

## Jobs. Security. Innovation. Sustainability.

The use of aluminum in automobiles has grown continuously for 40 years, and counting. As the second-most used material in vehicle construction, aluminum is vital to automakers, the nation's manufacturing base, and the U.S. economy.



**Jobs.** Since 2013, aluminum companies invested or committed \$2.2 billion in U.S. plant expansions, driving investments that strengthen the American job base and U.S. economy. In total, modern aluminum manufacturing supports more than 713,000 American jobs. As automotive aluminum is expected to continue strong growth in coming years, the industry is prepared to make continued investments to expand capacity as needed.



**Security.** Aluminum helps protect the nation's energy security while saving American's money at the pump. When compared to steel vehicles, aluminum use can save the equivalent of 108 million barrels of crude oil annually. Aluminum also helps secure our nation's military, which relies on high-strength aluminum alloys in combat vehicles to protect our troops on and off the battlefield.



**Innovation.** Aluminum companies are working in partnership with automakers to develop holistic technology packages that achieve vehicle design objectives, including boosts in fuel economy, enhanced performance and improved safety without downsizing or increasing consumer cost.



**Sustainability.** Aluminum is infinitely recyclable with a recycling rate higher than 90 percent. Aluminum helps automakers design cars and trucks that go farther on a gallon of gasoline, decreasing oil dependency and reducing carbon emissions. Independent studies confirm aluminum offers the smallest total carbon footprint among competing materials, saving the equivalent of 44 million tons of CO<sub>2</sub> emissions annually.

### BENCHMARK: ALUMINUM-BODIED FORD F-150

In 2014, Ford upgraded its best-selling pickup from a steel body to an aluminum body, which upgraded the truck in every category below.



#### SALES

F-Series reigns as the top-selling truck in America for 40 consecutive years with 2016 sales anticipated to reach volumes not seen since 2005.



#### SAFETY

Earned 5-Stars overall from NHTSA, an improvement from the 4-Stars earned by steel-bodied version. 2016 model the only pickup to earn coveted IIHS "Top Safety Pick" designation.



#### PERFORMANCE

30% increase in payload and 5% increase in towing capacity to help haul in the auto industry's most coveted honors, including the 2015 North American Truck of the Year.



#### MPG

Highest EPA-estimated fuel economy ratings of any full-size gas-powered pickup.



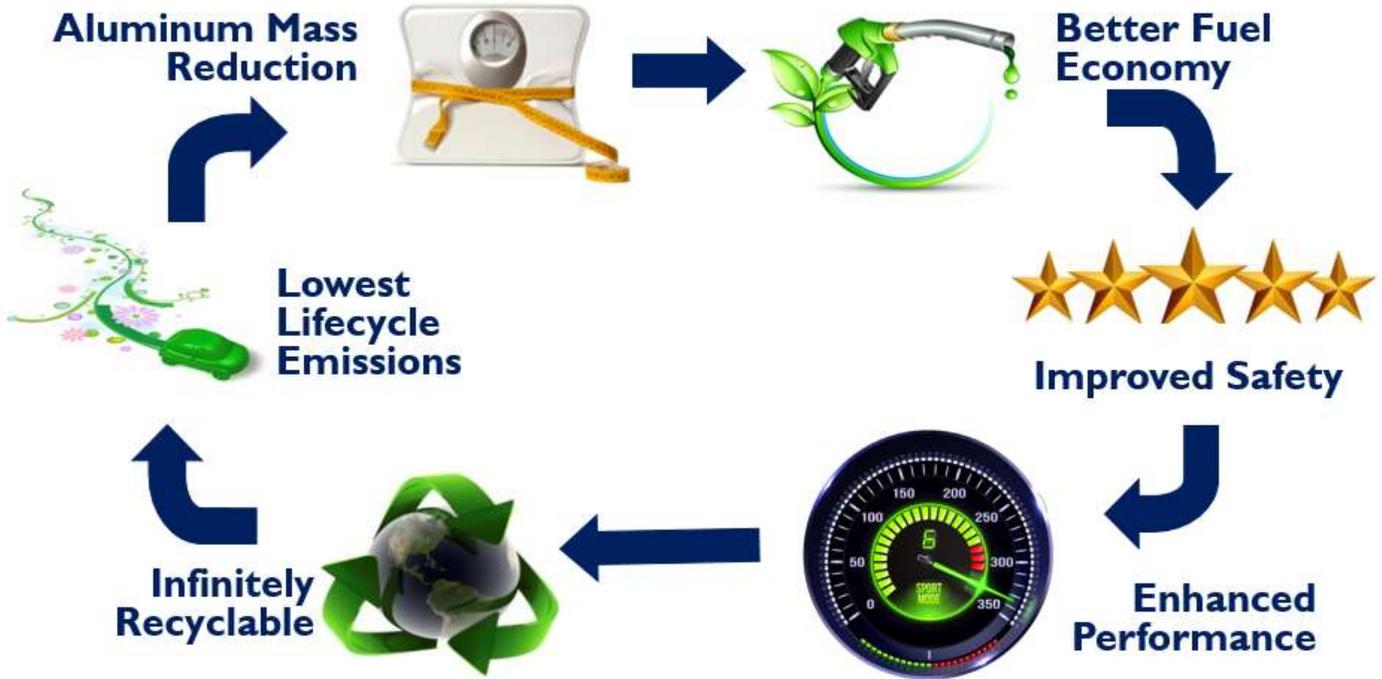
#### COST

Modest \$395 cost increase over previous steel-bodied model despite new features (similar costs are typically incurred with complete vehicle redesigned regardless of material).



## ALUMINUM'S VIRTUOUS CYCLE

Automakers demand materials that deliver significant mass reduction while ensuring passenger safety, fuel economy gains, environmental sustainability, enhanced performance and cost-effectiveness. Aluminum checks every one of those boxes, better than any other material.



## FAST FACTS

**5-STAR SAFETY COMES STANDARD.**



Vehicles size more important than weight in determining vehicle safety. In fact, every aluminum-bodied car or truck ever crash tested by NHTSA earned a perfect 5-star safety rating.

**BATTLE TESTED.**



Aluminum helps protect troops on and off the battlefield. In fact, the military's first armored multipurpose vehicle will have a welded aluminum hull, like the Bradley Fighting Vehicle.

**THE FUTURE IS MULTI-MATERIAL.**



We are in a multi-material world. aluminum is the material of choice, offering the fastest, safest, most environmentally-friendly and cost-effective way to boost fuel economy and cut total carbon emissions.