



# CFM SERVICES

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[www.cfmaeroengines.com](http://www.cfmaeroengines.com)

# CFM SERVICES

support throughout the lifecycle



## MAINTENANCE

- Rate per flight hour
- Overhaul services
- On-site support



## MATERIALS

- New parts
- Used parts
- Parts repairs
- Materials programs



## ASSET SUPPORT

- Transitions services
- Engine lease support
- Flight line LRU support
- Engineering, training and consulting



THROUGHOUT ITS HISTORY CFM INTERNATIONAL HAS CONSISTENTLY DEVELOPED INNOVATIVE SOLUTIONS TO DELIVER PRODUCTS THAT OFFER OUTSTANDING RELIABILITY WHILE MAKING CUSTOMER SATISFACTION AN INTEGRAL PART OF ITS OVERALL STRATEGY.

Over the years, the company has introduced advanced engines that provide the highest levels of efficiency and lowest overall cost of ownership. CFM's advanced LEAP engine recently joined the CFM56 product line, delivering 15 percent better fuel efficiency and maintaining the CFM standard for reliability. CFM offers services to better respond to customer needs on both LEAP and CFM56 engines.



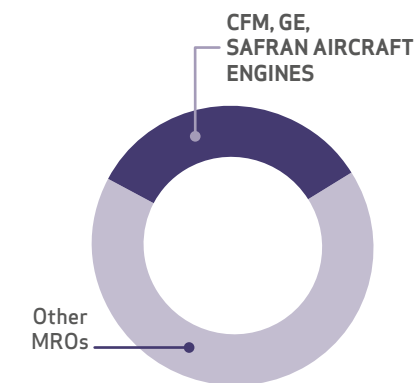
Products tailored to CUSTOMER'S NEEDS AND OBJECTIVES

### PROVIDING CUSTOMER CHOICE

- CFM Services provides customers with a choice of overhaul and material products. CFM's services model also supports a choice of MRO providers, allowing healthy competition and alternatives for customers to negotiate programs according to their needs.
- CFM's competitive MRO environment drives workscope innovation, repair development, surplus engine and part demand and fulfillment execution to help customers lower engine maintenance cost and achieve higher asset values. CFM operators can choose CFM or third party service providers for OEM and non-OEM service products for the overhaul, maintenance or repair of their CFM engine.

### SERVICES THROUGHOUT LIFECYCLE

- CFM Services provides world-class aftermarket products and programs to support the fleets, working with customers to meet their unique, evolving needs from entry-into-service to mid-life through maturity and retirement.
- Whatever the size of the fleet or the business model under which they operate, CFM Services offers its customers solutions to optimize operational reliability, reduce cost of ownership, and maximize return on investment.



CFM, GE and Safran Aircraft Engines perform approx. one third of CFM56 shop visits.

# GLOBAL FOOTPRINT

## EXPERTISE & CAPABILITY

With global capability and more than 40 years of engine expertise, as well as a worldclass product support structure, CFM has earned a high level of customer confidence. CFM Services capitalizes on the large MRO capability of its parent companies, coupled with expertise in managing CFM engine service contracts, to extend that confidence to a successful services relationship.



# MAINTENANCE & MATERIALS



## MAINTENANCE

FROM FLEET RISK TRANSFER PROGRAMS TO INDIVIDUAL EVENTS, WE PROVIDE YOU FLEXIBLE SOLUTIONS TO MEET YOUR NEEDS.



**200+**  
**TECHNICIANS**  
dedicated to on-site support

### RATE PER FLIGHT HOUR PROGRAMS

CFM Services offers Rate per Flight Hour (RPFH) programs to provide long-term support with cost per shop visit and time-on-wing risk transfer. With these comprehensive multi-year services and support agreements, CFM guarantees engine maintenance costs with dollar per engine flight hour pricing. Flexible terms, coverage, and payment options are available to airline customers to manage fleet size and mix.

### ON-SITE SUPPORT (OSS)

CFM Services OSS supplies the flexibility of value-added engine repairs when and where the customer needs it. Therefore lowering operational costs and maximizing time on wing and asset availability. OSS is a full-service provider with the regulatory certification and OEM engineering support required for complex engine repairs. With a 24/7 aircraft on ground support, OSS dispatches seasoned technicians with tooling and parts to bring solutions that prevents unscheduled engine removals.

### OVERHAUL SERVICES

Customers can choose between event-based pricing for engine overhaul and repair. This can be priced differently – e.g. standard “time and material” or cost per shop visit risk transfer, with Firm Fixed Pricing (FFP). With broad OEM (Original Equipment Manufacturer) material options and repair capability, CFM offers highly competitive event-based products. These offerings can apply to entire fleets or to a smaller number of shop visits: CFM adapts offerings to customer needs.

## MATERIALS

FROM COMPREHENSIVE PROGRAMS TO SINGLE TRANSACTIONS, CFM SERVICES PROVIDES MATERIALS TO SUPPORT MRO SHOP AND AIRLINE NEEDS.

**The offer includes a complete supply and ready availability for all materials – new and used parts and all repairs –** to streamline overhaul and sourcing operations. CFM continually invests in high-tech repairs and in its inventory of used parts to lower engine maintenance cost. CFM Services supplied materials have assured OEM quality and guarantees, to maintain the highest asset value. CFM delivers the right support from comprehensive programs to single transaction offerings tailored to meet MRO shop and airline needs.



### MATERIALS

New parts  
Used parts  
Parts repairs  
Materials programs



**100+**  
**NEW REPAIRS**  
available each year

# ASSET SUPPORT



ENGINES ACCOUNT FOR

**90% OF THE VALUE**

of an aircraft after 20 years in operation



**200+**

**CFM56/LEAP ENGINES**

lease available



**300+**

**ENGINE PARAMETERS**

monitored for flight data analysis

**WHETHER THE CUSTOMER IS AN OPERATOR OR AN OWNER, CFM SERVICES DELIVERS ITS CUSTOMERS THE SERVICES THEY NEED TO MEET THEIR MAINTENANCE INVESTMENT GOALS.**

#### **TRANSITION SERVICES**

Transition services provide customers with a variety of solutions particularly tailored to mid-life and mature engines, including green time leases, exchanges, and spare engines. Integrated with maintenance and material capabilities,

CFM Services transition programs also propose customized worksopes coupled with maximized used material and/or repairs to align maintenance expenses to ownership or operating horizon to optimize asset utilization. CFM Services programs enable airlines that may have had a traditional RPFH or overhaul approach during its early life maintenance program to transition to a more appropriate one as surplus options and maintenance goals evolve over the lifecycle.

Transition services also include products that align CFM Services RPFH programs and leases to achieve lower lessee expenses and cash flow while covering lessor interests for asset value and transferability.

#### **ENGINE LEASE SUPPORT**

CFM Services offers large availability of personalized short - and long-term leases and exchange engines to maximize aircraft utilization and minimize airline capital investment. Based in Shannon, Ireland, with offices in Beijing, Budapest and Singapore, our Shannon Engine Support (SES) subsidiary manages a portfolio of more than 200 CFM56 and LEAP engines.

#### **FLIGHT LINE LRU SUPPORT**

CFM Services offers 24/7 support covering full engine LRU (Line Replaceable Unit) in order to help optimize customer operations, minimizing the time fleets have to stay on ground and keeping inventory investment low.

Customers can choose different options:

- Repair & Return, for which a predefined turnaround time is guaranteed.
- Repair & Pool, in which the unserviceable component is replaced by a part of equivalent configuration from CFM pool. As an option, CFM can set up a critical LRU on-site pool at the customer's premises for maximum responsiveness.

#### **ENGINEERING, TRAINING AND CONSULTING**

Engineering services consist of engine monitoring and diagnostics services, based on the OEM expert analysis of technical and flight data. These solutions deliver customers recommendations for continued airworthiness, fleet maintenance or management, enabling smooth and reliable airlines fleet operations.

CFM can also propose a wide range of courses or consultation agreements, including technical, maintenance, and business training designed to address customers' specific needs.

# NOTES

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