



## AFI KLM E&M new aircraft mandating adaptive solutions

September 22, 2015



# The Air France – KLM Group:

One group, two airlines, three businesses



**\*Awarded 2015 MRO of the Year by Aviation Week for “Outstanding Airline Maintenance.”**  
Award presented recognizes comprehensive technical support solutions, including the A380, the Boeing 787 and A350.

**\*Awarded 2014 and 2015 MRO of the Year by the specialist magazine Airlines Economics**

# AFI KLM E&M - New Aircraft Mandating Adaptive Solutions

Customized Integrated Services			
Airframe Services	Engine & Engine Nacelle Services	Component Services	Additional B787/A350/A380 Considerations
<b>Airbus:</b> * A320 Family * A330/ A340 * <b><u>A350</u></b> * <b><u>A380</u></b>  <b>Boeing:</b> * 737CG / B737NG * 747 767 * 777 * <b><u>B787</u></b>  <b>Others:</b> MD11 Fokker 50/70/100 ERJ135/145 ERJ170/190 BAe 146 / AVRO RJ VIP	<b>CFMI:</b> CFM56-3 CFM56 -5A/-5B/-5C CFM56-7  <b>General Electric:</b> CF6-50 CF6-80C2 CF6-80E GE90 <b><u>Genx (B787)</u></b> <b><u>Trent 1000 (B787)</u></b>  <b>GE and/or PW:</b> <b><u>GP7200 (A380)</u></b> PW4000-94  <b>APU Services</b>  737NG 777 <b><u>787 (APS5000)</u></b> A320 A330/340 ERJ170/190	<b>Airbus:</b> A320 Family A330/ A340 <b><u>A350</u></b> <b><u>A380</u></b>  <b>Boeing:</b> 737CG/ 737NG 747 767 777 <b><u>B787</u></b>  <b>Others:</b> MD11 ERJ135/145, ERJ170/190 CRJ100/700/1000 ATR 42/72	<b>Fleet Team Conferences and Industry Steering Committees</b> <ul style="list-style-type: none"> <li>- Shared Operator experience</li> </ul> <b>Facilities/Tooling</b> <ul style="list-style-type: none"> <li>- Helios</li> <li>- Constellation engine overhaul shop</li> <li>- EPCOR</li> <li>- Line Maintenance</li> <li>- Barfield</li> </ul> <b>Training</b>  <b>Supply Chain/Logistics</b> <ul style="list-style-type: none"> <li>- Engine Nacelle</li> </ul> <b>Engineering</b>  <b>Inspection</b>  <b>IT</b> <ul style="list-style-type: none"> <li>- e-Operation</li> </ul>
<b>Painting Services</b>  All types			



A D A P T I V E N E S S<sup>®</sup>

# Barfield, Inc.



# AFI KLM E&M - Airbus A380

---



# AFI KLM E&M – Airbus A350

---



# AFI KLM E&M – Boeing 787

---





# AFI KLM E&M – Helios, the next-gen aerostructures and composite shop

---



A D A P T I V E N E S S<sup>®</sup>

# AFI KLM E&M – Dye Penetrant Testing

---



**PENETRANT TESTING**

# AFI KLM E&M – GE90 On-Wing FTR repair



# AFI KLM E&M – CF6-80 TRF Patch Repair - 009



# AFI KLM E&M – 3D SCANNING

---



# In summary, new aircraft technologies are mandating adaptive solutions

- Key changes within industry:



**Companies are rethinking business planning agenda**



**Significant investment in infrastructure depending on companies strategy**



**Continued investments in facilities, processes, and new products/ product improvement**



**Engineer and technician skills will need to be expanded to handle the new requirements**

# AFI KLM E&M Network



- Network Facilities
- Logistic Centers
- Sales Offices
- AFKL Major Stations

**Aerotechnic INDUSTRIES**  
A320 Family & 737NG  
Airframe services

**CRMA**  
Engine parts repair  
Component services

**Max MRO Services Pte. Ltd.**  
Component services

**AMG Aero Maintenance Group**  
Component services

**KLM UK Engineering**  
Airframe services

**Bonus Technic**  
Engine tear-down

**BARFIELD**  
Component services,  
GSITE & Distribution

**Spairliners**  
A350 & Ejet component services

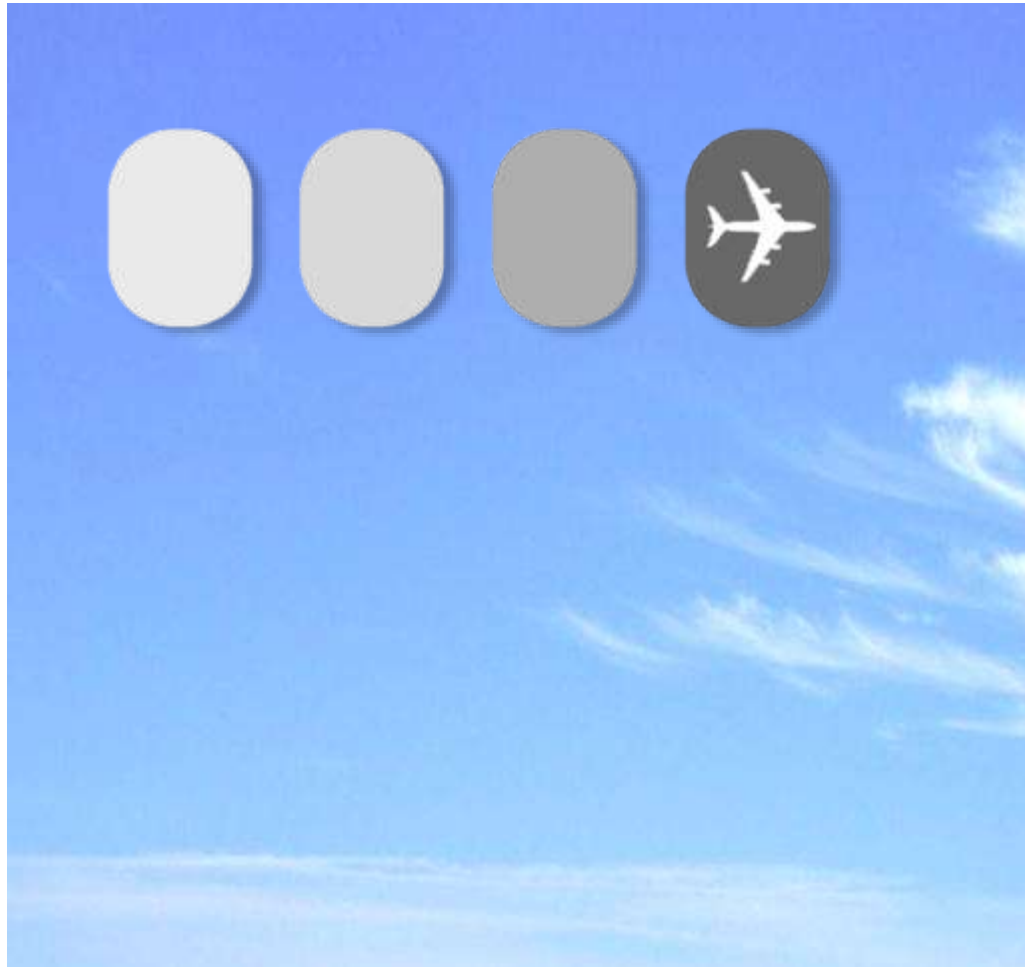
**Bonus Aerospace**  
Engines JT8 & PW4000

**ames**  
Aerostructure services

**BBF Spares**  
Component Sales & Loading

**AIRFRANCE INDUSTRIES** **KLM**  
Engineering & Maintenance  
COMPONENTS CHINA

**EPCOR**  
APU services  
Pneumatic component services



Thank you!