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# 2002 ABOVE-THE-BELT LINE MODULES AND SYSTEMS November 22, 2002

Above-the-Belt Modules and Systems 2002 is the first forum of its kind to provide a setting that helps industry professionals gain a better perspective of the integration of the above-the-belt system. This forum, in one day, offers unprecedented networking and learning opportunities in a thought-provoking environment. Leading suppliers in this industry from Europe, Japan and the U.S.A. offer their insights and exhibit their technologies.

Please note that conference proceedings will not be available.

## AGENDA

7:00–

**8:15 a.m. Registration and Continental Breakfast**

**8:15 a.m. OPENING REMARKS –**

*The ITB Group (USA)*

**8:30 a.m. What is the Link Between Modules and Innovation?**

*Valeo (France)*

Modularity has been studied for many years as a means of increasing the rate of innovation. A model is proposed that facilitates the decision making process for suppliers to decide whether or not to be in the module business.

to achieve system cost reduction, weight reduction, improved aesthetics, excellent UV resistance, quality and consistency improvements with the potential for future consideration of non-black colors.

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

**10:30 a.m. Unique Sealing System Developments for Retractable Hardtops**

*Meteor Sealing Systems  
(Germany, U.S.A.)*

Retractable hardtop roof modules are becoming more numerous in current and future OEM product offerings with increased customer expectations of environmental and noise sealing requirements. A case study will be presented covering the design and development of a sealing system for the current Mercedes-Benz SLK retractable hardtop focusing on the special engineering challenges this type of roof module presents to a sealing system manufacturer.

## DYNAMIC SEALING SYSTEMS

**9:00 a.m. Upper Door and Window Sealing Systems**

*Hutchinson (France)*

Upper door sealing systems will be reviewed together with a vision of how this function will evolve as modules are introduced into the above-the-belt system. Door subsystems such as fixed vent modules will be examined. The discussion will also include future design and material changes.

**9:30 a.m. Developments in the Use of TPV Sealing Materials**

*DSM Elastomers (U.S.A.)  
Tokiwa Chemical (Japan)*

Automotive weatherseals are currently going through an evolutionary change of both materials and manufacturing processes. Major automotive weatherstrip manufacturers have active programs to investigate the fit of TPVs as a replacement for EPDM in sealing applications in automobiles. OEMs express interest in TPV's as they look

## AUTOMOTIVE WINDOW SYSTEMS

**11:00 a.m. Future Automotive Glazing**

*Visteon (U.S.A.)*

Recent advances in glass and glazing technology have launched the industry on a path to introduce new and innovative products to improve comfort and convenience for the customer. Some of the products have been recently introduced such as rain sensors, rain shedding glass, laminated door glass, and solar control glazing. Other technologies such as heated windshield, colored glasses, and switchable glass appear to be on the brink of entering the market.

**11:30 a.m. The Role of Automotive Glazing in Meeting a Vehicle's Styling, Design, Functional and Assembly Requirements**

*The ITB Group (U.S.A.)*

Great strides have been taken over the last five years in meeting the styling, performance and cost challenges set by the OEMs. This paper explores examples of technical innovations that are helping OEMs meet the diverse performance requirements.

**12:00 - 1:00 p.m. Lunch**

**1:00 p.m. Trends in Automotive Window Encapsulation**

*Recticel (Belgium, U.S.A.)*

Automotive glass encapsulation has existed for more than 15 years and yet, the capabilities of the technology are still evolving. Increased cost pressures in the mid '90's appeared to threaten the growth of this technology. However, current changes in the OEM-supplier relationships of moving subassemblies to the Tier One's are reversing this trend.

**1:30 p.m. XIR Film Technology; Improved Performance, New Applications**

*Southwall Technologies (U.S.A.)*

Southwall XIR films have been broadly used for the production of solar reflective windshields and sidelites in European passenger cars for several years. New improvements in XIR solar performance, material processing and heatable characteristics will be discussed.

**UPPER VEHICLE MODULES**

**2:00 p.m. Material Technology for Meeting the Demands and Unlocking Design Flexibility in Sunroof Systems**

*Ticona (U.S.A.)*

Long fiber reinforced thermoplastic materials provide new opportunities to re-think and re-engineer end use applications for automotive sunroof systems. Opportunities for these materials exist in 4 key application areas: 1) Mechanical Components - guiding/sliding elements and guiding tube for push-pull cables; 2) Drive Elements - motor housings, bearing covers and gear housings; 3) Functional Frame Elements - edges, end profiles, sun covers and water drains; and 4) Structural Frame Elements - wind deflectors, front & rear frames. Molders who understand how to design tooling and process these materials will be positioned well for growth in this and other demanding market segments.

**2:30 p.m. Afternoon Break**

**3:00 p.m. Expanding Capabilities of Exterior Trim Modules**

*Depco International (Canada)*

Beltline exterior trim modules for OEM automotive applications will be reviewed. Such modules require extensive expertise in mating the body-in-white structure, window glass retention and cyclical requirements, appearance related design, and functional elements together in one package. Traditional materials (PVC, Carbon Steel, Stainless Steel) have given way to steel / plastic hybrids, extruded structural plastic and plastic-plastic cohesive hybrid designs. The pro's and cons of each technology will be considered with an emphasis on forward modularization of glass movement systems and eventually door cassette design elements.

**3:30 p.m. Development of Above Belt Modules Using Polyurethane Bonding**

*GDx Automotive (U.S.A.)*

Industry drivers of reduction of assembly labor, simplicity of assembly, and reduction of component complexity, are motivating the automotive OEM to steadily increase the use of modules. Concepts for future modular constructions in above-the-belt systems are considered. As an example, the application of modular design and the role of sealing in the area of fixed and flip window modules will be discussed. Modular concepts for these parts include elements such as glass, sealing, attachment hardware, hinges, latches and exterior trim. A successful concept for creating these modules using advanced polyurethane bonding techniques will be discussed.

**4:00 p.m. Emergence of Complete Roof Modules**

*ArvinMeritor (U.S.A.)*

The development of roof modules will revolutionize the modern automotive assembly line process. ArvinMeritor's roof module products integrate associated parts, such as grab handles, sun visors, ventilation systems, interior lighting and antennae into a one-piece module. Benefits to automakers include cost savings, no need for changeover in the production line and the flexibility to produce roof modules for various types of vehicles. ArvinMeritor has pioneered molding techniques that have enabled the company to address customers' latest demands for innovation in the areas of weight, parts, cost reduction, flexibility and ease of installation.

**4:30 p.m. CLOSING REMARKS - THE FUTURE? Decorative Trends and the Emergence of New Open Air Systems**

*DaimlerChrysler (U.S.A.)*

The comeback of open air systems will be described with an emphasis on some recent vehicle introductions. Innovative new systems will be described together with trends in decorative trim such as an increase in the use of chrome.

**5:00 p.m. Cocktail Reception**

## ABOUT YOUR ORGANIZER...

Established in July 1992 by Dr. Joel Kopinsky and Ms. Mitra O'Malley, The ITB Group serves suppliers and original equipment manufacturers (OEMs) in the global automotive market. By combining strong technical and business skills, The ITB Group helps senior managers develop and implement strategies that provide sustainable long-term competitive advantages.

*The ITB Group's core competencies are:*

### International Presence:

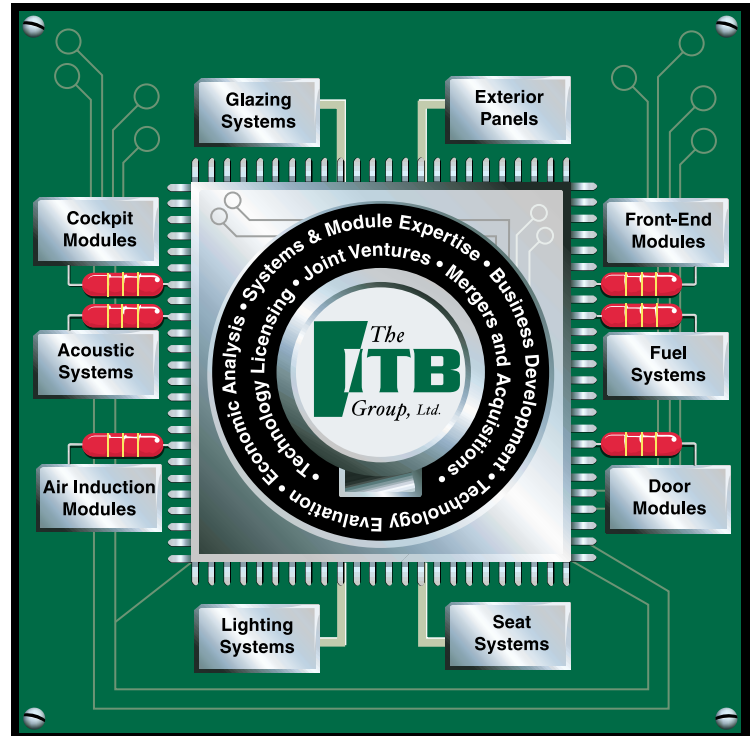
The firm's presence in North America, Europe and the Far East provides a solid basis for automotive consulting assignments. In each of these regions ITB has established a significant network of clients and industry contacts.

### Technical Expertise:

Advanced engineering degrees and over 30 years of combined industry experience provide the firm's consultants with the relevant backgrounds to understand difficult technical issues that face their clients. Such issues may be related to product design, materials, primary and secondary processes or vehicle assembly.

### Business Recognition:

Widespread marketplace recognition and business experience enable the firm's consultants to interact with key automotive participants around the world. Participants include senior level managers, automotive research and design engineers, sales and marketing personnel and government officials.



## EXHIBITORS

Advanced Elastomer Systems  
ArvinMeritor  
DSM  
Dura Automotive  
EPW Inc.

GDX Automotive  
Meteor Sealing Systems  
Metzeler Automotive Profile Systems  
Solvay Engineered Polymers  
True North Molds



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