



# The Boeing 787 Dreamliner: *More Than an Airplane*

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*Director - Government  
Relations, Certification,  
& Environment*

**787 Program**  
*The Boeing Company*

2/15/2005



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# Welcome to the 787



Optimized Design

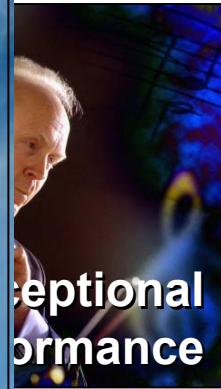


Strong Demand



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# Welcome to the 787

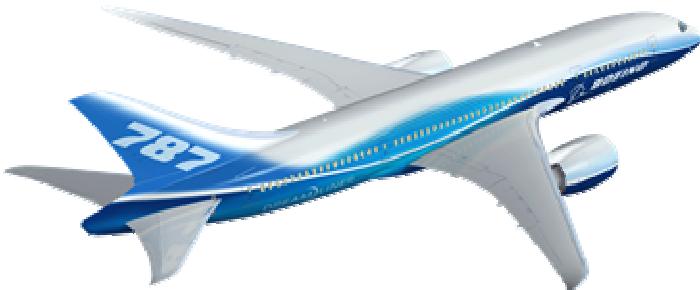


Optimized  
Design

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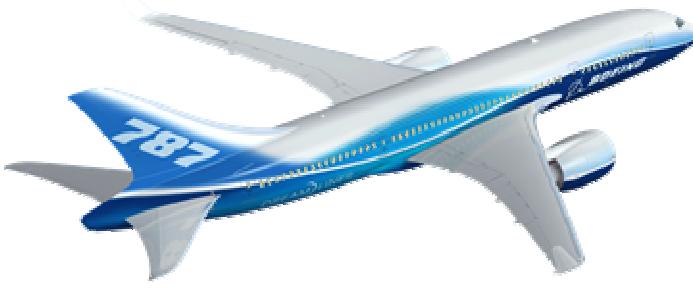
# The 787 Is a Complete, Flexible, Efficient Family



**787-8**

**223 passengers (three-class)**

**8,500 nmi / 15,700 km**



**787-3**

**296 passengers (two-class)**

**3,500 nmi / 6,500km**



**787-9**

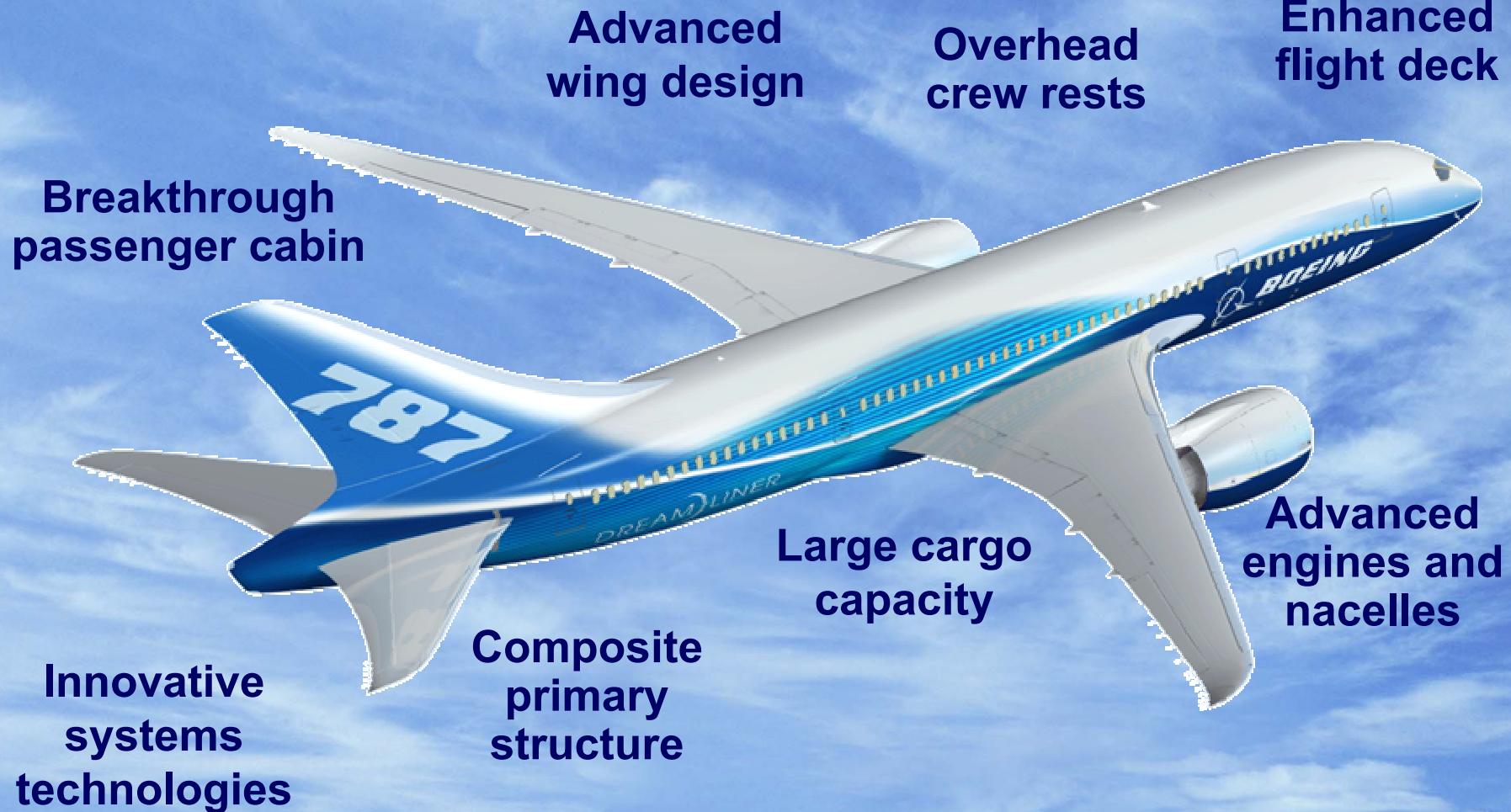
**259 passengers (three-class)**

**8,300 nmi / 15,400 km**



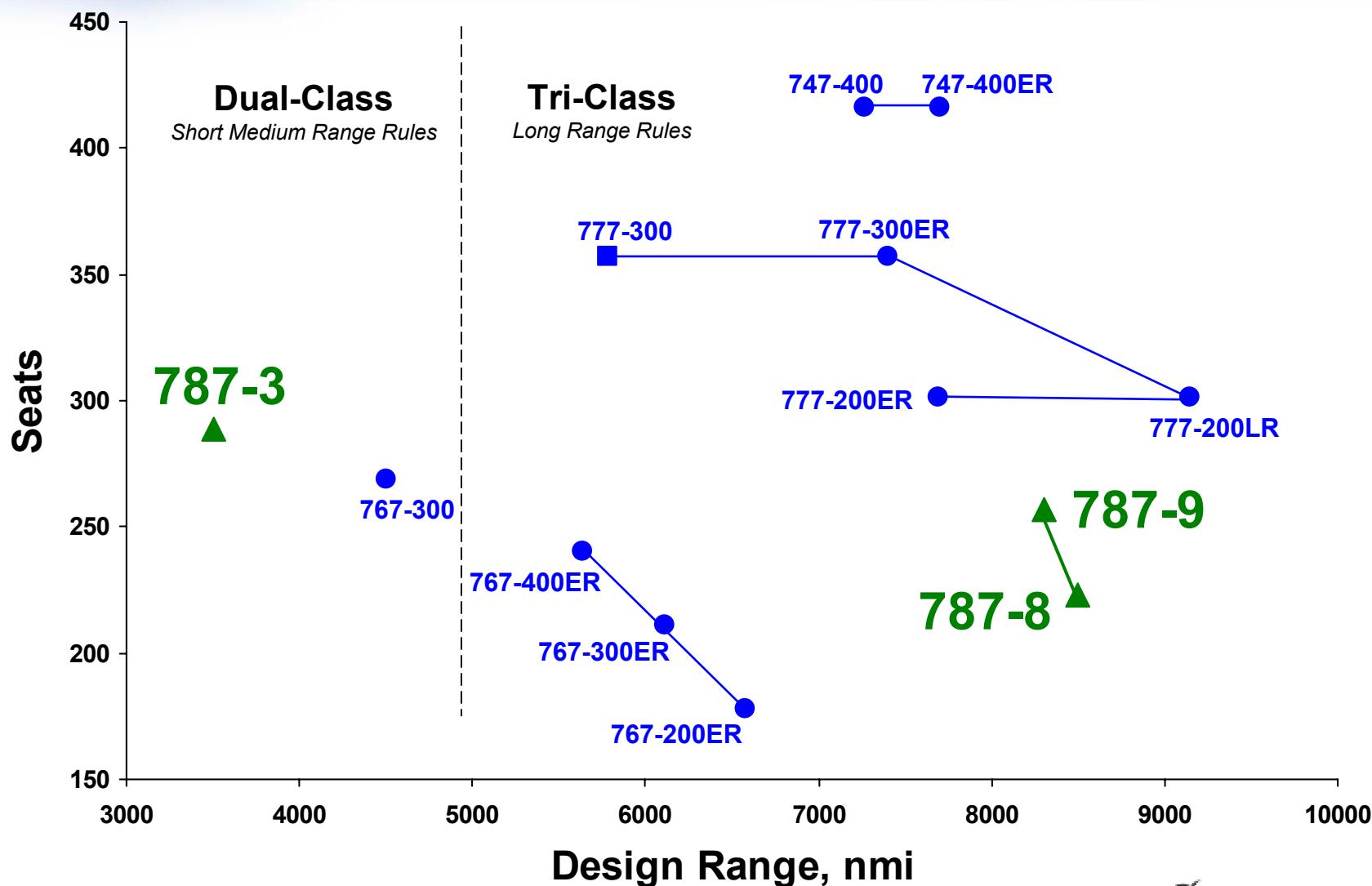
# Configured for Success

## 787-8 Design Features





# Efficiency for Medium- and Long-Haul Markets



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# Welcome to the 787



Enhanced  
Experience



Exceptional  
Performance

continued  
Progress

BOEING



# Making Flying Fun Again

- **More comfortable**
  - Wider seats, wider aisles, more headroom
  - Better cabin environment
    - Lower altitude
    - Higher humidity
    - Cleaner air
    - Smoother ride
    - Innovative lighting
  - Biggest windows available
  - Largest overhead bins

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# 787 Cabin Environment Features

## Lower Cabin Altitude

- Enhanced comfort at 6,000 ft cabin
- Advanced materials enable design

## Thermal Comfort

- Optimum multiple air supply nozzle locations
- Meets different needs of passengers and crew
- Personal air nozzles

## Cleaner Air

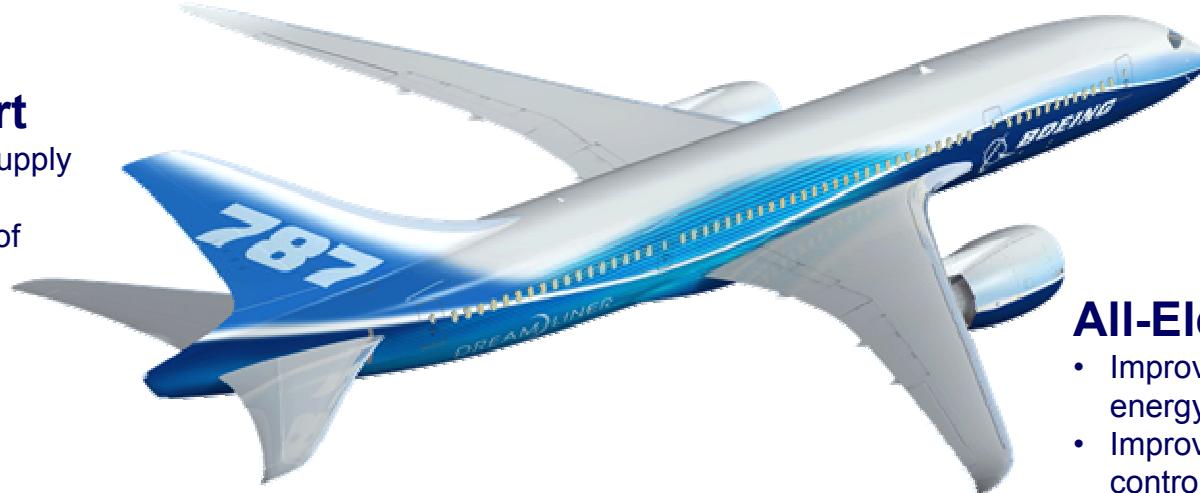
- Particulates – HEPA removal
- Gases – Air purification

## Moisture Control

- Innovative blanket design
- Possible active drying system

## Smoother Ride

- Flight controls for a smoother ride



## Better Sound Quality

- More stringent requirements for cabin and crew rests
- Chevrons for “quieter” engines
- Innovative insulation to reduce noise
- Dampers for noise control
- Engine balance for vibration

## All-Electric ECS

- Improved airplane energy efficiency
- Improved temperature control

## Cabin Humidification

- Variable flow to increase %RH



# A Place for Everyone's Belongings

**3 Roll-Aboard Bags  
and  
3 Briefcases**

- OR -

**4 Roll-Aboard Bags**

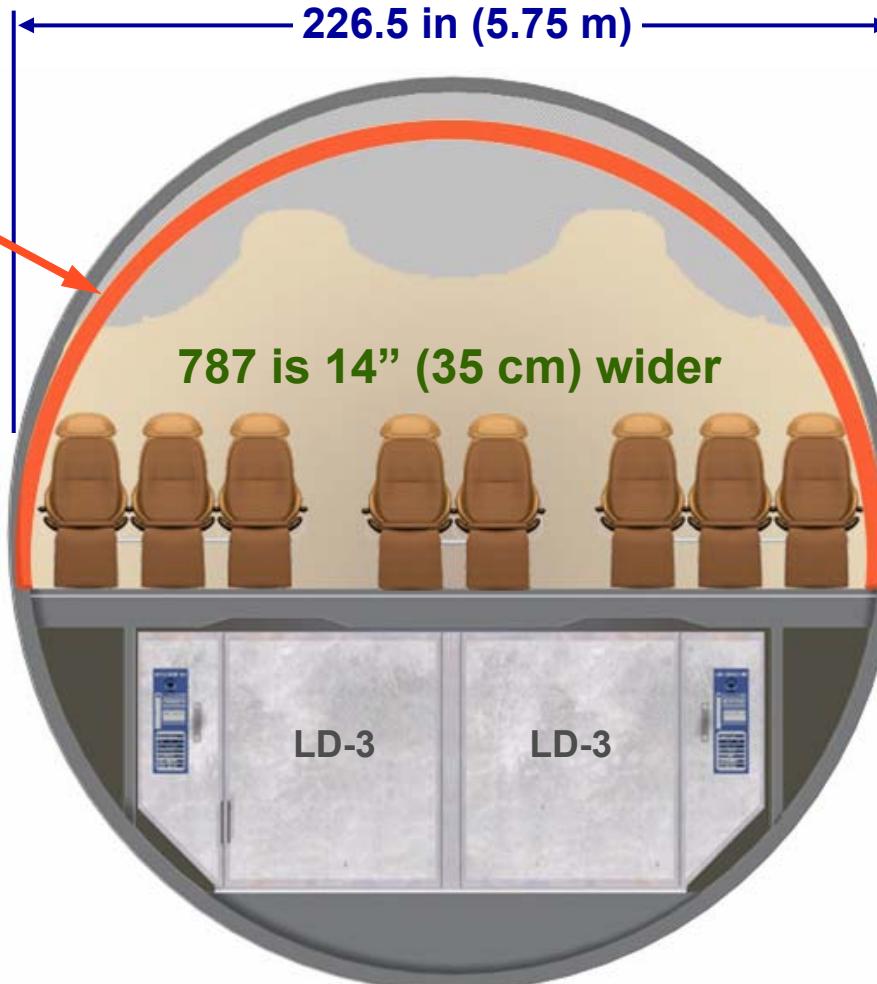


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# Wider Seats, Wider Aisles

## Cross Section Comparison

A300/A310  
A330/A340





# Creating New Non-Stop Routes

The 787 can efficiently connect more than 450 new city pairs



**Vancouver - Sao Paulo**

**Seattle - Shanghai**

**San Francisco - Manchester**

**Boston - Athens**

**Tel Aviv - Montreal**

**Possible New Airport Pairs**

**Munich - Nairobi**

**Geneva - Singapore**

**Dubai - Taipei**

**Madrid - Manila**

**Auckland - Beijing**

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# Welcome to the 787

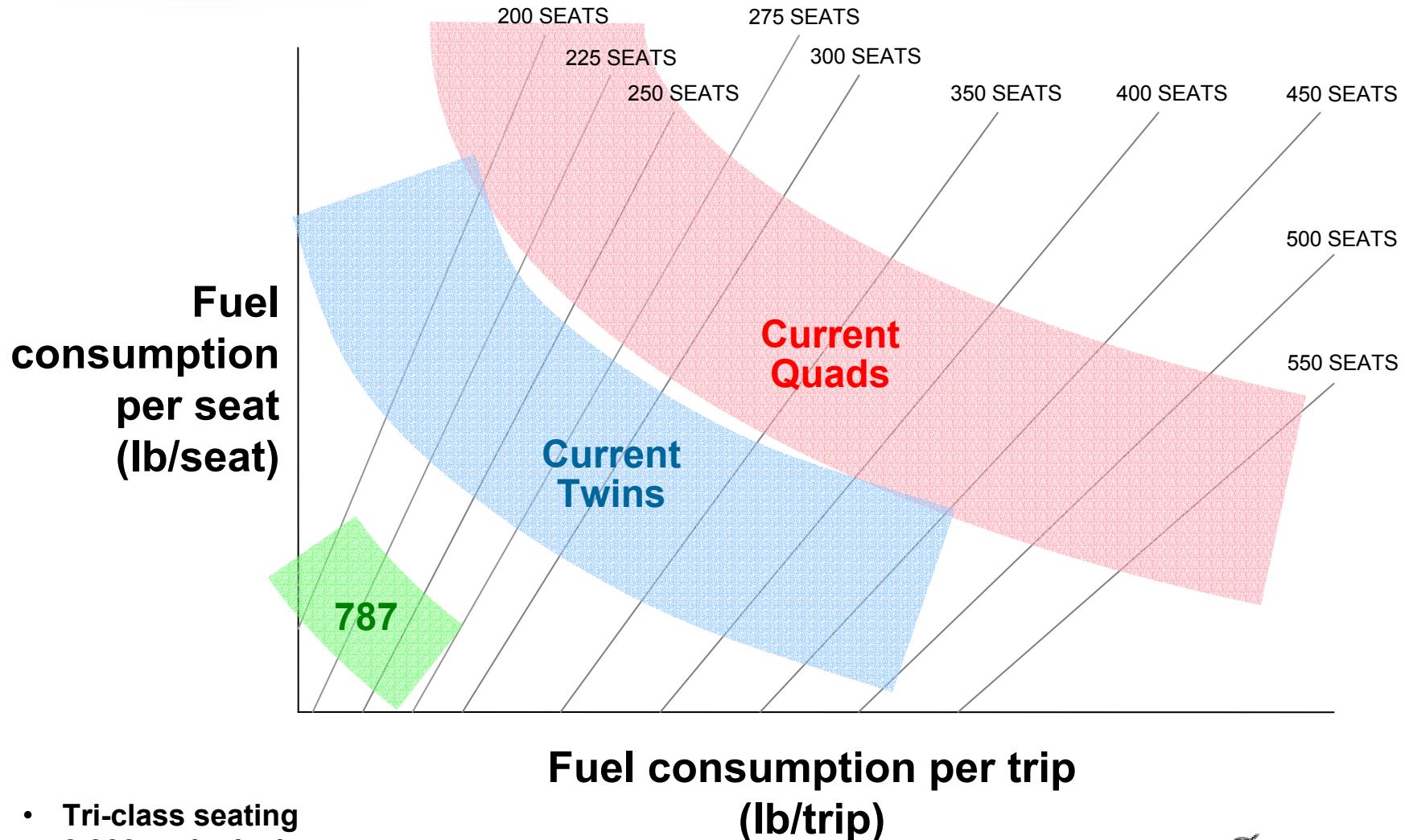


Exceptional  
Performance

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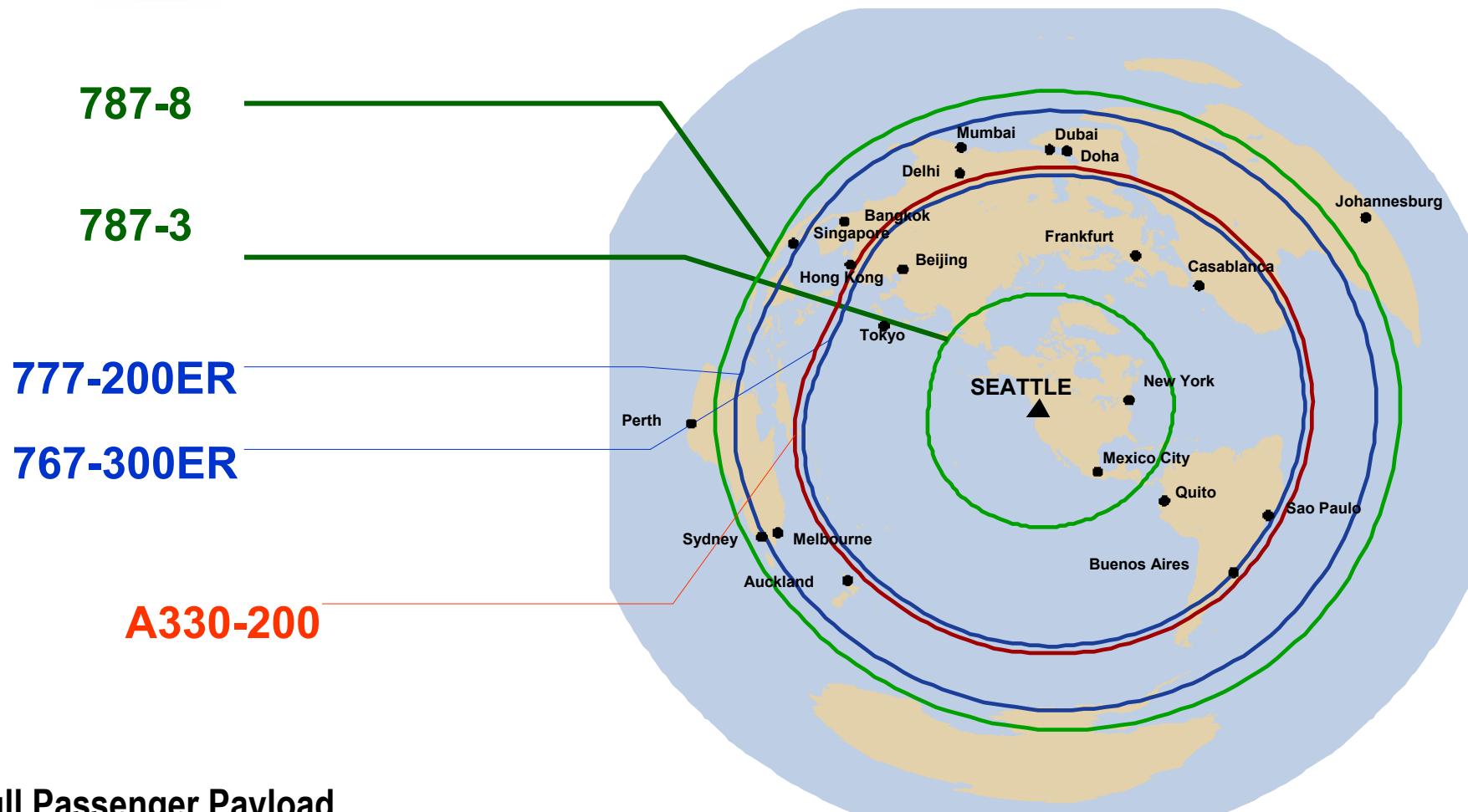
# A New Standard in Performance



- Tri-class seating
- 3,000 nmi mission



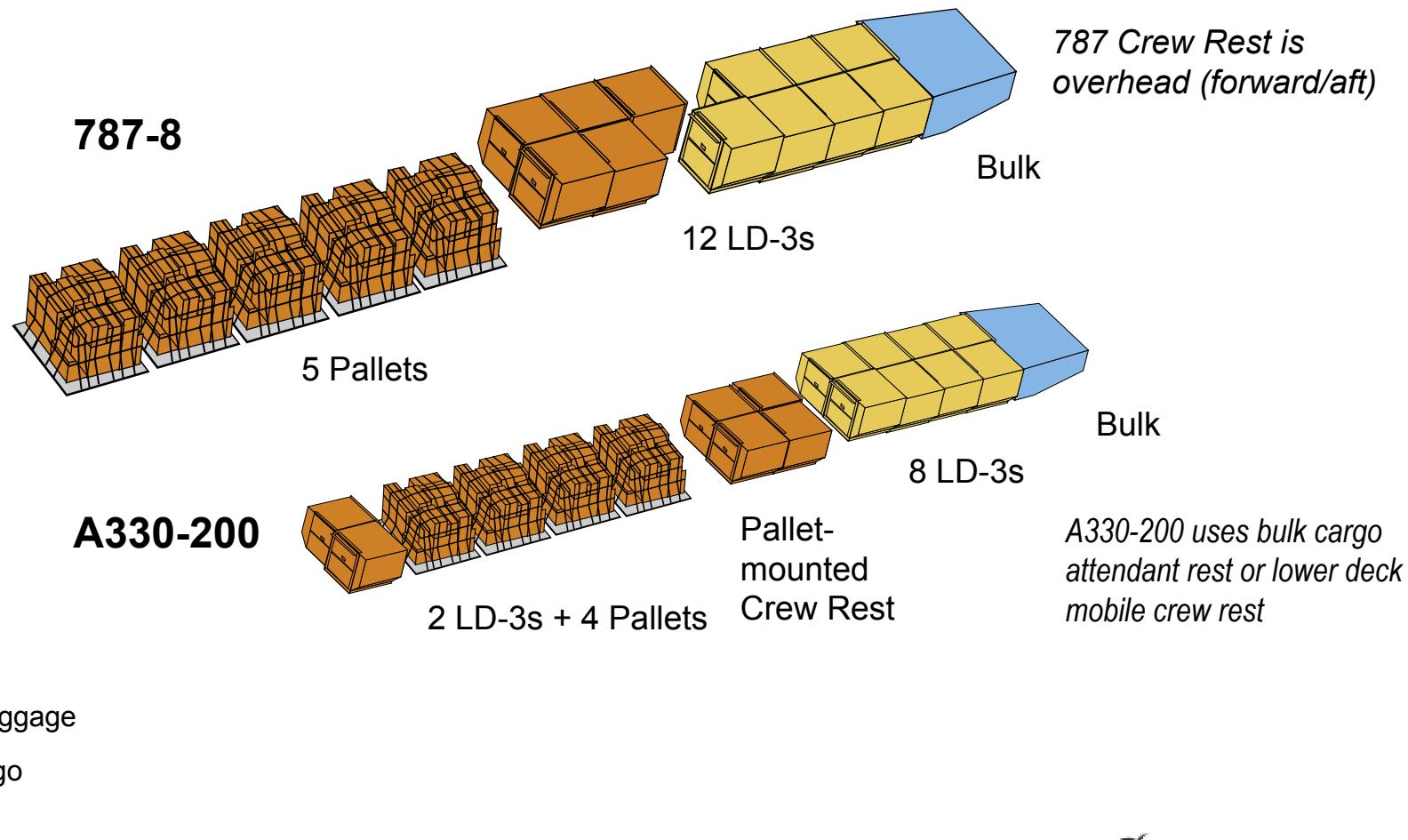
# New Range Capability with Mid-Size Capacity



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# Cargo Capacity for More Revenue

**45% more revenue cargo volume**





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# The 787 Will Be an Environmental Leader

- Less fuel used
- Lower emissions
- Quieter for communities, crews, and passengers
- Fewer hazardous materials
- Less waste in production

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# Quiet for Airport Communities

## 85 dB Noise Contours at LAX



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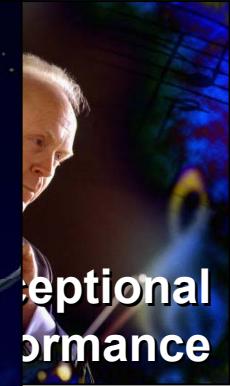
# Providing Flexibility for Many Uses

**The 787 Dreamliner easily accommodates the many needs of customers**

- Interior configurations
- Ranges and routes
- Frequency
- Seasonal demands

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Strong  
Demand

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# Worldwide Market Interest Strong



6



50



4



5



30



2



CHINA EASTERN



20



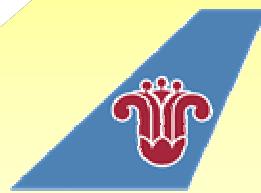
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SHANGHAI AIRLINES



4

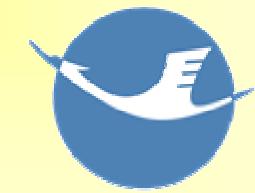


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CHINA SOUTHERN



AIR CHINA



XIAMEN AIRLINES



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## Continued Progress

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# 787 Design Is Maturing Rapidly *On Track for Firm Configuration*

300+ airplane-level  
design studies  
completed

Interior  
architecture selected

11,000 hours of  
wind tunnel  
testing



625,000 Cray  
hours conducting  
CFD analysis

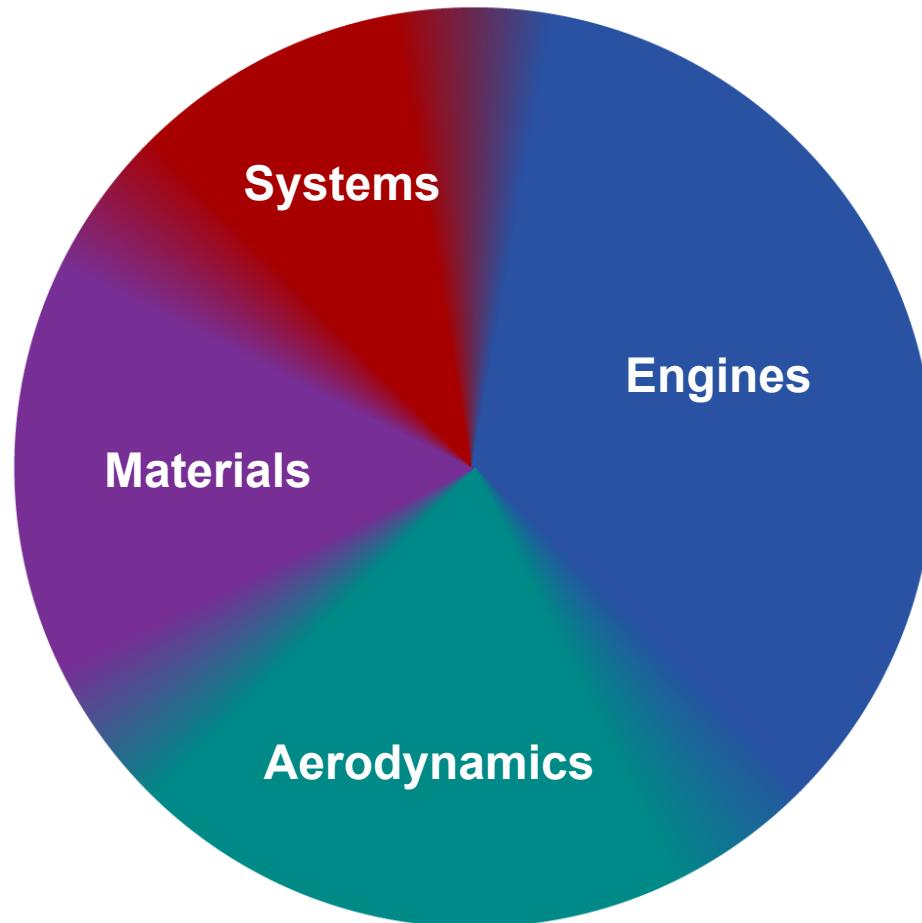
Airplane digital  
definition is 3  
gigabytes and  
growing

Major systems  
architecture firm  
and partners  
selected

Propulsion partners  
selected

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# Advanced Technology Contributions to 787 Efficiencies





# Engine Technologies Represent a 20-Year Leap

- Higher bypass ratio
- Interchangeable
- No-engine-bleed systems architecture
- Low-noise nacelles with chevrons
- Laminar flow nacelles

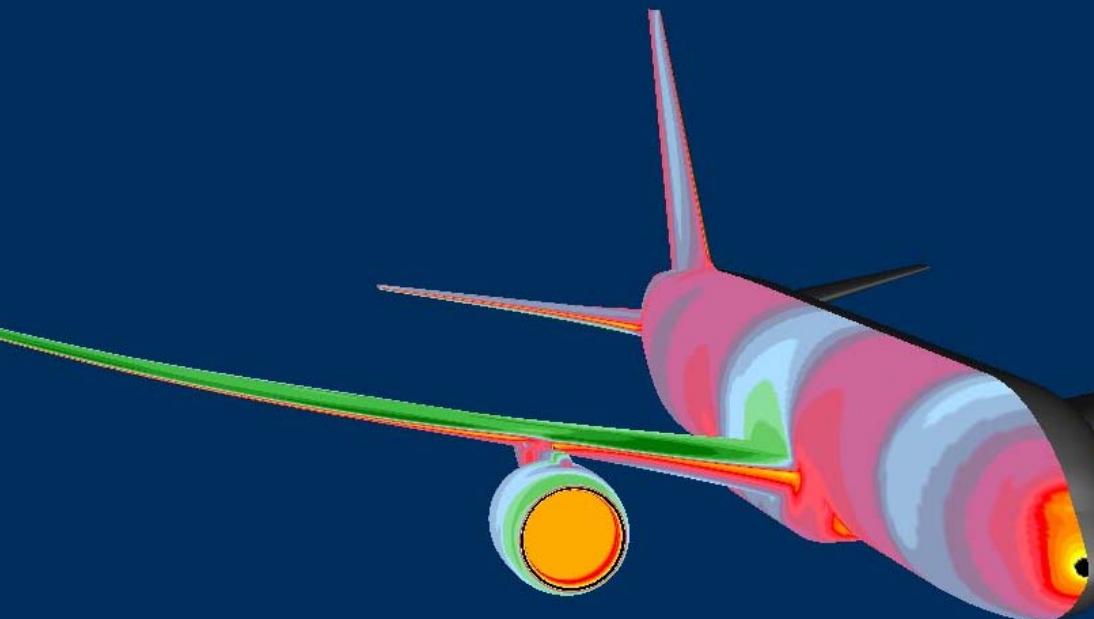


**“Ultimately, engine interchangeability will prove more important than cross-crew flying.” - Steve Hazy, CEO - ILFC**



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# Aerodynamics Progress Report



- Extensive wind tunnel testing conducted in multiple facilities
  - Validated CFD design tools
  - Verified 787 high speed and high lift design
- Excellent progress towards meeting all performance targets

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# Starting the Second Century of Powered Flight



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# Advanced Systems Technologies Provide Value

Common Core  
Open Systems  
Architecture

More Electric  
Systems Architecture

Advanced  
Flight Controls

Integrated  
Health  
Management

Wireless IFE

e-Enabled  
Systems



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# Development Schedule Aggressive, Achievable, On Track

Airplane Announcement	Authority To Offer	Program Launch	Firm Configuration	First Flight	Certification and Delivery
2002	2003	2004	2005	2007	2008

