Ever Changing MRO landscape

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Is the MRO landscape changing?
Initial MRO Landscape change

- MRO activity was initially the domain of the airlines.
- Very little work outsourced to independent providers or manufacturers.

Increasing financial pressure on airlines has forced them to seek ways of reducing costs.
MRO Landscape Drivers

- Economics
- MRO Industry
- Environment
- Technology
Economics

• Global air transport growth drive MRO growth.
  – Asia Pacific fleet growth is world region fastest at CAGR 6.2%.

• Convergence of Military MRO with commercial MRO.
  – Global Commercial MRO growth at CAGR 3.9% versus a flat Military MRO growth.

• Operators having larger, with better bargaining power over MRO costs
MRO Industry

- Aircraft OEMs are fast becoming Major MRO players threatening to independent MROs

- Consolidation of MRO providers in Europe continues with a few dominant providers buying into others or taking them over entirely.

- New entrant in MRO in Asia, creates disruptive competition

- OEM Dominate Engine (43%) & Component (35%).
- Independent have the largest share of airframe MRO and modifications.
Environment

- Financial pressures in the air transport market and Introduction of low cost carriers.
  - Transfer of work to a lower parts and labor cost providers and countries.

- Airline deregulation in Asia and increase Airworthiness oversight.
  - Create more MRO demand with greater quality, delivery performance and cost.
Technology

- Continual improvements in design and production techniques, each succeeding generation of aircraft requires less maintenance than the predecessor.
  - Reduction in both work scope and work frequency which lead to under utilization of existing resources.
What will happen in the future?
Trend and Strategies

• **New Partnership with OEMs**

• **Convergence** of Services and Customer sectors in the area of **Defense** while strengthening the current **Commercial** Services

• Developed efficient and innovative **cost structure** to allow faster adjustment to workload variations

• **Focus on efficiency**, high utilization of flexible working hours and process innovations

• Expand and continuous investment in facilities, training and product improvement
Conclusion

• MRO ecosystem reshapes creates opportunities.

• Demand for MRO services is on the rise, and it’s coming from new regions.

• 3\textsuperscript{rd} party logistics players plays a role in mitigating regional risks and compliance demands.

• As new companies enter the aircraft maintenance business and others change or expand their value propositions, MRO providers will be compelled to become more collaborative & more competitive.
NADI Group of Companies is a total Aerospace Ecosystem from Manufacturing, MRO and Aircraft Operations brings a comprehensive capability and solutions.

NADI COMPREHENSIVE AEROSPACE CAPABILITIES

- **AIROD**
  - World Class Military MRO
  - Deep understanding of Military requirements
  - Engineering Capability for Mods & Upgrade

- **Airod Aerospace**
  - World Class Commercial MRO
  - Leveraging commercial best practice
  - In-depth capability in AIRBUS, Boeing & ATR advance systems and structures.

- **SME Aerospace**
  - Aerostructure manufacturer in Global supply chain
  - Deep understanding off manufacturing process and OEM for Airbus & Boeing

- **AVIATION DESIGN CENTER**
  - DCA Design Organization Approval (DOA)
  - Aircraft design and training capabilities

- **AEROLOGICA**
  - Integrated and global supply chain solution (SCM) provider
  - Maintenance and SCM IT solutions provider.

Defence & Precision Engineering

Aerospace Manufacturing

Maintenance, Repair & Overhaul (MRO)

- SME Ordnance
- SME Aerospace
- Aviation Design Center
- AIROD Aerospace Technology (AAT)
- AIROD
- Aerospace Tech Systems Corp (ATSC)
- AIROD Technopower
- AAR Landing Gear Services

Airlines

Malindo Air
B737-900ER
ATR72-600
AIROD Aerospace Technology

- **Spin off** from AIROD military aircraft capability to focus and leverage the growing commercial aircraft industry.
- **15 x Aircraft Bays** with a dedicated paint hangar
- 13 NAA approvals – FAA/EASA/CASA... and AS9110 certified
- Over 100 base maintenance on the B737 / A320 families & ATR42/72 since inception