

An Even More Important Part of the Future

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Take a look around an airline ramp today and you'll see something the aviation industry wasn't expecting a decade ago. Lots of airplanes that weren't supposed to still be here.

They were supposed to have been replaced by newer, quieter and more fuel-efficient aircraft. Instead, production delays, supply-chain problems and enormous manufacturer backlogs have turned yesterday's retirement candidates into some of today's most valuable assets. And somebody has to keep them flying.

For years, the aviation industry's basic assumption was straightforward. Airlines would progressively replace older 737NGs, A320ceos and aging widebodies with MAXs, A320neos, 787s and A350s. That would gradually reduce the maintenance burden associated with older aircraft. Unfortunately, that isn't happening nearly as quickly as desired. There are other challenges to be sure. But this one is creating bottleneck upon bottleneck in MRO.

"Aircraft are not being delivered on schedule, engines are not staying on wing as long as expected, spare parts are hard to secure, repair turnaround times have skyrocketed, and maintenance capacity is constrained," said Stuart Fox, IATA's director flight and operations at a conference this summer, not to mention continued supply chain issues, worker shortages and lack of capacity.

IATA says the average global fleet age has now reached a record 15.2 years. The aircraft backlog exceeds 18,000, while airlines are short more than 5,000 newer aircraft they had expected to have by now. The aircraft that airlines expected to retire are becoming indispensable. The maintenance implications are many and varied. An airline expecting new aircraft deliveries may have been saying, "We're not putting another major investment into this airplane…" but is now faced with keeping it going for three, five or more years. These are diametrically opposed philosophies, and the realization has required some major shifts in thinking and planning.

Instead of delaying whatever is possible, additional heavy checks, structural inspections and repairs, landing gear overhauls, engine shop visits, wiring inspections, corrosion inspection and control and many other types of work are becoming necessary.

Oliver Wyman's latest forecast explicitly says airlines will continue extending the service lives of aging fleets and maximizing aircraft flying hours because production is lagging demand. Ten years ago, their forecast predicted that accelerated deliveries would create a huge technology shift and that retirements of older aircraft would remain brisk. Instead, here we are in 2026 talking about keeping those airplanes flying.

Older airplanes aren't inherently unsafe, of course. Aircraft can continue operating safely as long as they comply with the applicable maintenance, inspection and airworthiness requirements. But they do require more maintenance and more parts, while MRO companies are already operating at capacity and certified spare parts can be difficult to find. The aging fleet is also less fuel efficient causing billions in additional fuel expense — IATA says $4.2 billion in additional fuel expense in 2025 alone. The aging has slowed aviation's historical fuel-efficiency improvement movement.

All of that is complicated by another aging issue: technicians. We've talked and talked about the shortage of mechanics. It is a strange phenomenon — impactful but not quite dire. The technicians who know older aircraft best are often the industry's most experienced technicians. As those technicians retire, MROs aren't simply losing labor. They're losing institutional knowledge at exactly the moment the industry needs that knowledge to keep older aircraft operating longer.

Oliver Wyman's 2026 Survey says: "Operators and MROs/OEMs report finding it similarly challenging to secure required mechanics and technicians. While operators historically recruited experienced technicians from MROs, the supply of qualified technicians, especially at large airframe MROs, is limited. Operators are thus increasingly recruiting technicians directly from schools — which could impact productivity in the near term, as these newer technicians will have a steeper learning curve."

When thousands of aircraft that were expected to become teardown candidates stay in service, they continue consuming spare parts while simultaneously not becoming a source of used spare parts in the used serviceable materials (USM) market.

The aviation maintenance industry has been handed an extraordinary challenge. The world's airlines have enormous demand for capacity. The manufacturers cannot provide new aircraft quickly enough. Therefore, a significant portion of that capacity has to come from aircraft already in service. So, a thankless task has fallen to you. The MRO industry is buying the manufacturers time.

Airlines can tolerate delayed deliveries because maintenance organizations keep existing aircraft airworthy. Airlines can postpone retirements because technicians keep aging structures, engines, landing gear, avionics and components functioning.

The aviation industry has spent years talking about the aircraft of the future — more efficient engines, increasingly digital cockpits and eventually new propulsion technologies. But for the next several years, one of aviation's biggest challenges will be much less glamorous. The industry will need to keep the airplanes we already have flying longer than anyone expected.

The Boeing and Airbus duopoly will eventually work through their enormous backlogs. Until then, however, the industry's capacity problem is an aircraft maintenance problem. And that makes the people keeping aging airplanes flying an even more important part of aviation's future. AVM



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