

# KPIs for more growth and more value creation with less materials

Plenary Session#2 – World Material Forum 2017

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2017, June 29<sup>th</sup>

**AIRBUS**

# Foreword

## Use Case

- AIRBUS A320 Family Aircraft
- The Market leader (**60% of Single Aisle Market Share**)
- Delivered: **7,500+** (+96% still in-operation)
- Orders: **13,000+** orders (6+ years of production)
  
- An A320 family aircraft takes off every **2 seconds**
- **326** operators worldwide
- **196 M Flight Hours** cumulated since entry into service

## Scope of investigation

- Airframe perimeter
- Excluded: engines and systems

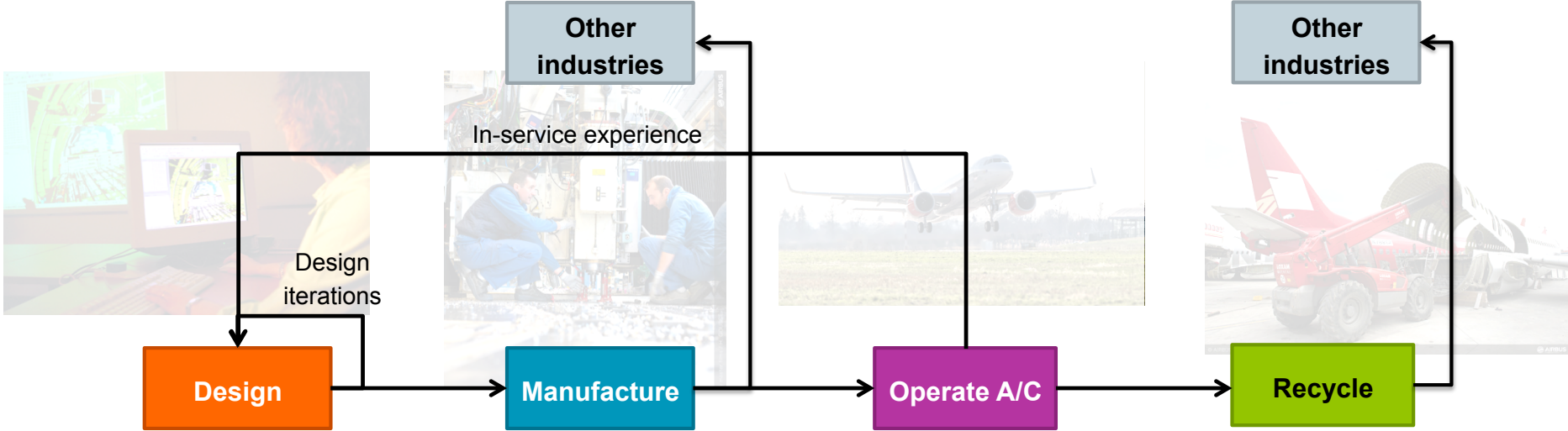
A320 MSN1 First Flight (Feb 1987)

### 30 years of experience



A320NEO MSN7459 (Feb 2017)

# Basic Aircraft Lifecycle



## KPIs (1/3)

### Weight & Performance

- Product weight **+10%** while performance have improved by **+20%** on fuel consumption
- Next: From incremental development to **new concepts**

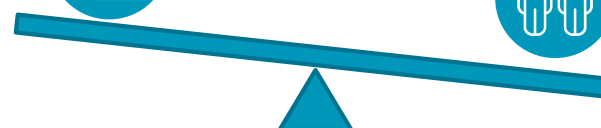
### Product Life & Reliability

- Average aircraft lifetime between **30 and 35 years** with average reliability **99.5%+**
- Next: Benefits from **digitalization and BigData**

### Product Performance & Addressable Market



### Industrial impact & Re-certification effort



### Product life keep expanding... while reliability is maintained



**Flight Hours**  
x2



**Flight Cycles**  
+25%



## KPIs (2/3)

### Use of new material

- Limited integration of new material (composite) < **1% per decade** on airframe weight
- Next: Aircraft of the **future concepts**

### Buy to Use

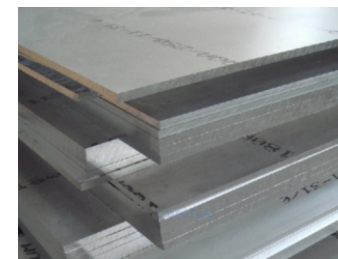
- Average Buy to fly is **around 1:10**
- Next: Paradigm shift from subtractive to **additive manufacturing**



Wingtip: from Metallic to CFRP



Block fuel: -5% (Aerodynamic)



10T engaged

1T flying

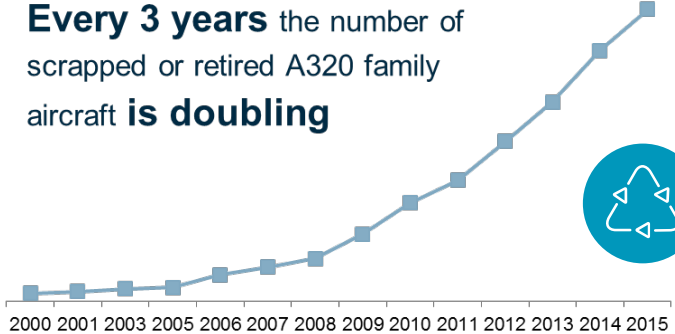
# KPIs (3/3)

## Resale price

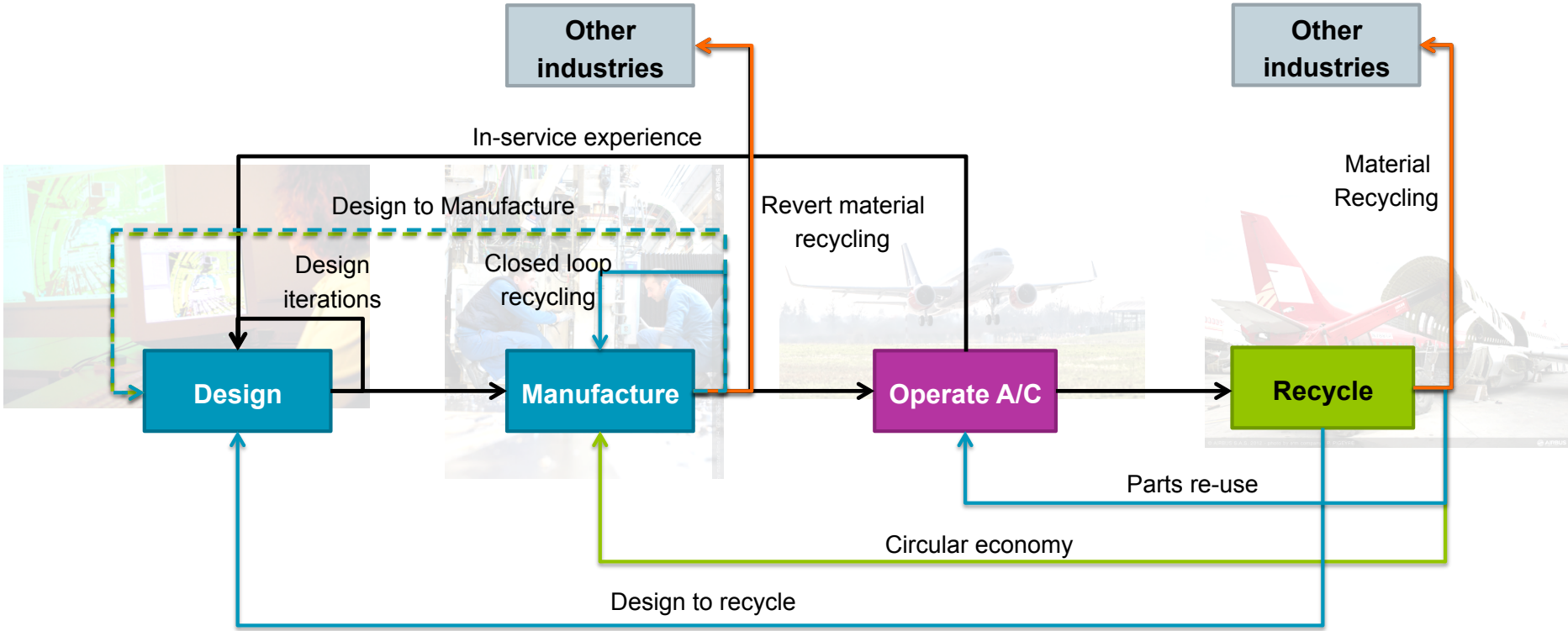
- Airframe impact on resale price is **marginal**

## Recycling

- **+90%** of airframe parts are recycled **but minor proportion is re-used in aircraft industry**
- Next: Opportunity offered by creation of **circular economy**

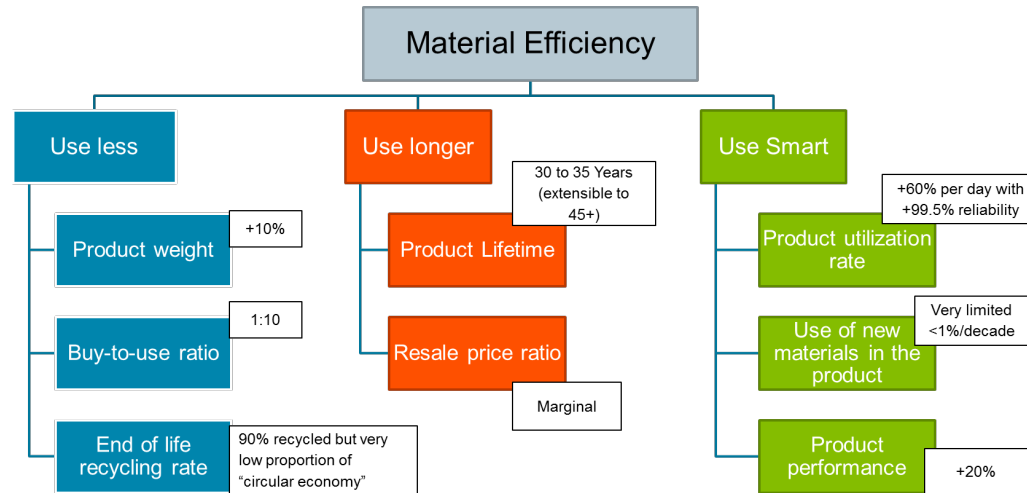


# Next steps for maximization of material use



➡ Further deploy & Improve    ➡ Create & Develop    ➡ Eradicate as much as possible

## Conclusion



- Competition between material will occur for next Aircraft generation  
**The "money time" is already engaged**
- Production volumes and profitability are stretching the boundaries  
**Additive Manufacturing & Automation are the next steps**
- Aircraft decommissioning represents a huge challenge and opportunity  
**All industry actors to enrol!**



Thank you

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