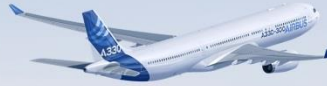


## Airbus Innovation Days

Dr Kiran Rao

Executive Vice President Strategy and Marketing

The most  
comprehensive  
product line



## Airbus Product line

# Airbus Family

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From 100 to 600+ seats

Covering short, medium and long range



**A380 Family**  
*From 400 to 600+ seats*



**A350 XWB**  
*From 280 to 370 seats*

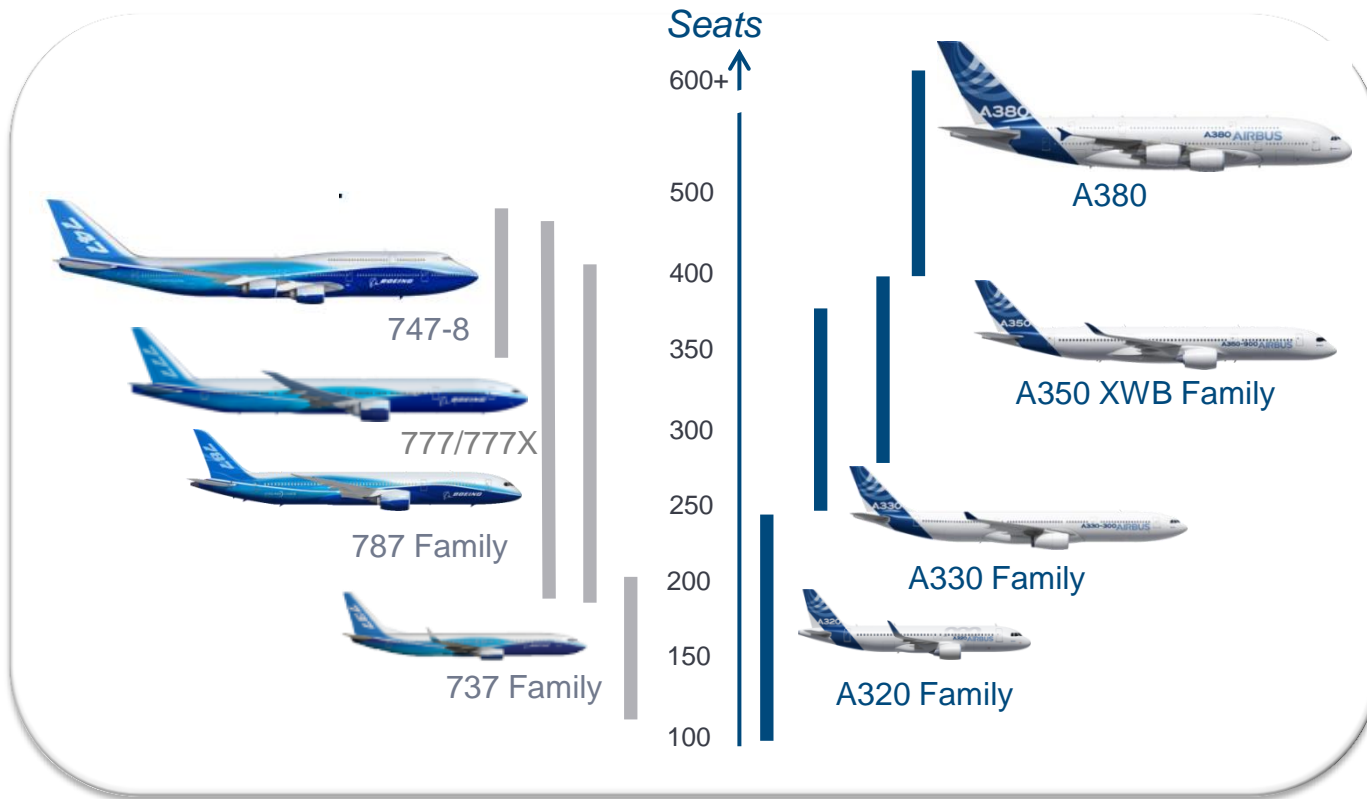


**A330 Family**  
*From 250 to 300 seats*



**A320 Family**  
*From 100 to 240 seats*

# Airbus vs. Boeing Product line



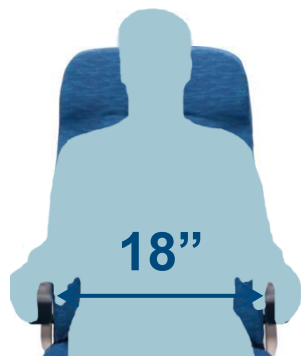
# Airbus Family

A complete, far-sighted product line

## Airbus Product line, designed for:

### Comfort

Airbus products offer superior comfort



### Efficiency

Airbus products offer superior efficiency



### Profitability

Airbus products offer superior profitability

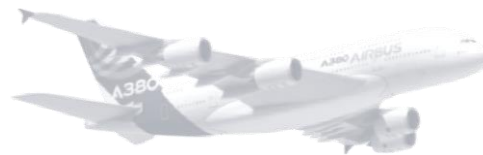


## Airbus Product line

# A320 Family

---

A320 Family, the  
leader in the Single  
Aisle market



**A380 Family**  
*From 400 to 600+  
seats*



**A350 XWB**  
*From 280 to 370  
seats*



**A330 Family**  
*From 250 to 300  
seats*



**A320 Family**  
*From 100 to 240  
seats*

## A320neo vs. 737 MAX Family



## A320neo Family

Well spaced Family protecting each other's value

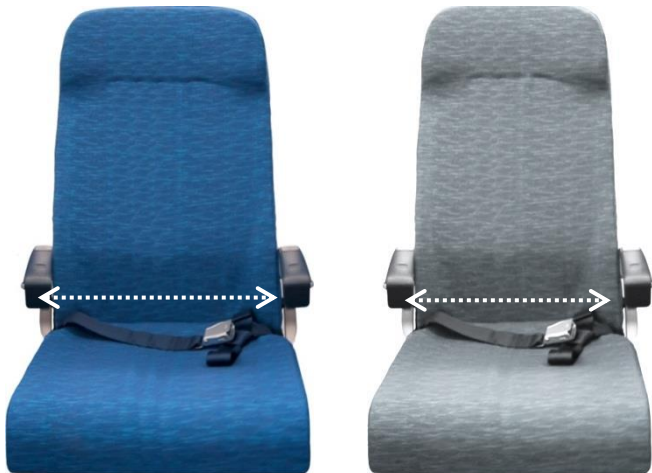
3 sizes cover the market from 140 to 240 seats



# Passenger comfort expectations

**A320**  
18"

**737**  
17"



**18"** wide seats for more Personal Space\*

Personal space = seat pitch \* seat width

**A320**

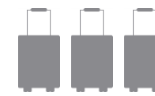
**737**



**4**  
frames



**3**  
frames



**15%** more volume for all your belongings





# A320neo Cabin

18" wide seats  
1" wider than the 737

Widest Single-Aisle cabin  
in the sky

New pivoting bins  
60% more bags

Increased Cabin Efficiency  
Space-Flex  
Smart-Lav  
Airbus Cabin-Flex

LED Mood lighting  
16.7 million colours





# A320neo Family vs. 737 MAX cost efficiency

**A320neo** vs. **737 MAX 8**  
 18" seat width vs. 17" seat width

Cash Operating  
Cost per seat

+5%



**A320neo PW Advantage**  
189 seats

737 MAX 8  
197 seats

**A321neo** vs. **737 MAX 9**  
 18" seat width vs. 17" seat width

Cash Operating  
Cost per seat

+14%



**A321neo PW Advantage**  
240 seats

737 MAX 9  
215 seats

Airbus standard economic rules; Comparison at 800nm, \$2/USg, HD Configuration

# A320 Family non-stop innovation to enhance airline profitability

## Landing Gear and Fuel Pumps

Lower Maintenance costs



2014



Lower Maintenance costs

Full LED

## Universal IFE platform

Integration of IFE and connectivity



2015



15% fuel burn reduction

**neo**

## Smart-Lav

Up to +6 seats



2016



A320 189 seats  
A321 230 seats

Increased Exit Limit

## Space-Flex V2

Up to +6 seats



2017



Improved pilot operations

Wifi in Cockpit

## A321 High & Hot

35k Thrust



2018



Improved low speed performance

SHARP\*\*

## Cabin-Flex

Increasing seat count on A321 to 240



2019



4000nm

A321LR

## Brake-to-Vacate\*

Improve runway occupancy



2020



2% further fuel reduction

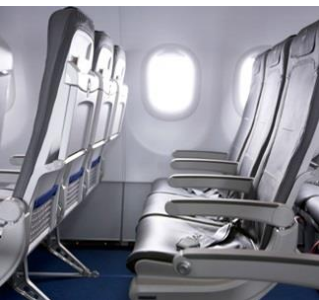
PW Advantage



\*Subject to launch \*\* Short Airfield Performance

# A320 Family innovation to enhance airline profitability

# A320 space optimization



### Slim-line seats



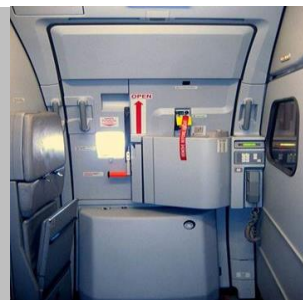
### Space-Flex

New rear galley configuration



### Smart-Lav

New lavatory design



### New door rating

Increased Exit Limit



### Airbus Cabin-Flex

A321neo new door configuration

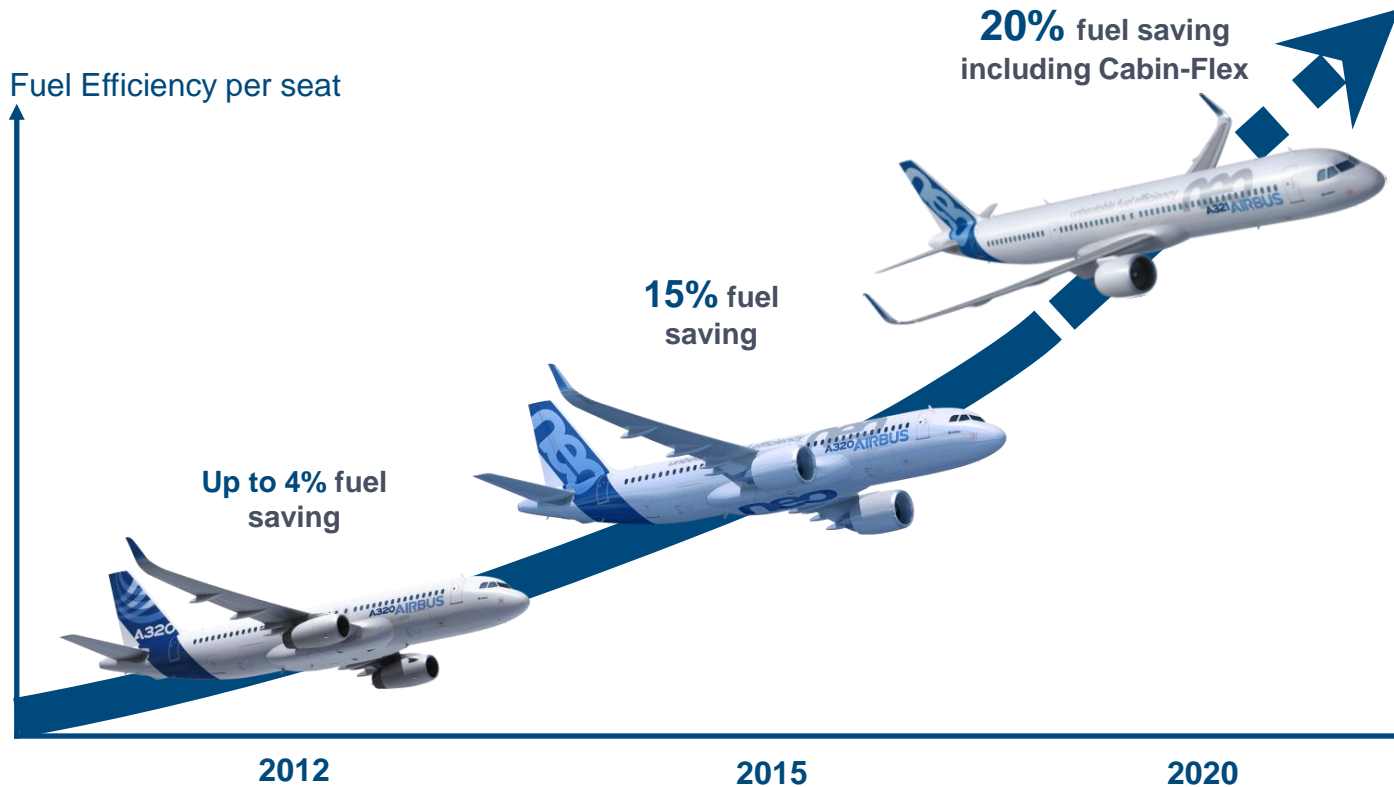
A319: +15 seats

A320: +9 seats

A321neo: +20 seats

Innovation that brings benefits to both network carrier and Low Cost configurations

# A320 Strategy - Making the best better



# A320 strategy

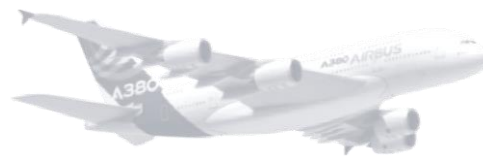
Non-stop innovation built on proven values with focus on airline profitability

## Airbus Product line

# Airbus twin aisle Family

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Complementary  
A330 and A350  
Families, the  
winning  
combination



**A380 Family**  
*From 400 to 600+  
seats*



**A350 XWB**  
*From 280 to 370  
seats*



**A330 Family**  
*From 250 to 300  
seats*



**A320 Family**  
*From 100 to 240  
seats*

## A330neo vs. 787 Family



787-9

283 seats (9 abreast)



A330-900

287 seats (8 abreast)



787-8

244 seats (9 abreast)



A330-800

257 seats (8 abreast)

# A330neo Family

Unbeatable mid  
size aircraft

Unbeatable comfort  
& economics



# A330: Setting the standards in passenger comfort



**A330**  
18"



**787**  
17"



**18"** wide seats for more Personal Space\*

Personal space = seat pitch \* seat width

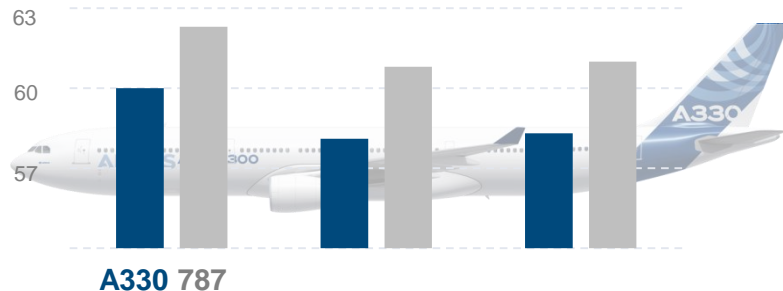
**NOISE LEVEL**  
(dB SIL)



Door 1 - Door 2

Door 2 - Door 3

Door 3 - Door 4



A330 787

A330 is **quieter** than 787

AIRSPACE

# New A330neo cabin

## A350 XWB style

New bins  
New entrance area

Efficiency  
Space Flex  
Smart Lav

Quietness  
3dB quieter than 787

Comfort  
1in wider seat than 787  
1in wider aisle (8ab)

A330neo



# A330neo vs. 787 Family cost efficiency

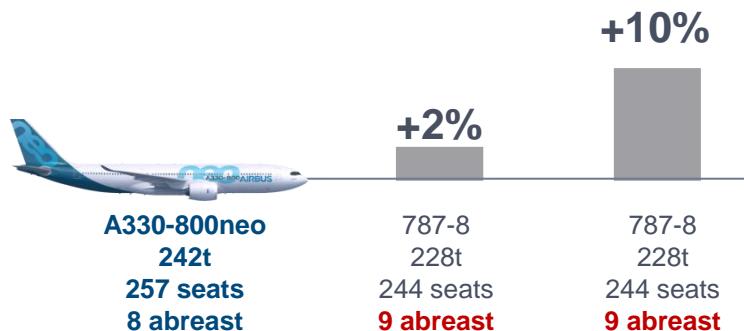
## A330-800

18" seat width

## vs. 787-8

17" seat width

Cash Operating Cost per seat      Direct Operating Cost per seat



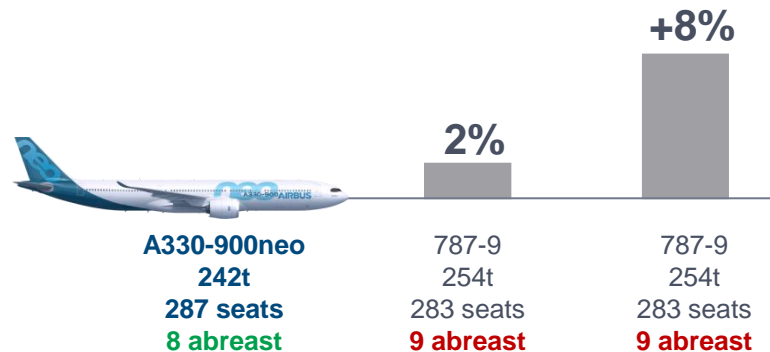
## A330-900

18" seat width

## vs. 787-9

17" seat width

Cash Operating Cost per seat      Direct Operating Cost per seat



Airbus standard economic rules; Comparison at 4000nm, \$2/USg, ; Typical 3-class configuration

# A330 Family non-stop innovation to enhance airline profitability

## 240min ETOPS

More direct routings



## RNP AR

Optimised flight paths



## FTIS

Flammability reduction



## FMS 1A

New FMS release



## AP/FD TCAS

Collision avoidance systems



## Regional

Lower operating costs and MTOW



## Dual HUD

Improved situational awareness



## AIRSPACE

More seats, New cabin



2009

2010

2011

2012

2013

2014

2015

2016

2017



Improved SFC/  
maintenance



New weight  
variant



Improved  
traffic  
awareness



FMS  
landing  
system



On-ground  
navigation and  
runway overrun  
prevention



Ground  
based  
Landing



Increased  
range and  
new cabin  
features



New  
engines new  
sharklets

Upgraded Engines

235t/238t MTOW

ATSAW

FLS

OANS & ROPS

GBAS

242t MTOW

A330neo

# A330 Family innovation to enhance airline profitability



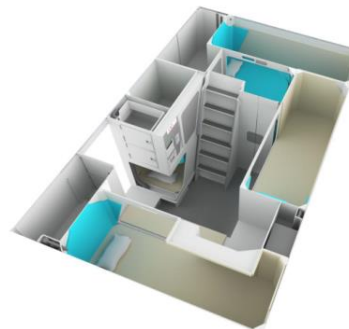
## New design lavatory

- Spa package
- More revenue space



## Modular Space-Flex

- PRM Lavatories
- Additional 4.5 Trolleys



## Optimized Lower Deck Crew Rest

- More ergonomic and comfortable interior for cabin and flight crew
- More revenue space

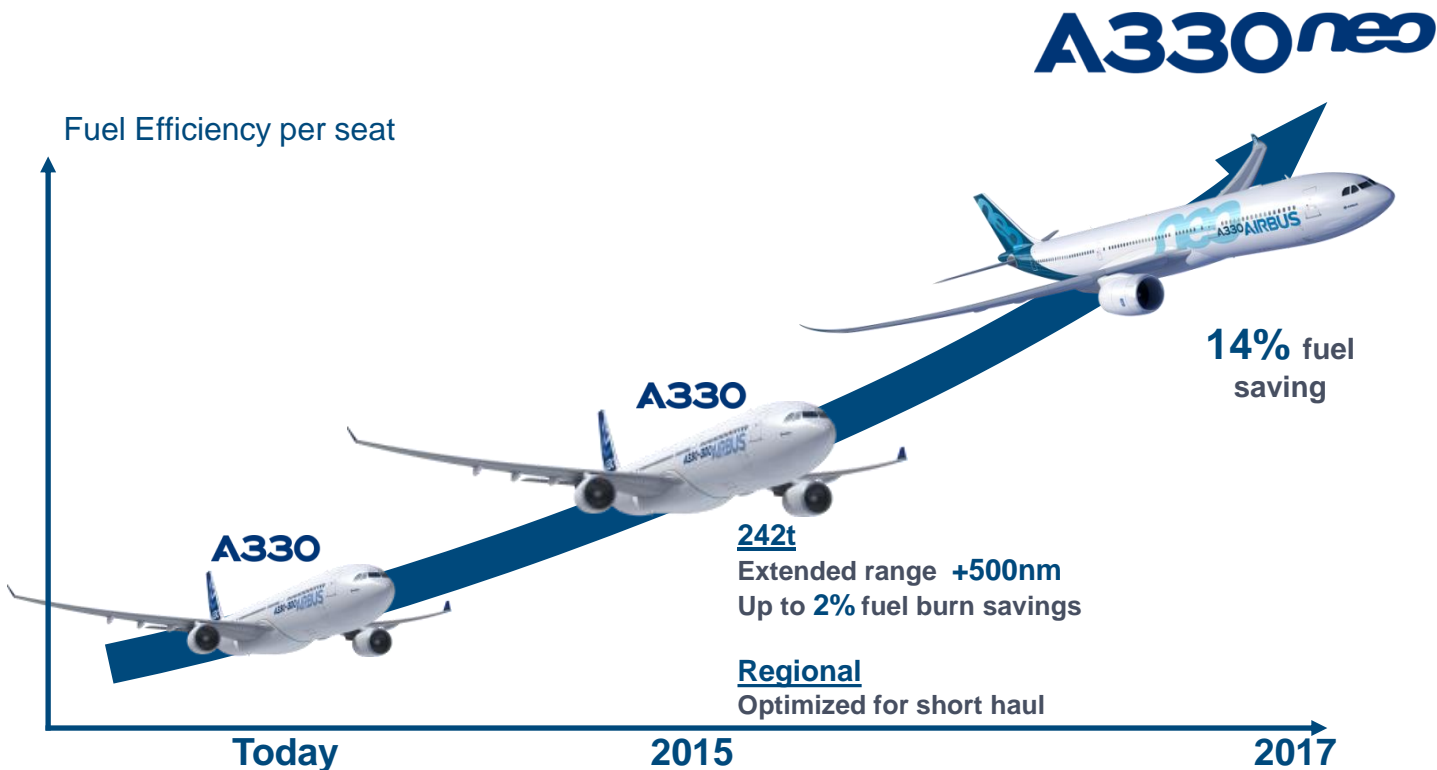
# A330neo space optimization



Up to 10 seats  
gain without  
compromising  
comfort

# A330 strategy

A well defined product strategy with focus on airline profitability

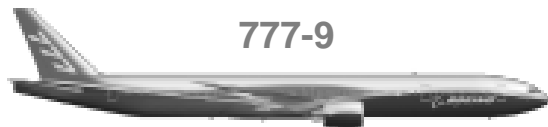




## A350 XWB vs. 787 Family and 777-9

# A350 XWB Family

One new generation family vs two different generation families



**777-9**

398 seats **(10 abreast, 17")**



**A350-1000**

366 seats **(9 abreast, 18")**



**787-10**

324 seats **(9 abreast, 17")**



**A350-900**

325 seats **(9 abreast, 18")**



**787-9**

283 seats **(9 abreast, 17")**



## Passenger comfort expectations

**A350 XWB**

18"



**787/777**

17"



**18"** wide seats for more Personal Space\*

Personal space = seat pitch \* seat width

**A350 XWB**



Uncompromised comfort with **9** abreast

AIRSPACE



reddot award  
winner



# A350 XWB Cabin

## Comfort

18" Y-class seat width  
Wide panoramic windows

## Efficiency

Largest overhead bins on the market  
Space-efficient monuments

## Technology

4<sup>th</sup> generation IFE  
Unique flat floor  
Full LED moodlighting

## Well being

Quietest cabin in its class  
Optimal cabin environment



# A350 XWB Family vs 787 & 777-9 cost efficiency

## A350-900

18" seat width

## vs. 787

17" seat width

Cash  
Operating  
Cost per seat

Cash  
Operating  
Cost per seat

+10%

+4%



**A350-900**  
325 seats  
9 abreast

787-9  
283 seats  
9 abreast

787-10  
324 seats  
9 abreast

## A350-1000

18" seat width

## vs. 777-9

17" seat width

Cash  
Operating  
Cost per seat

+7%



**A350-1000**  
366 seats  
9 abreast

777-9  
398 seats  
10 abreast

Airbus standard economic rules; Comparison at 4000nm, \$2/USg, ; Typical 3-class configuration



# A350 XWB space optimization



**6-trolley galley**

**Up to +3 seats**



**ICE rear galley**

**Up to +6 seats**



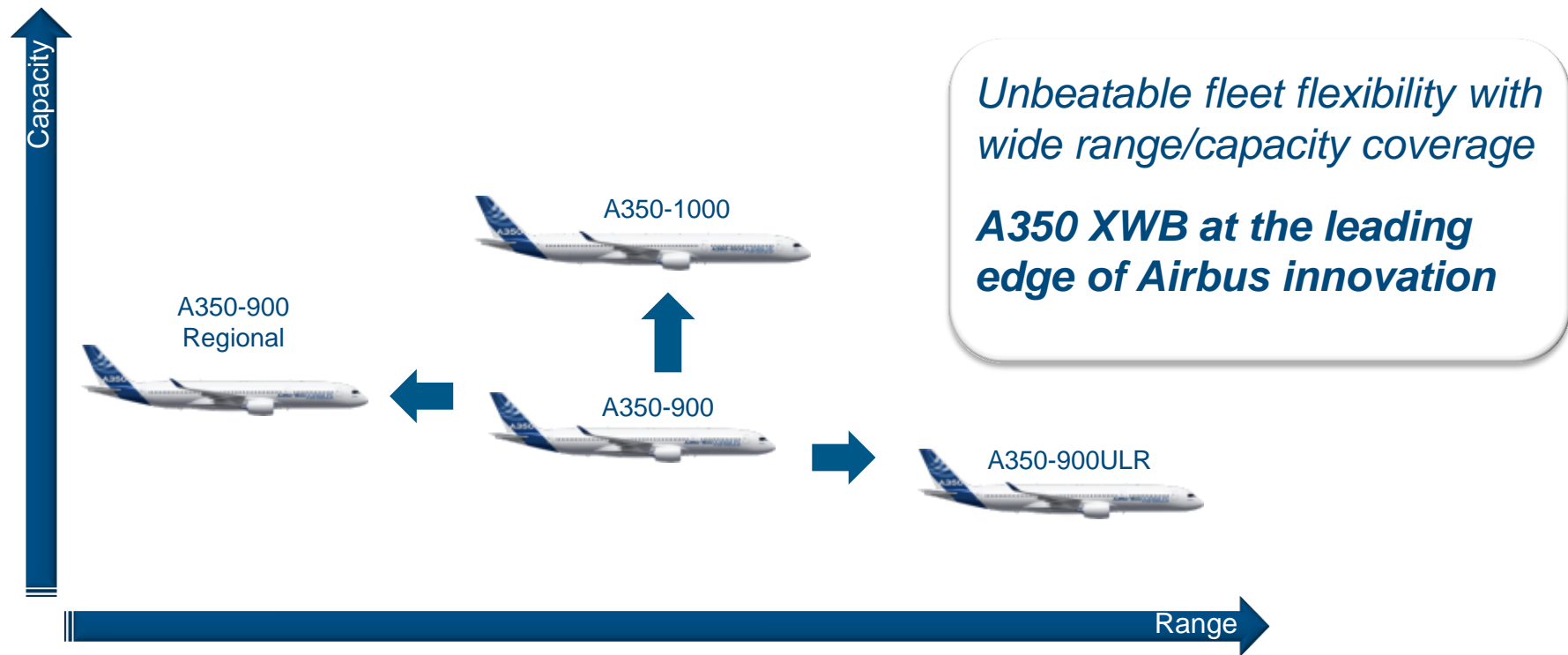
**Smart-lavs**

**Up to +6 seats**

**Up to 15 seats  
gain without  
compromising  
comfort**



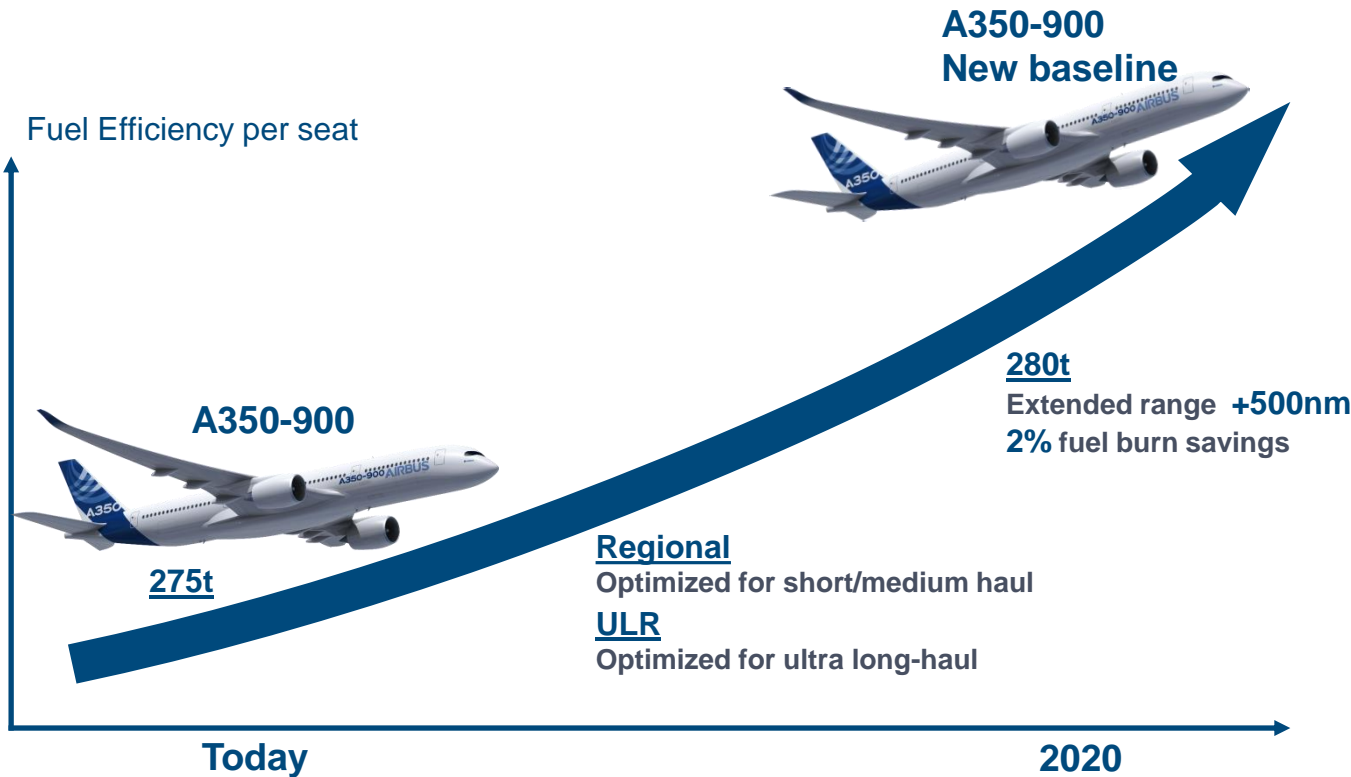
## A350 XWB Family designed to maximize airline profitability





# A350 XWB strategy

Continuous incremental development turning innovation into higher aircraft value



1% from aerodynamic enabler, 1% from engine enabler

## Airbus Product line

# A380 Family

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Undisputed  
Industry flagship



**A380 Family**  
*From 400 to 600+  
seats*



**A350 XWB**  
*From 280 to 370  
seats*



**A330 Family**  
*From 250 to 300  
seats*



**A320 Family**  
*From 100 to 240  
seats*



# Passenger comfort expectations

**A380**  
18"



**777**  
17"



**18"** wide seats for more Personal Space\*

Personal space = seat pitch \* seat width

**A380**



Etihad Residence



Asiana Economy class



Emirates shower spa



Air France Economy class

A **unique** passenger experience



## A380 vs 777-9 cost efficiency

**A380** vs. **777-9**  
 18" seat width vs. 18" seat width

Cash  
 Operating  
 Cost per seat

**+23%**



**A380**  
 544 seats  
 11 abreast



**777-9**  
 291 seats  
 9 abreast

**A380** vs. **777-9**  
 18" seat width vs. 17" seat width

Cash  
 Operating  
 Cost per seat

**15%**



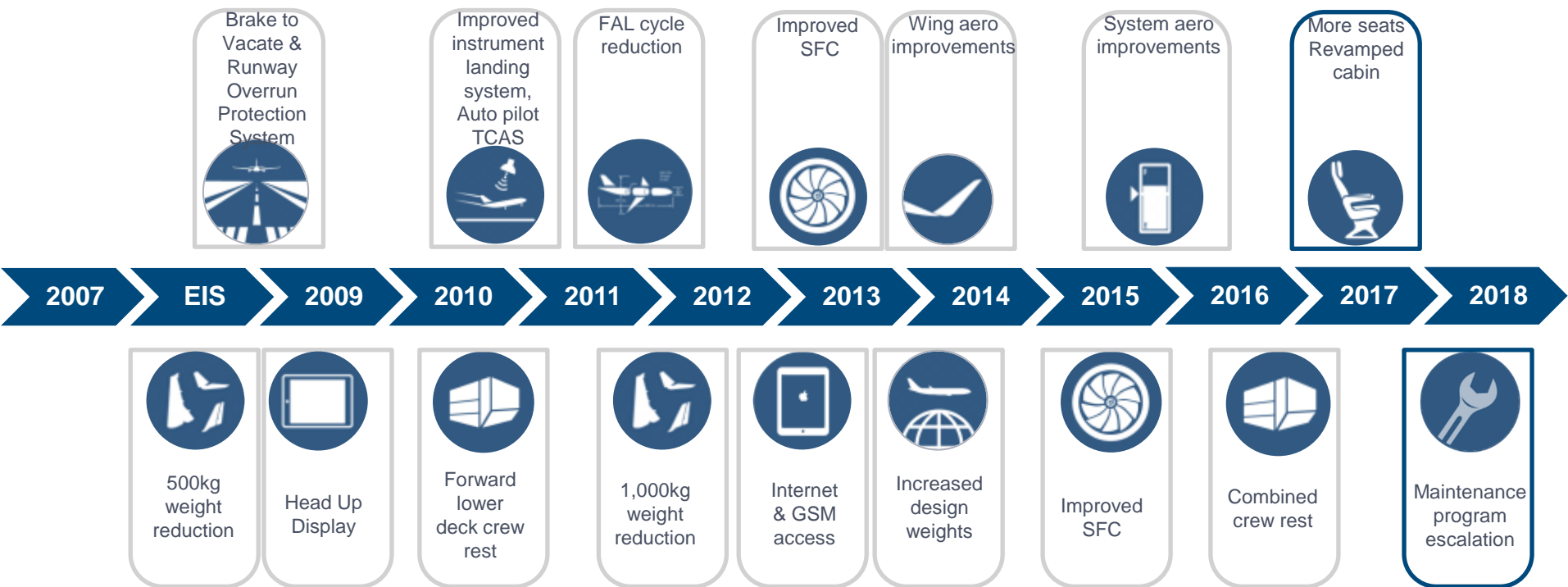
**A380**  
 544 seats  
 11 abreast



**777-9**  
 311 seats  
 10 abreast

Airbus standard economic rules; Comparison at 4000nm, \$2/USg, ; Typical 4-class configuration

# A380 non-stop innovation since entry into service





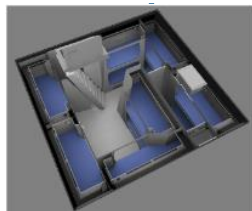
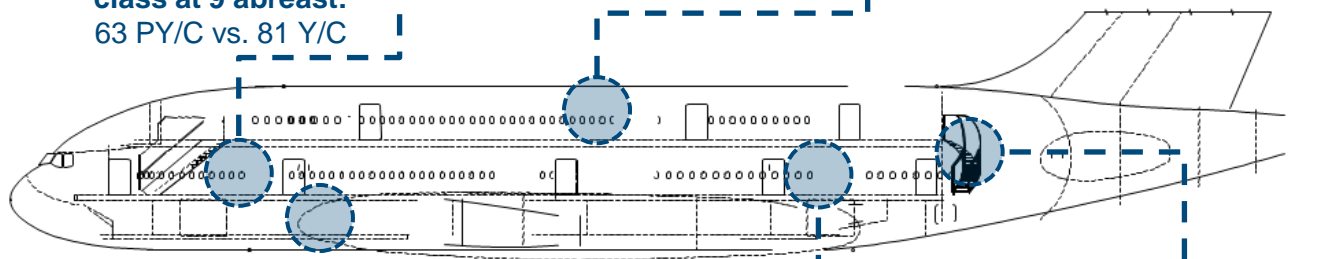
# A380 Cabin enablers



**Premium economy class at 9 abreast:**  
63 PY/C vs. 81 Y/C



**Upper deck sidewall storage removal:**  
+10 B/C seats



**Combined crew rest compartment:** +3 PY/C  
+5 Y/C + 1 pallet



**Economy class at 11 abreast:** +23 Y/C seats



**New rear stair\*:**  
+14 Y/C seats

**\$23** million in additional revenue per year

\* Project development study

# NON-STOP INNOVATION DELIVERS...



Undisputed  
industry  
**Flagship**



The winning combination  
Strong market recognition  
of complementary roles



Single aisle  
**leader**

...COMFORT, EFFICIENCY AND PROFITABILITY