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AFI KLM E&M Press Information 2011





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I – AFI KLM E&M key figures, results and strategy

A – About AFI KLM E&M

Air France Industries and KLM Engineering & Maintenance, which joined forces following the AIR FRANCE KLM merger, are world-leading multi-product MRO (Maintenance, Repair, Overhaul) providers with a joint workforce of over 14,000, offering comprehensive technical support for airlines, ranging from engineering and line maintenance to engine overhaul, as well as the management, repair and supply of aircraft components, structured around a powerful logistics network. AFI KLM E&M supports almost 1,300 aircraft operated by 150 major international airlines.

AFI KLM E&M Profile

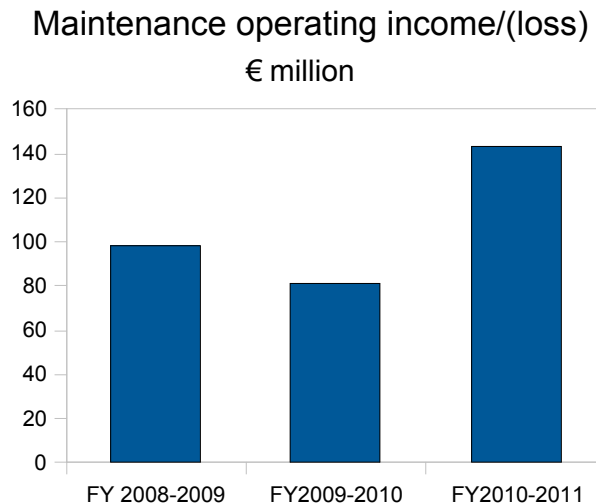
AFI KLM E&M is one of the world's leading suppliers of multi-product MRO solutions, with capabilities for Boeing, Airbus and regional fleets, notably for new-generation aircraft.

- Broad, integrated range of tailor-made services
- 150 airline customers worldwide
- Leader in component support services for the A320 family, A330, A340 and Boeing 737NG and 777 aircraft
- Leader in CFM56-5 engine maintenance and leading manufacturer-independent MRO source for GE90 and CF6-80E1 maintenance



B – AFI KLM E&M results 2010-2011

For the full year, revenues totaled 1,03 billion euros. Operating income amounted to 143 million euros.



AIR FRANCE KLM MRO Business in 2010-11

Number of aircraft handled	1,300
Total Revenues (€ million)	3,080
External Revenues (€ million)	1,030
Operating income (€ million)	143

C – AFI KLM E&M Key figures and highlights 2010-2011

AFI KLM E&M is continuing its targeted development strategy taking its specific features into account. That strategy is two-pronged: cut costs and maintain high quality and performance levels on the one hand, and develop the customer portfolio with high value-added products and services and on the other.

AFI KLM E&M Highlights 2010-2011

- Alitalia: in April 2011, the Italian carrier signed a long-term GE90 support and maintenance contract for its fleet of Boeing 777s, and extended the ongoing 777 component support contract for the same duration.



- Philippine Airlines (PAL): in March 2011 PAL signed a long-term contract with AFI KLM E&M for maintenance and engineering support for the GE90 engines mainly equipping its fleet of Boeing 777-300 ERs.
- AFI KLM E&M and Malaysia Airlines signed a 10-year Boeing 737-800 Next Generation component support contract in November 2010. The Malaysian carrier's fleet currently includes 35 aircraft of this type, with an option for a further 20 aircraft. The agreement is part of a Component Services Program deal, in partnership with Boeing.
- AFI KLM E&M was chosen by Air Canada in July 2010 to provide support for the GE90 powerplants equipping its 18 777-200LRs and -300ERs for a 12-year period.
- AFI KLM E&M and MAX Aerospace signed a Memorandum Of Understanding (MOU) in November 2010 concerning AFI KLM E&M's acquisition of a minority stake in the MAX MRO Services company, a component support specialist on the Indian market.
- During the year, AFI KLM E&M inaugurated the Constellation facility in Orly, a new engine overhaul shop specially designed to handle Very Big Engines (VBE) of the GE90 or GP7000 type.
- AFI KLM E&M recently took delivery of its latest ATEC 6 test cell at its Schiphol facility. ATEC test cells are benchmark systems used to examine and test avionics components and latest-generation control units.
- Aerotechnic Industries (ATI), a joint venture between AFI KLM E&M and Royal Air Maroc, based at Casablanca airport, offers the market two medium-haul aircraft maintenance bays. Specialized in the Airbus A320 family, ATI handled its first customer aircraft in early 2011.
- In August 2010, Aerostructures Middle East Services (AMES) delivered its first C-Duct Trent 700 thrust reverser to Bahraini flag-carrier Gulf Air following an overhaul and repairs. AMES is a joint venture with Dubai-based Aircelle and specializes in Aerostructures.
- During celebrations to mark its tenth anniversary, KLM subsidiary EPCOR opened a new Embraer 170 and 190 APU maintenance line (APS 2300).
- Bureau Veritas Certification renewed Air France Industries (AFI) Global and Unique Certification in November 2010, adding the new ISO 26000 Corporate Social Responsibility standard. AFI thus became the world's first MRO to be assessed for the new international standard.
- The Schiphol facility is testing the use of LED (Light Emitting Diodes) lighting technology in its hangars to cut electricity consumption and costs, at the same time as it extended the lighted areas, including those for aircraft and employee working areas.



AFI KLM E&M Industrial Potential

- Close to 1,300 aircraft handled each year
- A workforce of approximately 14,000
- AFI KLM E&M global network Maintenance sites:
 - In France: Roissy-CDG, Orly, Toulouse, Le Bourget, Villeneuve-le-Roi, Elancourt
- In the Netherlands: Amsterdam-Schiphol
- In Germany: Hamburg
- In the United Kingdom: Norwich
- In the United States: Miami, Dallas, Atlanta, Blytheville
- In the United Arab Emirates: Dubai
- In India: Bombay
- In Morocco: Casablanca
- Over 1,200,000 sqm of infrastructure
- 2 engine test cells
- Engine shop visit: 450 per year
- 33,000 Part Numbers / 100,000 consumables
- 600,000 parts in stock
- Approx. 200 FTRs overhauled each year

D – AFI KLM E&M strategy

Delivering more value-added to customers

AFI KLM E&M has opted for development focused on delivering value-added to its clients driven by improvements in performance levels, costs and the development of its high value-added products and services.

The Group's main objective is to maintain a presence across all market segments and provide adaptive solutions to third-party airline requirements.



The strategy is underpinned by:

- The development of local units to offer customers a more local presence and boost AFI KLM E&M commercial responsiveness on targeted markets;
- Network adjustments and optimization in order to boost logistics performance;
- The development of skills and know-how designed to offer clients greater value-added;
- Cost control and the search for scale effects through improved operational performance.

AFI KLM E&M is also being careful to adjust its staffing levels to activity, and to step up its cost-saving measures to safeguard its competitiveness by, eg, extending procurement synergies among Group entities, revising its processes, achieving productivity gains, and adjusting its investment program.

Adaptiveness® for a win-win partnership

Adaptiveness® is our response to the changing MRO business environment. It means listening to and understanding the key technical priorities of our customers' operations, building unique solutions meeting their specific requirements, and staying at their side as a partner to support them through their daily challenges in a spirit of continuous improvement.

- Adaptiveness® means that we commit to designing the solution which best fits the customer's operational objectives, current situation & constraints, and need for cost savings.

- Adaptiveness® means that we offer customers alternative options, such as repairing instead of replacing.

Even though we may not always have instant answers, we always endeavor to find them.

AFI KLM E&M's ambition is to be the adaptive MRO which offers its airline customers tailor-made, reliable and creative solutions.

Strategy in action: new Engine Test Cell

In April 2011, to complete its industrial infrastructure modernization program and achieve total control over Very Big Engine (VBE) maintenance processes, AFI KLM E&M embarked on the construction of a new Engine Test Cell (ETC) supplied by MDS of Canada for use with GE90-94/115, CFM56-5C, and GP7200 powerplants. The 5,000 sqm building will be HQE (High



Environmental Quality) certified. This involves outstanding sound insulation, with walls 1m thick, ergonomic workstations, and rainwater recovery. The ultimate aim is to be able to handle 110 VBE engines a year in the 100m-long test cell. The complex maintenance system, which is currently the only alternative worldwide to OEMs, is due for delivery in April 2012, at an investment cost of close to 43 million euros.

Subsequently, in summer 2013, a new hangar with a 10,000 sqm nave for A380 maintenance is scheduled for delivery at Roissy-CDG.



Generating savings for clients

AFI KLM E&M's third-party clients also benefit from the cost-savings program implemented by the AIR FRANCE KLM group to manage its own fleets. The use of Group resources means that AFI KLM E&M can achieve scale effects for its own clients in three ways:

- by obtaining greater leverage with suppliers and repairers;
- by optimizing the inventory size, giving customers the benefit of sales effects;
- by developing alternative solutions to purchasing new parts.



II – AFI KLM E&M’s key strength: adaptability

In a fast-changing MRO market, AFI KLM E&M is well-equipped to meet the challenges of its clients and share its expertise. Its key strengths lie in a product and service offering that is a perfect fit for the maintenance requirements of new-generation fleets, supplemented by solutions specially designed to deal with end-of-life issues on some aircraft.

A – Component support services

Over the years, AFI KLM E&M has developed an extensive portfolio of maintenance services, covering the whole range of aircraft components (exchangeable or repairable parts and consumables) for a broad range of aircraft families.

In addition to repairs and overhauls, AFI KLM E&M provides a range of services to assist client airlines wherever they are located. These include logistics, warranty management, pooling, loans and leases, purchasing and financing, not to mention the design of ad hoc solutions near client locations.

Over 30 national authorities have acknowledged this and have certificated AFI KLM E&M to carry out component repairs in compliance with their own regulations.

AFI KLM E&M notably provides component support for the following:

- Fast-growing **regional fleets** (ATR, Embraer, CRJ) by adjusting its logistics department to the specific needs of the new networks.
- **Boeing 777**: AFI KLM E&M has asserted its leadership position on the 777 support and maintenance market and is extending its engineering leadership via the Component Services Program (CSP) operated in conjunction with Boeing.
- **Boeing 737 NG**: In 2005, AFI KLM E&M and Boeing set up the unique CSP Component Services Program for 737NG aircraft. Some 20 airlines on five continents have to date opted for the CSP. It guarantees them control over their operations and



provides fast-track access to 737NG components pools located in Amsterdam, London, Seattle, Dubai and Kuala Lumpur. The program can also be extended to the complete inventory of 737NG components and to engineering support. This high-end program delivers the best of the manufacturer's know-how with that of a market-leading MRO operator. Over 200 aircraft worldwide are already supported by the CSP framework.

- **787:** Being involved in all areas of engineering and maintenance services for every Boeing aircraft type, and being known for our front-running position in new technology, 787 support is a logical extension to our MRO portfolio.
- **A320/A330/A340:** Air France and KLM operate a combined fleet of 26 A330s and 19 A340s. This is why AFI KLM E&M is the world leader when it comes to A340 component support. Over 150 aircraft currently benefit from our services worldwide. AFI KLM E&M maintains close to 300 A320s, both for major airlines and low-cost carriers. We offer maintenance and repairs for over 2,500 A320 family part numbers.
- **A380:** AFI KLM E&M is already providing component overhauls for the latest addition to the Airbus family via the Spairliners joint venture. To date, customers are Air France, Lufthansa and Qantas.

The Group is also developing its APU maintenance capabilities via its Dutch subsidiary, EPCOR, which provides APU maintenance services for the 737NG, B777, A320, A330 and A340, and Embraer 170 and 190 (APS 2300) with a 30-day TAT. Because it has access to its parent's operational experience and vast pool and also boasts state-of-the-art tooling, facilities, and in-house testing capabilities, EPCOR can offer a particularly broad, competitive portfolio of services.

B – Engine support services

GE 90

With around 150 engines in operational use, AIR FRANCE KLM is a major global operator of GE engines. The Group has 20% of the total engines in the GE range currently in service. AIR FRANCE KLM has one of the biggest Boeing 777 fleets in the world, operating the 777-200ER since 1998 and being the launch airline for the 777-300ER the same year and, more



recently, for the 777 LR freighter. AFI KLM E&M has built up a unique level of experience and know-how on this outstanding engine:

- **As the only alternative to the manufacturer's services**, AFI KLM E&M's offering is backed up by leading-edge technology infrastructure. The Group has expanded its engineering capacity through a continuous investment program for its facilities and by carrying out repairs. For example, AFI KLM E&M added a further 5,500 sqm to its workshops in 2006 and 11,000 sqm in 2010. The Group has also developed Quick Turn operations that no other MRO is currently able to offer.
- **AFI KLM E&M is constantly expanding its overhaul capacity**: from full overhaul capabilities to main modules to gearboxes (eg, TGB, IGB) and engine accessories (eg, HMU, VSV actuators).

Workshops at both AFI KLM E&M and our CRMA subsidiary offer extensive capabilities for engine-part repairs. We provide OEM repairs as well as alternative repairs through DER or DOA approvals. Our broad customer portfolio includes major OEMs and MROs.

- **AFI KLM E&M is the main MRO operator (apart from the OEM) to maintain the GE 90-115**. As operator and launch customer of this engine type, the Group combines operational experience with its engineering experience to provide top-quality maintenance tailored to customer needs.

CFM56 and CF6

AFI KLM E&M clients get the benefit of the world's largest **CFM56-5, CFM56-7 and CF6- 80 E1 engine maintenance facility**, divided between its two ultra-modern engine shops located at Amsterdam and Paris.

- **CFM56-5**

AFI KLM E&M currently supports the biggest fleet of CFM56-5 engines in the world with more than 400 engines operated by a broad range of airlines. Among the services available for CFM56-5 engines are on-site support, a hospital chain, and a replacement engine supply, thanks to the Company's vast pool, and optimized total maintenance costs. The Group has already carried out over **1,500 shop visits** on this engine type, and has an **annual capability of 180 visits**.



- **CF6-80C2**

AFI KLM E&M has almost 25 years' experience on CF6-80C2 overhauls. One of the Group's key strengths is its ability to offer highly flexible shop visit slots for this engine type. In all, AFI KLM E&M has already completed 2,100 shop visits for CF6-80C2 engines, of which 220 are fitted to Group aircraft.

- **CF6-80E1**

The latest addition to General Electric's CF6 family, the CF6-80E1, equips the Group's A330s. AFI KLM E&M added the capabilities linked to this engine in 2005 and in so doing became Europe's only MRO (apart from the OEM) to offer full-service maintenance and testing for CF6-80E1 powerplants. AFI KLM E&M is currently in charge of maintaining 30% of the world's CF6-80E1-equipped aircraft.

The engine's design is similar to that of the CF6-80C2, with which it has 60% parts commonality. The experience gained by the Group during the 2,100 shop visits carried out to date on the CF6-80C2 engine represents an excellent basis for its CF6-80E1 maintenance activities.

GP7200

AFI KLM E&M is extending its offering with the advent of a new engine type: the GP7200 now equipping Air France's A380s.

In a related development, CRMA (the Group's subsidiary specializing in the repair of new-generation engine parts and sub-systems) has been selected by the GP7200's OEM, Engine Alliance, as a primary repair shop for the engine's combustion chamber and its turbine center frame (TCF – the frame structure located between the high and low pressure turbines).

C – Modifications

AFI KLM E&M has an extensive offering in this area which in times of crisis is particularly strategic for clients faced with the need to tailor their fleets to changes in their economic environment.



The Group provides modifications services for both civilian and military aircraft, respectively for mainstream airlines, private fleets and corporate jets on the one hand, and aircraft such as the AWACS and C135 on the other.

In particular, AFI KLM E&M can assist airlines operating their own design studios to implement their modification programs, with oversight during the preliminary project and during the cabin modification phase proper, and the provision of post-delivery maintenance. Where clients do not have their own design studio, the Group can take care of the entire process, from modification design to installation.

The scope of modifications supported includes avionics suites, cockpit upgrades, IFE systems, Live TV and web services.

AFI KLM E&M infrastructure for cabin modification work is located at Roissy, Orly and Amsterdam. Corporate cabin layout work takes place in Toulouse.

- **VIPJETSUITE** offer:

AFI KLM E&M has extensive experience in VIP modifications and offers a comprehensive range of flexible services for outfitting and maintaining private and government aircraft. Having expanded its VIP offering, AFI KLM E&M can now provide its customers with an all-round service that includes all aspects of VIP aircraft operation, from outfitting the new aircraft to full-service maintenance, plus cabin modifications, fuselage beauty care, and VIP painting.

Further information: www.vipjetsuite.com

D – Preventive maintenance for nacelles (FTR)

With the development of new-generation aircraft, many carriers have been neglecting the preventive maintenance of their nacelles. This approach can cost them dear when it is necessary to carry out work following an incident. Depending on the aircraft type, it requires on average two unscheduled days of repairs and testing. For an airline, those unforeseen two days' grounding amount to two days' less operation, and major disruption and costs.

Under the partnership approach offered to clients by AFI KLM E&M, the Group is seeking to raise their awareness about the benefits of anticipating any deterioration in their fleet's engine nacelles. AFI KLM E&M consequently proposes on-wing inspections combined with an FTR



maintenance program built into the aircraft's own maintenance schedule to optimize AOG and operability.

More generally, AFI KLM E&M receives on average one AOG per week and repairs up to 200 FTRs each year. Capital intensive engineering resources are required for substantial scale effects. This is a further benefit that AFI KLM E&M provides for its clients, namely the economies of scale derived from its maintenance of the Group fleet's nacelles, a team of highly- skilled staff with a total combined experience of over 50 years, and cutting-edge infrastructure featuring, among other benefits, four special ovens for curing composites.

In addition, AFI KLM E&M and Aircelle (SAFRAN Group) have teamed up to create AMES, a joint venture for aircraft engine nacelle repair and maintenance in the Middle East (see p.15).

E – Technical Training

AFI KLM E&M Training provides effective technical training programs for a large variety of aircraft types and engines. With over 50 years of training experience, AFI KLM E&M guarantees high quality throughout its training programs, which are designed to achieve an optimal balance between theory and practice.

AFI KLM E&M well-established operational background provides us with extensive knowledge of aircraft and engine technology. AFI KLM E&M focuses on guaranteeing quality at competitive cost levels. Reliable high-quality training services and strict regulatory compliance are guaranteed.



F – AFI KLM E&M capabilities

ADAPTIVE SOLUTIONS		
Additional Services: Training, Logistics, Purchasing, Engineering, IT, Initial Provisioning Sizing		
AIRFRAME SERVICES	ENGINE SERVICES	COMPONENT SERVICES & APU
<ul style="list-style-type: none"> ■ Line, Base and Heavy Maintenance ■ Pre operations phase in /out ■ Fleet management ■ On site support ■ Cabin Engineering & Modifications ■ VIP - Corporate conversions ■ Aircraft Recovery Team ■ Painting 	<ul style="list-style-type: none"> ■ Maintenance, Repair and Overhaul ■ Parts and Accessory Repair ■ Engineering Services ■ On Wing Support ■ Spares availability ■ Hospital chain ■ Engine Water Wash ■ FTR services ■ Health Monitoring 	<ul style="list-style-type: none"> ■ Maintenance, Repair, Overhaul and Modifications ■ Parts Availability ■ Pool Access / Component Support Programs ■ AOG desk (24/7) ■ Worldwide Logistic Solutions
<ul style="list-style-type: none"> ■ Airbus A320 Family A330/A340 A380 ■ Boeing 737 CG/NG 747 757/767 777 MD11 ■ Regional ERJ 135/145 ERJ 170/190 Fokker 50/100 BAE 146 	<ul style="list-style-type: none"> ■ CFMI CFM56-3 CFM56-5 (5A, 5B, 5C) CFM56-7 ■ General Electric CF6-50 CF6-80C2 CF6-80E1 GE90-94/115 ■ Engine Alliance GP7200 	<ul style="list-style-type: none"> ■ Airbus A320 Family A330/A340 A350 A380 ■ Boeing 737 CG/NG 747 757/767 777 787 MD11 ■ Regional ERJ 135/145 ERJ 170/190 CRJ 100/700 ATR 42/72 ■ APU 737 NG (GTCP191/9B) 777 (GTCP331/500) A330/A340 (GTCP331/350) E-jet (APS 2300)



III – Building a global MRO network

Comprising subsidiaries and partners located all over the world, AFI KLM E&M's MRO network guarantees clients local access to the full range of Group services, to special complementary solutions, and to local parts inventories.

To bring it even closer to its customers worldwide, AFI KLM E&M is pursuing a strategy of developing facilities in the world's most strategic regions.

The program is designed to provide AFI KLM E&M clients with:

- *Quality of service while seeking to lower costs*
- *Local service delivery for optimized TAT*
- *Extended capabilities.*

A – Principal network “bridgeheads” and centers of excellence

EPCOR

Netherlands-based (Amsterdam Airport Schiphol) EPCOR offers leading-edge APU maintenance technology.



Activity: overhaul and repair of pneumatic components and APUs.

CRMA

A subsidiary located just outside Paris specialized in repairing engine parts and combustion chambers.



Activity: component and engine component repair.

SPAIRLINERS

A joint venture set up by Air France and Lufthansa Technik to offer full component support for all airlines operating the A380 worldwide.



Activity: A380 component support.



KLM Engineering UK

KLM UK Engineering Limited is providing services to the narrow body and regional operator market. Via our Technical Training College we also provide EASA Part 147 services.



Activity: MRO services for narrowbodies and regional fleets. Based in the United Kingdom (Norwich International Airport).

Aerotechnic Industries (ATI)

Royal Air Maroc (RAM) and Air France Industries have signed an agreement under which AFI acquires a 50% stake in ATI, RAM's aircraft maintenance subsidiary. The joint venture has a maintenance facility at Mohammed V International Airport, Casablanca, equipped with two medium-haul aircraft maintenance bays. Jointly managed and backed by the AFI KLM E&M sales force, the new business unit will bolster the regional position of the Group and of RAM by offering leading-edge maintenance services for A320 family aircraft.



Activity: A320 Airframe Services.

AMES

AFI KLM E&M and Aircele (SAFRAN Group) have teamed up to create a joint venture for aircraft engine nacelle repair and maintenance in the Middle East. The 50/50 joint venture is headquartered in the Jebel Ali Free Zone in Dubai, United Arab Emirates. The new maintenance unit is backed by the combined expertise of an international MRO (aircraft maintenance) and a well-known OEM (equipment manufacturer). Together, the two partners offer clients throughout the region a portfolio of services covering all types of nacelles. AFI KLM E&M is a specialist for GE and CFM engine nacelles, and Aircele for Rolls-Royce and GE models. The local nature of the joint venture means that regional clients will not need to move their aircraft outside the region.



Activity: Nacelles repair and maintenance.



AMG



Because it is Miami-based, this subsidiary provides more local services for clients in North and South America. In early 2011, AFI KLM E&M took its equity stake in Aero Maintenance Group (AMG) to 100%, giving AFI KLM E&M full control over its strategy in this region.

Activity: aircraft component repairs, logistics services.

Turbine Support International (TSI)



Set up in January 2009, this joint venture with ART is based in Blytheville, USA, and offers new engine teardown capabilities. In particular, the unit supplies parts removed during teardown and subsequently reconditioned, to help AFI KLM E&M's engine shops to reduce their costs. It also allows them to sell parts not used by AFI KLM E&M on the open market.

Activity: Engine tear down.

MAX Aerospace



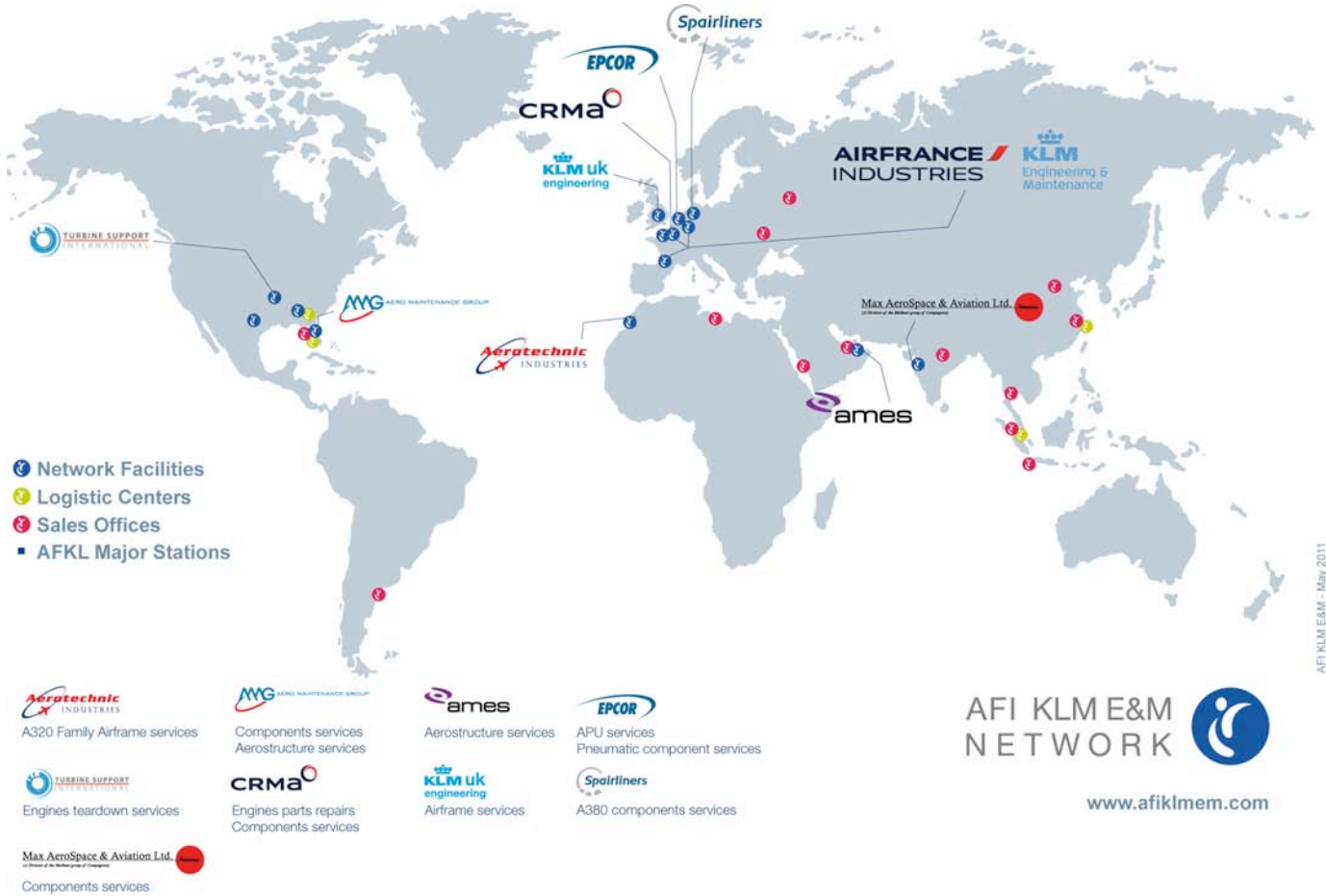
MAX Aerospace has maintenance facilities in Mumbai, and representative offices in New Delhi, Goa, and Bangalore. MAX Aerospace provides maintenance support for over 150 aircraft operated by all domestic airlines on the Indian market.

Committed to building a global MRO network, once this strategic partnership agreement is signed AFI KLM E&M is set to become the world's leading MRO to offer a significant component repair capability on the doorstep of its clients in the Indian sub-continent.

Activity: component and engine component repair.



B – AFI KLM E&M network





IV – Serving AIR FRANCE KLM group sustainability

Sustainability in all its forms is central to AIR FRANCE KLM strategy. The two airlines have long been committed to environmental protection, promoting ethical behavior, and supporting their communities. The Group pursues a common policy, which the two airlines each apply using their own procedures and mobilizing all their resources.

In line with these intentions, AFI KLM E&M brings to bear the diverse range of skills of its people in order to contribute the Group's five Corporate Social Responsibility priorities:

- Combat climate change
- Reduce its environmental footprint
- Build a lasting relation with customers
- Pursue a responsible Human Resources policy
- Contribute to local and international development.

A – Initiatives benefiting AFI KLM E&M clients

For many years now, AFI KLM E&M has been committed to a “green maintenance” approach, which consists in combining responsibility, innovation and the search for results, not only for the company but also for its environment and its stakeholders.

This approach has already led to many beneficial initiatives for Group clients, including:

- In July 2010, Air France Industries was able to renew **its Global and Unique Certification for three years**. For the past three years, AFI KLM E&M has benefited from this certification dubbed “Unique” because it concerns the whole of the French maintenance footprint, and “Global” because it embraces nine international benchmark standards.
 - ISO14 001 (Environment),
 - ISO 9001 (Quality Management),
 - EN 9100 (Aircraft Design),
 - EN 9110 (Aircraft Maintenance),
 - EN 9120 (Logistics and Storage),



- ISO 22 000 (Food Safety),
- OHSAS 18 001 (Occupational Health & Safety),
- ISO 15 489 (Records Management),
- ISO 26000 (Sustainable Development), added from November 2010.

Leveraging continuous improvement for customers

The renewal was included among the major goals of 2010 for AFI KLM E&M as it offers a distinctive value for its customers and stakeholders, and no other MRO operator or player can lay claim to this certification. The renewal also demonstrated proven mastery of aviation maintenance methods and of the continuous improvement systems in place. In addition to endorsing the optimization of MRO processes, the quality of the services delivered, and the dynamic improvement of performance, this Certification is also a guarantee of AFI KLM E&M's trustworthiness for its customers.

- An **environmentally-friendly** paint procedure: in partnership with the Mankiewicz Company of Germany, AFI KLM E&M has developed a new aircraft painting method. This protects the environment and improves occupational health & safety. The process uses chrome-free paint and requires less paint and harmful solvents. Because the coats of paint are thinner also, the aircraft are lighter and therefore burn less fuel, generating lower CO2 emissions.
- **Engine water wash**: this new maintenance process optimizes engine use, reduces fuel burn and CO2 emissions, and extends an engine's on-wing lifespan. On the strength of its cutting-edge technology, AFI KLM E&M can wash engines in the hangar during A or C-checks without prolonging AOG time. The process is, naturally, carried out in an environmentally-friendly manner: the water used is recovered at each wash for recycling.
- **Ecoshine®**
All 256 aircraft in the AIR FRANCE fleet, including its A380s, will progressively be polished at Roissy Charles de Gaulle and ORLY by service provider UUDS using its



damp depollution technique which on average uses 8 cu.m. of water less per aircraft washed.

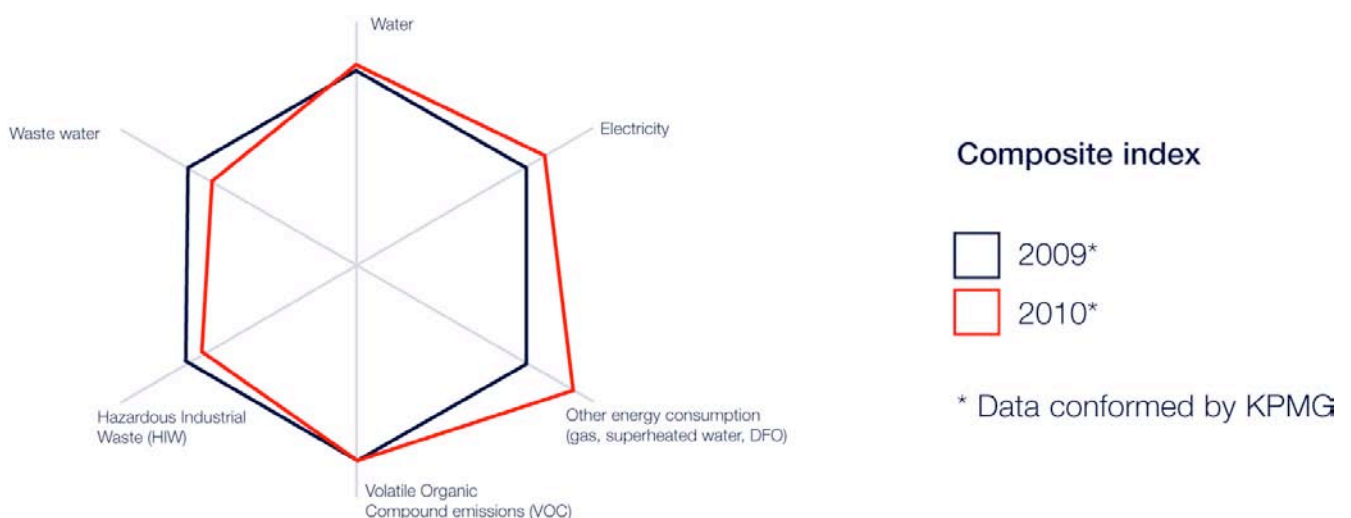
B – Eco-responsible innovations

In conjunction with AIR FRANCE KLM group strategy, AFI KLM E&M is continuously improving the energy performance of its equipment and facilities. Strict environmental criteria are taken into account whenever a decision concerning the launch of new infrastructure is taken.

Several innovations illustrate this approach:

- A program to recycle used aero engine parts has been set up in partnership with GE in line with the “cradle-to-cradle” philosophy, under which everything is recovered and nothing is thrown away.
- Wherever technically possible, AFI KLM E&M installs solar panels on the roofs of its buildings in a bid to reduce overall energy consumption.
- Long-standing efforts to reduce AFI’s water consumption are more than ever a reality. Over the past ten years accumulated savings of 352,000 cu.m. have been achieved, or the equivalent of the annual water consumption of a French town with a population of 30,000.

Measurable outcomes





APPENDIX



Approvals and certification

> European approvals (EASA and DGAC)

EASA Part 145, Part M subpart G, Part 21J, Part 21G, Part 147

> US approvals

FAR 145: FAA approved Repair Station: CNFY912C

> Military approval

> AFI KLM E&M is the first MRO to obtain FRA145 military approval from the French Ministry of Defense for the maintenance of its military aircraft.

> Other international approvals

Over 30 approvals have been granted to AFI KLM E&M by a number of international authorities (notably CAAC), enabling the Group to work on aircraft registered in the countries concerned.

> Certification

AFI is the world's only MRO to have obtained Global and Unique Certification covering nine international standards for all of its facilities: ISO14 001 (Environment), ISO 9001 (Quality Management), EN 9100 (Aircraft Design), EN 9110 (Aircraft Maintenance), EN 9120 (Logistics and Storage), ISO 22 000 (Food Safety), OHSAS 18 001 (Occupational Health & Safety) and ISO 15 489 (Records Management). ISO 26000 (Sustainable Development) was added from November 2010. In the Netherlands, KLM E&M's avionics unit is also ISO 14 001 certified.



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