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Head of A350 XWB Programme

**A350 XWB**

**Programme update  
Deutsche Bank**

22 January 2015



**Successful Entry  
into service of  
A350-900**



**Learn lessons to meet  
delivery commitments**



**Preparing the  
future by boosting  
competitiveness**

# A350 XWB is certified on time (as committed in 2012)



## Type certification



30th September



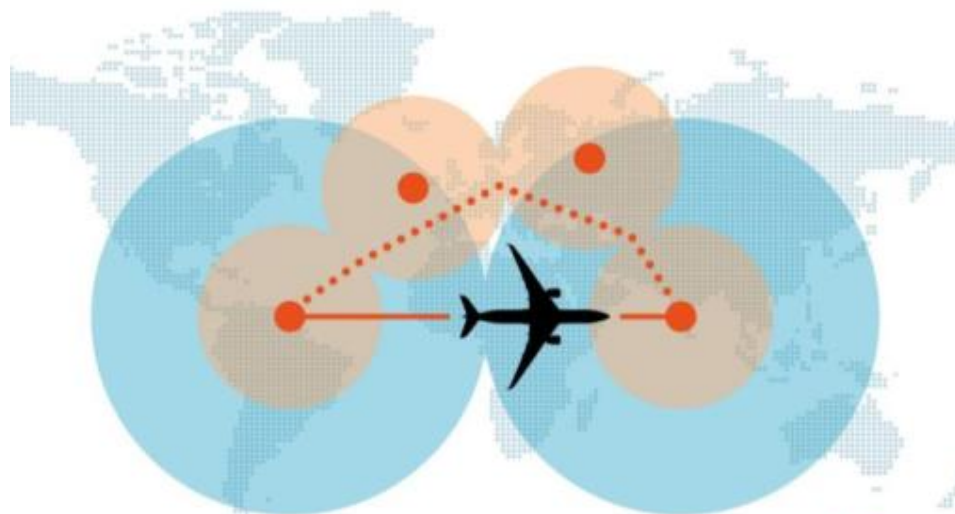
12th November

# Demonstrating reliability at certification enabling EASA ETOPS

**1<sup>st</sup> A/C type certified  
“Beyond 180 min”**

**ETOPS 180 min**  
in basic specification

**ETOPS 300 min** or  
**370 min** available as  
options

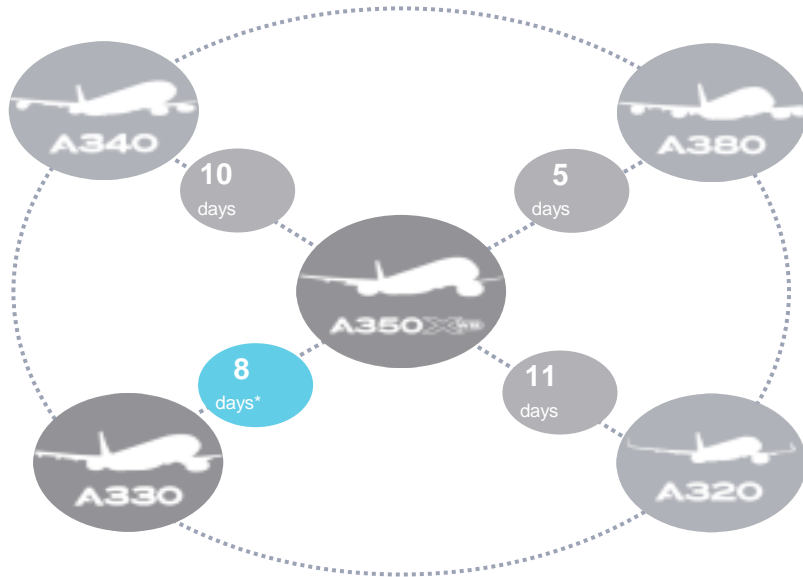


**A350 XWB** offering **at EIS**  
**370min ETOPS**  
Flying the most **efficient** twin-engined routings

# A350/A330 Common Type Rating Achieved

## A330 and A350: Common Type Rating granted

training duration of 8 days with no use of Full Flight Simulator.



Easy introduction of A350 into existing fleet and possibility of Single Fleet Flying (SFF)



Common Type Rating

----- CCQ and MFF paths

# An outstanding achievement: First A350 XWB delivered on time



**MSN006 delivered to Qatar Airways on December 22<sup>nd</sup>, 2014**  
**Entry into Service achieved on January 15<sup>th</sup>, 2015 opening the Doha-Frankfurt route**

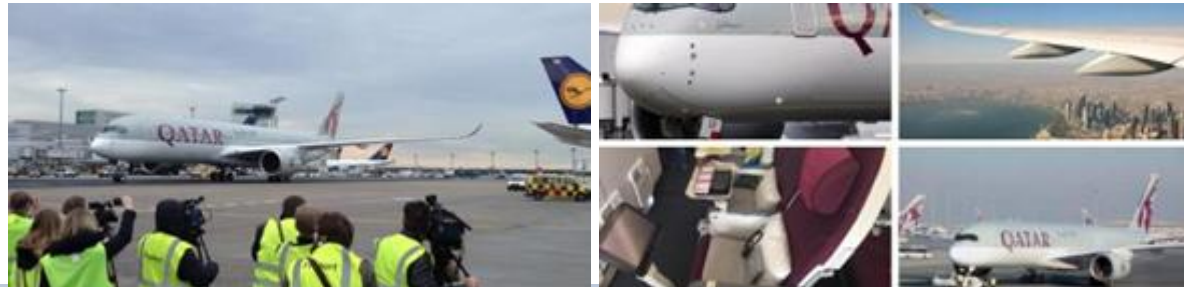
# Aircraft activity since delivery

- Ferry Flight to Doha: 23rd DEC 14
- Over 100 training flights - rhythm of 8 flights per day
- A350 media event: Heathrow/Qatar noise partnership launch
- Daily commercial rotation operational between Doha and Frankfurt (16 commercial flights so far)  
→283-seat configuration: 36 Full-flat-bed business class seats, 247 economy class seats

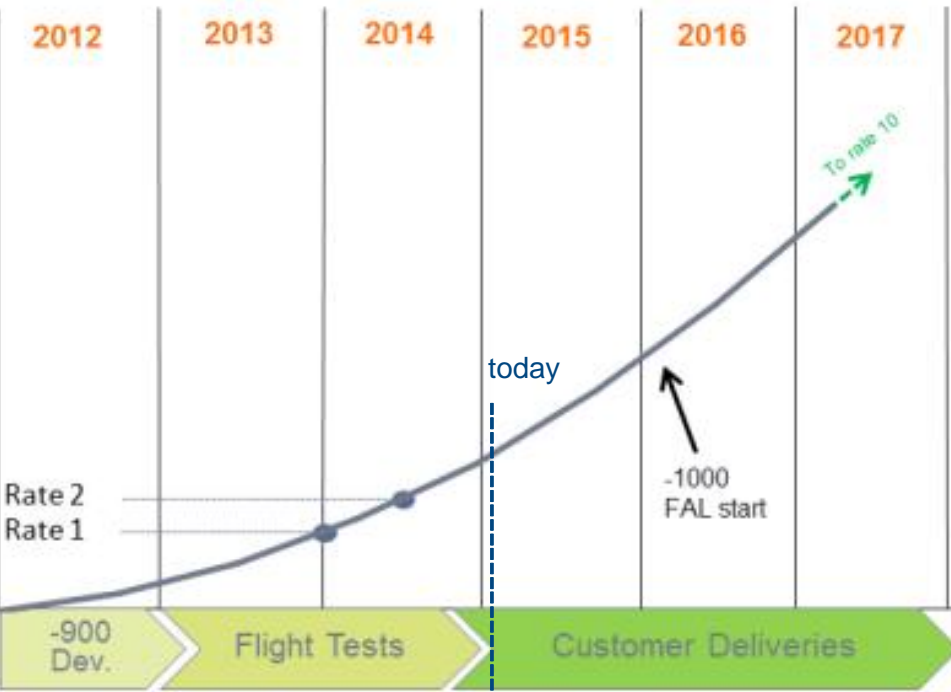
## Entry into Service

—  
**15th Jan '15 inaugural  
Doha-Frankfurt route**

**Excellent feedback from  
customers**



# Steep Ramp Up in FAL & pre-FAL with high focus on quality



Pre-FAL in Hamburg up to MSN29

**We are now starting the real industrial journey**

- 13 customer aircraft progressing in FAL (including 3 HoV)
- Steep ramp-up and A350-1000 FAL start by early 2016

12 heads of version in 2015







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# What Makes the Difference on A350 XWB? Applying Lessons Learned

## Program management

- Alignment programme / functions with Trust of top management => **Speed**
- Risks & opportunities led at head of programme level => **Anticipation**
- Continuous de-risking of contracts with customers => **Customer confidence**

## Communication

- Planning transparency to enable alignment => **Efficiency**
- Very regular communication with customers, markets and suppliers with explanations => **Trust**

## Technology & Maturity

- New technology risks (Stringers, root joints) identified and mitigated
- Quality Gates and Stop & Fix approach to gain speed in FAL
- Airline-like environment during flight test campaign to accelerate operability

# Airline like Environment: AIRLINE1 & Airline Office - Key Enabler for Maturity



## AIRLINE Office – Voice of Customer

Providing the airlines' experience

Contribute to validation of customer support system

## Mirror airline operations

Aircraft Maturity

Tech Pub & Ground Support Equipment

Aircraft Operability

Dispatch Operations

Maintenance Efficiency



### A350 focus on maturity

Delivering an A/C with the highest dispatch reliability.  
Prepare rapid solving of in-service issues (TTGF\*)

\*Time To Get a Fix

# AIRLINE1 – Operational Scenarios successfully tested

A350 XWB AIRLINE1



Integrated Turn Around



Pilot Walkaround



Avionics Fans Uploading



Auto Refuel

January 2015

# What Makes the Difference on A350 XWB? Applying Lessons Learned

## Customisation & Industrial Requirements Reconciliation

- Catalogue policy with Enabling platform: => **High Reuse / Leadtime reduction**
- Qualified BFE suppliers
- Customer Definition Center for definition freeze

## Supply Chain, Methods & Tools

- Reliable extended Enterprise using common development tools & process
- Industrial harmonisation across Extended Enterprise
- Steep ramp-up but limited aircraft in FAL at certification => **Limits Retrofits**
- Pro - active development of critical suppliers

# Customisation & Industrial Requirements Reconciliation

*Catalogue with Mix of Pre-developed Modules Fitted for Flex Zones*



**Modular Offering with almost limitless combinations**

# Customisation Policy contributing to A350 XWB's success:

- 1. Lower industrial risk** : 3 Heads Of Versions already in FAL at EIS
- 2. 85% Re-use of design solutions + Enabling platform = 12 mature CDF achieved.**
  - CDF to delivery in 12 months at Rank 100
  - Residual value protected by high commonality between customers' aircraft configurations
- 3. Cabin retrofits facilitated** by full cabin configuration representation in the DMU
  - More competitive/affordable retrofits

## *Opportunities for improvement*

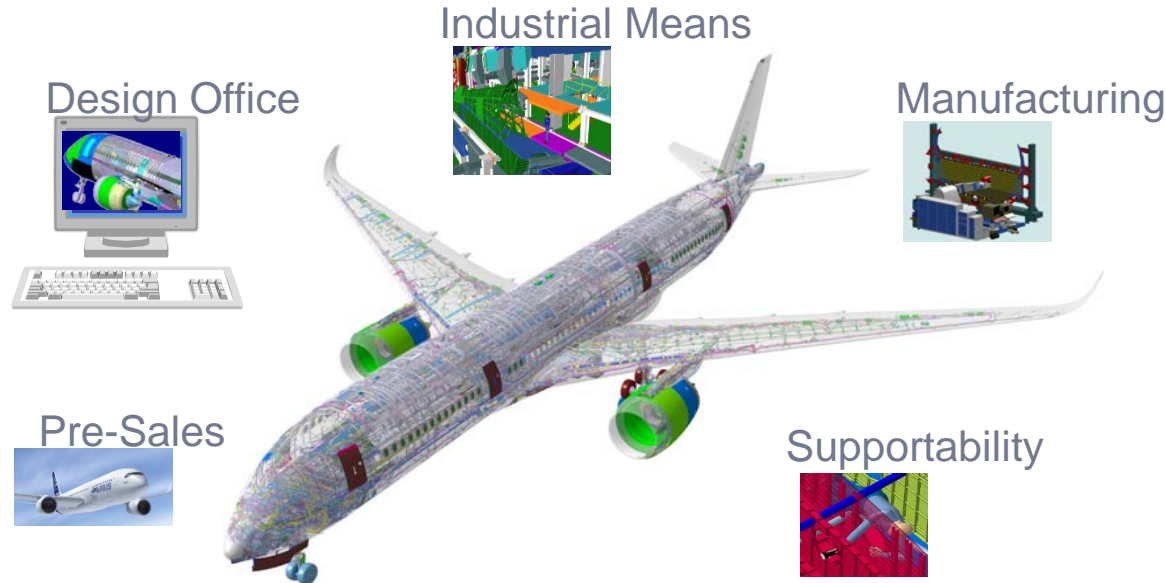
- 4. Continuous improvement on offering** to meet the evolving market expectations
  - Involving launching customers on new catalogue products
- 5. Process simplification: ACS\* & SFE**

\*Airbus Contracted Suppliers

**Ramp up is coming but we are ready to bring flexibility**

# Common Design Environment: New way of Working

*DMU (Digital Mock Up) as Master throughout the Value Chain*



**Same Process, Methods, Tools and Organisation**  
**Unique DMU shared by all contributors**





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# A350 XWB Firm order status – end December 2014

31 Countries – 3 Alliances – 5 Leasing companies

## Europe



## Americas



## Africa & Middle East



## Asia & Pacific



## Private Customer

UNDISCLOSED

## Leasing Companies



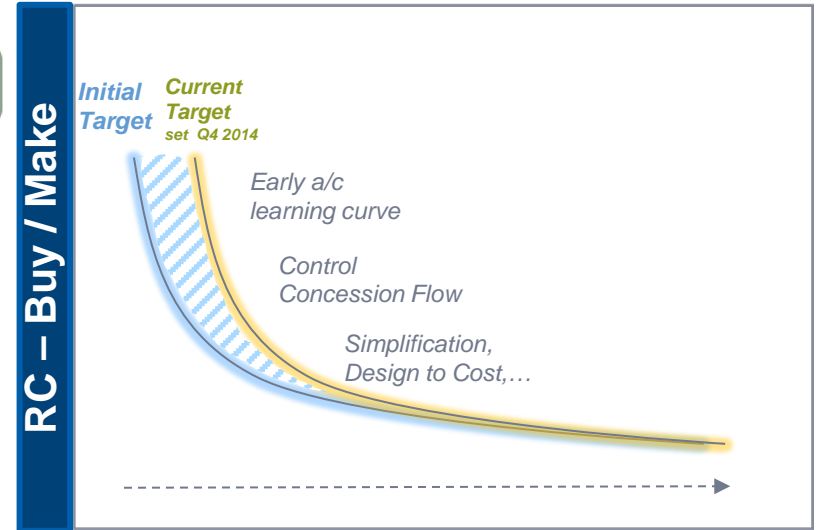
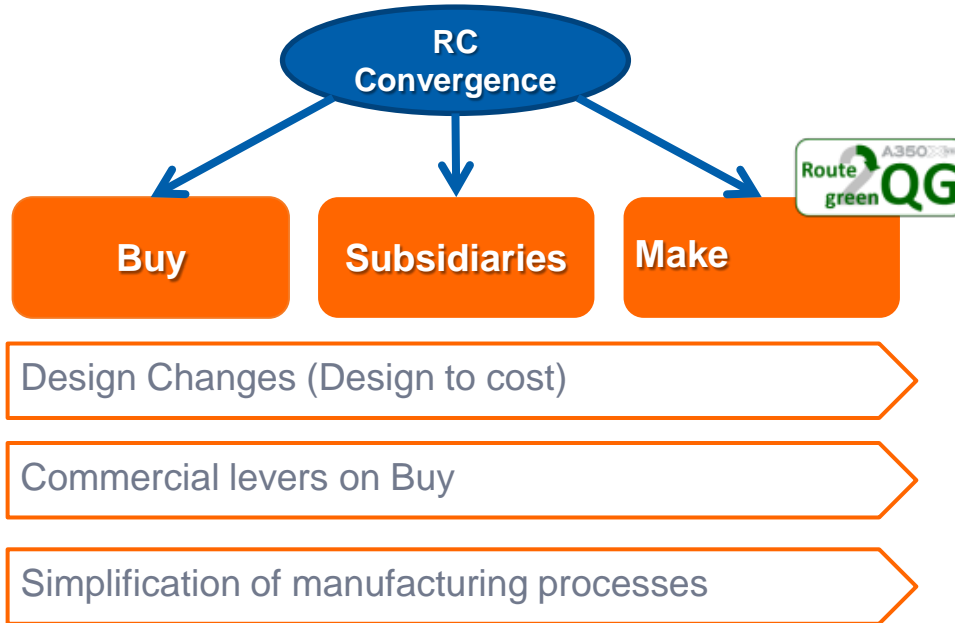
## A350 XWB

780 orders from  
40 customers

2014:  
57 gross orders  
4 new customers

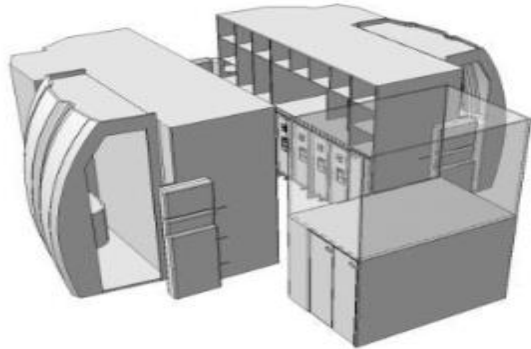
Net orders as end December 2014

# Profitability Protection through Production Costs convergence



# A350 XWB Cabin Improvements

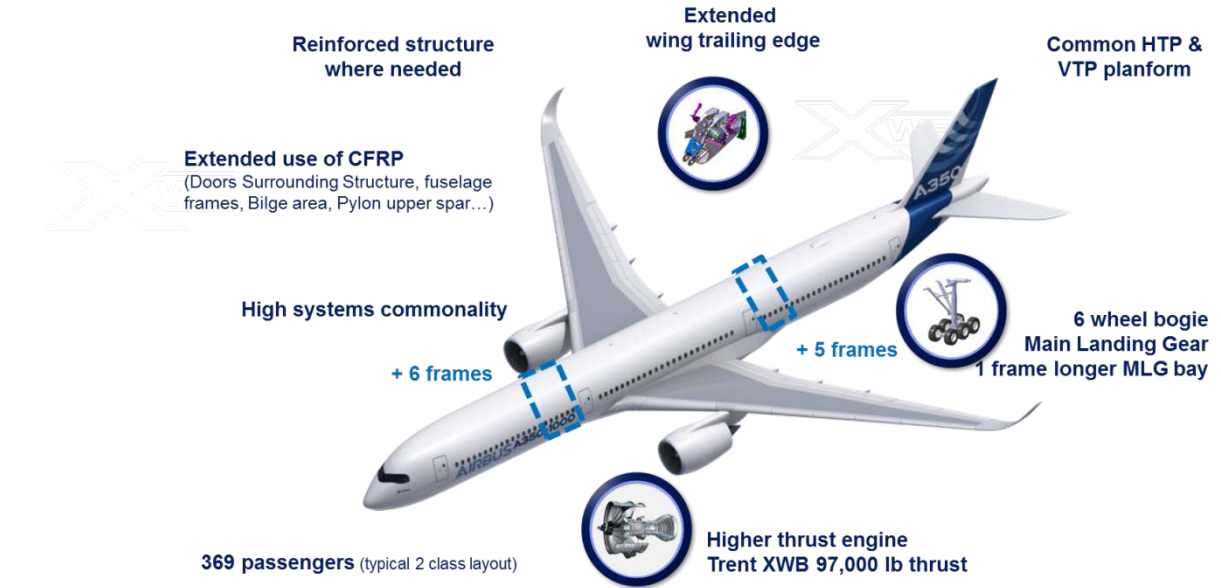
- CCRC improvement
- New IFE supplier
- Optimised shape lavatories
- New aft D4 arrangement
- 3-trolley trans. galley lateral fwd D4
- 6-trolley trans. galley in center D2



**With confidence**

**+ 12 Y**  
in 4Class layouts  
**+18 Y**  
in 2 Class layout

# Preparing A350-1000 industrialisation on time



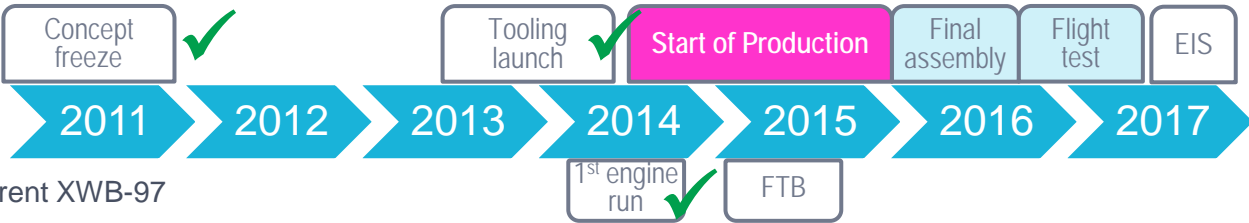
**A350-1000**

-

**A derivative** which **benefits** from the A350-900 experience

On track for EIS in **2017**

**169** orders from **9** customers



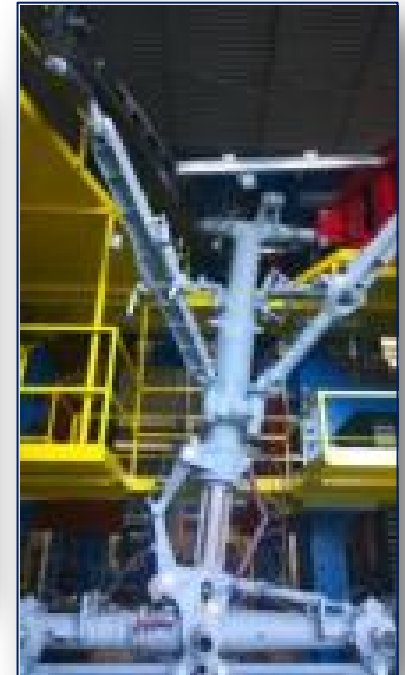
## Preparing A350-1000 industrialisation on time



Rolls Royce Trent XWB-97  
**Engine** ran for first time



PAG CFRP **S13/14 Fuselage** shell – 1<sup>st</sup> Ply



UTAS **MLG** manufacturing  
started and Scale 1 Mockup

# 2015 for A350XWB : The year of TRANSITION to build SUSTAINABILITY

Successful start of  
**operation in service**

Keep **-1000** on track by ensuring  
mature FAL start early 2016

## Prepare the future

Increase agility of **customization policy** to  
enable new business opportunities

Stabilize and make robust **industrial planning**  
2015/2016 for new sales opportunities

Strengthen **family attractiveness**  
(product evolution plan)



- A350 XWB EASA & FAA Type Certification achieved on schedule
- A350 XWB First Delivery to Qatar on time
- Functional & Reliability tests done with mature systems



## Next steps:

- Successful start of operations
- Deliver ramp up along the whole supply chain with high focus on quality
- Continue to apply lessons learnt to keep -1000 on track



**A350 XWB as a booster of Airbus competitiveness**



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