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With new aircraft deliveries delayed, the aviation industry is increasingly relying on Used Serviceable Material – recycled and refurbished parts – to keep planes flying, but supply is struggling to keep pace. Ian Harbison reports.

A saircraft age, maintenance requirements become greater but the supply of replacement components becomes a challenge. This is especially the case after the production line is closed, as many suppliers will also stop part support as they move on to the next project.

As a result, increasing demand and declining inventory levels mean a different approach is needed to keep aircraft flying.

The main solution is to strip retired aircraft of the most vital components and repair and refurbish them, supplemented by items held in stock. This produces what is known in the industry as Used Serviceable Material (USM).

QUICK TURNAROUND

Simon Goodson is CEO of AerFin, which has just moved into a new 116,000 sq ft facility at Indurent Park, Newport, South Wales.

This will double the company's engine

MRO capacity, enabling up to 200 quick-turn shop visits annually and supplements other facilities in Dublin, London Gatwick, Miami and Singapore.

AerFin is also a major player in the USM market, supplying airframe components for Airbus A320 family and A330 aircraft; Boeing 737NG/Max, 777 and 787; and Embraer E170/175/190/195.

The company also supplies engine components for CFM CFM56-58/78; GE GE90, CF6-90 and CF34-8/10; IAE V2500; Pratt & Whitney PW4000 and Rolls-Royce Trent 700.

Goodson says: "The aviation industry is facing a challenging period marked by a significant shortage of serviceable aircraft, engines and parts. Reports of airlines grappling with grounded fleets due to supply constraints are becoming increasingly common.

"British Airways, for example, has

adjusted its flight schedules due to a lack of serviceable Rolls-Royce Trent 1000 engines for its 787 fleet, while half of Pakistan International Airlines' fleet of 777 and A320 aircraft was recently out of service due to parts shortages.

"This challenge is not going away any time soon – and may worsen before it improves."

What's more, he says this issue is widely misunderstood because it varies across subcategories and product lines.

"For example, challenges with the Trent 1000 are tied to issues like new engine production delays, MRO capacity constraints, and shortages of critical components such as high-pressure turbine (HPT) blades. The scarcity of USM compounds the problem, as the market lacks the inventory to make a material impact.

"Similarly, aircraft like the Boeing 787 highlight the broader shortage. With only a handful of airframes torn down, the supply of USM remains constrained as a cost-effective alternative to the OEM's sale of new parts.

"Meanwhile, for mature, mid-life aircraft types, operators do often look to USM as a better option to meet short to medium term

LARA April/May 2025



operational and/or lease return requirements. The challenge for the supply of such USM is that, for platforms like the A330ceo and 777-300ER, teardown activity has been more limited in recent times because airlines are extending these aircraft in service instead of retiring them."

SPIKE IN DEMAND

Goodson adds: "This has created a spike in demand for major assets like landing gears, auxiliary power units (APUS), nacelles and thrust reversers. With limited availability, prices for USM have risen by 20 to 40 per cent over the last 12 months, depending on factors such as the product line, maintenance condition and the quality of technical records."

He says this is a "perfect storm" for operators and 2025 could see even fewer aircraft retirements due to the ongoing delays in new deliveries and the continued operation of mid-life aircraft being extended further.

Goodson notes that very recently some airlines "have chosen to extend not just by one or two years but by as many as four to six years, for both narrowbody and widebody platforms".

This is because operators are reacting to passenger demand levels by retaining or growing capacity, but this is easier said than done.

Lease extensions are rarely short-term in the current market and "lessors are unlikely to grant one-or two-year extensions when other airlines are willing to commit to longer leases".

"As a result," says Goodson, "operators face tough decisions – commit to longer leases or buy aircraft outright to shield themselves from further delays and uncertainties."

He suggests that this behaviour indicates a lack of confidence in a near-term resolution, adding: "Airlines are unlikely to sell their fleets or reduce operational capacity, further tightening the market. This puts even greater pressure on companies like AerFin to secure the critical assets needed to support operators."

The parts shortage has seen a noticeable increase in capital flowing into mid-life trading and part-out activities as some investors explore more innovative opportunities.

This trend is partly driven by intense competition in the sale and leaseback market for newer aircraft.

Many large players focus exclusively on brand new aircraft and engine types to lease to airlines with strong credit ratings. This has created a highly compressed market, with equity returns under significant pressure, forcing capital to diversify into mid-life assets to achieve a better blend of returns. Goodson says the aviation aftermarket is at a crossroads due to the pressure of parts shortages, rising USM prices and limited aircraft retirements.

But he feels that AerFin will be able to use its expertise to provide solutions that will help its more than 600 customers, including over 300 airlines.

Goodson adds that, as the market evolves, collaboration between airlines, lessors, investors and aftermarket specialists will be critical to overcoming the current challenges.

AerFin is currently taking proactive steps to seize opportunities in the mid-life trading space. These include on recruiting, developing and retaining talent employees, opening new global locations to be closer to customers, enabling a more responsive and tailored service.

The company is also broadening its product line as shifts in the market make other asset classes, beyond mid-life, become more attractive commercially.

This strategy has already seen the purchase of several aircraft for teardown, including four Soot Airbus A320s, in 2023; six Hong Kong Airlines A330s with PW4168 engines in 2024; and a JAL Boeing 777-300ER in January 2025.

Abdol Moabery is the President and CEO of GA Telesis, Image: GA Telesis



Another part of the strategy is to target assets with unique location or technical challenges, to unlock value where others might see risk. A good example is the A330, which has the more unusual enhanced landing gear.

PRODUCTION DELAYS

Abdol Moabery, President and CEO of GA Telesis, agrees that the combination of extended aircraft service life and production delays has intensified the demand for engine components and MRO services for mature proven aircraft.

Over the past three years, he has noticed a strong demand surge for engine products and airframe components and MRO services.

Those ongoing delays in the delivery of new aircraft from OEMs, driven by persistent supply chain disruptions, labour shortages and strikes, as well as regulatory scrutiny, have created a significant increase in demand for USM.

Airlines are increasingly turning to USM for their component needs given the extended lead times for new parts. GA Telesis has not seen a material increase in production rates for new parts. In fact quite the opposite, according to Moabery.

While cannibalising their own fleets, rather than purchasing USM, might seem to





Part of the higher demand for Used Serviceable Material is down to production problems at OEMs. Image: AJW Group

be attractive to some airlines, he says this is only happening in Russia, where they have little to no legal access to USM from the open market.

For those that have access to the marketplace, there is plenty of USM available in the market, thereby alleviating the need to cannibalise aircraft of their parts.

The highest demand right now is for engine parts. As well as production delays for new parts driven by raw materials issues and labour shortages, engine maintenance is surging because of so much deferred maintenance during the pandemic.

This has resulted in significant demand for engine maintenance slots and the associated parts.

There is adequate feedstock to meet demand, but Moabery points out that for every aircraft whose operations are being extended, there is one less aircraft and two less engines for disassembly and redistribution.

The disassembly numbers are half of what they were pre-pandemic and 30 per cent of what they were forecasted to be

with the introduction of the neo/MAX

Moabery says that, as the world's largest independent supplier of USM, GA Telesis will continue to meet the market demands. The company sees itself as a consolidator or clearing house for the market that is acting as a conduit between the supplier community and the global end user base. This is made possible via a global distribution network.

STRATEGIC PARTNERSHIPS

Scott Symington, Chief Commercial Officer at AJW Group, says demand for fixed rate power-by-the-hour (PBH) services is at an all-time high, as airlines look for supply chain certainty and prefer to transfer risk to providers like AJW Group, which holds extensive inventory pools.

The customer repairs team has established relationships with hundreds of third-party MROs, including in-house AJW Technique, with facilities in Canada and the UK.

This enables the company to efficiently manage and outsource repairs on behalf of its customers.

Strategic partnerships like these are critical to service delivery, and Symington says that as a supplier AJW is committed to staying ahead of shifting demand patterns to ensure it remains a key player in this evolving industry.

Part of the increased demand for USM was down to production problems at OEMs, but there is finally an uptick in OEM production after their Covid-related problems – as is clear from the company's 25 per cent growth in sales and trading over the past year.

This is especially true for mature aircraft platforms where operators focus on extending the life of the aircraft and manage maintenance costs efficiently.

Airlines and MROs such as AJW Technique continue to look for cost-effective solutions to manage operational expenses, particularly as supply chain challenges continue for certain new parts.

The industry is still trying to find a balance between new and serviceable material, but USM remains a key part of the supply chain strategy.

Larger airlines with the resources to cannibalise their own fleets and horizontally integrate their own supply chains will do so. but most airlines do not have either the necessary resources or the capability.

In addition, the airline would need to own the aircraft to do this, which means anyone with a leased aircraft, which is over 50 per cent of the market, needs to return the aircraft to the lessor.

Except for the largest lessor in the world, which has vertically integrated its own spare parts distributor, most lessors will sell aircraft for part-out into the USM market.

However, this doesn't necessarily mean a reduction in USM demand. Carriers still rely on the aftermarket for critical components, especially while there continues to have supply chain and lead time constraints. USM remains a vital part of cost management and operational efficiency for all airlines worldwide.

Typically, the highest demand is for the

ceo/NG types, but also those on new generation assets where the OEM has tight control of the aftermarket but insufficient stock to meet airline demand.

The purchase price of certain aircraft types is prohibitively high. However, that has created an opportunity to reduce AJW's reliance on narrowbody types by expanding its widebody inventory - especially for the A330 and 777.

The company's size and scale has also allowed it to deploy a strategy of heavily investing to become a major player in the A350 and 787 markets.

At the same time, it continues to invest in neo and MAX inventory as customers slowly induct these aircraft into their fleets as production rates slowly recover.



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