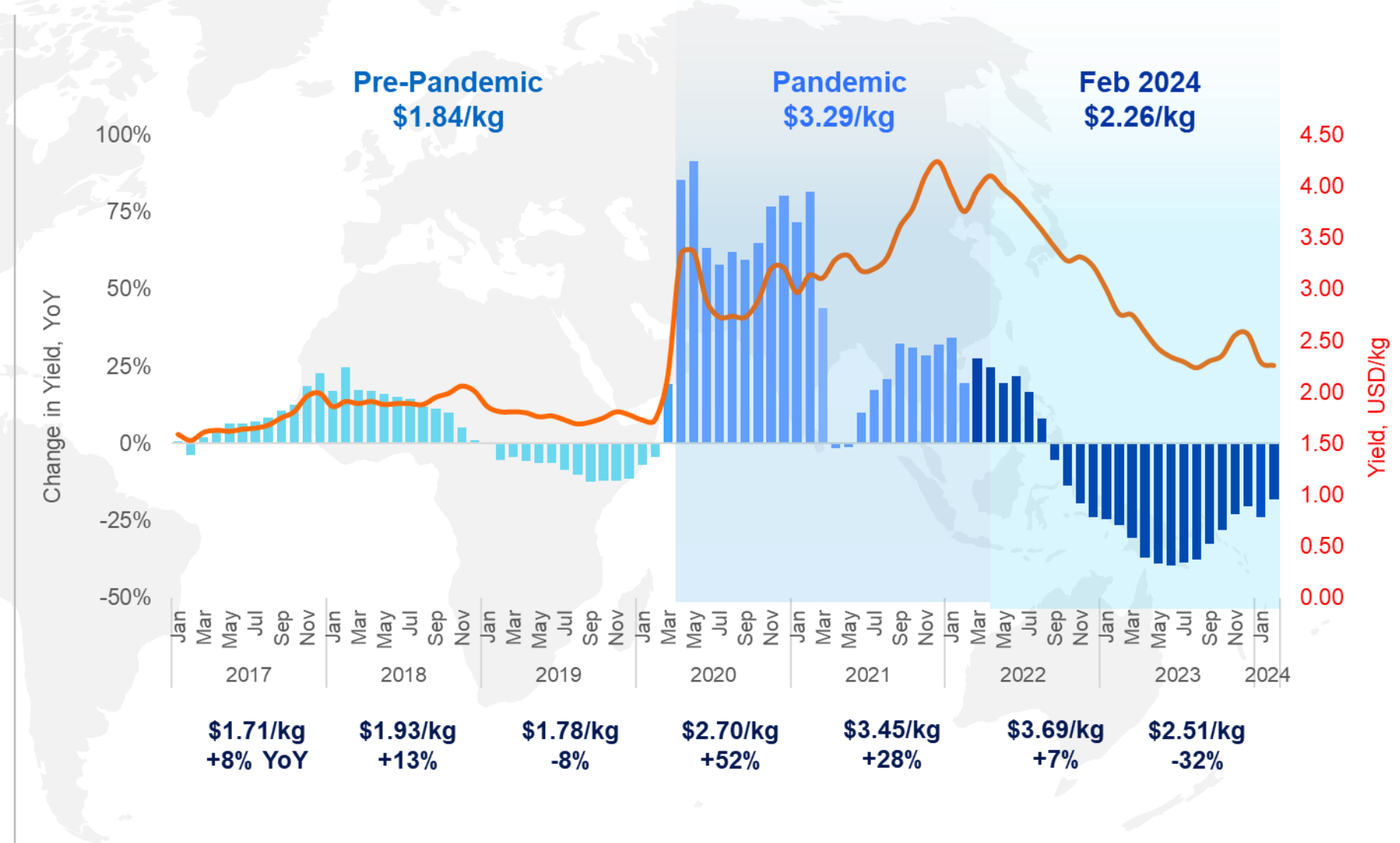
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Global air cargo yields remain elevated

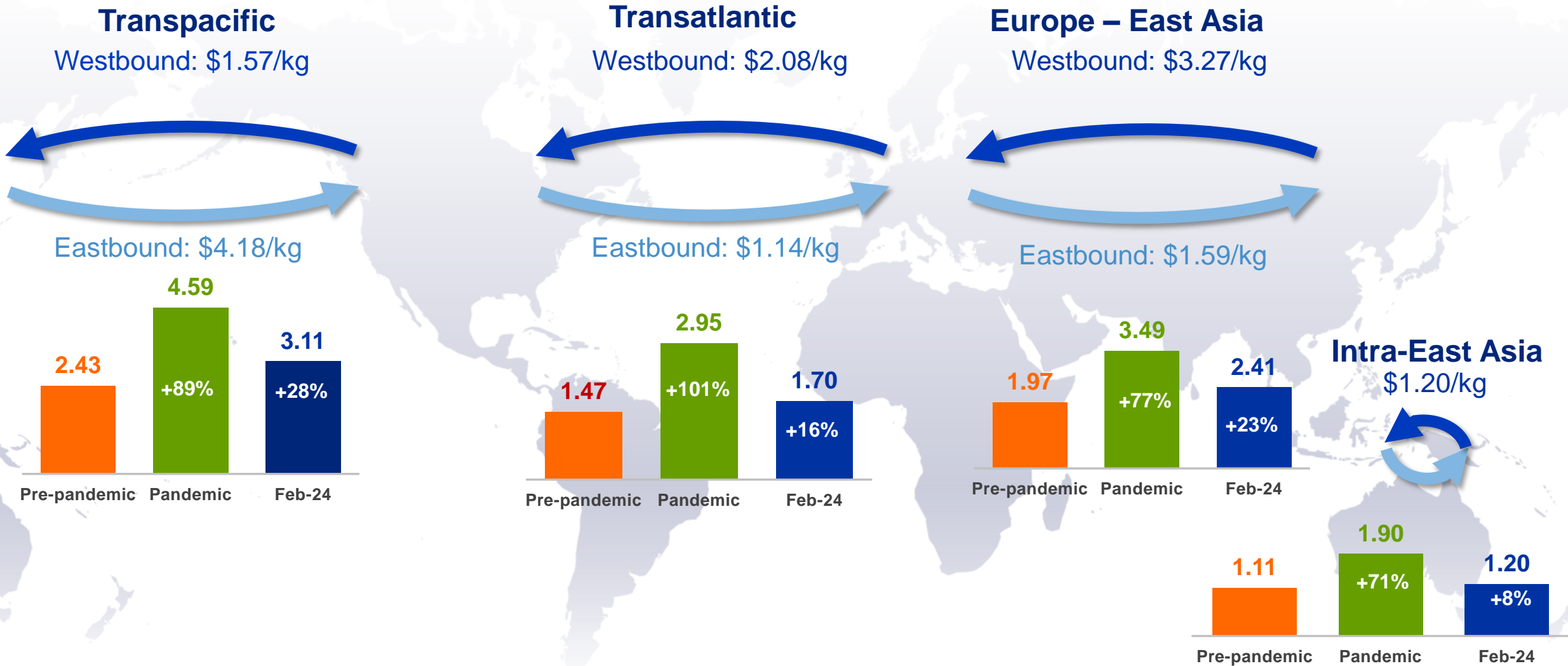
February 2024 global air cargo yield remains

+23%

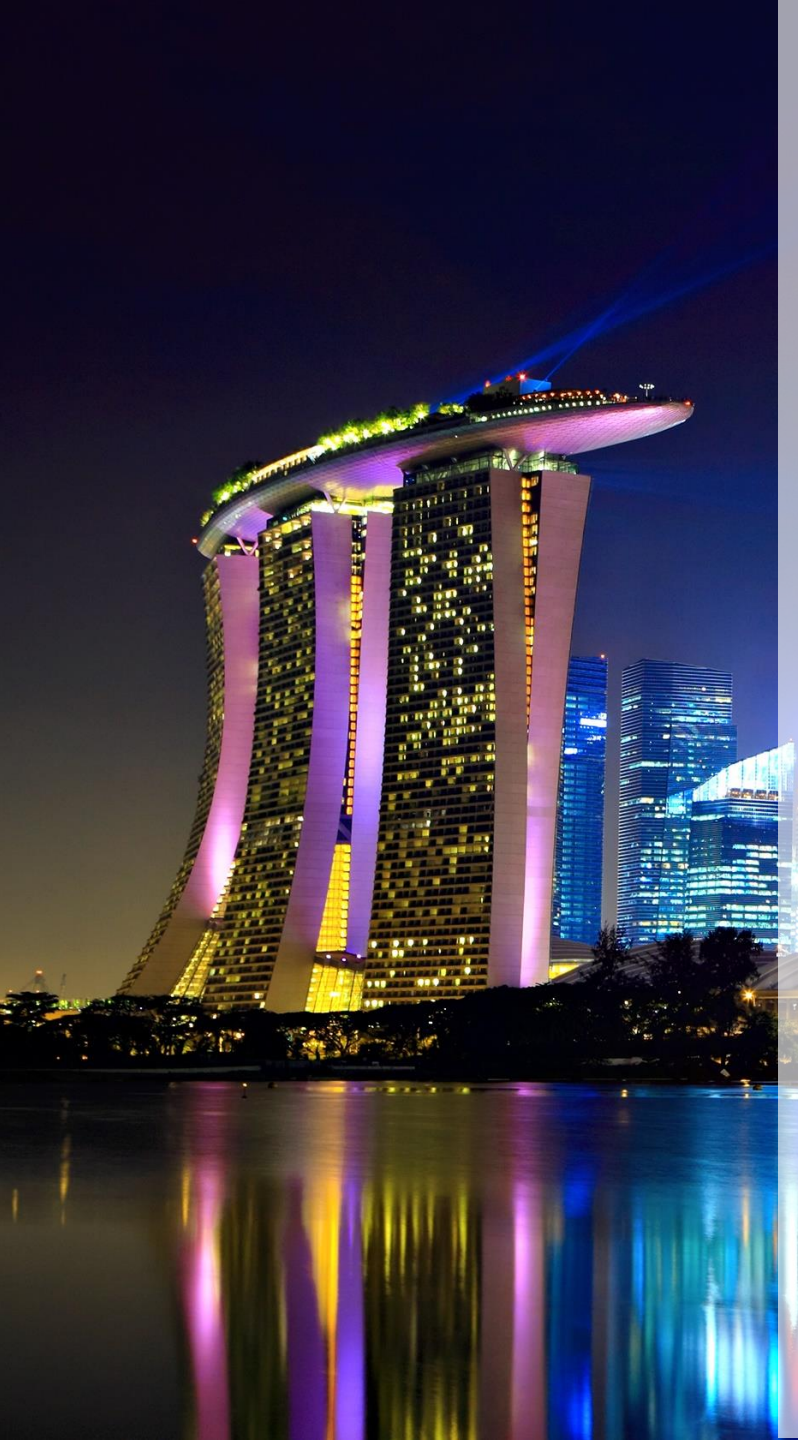
higher than the pre-pandemic average



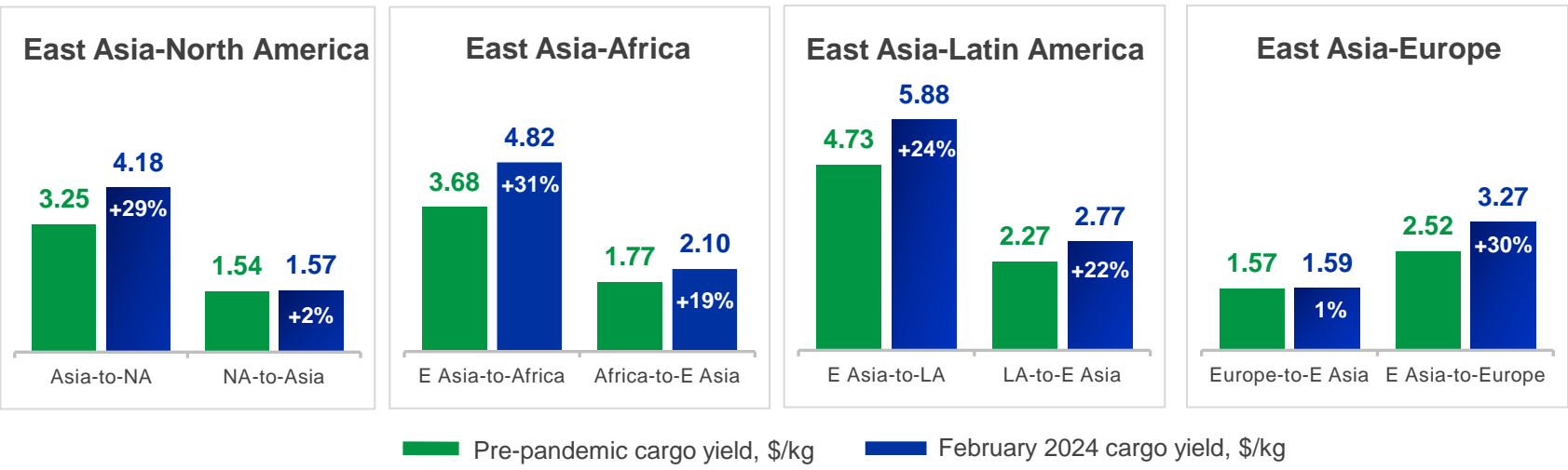
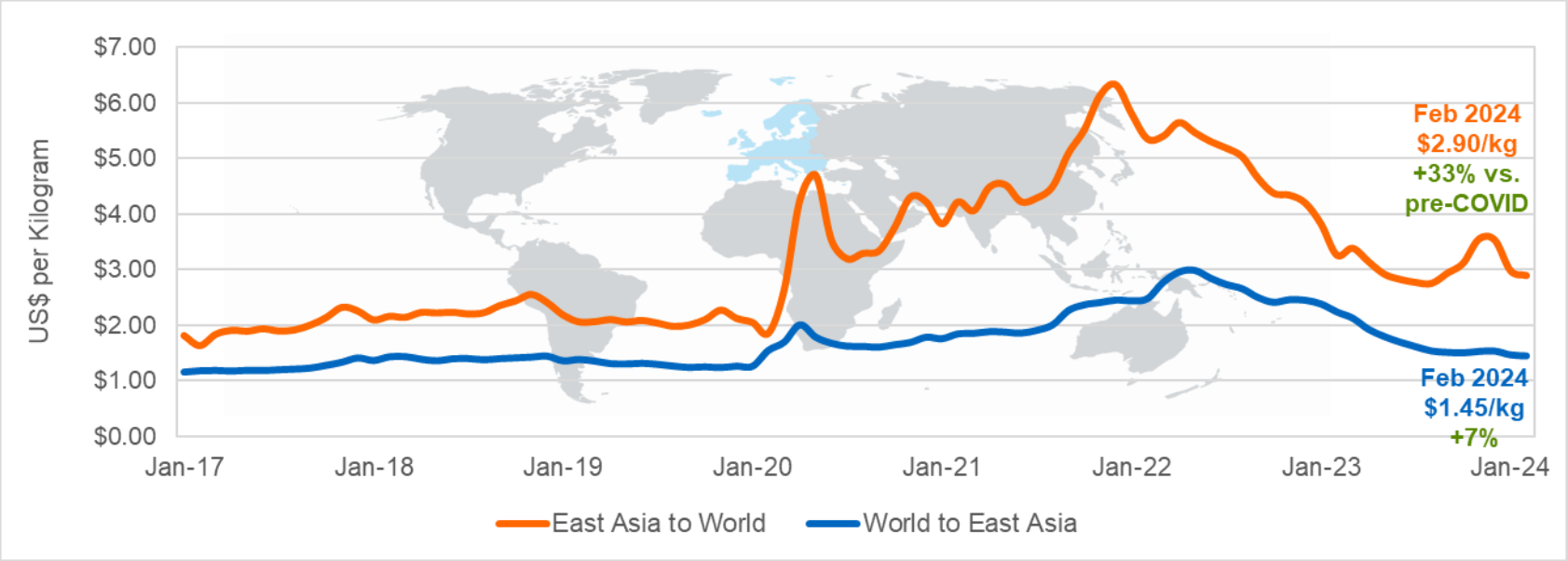
Air cargo yields remain above pre-pandemic levels



SOURCE: IATA CargoIS; *Pre-Pandemic* = March 2018 to February 2020 | *Pandemic* = March 2020 to February 2022



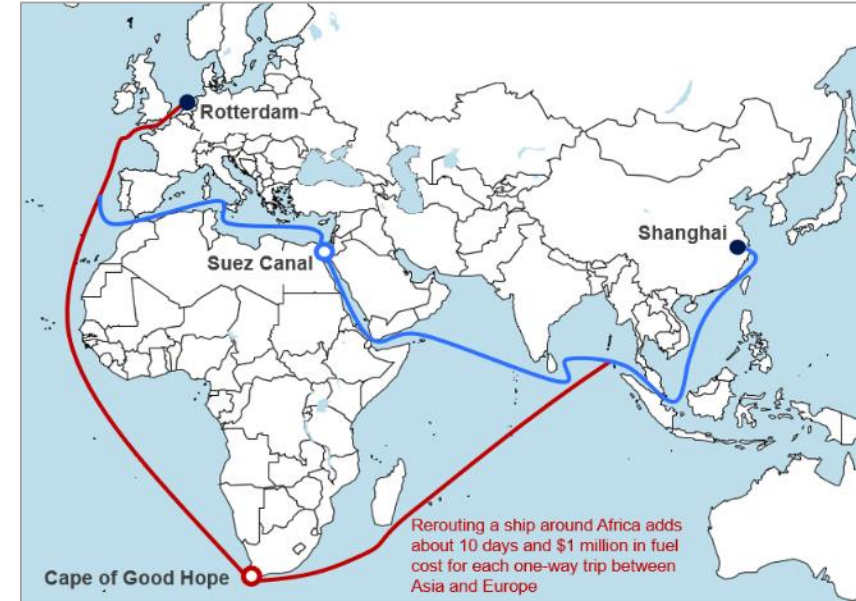
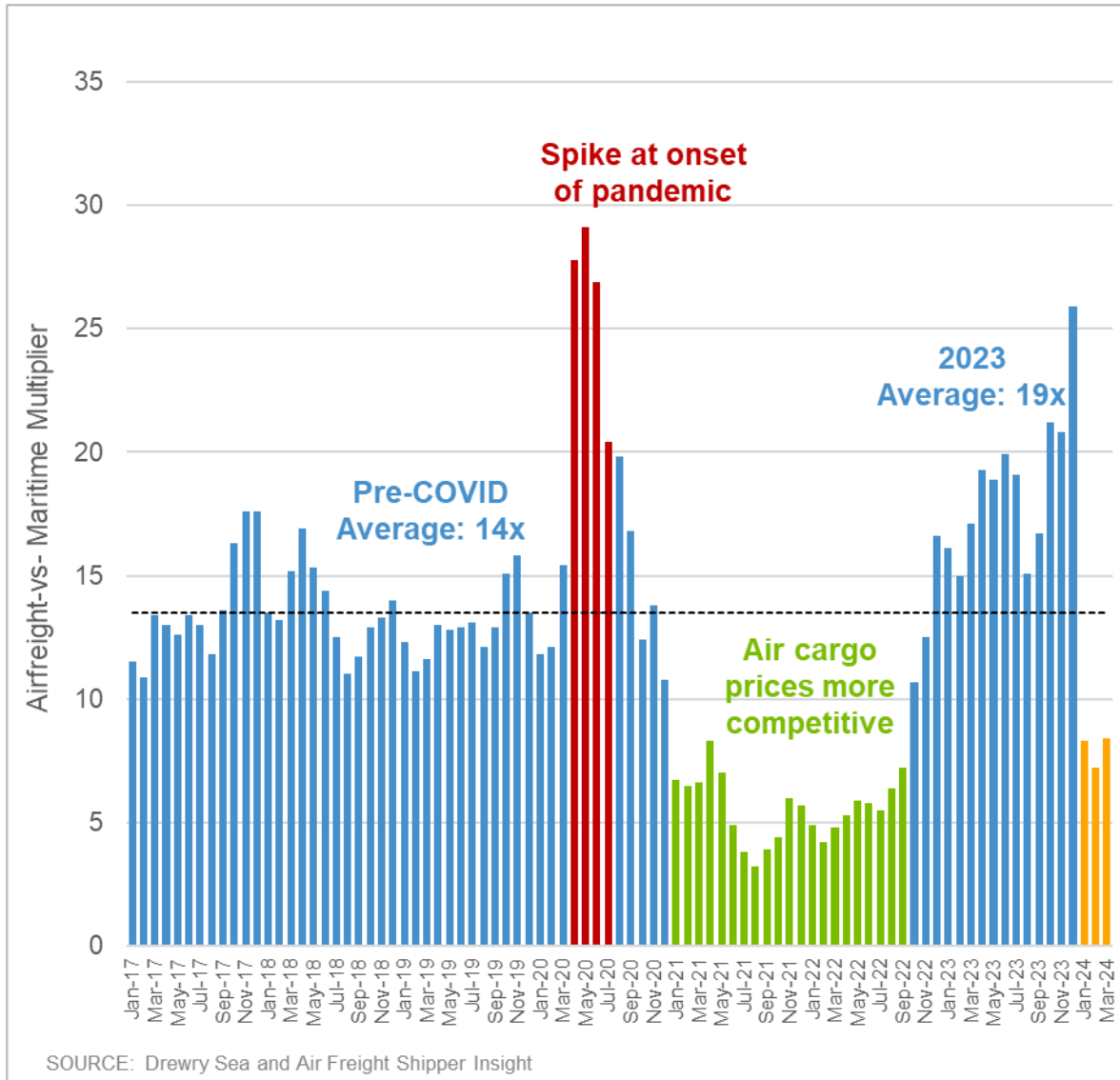
East Asia air cargo yield is 27% above pre-pandemic levels



SOURCE: IATA CargoS; *Pre-Pandemic* = March 2018 to February 2020

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Watch Item: Red Sea disruptions and its potential impact to air cargo



- The Red Sea is the entry point for ships using the **Suez Canal**, which handles about **12% of global trade**
- The Red Sea is vital for the movement of goods between Asia and Europe, accounting for **about 40% of goods traded between Europe and Asia.**

- Tesla, Volvo Car, and Ikea already have reported product shortages or warned of late-arriving goods
- Ocean freight rates from Asia to Europe and the US are increasing
 - **Ocean freight rates from Asia to Europe were up 106%** to more than \$5,180 FEU for February 2024 vs February 2023, according to Drewry
 - **Ocean freight rates from Asia to North America were up 71%** to more than \$5,380 FEU for February 2024 vs February 2023, according to Drewry
- **Shippers in retail and apparel are beginning to move from ocean to air freight.** Volumes from Vietnam to Europe increased more than 60% for the first two weeks of January, according to Xeneta
- **Dubai-to-Europe air tonnage have tripled compared to last year (+200%),** resulting in +40% increase in air freight rates

Agenda



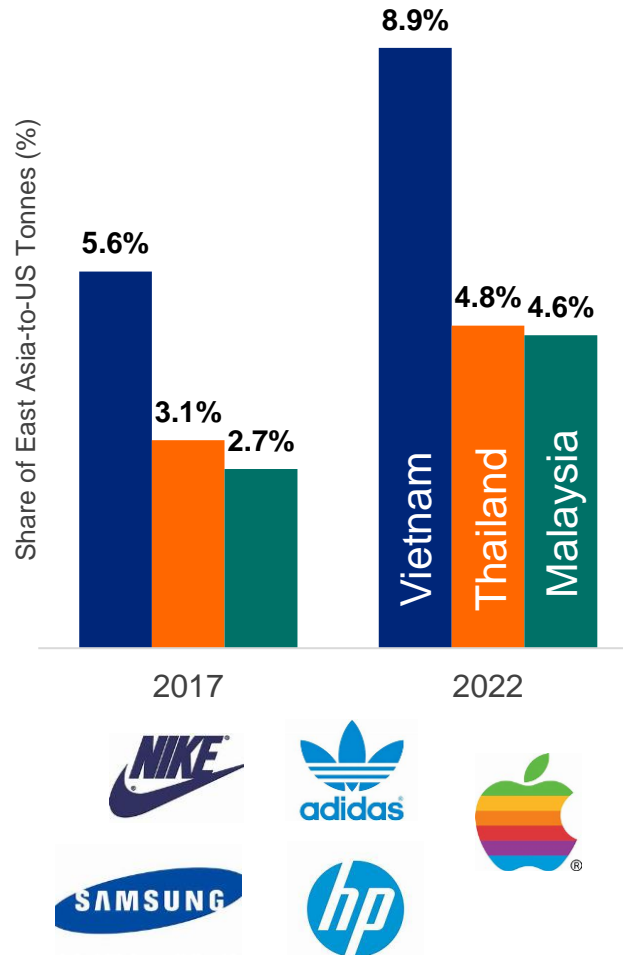
- Current state of the world air cargo market
- **E-commerce and air cargo**
- Boeing freighter family update

Long-term air cargo traffic growth drivers

GDP, trade and industrial production



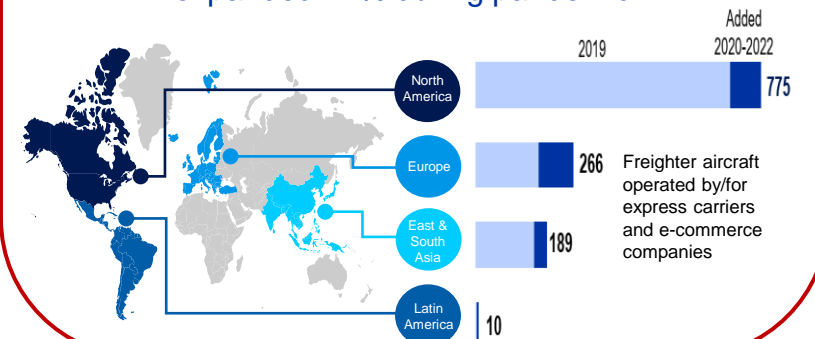
Evolving supply chain strategies



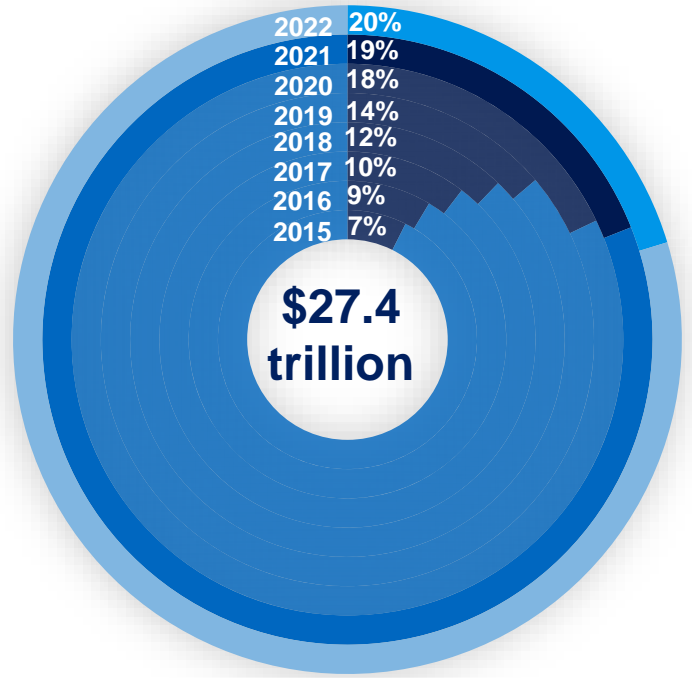
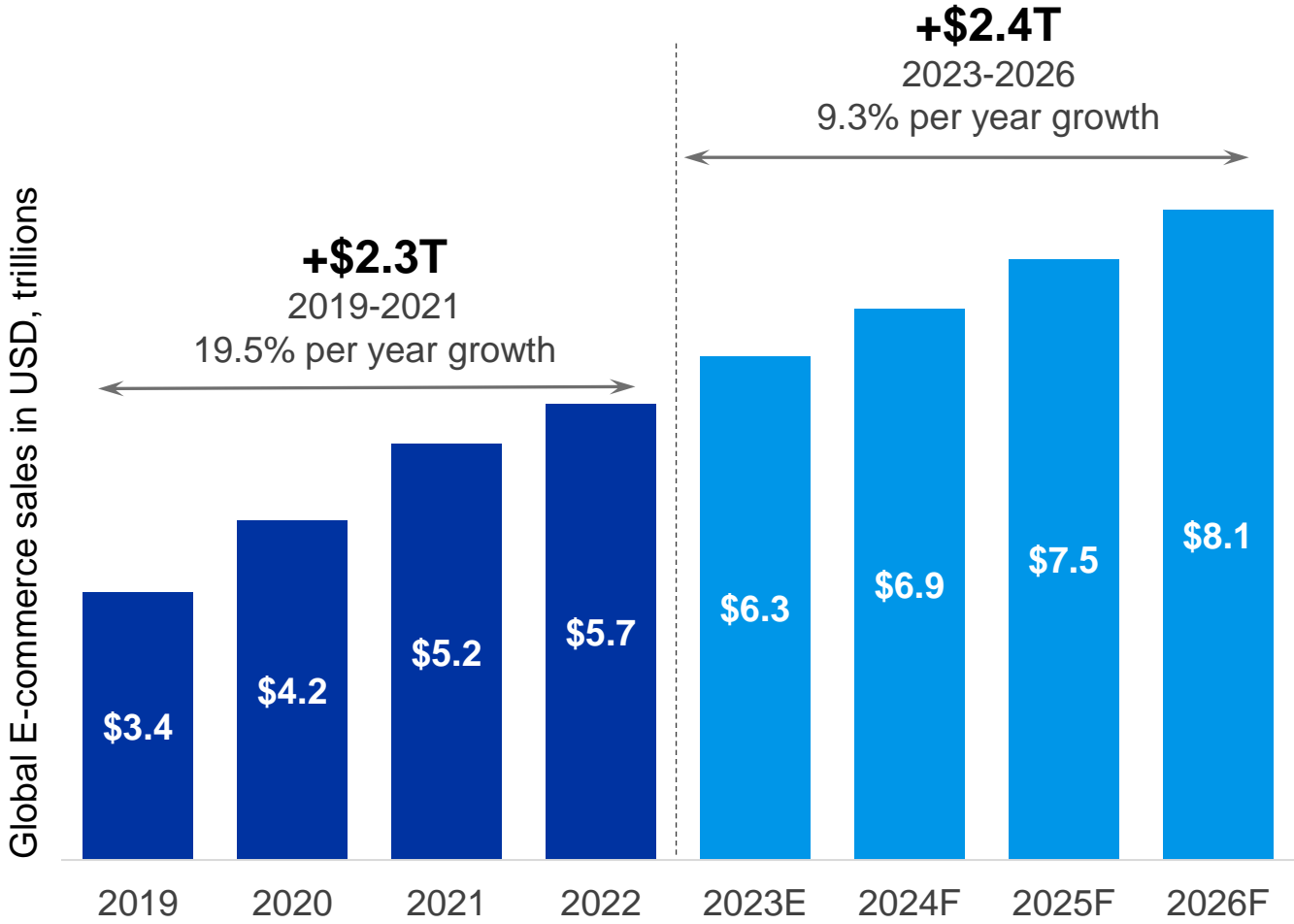
E-commerce network growth



Express/e-commerce freighter fleet expanded 21% during pandemic



Global e-commerce revenues expected to more than double pre-pandemic levels by mid-decade

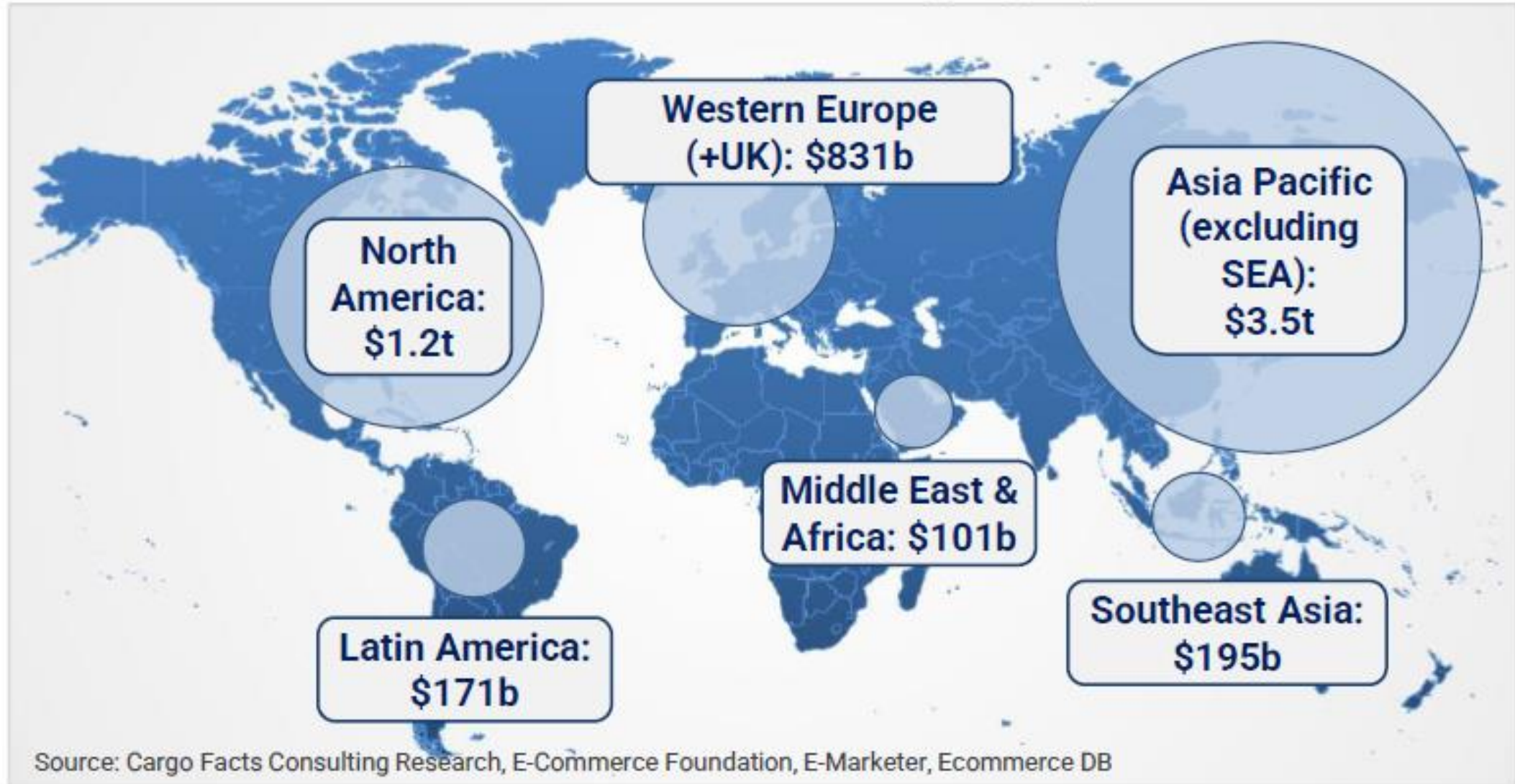


- E-commerce penetration
- Brick and mortar retail

Source: Statista

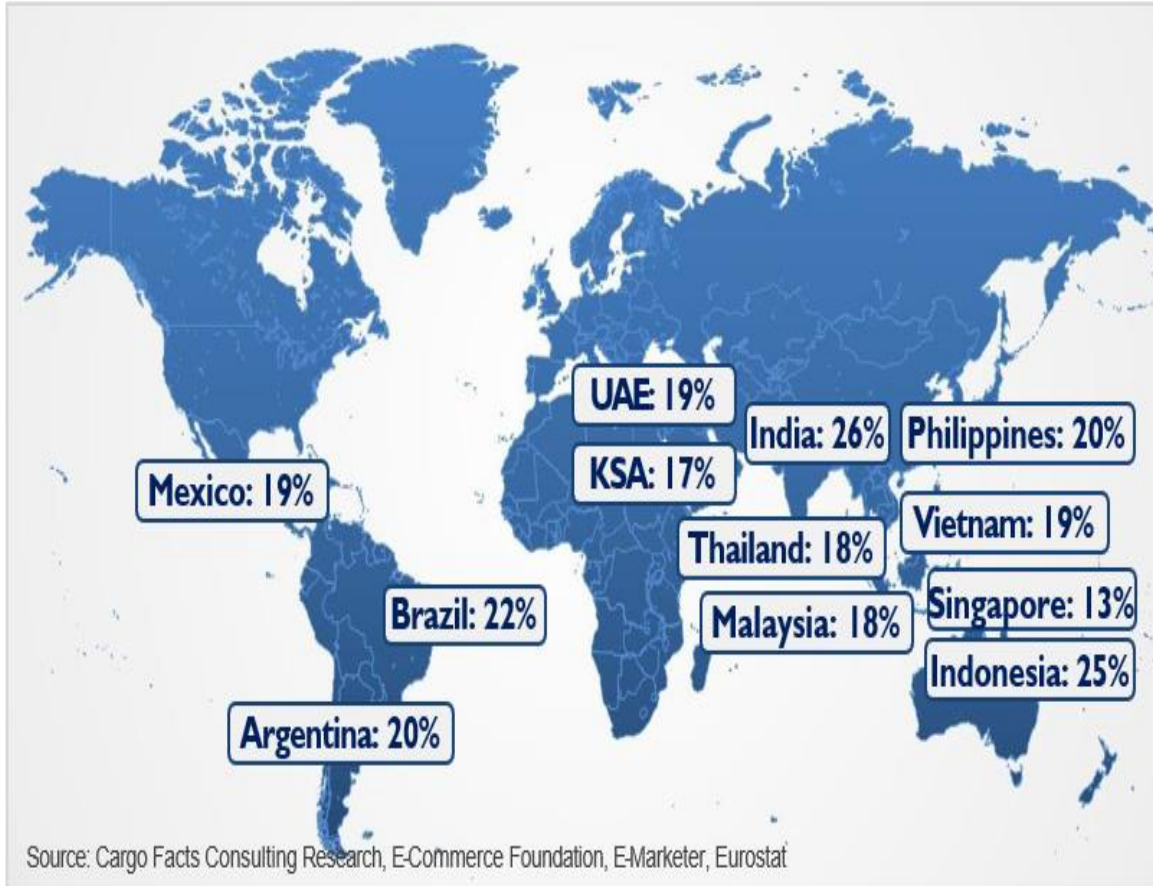
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E-commerce revenue by region, 2023

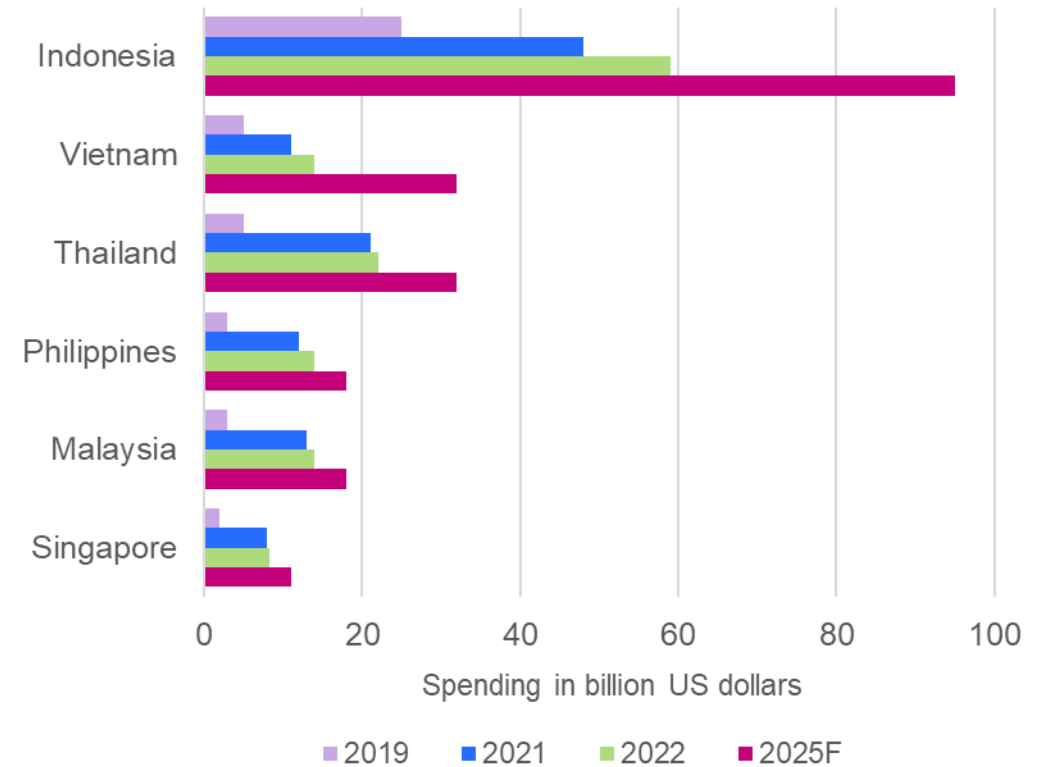


Southeast Asia becoming an increasingly strong e-commerce market

Highest E-commerce Revenue Growth Markets, 2023



Southeast Asia e-commerce sales forecasted to grow 16.2% per year



Note: Excludes online media and travel sales

Source: Statista 2023

Cainiao Network (Alibaba Logistics) partnership with airlines to transport e-commerce worldwide

In June 2018, signed an MoU with Cainiao to expand global e-commerce logistics infrastructure with Dubai as a hub



2018

In December 2018, signed an MoU with Cainiao which will guarantee Alibaba access to Volga-Dnepr Group's cargo carriers including AirBridgeCargo and CargoLogicAir



In 2020, Cainiao, through wholly-owned subsidiary Zhejiang Cainiao Supply Chain Management, is one of four companies contributing capital totaling \$732 million



2019

In November 2020, Atlas Air started operating three weekly charter flights dedicated to Cainiao, linking China with Brazil and Chile.



2020

In November 2021, the Atlas Air-Cainiao partnership expanded to operate daily Asia-Latin America flights, bringing a total dedicated freighter fleet that [Atlas operates for Cainiao to five 747 freighters](#)

In March 2021, Cainiao partnered with Saudi Cargo to [operate five weekly flights from Hong Kong to Liege in Belgium](#), with Riyadh city as a connection point



2021

In March 2022, Cainiao-Qatar Airways Cargo with a [weekly 777F service](#) linking Hong Kong and Sao Paulo, Brazil



2022

In April 2022, Cainiao-Malaysia Airlines added direct Kuala Lumpur to Heathrow cargo capacity. The flight will operate three times per week offering 30 tonnes per trip,



Shein: Fast Fashion made Ultra Fast

Shein accounted for nearly one-fifth of the global fast-fashion market in 2022, outpacing Zara and H&M

Features | March 24, 2022

Behind Shein: China's fashion retailer taking the world by storm

China's fast fashion cross-border e-commerce retailer Shein is little known within the country itself but its profile overseas continues to rise. Just Style investigates the secret behind its success amidst a landscape of US-China tariffs and supply chain challenges.

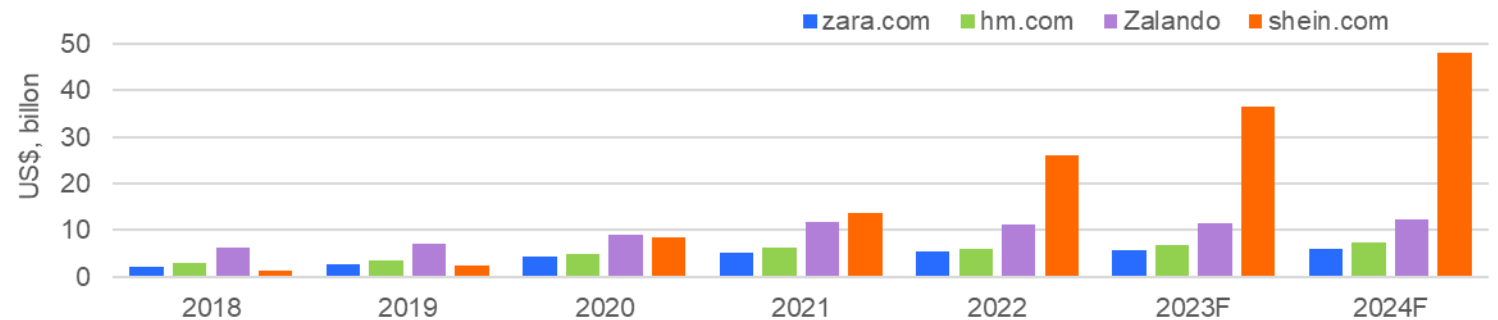
Jens Kastner



Transporting ~3,000 tonnes of cargo by air per day

- Founded in 2008, Nanjing-based Shein generated nearly US\$30 billion in 2022, an increase of 91% on US\$15.7 billion made in 2021
- In-house design team of 800 people dedicated to designs and prototyping for ultra-fast production
- Shein reportedly adds 2,000 new styles a day, compared to Zara who used to make headlines for adding hundreds of new style every few weeks
- From November 2022 to November 2023, Shein introduced 1.5 million new items to the US market – 37 times more than Zara and 65 times more than H&M
- Shein is the #2 brand for Instagram influencers and uses fashion influencers and celebrities like Katy Perry, Lil Nas X, and Rita Ora to promote its brand's image
- Bloomberg considered Shein as the world's third-most valuable startup
- In April 2022, private investors valued Shein at \$100 billion during a fundraising round, making it the third most valuable private company, after TikTok parent ByteDance and Elon Musk's SpaceX

E-commerce Net Sales, 2018-2024



Source: <https://ecommercedb.com/insights/zara-rising-global-sales-zara-store-numbers-latest-fashion-trends/3098>

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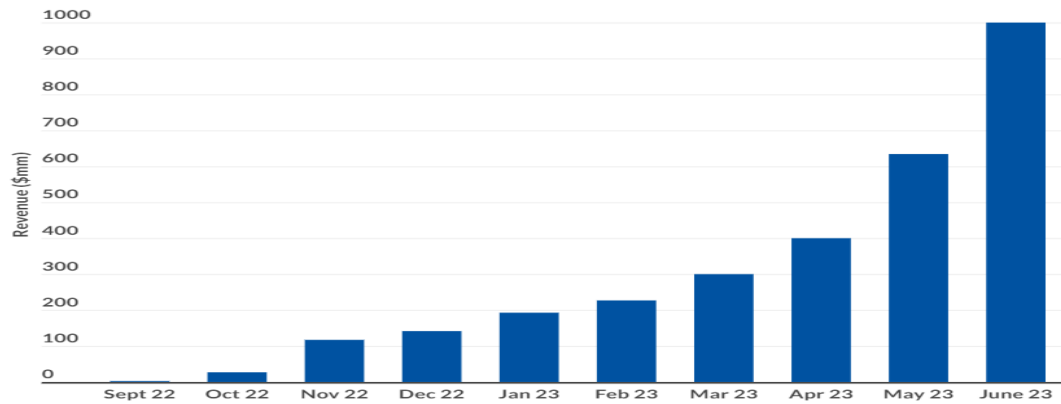


- Owner: Pin Duo Duo
- Launch date: September 2022
- Started with 5.5 millions users in October 2022 and soared to 104.2 million user by April 2023
- Primarily targets users with annual incomes below \$30,000
- 286.6M visits per month
- Temu.com website is in France, Germany, Italy, The Netherlands, Spain, UK, US, Canada, Australia, and New Zealand.
- US is the largest market with more than 40% of total downloads and over 100 million users as of May 2023.

Temu Gross Merchandise Volume

Temu's gross merchandise volume, which is total sales before expenses, surged from \$3 million in September 2022 to \$1 billion in June 2023.

Temu Monthly Gross Merchandise Volume 2022 to 2023 (\$mm)



Source: YipitData

Transporting ~2,500 tonnes of cargo by air per day

The screenshot shows the TEMU website interface. At the top, there's a navigation bar with 'Best Sellers', '5-Star Rated', 'Black Friday', 'New Arrivals', and 'Categories'. A search bar contains 'christmas cups'. The main banner is orange with the text 'SHOP LIKE A BILLIONAIRE' and 'Highly rated products at low prices'. Below the banner, there are several product listings:

- Smart Watch With Wireless Call, Smart ...**: \$20.48 (was \$46.99), 37K+ sold, 5 stars (10,138).
- SENBONO Round Smart Watch With 1...**: \$35.09 (was \$94.99), 6.6K+ sold, 5 stars (3,713).
- 1pc High Quality Men Stainless Steel Bu...**: \$30.98 (was \$67.49), 3.6K+ sold, 5 stars (8,243).
- Waterproof Smart Watch With Wireless ...**: \$22.48 (was \$46.49), 14K+ sold, 5 stars (5,490).
- Unisex Trendy Knitted Breathable Light...**: \$17.00 (was \$36.09), 1K+ sold, 5 stars (1,027).
- Men's Casual Solid Color Breathable W...**: \$7.55 (was \$14.99), 8.6K+ sold, 5 stars (1,158).
- Men's Lace-up Chunky Sneakers - Athle...**: \$11.87 (was \$39.69), 820 sold, 5 stars (105).
- PLUS SIZE Men's Solid PU Leather Skate...**: \$14.39 (was \$34.89), 781 sold, 5 stars (201).
- Plus Size Elegant Dress, Women's Plus F...**: \$13.19 (was \$62.99), 1K+ sold, 5 stars (5,165).
- Solid Ribbed Two-piece Set, Button Fro...**: \$12.07 (was \$30.99), 10K+ sold, 5 stars (12,497).
- Twist Solid Dress, Elegant Long Sleeve B...**: \$10.79 (was \$22.49), 8.1K+ sold, 5 stars (778).
- Plus Size Contrast Mesh Floral Print Hal...**: \$18.07 (was \$39.99), 2.1K+ sold, 5 stars (5,165).

December surge in e-commerce resulting in China outbound cargo yield reaching ~US\$10 per kilogram



5,000 tonnes



4,000 tonnes



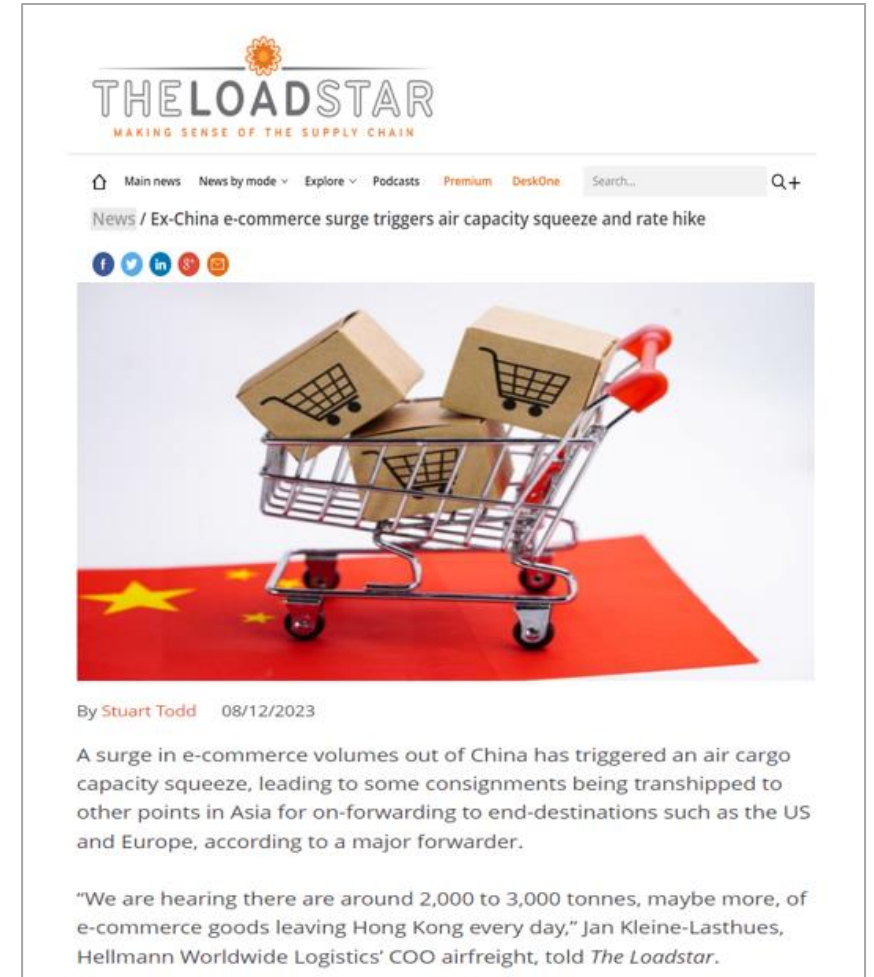
1,000 tonnes



800 tonnes

“... capacity on the transpacific lane out of China was particularly tight and some goods were having to be shipped first to Europe, then on to the US.

He said the going market rate per kg, **China outbound to the US, was around \$10**, and to Europe a little less..”



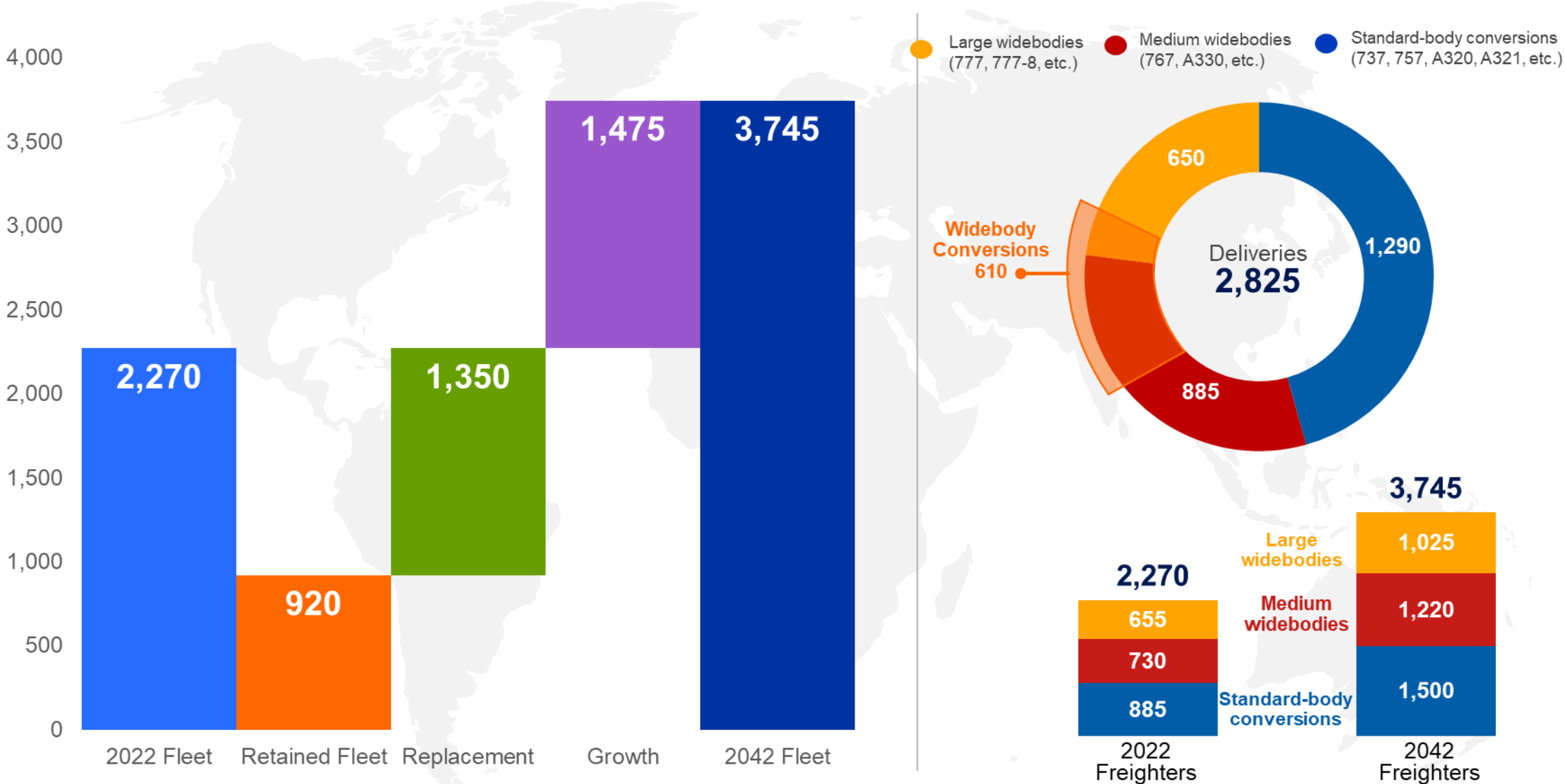
Transporting ~10,800 tonnes of cargo by air (an equivalent of 108 777Fs) per day

Agenda



- Current state of the world air cargo market
- E-commerce and air cargo
- **Boeing freighter family update**

World freighter fleet to add 2,825 freighters to meet market demand



SOURCE: Boeing Commercial Market Outlook June 2023, Forecast period 2023-2042. Results for Russia & Central Asia domicile omitted from deliveries.

Boeing offers a complete family of freighters

Structural payload capability, tonnes [1,000 lb.]

Large widebody freighters
More than 80 tonnes of payload



777-8F (118.2 tonnes)

777F (107.0)

Medium widebody freighters
40 - 80 tonnes of payload



767-300F (56.6)

767-300BCF (56.5)

Standard-body freighters
Less than 40 tonnes of payload



737-800BCF (23.9)

140
[309]

80
[176]

40
[88]

0

737-800BCF | The market-preferred standard-body freighter

250+ orders and commitments, 175+ redeliveries



As of February 29, 2024

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767 Freighters are the preferred freighters in many markets

390+ orders and commitments

767-300F 280 orders and 244 deliveries

767-300BCF 110+ orders and 90+ redeliveries



777F | World's most efficient twin-engine freighter



777F Customer	Ordered	Delivered
A/S Maersk Aviation Holding	2	0
Air China Cargo	13	9
Air France	5	5
Altavair LLC	3	3
ANA Cargo	2	2
Atlas Aiir Worldwide	6	4
Boeing Capital Corp	2	2
CES Leasing Corporation	10	10
China Airlines	10	7
China Cargo	2	2
China Postal	2	2
China Southern Air	17	17
CMA CGM	2	2
DAE 4 Ireland Limited	1	1
Deucalion Capital Ltd	8	8
DHL	28	22
Dubai Aerospace Enterprise	13	13
Emirates	7	2

777F Customer	Ordered	Delivered
Ethiopian Airlines	13	9
Etihad Airways	6	6
EVA Air	9	8
FedEx	52	50
Korean Air	10	10
LATAM Airlines Group	2	2
Lufthansa Cargo	12	11
NAS Aviation Services LLC	10	10
Oak Hill	4	4
Qatar Airways	28	27
Silk Way West Airlines	5	2
Turkish Airlines	8	8
Volga-Dnepr UK Ltd	6	0
Western Global Airlines	2	0
Unidentified	21	6
Total	321	264

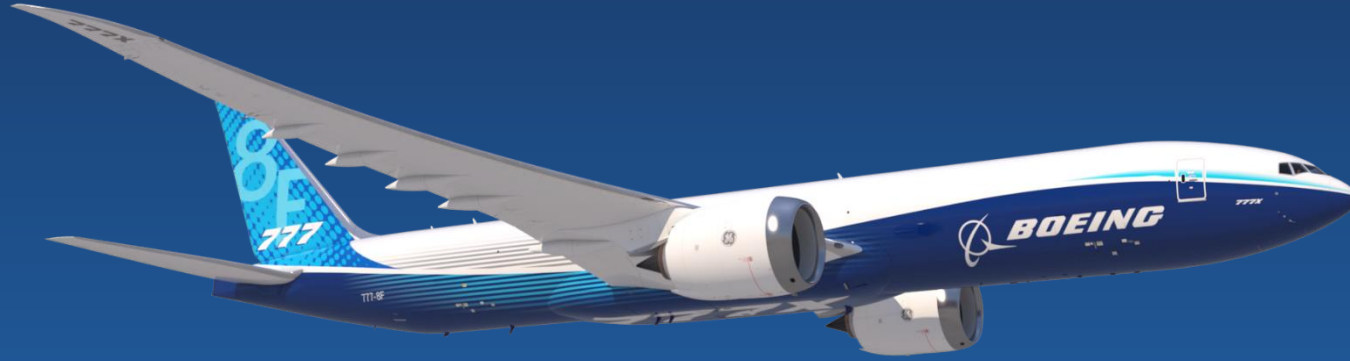
Orders / Deliveries as of February 29, 2024



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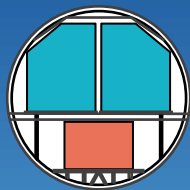
777-8F | World's most capable freighter for a sustainable future



2027 EIS | **118t** Structural payload

777-8F Customer	Ordered
ANA Holdings	2
Cargolux Airlines	10
Lufthansa Cargo	7
Qatar Airways	34
Silkway West Airlines	2
Total	55

Orders as of February 29, 2024



More cargo volume



Folding wing tip for **Code E** airport compatibility



IoT solutions for **connected cargo**



Advanced wing with **72 m span**



787-inspired **flight deck**



cargolux

ANA Cargo

silkway
west airlines



Lufthansa Cargo



777-8F

31% lower CO₂ emissions per tonne
60% smaller noise footprint
vs 747-400F

Levers for sustainable aviation



Fleet
Renewal

15-30% more
efficient freighters



Operational
Efficiency

Up to **10%** in
fuel savings



Renewable
Energy

100% SAF
compatible
before 2030



Advanced
Technology

75%
sustainable
R&D spending

