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, 2011.
Titanium’s History in Defense Applications

<table>
<thead>
<tr>
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<tr>
<td>Stilleto</td>
<td>SR71</td>
<td>CH53K</td>
<td>F-117</td>
<td>Abrams</td>
<td>F-22</td>
<td>Submarines</td>
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<td>F-4</td>
<td>C-130</td>
<td>HMMWV</td>
<td>C-17</td>
<td>Bradley</td>
<td>Howitzer</td>
<td>F-35</td>
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<td>A400M</td>
<td>Stryker</td>
<td>HMMWV</td>
<td>C-17</td>
<td>Bradley</td>
<td>Howitzer</td>
<td>F-35</td>
</tr>
</tbody>
</table>

Photos courtesy of DoD
Why Titanium?

- **Performance**
  - Speed, mobility, maneuverability
  - Compatibility with composites
- **Payload**
  - Extends range & capacity
  - Fuel efficiency
- **Protection**
  - Enhanced survivability

Performance, Payload and Protection Drives Ti Usage in Military Applications
Challenges for Titanium in Military Applications

- Initial raw material cost
  - Higher vs. traditional materials
    - Life-cycle costs aren’t typically considered
- Uncertainty of demand
  - No long-term firm backlog
  - Sequestration
  - Government budget cuts
Military Airframe Programs

• Fighters
  – F-35
  – F-15
  – Eurofighter
  – F-22

• Transports
  – C-130
  – C-17
  – A400M

• Helicopters
Military Airframe Applications using Titanium

- Fasteners
- Brackets, Fittings & Clips
- Hydraulic Tubing
- Bulkheads
- Cockpit Window Surrounds
- Intake & Auxiliary Vent Doors
- Wing Clips & Brackets
- Rear Spar
- Tail Fin Spars
- Lower Keel Chord
- Aileron Strongback
- Aft Keel Structure
- Engine Bay Doors
- Aft Frame
- Spars & Structures
- Pylon Castings
- Front Spar
- Side of Body Chord
- Landing & Weapons Bay Doors
- Landing Gear & Tail Hook Components
Military Airframe Applications using Titanium

- Rotor Hub
- Fighter Jet Bulkheads
- Rotor Yoke

*Photo courtesy of PCC Wyman Gordon
Examples of Titanium Uses in Land & Sea Defense Applications

- Existing Applications
  - Abrams Main Battle Tank
  - Leopard Main Battle Tank
  - Bradley Fighting Vehicle
  - MRAP
  - Lightweight Howitzer
  - CVN Aircraft Carriers
  - USN Submarines
  - Stryker

- Projected Future Applications
  - GCV
  - MAPV
  - MPC
  - Others

Photos courtesy of DoD
Land Defense Applications Examples of Titanium Uses

- Critical element in heavy armor recipes
- Add-on passive armor panels
- Reactive Armor Boxes
- Suspension components
- Hatches
- Howitzer components
- Gunner Protection Kits
- Structures on next generation vehicles
# Titanium: Military Vehicle's Lightweight Alternative

**Abrams M1A2 Main Battle Tank**

<table>
<thead>
<tr>
<th>Replacement Components</th>
<th>RHA Steel (Kg)</th>
<th>Titanium (Kg)</th>
<th>Weight Saved (Kg)</th>
<th>Weight Saved (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turret blow-off panels</td>
<td>311</td>
<td>229</td>
<td>82</td>
<td>26%</td>
</tr>
<tr>
<td>Gunner's primary sight GPS cover</td>
<td>227</td>
<td>160</td>
<td>67</td>
<td>30%</td>
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<tr>
<td>NBC cover</td>
<td>168</td>
<td>132</td>
<td>36</td>
<td>21%</td>
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<tr>
<td>Engine top cover</td>
<td>498</td>
<td>358</td>
<td>140</td>
<td>28%</td>
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<tr>
<td>Turret pivot rack</td>
<td>160</td>
<td>90</td>
<td>70</td>
<td>44%</td>
</tr>
<tr>
<td>Commander's hatch</td>
<td>80</td>
<td>56</td>
<td>24</td>
<td>30%</td>
</tr>
<tr>
<td>Commander's independent thermal viewer</td>
<td>146</td>
<td>92</td>
<td>54</td>
<td>37%</td>
</tr>
<tr>
<td><strong>TOTAL (1)</strong></td>
<td><strong>1590</strong></td>
<td><strong>1117</strong></td>
<td><strong>473</strong></td>
<td><strong>30%</strong></td>
</tr>
</tbody>
</table>

Source: US Army ARDEC

(1) Not including internal armor modifications

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Naval Programs
Examples of Titanium Uses in Non-Aerospace Defense

- Mission module structures
- Pipe and fittings
- MAST components
- Fasteners
- Structural hardware components and systems
- Ship hull structural applications
- Castings for valve and pump bodies and internals

*Photo courtesy of DoD
DoD has created MIL-DTL-46077G for Titanium Armor

- Reduced some processing requirements to further reduce costs
- Created a ballistic specification for 4 classes of non-aerospace Ti
  - Class 1 and 2 are the same chemistries as Ti-6-4 ELI and standard grade 5
  - Class 3 allows for higher levels of oxygen
  - Class 4 removes the requirement for aluminum and vanadium as long as it still falls into the alpha-beta range of alloys and meets all other requirements of the MIL-DTL-46077 specification. ATI 425®-MIL alloy falls in Class 4
- ARL believes that the ATI 425®-MIL Alloy “offers the best potential to increase applications for both commercial and military platforms”*

* ARL Report - The Design and application of Titanium Alloys to U.S. Army Platforms – 2010
Military Airframe, Land & Sea Based Applications for Titanium

Richard J. Harshman
Chairman, President and Chief Executive Officer of ATI
Titanium 2012 | Atlanta, GA | October 8, 2012