

Novelis Aluminum Drives Innovation

Working alongside our customers from program development to launch, we create custom alloys and manufacturing processes to meet their evolving needs.



Novelis

Revised December 2016

Customer Collaboration

The technical leadership and collaboration Novelis offers its customers in material formability, joining and strength innovations is unmatched in the aluminum industry.

- Best-in-class joining solutions, including products for Self Pierce Riveting (SPR), joining, fusion-clad alloys superior for remote laser welding, products that perform well with resistance spot welding and pre-treatments to promote adhesive joining and bond durability.
- Industry-leading aluminum surface finish and application technology. In addition to providing the right alloys, Novelis also provides tailored finishes and designations for the highest-performing products.
- Aluminum's mechanical properties, design flexibility and range of fabrication alternatives allow designers more flexibility to create advanced shapes and add more in-vehicle content that drivers expect.
- Dedicated mobility experts are charged with identifying ways to make the car of the future more efficient, more recyclable and more affordable with aluminum—including EVs, autonomous vehicles and shared vehicles.

Through collaboration with Jaguar Land Rover and manufacturing transport partners, Novelis established a dedicated round-trip railway service to efficiently deliver material between Novelis locations in Germany and the United Kingdom. This service has resulted in an 80% reduction in CO₂ equivalent emissions to standard road transport.

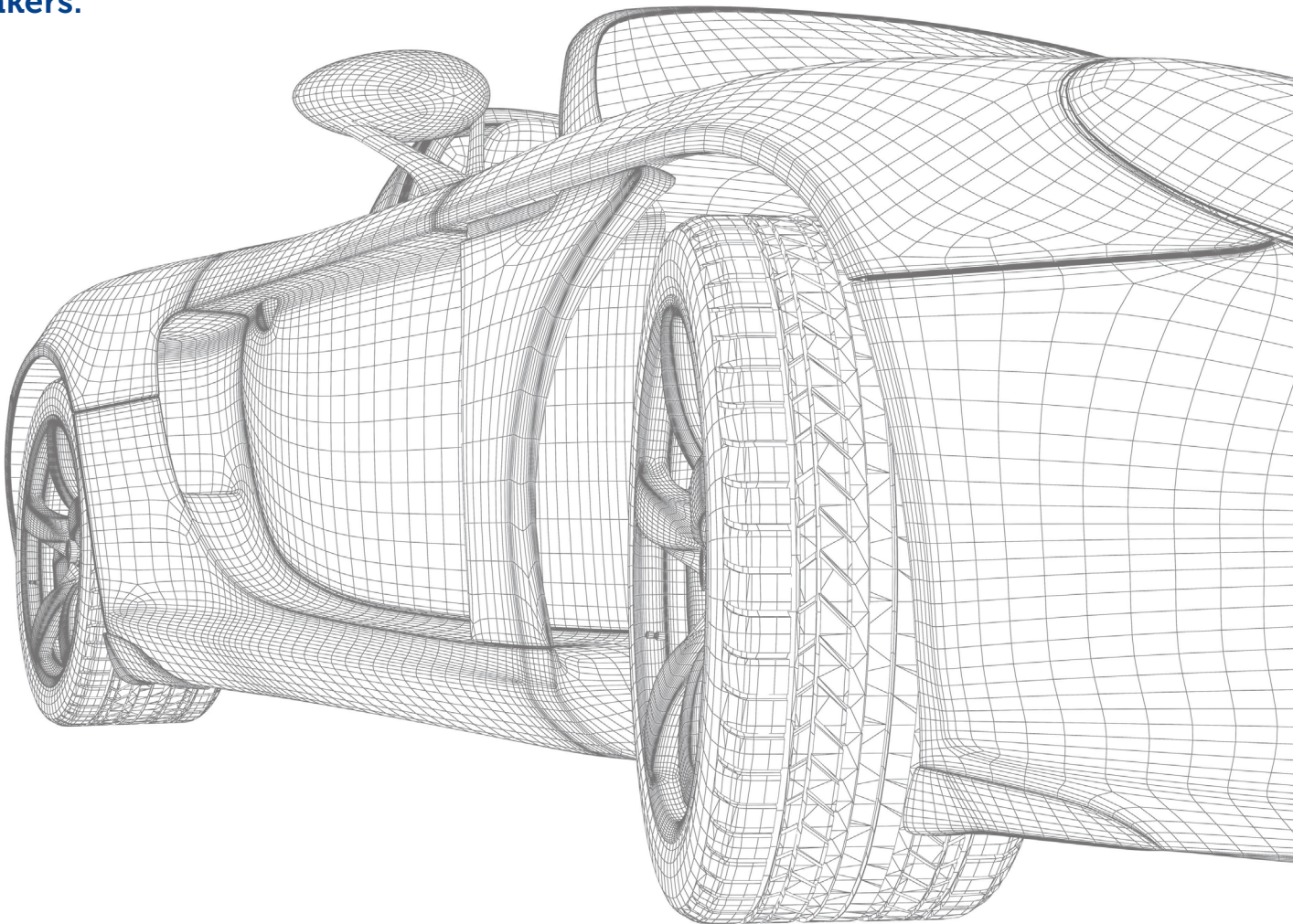
Experience & Expertise

- Novelis is the world's No. 1 producer of flat-rolled aluminum products.
- With over 40 years of experience, Novelis developed the industry standard for aluminum alloys, owning more than 134 automotive-specific patents.
- Novelis engineers, metallurgists, chemists, computer scientists and other experts are devoted to developing the next generation of aluminum solutions every day.
 - Many work in-house as resident experts to help our partners and customers design with aluminum.

40% of Research & Development investment at Novelis is dedicated to innovative solutions for automakers.

Investment in Innovation

- 40% of all Research & Development investment at Novelis is dedicated to innovating solutions for automakers.
- Novelis labs are strategically located around the world – including in Kennesaw, Georgia; Sierre, Switzerland; and Ulsan, Korea – to meet our global customers' needs.
- Novelis' Global Research and Technology Center has a fully functioning automotive pre-treatment pilot line, which is used to develop new and improve existing products, including alloys and various pre-treatments.



Partners in Innovation

For aluminum-intensive vehicles to outperform previous generation body styles, automakers have collaborated with Novelis to produce innovative high-strength products.

Novelis partnered with Ford to help completely redesign its F-150 in order to reduce the vehicle's weight and increase its fuel efficiency.

A brand new aluminium alloy, Novelis Advanz s615, was developed by Novelis researchers, metallurgists, engineers and technologists. This innovative alloy is flexible enough to withstand high volume part stamping and assembly, yet strong enough to meet rigorous durability and safety requirements.

To create Novelis Advanz s615, Novelis improved its R/T bending requirement by 33% from the industry standard of .6 to a never-before-achieved standard of .3, a new industry benchmark. Not only did Novelis invent an alloy that met existing industry standards, but it also doubled its toughness criteria. Today, Novelis Advanz™ s615 is setting the standard for vehicle strength and toughness in the automotive industry.



Our Product Portfolio

Our product portfolio consists of the latest advances in product development, including:

5xxx

series alloys have excellent strength-to-weight ratio, formability properties, and full recycling compatibility

7xxx

series high-quality alloys with high-energy management characteristics demonstrate increased crash performance and superior in-service strength

6xxx

series alloys are versatile, heat-treatable, highly formable and weldable

Fusion

our proprietary process simultaneously casts multiple alloy layers into a single aluminum rolling ingot



Contact Novelis

Novelis Global Automotive

novelis.com/automotive

automotive@novelis.com



novelis.com

Not just aluminum, Novelis Aluminum.™

