

Report

Reinventing the Industrial Heartland: Supply Chain Sustainability and the New Automotive Industry

Thursday, October 6, 2011

Room 221 • Fluno Center • 601 University Avenue • Madison • WI

Conference Goals

- Validate supply chain regulation through the Bavaria experience
- Explore the state's role in mobility and the auto of the future, through the German experience

Background

This conference for 50 selected invitees, plus presenters, addressed Germany's long-term view of and investment in the auto industry through supply chain management, public policies and innovative technologies to help the Industrial Heartland reinvent its own auto sector.

The auto industry is central to the US and German economies. Restructuring has allowed the US sector to catch its breath. But questions remain about its future, especially in an energy-constrained world.

The Heartland's strengths in manufacturing, government and higher education can be leveraged to reinvent the auto sector to produce high tech vehicles for a new mobility infrastructure. In this strategy, the auto is a sustainably built, high tech component in a knowledge-driven system.

Invitees

Persons were invited who had an interest in making the right autos for the times and creating the public policies and infrastructure to support their manufacture and use. Attendees came from Wisconsin, the Midwest and Germany. Individuals representing the following categories were invited through the Wisconsin Economic Development Corporation, Wisconsin Department of Natural Resources, American Council of Germany, UW-Madison Office of Corporate Relations, and the Center for German and European Studies, La Follette School of Public Affairs, Engineering Department and others:

Industry

Germany, US, Asia, other; original equipment manufacturers (OEMs); suppliers of all sizes and all products; German firms with US holdings; US firms with German holdings; research and development;

Vehicles

Urban and non-urban uses; engine; body; structural; interior; drive and power train; design and use; electrical energy conversion; electronics for human and vehicle use; power electronics;

mobility internet; materials: plastics, bio-plastics, metals, ceramics, renewable and non-renewable; vehicle reuse and recycling; safety of user and others;

Vehicle electronics

Ignition, fuel injection, collision avoidance, navigation, suspension, transmission, entertainment, braking, steering, communications, safety, noise, security; wireless;

Energy

Electrical energy conversion; renewable and non-renewable sources; distribution and availability; use and storage; smart grids; smart streets; pricing; load management; co-generation; distributed generation;

Sustainability

In design, manufacture, use; supply chain – water, materials, energy, emissions; jobs, wages and benefits; community value; cradle to cradle; life cycle assessment;

Infrastructure

Urban design and planning; smart buildings, parking strategies and application; navigation; congestion and traffic management; mobility on demand; inter-model use and transfer; space efficiency; open road design, materials, construction and use;

Supply chain

Engine, body and structural; electronics and electrical; interior; transmission; axles and drive shafts; climate control; suspension; braking; steering; wheels and tires; fuel systems; passenger restraints; exhaust; glass;

Human values, behavior and capacity

Consumer; user; driver, non-user; community; investor; worker;

Inputs' logistics

Raw materials, suppliers' products, labor, finished products, recycling;

Risk

Business, investor, public, user;

Regulatory and government

Energy, transportation, infrastructure, safety, environment, health, labor; negative externalities; communications; empowering and enabling regulations; regulatory metrics; public administration; utility regulation;

Leadership and organizational management

Strategy, management, change management; organizational innovation;

Information technology

GPS; web; social networking; navigation; in-vehicle business; telecommunications; information processing;

Education

Technical; higher; workplace; training; community; research and development;

Human behavior

Users; age; geriatrics; ergonomics; mobility on demand; transformative; range fear, the driver's fear of running out of electrical energy;

Law and public policy

Federal, state, local; regulatory; fiscal; revenue; governance; costs-benefits; experimentation and transformational; trade policy;

Economics and finance

Marketplace/consumers; government cost-benefit over time; industry; investment of all kinds from all sources domestic and non-domestic; pricing; land and buildings; pricing of time, energy, use; trade; intellectual property; building and road construction industry; parking strategies; research and development; business modeling; cluster management;

Auto media and associations

Trade; manufacturers, dealers, suppliers; users.

While not all of the above categories were ultimately represented in attendees, the database of attendees and invitees will be managed and expanded to support next steps that result from the conference to meet the goals of the conference.

Pre-Conference Meeting

At a pre-conference dinner attended by presenters on October 5, 2011 at the Wisconsin Institutes for Discovery (WID), **Dean Gilles Bousquet, UW-Madison Division of International Studies**, welcomed the presenters and outlined the importance of the conference and the joint roles of business, government and regulation. **ACG President William Drozdiak** discussed the challenges facing the auto industry in the Midwest today, how Germany has responded to similar challenges, and why leveraging the Midwest's existing strengths matters economically and environmentally. The venue of the dinner was deliberately chosen: WID is the nation's premier integrated research facility in a public university. It symbolizes the importance of holistic thinking about not just the automobile of the future but mobility in the future, so as to take into account the intersection of engineering, energy, urban design, personal health, environmental well-being and the public policies that support sustainable approaches to business and society.

Program

Welcome: Neil Heinen, editorial director at WISC-TV in Madison, welcomed everyone and posited the major challenge: Is there a chance for partnership among businesses, regions, state agencies, local government and university officials, modeled after the global partnerships forged by Germany to keep its status as the world's automaker? **ACG President Drozdiak** welcomed the group, advising it that the relationship between Germany and the United States was more important than ever, especially since America invests more money in Germany than in China and India combined. He said each country could learn from the other. **Dean Bousquet** emphasized the historic ties between Germany and the United States, particularly invoking the German model of education as the inspiration for the land-grant universities of the last century.

Setting the Stage: In setting the stage for the discussion, **ACG President Drozdiak** noted that, despite the growth of China and India, Europe is still consequential. He also said the relationship between Germany and the United States is more important than ever and that partnership needs to be leveraged for both countries. He said America can learn from Germany, particularly on how to train and retain craftsmen, while Germany can learn from the US on things such as immigration and integration. **Richard Longworth, senior fellow, Chicago Council on Global Affairs**, told attendees that the Midwest needed a new vision. He said the area was once the Silicon Valley of the nation and created vast wealth for the country. He challenged everyone to think beyond artificial boundaries of cities or states, the way the Europe has, and start solving issues of infrastructure and education, among others on regional, national and global scales. **J.D. Bindenagel, vice president, De Paul University, and a member of the board of German-American Chamber of Commerce in the Midwest**, provided a snapshot of the 1,300 German companies in the Midwest, noting that having trans-Atlantic partners will help the US continue its manufacturing prowess. He emphasized that the long term growth prospects were positive in both Germany and the United States. During the Q&A, speakers pointed out that the unified power grid in Germany made local production of energy through wind and solar a popular option.

The Supply Chain/Web of the Future: In the first panel, **moderator Douglas Fisher, a Marquette University business professor and director of the Center for Supply Chain Management**, told attendees that the supply chain was subject to many pressure points: risk, financing, global politics, global demand, currencies, piracy, labor unrest, recalls and more. He urged attendees to consider all steps of the supply chain, including operations, purchasing, logistics and the consumer end. **Professor Gary Herrigel of the University of Chicago** showed a power-point presentation that noted America does a good job creating rocket scientists, but not such a good job with lower level of technicians who are needed in industry and must be flexible. In comparison, Dr. Herrigel noted that Germany has been very successful in training not only high caliber engineers, but also many technically competent workers in specialized industries, especially those that feed the automobile OEMs. He said a trend of “backshoring” was taking place, presenting manufacturing opportunities for the US. The opportunities can be developed through quality-driven supply chain management, facilitated by supportive public policies. **Mathew Alagna, CEO of Thomas Magnete USA**, also showed a power-point and noted that private companies are able to invest in their employees easier than waiting for the public sector to react.

Auto/Mobility of the Future: At the beginning of the second panel, **UW-Madison Professor Robert Lorenz**, outlined the work and history of the **Wisconsin Electric Machines and Power Electronics Consortium** which he co-directs and its long relationship to Germany. That was followed by a challenge to Wisconsin to act. The challenge was presented by **Lee Swindall, vice president of business and industry development for the Wisconsin Economic Development Corporation** who connected the conference content to state economic strategy by this question: What plan and associated actions will be required to synergize the industry knowledge and abilities of domain specialists such as BMW and Johnson Controls to bring the first generation of electric-powered vehicles utilizing advanced energy storage technologies to Wisconsin and beyond? Then **Manuel Sattig, of the BMW Group in Munich, and Steve Vielmetti, vice president, strategic supply chain, for Johnson Controls**, shared their experiences as an auto maker and tier one auto supplier, respectively. They discussed the material, energy and technology components of the auto of the future, how it is made and how it operates in a new mobility system. Among the issues discussed: energy, materials, design, manufacture and operation in new infrastructure. In the Q&A that followed, questions were raised about pursuing change through modes pilot projects on “hot core” issues for Wisconsin,

followed by a longer term strategy. Other items discussed included policies on rare earth elements, behavioral economics and business leadership.

Keynote speaker: After lunch, **Peter Schneider, a renowned author and commentator from Berlin**, gave the keynote giving context to the themes of all three panels. The speaker addressed the revitalization of the US Industrial Heartland in the context of globalization, drawing on the German experience in all of its dimensions: economic, environmental, cultural, governmental, political and technological. The Heartland will deal with the automotive industry and the challenges it faces by finding a balance between reinvesting in manufacturing and job creation on one hand and the urgency of creating new vehicles that are energy efficient on the other. Schneider emphasized the importance of the automotive industry to both the US and German economies and highlighted ways in which each can benefit from an exchange of information.

The Role of Government: In this third and final panel, moderated by **Professor Graham Wilson of Boston University**, an expert on regulatory innovation and its relationship to economic development, the focus was on the experiences of Bavaria in creating regulatory policies that are conducive to sustainable supply chain management and meeting the needs of industry. **Dr. Matthias Weigand, head of cross-sectoral law for the Bavarian State Ministry for Environmental Protection and Public Health**, described in a power-point how a new way of thinking about a regulatory system can produce sustainable economic value while maintaining environmental standards. He also emphasized finding new systems that help government agencies deal with limited staff and fulfill their public duties such as environmental protection. **Manuel Sattig, of BMW**, responded and supported the comments. That discussion was preceded by a challenge to the state from **Cathy Stepp, secretary of the Wisconsin Department of Natural Resources**, to move quicker and smarter on regulatory issues.

Future Steps: At the end of the day, summary statements were made by **ACG's William Drozdiak, Secretary Stepp and Mike Klonsinski, chief operating officer for the Wisconsin Economic Development Corporation**. Drozdiak said he found the day's conference to be a useful model for ACG and its 18 chapters which are pursuing other questions such as financing, smart grid, and solar energy. He emphasized the similarities between small and medium sized businesses in Wisconsin and Germany's Mittelstand businesses and said the links were worth exploring in the future. Stepp and Klonsinski said they expected to work with each other across agencies to pursue some of the findings and future work outlined in the assessment (below).

Assessment

As a result of the ACG conference:

1. **Dr. Matthias Weigand of the Bavarian Government** has invited, with a formal invitation to follow, the State of Wisconsin to send a delegation to Bavaria in 2012 to learn more about the Bavaria Pakt, Bavaria's cross-sectoral voluntary regulatory innovation agreement, and how it could fit into the sustainable supply chain public policy goal as a part of the state's Green Tier law announced by **Natural Resources Secretary Cathy Stepp**;
2. **Natural Resources Secretary Cathy Stepp** announced the agency's intention to eliminate unnecessary steps and costs in permitting and other functions, learning from the administrative experience in Germany and the United States and reallocating the

savings of employee time and money into environmental problems that the existing system is not addressing well;

3. **Manuel Sattig of BMW** has invited a Wisconsin delegation to visit its headquarters in Munich and its facility in Leipzig to learn about the auto of the future and its environmentally-friendly mobility strategy;
4. **Prof. Bob Lorenz, co-director of the Wisconsin Electric Machines and Power Electronics Consortium based at the University of Wisconsin-Madison's** auto research program in the College of Engineering, will gain state support to accelerate and expand its relationships with Germany's auto industry;
5. **Officials in Wisconsin state government**, experiencing a skill and worker shortage in manufacturing, will determine ways to learn about Germany's successful experience with workforce training and placing persons in small and medium sized manufacturing businesses;
6. **William Drozdiak, president of The American Council on Germany**, announced the council will work with Wisconsin on an event and strategy to link and serve the Mittelstand businesses that have great similarities and are the economic backbone of both Germany and Wisconsin, an announcement that was well received by the **Chief Operating Officer of the Wisconsin Economic Development Corporation, Mike Klonsinski; Dr. Elizabeth Covington, chair of the Warburg Chapter and Natural Resources Secretary Cathy Stepp**;
7. **Elizabeth Covington, chair of The Warburg Chapter of the American Council on Germany at the University of Wisconsin in Madison**, will direct the use of the attendee and invitee database from the conference to build communities of interest in three areas: Mittelstand businesses; sustainable supply chains; automobile of the future, serving state government, businesses and the academic community;
8. **Lee Swindall, vice president of business development for The Wisconsin Economic Development Corporation**, announced that it will develop ways to synergize industry and knowledge and ability of domain specialists such as BMW and Johnson Controls, Inc. to bring the first generation of electric-powered vehicles utilizing advances energy storage technologies to Wisconsin and beyond.

Media coverage

The conference generated multi-media coverage. WisBusiness and WisPolitics, a web-based subscription news service marketed to high level government, business and newsmakers in the state, announced the conference and sent a reporter to cover it, generating a news story. WISC-TV featured the conference in a half hour public affairs program. A UW-Madison auto researcher and the chair of the Warburg Chapter of the American Council on Germany were interviewed. A supportive editorial was broadcast afterwards.

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