

# Automotive Front-End and Cooling Modules

## 2004



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# Final Program

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The Dearborn Inn  
Dearborn, Michigan  
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# Automotive Front-End and Cooling Modules 2004

Automotive Front-End and Cooling Modules 2004 is a forum that will aid industry participants to improve their perspective of the integration and technologies incorporated in today's front-end and cooling systems. This forum, in one day, offers unprecedented networking opportunities in a thought provoking environment. Leading suppliers from the industry will offer their insights and will exhibit their technologies.

## AGENDA

*Please note that conference proceedings will not be available*

7:30-

8:45 a.m. **Registration and Continental Breakfast**

8:45 a.m. **OPENING REMARKS -**  
*Mitra O'Malley, Principal*  
*The ITB Group*

### Cooling System Developments

9:00 a.m.  
**The Design Optimization of Engine Cooling Modules for Integration into Larger Systems and for Sequential Part Delivery**

*Modine Manufacturing (U.S.A.)*

OEMs are seeking means to streamline their supply chain to optimize value. One available method is the sequential JIT delivery of complete modules or sub-systems to their assembly lines. The design for assembly of engine cooling heat exchangers within the cooling module or FEM is another focus area for optimizing value. In this presentation both of these methods are considered either independently or in combination to improve the ECM-to-FEM-to-OEM value chain.

9:30 a.m.  
**Plastic Coolant Line Improves Engine Performance**

*Dana Corporation (U.S.A.)*

*EMS-GRIVORY (U.S.A.)*

Traditional engine coolant lines constructed of rubber and/or metal pipes connected to rubber hoses have been the industry standard for decades. A new application for plastic hose products to replace rubber in engine cooling systems that offers an economically attractive alternative to rubber, with significant improvements in weight, recyclability, assembly, packaging, and product performance will be discussed.

10:00 a.m.

**The Current State of Engine Coolant Technology**

*Honeywell (U.S.A.)*

Engine coolants continue to evolve in the market place. Currently there are conventional, organic acid and hybrid organic coolants. This presentation will provide an introduction to the chemistry of engine coolants, the challenges facing the development of coolants and an overview of the various coolant technologies.

10:30 a.m. **Mid-Morning Break**

### Material Technologies and Carrier Processing

11:00 a.m.

**Designing with Plastic-Metal Technologies for Front-End Systems**

*Lanxess Corporation (U.S.A.)*

Plastic-Metal technologies have grown in popularity as a way to modularize front-ends worldwide. In the year 2008, roughly 25% of passenger cars and 8% of trucks will have a front-end structure utilizing plastic-metal technologies. The modeling and analysis of plastic-metal structures will be discussed in this presentation. Recommendations on how to design the injection molding tool for the metal inserts will be addressed.

11:30 a.m.

**Methodology to Find the Most Suitable Front-End Module Technology**

*Sintex Automotive Engineering (Spain)*

Sintex Automotive has created a methodology to help develop front-ends. This efficient decision making tool can be used to address and clarify key variables in order to devise the most suitable technology to apply to each front-end application.

**12:00 p.m.**

### **BASF Collar Joining: A New Plastic/Metal Hybrid Technology**

*BASF Corporation (U.S.A.)*

A new collar joining system for plastic/metal hybrid technology in front-end modules has been developed that provides for a simple, economical and efficient way of joining plastic and metal components. The basics of the technology, its mechanical performance, the potential advantages, and its application to front-end modules will be discussed.

**12:30 p.m. Lunch**

**1:30 p.m.**

### **Highly Loaded Short Glass Fiber Polyamide vs. Long Glass Fiber Compounds in Automotive Underhood & Structural Applications**

*Lanxess Corporation (U.S.A.)*

Long glass fiber reinforced engineering thermoplastics are making significant inroads into automotive structural applications. Key drivers include strength, stiffness as well as perceived cost and weight advantages. This presentation will highlight the similarities and important differences between polymer type and performance attributes. FEA models will be used to highlight these differences.

**2:00 p.m. KEY NOTE SPEAKER**

**Front-End Module Development: Innovation in System Integration**  
*HBPO North America (U.S.A.)*

Front-end modules have evolved from an assembly of independent components, each of them assuming a different function, to a more integrated unit. This trend will further accelerate in order to cost-efficiently fit more features into a tighter packaging space and to meet or exceed new regulations including pedestrian protection requirements. This presentation will address this trend and discuss the advancements and innovations of the integration of carrier technologies, powertrain cooling, bumper and lighting systems into a front-end module.

**2:40 p.m. Afternoon Break**

**3:00 p.m.**

### **Front-End Module Integration: Role and Perspectives for the System Supplier**

*Faurecia (France)*

As the front-end module market grows in Europe, Asia and North America, the role of the FEM supplier is evolving as a result of changes to OEMs needs, Tier 1 capabilities and industry requirements. Such changes affect primarily the level and scope of responsibilities in the design integration, supply base management, technical content, and manufacturing quality. This presentation will comment on the front-end module integrator's evolving role and the implications in specific areas such as supply chain, perceived quality, and module architecture.

**3:30 p.m.**

### **Open Architecture and Front-End Module Implementation**

*Expert Corporation (U.S.A.)*

This presentation illustrates Expert's experience and know-how in implementing a front-end module into an open architecture and details early design issues up to the manufacturing of the front-end module.

**4:00 p.m.**

### **A Paradigm Change is Required to Realize the Expected Value from Modularization**

*Valeo (France)*

Tier Ones have invested a huge amount of resources to provide the OEMs with value added innovations. This strategy can be very risky for the module supplier. This presentation focuses on the results of two case studies managed by Valeo. One study was conducted with a cost driven OEM and the other with a performance driven OEM.

**4:30 p.m.**

**Closing Remarks  
Cocktail Reception**

## Exhibitors:

**Alcan**

**Dow Automotive**

**ISE Innomotive Systems**

**BASF**

**Empire Electronics**

**Lanxess**

**Dana Hose and Tube**

**HBPO North America**

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# Consulting Expertise



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