The Globalization of the Automotive Industry: Examining the Recent Past, the Current State, and Future Trends

“Focus on the Future”
UM Automotive Research Conferences

WELCOME!

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## Automotive Futures Affiliate Program

### Affiliate Members

- Argonne National Labs
- Borg Warner Inc.
- Bosch Corporation
- Denso Corporation
- FCA LLC
- Ford Motor Company
- ITS America
- Oracle Corporation
- UAW-Ford
- Valeo Corporation
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Research Partners

IT Organizations
- HP
- IBM
- Oracle Corporation
- Siemens-PLM

OEMs
- FCA LLC
- Ford Motor Company
- General Motors
- Nissan Tech Center
- Toyota Tech Center

Government/NGOs
- Argonne National Labs
- CALSTART
- CARB
- Energy Foundation
- Federal Motor Carrier
- The Hewlett Foundation
- ICCT
- NRDC
- Michigan DOT
- NREL
- NSF

Government/NGOs
- Union of Concerned Scientists
- US Army-TARDEC
- US DOT
- US EPA
- US DOE
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Suppliers
BASF
BorgWarner
Bosch
Chevron
Continental
Denso
Dana
Delphi
Dow
Eaton
JATCO

Suppliers
JCI
Lear
Magna
Means
Michelin
Peterson Spring
TRW
Yazaki
Visteon
Valeo

Consultants
AT Kearney
AVL
FEV
McKinsey
Ricardo
Roland Berger

UMTRI
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Affiliate Program

Recent Affiliate Members

FCA
Ford Motor Company
Green Traffic Management
UAW-Ford

Thank you for your support!
Automotive Futures
Current Research Programs

- Globalization
  - Shifting Strategies: The Big Three in ASEAN
  - Establishing Production in North America: Challenges for Overseas Assemblers and Suppliers and Implications for the Domestic Automotive Industry
  - Workforce Planning for a Global Automotive Economy
  - Inside China and Inside India reports
  - Inside China conferences for 8 years
  - Inside India, Brazil, Russia, Japan conferences
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Current Research Programs

• Powertrains
  • 2014-2015 Powertrain Strategies for the 21st Century Survey (Sponsor: Affiliates)
    • Survey results distributed to Affiliates

• Total Cost of Ownership: Comparing Diesel and Gas Vehicles (Bosch)
  • Based on resale value of 30K vehicles sold through Mannheim auctions in 2012 / 2013
  • Report available
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Current Research Programs

• ITS
  • Stuck in Traffic: Analyzing Real Time Traffic Capabilities of Personal Navigation Devices and Traffic Phone Applications
    • Final report available

  • Integrated Mobile Observations: Micro-level weather reporting using cell phones in MDOT vehicles (Sponsor: MDOT and FHWA)
    • Report available
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Current Research Programs

• ITS
  • Roadway Evaluation Project: Measuring road roughness via accelerometers in cell phones mounted in MDOT vehicles
    • Final report available
  
  • Deploying Safety Technologies in Commercial Vehicles
    • Familiarity and penetration currently and in the future of: Forward Collision Warning / Lane Departure Warning / Blind Spot Detection / ESC / Vehicle Communications
    • Final report available (Sponsor: ITS America)
Automotive Futures Researchers

- Visiting Researchers:
  - **Janghwan Shin (Korea): LG**
    - Focus on the future trends in vehicle batteries: What will be the next generation vehicle battery?
    - Supporting the next Powertrain Strategies for the 21st Century conference in July, 2016 on the theme of next generation vehicle batteries
  - **Sergio Goncalves Muniz (Brazil): Federal Technology University of Parana**
    - Focus on global efforts to support electric vehicles: What policies and/or incentives are the most effective?
Automotive Futures
Researchers

• Student Researchers:
  
  • Alexa Kershenheiter: Sophomore, Mechanical Engineering
  • Working on pre-conference analyses: China 2014 Production data, China auto manufacturer information, and Powertrain Strategies for the 21st Century Survey analysis and results preparation
Upcoming UMTRI-AF Conferences

• July 20, 2016: *Powertrain Strategies for the 21st Century.* Our 8th annual conference will provide an overview of all the electrification progress that has been made in the global auto industry.

• September 14, 2016: *The Future of Automotive IT: Driving Organizations, Vehicle Development, and Connected/Autonomous Vehicles.* Our 8th annual conference focused on the Business of IT shows the different sides of automotive IT and how it continues to change automotive organizations and vehicles.
Upcoming UMTRI-AF Conferences

- November 9, 2016: *Inside China: Understanding China’s Current and Future Automotive Industry.* Our 9th annual Inside China conference has traced the rapid rise of the Chinese auto industry. The largest automotive market in the world is such a unique market that it demands that we continue to examine both its current and future trends from a variety of perspectives: consumer choice, marketing, product development, government support and regulations, alternative energy, automotive research and development, industry structure, labor, economic impact, and manufacturing.

- February 15, 2017: *New Mobility Conference.* Our 3rd annual New Mobility conference in collaboration with UM-SMART will investigate new modes of transport that support sustainability as well as transport.
Upcoming UMTRI-AF Conferences

• April, 2017: In Celebration of UM’s 200th Anniversary: UMTRI-AF and the UM Japan Center will put on the conference that examines the past, present, and future relationship of the Japanese auto industry to the US and the UM.
Upcoming UMTRI-AF Conferences

The UM Alumni Discount

Alumni who sign up in advance for five conferences in a row receive a $250 discount.
9:00am  **Bruce Belzowski**, Managing Director, Automotive Futures, UM Transportation Research Institute

- **Tommaso Pardi**, Director, GERPI SA: The International Network of the Automobile
- **Alan Taub**, Professor of Materials Science, Department of Materials Science and Engineering, University of Michigan
- **Mike Jackson**, Director, IHS Automotive NA Forecasting

Break (15 minutes)
Conference Presenters/Schedule

- **Thomas Klier**, Senior Economist at the U.S. Federal Reserve Bank in Chicago
- **Philippe Byosiere**, Centre of Excellence Chaired Professorship at the Doshisha Business School, Doshisha University-Kyoto, Japan
- **Michael Smitka**, Professor of Economics, Washington and Lee University

- **Conference Q&A**

  1:30pm  Lunch
  2:30pm  Adjourn
Globalization of the Automotive Industry

- It’s not just about sales and production, but these are drivers of globalization.
- It’s not just about trade agreements, though these can have dramatic effects on labor and plant placement.
- How have automotive suppliers and manufacturers globalized their operations in terms of global R&D, product development, purchasing, manufacturing, and marketing?
- How are new auto countries that are joining the global auto industry developing their industries?
- What will be the trends in the near term (over the next 5-10 years)?
Conference Questions

• What are the main challenges and opportunities companies face as they globalize in the 21\textsuperscript{st} century? Are they different from the 20\textsuperscript{th} century?

• What are the critical factors on a company level that determine success of a globalized function?

• What makes some companies successful while others not in globalizing?

• How do companies manage integrated global functions?
Conference Questions

• How does globalizing R&D differ from globalizing other functions?

• Generally, how have industry platform strategies changed over the past 15-20 years?

• How have individual companies changed their platform strategies over the past 15-20 years?

• What have been the outcomes of platform strategy changes?
Conference Questions

• How have manufacturers managed their near shore manufacturing footprints in the US and the EU?
• What have been the effects of these extended footprints on home country production?
• How much do millennials value automobiles?
• What does a lessening of interest in automobiles by millennials mean for future sales?
Conference Questions

• Which auto companies have been the most successful in the Chinese market?
• How successful has the Chinese government been in creating auto company “champions”? 
Post Conference Mailing

**Attendees:**
- Link to presentations
- Link to 2016 GERPISA conference info

**Affiliates:**
- The above items
- Link to a document that shows the abstracts from the 2015 GERPISA conference
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The Link to Presentations Will Be Emailed This Weekend