



OnPoint Customer Spotlight

easyJet Signs Exclusive CFM56-5B, -7B Services Agreement With GE

easyJet, one of Europe's largest low-fare carriers, has signed an exclusive 10-year OnPoint* solutions services agreement with GE Aviation for the maintenance and overhaul of the CFM56-5B and CFM56-7B engines powering the airline's fleet, which currently stands at 107 Airbus A319* and 30 Boeing 737-700* aircraft, respectively. The services agreement could cover as many as 340 shop visits over the term of the contract.

"This service agreement with easyJet demonstrates the confidence that the airline has in our OnPoint solutions service offerings," says Jack Lutze, GE Aviation regional sales general manager. "We are very excited to work with them to ensure their engines are well maintained to meet the needs of their flying customers."

Traditionally, easyJet had the practice of sourcing shop visits with multiple suppliers. Now, as it enters a long-term agreement with a single supplier, *Service Solutions* spoke with Sue Sizer, easyJet procurement manager-operations, about how the airline worked through the assessment process, weighed the pros and cons of sole-sourcing and, ultimately, negotiated the exclusive OnPoint agreement with GE.

What factors were of primary importance to easyJet in sourcing its maintenance and overhaul services contract?

Sizer: Of primary importance throughout our tender process was the objective to achieve a competitive price and consistent turnaround time (TAT).

We had an aim to avoid additional costs as far as possible and to have a clear understanding, where certain items were excluded from the fixed price, what the potential consequences of this would be. The price of an engine shop visit was driven to be as inclusive as possible and balanced against our evaluation of each potential supplier's ability to deliver against promises made, measured against risk factors:

- **Provider risk:** Was the provider financially strong enough to support our intensive engine removal programme for a minimum of 10 years?
- **Capacity risk:** Would the provider be able to accommodate our volume of maintenance activity as demanded by the size and age profile of our fleet? Did they have sufficient capacity in their repair stations to accommodate easyJet, with additional capacity in their network to take on other customers' work throughout the life of the contract? This was a strength for GE.
- **Performance risk:** Did the provider demonstrate ability to achieve the required level of quality within the minimum-possible TAT, consistently and reliably?



It is our understanding that, initially, easyJet intended to split this contract between two or more maintenance, repair and overhaul (MRO) suppliers.

Sizer: Yes. Selecting more than one provider would allow easyJet to spread the risks I've outlined and to maintain a competitive element in the market after contract award. The scale of easyJet's engine removal programme provided a potential opportunity to multi-source without losing volume benefits. Ultimately, the benefits GE offered to easyJet offset the benefits of multi-sourcing.

What were the main criteria easyJet used in evaluating MRO suppliers?

Sizer: The usual basic criteria were evaluated in the tender process—such as price, TAT and a suite

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of other measures. The providers' ability to deliver on price and TAT was of paramount importance, but price is only one aspect of cost. All criteria were measured, scored and weighted according to our assessment of their importance on a technical, commercial and operational basis.

Cost inclusiveness, the providers' depth of CFM56-5 and -7 experience at the designated repair site, their demonstrated TAT consistency and the breadth of their in-house repair capability were additional critical criteria considered.

What other factors came into play—such as the potential providers' policies regarding maintenance, process improvement, environmental concerns, etc.?

Sizer: On a more subjective level, we assessed the providers' alignment with easyJet's mission and values of safety, teamwork, a pioneering mindset, a passionate drive and integrity.

The ability to engage effectively with easyJet's culture is important to us. Our mission and values underpin how we go about our daily work and how easyJet, through its people and processes, delivers shareholder value. By engaging with providers who align with easyJet's values, superior performance is achievable. This is good for easyJet and good for our supply base.

GE has a reputation for pursuit of continuous process improvement. easyJet needs suppliers that can manage tomorrow as much as today. In a long-term relationship, these have a lot of meaning. Having shared values is a common base we can build on to work together.



For example, easyJet has a high focus on the environment, and it was felt that GE, through the OnPoint offerings, could help deliver additional benefits with regards to emissions and fuel consumption. This has yet to be proved, but we will know more as our shop visit programme progresses and as our engine performance is monitored throughout their time on wing.

The easyJet File

- **Headquarters:** Reflecting easyJet's low-cost philosophy, the airline is headquartered at Hangar 89, a bright orange building adjacent to the main taxiway at London Luton Airport, Bedfordshire, England.
- **Expanding base of operations:** Founded in 1995, easyJet offers flights across an extensive European network, including 338 routes from 87 airports in 23 countries, and is continuing to grow at a rate of 15% year on year.
- **Passenger load:** With an average of 900 daily flights, easyJet flies more than 36 million passengers annually.
- **Environmental advocate:** easyJet states its environmental focus as a commitment to "minimising our environmental impact, both in the air and on the ground: easyJet's high efficiency = lower emissions = low fares."

What is it that GE brought to the table that led to your decision to sign an exclusive services agreement with GE vs. splitting it among two or more providers?

Sizer: When easyJet's engine removal programme ramps up, there is no room for slippage in TAT. Each day an engine is not on an aircraft it is costing us money. easyJet providers need to demonstrate their appreciation of what "low cost" means from an operational airline perspective. Price is only one aspect of cost— all-round performance is paramount. Low cost is about being efficient in everything that we do.

GE demonstrated they understood this throughout the tender process and particularly when we got into the final stage of contract negotiations, when dual sourcing was still a possibility. We were pleased that not only did GE understand the importance of efficiency, they were also prepared to back it up with the right words in a legal framework to support their commitment.

What benefits does GE's OnPoint solutions program provide easyJet compared to competitive offers received?

Sizer: GE has the advantage of a worldwide network of locations that can undertake easyJet's engine maintenance and, through OnPoint, have the benefit of a more wholesome offering. Remote diagnostics, logistics and managing life-limited parts on our behalf are additional benefits we gain advantage from in our contract with GE.

How will GE's performance on the OnPoint agreement affect your operations and your ability to serve your customer?

Sizer: In a nutshell, easyJet offers, and therefore our customers expect, "low cost with care and convenience." Provided GE delivers the performance we expect from them, then we can pass cost and operational benefits on to our customers—it's a self-fulfilling prophecy. The more successful easyJet can be, then the more opportunity there is for our supply base. From an operational point of view, quality engines performing well means fewer technical delays, less disruption. Through our relationship, these are the kinds of things GE is assisting us in delivering to our customers.

Overall, how does easyJet view GE as a supplier?

Sizer: GE has the right infrastructure, technical expertise and organization to be able to deliver. With continued focus and close liaison with us as the customer, easyJet anticipates a successful long-term relationship for both parties. This contract is of strategic importance to both GE and easyJet—that will be in the forefront of our minds as we mutually manage our way through this contract over the coming years. At the end of the day, people make organizations successful. So far, we are just at the start of that journey, and we are both optimistic.

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What We Can Imagine, We Can Make Happen

The GE Global Research Center (GRC) is the modern embodiment of a century-long tradition of dedicated research to realize a better material, a better process, a better system.

One of the world's most diversified industrial research organizations, GRC employs a broad range of expertise and talent that enables it to serve as the primary resource for technological development for all GE businesses, including GE Aviation.

Current areas of activity that show pronounced potential for application in GE Aviation, and within the aviation industry in general, include new repairs development, nanotechnology, fluidics, noise reduction and pulse detonation. All meet the standards of GE's ecomagination program, the company's commitment to imagine and build innovative environmental performance solutions that benefit its customers and society at large.

✓ **New Repairs Development:** Customers realize direct bottom-line benefit from repairs that enable reclamation of components that would otherwise have to be replaced. In addition, the durability and performance retention of today's GE engines have greatly extended the time between engine overhauls. Repairs that restore such components to within serviceable limits—and in many cases, “like-new” condition—have to address these extended intervals to maintain the safe service life of the engine.

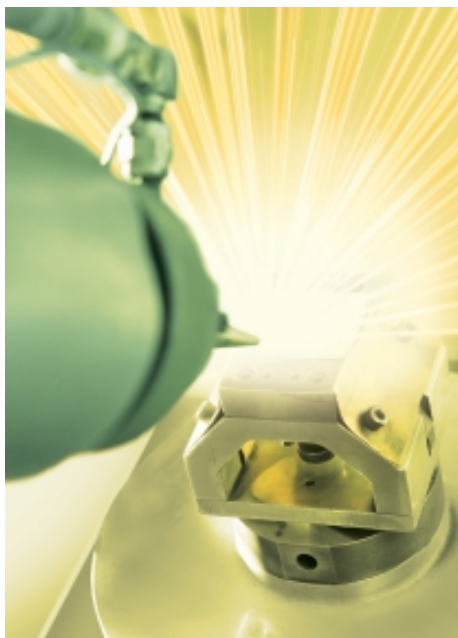
“Response to customer needs serves as the impetus for GRC's ongoing research of repair methods and the equally important and challenging investigation of new technologies, tools and materials to achieve the most effective repairs,” says Anthony Matacia, GE's general manager, Repair Technology Center of Excellence-Infrastructure.

“The success of the new repair development programs is reflected in the many GRC repairs already in use at GE and GE-licensed repair facilities. The new protective coating for CF6-80C2 high-pressure turbine blades, for example, alleviates a potential cause for unscheduled engine removals. Efforts currently

under way promise to yield equally impressive results in the near term on other components and for the new materials being introduced on the GENx* engine in the more distant future.”

GRC currently focuses on seven repair technology areas: Joining, Coating, Metal Addition, Cleaning, Non-Destructive Evaluation, Advanced Materials and Blisks.

Repair of a high-pressure compressor rotor blisk, a development project being conducted by a combined GRC/GE Aviation team, is designed to repair the leading edge, trailing edge and tip of blisk airfoils, so that a blisk can



be repaired as readily as a conventional bladed rotor. Plans call for vibration testing this year, followed by factory engine test and introduction on the CF34-3B engine—the launch application for this technology.

✓ **Nanotechnology:** Considerable nanotechnology research involves developing new materials with breakthrough properties—nanoceramics and non-metal alloys, for example—that are lighter, stronger and more heat-resistant than materials available today. The use of such materials in aircraft engines would measurably improve performance and reduce maintenance costs.

The nanotechnology team is also exploring thermoelectrics as a more efficient means of recovering waste heat in an aircraft engine. Further, the team is developing highly effective water-repellent coatings to prevent icing.

✓ **Fluidics:** Within an aircraft engine, fluidics is the control and manipulation of airflow and combustion to eliminate or minimize pressure losses and thereby improve efficiency and performance.

✓ **Noise Reduction:** Engine noise and aircraft noise are closely regulated by authoritative agencies such as the United States Federal Aviation Administration and the International Civil Aviation Organization.

To address growing environmental concerns, GRC's focus is on fan noise and jet noise (i.e., exhaust noise). Advanced prediction tools are being developed to gain more insight into noise generation and to aid in the development of low-noise design methods.

In the meantime, measures are being considered to reduce fan noise that results from the interaction between inlet airflow and the fan blades and the interaction of air downstream from the fan blades with the outlet guide vanes. This includes fan blade trailing-edge blowing, low-noise outlet guide vanes and advanced acoustic treatment. Potential jet noise reduction methods being investigated include plume mixing, variable-geometry exhaust nozzles, three-dimensional shaping and inverted-velocity profiles.

✓ **Pulse Detonation:** This is a wholly different type of propulsion, based on an explosive combustion of fuel—the so-called detonation. Detonation is actually a shock wave that travels at Mach 5 through a fuel-air mixture, which it ignites. The resultant pressure is higher than that created in a conventional combustor, so fuel consumption and emissions are reduced.

Watch for more information on new repair development in the next issue of *Service Solutions*.

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GE Aviation Offers Boeing's GoldCare Services to GEnx OnPoint Customers



The Boeing Company will supply GoldCare* Material Management services to GE Aviation, providing repair and overhaul services for the 787 Dreamliner* under-wing rotatable airplane components as an offering with GE's OnPoint* solutions on GEnx* engines.

GoldCare is a comprehensive lifecycle management service for the 787 Dreamliner that offers a strategic business choice for customers to boost aircraft availability, reduce cost and improve efficiency as they acquire, operate and transition their fleets.

"GE's addition to our growing portfolio of GoldCare Material Management customers illustrates how this program can help better serve airline customers with lifecycle solutions through a predictable per-flight-hour pricing approach," says John Borst, director, GoldCare Material Management at Boeing.

"We can now offer customers maintenance, repair and overhaul services from the pylon downward on the GEnx engines that power the Boeing 787 Dreamliner," said Brad Mottier, vice

president of GE Aviation's services business, when the agreement was announced. Mottier welcomed the opportunity to "further customize our OnPoint service solutions to meet our customers' needs."

To deliver GoldCare services, Boeing leads a global team performing comprehensive material management, engineering and maintenance services at a predictable per-flight-hour cost. GoldCare services for airlines provide 24x7 operations center support, using enabling technologies to turn airplane operating data into actionable information that enhances efficiency and maximizes airplane availability.

In mid 2006, Boeing announced several initial partners for the GoldCare program, including the Systems division of GE Aviation (then Smiths Aerospace). The Systems group, the first partner to come on board, provides the common core system, landing gear actuation system and high lift actuation system for the 787 Dreamliner.

For more information on GoldCare, visit www.boeing.com/commercial/goldcare.

OnPoint solutions are flexible, long-term commitments designed to meet each customer's unique engine services needs. These solutions help to minimize the cost of ownership and maximize assets for GE customers. OnPoint services include overhaul, on-wing support, new and used-serviceable parts, component repair, technology upgrades, engine leasing and diagnostics. Additional OnPoint information is available at www.geaviation.com/onpoint.

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Did You Know?

With GE material solutions, you have access to the world's largest supply of high-quality OEM used material for GE and CFM* engines. It's an ideal way to reduce costs, while minimizing risk and ensuring asset transferability.

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