

Fuel Systems for Mobility 2023

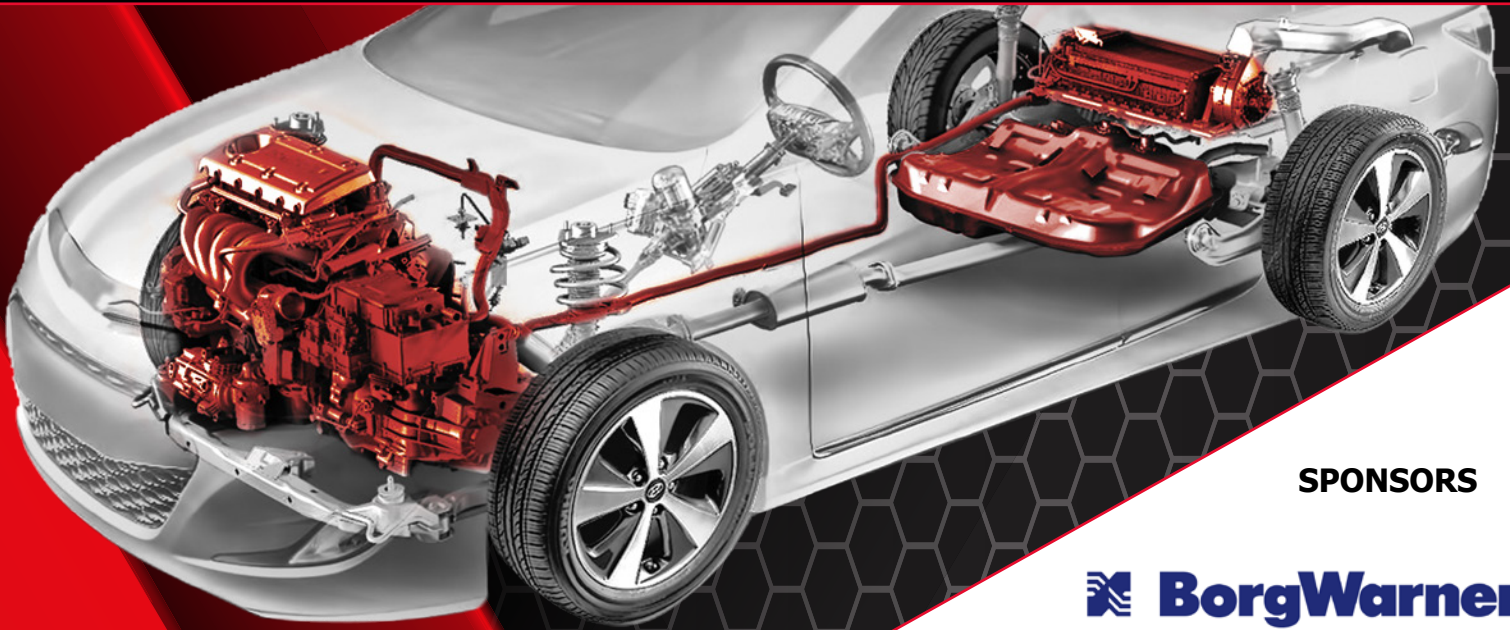
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— In-Person March 2, 2023 —

Final Program



 **The Sheraton Detroit Novi Hotel - Novi, Michigan USA**



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Program Agenda - March 2, 2023

7:45 a.m. Registration, Networking, and Continental Breakfast

8:50 a.m. Welcome and Opening Remarks
*Dr. Joel Kopinsky, Managing Director and Co-Founder - **The ITB Group***

On-Board Hydrogen Storage and Refueling

9:00 a.m. The Challenges in Hydrogen Transport & Storage, and the Benefits of Conformable Hydrogen Tank Technology

Supply Chain & Product Lifecycle Lead
Noble Gas Systems

The use of large, cylindrical hydrogen tanks on-board a vehicle is a significant barrier to the adoption of hydrogen. Conformable tank technology has several key benefits, including a greater overall volumetric storage density, a leak before burst failure mode which improves safety, recyclability, together with reduced cost.

9:30 a.m. Helping Hydrogen Refueling Stations Tackle Pressure Management Challenges

Product Marketing Manager
Emerson Tescom

Hydrogen fuel will require the availability of safe, fast and reliable refueling stations. Valve and pressure regulators will be described including captured vent ports, position indicators and electropneumatic regulator control that prevent explosion hazards. Cover valve reliability via cycle testing (ISO 19880-3 standard) and easy valve maintenance will be elaborated.

10:00 a.m. Hydrogen Storage for Long Haul Truck Applications – The Challenges and Opportunities of Gaseous and Cryogenic Solutions

ZE Hydrogen Storage Systems Chief Engineer
FORVIA

Capabilities for heavy duty fuel-cell vehicles with a full hydrogen powertrain, including a complete 700 bar hydrogen storage system (80 kg hydrogen) and fuel cells (Symbio StackPack) have been established. Challenges to develop systems that meet diesel truck driving ranges and refueling station availability will be described including cryogenic storage systems.

10:30 a.m. How Rotomolding Can Meet the Challenging Demands of Hydrogen Storage for FCEVs

Business Development Engineer
Arkema

The use of rotomolding for Type IV hydrogen tank liners presents unique rotomolding challenges.

Developments in both processing and material technology are required to achieve the demanding performance and productivity criteria. A solution will be described that includes these developments together with Persico's SMART technology.

10:50 a.m. Networking Break and Refreshments

Developments in Fuel Systems

11:30 a.m. New Developments for Low Bleed Canister Applications

EVAP Engineering Manager
BorgWarner

Evaporative emissions regulations including the new Euro 7 will be summarized. New low bleed emission materials will be described together with alternative measurement techniques. These methodologies shorten development time and enable a quick assessment of the tested adsorption materials.

12:00 p.m. A Study on Fuel System Unit Test Method Using Six-Axis Motion Platform

Senior Engineer at Fuel Design Team
Hyundai Motor Company

A six-axis motion platform has been developed to properly simulate real vehicle movements including large accelerations and potential fuel overflow. The new test apparatus and methodology will be described.

12:30 p.m. Fuel Systems and Financing Innovation

*Dr. Joel Kopinsky, Managing Director and Co-Founder - **The ITB Group** and Investment Manager, Technology Investments*
Magna International

Government regulations for emissions continue to evolve, fuels change, and efforts are increasing towards the use of hydrogen as a fuel. An interesting dynamic is occurring as interest grows in both hydrogen-based fuel cells or combustion engines. Multiple levers for technology development exist: internal R&D, M&A, JVs, licensing, and corporate venturing. This presentation will highlight the moves towards electrification and alternative fuel systems and will conclude with a discussion of the approaches to cost effective innovation.

1:00 p.m. Lunch

2:00 p.m. **KEYNOTE PRESENTATION**

Mobility Innovation: Current Practices and Engineering Futures

Research Associate, Innovative Mobility Research Group

University of California, Berkeley

The convergence of automation, electrification, and alternative fuels are quickly reshaping how people move and how goods are delivered. However, it can be difficult for manufacturers, suppliers, and policymakers to keep up with the pace of change. This presentation will feature the latest developments and trends in mobility innovation inspiring participants to rethink traditional notions of transportation, access, and mobility.

Fuel Cell Vehicle Developments

2:30 p.m. **Commercial Fuel Cell Vehicle Deployments**

Director of Sales and Business Development, North America

Ballard Power Systems

Over 3,600 Ballard-powered fuel cell buses and trucks are now deployed that have accumulated more than 100 million kilometers. This has provided significant operational, reliability, and durability data. An update on the deployment of commercial fuel cell vehicles including opportunities and challenges will be described.

3:00 p.m. **Dedicated Specialty Polyamide-solutions for Hydrogen Fuel Lines in FCEVs**

Business Development Manager, Automotive and Mobility

Evonik

Innovative material such as specialty polyamides and tubing solutions for hydrogen fuel lines will be described. Solutions to meet the severe performance requirements for such applications will be explained.

3:20 p.m. **Networking Break and Refreshments**

Fuel Cell Market Developments

3:45 p.m. **Customer-Centric Vehicle Design and Fuel Cell Integration: The Key to Deploying Hydrogen-Electric Fleets**

Director of Business Development, North America

Loop Energy

Technical and business issues with pioneering a new technology such as the use of hydrogen fuel are stalling the deployment of hydrogen-electric fleets in North America. The catalyst for the transition to clean fleets will be a customer-centric approach to vehicle design and fuel cell integration. A collection of customer case studies will be reviewed that accelerate the go-to-market timeline for deploying hydrogen-electric fleets.

4:15 p.m. **Green Hydrogen for Mobility: Markets and Use Cases**

Vice President, Sales & Marketing, Americas

Nel Hydrogen

This presentation will provide an overview of green hydrogen electrolysis and H2Fuel® technologies, as well as current hydrogen markets. The value proposition of hydrogen fuel in various mobility sectors will be discussed.

4:45 p.m. **Mobility and Transportation: E-fuels and the Role Hydrogen Plays**

Technical Sales Manager and Business Development for Sustainable Energy Systems

Siemens Energy

Targeting the mobility market, Proton Exchange Membrane (PEM) electrolyzers are producing green hydrogen. This can be converted into an e-fuel (e-methanol, e-ethanol, SAF) as a substitute for traditional fossil fuels in existing vehicles. This session will introduce Siemens Energy's hydrogen technology and how it can effectively be used as a clean and reliable fuel source for the mobility market.

5:15 p.m. **Closing Remarks**

EXHIBITORS

Arkema

Evonik

Merit Sensor Systems

TDK Sensors

BorgWarner

Kuraray

Polyplastics

VEXAGroup

Eaton

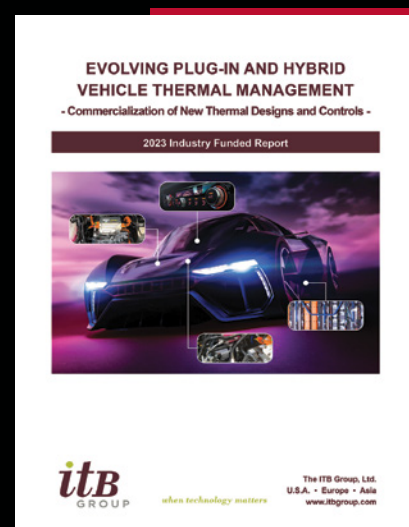
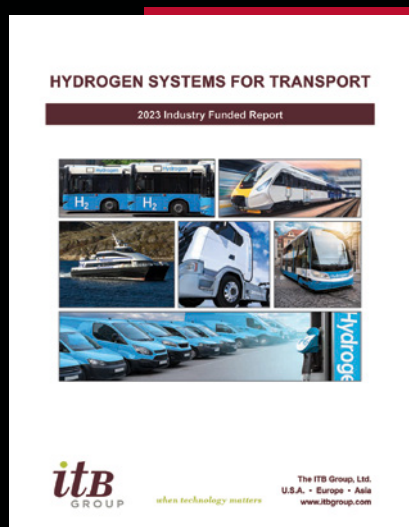
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