

DISASSEMBLY AND RECYCLING

As the aviation industry concentrates on environmental issues and aircraft recycling, EirTrade Aviation's VP asset management **Lee Carey** considers this shift and its wider impact on aircraft disassembly



“Demand for aircraft disassembly will grow steadily as older aircraft are retired to make room for the delivery of newer technology aircraft”

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Lee Carey is VP asset management at EirTrade Aviation

Aircraft disassembly provides aircraft owners and financiers with an alternative retirement strategy that can increase the realisable value of the aircraft through the sale of the harvested components.

By ensuring that the components used to support the operation of other aircraft and materials are recycled, aircraft disassembly specialists can support the sustainability of the industry long term. Not only does this help the environment, but owners and operators also benefit from a reduction in maintenance cost in comparison to the use of new components. Used serviceable material (USM) can be more sustainable not only from a financial perspective, but from an environmental perspective too. Each USM part which returns to operation reduces the need for the production of new components and, therefore, mitigates the carbon output associated with this production.

In the short- to medium-term, EirTrade Aviation forecasts that the demand for aircraft disassembly will grow steadily as older aircraft are retired to make room for the delivery

of newer technology aircraft. We anticipate that a large proportion of these retirees will include A320ceo family and 737-700s as airlines continue to take delivery of A320neo and 737 MAX aircraft. Furthermore, it is inevitable that there will be a significant amount of less efficient widebody aircraft retirements, including A330 and 777 types.

Aircraft disassembly facilities must operate in compliance with any local authority and government environmental regulations, and EirTrade was awarded its Aircraft Fleet Recycling Association (AFRA) accreditation earlier this year. With this, we can ensure that the operation

of the disassembly facility is in accordance with AFRA best management practices. Prior to attaining the accreditation, we had always ensured that each aircraft disassembly at our facility in Ireland West Airport Knock was undertaken to the standards set out by AFRA, delivering maximum efficiency and quality for our airline, asset management and lessor customers, while taking the necessary precautions to ensure that the process is environmentally friendly and does not have any negative impact on the local ecosystem.

Almost 50 per cent of the global leased fleet is managed by Irish companies (*Grant Thornton, 2021*) and EirTrade's location offers strategic advantages to lessors and asset management companies. Furthermore, these advantages are particularly pertinent to disassembly activities for



95%

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European companies post-Brexit as many teardown facilities are based in the UK, and Ireland is still part of the EU.

The importance of recycling will only increase. To complement our aircraft teardown activities in Knock, and further strengthen disassembly and recycling services in Ireland, EirTrade will open an engine disassembly facility in Dublin before the end of 2021. This will first cater for CFM56-5A/5B/7B engines before expanding into other engine types in the future. The disassembly facilities will work in tandem, enabling asset owners to mitigate any delays in timing and any cost inefficiencies associated with logistical issues. The aim is to become a single source solution for aircraft owners and management companies.

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Turnaround times are important to maximise efficiency gains and minimise energy across the process.

Focusing purely on the airframe of the aircraft, EirTrade has noticed a strong demand for hard time components which require replacement or overhaul based upon certain time intervals, regardless of whether the aircraft is flying or parked. Some of these items include the landing gear, escape slides and rafts. Much of this pent-up demand can be attributed to maintenance deferrals during the pandemic, end-of-life (EOL) redelivery conditions, re-entry to service, and corrosion issues on certain components during aircraft storage.

To further enhance the efficiency of our aircraft disassembly activities, we have designed, developed and invested in a unique fuselage support cradle. The device allows our team to remove the landing gear from the aircraft immediately after induction for disassembly.

In addition to this, once all the components have been harvested, we can then move the fuselage of the aircraft out of the hangar and to another location at the facility. The design and production of this innovative piece of equipment has been brought about by necessity, namely considering a problem and finding a solution for it.



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1. EirTrade has a specialist aircraft disassembly facility at Ireland West Airport Knock
2. The company was awarded an AFRA accreditation in August 2021
3. Regional and commercial aircraft from ATR72s to A380s have been disassembled in Knock

“Aviation is now very much looking at ways to be more environmentally conscious”

During the disassembly of an aircraft, a considerable amount of the residual value can be contained within the value of the landing gear, so the ability to remove an aircraft's landing gear at the beginning of a project enables the gear to be sent for overhaul or repair sooner.

Improving the removal speed of such assets can increase the internal return rate (IRR) for the investor or facilitate utilisation within the same fleet on another aircraft in a shorter period of time. Once the landing gears have been removed from the aircraft, the fuselage will then remain within the cradle device until the teardown has been completed.

Aviation is now very much looking at ways to be more environmentally conscious and focus on sustainable solutions. The disassembly and recycling of aircraft assets is, therefore, very much a key component to the sustainability of the industry. 🌱