MRO Americas 2011

MRO Trends: Airbus update
New Standards. Together.

Presented by
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Airbus update on…

• A380 in-service maintenance experience
• A350XWB maintenance efficiency by design
• A320 Family New Engine Option
• A320 Family Extended Service Goal
• Airbus Support and Services portfolio
• Airbus Maintenance packages
The A380 Network keeps growing

43 A380s in service, 28 routes, 20 destinations
A380 - World fleet operations

Revenue flight hours
(as of 11th February 2011)

 Operational Reliability
>98% at end 2010

1/4 million flight hours
in nearly 28,000 revenue flights

Over 10 million passengers have enjoyed the A380 experience
In-service fleet will reach 100 a/c by end of 2012
A380 - Maintenance program

• Maintenance program developed using the “most appropriate usage parameter” concept
  • No letter checks
  • Flexibility to package the maintenance program around the aircraft schedule, rather than scheduling the aircraft around its maintenance checks

• Significant maintenance checks at:
  • 24 months → 10 checks completed
  • 6 years → first check due end of 2013
  • 12 years → first check due in 2019
A380 - Maintenance planning – 3 examples

1. Slightly equalized on line

- Line
  - Light Hangar Check: 750 FH
  - 24-months Check

2. Partly equalized on line

- Line
  - Light Hangar Check: 1500 FH
  - 24-months Check

3. Highly equalized on line or upon opportunity

- Line
  - Light Hangar Checks
  - 24-months Check

Check package tailored to each airlines’ operation
A380 - 24 months maintenance check feedback

- 95% of MPD tasks were completed within 7 days, despite simultaneous SB embodiment

- 16% of MPD tasks led to findings, no major findings
**A350XWB – Design objectives**

**Economy**  
less maintenance, less time on ground, more time in revenue service

**Flexibility**  
usage based, light tasks for scheduling during aircraft natural downtime

**Simplicity & Efficiency**  
requiring less skills and less specific GSE
A350XWB – Maintenance efficiency by design

- New maintenance concept
  - Usage parameter driven tasks
  - Base every 36 months, structures visit every 12 years
- Intelligent airframe
  - Less corrosion, fatigue tasks
- Advanced technology systems
  - Powerplant, Hydraulics, Electrics
- New functionalities, e-solutions
  - Dispatch advisory, RFID
- Customized maintenance services
  - Airbus Flight Hour Services (FHS)
  - Airbus Tailored Support Program (TSP)
A320 Family New Engine Option

Sharklets:
- Fuel burn saving on long sectors
- Improved field performance

New engines:
- Bypass ratio 9 to 12
- Up to 81 inch fan diameter
- Lower SFC, Lower noise levels

Low risk, minimum change aircraft...
...yet up to 15% overall fuel burn reduction
A320neo – Minimum change, maximum benefit

A real step in efficiency:
• 15% less fuel burn
• 15% less CO2 emissions
• 15% more range

While maintaining the Family values:
• Building on proven program with 7,000 sales
• Minimum change, maximum commonality
• Maturity from EIS with low industrial/technical risk
• EIS advanced from end of 2016 to October 2015
A320 family DSG – Design Service Goal

- A320 family Design Service Goal

48,000 FC

60,000 FH

DSG = Design Service Goal
A320 family DSG – Design Service Goal

- Lead aircraft reached 60,000 FH in 2007

DSG = Design Service Goal

48,000 FC

DSG

60,000 FH

2007

Flight Cycles

Flight Hours
A320 family ISG – Interim Service Goal

- ISG gives +20,000 FH = 3 to 5 years revenue service
A320 family ISG – Interim Service Goal

- Lead aircraft will exceed 48,000FC or 80,000FH from 2011

DSG = Design Service Goal
ISG = Interim Service Goal
A320 family ESG – Extended Service Goal

- ESG1 gives +12,000 FC and/or +40,000 FH = 8 to 10 years revenue service
A320 family ESG – Extended Service Goal

- Lead aircraft will exceed ESG1 target after 2019/2020

DSG = Design Service Goal
ISG = Interim Service Goal
ESG = Extended Service Goal

- Lead aircraft will exceed ESG1 target after 2019/2020
A320 family ESG – Extended Service Goal

- ESG2 = “ultimate limit”
  - to allow high FC aircraft to go beyond 60,000 FC

DSG = Design Service Goal
ISG = Interim Service Goal
ESG = Extended Service Goal
Airbus Support and Services

Airline’s outsourcing policy

In-House...
...Airbus Support

- Maintenance & Engineering
  - AIRTAC Engineering support
  - Repair engineering

- Material, Logistics & Suppliers
  - Warranty
  - EIS Provisioning Support
  - Customer Order Desk
  - AOG support

- Training & Flight Ops
  - Flight & cabin crew training
  - Flight Ops Training
  - Engineering Support

Outsourced...
...Airbus Services

- Maintenance & Engineering Services
  - AIRMAN, AirPl@n
  - Upgrade Services
  - Major Repair Services

- Material Management & Logistics Services
  - AMI
    - Airbus Managed Inventory
  - Material Management Seminars and Consultancy

- Training & Flight Operations Services
  - ELT, APIC, recurrent training
  - Maintenance Training
  - AirFASE FlySmart

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Airbus Support and Services – Focus on M & E

In-House...

...Airbus Support

- Maintenance & Engineering Support
  - AIRTAC AOG support
  - Engineering support
  - Repair engineering
  - Service Bulletins
  - Maintenance support
  - Technical Data support

Outsourced...

...Airbus Services

- Maintenance & Engineering Services
  - Upgrade Services
  - Major Repair Services
  - Consulting Services

- M&E IS tools
  - AirN@v
  - ADOC
  - AirPl@n
  - Airman
  - Airman web
  - Repair Manager
  - WISE
  - eLogbook

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Flight Hour Services / Tailored Support Package

FHS – TSP Tailored Support Package

Aircraft maintenance
Maintenance programme and planning
Line, “A”, “C” and heavy checks

Engineering Services
Fleet technical management
Reliability monitoring
Configuration optimization and control

Additional Services
IT solutions, Consulting, Training

Main base & outstations spare parts inventories
LRU spare parts guaranteed availability
Repair services

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Conclusion

• Design has a major influence on the lifecycle cost of an aircraft and its components – determining performance, reliability and maintenance costs

• Airbus continues to drive technological advances in airframe and systems design, as well as e-support tools, to allow new and more efficient maintenance concepts for new aircraft models and to extend the service life of the existing fleet

• The A380 in-service experience proves that this leads to a significant maintenance cost reduction for airlines

• Maintenance providers have new opportunities, but need to adapt

• Maintenance services and in-service support packages of the manufacturer are part of the global view
Thank you!