



Presented by

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Human side of innovation



Encouraging Innovation & Change

- Get employees involved in the process
- Make employees feel important
- Show employees they make a difference



Example 1: the F117

- Old: Air Force provided lowest price tools, not lowest cost
- New: Quality, warrantied tools



Example 2: Northwest

- Entry Into Service
- Dispatch Reliability



Example 3: Air Canada



A380 technology benefit

New flight controls architecture: dual Hydraulic/Electric (2H/2E)

- Lighter, smaller 5000psi hydraulic system
- DMC, reliability benefits
- Improved redundancy

Modular avionics:

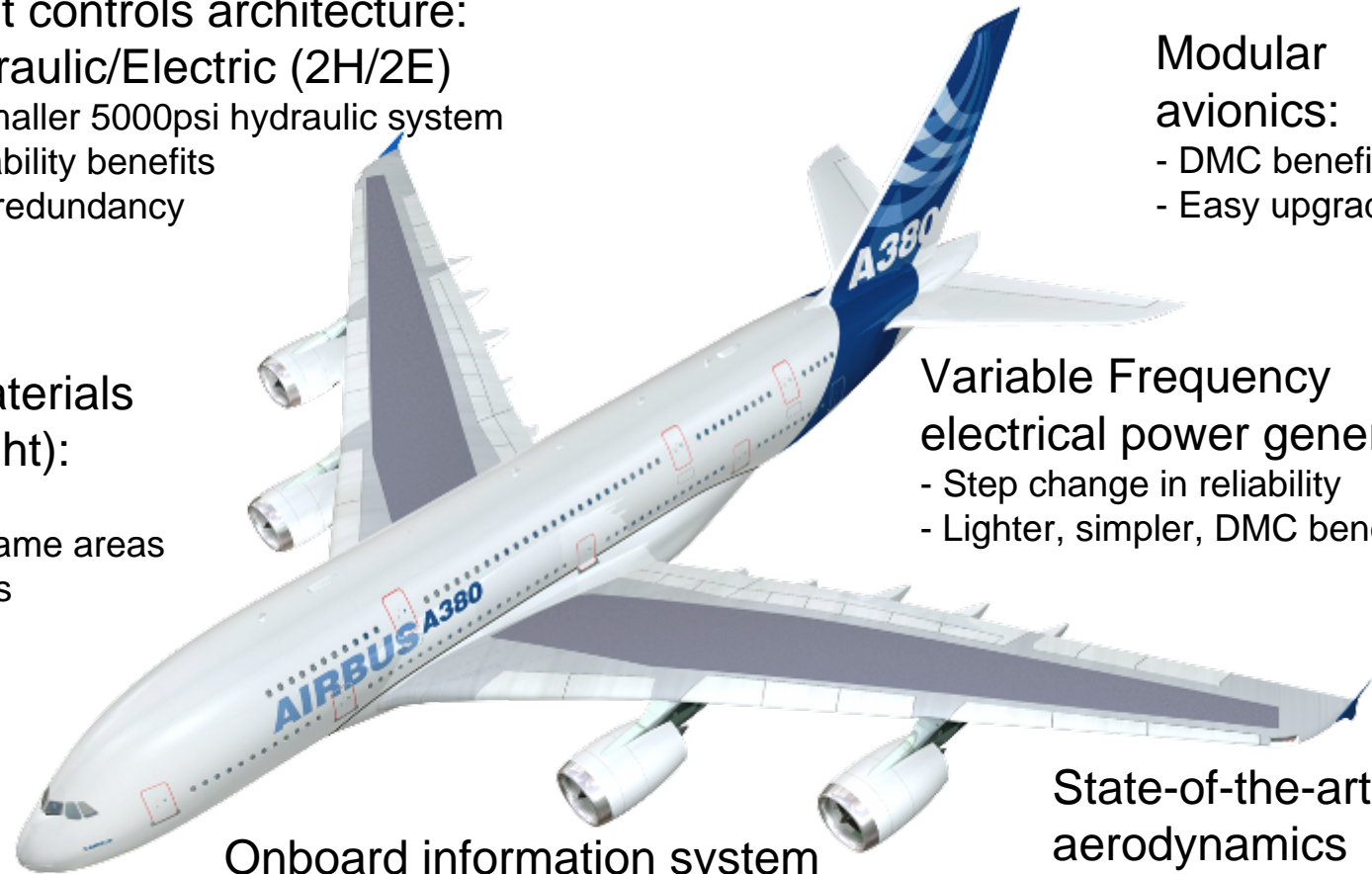
- DMC benefits
- Easy upgrades

Advanced materials (25% by weight):

- Weight benefits
- In selected airframe areas
- Less inspections

Variable Frequency electrical power generation

- Step change in reliability
- Lighter, simpler, DMC benefits



Cockpit

- more interactive
- meaningful innovation
- Family cockpit (CCQ / MFF)

Onboard information system (OIS/NSS)

- Less paper cockpit
- Improved connectivity, lower DMC

State-of-the-art aerodynamics

- Lower fuel burn
- Lower noise
- Operational performance

State-of-the-art technology, driving down costs

AIRBUS World – A portal to Airbus

- ▶ Single point of access to all on-line services made available by Airbus
 - **Airbus On-Line Services (AOLS)**
 - **Spares.airbus.com**
 - **eRooms**
 - **Customization & Delivery Information Systems**
- ▶ Development of on-line services in line with the business needs of customer-facing functions
- ▶ Consistency in the range of on-line services offered to customers across Airbus

AIRBUS World – Home page

Home | User name | My Account | Search: GO Help

Home | On-line Services | Resources | News & Events | About Airbus | World

AIRBUS | World Secure Area

On-line Services
April 4, 2004

Welcome to Portal administrator

On-line Services

Maintenance & Engineering

- ▶ Engineering Drawings -> Access
- ▶ AirN@v -> Access
- ▶ Engineering Technical Documentation -> Access
- ▶ Supplier Technical Data Online -> Access
- ▶ Technical Data Download -> Access
- ▶ Technical Manuals -> Access

Supply

- ▶ Airbus Support Data for Suppliers -> Access
- ▶ Airbus Supplier Performance Indicators -> Access
- ▶ AOG & Repair Guide -> Access
- ▶ Supplier Product Support Agreements -> Access
- ▶ Spares Portal -> Access
- ▶ Vendor Information Manual -> Access

Customization & Delivery

- ▶ Customization and Delivery Information Services -> Access
- ▶ New Enhanced Certification Tool And Rulemaking

Flight Operations

- ▶ Performance Program Management System -> Access
- ▶ ...ual -> Access

Warranties

- ▶ Contracts & Warranty Administration

▶ More info on service access

Specialist areas

- ▶ Customization & Delivery
- ▶ Maintenance & Engineering
- ▶ Supply

Quick access

- ▶ General Information
- ▶ On-line Services doc. index
- ▶ On-line Services events
- ▶ New documents on-line
- ▶ FTP site

Access to service information card (Green arrow pointing to Maintenance & Engineering)

Access to services (Orange arrow pointing to Supply)

*AIR*craft *Maintenance* *AN*alysis

Ground-based software dedicated to optimizing the maintenance of Airbus fly-by-wire aircraft equipped with:



On-board maintenance system



Real-time communication system
(ACARS/ATSU)

Current aircraft covered by the system:



A318 / A319 / A320 / A321



A330 / A340



A380

AIRMAN strengths

- ✓ Innovative tool for the maintenance of new generation aircraft
- ✓ Efficient trouble shooting assistant
- ✓ Correlation with logbook entries
- ✓ Follow-up of maintenance actions
- ✓ Reduces maintenance-related delays and disruptions
- ✓ Projected cost savings from start up
- ✓ Brings benefits to the whole maintenance process
- ✓ Allows automatic follow-up of a whole fleet
- ✓ Easy to use

AirN@v

Single tool providing enhanced consultation & navigation functions for a wide range of technical data

→ Hybrid DVD/Web-based technology

Current aircraft covered by the system:

→ A320 family, A330/340 available

→ A300-600/A310 trial phase begun

→ A380

Across the maintenance process



Maintenance

- AMM
- TSM
- IPC
- PIPC (first A380)
- AWM
- ASM
- AWL
- ESPM

Repair

- SRM
- NTM

Shop

- CMM Airbus
- DRM
- *DFPRM**

Planning

- MPD

Engineering

- AOT, FOT
- OIT, SIL
- TFU, OEB
- SB, VSB
- MOD, MP
- AD, CN

EDCI



- CML
- SM

- CML
- SM

- CML
- SM

A320/A330/A340
A300-600/A310 end of 2004
A380 by end of 2005

By end of 2005 first on A380

- *IFE Supplement**

* under investigation

A350: Taking A380 innovation farther

Maintenance Program

- fewer fatigue related tasks
- extended check intervals
- optimized for long haul operation

Cabin

- improved cargo loading system
- cabin maintainability improvements

Structure

- intelligent use of AL-Li alloy
- CFRP wing structure

Line Maintenance

- improved trouble shooting
- AIRMAN as standard

Fuel System

- significant system simplification
- reduced number of components



Bleed system

- application of A3456 fully electric regulated system
- better reliability, easier trouble-shooting

External lighting

- new A380 technology (HID, LED) lights

Air Conditioning

- system simplification
- deletion of pneumatic back-ups
- trend monitoring on all exchangers

Landing Gear, wheels, tires, brakes

- new, simplified design
- no shortening mechanism
- improved reliability, lower costs

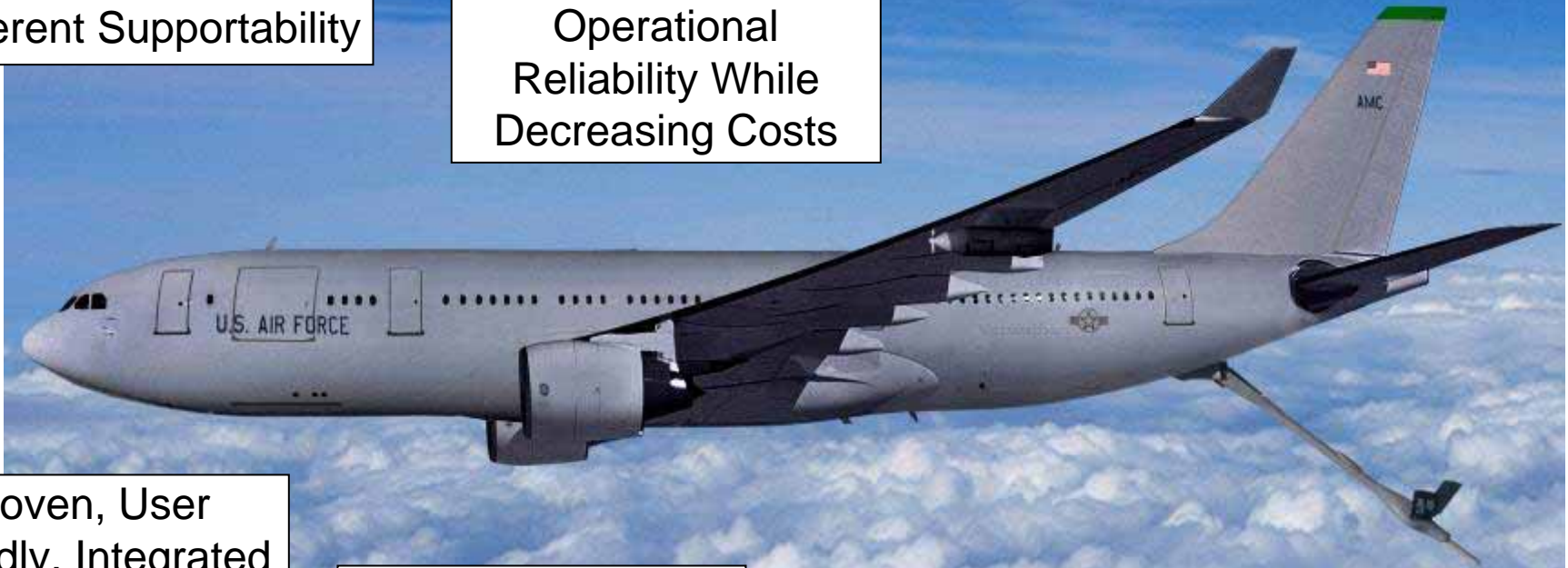
Leveraging Innovative Commercial Support Practices



A330 Offers Superior Inherent Supportability

AIRMAN System Increases Operational Reliability While Decreasing Costs

PDM Cycle Provides Higher Aircraft Availability



Proven, User Friendly, Integrated Digital Tech Data

World Wide Supply Support Network

Proven Training Infrastructure

Proven Partnership Approach

Commercial Support Innovations Adaptable to Support Existing Maintenance Practices



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Conclusion

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- **Make employees feel important**
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