Sourcing of Titanium for Airbus & the EADS
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Aerospace Market and Airbus Performance

Our Titanium sourcing strategy

Summary
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Summary
Air travel has proven to be resilient to external shocks

World annual traffic (RPKs - trillions)

Source: ICAO, Airbus

67% growth through multiple crises over the last ten years

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Air traffic will double in the next 15 years

Source: ICAO, Airbus
Passenger traffic is outperforming GDP growth

August Passenger traffic up 7.1%

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Airbus General Market Forecast (GMF) nearly 800 airlines and their subsidiaries are analyzed.
Demand for over 29,200 new aircraft in the next 20 years  1/2

Fleet in service evolution; 2013-2032

- Beginning 2013: 17,739
- 2032:
  - New aircraft: 29,226
  - Growth: 36,556
  - Replaced: 10,409
  - Converted: 7,330

Stay in service & Converted: +3.7% per annum

Source: Airbus
Note: Passenger aircraft ≥100 seats, Freighter aircraft ≥10 tonnes

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Demand for over 29,200 new aircraft in the next 20 years

- **20,242** single-aisle aircraft
- **7,273** twin-aisle aircraft
- **1,711** very large aircraft

Market value of $4.4 trillion
Over 13,000 Airbus orders, 8,000 deliveries

26 years for the 1st 4,000 orders and only 7 years for the 2nd 4,000

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Moving towards an intelligent airframe

Composite and Titanium: Increasing use over time

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A350 first flight took place on 14 June 2013. MSN001 has now accumulated over 150 flight hours.
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EADS Hard Metals Volumes Evolution

EADS titanium tonnage needs will increase by 300% within a decade
Managing the demand through enablement

**Win-win-win approach to all**

- EADS WP contract
- EADS Material contract
- ENABLING Suppliers (Material Suppliers)

**ENABLEMENT**

**Stability**
- ENABLED Subcontractors (TIERS)
  - Long-term contract, stable prices
  - Secure material supply chain
  - Material quality monitoring
  - Better reflection of competitive advantages

**Visibility**
- AIRBUS/EADS
  - Volume consolidation
  - Standardization
  - Clear view of volumes
  - Single voice for strategy
  - Secure supply chain

**Standardisation**
- MATERIAL SUPPLIER
  - Forecast volume demand
  - Optimize batches
  - Stabilize market share
  - Managed prices

**ENABLED SUBCONTRACTOR**

**AIRBUS/EADS**

**MATERIAL SUPPLIER**

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Expectations for the future

where we come from:
• Secure Titanium needs
• Secure Titanium Price
• Consolidate volumes

where we go to:
• Secure capacity
• Enablement
• Aligned strategy
• Financial stability
• Recycle scrap
• Machining
• ALM
• R&D
• Alternative processes
Evolution of the Titanium landscape

- Low Ti Demand
- Scattered Ti supplier landscape
- No integration
- Capacity adapted to needs

- Very high demand
- Large groups consolidation
- Manage capacity situation

Vertical Integration is a key differentiating factor for supplier selection
Fix and firm prices are the baseline
Very demanding Supply Chain requirements
Global Sourcing approach

- Offset obligations
- Production, Engineering, Funding

Access to Market & Resources

- Strategic Supply Chain Model
- Currency exposure
- Risk processes

Risk Management

- Vertical integration
- Customer expectation
- Best Cost Sourcing
- Standardisation

Value for Cost

Global & Competitive sourcing

Market Volatility

- Lean products/processes
- Flexible & reliable Supply chain
- Enablement

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Summary
RAMP-UP
Ensure sufficient capacity

ON-TIME & QUALITY
Reach and sustain excellent performance

COST
Be creative and propose solutions for cost optimization

STRATEGY ALIGNMENT
Ensure you are strategically aligned

We need to deliver what we have sold!

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