

# CAR Management Briefings Seminar

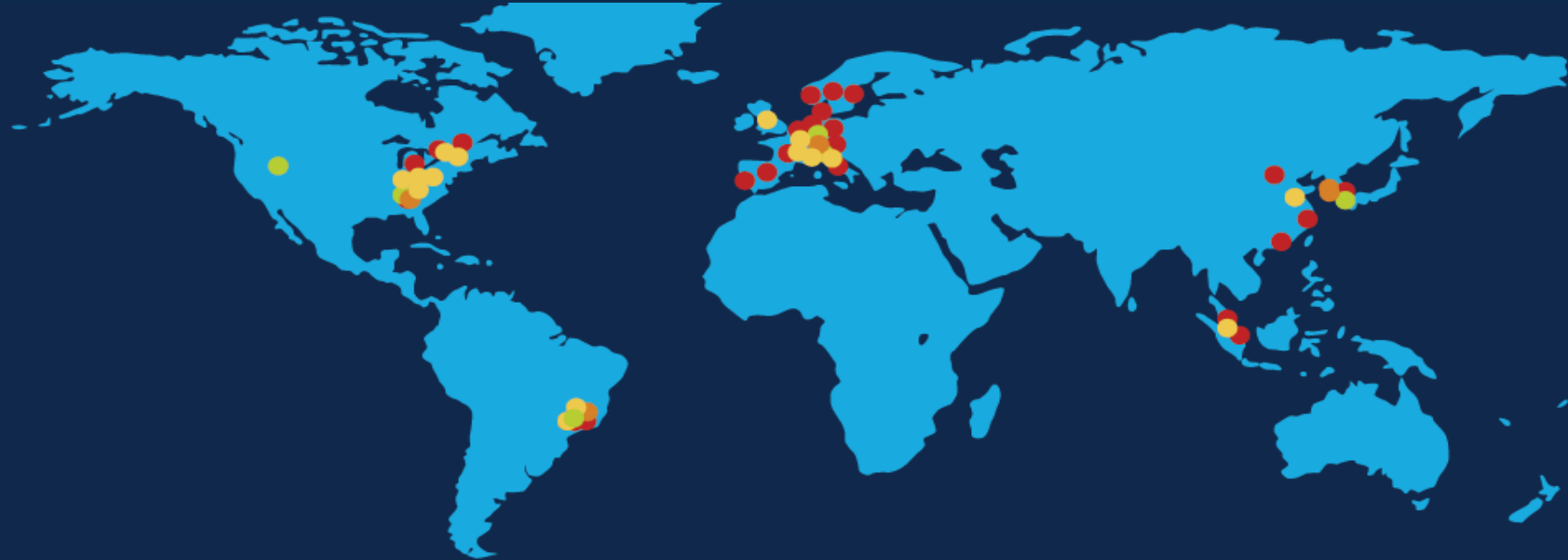
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 Automotive Value Stream - Novelis North America

Manufactured Materials of the Future: Optimizing the Material Mix for Mobility

Novelis

# Novelis is the Global Leader in Aluminum Sheet



Sales



Operations



Research &  
Technology



Executive  
Offices

Global Aluminum Leader In:



**Flat Rolled  
Products**



**Automotive  
BiW Sheet**



**Recycling**

# Global Automotive Aluminum Adoption

## Global New Vehicle Supply

Ford F-150  
Ford Super Duty  
Cadillac CT6  
Hyundai IONIQ  
Volvo XX60  
Jaguar XE  
Jaguar XF  
Land Rover Discovery  
Sport  
Mercedes C-Class



# Novelis: From "First Mover" to "First Choice"

## First Mover in Aluminum Mass Production



Investments in North America, Europe and Asia



Addressing concerns over mass production, safety, design, costs and consumer preference



## First Choice in Material Supply



Creating long-term business relationships



Taking advantage of the benefits of lightweighting and sustainability

# Aluminum in Lightweight Automotive Design

More and more, vehicles are moving toward multi-material construction to meet consumer demands and regulatory pressures.

Aluminum will continue to play **a pivotal role in the evolution of future vehicle design** because it delivers three key benefits to automakers:



Strength & Formability



Joining & Assembly



Recycling

# Applause for TAR



Continued acceleration for mass reduction initiatives and in the use of aluminum



The standard has not changed – only the math



Aluminum is appropriately recognized as one of the key materials that will be deployed by many OEMs to meet 2025 objectives



Mass reduction will continue to play important role

# Expanding Aluminum's Vehicle Penetration: 2017 Super Duty

Building off of the F-150 success,  
**Novelis + Ford** partnered to transition the full  
Super Duty line of trucks.

This release will be:



The **second largest**  
**aluminum-intensive vehicle**  
launch in the world



Part of the **largest**  
**close-loop recycling system**  
in the world



# Advancing Mixed Use Body Structures: 2016 CT6

Same final weight as smaller  
CTS



Mixed material construction  
body-in-white made up of 62  
percent aluminum



600 feet of advanced structural  
adhesives

