



787 Dreamliner: A New Airplane for a New World

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Scottsdale, AZ*

Building the Dream

787 DREAMLINER™

Highlights

787 DREAMLINER™

787 Overview
Airport Information
Production Progress



Highlights

787 DREAMLINER™

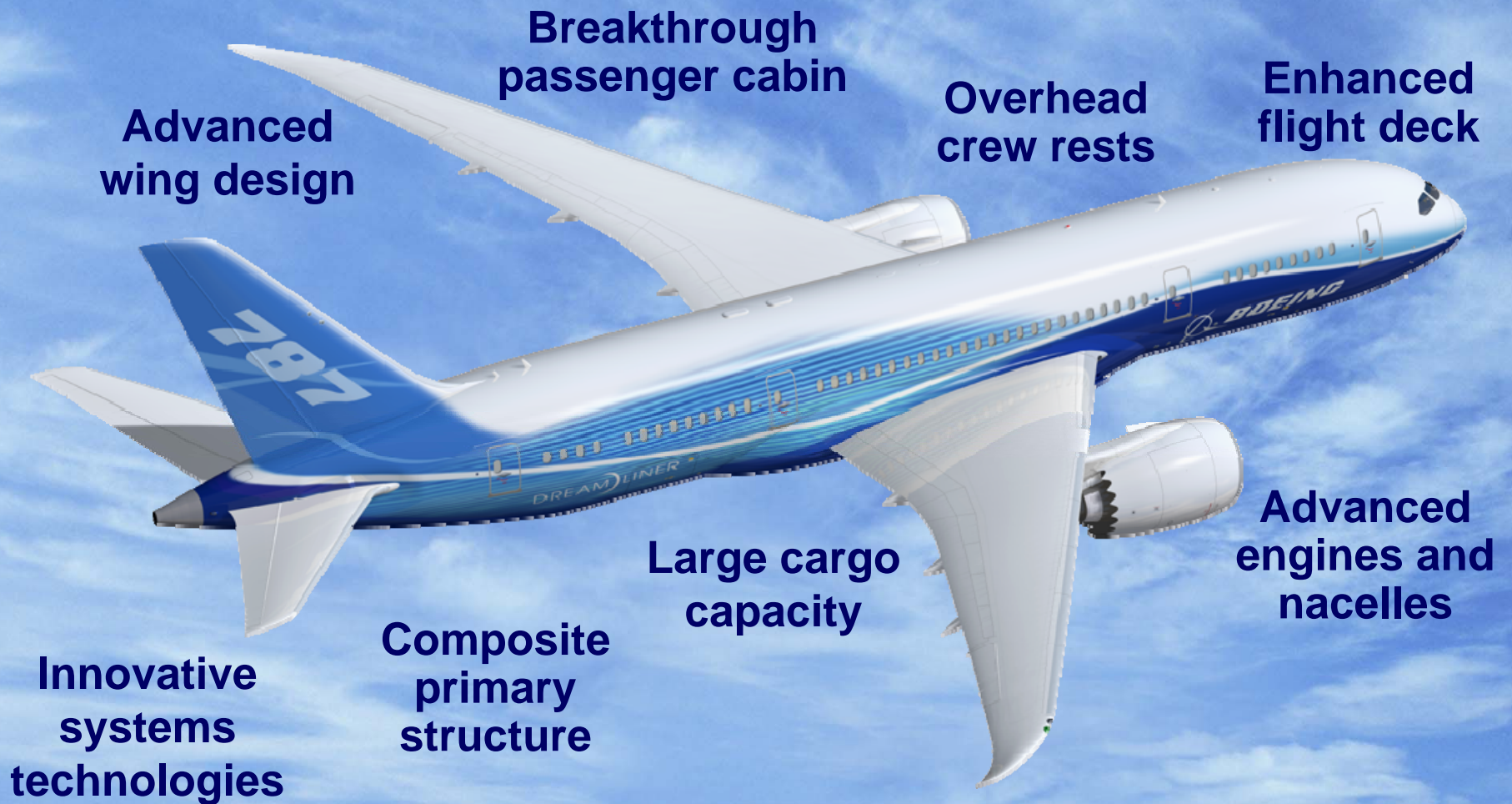
- **787 Overview**
 - Airport Information
 - Production Progress



Configured for Success

787-8 *Design Features*

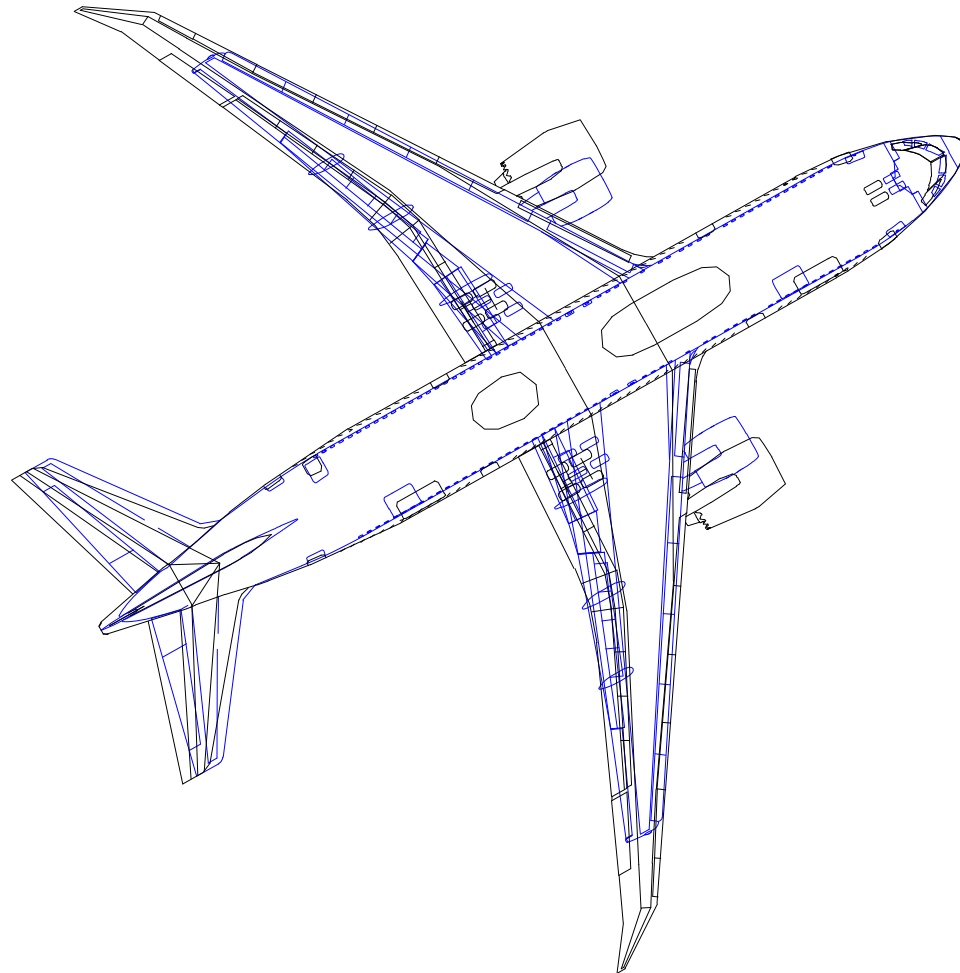
787 DREAMLINER™



Compatible with Today's Infrastructure

787 DREAMLINER™

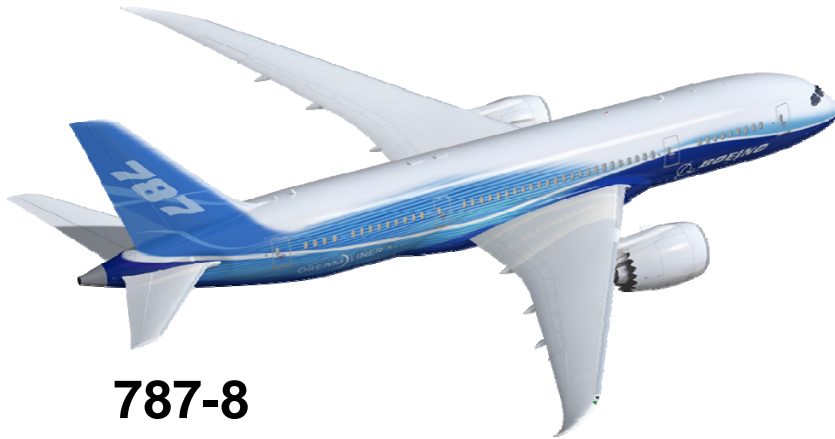
— 787-8
— 767-300



Length –	186'1" (56.7 meters)	180'2" (54.9 meters)
Wing span –	197'4" (60.1 meters)	156'1" (47.6 meters)

The 787 Is a Complete, Flexible, Efficient Family

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787-8

210-250 passengers (three-class)

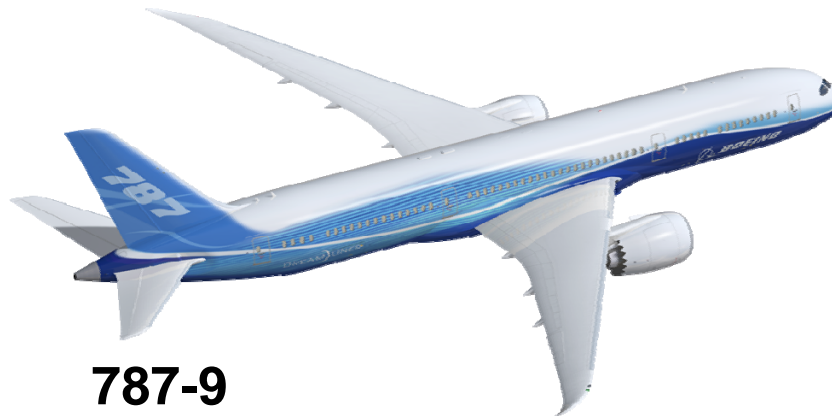
7,650 – 8,200 nmi | 14,200 – 15,200 km



787-3

290-330 passengers (two-class)

2,500 – 3,050 nmi | 4,650 – 5,650 km



787-9

250-290 passengers (three-class)

8,000 – 8,500 nmi | 14,800 - 15,750 km

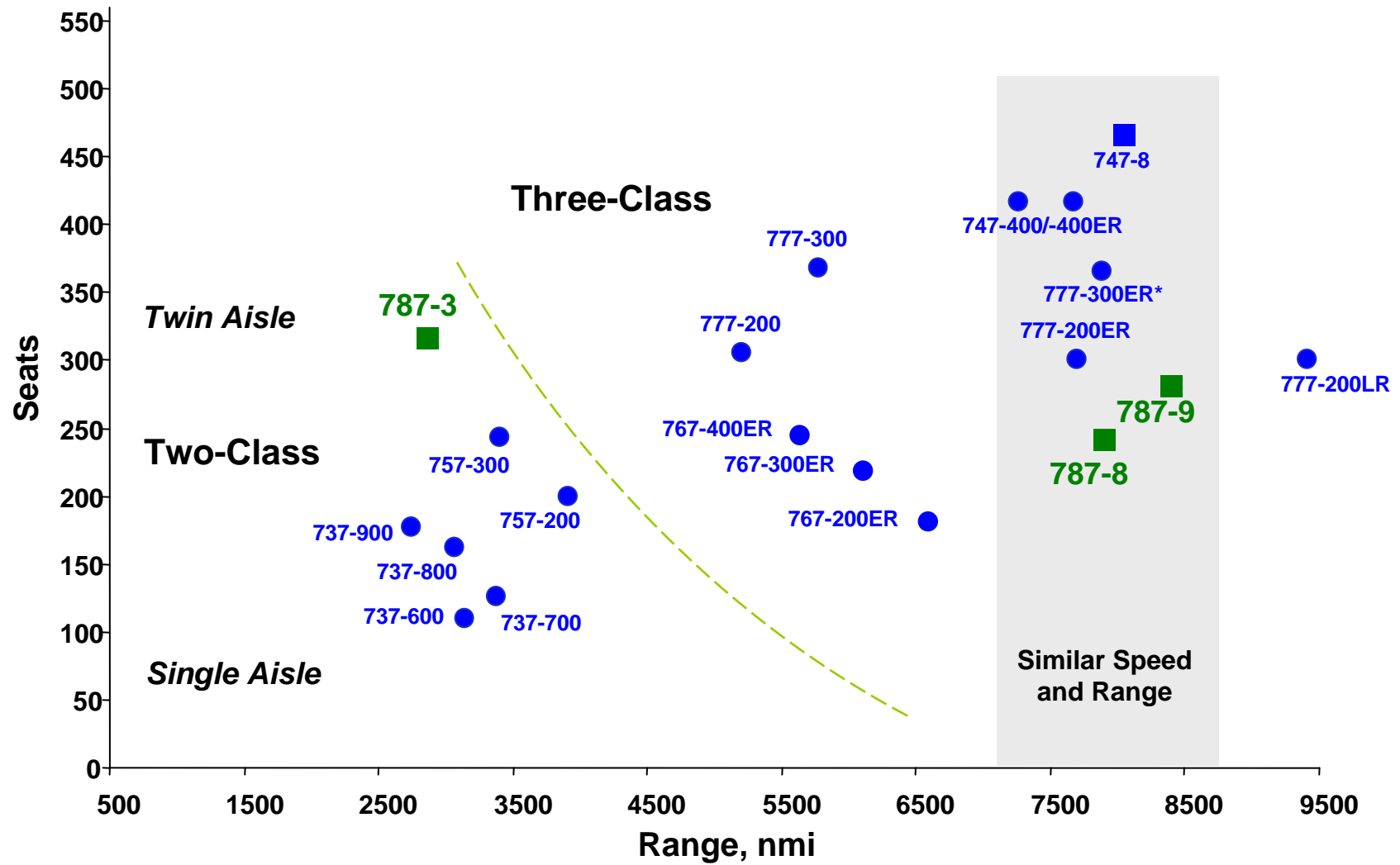
787 Family ... Dimensions

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<u>Model</u>	<u>Wing Span</u>	<u>Length</u>	<u>Tail Height</u>
787-8	197.3 ft 60.1 m	186.1 ft 56.7 m	55.5 ft 16.9 m
787-3	169.7 ft 51.7 m	Same as -8	Same as -8
787-9	207.9 ft 63.4 m	206.1 ft 62.8 m	55.8 ft 17.0 m

Mission Capabilities Defined, Optimized for Efficiency

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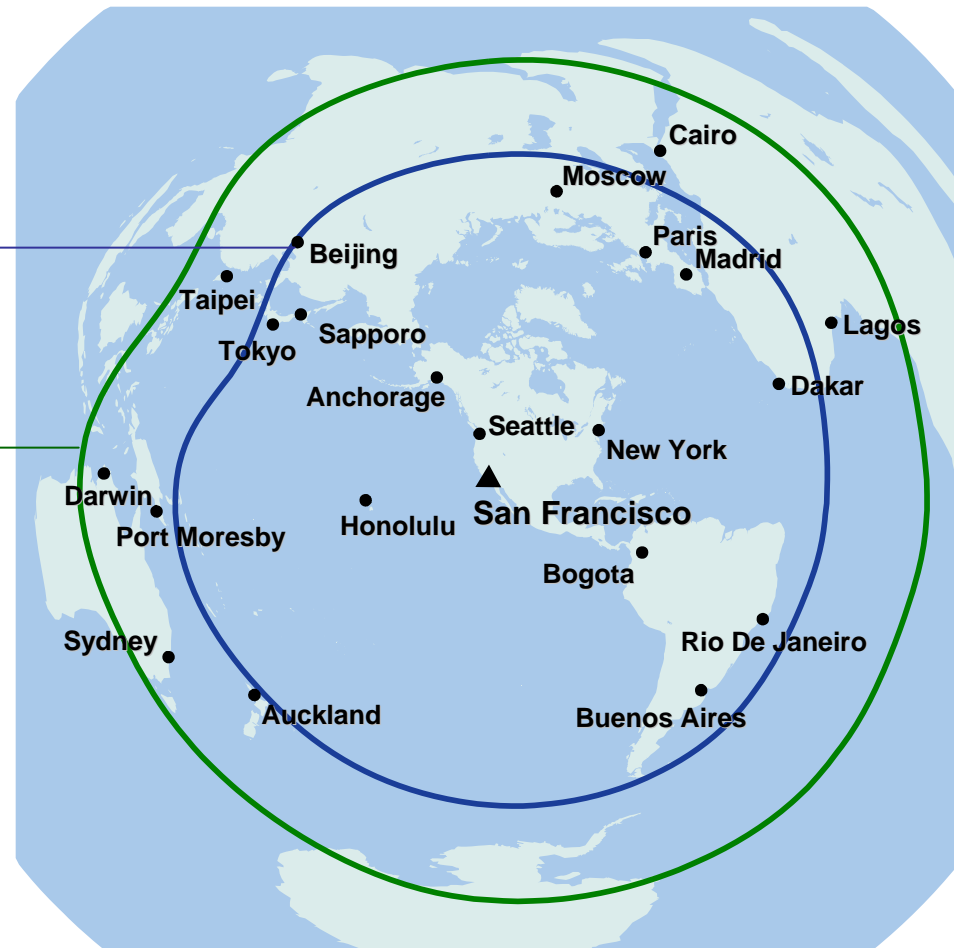
Point-to-Point Service

Where you want to go, when you want to go

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767-300ER

787-8

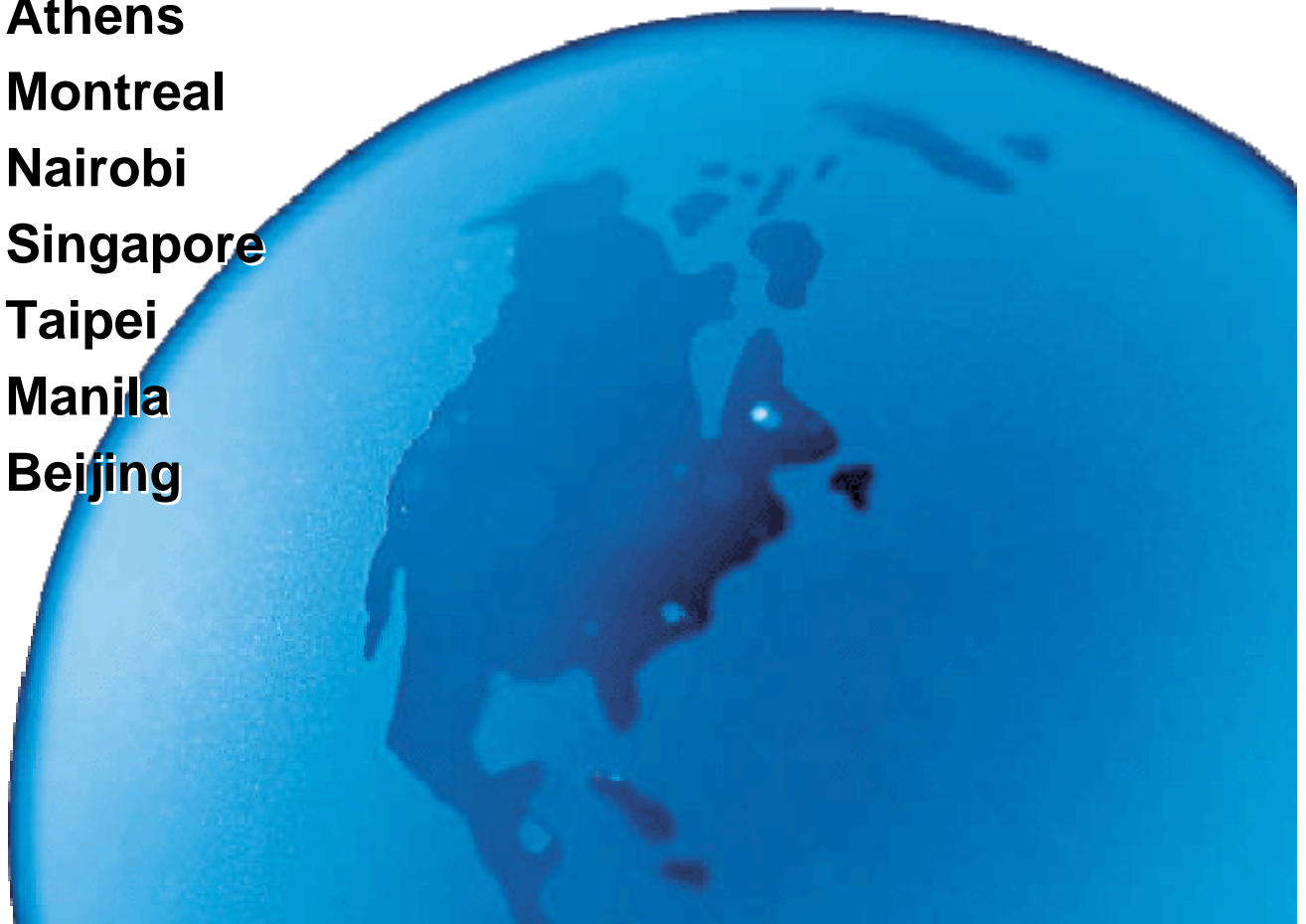


- Typical mission rules
- Airways and traffic allowances included
- 85% annual winds

Point-to-Point Enabled

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- Vancouver - Sao Paulo
- Seattle - Shanghai
- San Francisco - Manchester
- Boston - Athens
- Tel Aviv - Montreal
- Munich - Nairobi
- Geneva - Singapore
- Dubai - Taipei
- Madrid - Manila
- Auckland - Beijing






Increased Cargo Capacity Improves Revenue Potential

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More Revenue Cargo Volume



-  Passenger Baggage
-  Revenue Cargo
-  Bulk Cargo

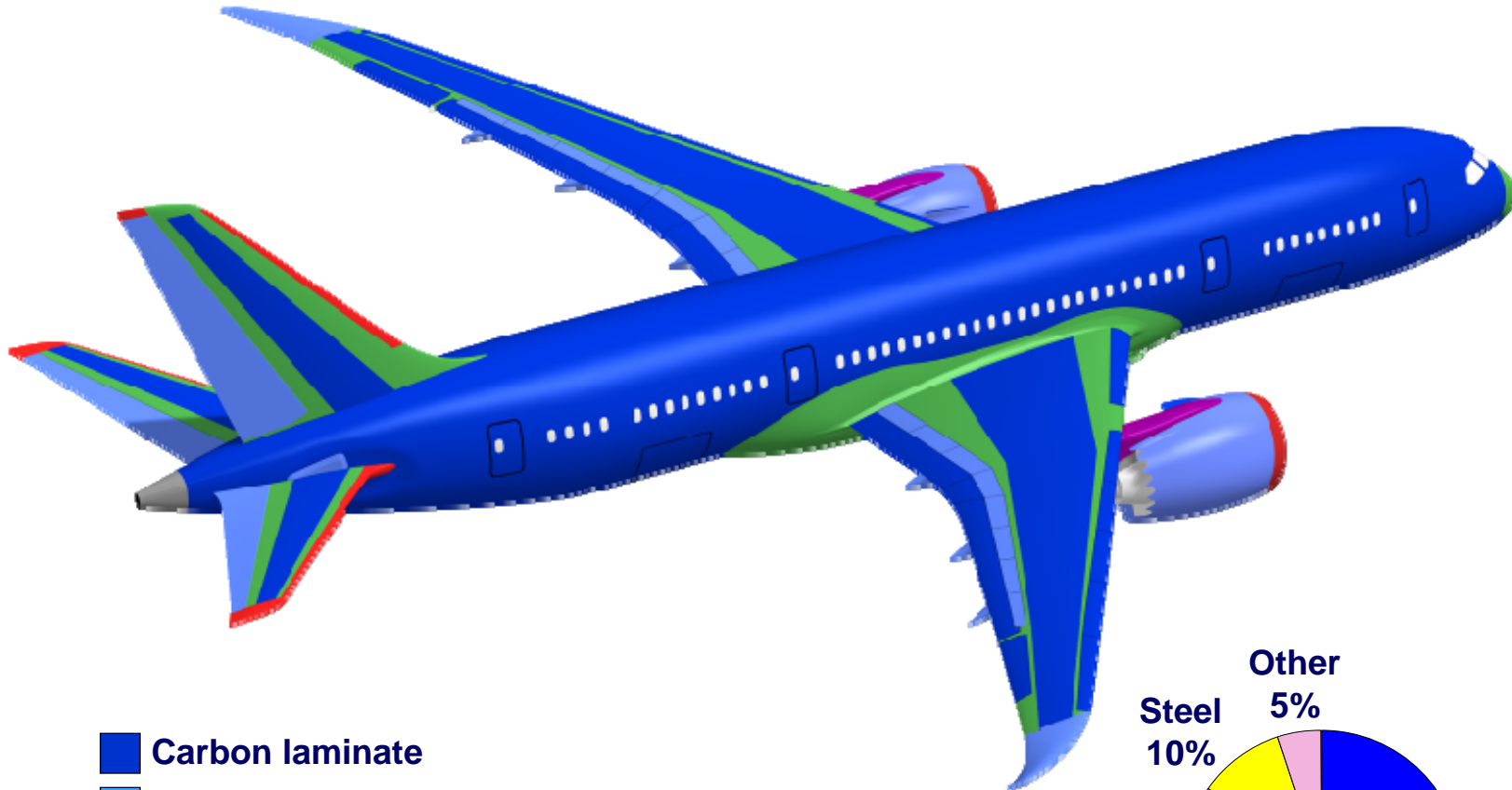
Composites Are the Smart Choice

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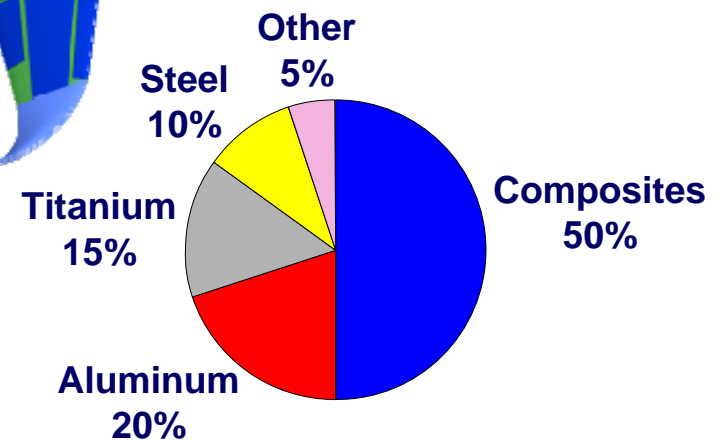
- **Fatigue and corrosion resistant**
- **Higher strength-to-weight ratio reduces weight**
- **Enables enhanced passenger comfort**
- **Allows larger, more integrated structure**
- **More future growth potential than metals**

Composites Serve as Primary Structural Material

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- Carbon laminate
- Carbon sandwich
- Other composites
- Aluminum
- Titanium
- Titanium/steel/aluminum

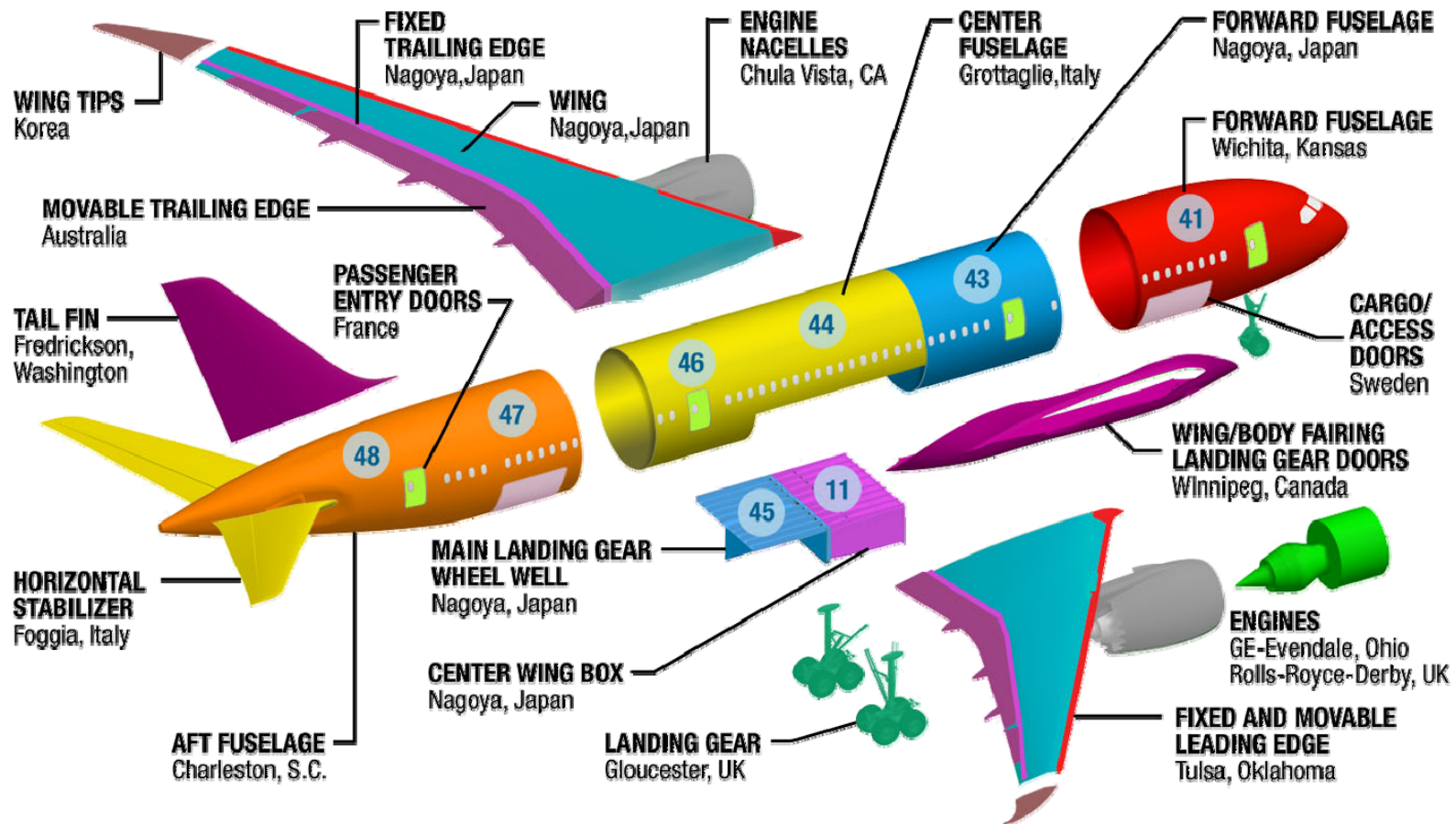


Partners Across The Globe Are Bringing The 787 Together

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THE COMPANIES

U.S.	CANADA	AUSTRALIA	JAPAN	KOREA	EUROPE
Boeing	Boeing	Boeing	Kawasaki	KAL-ASD	Messier-Dowty
Spirit	Messier-Dowty		Mitsubishi		Rolls-Royce
Vought			Fuji		Latecoere
GE					Alenia
Goodrich					Saab



Worldwide Market Interest Strong

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58 customers for 896 firm orders



Highlights

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787 Overview

■ **Airport Information**
Production Progress

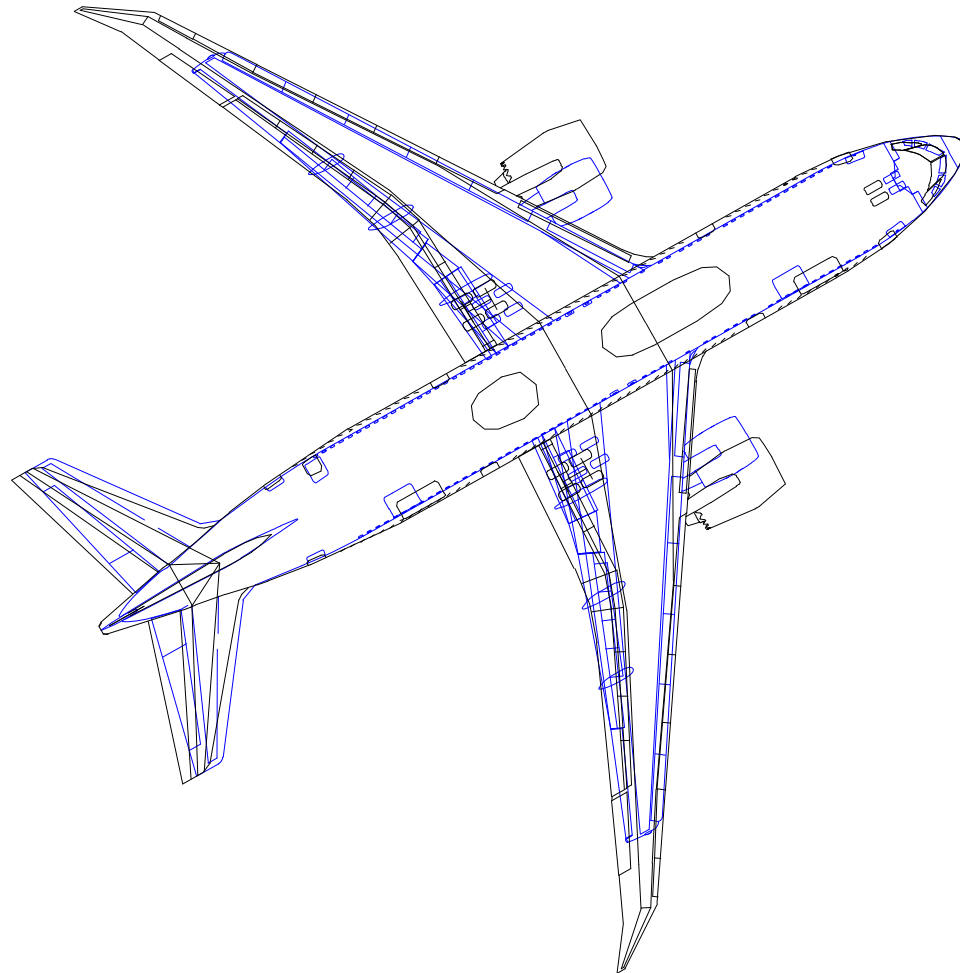
Airport-related information for Boeing commercial airplane products can be found at...

<http://www.boeing.com/commercial/airports/>

Compatible with Today's Infrastructure

787 DREAMLINER™

— 787-8
— 767-300



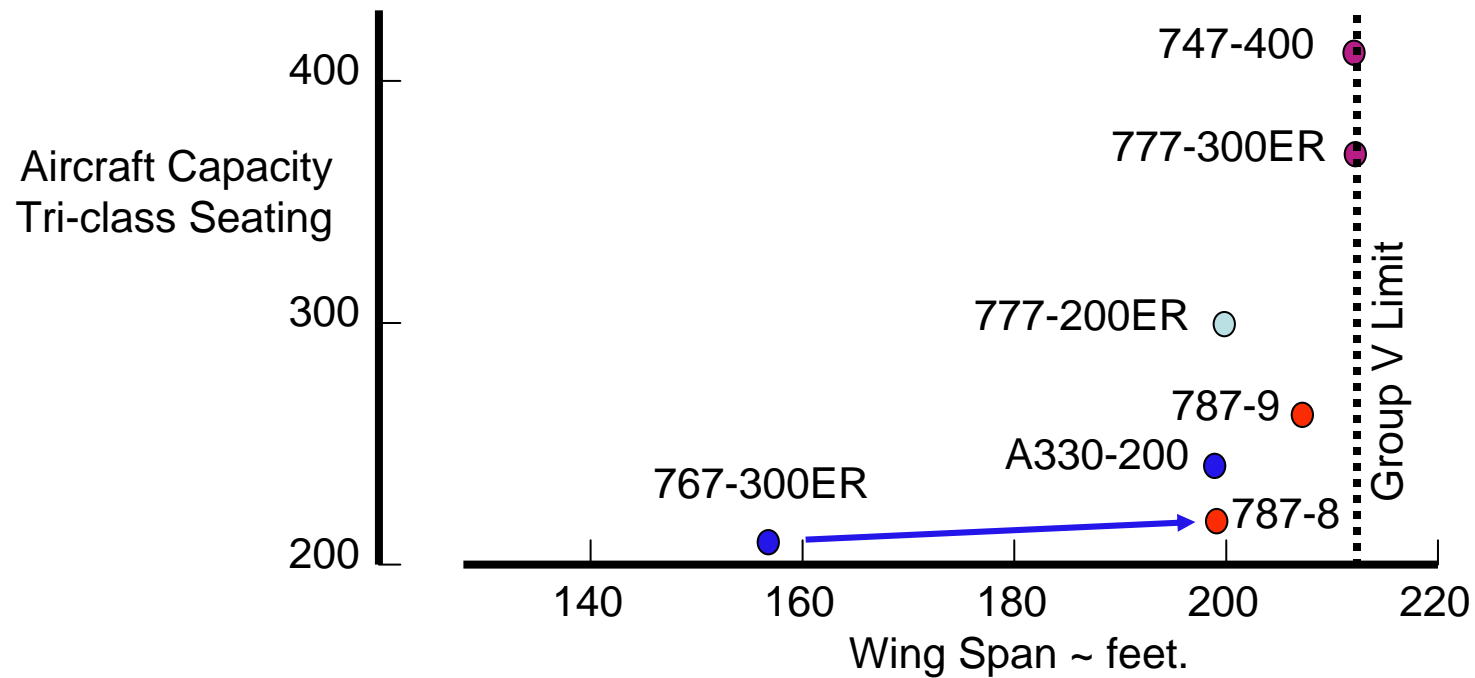
Length –	186'1" (56.7 meters)	180'2" (54.9 meters)
Wing span –	197'4" (60.1 meters)	156'1" (47.6 meters)

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Terminal Impact of Span and Capacity

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787 gate width requirement is the same as 747 and 777



Compatible with Today's Airports

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	787-3 ft/m	787-8 ft/m	787-9 ft/m	767-300 ft/m
Wing Span	169.7 / 51.7	197.3 / 60.1	207.8 / 63.3	156.1 / 47.6
ICAO Code Letter	D	E	E	D
FAA Design Group	IV	V	V	IV
Overall Length	186 / 57	186 / 57	206 / 63	180 / 55
U-Turn Width	138 / 42	138 / 42	154 / 47	146 / 44
Twy Turn Fillet Size	Similar to 767-300	Similar to 767-300	Similar to 767-400	
RFF Category (ICAO)	8	8	9	8
ARFF Index (FAA)	D	D	E	D

Door Sill Height Comparison

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- 787 sill heights are comparable to existing airplanes.

	767-200		787-8		A330-200	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Door 1	177 in 4.50 m	163 in 4.14 m	180 in 4.57 m	167 in 4.24 m	182 in 4.62 m	175 in 4.44 m
Door 2	176 in 4.47 m	164 in 4.17 m	181 in 4.60 m	173 in 4.39 m	191 in 4.85 m	184 in 4.67 m
Door 3	—	—	183 in 4.65 m	181 in 4.60 m	211 in 5.36 m	200 in 5.08 m
Door 4	173 in 4.39 m	157 in 3.99 m	193 in 4.90 m	183 in 4.65 m	226 in 5.74 m	211 in 5.36 m
Fwd cargo	101 in 2.56 m	90 in 2.29 m	104 in 2.64	93 in 2.36 m	109 in 2.77 m	102 in 2.59 m
Aft cargo	99 in 2.52 m	86 in 2.18 m	112 in 2.85 m	105 in 2.67 m	138 in 3.51 m	124 in 3.15 m
Bulk cargo	102 in 2.59 m	87 in 2.21 m	120 in 3.05 m	110 in 2.79 m	144 in 3.65 m	130 in 3.30 m

Aircraft Approach Category.

A grouping of aircraft based on 1.3 times their stall speed in the landing configuration at the certificated maximum flap setting and maximum landing weight at standard atmospheric conditions.

The categories are as follows:

- Category A: Speed less than 91 knots.
- Category B: Speed 91 knots or more but less than 121 knots.
- Category C: Speed 121 knots or more but less than 141 knots.
- Category D: Speed 141 knots or more but less than 166 knots.
- Category E: Speed 166 knots or more.

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Airplane Design Group (ADG).

A grouping of airplanes based on wingspan.

The groups are as follows:

- Group I: Up to but not including 49 feet (15 m).
- Group II: 49 feet (15 m) up to but not including 79 feet (24 m).
- Group III: 79 feet (24 m) up to but not including 118 feet (36 m).
- Group IV: 118 feet (36 m) up to but not including 171 feet (52 m).
- Group V: 171 feet (52 m) up to but not including 214 feet (65 m).
- Group VI: 214 feet (65 m) up to but not including 262 feet (80 m).

ICAO Airport-Aircraft Characteristics

from ICAO Annex 14, Volume 1

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Code number	Aeroplane reference field length
1	Less than 800m (2,625 ft)
2	800 m up to but not including 1 200 m (3,937 ft)
3	1 200 m up to but not including 1 800 m (5,905 ft)
4	1 800 m and over

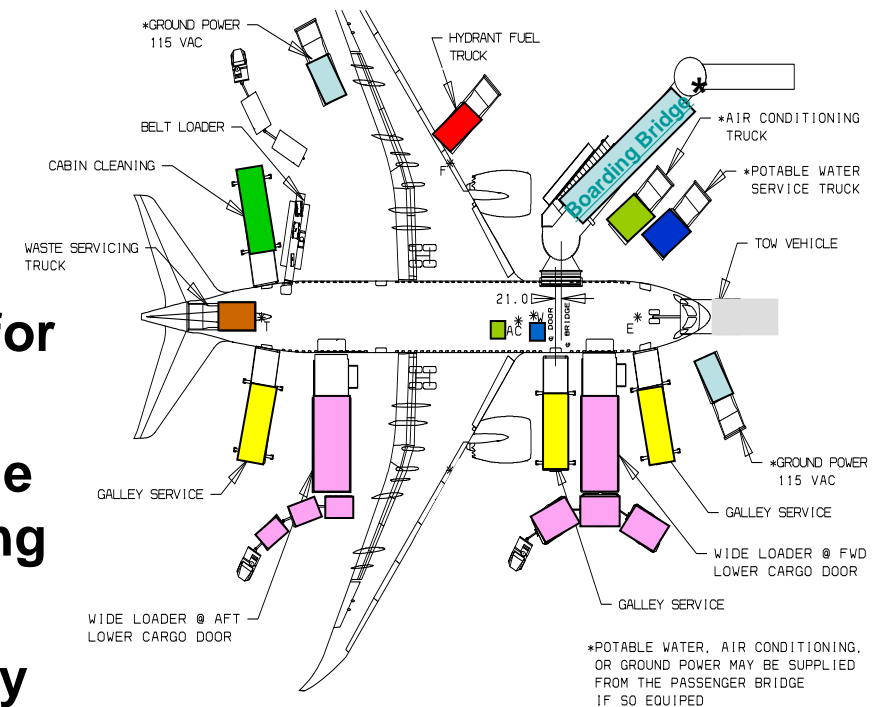
Code letter	Wing span	Outer main gear wheel span
A	Up to but not including 15 m (49.2 ft)	Up to but not including 4.5 m (14.8 ft)
B	15 m up to but not including 24 m (78.7 ft)	4.5 m up to but not including 6 m (19.7 ft)
C	24 m up to but not including 36 m (118.1 ft)	6 m up to but not including 9 m (29.5 ft)
D	36 m up to but not including 52 m (170.6 ft)	9 m up to but not including 14 m (45.9 ft)
E	52 m up to but not including 65 m (213.3 ft)	9 m up to but not including 14 m (45.9 ft)
F	65 m up to but not including 80 m (262.5 ft)	14 m up to but not including 16 m (52.5 ft)

787 Airplane Servicing Arrangement is nearly identical to the 767

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Differences include...

- **Ground electrical power; two 90 KVA plugs (only one is required for the 767).**
- **Power receptacles are on the LH side of the belly to be closer to the loading bridge**
- **Water fill panel is at the forward belly to be closer to a fixed water source at the head of the stand**
- **There are no grey water drains so the grey water goes into the vacuum waste tanks. The service volume for the waste tanks may require a larger service vehicle**



Electrical Ground Power

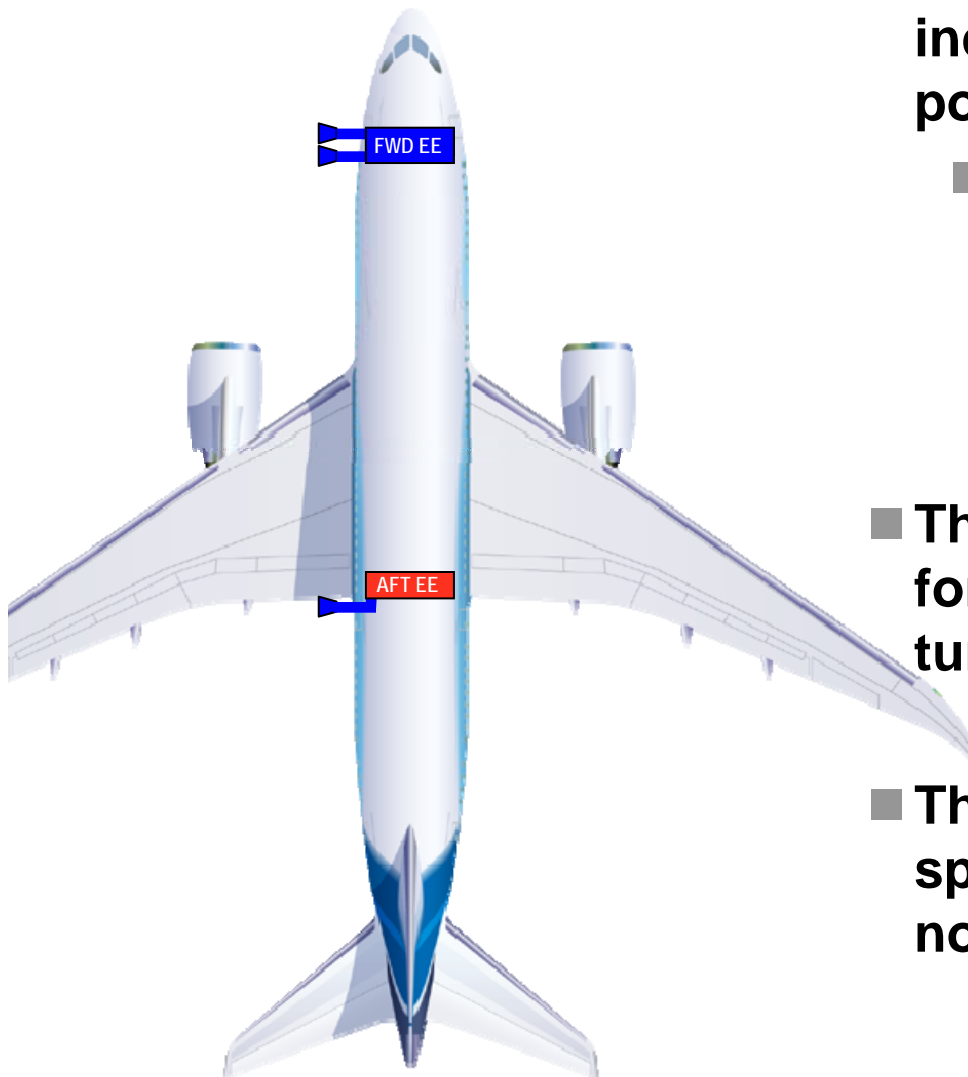
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- **The 787 is equipped with three industry standard external electrical power receptacles**

- Two receptacles are located just aft of the nose landing gear and a third receptacle aft of the main landing gear

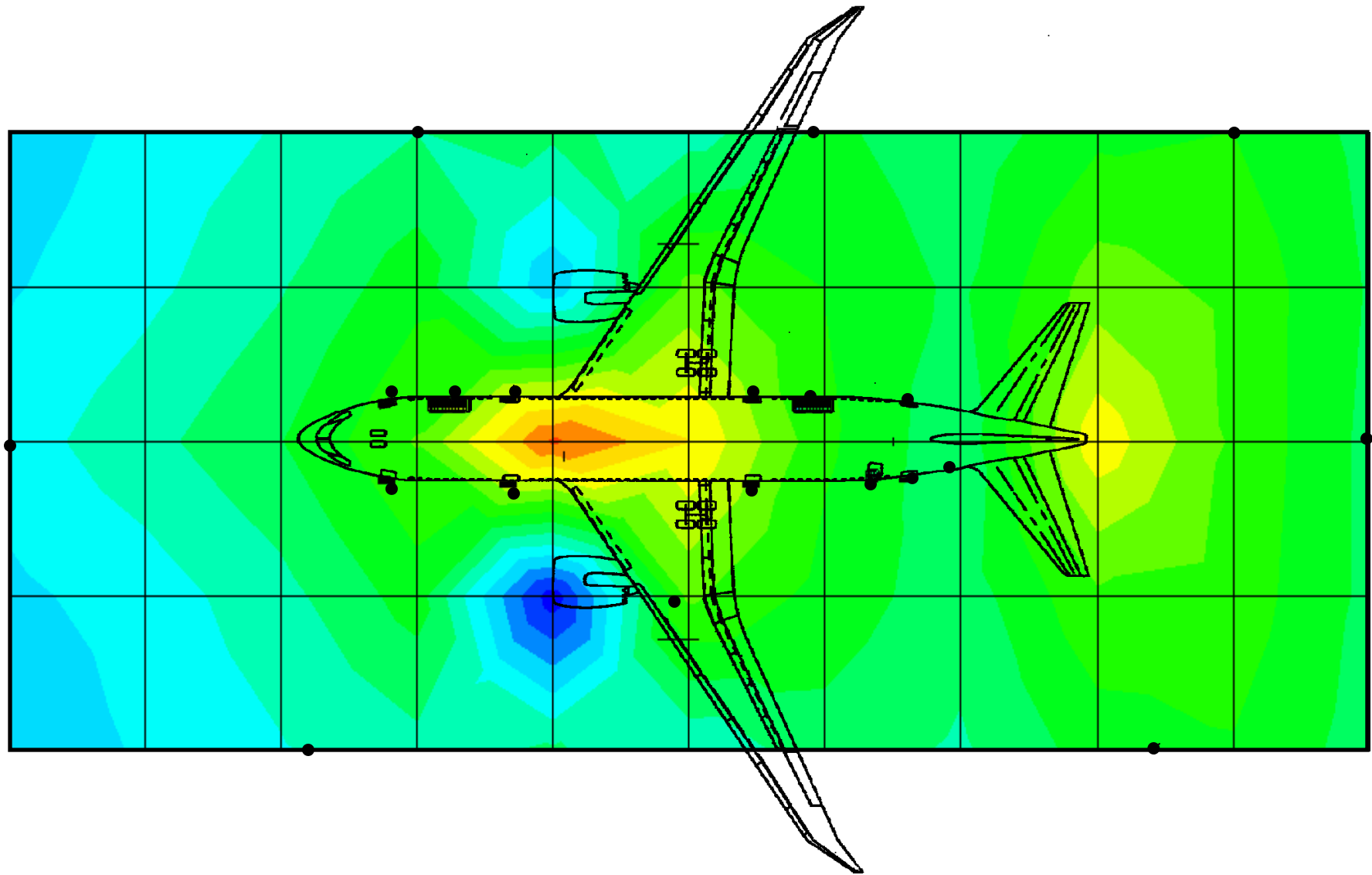
- **The two forward receptacles are used for normal ground handling and turnaround**

- **The aft receptacle is only used for specific maintenance actions and non-normal engine start scenarios**



Predicted Ramp Noise Levels are Well Below ICAO Guidelines

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Both Engine Companies Demonstrating Solid Progress

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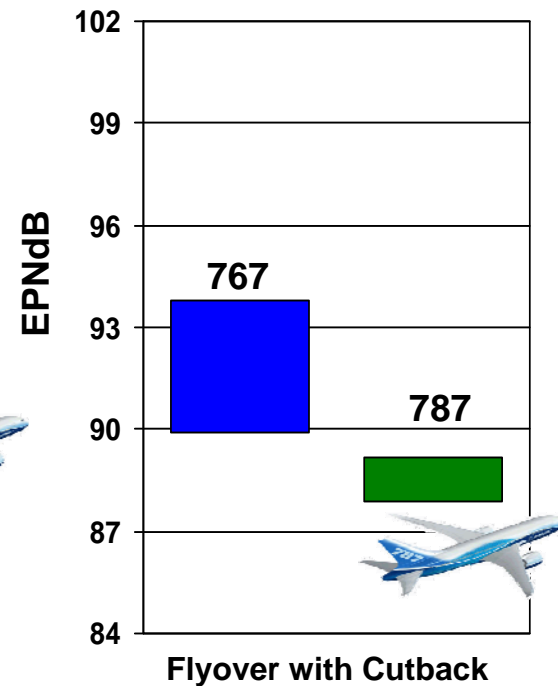
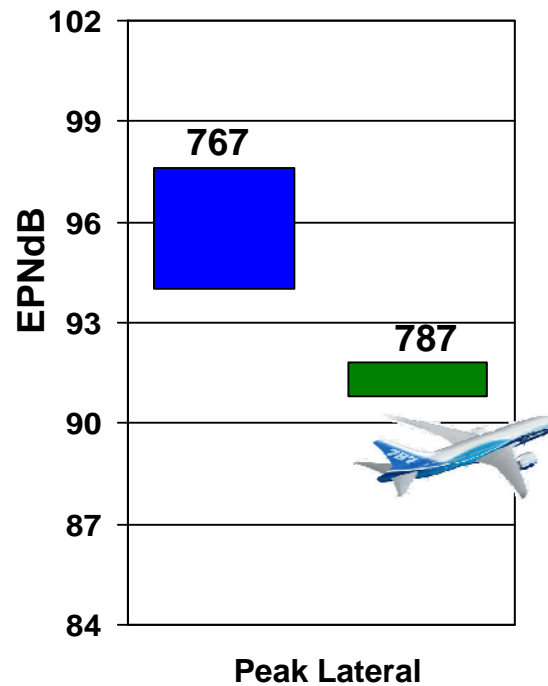
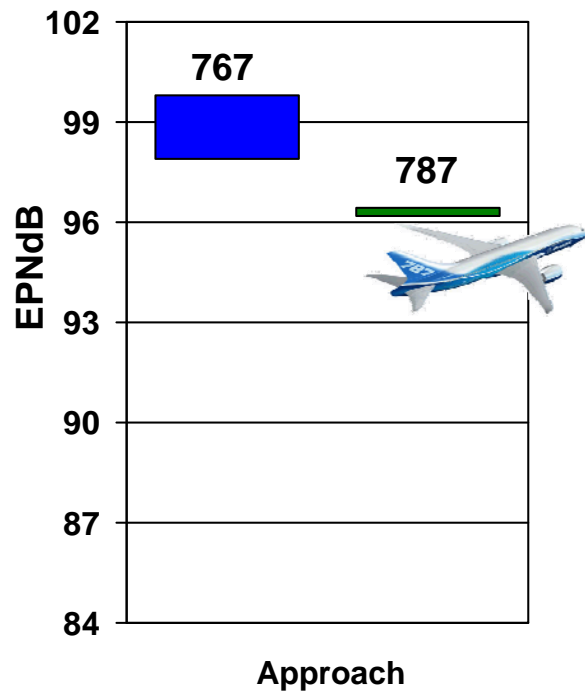
- Higher bypass ratio
- No-engine-bleed systems architecture
- Low-noise nacelles with chevrons
- Laminar flow nacelles
- Interchangeable (at the wing)



Rolls-Royce

Quieter for Certification

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Quieter

787-8 476k MTOW/365k MLW

Nominal Estimates

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Quieter for Communities

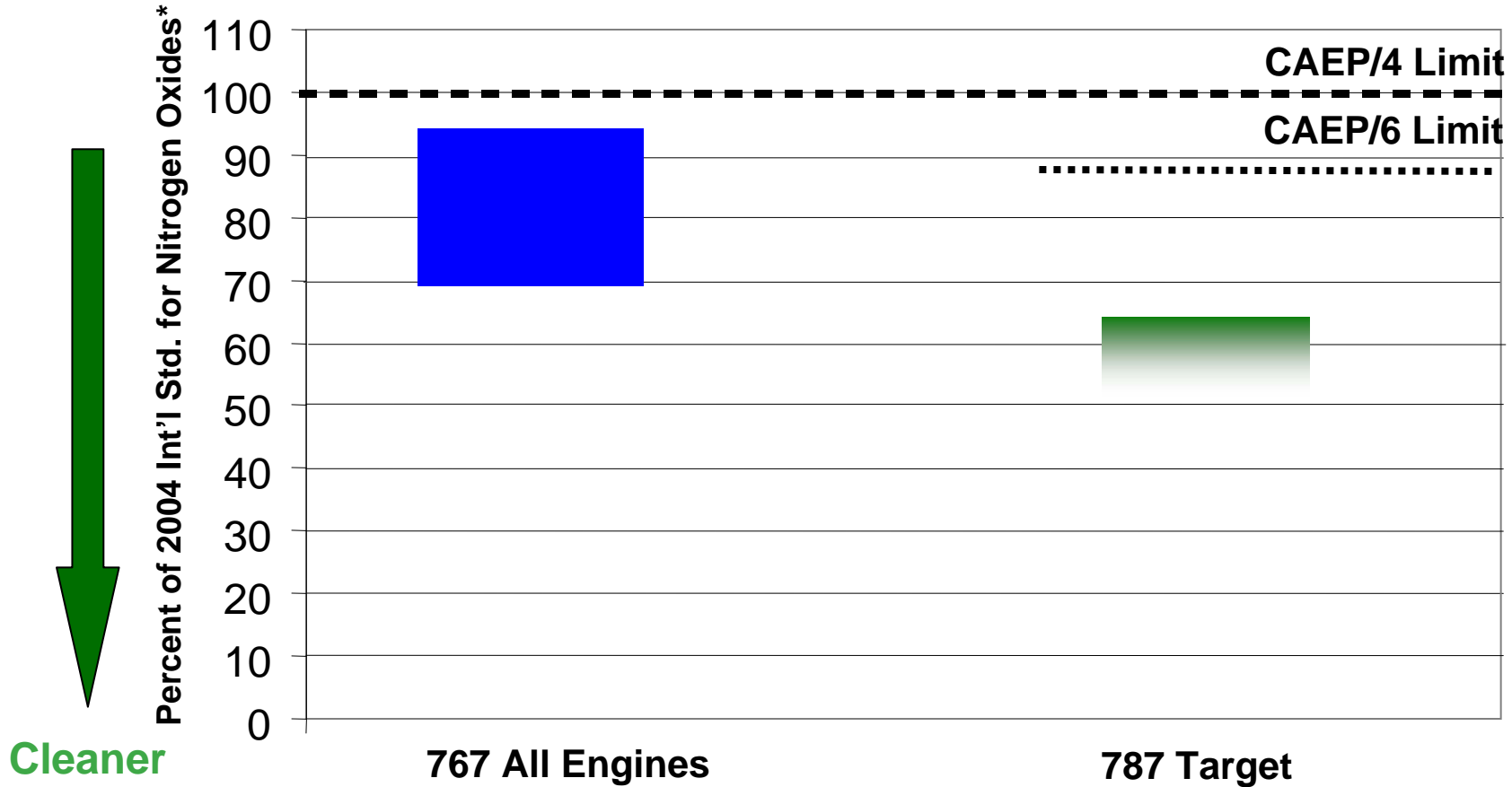
60% smaller noise footprint

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Improved Fuel Use Means Fewer Emissions

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* ICAO – International Civil Aviation Organization

Composite Fires

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- Hazards remain similar to current generation aircraft
 - Toxicity levels are similar
 - Jagged edges require precautions

Highlights

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787 Overview

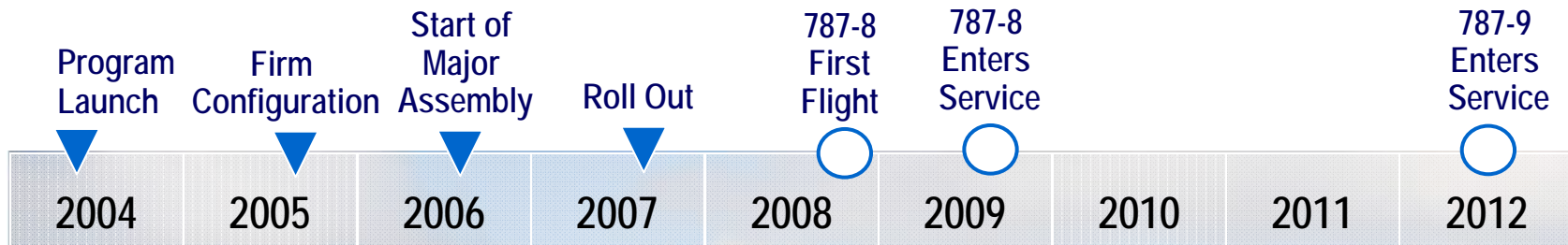
Airport Information

■ **Production Progress**



787 Program Schedule

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Progress on Program Milestones

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By June 30th...

- Static airplane will move to testing location
- Airplane #3 will enter final assembly
- Fatigue airplane will move to testing location
- Airplane #4 will enter final assembly
- Hardware airworthiness qualifications will be complete.
- Safety of flight hardware and software integration testing will be finished.
- All the first flight hardware will be delivered to Boeing.
- Power on for Airplane #1 will be achieved.

International Team at Work



Final Assembly

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Static Test Airframe Moves To Testing Rig

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 **BOEING**

Thank you!



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