

Outlook Middle East | Key Driving Trends Shaping the Future of Commercial Fleets & MRO

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Outlook: Global Airline Industry

Passenger market

Global Passenger Traffic
2021: 41.7% of 2019
2022: 68.5% of 2019
1H 2023 ASKs: 33% higher

Airlines facing increasing cost pressures from labor to fuel to maintenance. Increases for minimum ticket prices?

Cargo market

2022 Global Air Cargo
 CTKs 8% lower than 2021.
Utilization still tracking close to 2019 levels.

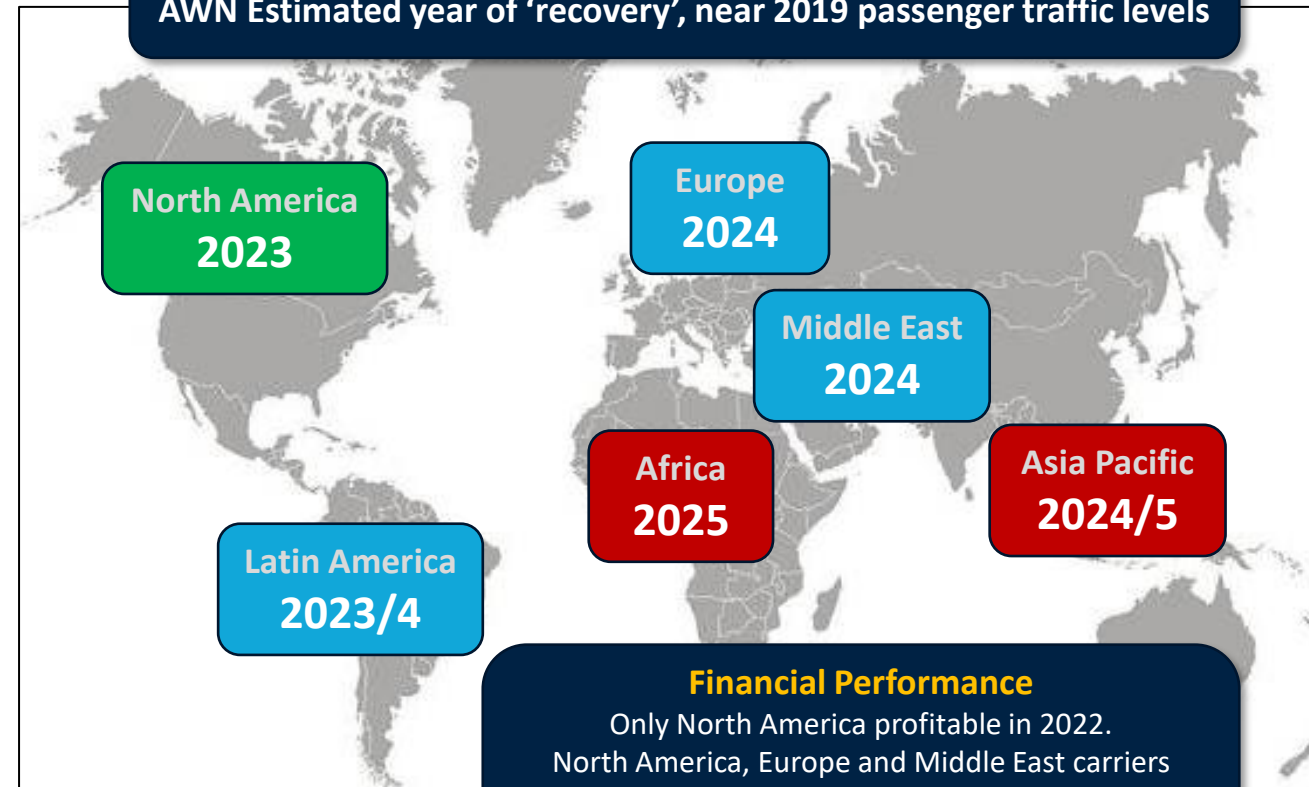
Freight continues to play a role in bolstering airline revenue and financial performance over the period ahead. Freight demand maintains strength.

Global Exogenous Factors

	Slowing GDP growth		Passenger demand
	Labor costs		War in Europe
	Jet fuel/oil prices		Increasing interest/capital rates
	US dollar strength		Supply chain pressures

Regional Road to Recovery

AWN Estimated year of 'recovery', near 2019 passenger traffic levels

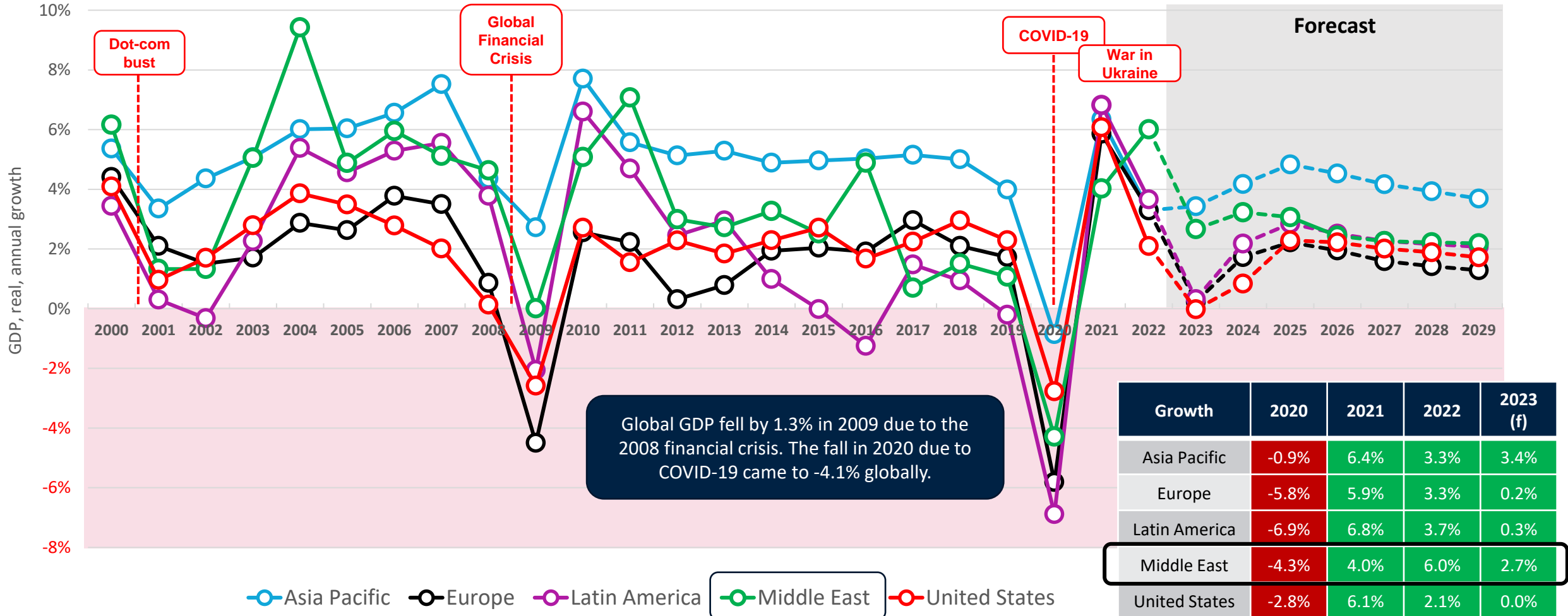


Financial Performance

Only North America profitable in 2022. North America, Europe and Middle East carriers expected to post a net post-tax profit in 2023. Airline revenue forecast to rise ~93% of 2019 levels in 2023. (IATA)

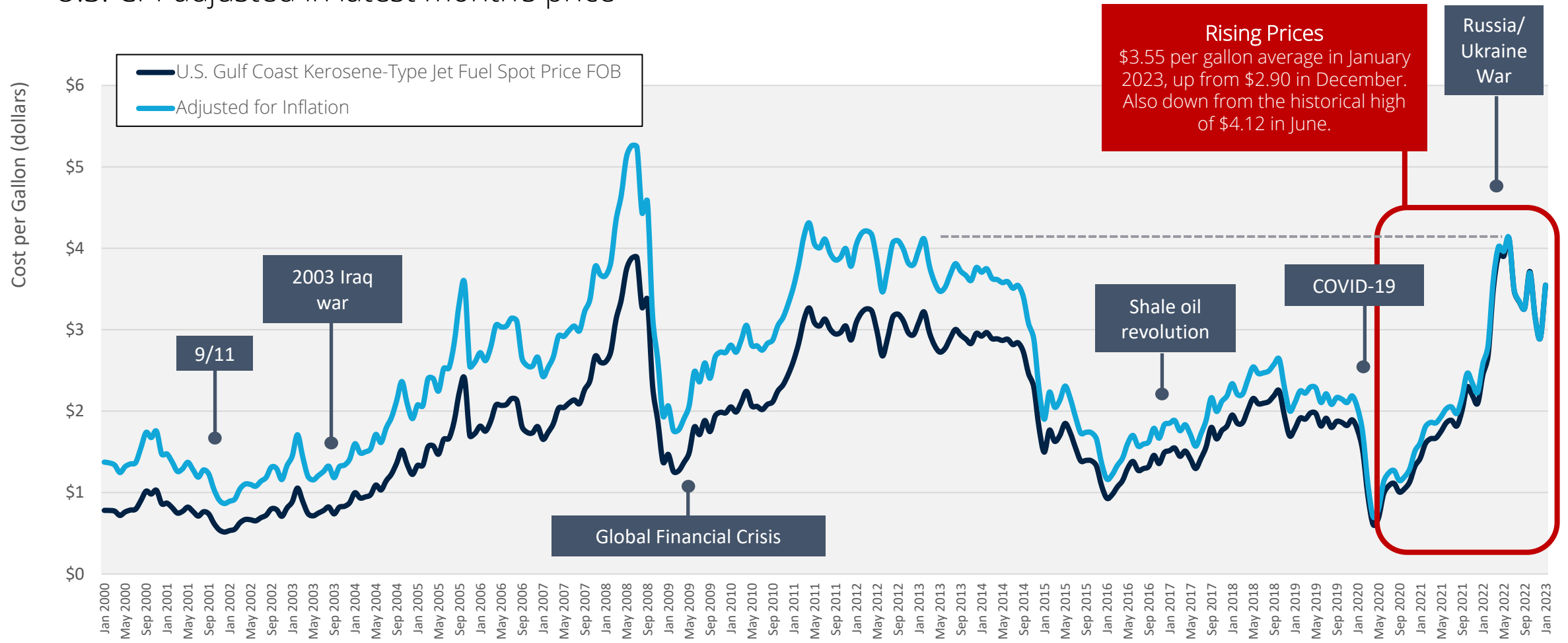
GDP & Recent Economic Shocks

2
0
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3



Jet Fuel Price and Inflation Adjusted









U.S. CPI-adjusted in latest month's price



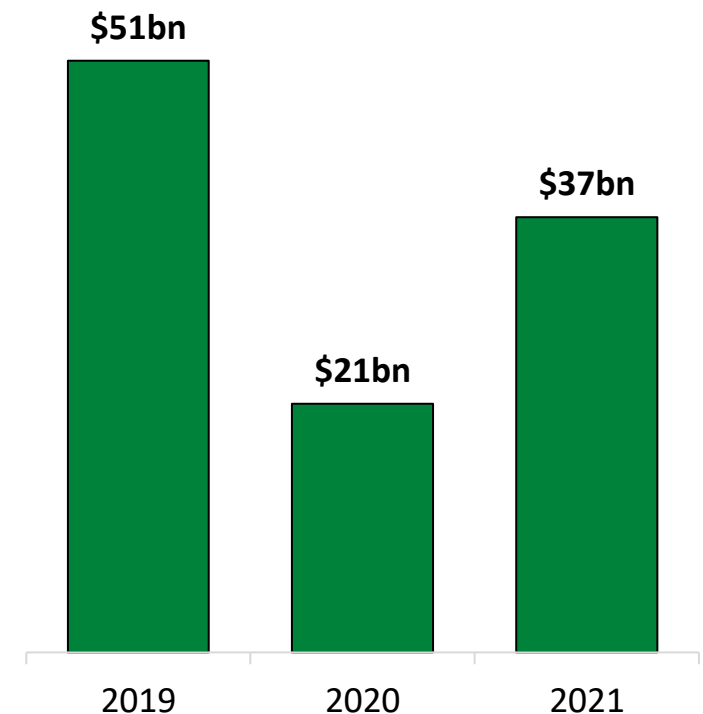
Source: US EIA, U.S. Gulf Coast Kerosene-Type Jet Fuel Spot Price FOB and U.S. Bureau of Labor Statistics CPI Index.

Note: Prices adjusted for inflation. Today's dollar value – all monthly prices are monthly averages adjusted for inflation using U.S. CPI data.

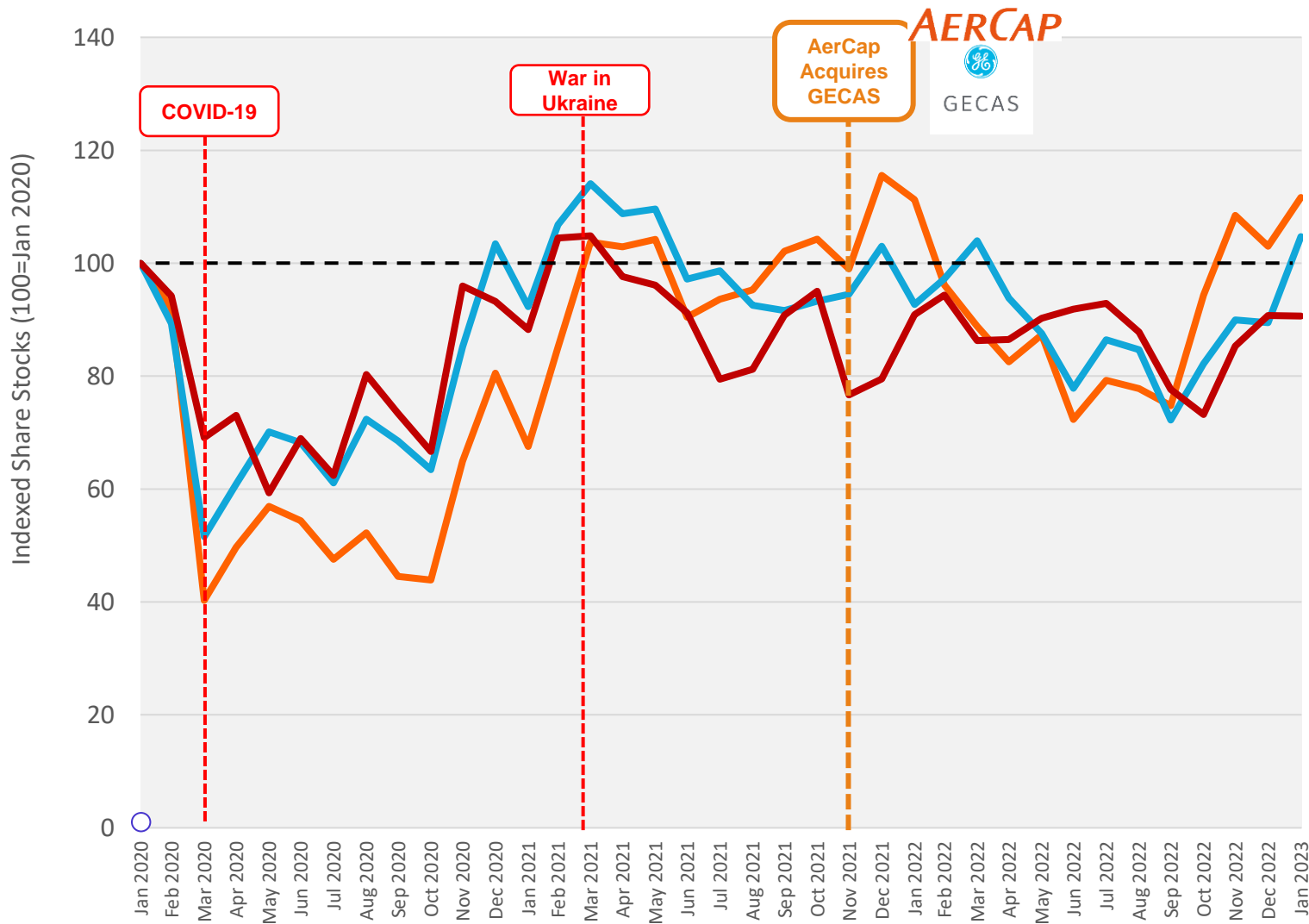
Operational Revenue for Leading Middle East Airlines

Airline	Country	Operating Revenue (m\$)			Net Income (m\$)	
		2021*	2020	Change	2021	2020
 Emirates	UAE	\$16,127	\$8,428	91%	-\$1,067	-\$5,526
 QATAR AIRWAYS القطرية	Qatar	\$14,300	\$8,000	79%	\$1,500	-\$4,100
 ETIHAD	UAE	\$3,140	\$2,660	18%	\$410	-\$650
 flydubai	UAE	\$1,400	\$762	84%	\$229	-\$194
 AirArabia العربية للطيران	UAE	\$864	\$504	71%	\$196	-\$52
 EL AL הכף בבית בעולם	Israel	\$857	\$623	38%	-\$413	-\$500
 ROYAL JORDANIAN الملكية الاردنية	Jordan	\$255	\$152	68%	-\$53	-\$115
 الجزيرة Jazeera	Kuwait	\$266	\$135	97%	\$24	-\$86

Yearly Operating Revenues for Middle East Airlines (2019-2021)



Lessor Market: Indexed Stock Price Change



Year-on-Year Price Change

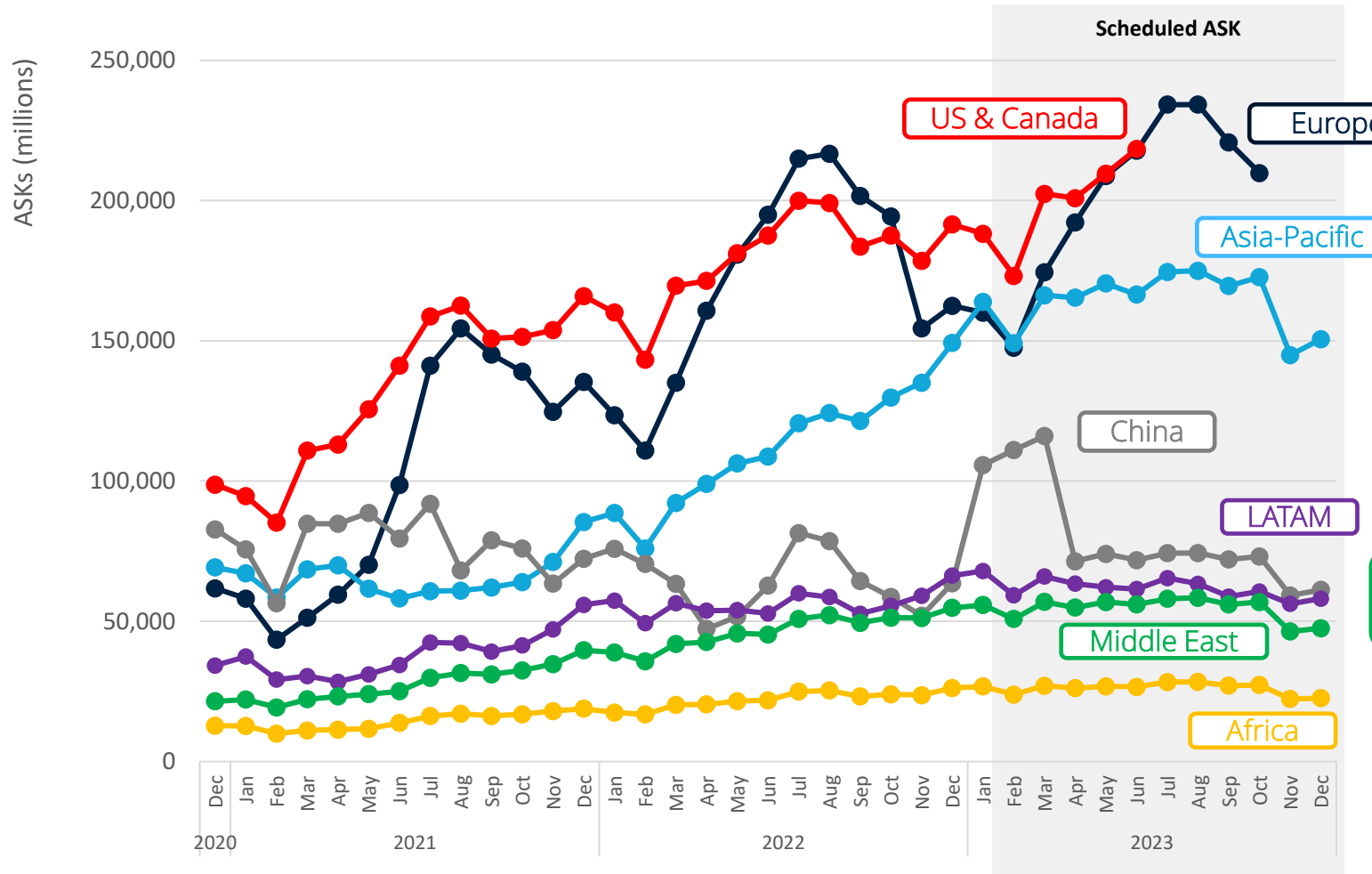
		31-Jan-23	31-Jan-22	Change
	AERCAP	\$63.21	\$63.00	11.7%
	AIR LEASE CORPORATION	\$44.97	\$39.81	4.7%
	BOC AVIATION	HKD 65.10	KHKD 65.25	-9.4%

Private Lessors

Avolon
Aviation Capital Group
BBAM
ICBC Leasing
Nordic Aviation Capital
SMBC Aviation Capital

Scheduled & Historic Available Seat Kilometres – By Region

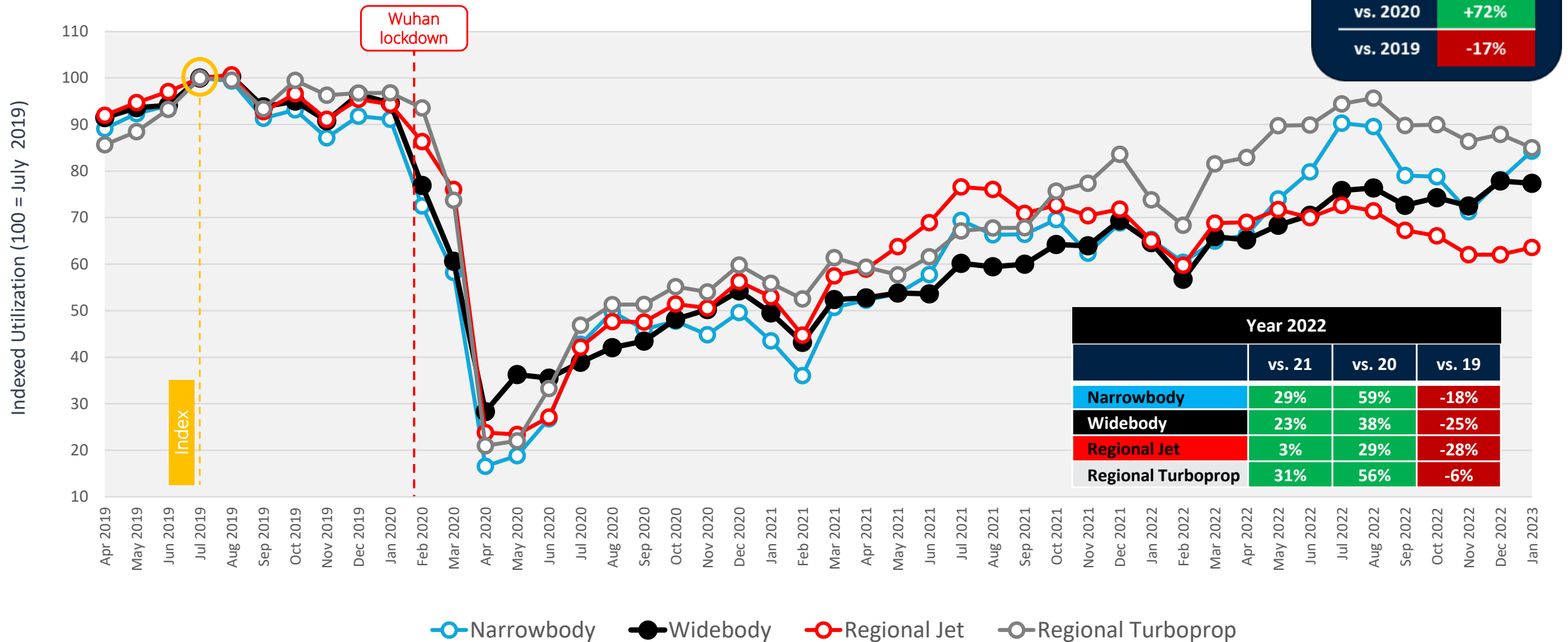
Scheduled airline capacity through December 2023 (updated 2 February 2023)



Region	Q2 2023 vs. 2022 % Change	H1 2023 vs. 2022 % Change
Europe	15%	22%
U.S. & Canada	16%	18%
Asia-Pacific	60%	72%
China	34%	48%
Middle East	26%	32%
LATAM & Caribbean	16%	17%
Africa	25%	33%

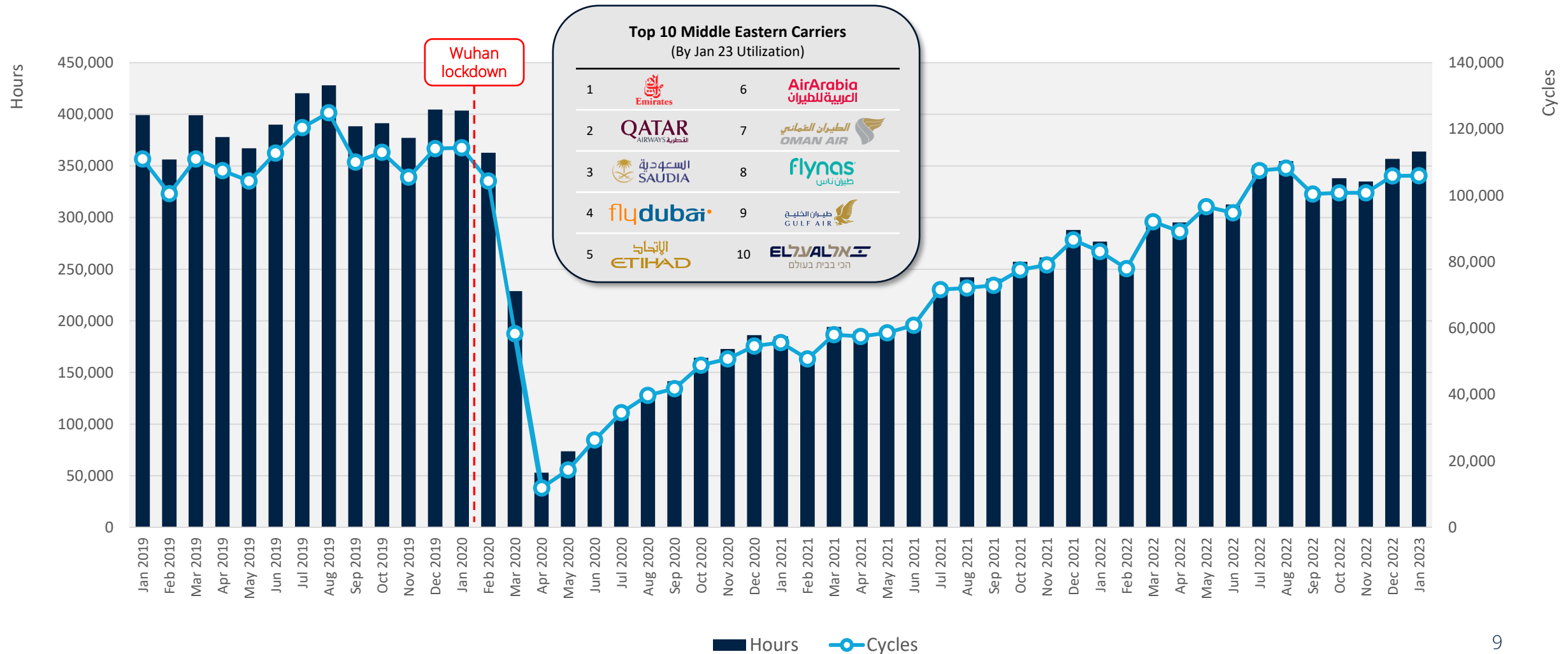
Utilization Change – Aircraft Category

Indexed flight hour utilization for commercial aircraft size segments vs. July 2019



Aircraft Utilization – Middle Eastern Airlines

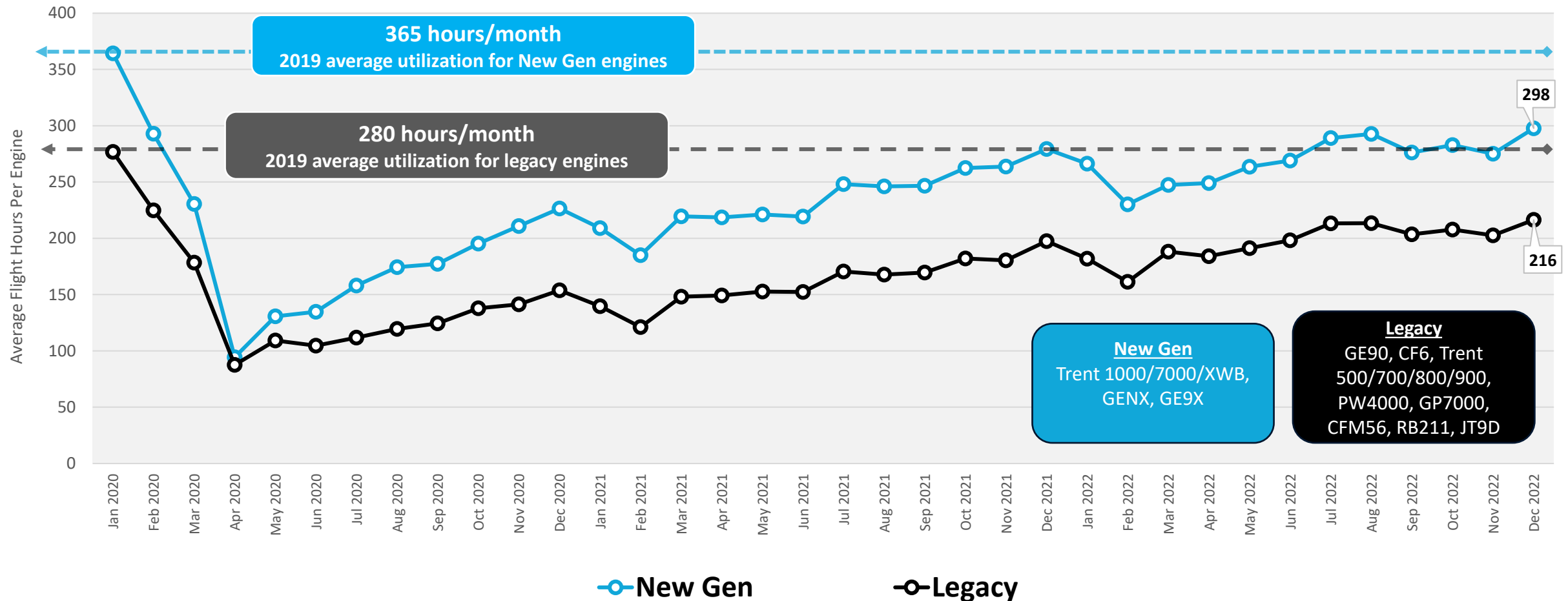
Utilization rates in hours and cycles for major passenger airlines, including LCCs



Widebody Engine Utilization 2020-2022

Average monthly flight hours per engine, new generation vs. legacy engines

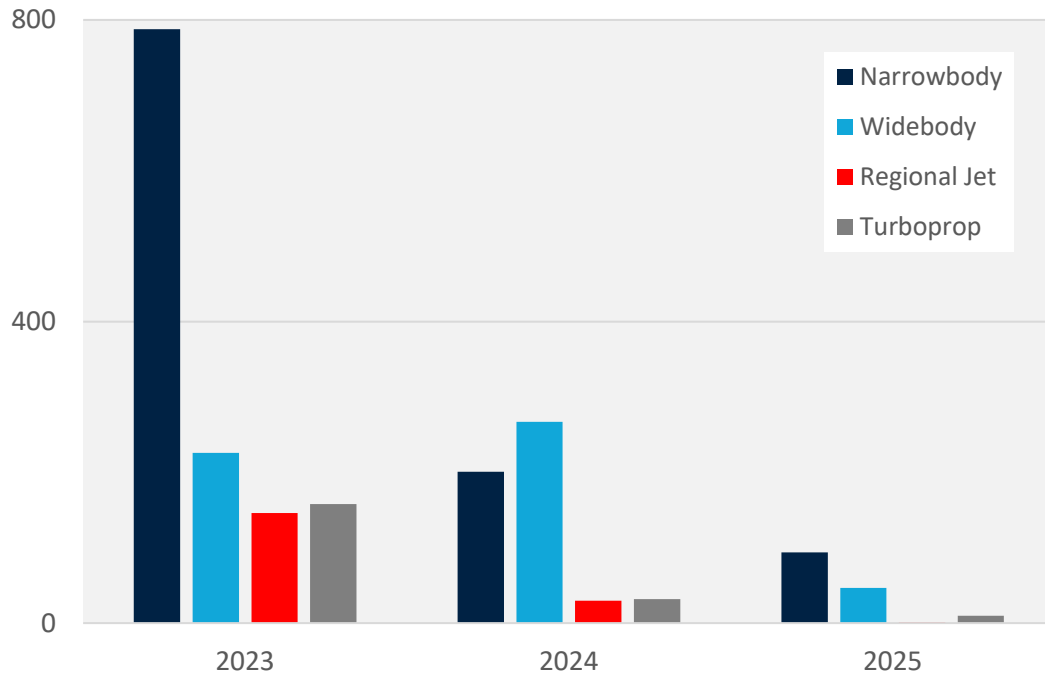
New generation engines tend toward more average utilization than legacy engines through recovery



Trends in Storage

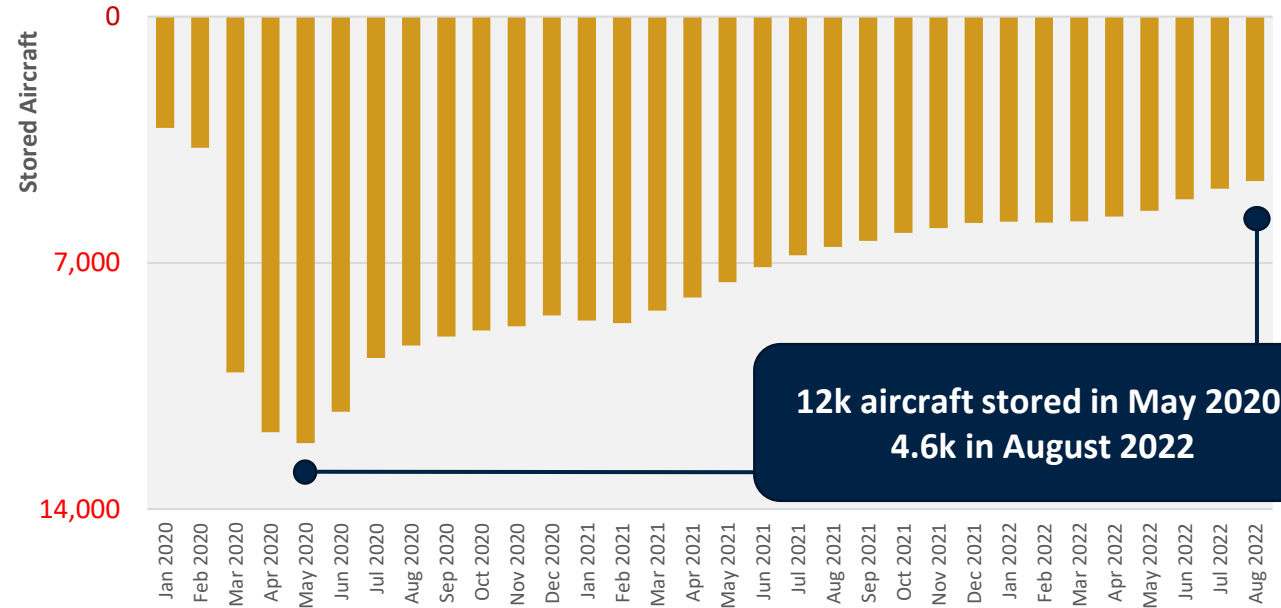
Aircraft forecast returns from long-term storage post-pandemic

Aircraft returning to service



~1,300 aircraft in storage expected to return by the end of 2023.

Stored Aircraft



**~4,000 aircraft currently stored.
~2,000 aircraft still expected to return from storage as long as passenger demand remains strong...**

**12k aircraft stored in May 2020;
4.6k in August 2022**

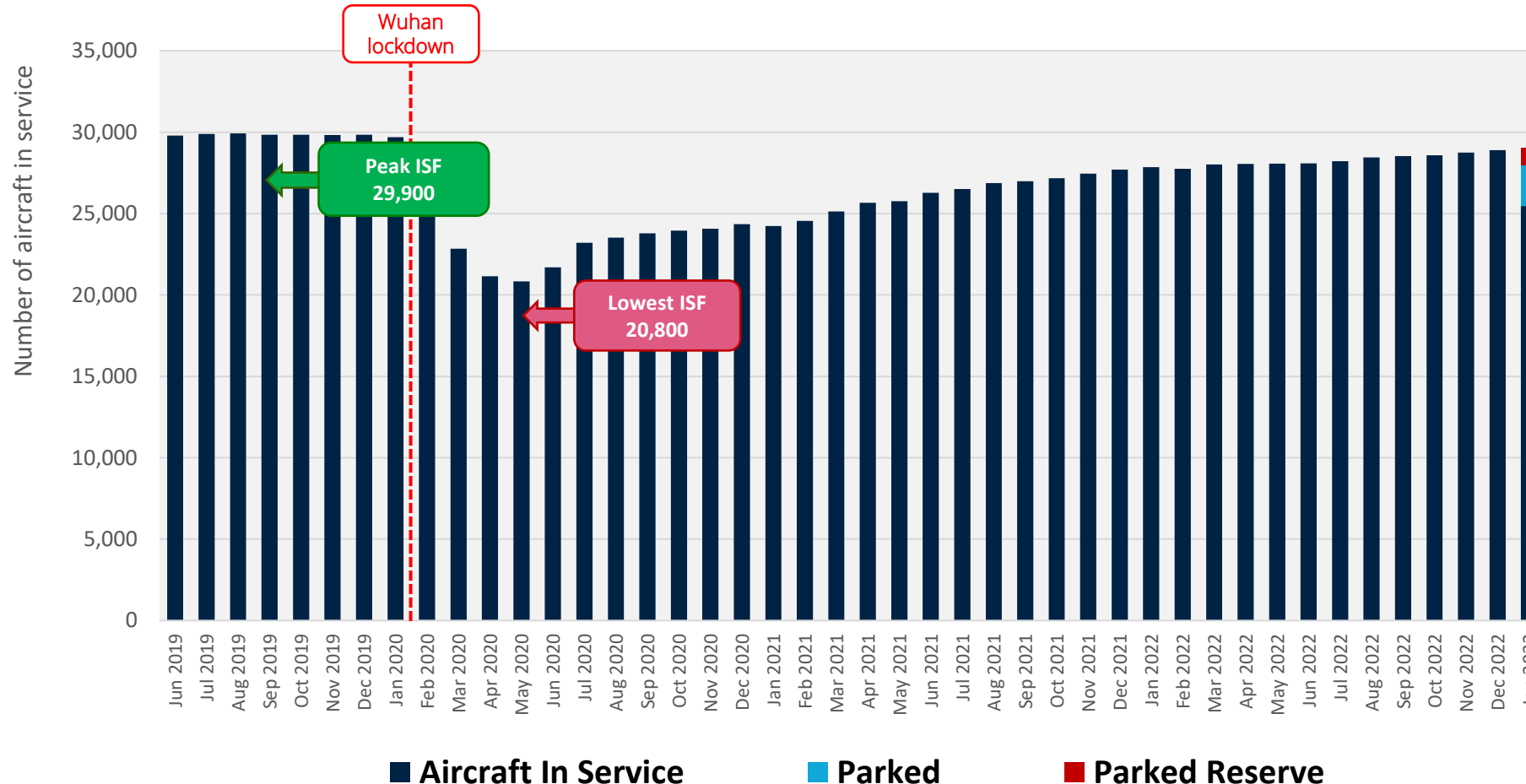
Aircraft Stored in Kingman, Arizona, USA



Credit: Nigel Howarth, Aviation Week Network

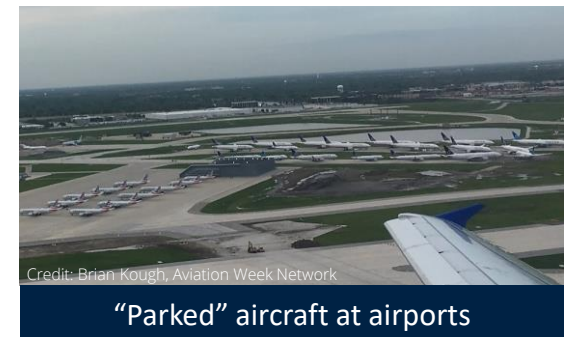
Historic In-Service Active Aircraft

Monthly commercial jets and turboprops in-service (includes parked, excludes stored)



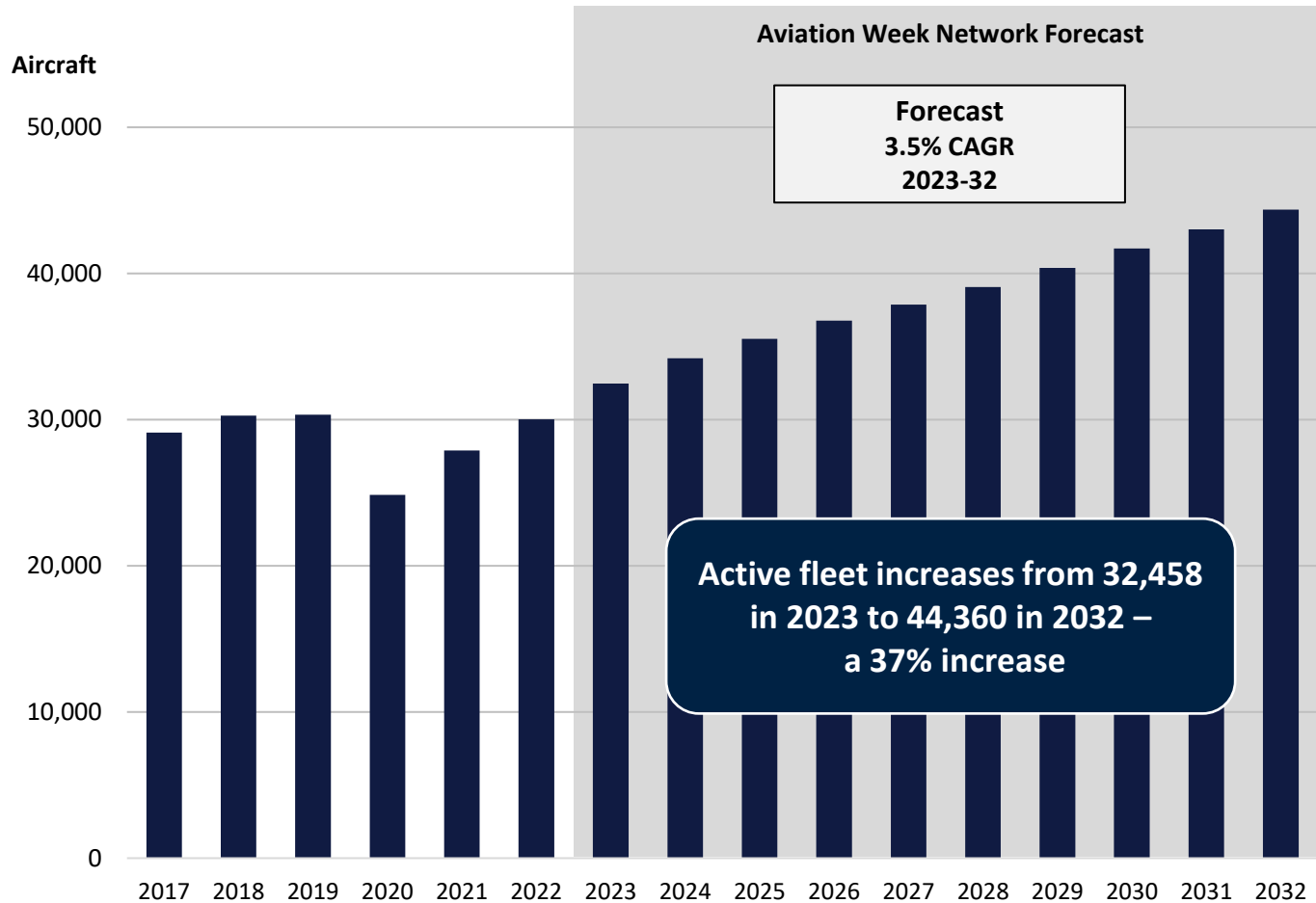
12% parked or parked/reserve of the active in-service fleet by flight activity observed in January 2023

Commercial aircraft in-service seeing a gradual but steady recovery since the low point of May 2020



Forecast: World Trends In-Service Aircraft Fleet

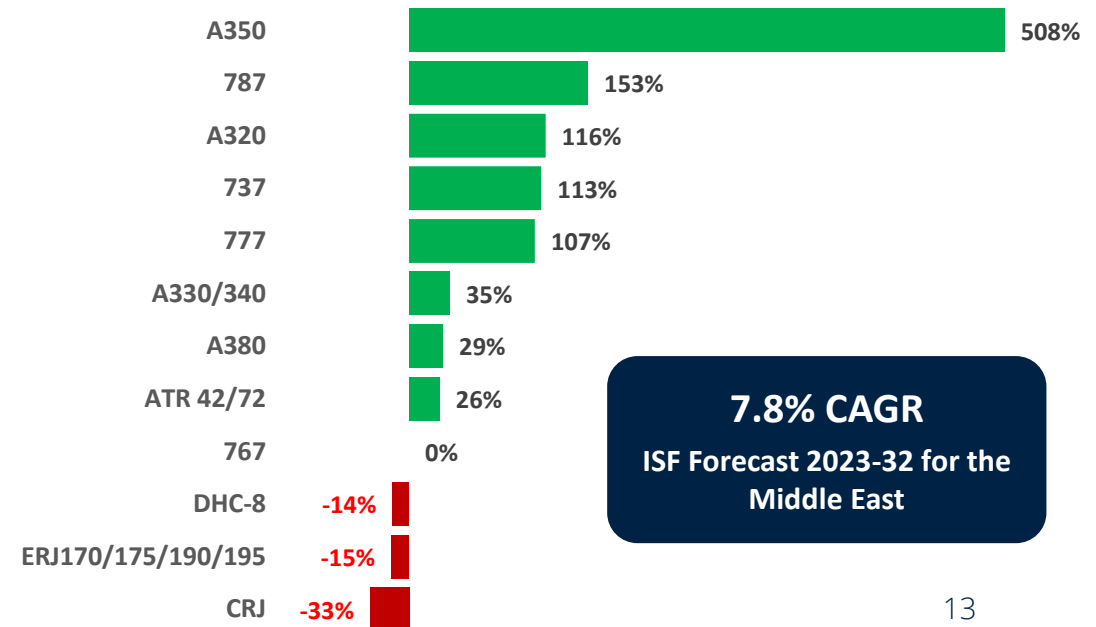
Annual count of active commercial aircraft, historical & forecasted



In-service fleet in 2023 to exceed 2019 levels

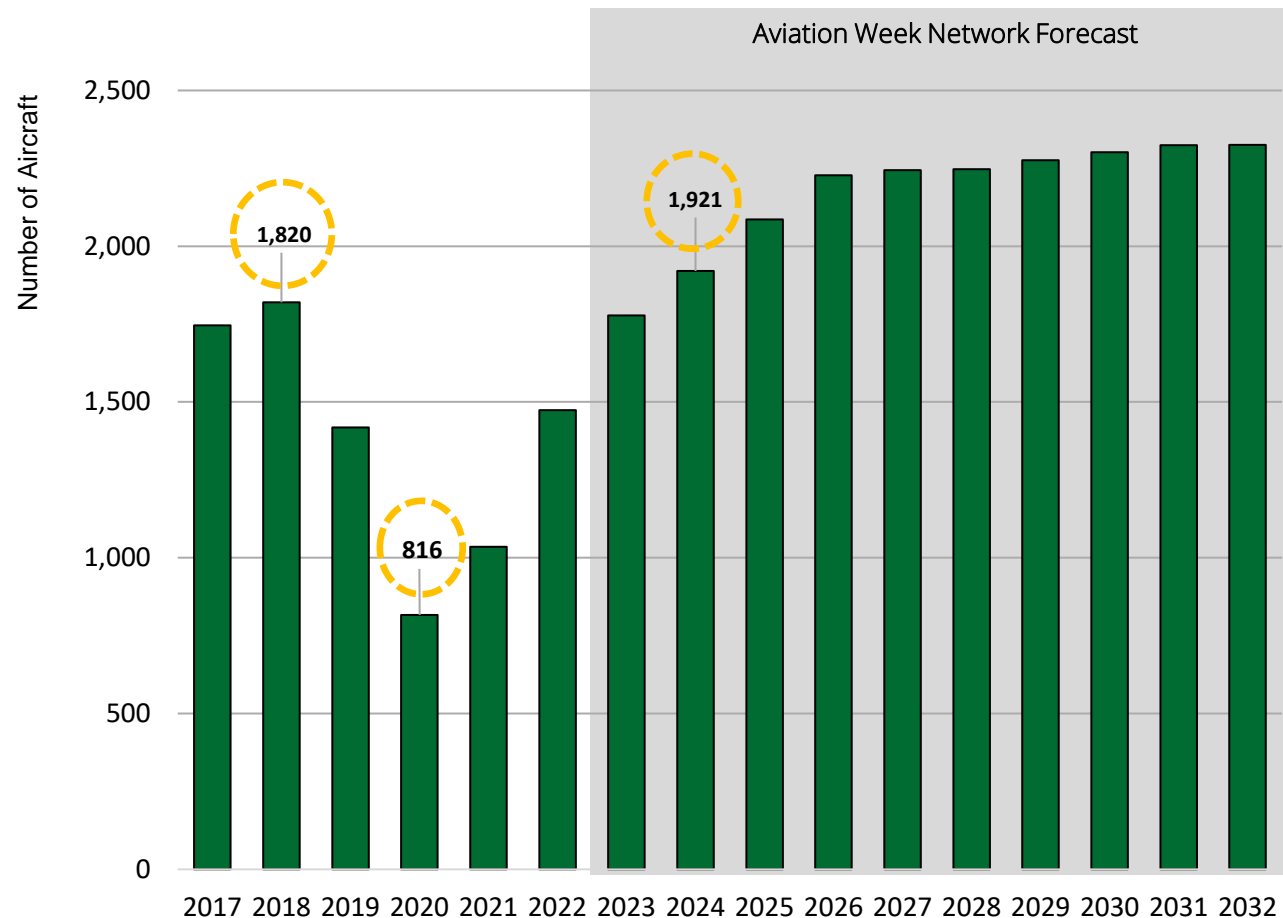
Narrowbodies are key growth driver over decade globally

ISF % Change for Select Aircraft in the Middle East (2032 vs. 2023)



Forecast: New Deliveries Commercial Aviation

Global annual deliveries historical & forecasted



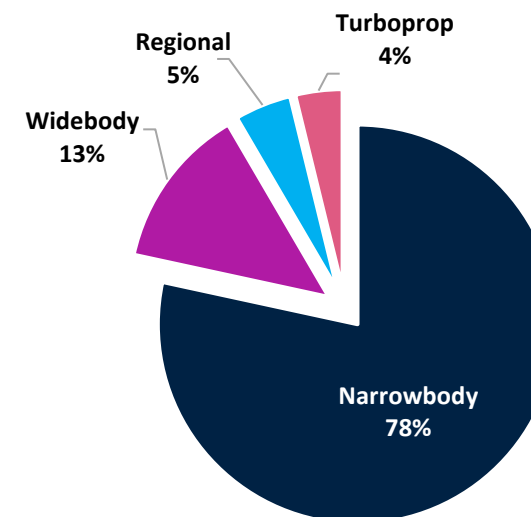
+21,700 new deliveries over 10-year 2023-32 forecast period

Over 2,000 annual deliveries from 2025 onwards

Narrowbodies lead recovery efforts. Airbus A320 outpaces Boeing 737

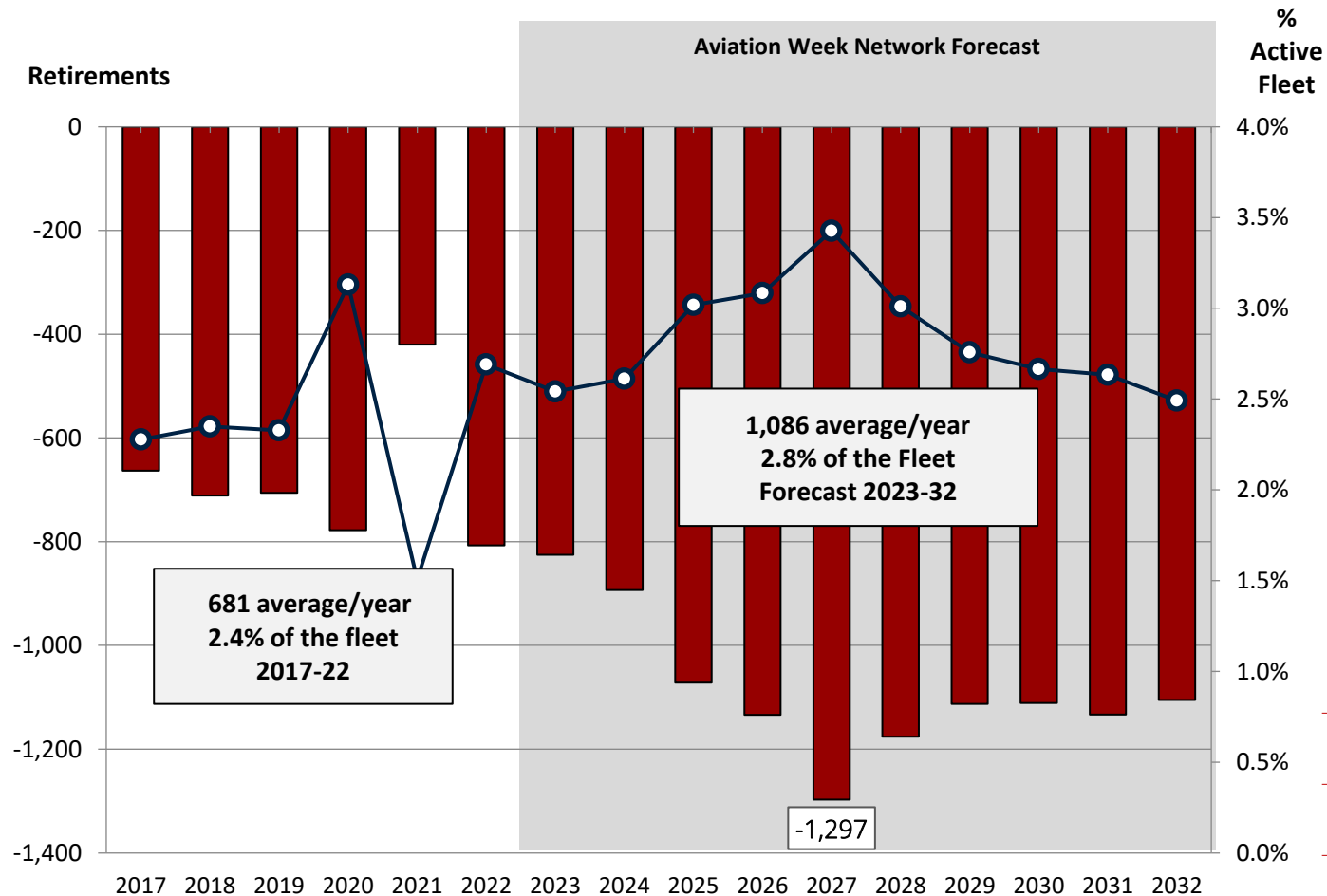
Narrowbody share is 78% vs. 13% share for widebodies – a decline for widebodies

2023-32 Share of Deliveries

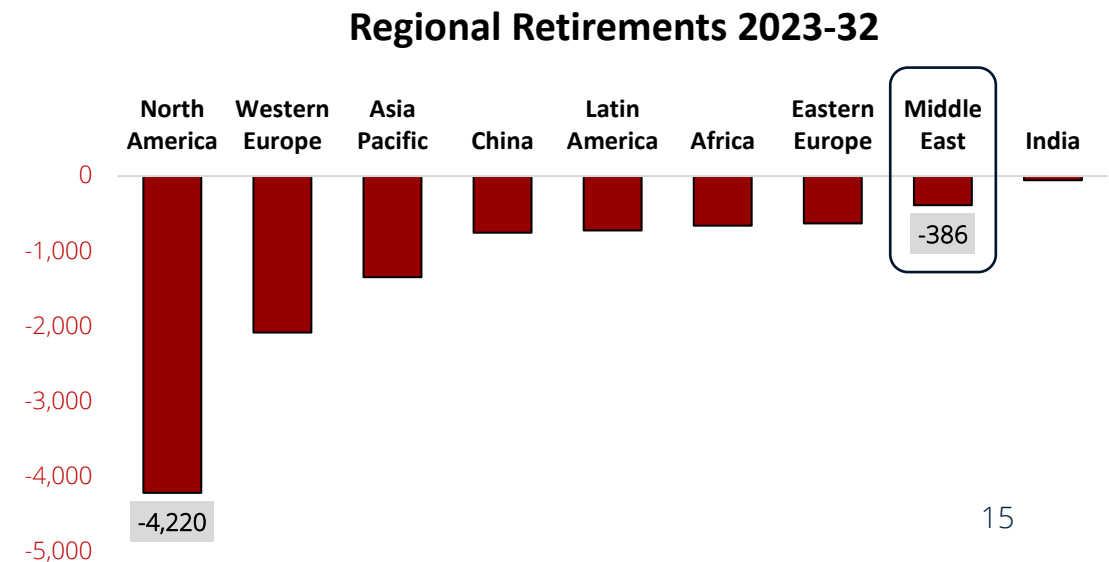


Forecast: Trends in Aircraft Retirements

Annual retirements historical & forecasted, % of in-service fleet

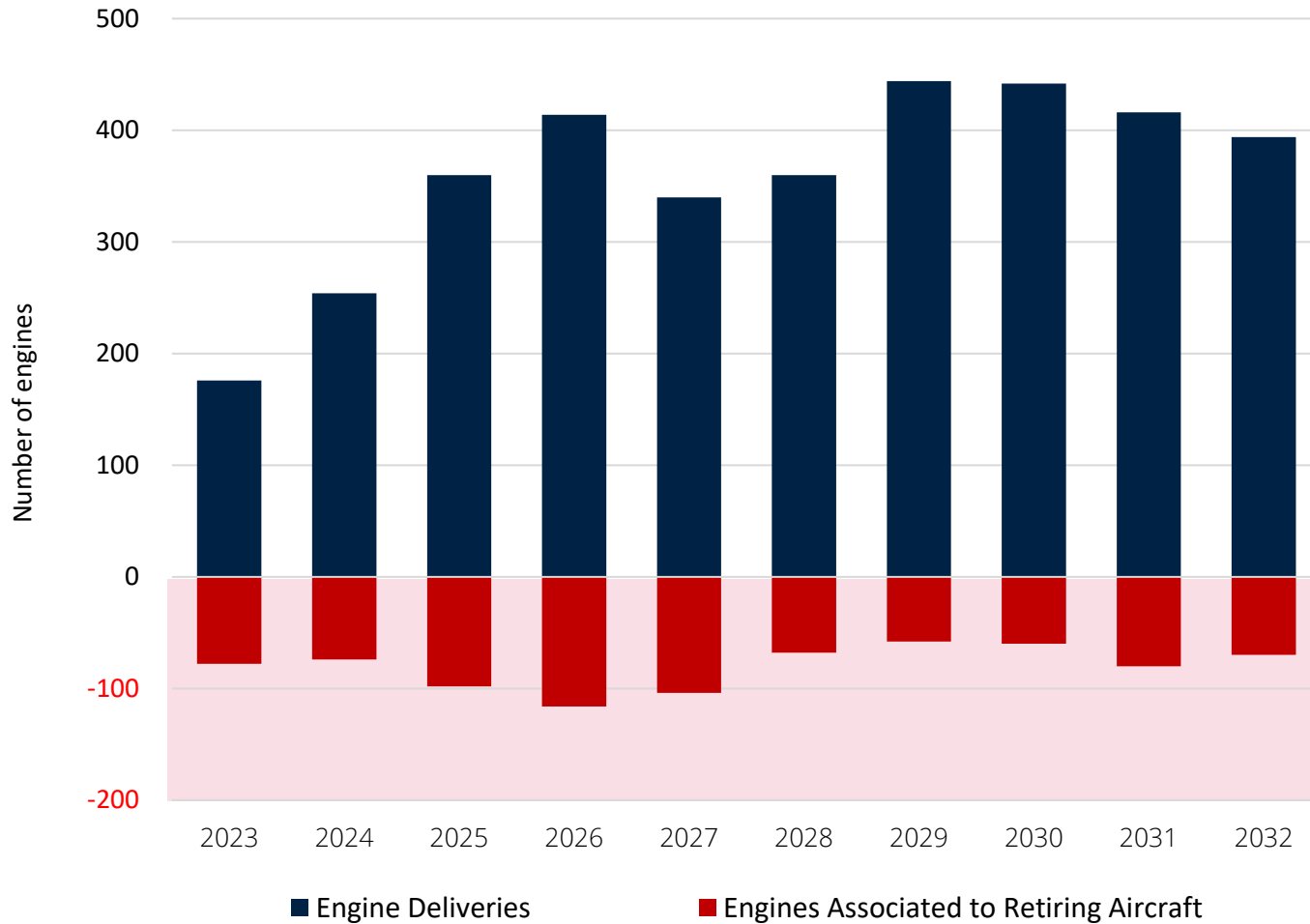


Recycled Parts Impact on Market?



Forecast: Middle East Engines

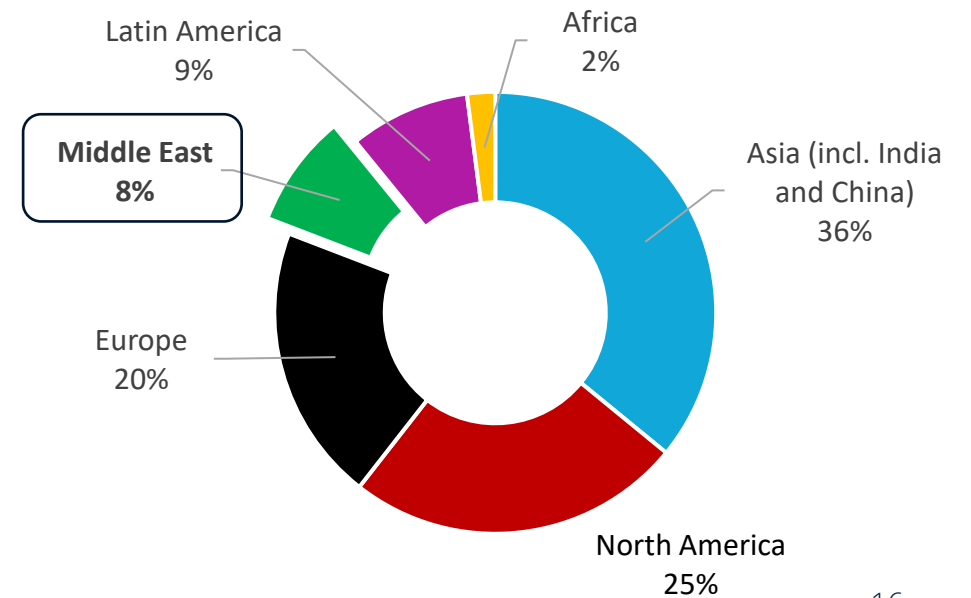
Engine deliveries vs. retirements 2023-32



3,600 new engines required in next 10 years in the region

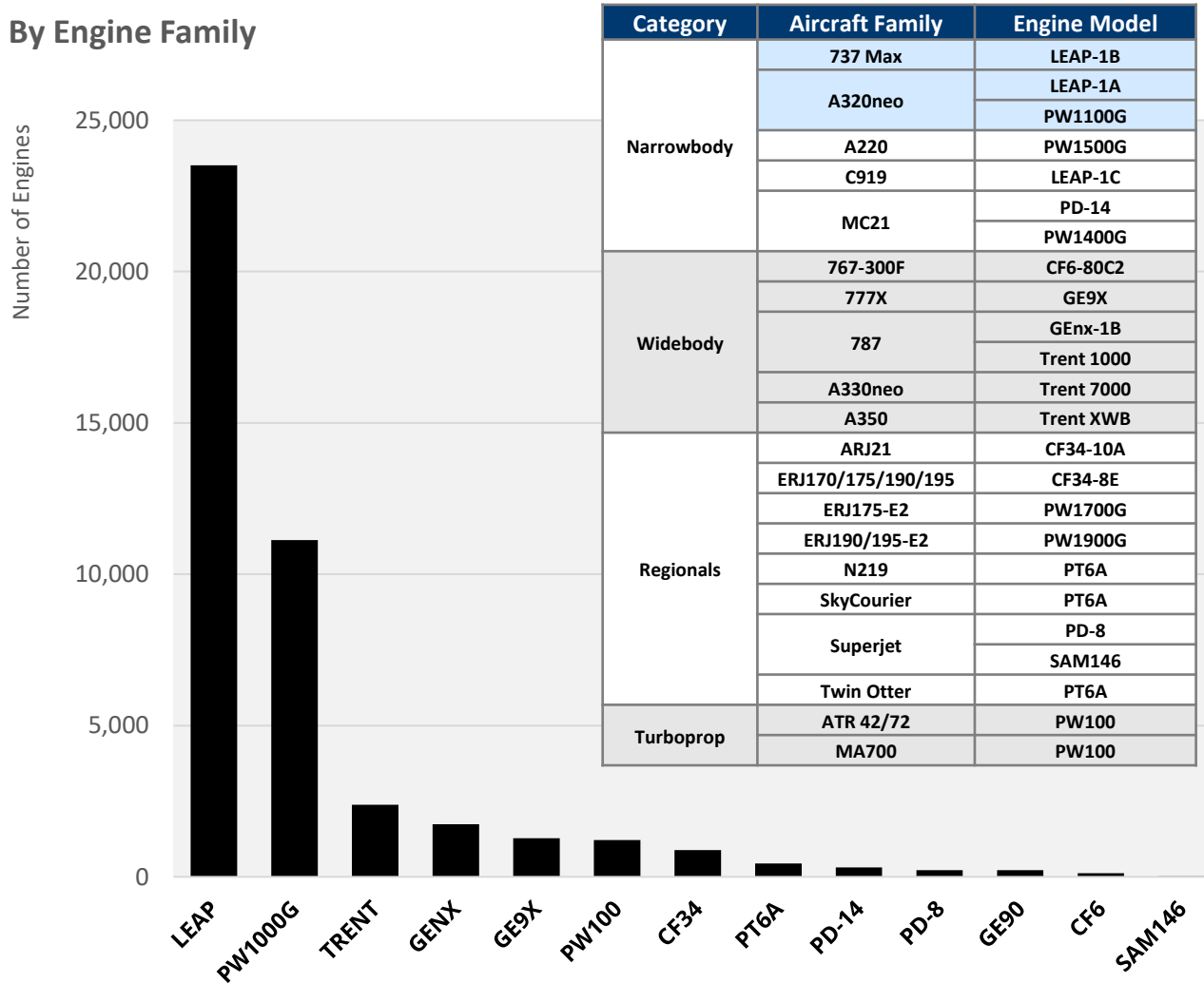
~800 retirements expected in the Middle East

World Delivery Share for Engines



Forecast: Global New Build Engine Deliveries 2023-32

By Engine Family



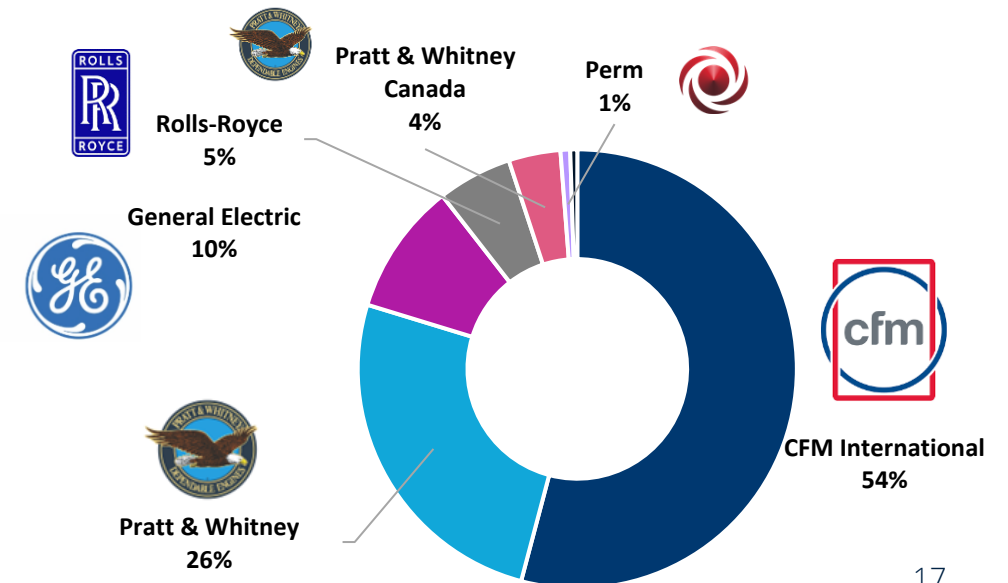
Drivers



CFM's LEAP engine alone is projected at over 23,500 deliveries.

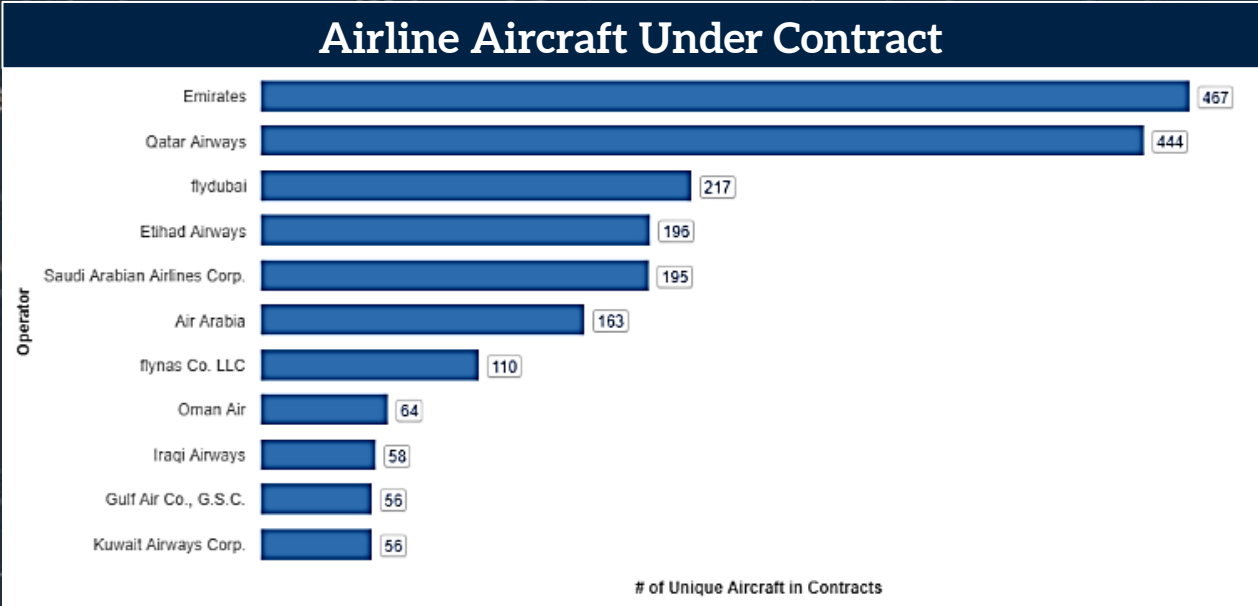
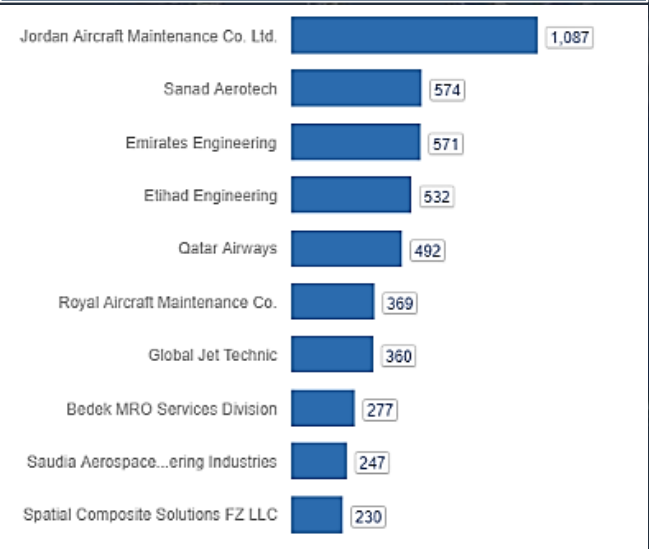
CFM engines account for 54% of all engine deliveries (not including spares...)

Deliveries By Engine Manufacturer



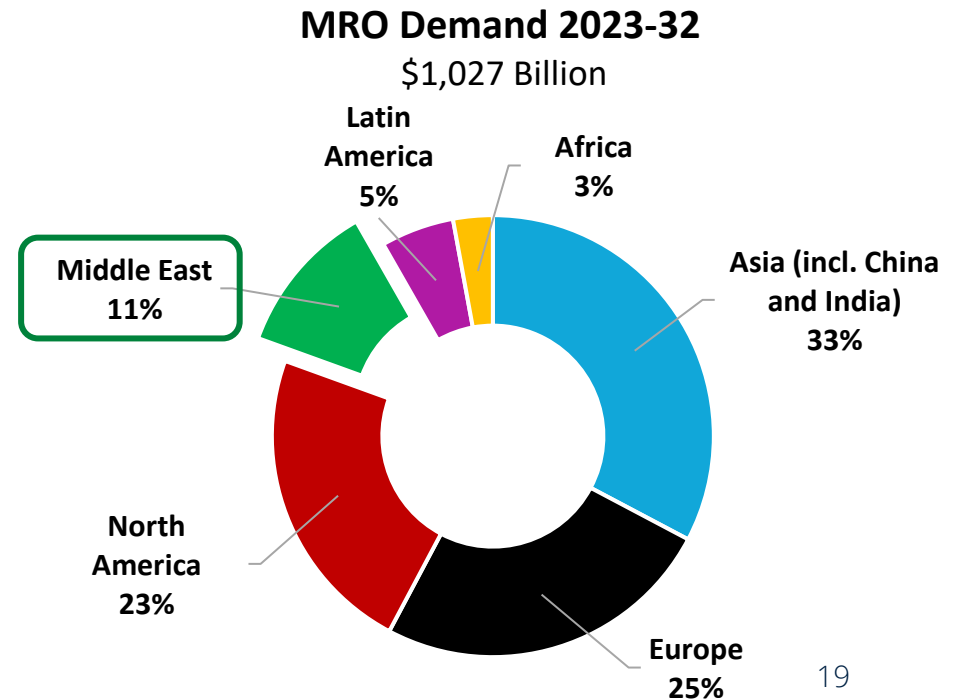
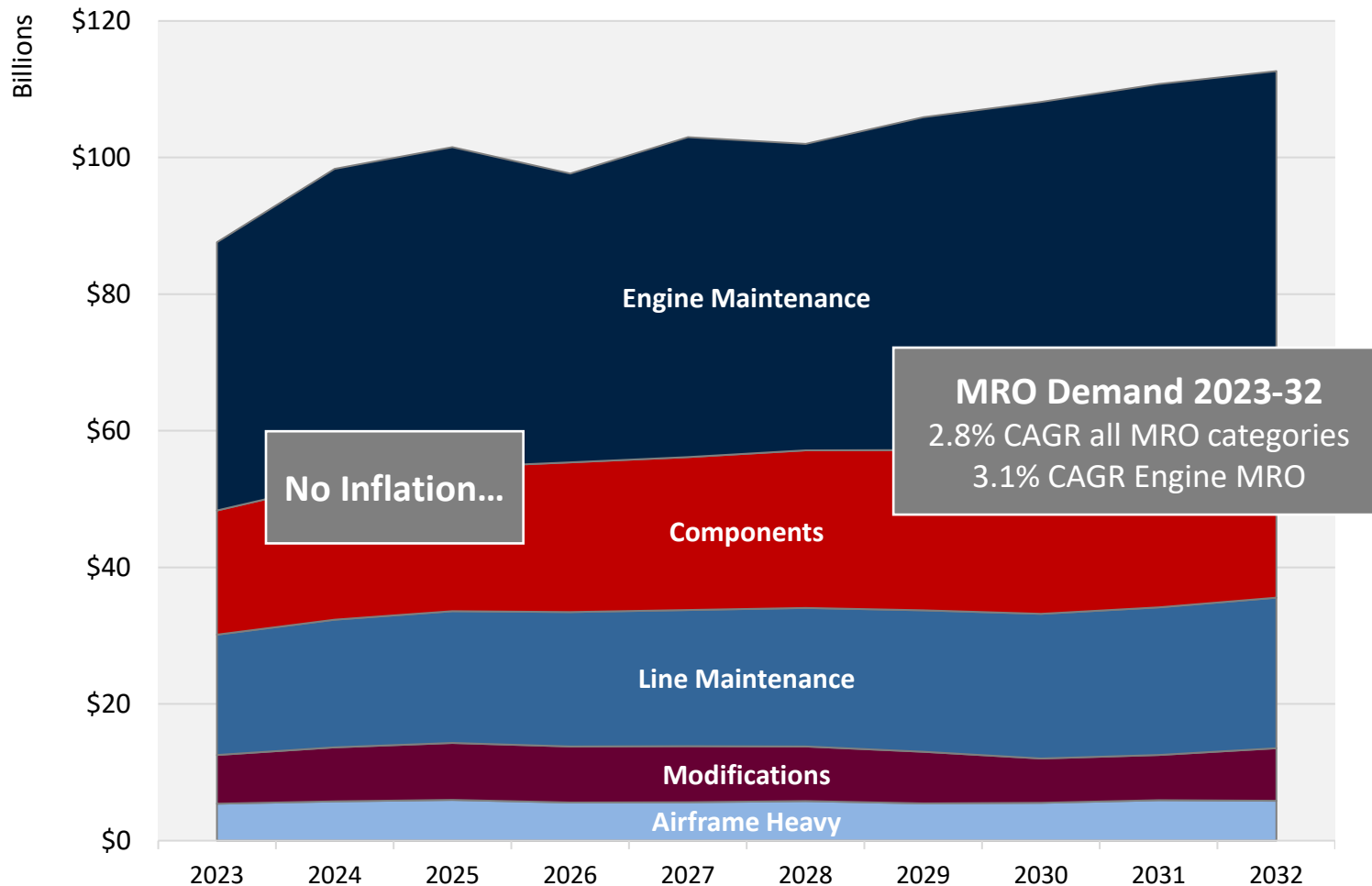
Top MRO Providers & MRO Contracts in the Middle East

MROs with Aircraft Under Contract



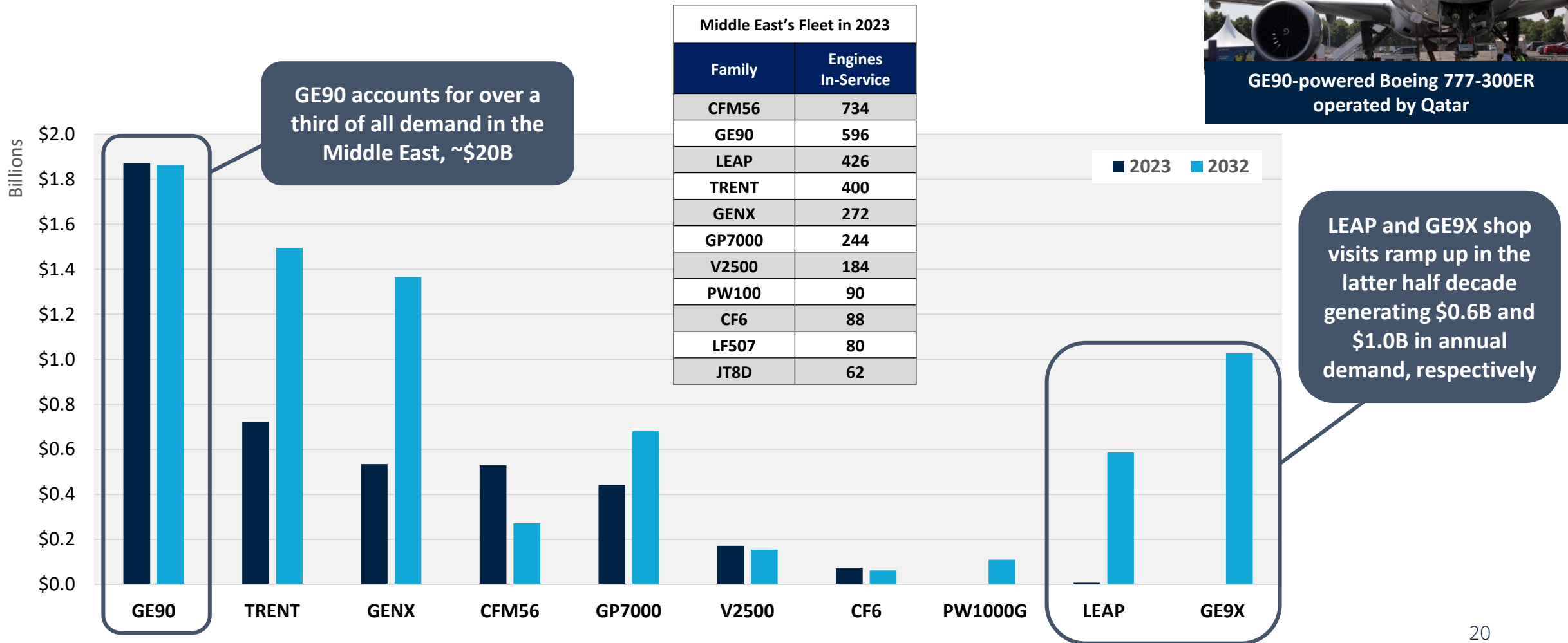
Forecast: MRO Demand - Overview

Global MRO aftermarket and the impacts from the pandemic



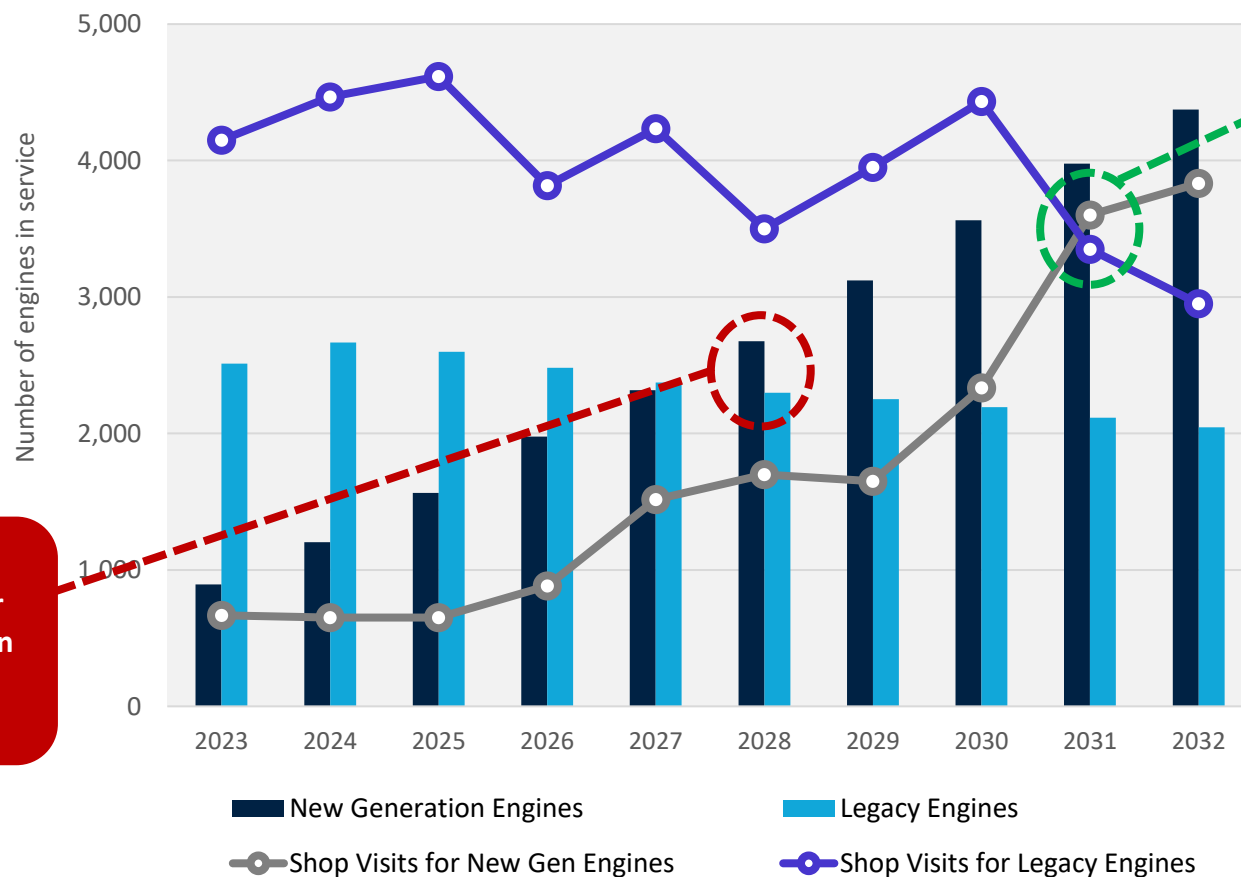
Forecast: MRO Demand Shift in the Middle East

Engine MRO \$ Demand by Engine Family



Forecast: Engine Fleet & Shop Visits in the Middle East

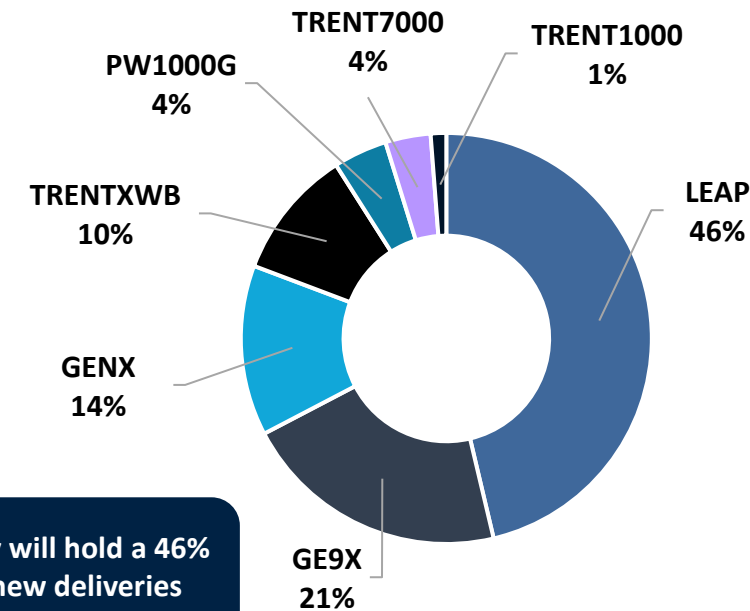
New generation vs. legacy fleet share forecast



Year 2028 is the inflection point for the New Generation engine fleet in the Middle East

Year 2031 is the inflection point for Shop Visits to New Generation engine fleet in the Middle East

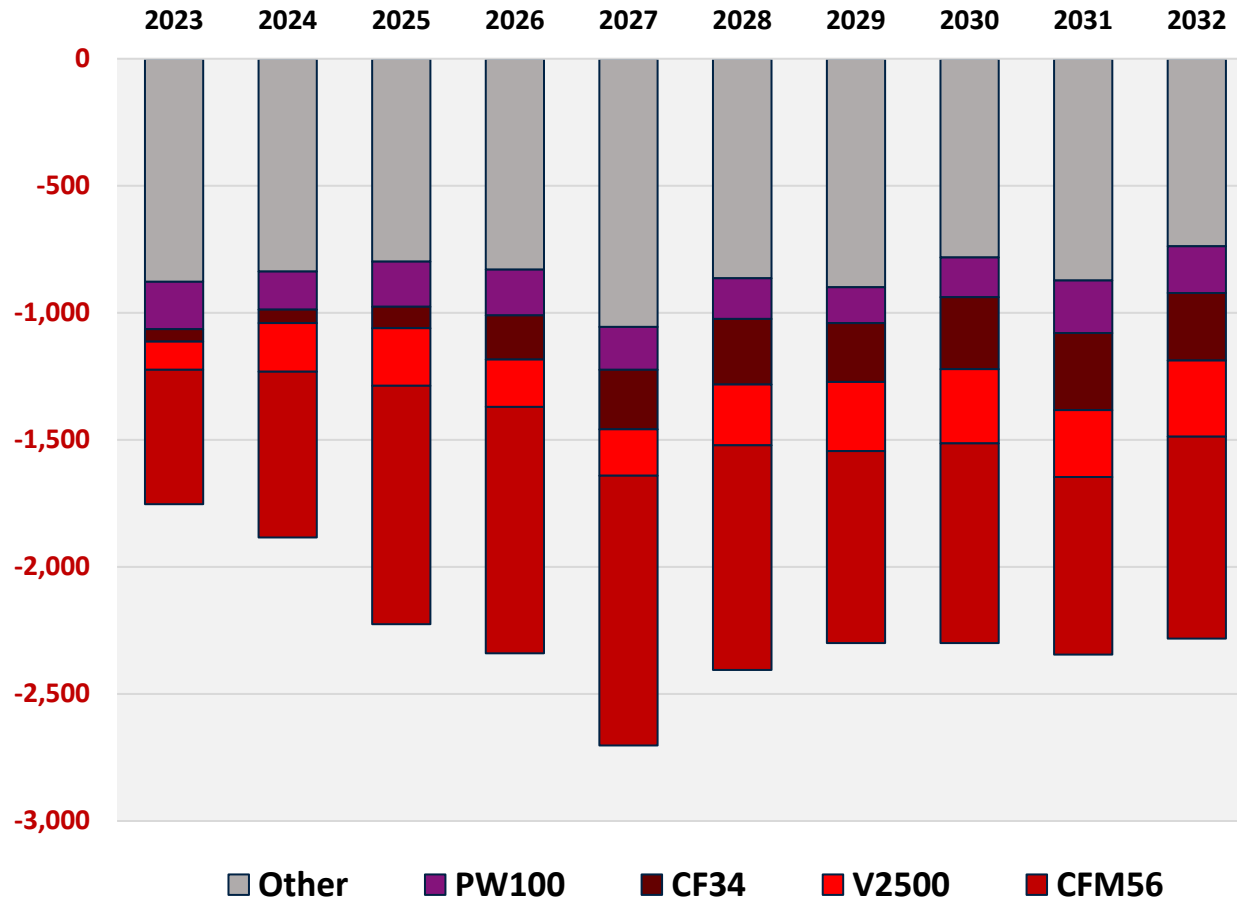
New Gen Deliveries in the Middle East



LEAP family will hold a 46% share of new deliveries (A320 + B737)

Forecast: Top Commercial Engines Coming To You Soon?

Engines worldwide associated with retiring aircraft: available as **green time spares** or USM?



Used spare parts/green time engines may depress pricing OEM/USM parts and leases of popular legacy types.

- Topping the list: 8,000 CFM56, 2,200 V2500 and 1,900 CF34 powerplants.
- Trends from 2022 suggest engine maintenance events avoided by switching between parked and active fleet as well as green time swaps to delay maintenance events/costs are coming due.
- Deferred maintenance may delay or accelerate retirements.
- Future: downward pressure on the price of legacy spares, leases, shop visits, & USM.



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