

<b>DOCKETED</b>	
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<b>Project Title:</b>	Tire Efficiency Order Instituting Information Proceeding
<b>TN #:</b>	237132
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## **Smithers Tire Testing Overview**

*Additional submitted attachment is included below.*



# Tire Testing Capabilities



# Smithers: Trusted global partner

Independent third-party **laboratory testing and consulting**  
Incisive **strategic consulting, market forecasting and events**



Successfully operating for over **90 years**



**700+** employees



**World-class facilities and expertise**



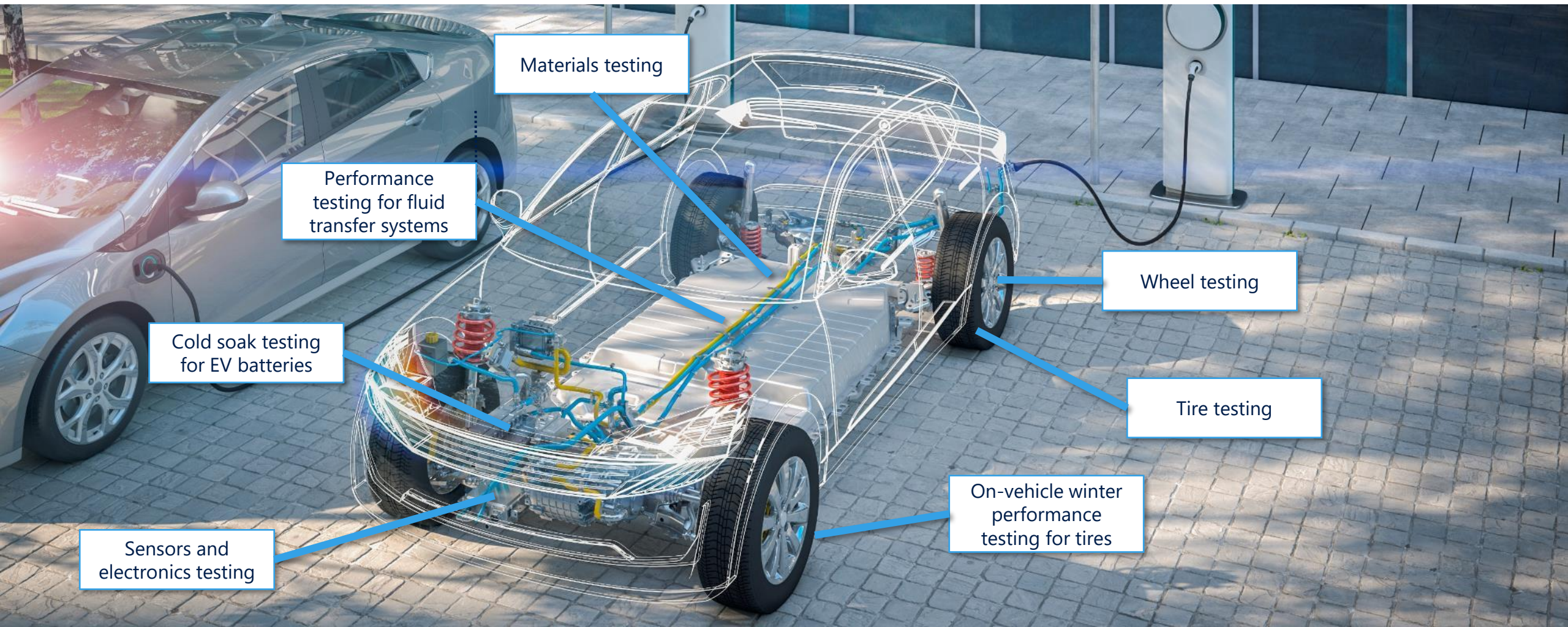
We **continuously invest** in our scientific and engineering talent



Our scientists and engineers are **experts** in their field.

# ICE and Electric Vehicles

Supporting development goals today in Europe, Asia, & North America





# Tire Testing Capabilities

# Tire Fuel Efficiency

- Rolling Resistance Testing
  - Smithers is the National Tire Reference Lab for Rolling Resistance (NHTSA)
  - Historically supporting tire benchmarking, NHTSA evaluations, labeling, and manufacturer development activities
  - Common testing standards
    - ISO 28580
    - SAE J1269
    - SAE J2452



# Tire Performance Testing

Government Compliance and Industry Standard Evaluations

Accelerated Aging	Laser Tread Profilometry (CTWIST)
Characterization for Tire Modeling	OEM Design Validation
Competitive Benchmarking	OTR Tire Testing
<b>Durability &amp; Endurance</b>	PRAT and RCF
Footprint	<b>Rolling Resistance</b>
Force & Moment	Snow & Ice Traction
Indoor Tread Wear	Subjective Ride & Handling
<b>Inflation Pressure Loss Rate (IPLR)</b>	<b>Tire Labeling Testing</b>





# Tire Regulatory Testing

- FMVSS No. 139 covers pneumatic radial tires for light vehicles other than motorcycles and low speed vehicles (GVWR less than or equal to 10,000 lbs). Establishes minimum requirements for:
  - Sidewall labeling
  - Tire strength
  - Resistance to bead unseating
  - Endurance
  - High-speed performance.
- FMVSS No. 119 establishes similar requirements for multipurpose passenger vehicle, truck, bus, trailer, and motorcycle tires.



# Tire & Wheel Testing Capabilities



Ravenna, Ohio (USA) | Suzhou (China)

# Smithers On-Vehicle Tire Testing

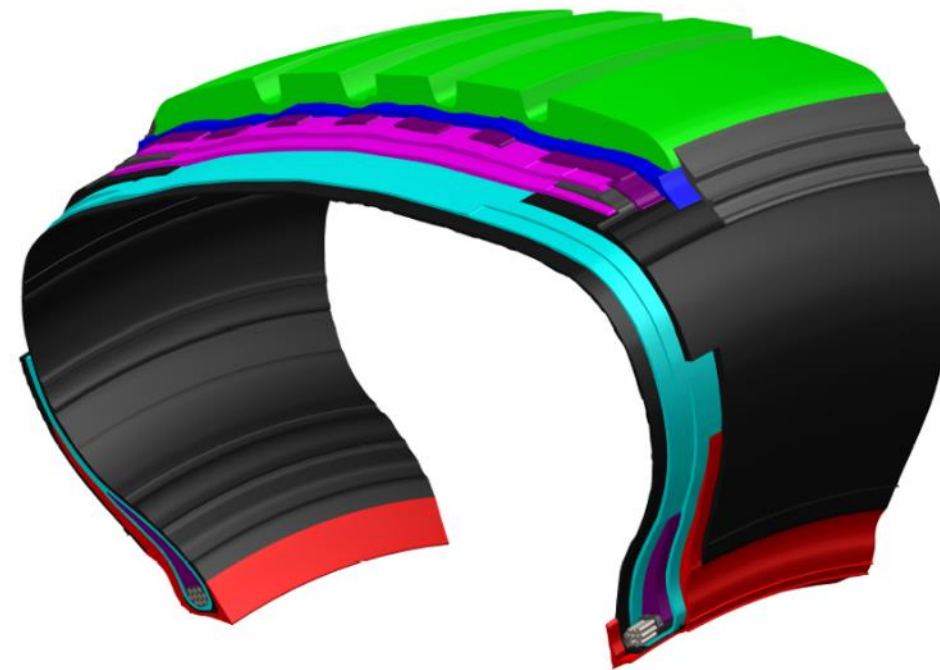
- One of the world's finest facilities of this type
- Over 800 acres in Michigan's Upper Peninsula
- Courses prepared to meet customer-specific needs – traction, braking, handling evaluations
- Extreme winter conditions / cold weather evaluations
- Varying course types including packed snow, ice, split mu, deep snow, hills, etc.
- Common test methods
  - ASTM F1805 / UN ECE R117 Snow Tire Traction
  - UN ECE R117 / ISO 18106 C3 Snow Traction
  - Stopping Distance Test & Snow and Ice Handling



# Tire Technical Consulting

With over 100 years of collective technical experience in the automotive, tire, and rubber and polymer industries, our scientists can assist with a wide variety of technology challenges.

- Product performance evaluation
- Forensic consulting
- Product failure analysis
- Product and process design
- Patent review and patent investigation
- Compound development and formulation
- Test development
- Competitive analysis
- Cost reduction



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