Material Efficiency in the aeronautical industry

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## Resilient Air Traffic over 50 years but...



RPK = Revenue Passenger Kilometre

### **COVID-19:** from an epidemic outbreak to a systemic economic shock



- Up to 90-95% drop in flights (Eurocontrol)
- Domestic flights down 70% (IATA)
- Airports managing 90% fewer flights (Eurocontrol)
- Loss of passenger revenue reaching \$314 billion (IATA)
- 25 million jobs at stake (IATA)
- Q2 cash burn of \$61 billion (IATA)
- Supply chain at risk
- Around 14,000 aircraft grounded

## Material and Parts Procurement Strategy 2025



Secure material & parts availability for the whole aircraft life for current ramp up and for incremental development...

- ... at the best competitive cost (TCO) with a set of competitive and sustainable suppliers all along contract
  - life...

#### ...with Material efficiency as key enabler

AIRBUS

# How Airbus contributes to Material Efficiency KPIs?

#### - Use of **composite** material has - **Skywise** to enhance preventive - R&T to push new technologies: - Serial deployment of Additive Laver Manufacturing (ALM) parts - Improved paint & chemicals BUY-TO-USE FLY % OF RECYCLED **MATERIALS** emoved parts as **spares** - A350 FAL building: greenest - Enhanced use of nesting strategy - 10:1 standard ratio in the aeronautic Aerosave: >90% of ever built by Airbus (recycled within Material & Parts Procurement industry (PM) roject to better **recycle** - With nesting, PM ambition is - Local for local approach to favor and electronic - 12% of waste (impact on CO2 use of scrapped material nt wastes recycle & limit quantity of used emissions) - Vertical Integration eases recycling 0 vision water **30-35 years**

#### AIRBUS

# Integrated Metallic Material Management (IM3)



 High performance nesting tool developed by Airbus, taking into account full Airbus manufacturing constraints

- An algorithm's with the ability to run different scenarios in order to select the best nesting strategy in collaboration with suppliers
- ✓ By reducing the Material Consumption, IM3 is contributing to reduce Carbon impact





\* Different parameters for Aluminium and Titanium

# Local for Local strategy



#### **Objectives**

- Develop an integrated Supply Chain from raw materials to aerostructure assembly through a local supply base
- ✓ Increase use of scrapping and recycled materials
- ✓ Optimise total cost base





# What matters do we juggle with while focusing on Material Efficiency?

- ✓ Internal requirements
  - ✓ Compliance to Responsibility & Sustainability in line with our Airbus Code of Conduct
  - ✓ Respect at any time key principle of "Quality and Safety First" at Airbus

#### ✓ International requirements

- ✓ Compliance to environmental requirements such as REACH
- ✓ Worldwide Airworthiness Authorities regulations and validations throughout the product life of our Aircrafts
- ✓ Increased focus from our employees, passengers and customers towards respect of ethical and environmental principles all along the life cycle of our product



# Conclusion

✓ As key contributor, it is our responsibility to lead a more sustainable aviation industry

 $\checkmark$  The innovation and collaboration across the entire value chain are key

✓ We contribute to all defined KPIs to measure Material Efficiency

✓ Material Efficiency is a key enabler for Material & Parts Procurement competitiveness

✓ Material Efficiency will be developed to become a selection criteria in call for tenders

✓ Material Efficiency contributes to Airbus sustainability

*"We do not inherit the earth from our ancestors, we borrow it from our children"* Antoine de Saint-Exupéry



Thank you

