Titanium Market Summary

International Titanium Association
Titanium 2007 Conference and Exhibition
October 7, 2007
Summary of Market Drivers
Aero Engine Market

• Strong Military Procurement
• Commercial Air Travel Growth
• High Operating Rates in Both Military and Commercial Segments Drive Demand for Spares
• Engine Delivery Growth: 25%:
  2006: 2,800 units 2010: 3,500 units
• Maybe a Commercial Aero Downturn in 2010 / 2011
Summary of Market Drivers
Airframe Market

- **Commercial Aerospace:**
  - Long Term Economic Factors Strong (China, India)
  - Record Backlogs and Build Rates
  - New Airframes More Titanium Intensive
  - Maybe a downturn in 2011/2012

- **Military Aerospace**
  - More Titanium Intensive Military Aircraft
  - F 35 Program to Become Major Titanium Consumer

- **Market Segment Growth:** 58 %
  - 2006: 27,000 MT  2010: 43,000 MT
Summary of Market Drivers
Industrial / Corrosion Applications

• Superior Performance
• Favorable Life Cycle Costing
• Infrastructure Investment High Globally
  – Power Generation
  – Desalination
  – Oil & Gas Production / Petrochemical Processing
  – Mining
• Market Segment Growth: 15%
  – 2006: 40,000 MT 2010: 46,000 MT
Summary of Market Drivers
Emerging / Consumer Markets

• Medical, Sporting Goods, Automotive, Armor, Others
• Engineered Solution to Complex Design Problems
• Value in Design Exceeds Cost Premiums
• Market Segment Growth: 37%
  – 2006: 8,000 MT       2010: 11,000 MT
China Development

- Significant Capital Investment; Increased Production

<table>
<thead>
<tr>
<th>Product</th>
<th>2005</th>
<th>2006</th>
<th>Change</th>
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<tbody>
<tr>
<td>Sponge</td>
<td>9,500</td>
<td>18,000</td>
<td>+ 90%</td>
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<tr>
<td>Mill Product</td>
<td>10,000</td>
<td>12,800</td>
<td>+28%</td>
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- Improved Technical Level and Content
  - Large Ingots, 6-4 Sheet and Plate, Rolled Rings, Isothermal Forging, Precision Casting

- Major End Uses: 37% Chemical Industry, 24% Sports and Leisure, and less than 10% Aerospace
Japanese Trends

• Unwrought Imports Declining, Exports Growing
• Investment in Sponge Capacity Replaces Imports, Enables Continued Growth
• 2006 Sponge Shipments 37,000 MT in 2006,
  – Record Production
  – + 20% from 2005, + 48% from 2001
• 4% Decline in 2006 Mill Products Volume from 2005 to 17,300 MT
Titanium Demand Summary

- All Major Market Segments Predicted To Continue Strong Growth
- Largest Growth in Airframes
- Overall Market Expected to Increase 34%
- 2006: 80,000 MT
- 2010: 107,000 MT