Forward-Looking Statements

This presentation contains statements that relate to future events and expectations and as such constitute forward-looking statements. Forward-looking statements include those containing such words as “anticipates,” “estimates,” “expects,” “forecasts,” “goal,” “plans,” “potential,” “should,” “will,” or other words of similar meaning. All statements that reflect Alcoa’s expectations, assumptions, or projections about the future other than statements of historical fact are forward-looking statements, including, without limitation, forecasts concerning growth opportunities for aluminum in automotive, commercial transportation, and other applications; forecasts regarding the potential for new technologies, materials or processes; and statements about Alcoa’s strategies, outlook, and business and financial prospects. Forward-looking statements are subject to risks, uncertainties, and changes in circumstances that are difficult to predict and are not guarantees of future performance. Important factors that could cause actual results to differ materially from those in the forward-looking statements include: (a) material adverse changes in aluminum industry conditions; (b) unfavorable changes in the markets served by Alcoa, including the automotive, commercial transportation, and other markets; (c) failure to advance or successfully implement, to achieve commercialization of, or to realize expected benefits from, new technologies or innovative products, including, without limitation, advanced aluminum alloys, aluminum surface bonding technology, and Alcoa Micromill™ technology, whether due to changes in the regulatory environment, competitive developments, or other factors; (d) the business or financial condition of key customers, suppliers, and business partners; (e) factors affecting Alcoa’s operations, such as the unavailability of or increases in the price of energy or other raw materials, equipment outages, or other unexpected events; and (f) the other risk factors discussed in Alcoa’s Form 10-K for the year ended December 31, 2014 and other reports filed with the Securities and Exchange Commission. Market projections are subject to the risks discussed above and other risks in the market. Alcoa disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.
Meeting Customer Demand Through Strategic Investments

Projected Aluminum use in automotive, automotive sheet demand and Alcoa growth projects

Accelerating Aluminum use in Automotive

- The next frontier for aluminum
- Heat Exchangers
- Blocks
- Heads
- Wheels
- Doors & Body-in-White

Aluminum Sheet Demand

North America aluminum auto sheet demand (kMT)

- Actual
- Forecast

AI auto sheet demand expected to reach >1MMT by 2020

- 2012
- 2015
- 2020

Capture Growth in NA

- ~$300m investment completed in 4Q 2013
- Alcoa, TN
- ~$300m investment on track

Sources: Alcoa November 4, 2014 Investor Day presentation and July 8, 2015 earnings press release
Customers Focus on Mass Savings Potential and Performance

**Mass savings***

- Initial customer focus is on advanced closure panels
- Customers now developing future aluminum intensive body structures due to greater mass savings potential

<table>
<thead>
<tr>
<th></th>
<th>Steel (lb)</th>
<th>Al (lb)</th>
<th>Wt. Saved (lb)</th>
<th>% Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hood</td>
<td>56</td>
<td>28</td>
<td><strong>28</strong></td>
<td>50</td>
</tr>
<tr>
<td>Fenders</td>
<td>16</td>
<td>8</td>
<td><strong>8</strong></td>
<td>50</td>
</tr>
<tr>
<td>Decklid</td>
<td>38</td>
<td>19</td>
<td><strong>19</strong></td>
<td>50</td>
</tr>
<tr>
<td>Doors</td>
<td>160</td>
<td>95</td>
<td><strong>65</strong></td>
<td>40</td>
</tr>
<tr>
<td>Body</td>
<td>720</td>
<td>430</td>
<td><strong>290</strong></td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>990</td>
<td>580</td>
<td><strong>410</strong></td>
<td>41</td>
</tr>
</tbody>
</table>

**Customer priorities**

- Initial focus is on off-the-shelf products and capacity
- As more AIVs are commercialized, recyclable structural alloys are now in demand

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* Class D Vehicle

Source: Alcoa Analysis
Auto Industry Favors Aluminum, Multi-material Solutions

Question: Which material family are you relying upon most heavily to help meet the new CAFE fuel economy standards?

<table>
<thead>
<tr>
<th>Material Family</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>33%</td>
<td>32%</td>
</tr>
<tr>
<td>Multi-Material Solution</td>
<td>19%</td>
<td>21%</td>
</tr>
<tr>
<td>Engineering Plastics</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Advanced High-Strength Steel</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>Advanced Composites</td>
<td>9%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: 2015 Wards Auto, DuPont Automotive Trends Benchmark Study, conducted by Penton Research

CAFE = Corporate Average Fuel Economy
Have the technical challenges with formability, joinability been truly addressed?

- In the mid 1990s, Alcoa introduced the 6022-T4 alloy which significantly improved formability, strength, and corrosion resistance. We continuously improve our alloys to meet customer needs.

- Processes like Alcoa Micromill™ allow us to create alloys with 40% better formability and 30% increased strength over incumbent alloys.

- On the manufacturing side, new forming and joining options have been developed to accommodate the use of aluminum in both closure panel and body structure applications. One example is Alcoa 951™ - a pretreatment that enhances adhesive bond durability.

- Processes including RSW, Laser and Friction Stir Welding, Self Piercing rivets, Clinching, Flow Drill screws, and blind fasteners have been on the shelf for quite some time.

- Examples: F-150, Tesla Model S, Cadillac CT-6
**Vehicle Configuration**
- 2010 Toyota Venza (production steel vehicle)
- Lightweight Steel (LWSV) – EPA 2012 Study
- Aluminum Intensive Vehicle – FEV/EDAG 2013 Study

**Considerations:**
- Primary metal production
- Material fabrication
- Manufacturing & assembly
- Transportation
- Use
- End-of-Life Recycling

**Conclusions:**
- AIV technology offers lowest life cycle energy and CO₂ impact.
- Key factor: fuel economy improvement due to lightweighting.
- Mass reduction of 28% over baseline.
- Lightweight Steel Vehicle has lower production phase environmental impact offset by higher use phase energy and CO₂

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**Oak Ridge National Lab Study concludes that Aluminum Intensive Vehicle technology offers the lowest life cycle energy and CO₂ impact**

**Life Cycle Stages**

<table>
<thead>
<tr>
<th></th>
<th>Mfg.</th>
<th>Use</th>
<th>End-of-Life</th>
<th>Total Life Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>93,275</td>
<td>100,2819</td>
<td>-27,983</td>
<td>1,068,111</td>
</tr>
<tr>
<td>LWSV</td>
<td>81,973</td>
<td>848,275</td>
<td>-52,311</td>
<td>877,938</td>
</tr>
<tr>
<td>AIV</td>
<td>115,084</td>
<td>708,327</td>
<td>-98,893</td>
<td>724,518</td>
</tr>
</tbody>
</table>

Note: Based on Baseline 1168 kg Components of a 1711 kg Curb Weight Vehicle

Source: Oak Ridge National Laboratory
Moving Forward in Automotive Innovation: Alcoa Invents Next-Gen Automotive Solutions

**Breakthrough Al Alloy + Casting Technology**

- 2x more formable, while 30% lighter than HSS
- Reduces OEM system cost from streamlined alloy portfolio
- Attack share of $3.5B of steel auto applications
- 20 day rolling process to 20 minutes
- 50% lower energy use
- 1/4 the footprint of conventional mill

**Stronger, Better, Faster: Win for the Customer and Alcoa**

- **Advanced impact**: equivalent to steel crash resistance at 30-40% lighter vs. HSS
- **Higher formability**: allows multiple parts to single piece consolidation; reduces assembly costs 4-8% vs. ingot-based Al
- **Higher strength**: can replace HSS parts; eliminates dissimilar metal joining issues; reduces weight 25-35% vs. HSS

**Micromill™ Innovation in Automotive Alloys, Value Proposition and Development Progress**

- Completed successful customer trials
- Qualification agreements in place with 9 major automotive customers from three continents
- First commercial coil
- Exploring Full Scale Capacity Expansion Options

Source: April 8, 2015 and July 8, 2015 earnings presentations. HSS = High Strength Steel

1) In late stage of development. 2) In early stage of development.
What’s next in automotive?

Aluminum. Lots of it.

This is only the beginning...