

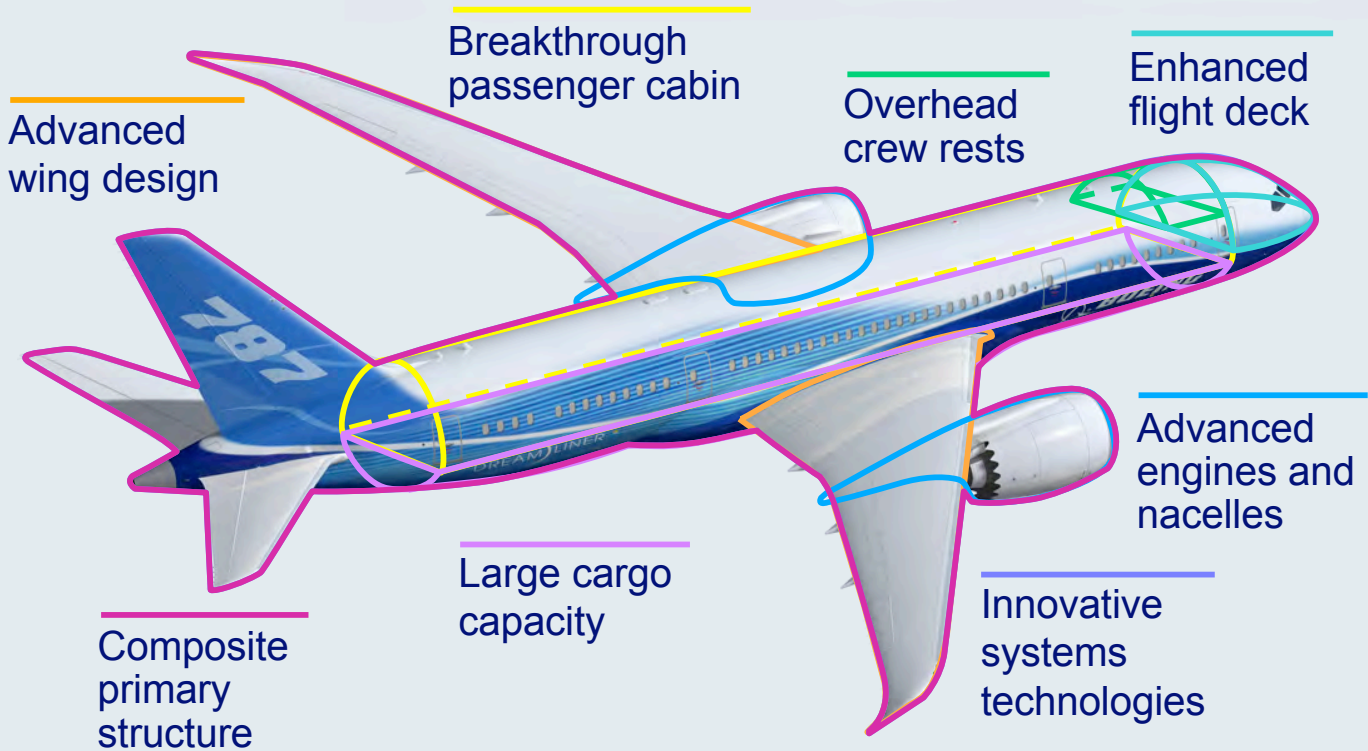
# The New 787 Airplane and Training Technology

*Challenges and Innovations*



# Configured for Success

## 787-8 Design Features



# Advanced Systems Technologies Provide Value

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Common Core Open Systems Architecture

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More Electric Systems Architecture

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Advanced Flight Controls

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Integrated Health  
Management

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e-Enabled Systems



# New Flight Deck Balances Commonality and Innovation

Advanced flight management  
systems and displays

High degree of data and  
systems integration –  
e-Enabled, health monitoring

Digital Flight Deck:  
Paperless environment with  
Electronic Flight Bag and ECL

# Commonality With 777



- Similar ETOPS
- Cruise speeds compatible:  
787 ECON cruise M0.85
- Flight deck operational  
and design philosophy  
are the same
- Autoland and non-precision  
approaches same
- Flight maneuvers nearly  
identical
- Same takeoff and landing  
technique

High degree of procedural commonality

# e-Enabled Vision — A Glimpse

*Invoke the power of integrated information and communications systems to drive operational efficiency, enhance revenue, and improved travel experience.*



Protecting and Connecting....  
Major benefits for passengers and crew



Airplanes are always connected, sending and receiving valuable information

Increased revenue

Travel Experience

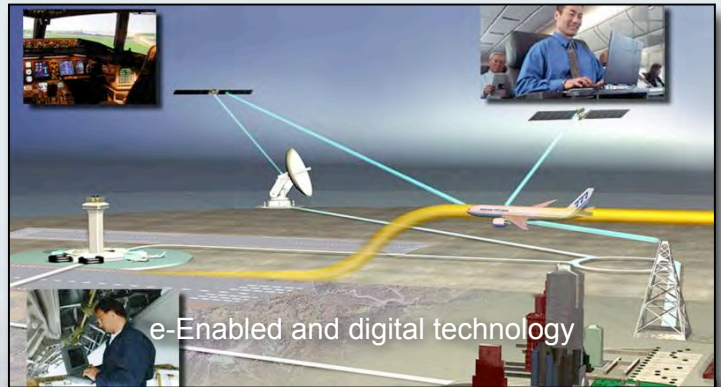
Improvements in airline operational efficiency

Real time monitoring...  
predictive rather than reactive

**A Network-Centric Air Transportation System**

# Training Challenge

Develop a new, ground-up training approach that takes advantage of and compliments:



# New Training Technology Inspired by the Airplane

- Simulation-Based Training
  - Real airplane and full-flight simulator data drives desktop simulation and Flight training devices
  - Maintenance training brings the virtual airplane into the classroom and uses the same tools and performance data that the mechanic will use on the line
- Flat Panel, Touch Screen trainers in lieu of Fixed-Base Simulators



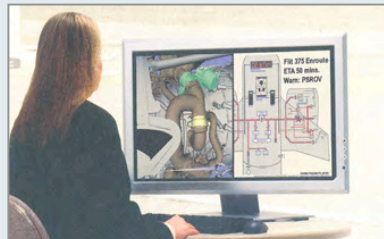
# e-Enabled and Digital Technology

- Web-managed, distance learning
- Real-time, current airplane performance support data
  - Toolbox on MyBoeingFleet.com
  - Performance Data
  - Just-in-Time Training
- Paperless training environment
  - Enhanced technical data for training (FCOM<sup>e</sup>, FCTM<sup>e</sup>, DDG<sup>e</sup>)



# 787 Toolbox- *an Electronic Performance Support System (EPSS)*

- The fundamental goal of an EPSS is to provide assistance in learning and in performing a set of tasks
- “The goal of an EPSS is to provide whatever is necessary to generate performance data. . . and learning when needed.”



# 787 Maintenance Training

Will train mechanics on the EPSS (electronic performance support systems) that will be available for the 787 at the gate and in the hangar.



- Toolbox will be accessible on the Maintenance Laptop
- Provides linkage of airplane data to support data
  - For example links the aircraft Central Maintenance Computer to Toolbox

# Respect for the Environment

## An Environmentally Progressive Training System

- Digital Web-managed training and training support products eliminate the need for paper along with the attendant production waste, transportation, distribution, storage, revisions, etc.
- New Student Experience, a paperless innovation
- Simulators that use 80% less electrical energy than current models
  - Low environmental impact hydraulic fluids



# Training and Support System



# Benefits

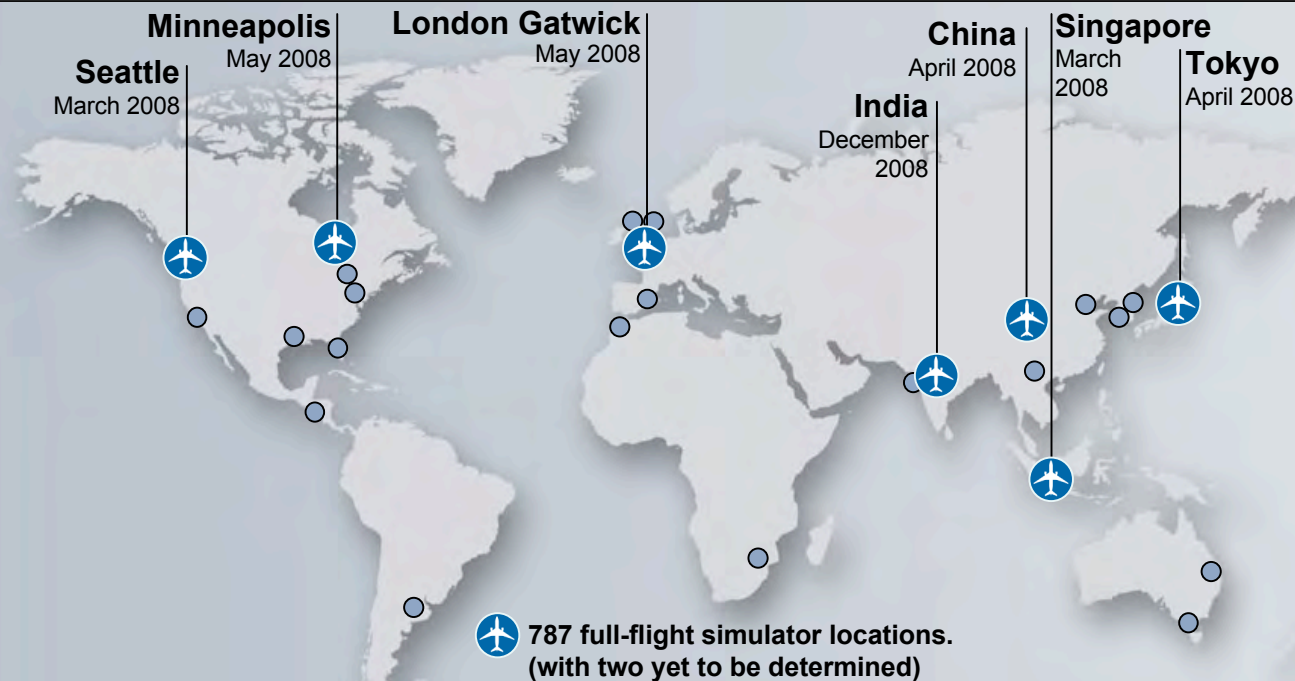
- Shorter, more efficient training footprints
  - Five day flight differences training 777/787 with no FFS
  - Distance Learning options to reduce time at the Training Center and prepare students for formal training
  - Maintenance training Line and Base Course is 50% shorter than the 777 L&B Course
- High Quality Training Media
  - Enhanced CBT and Gen Fam with 3-D Graphics, Synoptics and highly interactive
- Enhanced, more useful technical data: FCOMe, FCTMe, DDGe
- Paperless training environment
  - No books
- More efficient pilot and mechanic training with easily accessible support data, 24/7

# Result

Training programs and support products that produce and sustain the best qualified pilots, flight attendants and mechanics in the industry

**A New World-Class Training Standard**

# Flight and Maintenance Training at Seven Alteon Locations



# Opportunity and Innovation Meet

- Tailored training solutions to match customer requirements
  - More flexible training options
    - Airline can choose from Training Menu
    - Distance Learning options reduce time at the Training Center
- More efficient and effective training footprints
- A new student experience and paperless ways to learn/study
- Support tools to maintain a high level of currency
- Real-time performance support data to maintain the airplane
- An environmentally progressive standard that produces a better trained and more current pilot, flight attendant and mechanic to support safe airline operations