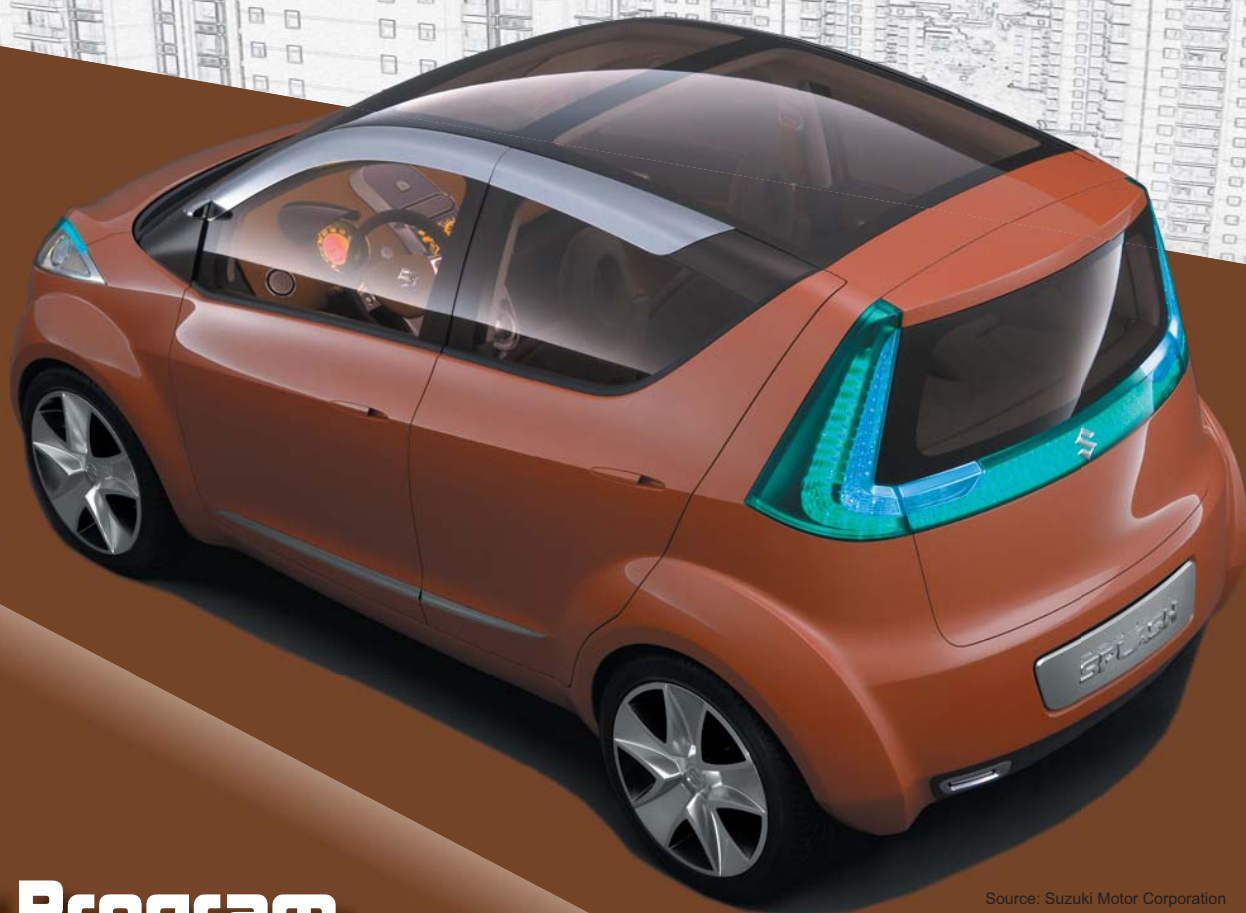


# Above-The-Belt Line Modules and Systems 2007



Source: Suzuki Motor Corporation

## Final Program

October 16, 2007  
Sheraton Detroit Novi Hotel  
Novi, Michigan U.S.A.

Sponsored by:



# Above-The-Belt Line Modules and Systems 2007

## AGENDA

Please note that conference proceedings are not available

7:30 -  
8:30 a.m. **Registration and Continental Breakfast**

8:30 a.m. **Opening Remarks**  
*Dr. Joel Kopinsky, Managing Director  
The ITB Group (U.S.A.)*

## Meeting Roof Safety Requirements

9:00 a.m. **Next Generation Roof Crush Solutions**  
*Noble Advanced Technology (U.S.A.)*  
Most OEMs are currently designing future vehicles to meet the National Highway Traffic Safety Administration (NHSTA) proposed 2.5X gross vehicle weight (GVW) roof crush load requirement. At the same time, new Corporate Average Fuel Economy (CAFE) laws are being proposed which could force OEMs to reduce vehicle weight in order to improve fuel economy. This presentation will focus on several different design solutions that meet the 2.5X GVW roof crush load requirement. Design characteristics, roof crush simulation results, steel grade options, and manufacturing considerations will be shown to demonstrate the benefits of each solution.

9:30 a.m. **Occupant Ejection Mitigation in Rollovers**  
*Ford Motor Company (U.S.A.)*  
NHTSA has a congressional mandate to publish a Final Rule on ejection mitigation by October 2009. This presentation will review the state-of-the-art science regarding safety systems, supplemental to the safety belt, designed to further reduce the risk of side window ejection in rollovers (e.g., rollover activated side curtains). A review of NHTSA's occupant ejection mitigation research will also be discussed.

10:00 a.m. **Mid-Morning Break**

## Above-The-Belt Technologies

10:30 a.m. **Interchangeable Soft-Top and Retractable Hard-Top Convertibles**  
*Karmann (U.S.A.)*  
With the emergence of retractable hard-tops into an established convertible soft-top marketplace, OEMs are starting to consider the value of developing vehicles with interchangeable

flexibility in order to satisfy consumer demand. Karmann's know-how relative to packaging, design considerations, manufacturing considerations, and advantages will be presented.

11:00 a.m. **The Finishing Touch – New Developments for Exterior Plastic Coatings**

*Bayer Material Science (U.S.A.)*

Polyurethane coatings are the technology of choice for performance, beauty, and low-temperature cure characteristics in automotive exterior applications. Historically, however, improvements in scratch resistance generally came with sacrifice of acid-etch resistance and vice versa. Bayer's knowledge has been applied to the development of new polyurethane raw materials used to formulate self-healing coatings without loss of acid-etch resistance. This presentation will address the theory behind self-healing polyurethane coatings and describe the results of tests demonstrating the achievement of this goal.

11:30 a.m. **Rain Sensing Windshield**  
*Guardian Industries (U.S.A.)*

A new rain sensor device that is electronically integrated into the windshield will be presented. This device is a capacitive-based system, not optical, unlike many of the current production systems. A fractal pattern is printed onto the interior of the windshield, which in turn is coupled with a microprocessor that can determine if any moisture is present on the windshield before, after or during the operation of the vehicle.

12:00 p.m. **Lunch**

## Glazing Solutions

1:00 p.m. **Glass Direction in Concept Vehicles**  
*Fox Fire Glass (U.S.A.)*

This presentation will review how automotive glass designs have evolved over the last 25 years. Emphasis will be placed on the importance of greenhouse trends including new technologies that designers are striving for and the increasing role of laminated glass, color, UV and IR resistance, lighting and smart glass.

**Exhibitors:**     **A. Schulman**  
                      **Bytewise Measurement Systems**  
                      **Exatec**  
                      **Husky Injection Molding Systems**  
                      **JSR America**

**Vehicles on Display:**

- **Chrysler Sebring - presented by Karmann**
- **Ford GT - presented by Fox Fire**
- **Mazda MX-5 RHT - presented by Webasto**

**1:30 p.m.     Lightning® Electrochromic Applications in Production**  
*Saint-Gobain Sekurit (U.S.A. / Germany)*  
Saint-Gobain Sekurit will focus on the developments in electrochromic glazing and will discuss their applications on the Ferrari Superamerica and the Ferrari 612 Scaglietti Sessanta. In the Superamerica, the entire roof is electrochromic and the roof panel can be rotated to the rear and nested on the rear deck at the push of a button. This demonstrates the robustness of the product.

**2:00 p.m.     High Performance Slider (HPS) for Pickup Trucks**  
*Guardian Industries (U.S.A.)*  
The Guardian HPS Flush Mounted Opening Window is an alternative to fixed backlites and current sub-flush sliding windows. This system is manufactured from a single piece of glass with a hole in it. The sliding window moves along the patented rails into the opening sitting flush to the opening and seals the interior of the vehicle from the environment. This presentation will review the benefits of this approach.

**2:30 p.m.     Afternoon Break**

## **Sealing Systems**

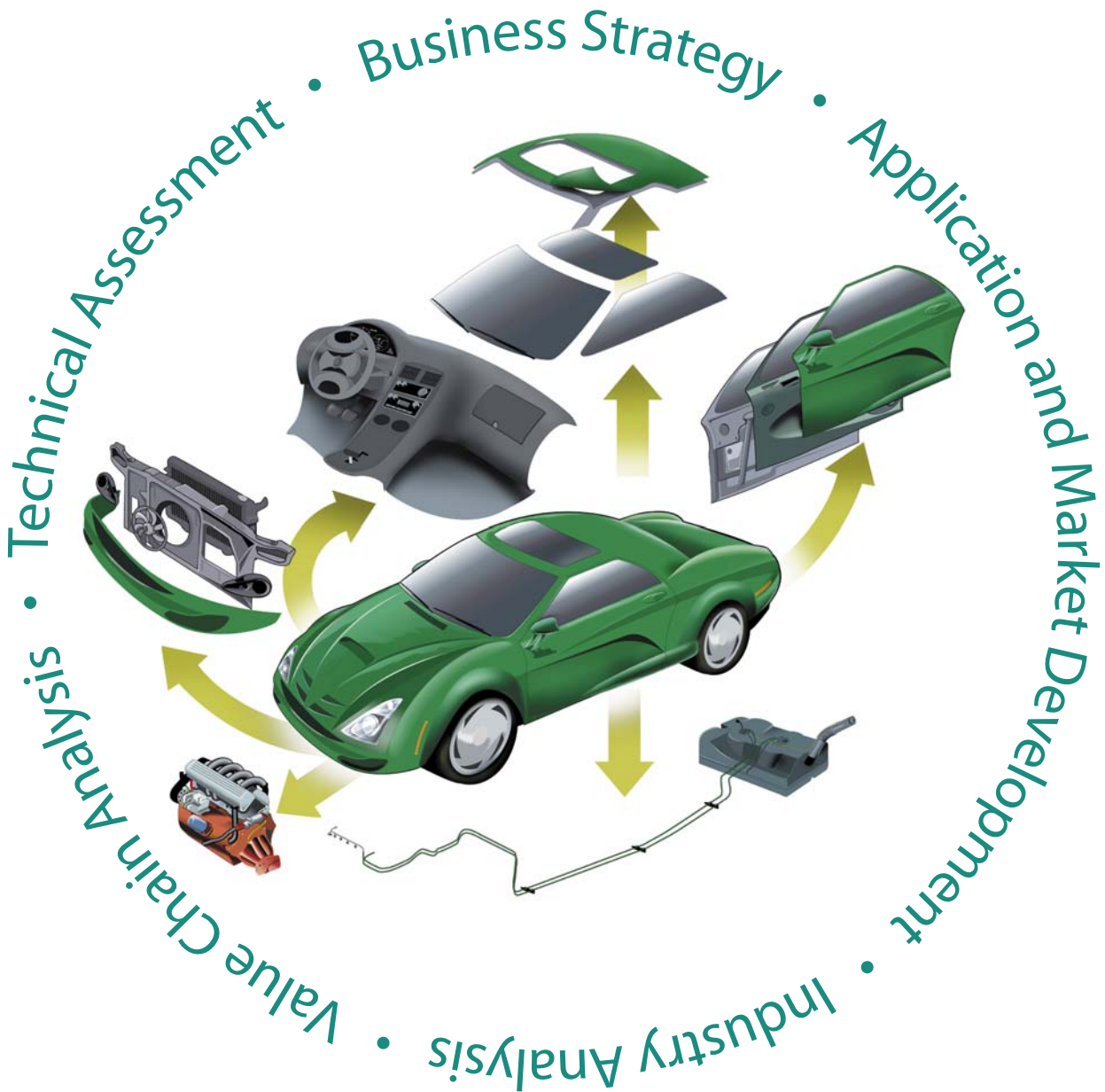
**3:00 p.m.     Using Lessons Learned in Weather Seal Design**  
*Metzeler Automotive Profile Systems (U.S.A.)*  
With the reduced timing and elimination of prototype builds, automotive suppliers, especially weather seal suppliers, must design, develop, fabricate, validate and deliver products that meet the needs of the end-use customer, the OEM assembly plant, vehicle specifications, internal manufacturing and financial requirements. This discussion will focus on the improvements Metzeler has put into place for the product engineering team to use the different types of lessons learned during product concept and design. Several case studies and how Metzeler develops, retains and utilizes this information will be presented.

**3:30 p.m.     The Ionomer Solution: One Design; One Die; Multiple Products**  
*A. Schulman (U.S.A.)*  
By combining the right material portfolio (Ionomer-PP-TPE-TPV) with the right design, a supplier is able to meet both the high and low-end vehicle requirements on a given platform with only one extrusion die. The part appearance can range from low-gloss black to high-gloss Class A body color (solid, metallic, tri-coats) while surface choices can range from traditional to those with high scratch and mar resistance. Additional benefits include optimized dimensional stability, ease of installation, and lower mass. Also, by reducing secondary operations, keeping it on-line and in-house may reduce cost. Discussion topics include reviewing actual samples, examining the manufacturing process, and analyzing the cost efficiencies.

**4:00 p.m.     Bondable TPV Materials for Window Sealing Systems: Corner Molding and Glass Encapsulation TPV**  
*ExxonMobil Chemical (U.S.A.)*  
This presentation will describe the advantages of using TPVs in various automotive window sealing systems including fixed and moveable glass designs. Application of these materials in other above-the-belt line sealing systems such as sunroofs, convertible roofs, and water management seals will also be discussed. The performance attributes of several of these specialty grades of TPV will be shown as well as the importance of seal design and fabrication on the overall performance.

**4:30 p.m.     Closing Remarks and Cocktail Reception**

# Consulting Expertise



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