Titanium Demand and Trends in the Airframe Market

Wade Leach, Senior Vice President Commercial, ATI Specialty Materials
October 5, 2015
Forward Looking Statements

This presentation contains forward-looking statements. Actual results may differ materially from results anticipated in the forward-looking statements. These and additional risk factors are described from time to time in the Company’s filings with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended December 31, 2014.
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Traffic (RPMs)

Commercial Aerospace Market Forecast

- Revenue Passenger Miles (Billions)
- Freight Ton Miles (Billions)

History Forecast

Source: Airline Monitor, IATA, ICAO
Market Drivers

Traffic (RPMs)

Capacity (ASMs)

Available Seat Miles (ASMs)

Market Forecast

Available Seat Miles (Billions)

History

Forecast

Source: Airline Monitor
Market Drivers

Traffic (RPMs)

Capacity (ASMs)

Airline Profitability

Global Commercial Airline Profitability

Source: IATA Economics
Market Drivers

- Traffic (RPMs)
- Capacity (ASMs)
- Airline Profitability
- Fuel Costs

Jet Fuel Price and Crude Oil Price

Source: Platts, IATA
Market Drivers

- Traffic (RPMs)
- Capacity (ASMs)
- Airline Profitability
- Fuel Costs
- Economic Turmoil
Aircraft Build Rates

Source: Airline Monitor and Forecast International

2010-2019 CAGR = 7.8%
Past 20 years
CAGR = 3.8%

Source: Airline Monitor
Historical Titanium Usage in Commercial Aircraft

Source: Roskill Economics of Titanium
Note: Titanium content per Airframe (engine not included)
Aircraft Fleet to double in the next 20 years

Past 20 years: CAGR = 3.8%
Next 20 years: CAGR = 3.6%

Source: Airline Monitor
Next Generation Titanium Usage in Commercial Aircraft

Source: Roskill Economics of Titanium, Goldman Sachs

Note: Titanium content per Airframe (engine not included)

% weight of titanium


B727 B747 B757 B737 B777 A330/A340

B777x B787 A350 B737Max

A320Neo A380 B777

B737Max A320Neo

B777x B787 A350
Why Titanium?

Titanium Historic Advantages:

- Weight Savings
- Heat Resistance
- Space Limitation
- Corrosion Resistance
Trend of Titanium in Airframes

Rise of Composite & Titanium Airframes

- Increased Operating Efficiency
- Improved Maintenance
- Passenger Comfort
How is the industry answering the challenge?

- Globalization of supply chain
- Expanding capacity
- Vertical integration
- Additive Manufacturing
- Engineering new alloys
- Near-net products that improve buy-to-fly ratios