



YOUR FUTURE

THIS BIG

Be part of something bigger at  HAECO

# MRO

## The global resourcing challenge

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Jan 2024

# Introduction of Swire Pacific Group

- Swire is a highly diversified global group consisting of the following:

|                         |                          |                         |                           |   |
|-------------------------|--------------------------|-------------------------|---------------------------|---|
| <b>PROPERTY</b><br><br> | <b>BEVERAGES</b><br><br> | <b>AVIATION</b><br><br> | <b>HEALTHCARE</b><br><br> | <b>TRADING &amp; INDUSTRIAL</b><br><br> |
|-------------------------|--------------------------|-------------------------|---------------------------|---|

- Total capital employed ~US\$75,000m
- Global employees ~105,000
- Current presence in Vietnam
  - Swire representative office in HCMC
  - Cathay Pacific first started flying to Vietnam in 1949, restarting regular flights in 1992.
  - 2020: Acquired a minority stake in The River, a luxury residential project on Thu Thiem New Urban Area in HCMC.
  - 2021: Invested in Empire City, a large residential-led mixed-use project consisting of residential apartments, hotel, office, retail and serviced apartments also on Thu Thiem.
  - 2022: Acquired the bottling and distribution businesses of Coca-Cola in Vietnam.





# Introduction of HAECO Group

- Established in 1950, HAECO Group is one of the world's leading aircraft engineering and maintenance service providers:

- 16 operating companies
- ~13,000 employees
- Serving +300 airlines and other customers
- 28 hangars

- Nose to tail solutions encompassing:



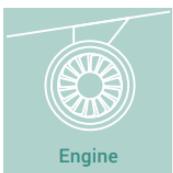
Airframe

Offers base maintenance, cabin reconfiguration, structural modification, and freighter conversion, as well as line maintenance, including transit checks and certification, ramp services, cabin management and 24/7 aircraft-on-ground support across Asia.



Component

Provides inventory technical management, landing gear services, composite services, component repair and overhaul services for hydraulic, mechanical, avionics and pneumatic systems across the Airbus and Boeing aircraft families.



Engine

Operates world-class repair, overhaul and testing facilities and provides global, 24/7 on-wing and off-wing engine support for Rolls-Royce, GE Aviation and Pratt & Whitney aircraft engines.

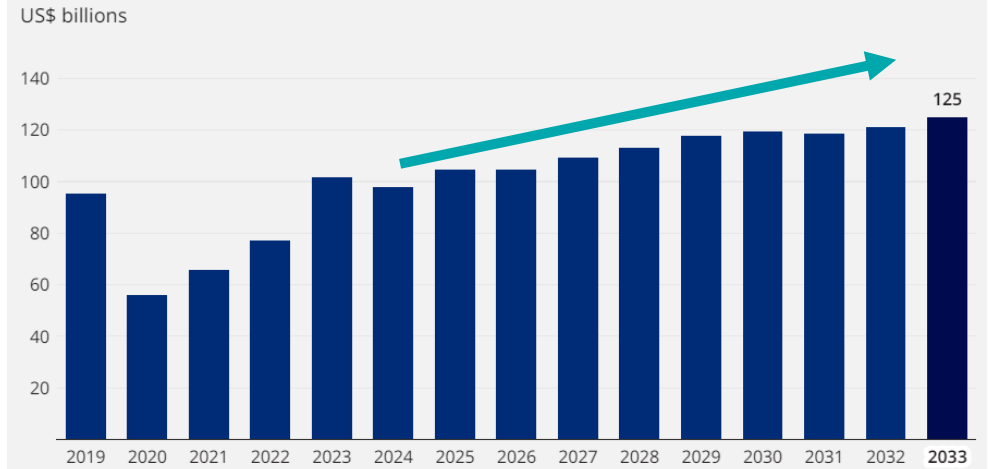


\*All data shown is valid for the year ended 31<sup>st</sup> December 2021.

# Global MRO market outlook and challenges

- The MRO market has returned to 2019 pre-pandemic levels, with the global fleet 98% recovered and passenger traffic back to 90% as of the beginning of 2023
  
- MRO spending is expected to grow by 2.9% per annum for the next 10 years through 2033
  
  
  
  
  
- The top two challenges identified by MRO executives are resource related:
  - Labour / material cost management
  - Maintenance technician labour shortage

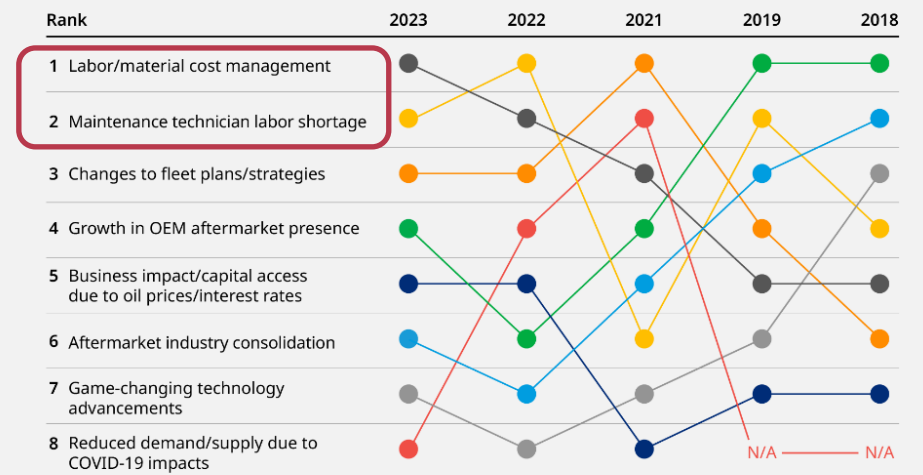
Global MRO spending forecast through 2033



Source: Oliver Wyman Global Fleet and MRO Market Forecast 2023–2033

### Top disruptors, 2018–2023

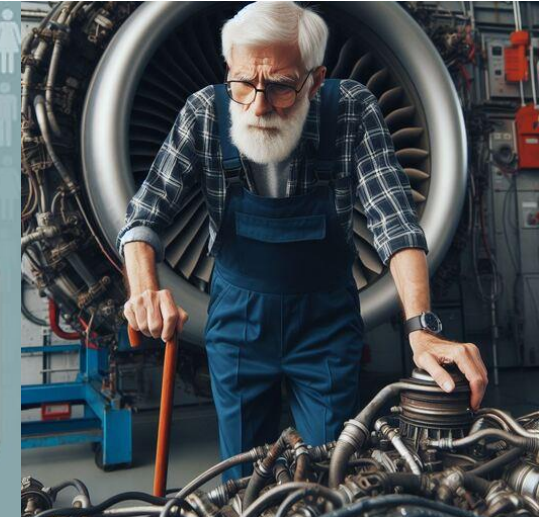
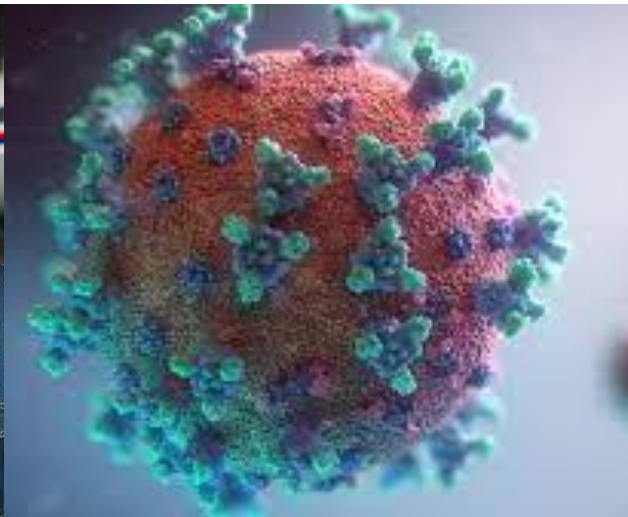
As ranked by survey respondents



Source: Oliver Wyman 2023 MRO Survey, Note: No ranking available for 2020

# COVID impact or a more structural problem?

- Even in 2019 in the US, the average age of an aircraft maintenance technician was 51, a full nine years older than the rest of the workforce.
- Over 30% of aviation technicians will be at retirement age in the next 5 years.
- Boeing reports there is demand for nearly 700,000 aircraft technicians in the next 20 years. Solely for SE Asia nearly 75,000 are required
- According to the London-based aviation technical recruitment organisation VHR, there is “one clear reason” behind the global skills shortage: “**a lack of interest in aviation from younger talent pools.**”





# How is HAECO tackling the resource challenge

- Business optimization using technology
  - Leverage digital and technology tools to improve competitiveness, transform operational performance, enhance customer value proposition.
  - Improve efficiency, staff & customer satisfaction, improve margins
- Expand workforce
  - Retain and motivate existing talent
  - Attract new people into the industry
    - Education partnerships - Colleges & universities, apprenticeships
    - Sourcing from new geographies
    - Increase female participation



Labels Digital Products Technology Initiatives



4 Aircraft

RFID material tag

Aircraft data analysis

1 Hangar

Maintenance record analysis

3 Office / Workshop

Robotic Process Automation  
HAECO Intelligence – report automation and data visibility



Robotic Arms

3D Printing

Drone Assisted Inspection

3D Fuselage Damage Analysis Tool

Task card integration with mobile devices

AR device remote assistance

Customer Gateway – Real-time input status



Customer Gateway – Input Planning and Tracking

2 Warehouse



Automated Guided Vehicle Warehouse

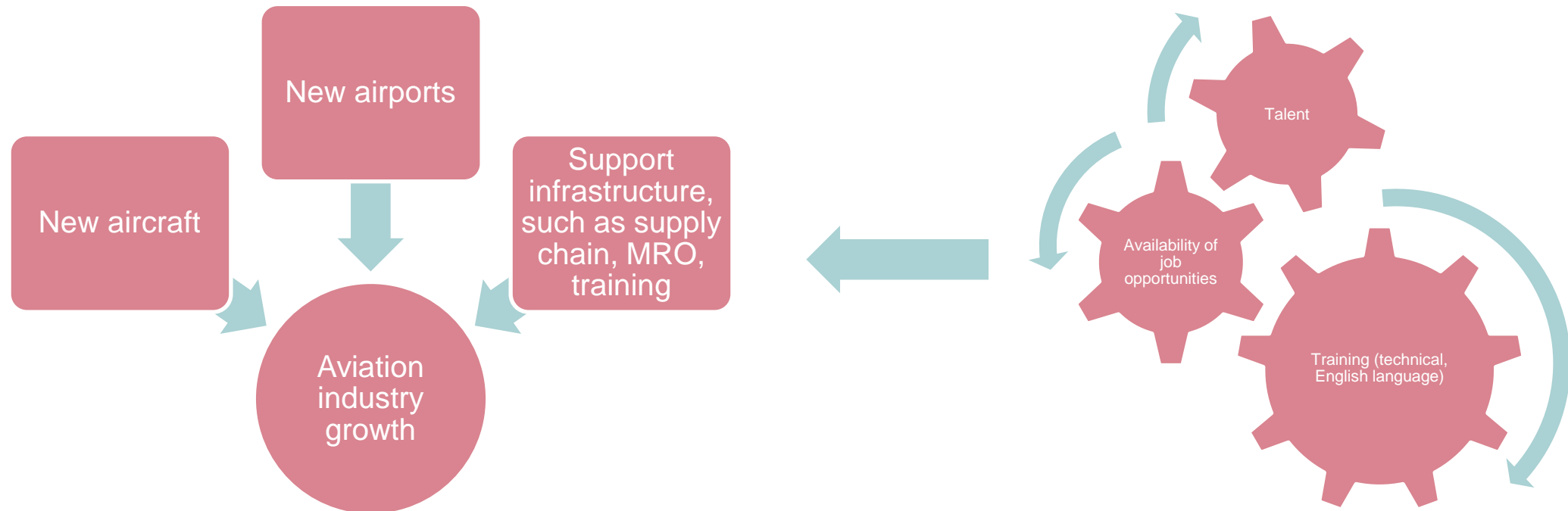
HAECO Intelligence – inventory analysis

RFID tool kit



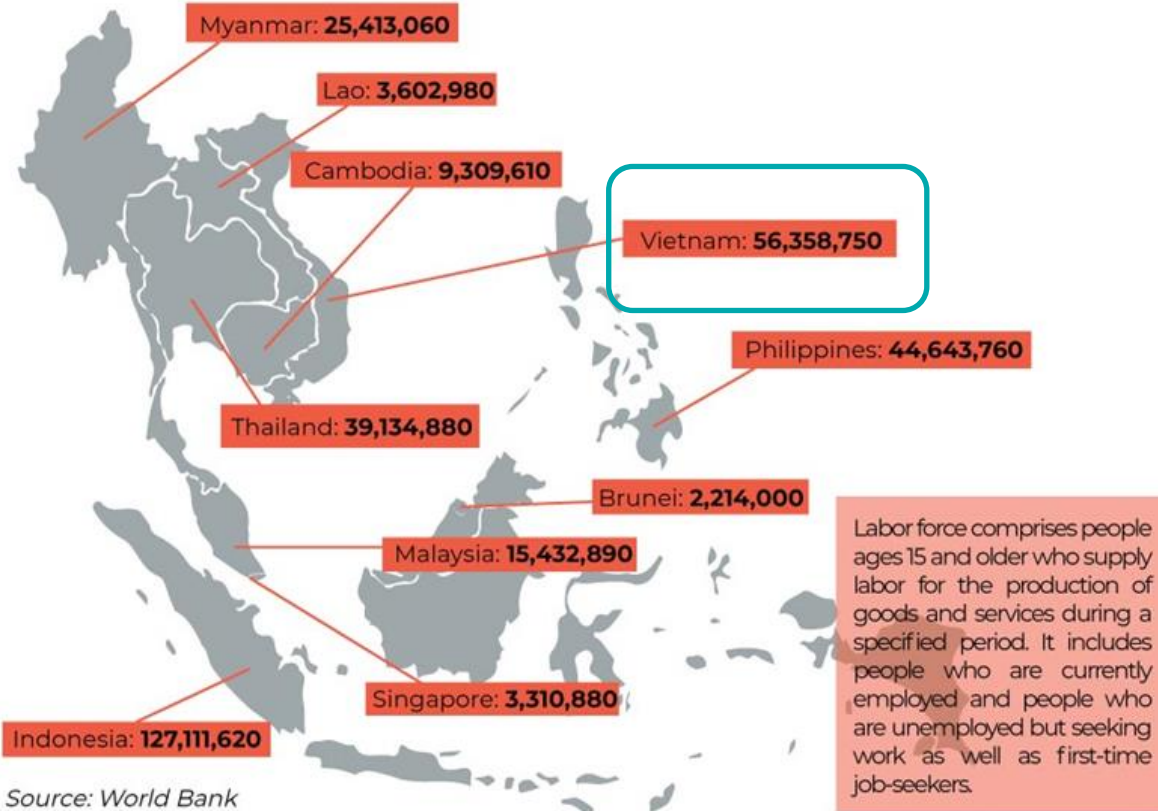
# The Vietnam picture – Demand

- According to the 2021 Commercial Aviation Fleet & MRO forecast, Vietnam’s fleet will reach 521 aircraft by 2030 at a **CAGR of 9.6 percent** (compared to 3.4 percent of Asia Pacific).
- Vietnam MRO market is expected to grow at **CAGR of 10.6 percent** over the next decade 2021-2030, in line with the 9.6 percent annum expansion in its fleet.
- New airport and existing airport expansion projects in sight.
- Civil Aviation Administration of Vietnam (CAAV) estimates that the MRO demand in Vietnam will reach **\$7.4 billion by 2030**, with domestic MRO demand growing even faster . However, the industry is facing a significant challenge in terms of labor shortages and the procurement of highly skilled workers.
- In 2022, total local MRO revenue is estimated to reach \$151 million while the total MRO demand in Vietnam is \$654 million. Vietnam MRO’s capability is still in the initial stage, only accounting for up to 23 percent of market demand while 77 percent of services are being outsourced.





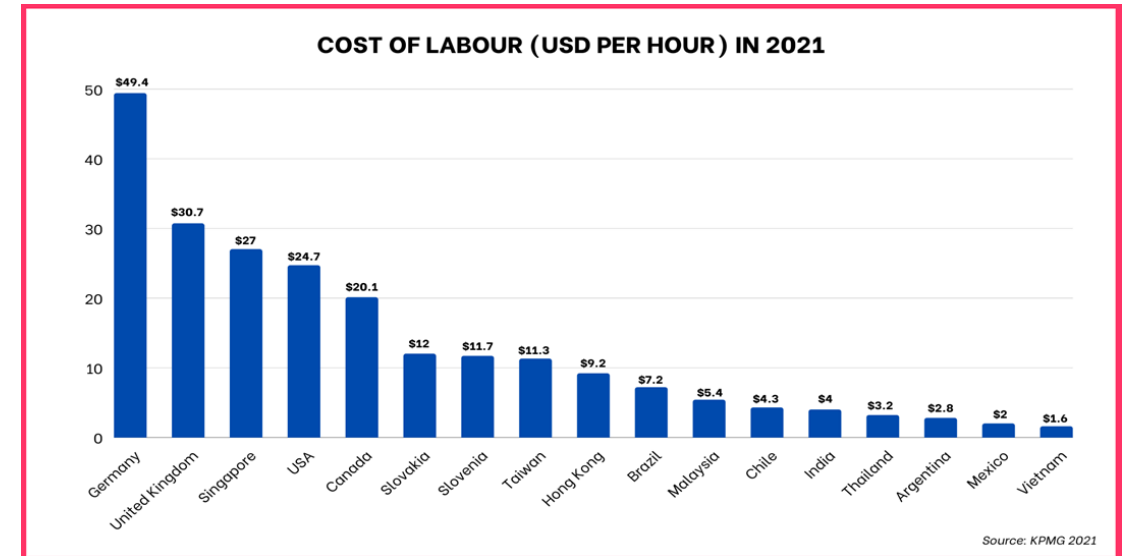
## LABOUR FORCE IN ASEAN MEMBER STATES



Source: World Bank

Source: [The World Bank](#)

- Vietnam has the 2<sup>nd</sup> largest labour force in ASEAN.
- The supply of an educated and cost-competitive workforce is attractive to labour-intensive but high tech industry, such as aviation MRO.
- There are thousands of qualified engineers who could work in aviation, with many more graduating each year



Source: ManpowerGroup



- Industry to broaden engagement with schools/universities on broader aviation technician opportunities.
  - *E.g. HAECO will look to participate and sponsor graduates to training schools in China and Hong Kong.*
- Incentives to promote the establishment of MRO specific Part-147 technical training in Vietnam
- Investment in the MRO sector (in general) to raise its profile amongst young graduates to build the pipeline of talent





# Conclusions

- Global demand for Aviation Technicians will remain strong
- Vietnam's own strong aviation growth will mean a strong demand for technicians to support domestic MRO
- Vietnam outsources (overseas) more than 70% of it's MRO work
- Vietnam has strong fundamentals
  - Young workforce
  - High Education levels
- Challenges still remain
  - English language skills not at international standards
  - Limited local training schools



**Vietnam has the opportunity to not only support its domestic MRO development; but also, be a key supplier for growing International demand.**

**Thank you**