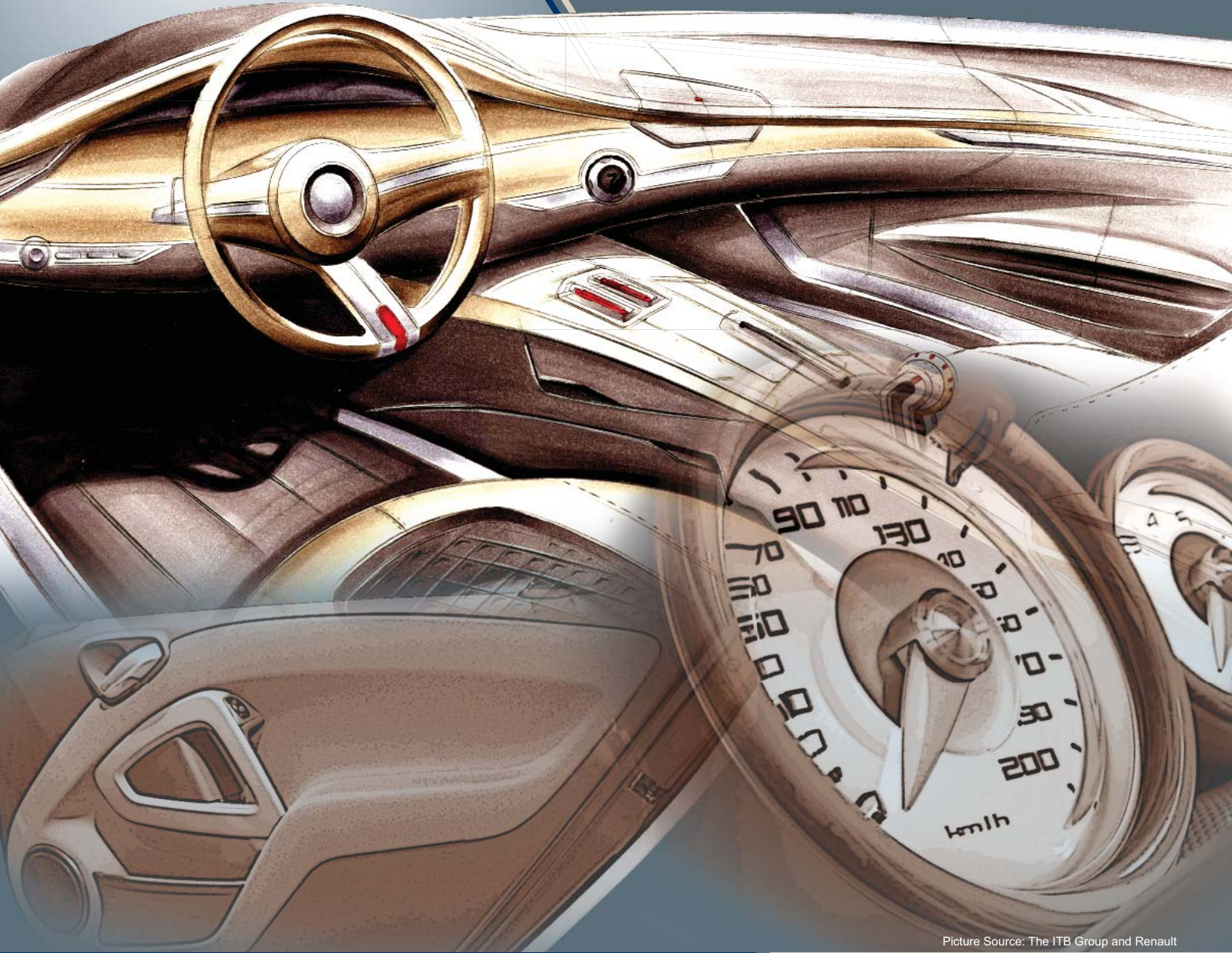




Automotive Cockpit and Door Modules



Picture Source: The ITB Group and Renault

Final Program

May 13, 2008
The Ritz-Carlton Hotel
Dearborn, Michigan USA

Automotive Cockpit and Door Modules



AGENDA

Please note that conference proceedings are not available

7:30 a.m. -

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

8:30 a.m. **OPENING REMARKS**

Future Directions in Automotive Interiors

*Mitra O'Malley, Managing Director
The ITB Group (U.S.A.)*

Role of Simulation in Cockpit Development

9:00 a.m. **Analytical Validation of Cockpit Systems**

*EASi (U.S.A.) and
Ford Motor Company (U.S.A.)*

This presentation will cover CAE methodologies developed and implemented on various programs for the verification and validation of cockpit systems for stiffness, strength and NVH. Different approaches to develop FE models for the non-linear behavior of cockpit systems including material properties and geometric representations will be discussed.

9:30 a.m. **PAM-FORM 2G for Thermoforming Simulation**

ESI (U.S.A.)

Thermoforming and blow-molding processes can be simulated by finite element analysis. Simulation can help to determine the best material, initial sheet shape, optimized process conditions and tooling without any physical trials. Existing material models will be defined in PAM-FORM 2G and the software capabilities demonstrated through different forming simulations. This presentation will provide an overview of the boundary and loading conditions available in PAM-FORM 2G as well as the different steps needed to launch a computation for a door panel and a dashboard.

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

A-Surface Developments

10:30 a.m. **InSkin™, Innovative Personalization with In-Mold Grain TPO Foil**

Visteon (U.S.A.)

InSkin™ technology developed by Visteon provides the advantage of delivering real zero gap by managing the tolerance in the manufacturing process. InSkin™ also provides the advantage of personalization by offering the possibility of integrating various shapes and styles of decoration systems in the instrument panel or door panel skin

without additional tooling. The decorative elements are encapsulated during the skin-forming process and firmly maintained in the skin. This insures a completely flush, homogeneous appearance that dramatically improves the interior appeal and perceived quality.

11:00 a.m. **Design Aspects for TEPEO2® Decorative Sheets**

Benecke-Kaliko (Germany)

A new kind of material called TEPEO2® for interior skin applications will be described. With the use of TEPEO2® it is possible to develop a grain appearance similar to those only known by skin-related techniques like slush molding or PUR spray molding.

Reducing Weight, Increasing Harmony and Sustaining the Environment

11:30 a.m. **Easy on the Eyes, Hard on the Bottom Line: Discussion of Multi-Material Color Harmony within a Single Component or Design Theme**

Automotive Textile Solutions (U.S.A.)

The traditional practice of interior color development and insightful methodologies that will improve the time and efficiency of color communication will be reviewed. A look at the real cost savings associated with minimizing subjective processes and master distribution will be discussed.

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

1:00 p.m. **Survey of the Presence and a Breakdown of Brominated Flame Retardants (BFRs) in Vehicle Interior Components via Photodegradation**

Ecology Center (U.S.A.)

A study of 2006-2007 vehicles using hand-held X-ray fluorescence spectrometers examined the use of BFRs in door trim, instrument panels, seat materials and other interior vehicle components. Data on the use of BFRs in 13 components in over 250 vehicle models is presented. Exposure of passengers to toxic degradation byproducts is an important health concern and the phase-out of BFR use in automobiles is recommended. A brief review of relevant material standards will be included.

1:30 p.m. Evaluating and Regulating the “New Car Smell” – Guidelines, Approaches and Techniques for Manufacturers and Suppliers
Markes International (UK)
 This presentation will provide a global overview of approaches used for vehicle materials emissions testing including specified European and Asian target compounds and concentration limits. A novel, rapid and cost effective approach for performing such testing along with an approach for evaluating individual contributions from materials / components on in-vehicle air quality will be discussed.

2:00 p.m. Lightweight Instrument Panel Cross-Car Beam Alternatives
Alcan Automotive (U.S.A.)
 This presentation outlines design alternatives for aluminum instrument panel cross-car beams from relatively low volume to very high volume production. The pros and cons of various designs will be discussed taking into account NVH and crash performance, functionality and packaging constraints, assembly tolerances and the effect on implementation costs.

2:30 p.m. Improving Door Module Bonding Applications with Plasma Technology
Plasmatreat (Canada)
 A brief introduction to plasma process technology is provided. The use of plasma allows the elimination of aggressive primers, adhesion promoters and solvent washing applications. A description of applications within the door module industry as well as a few short videos to illustrate the technology will follow.

3:00 p.m. Afternoon Break

Technical Innovations in Cockpits

3:30 p.m. Innovative Machinery and Process Choices for Thermoforming of Automotive Door Panels
Frimo (U.S.A.)
 Data will be provided for evaluating recent developments for manufacturing a wide range of door panel designs. An outline of the factors necessary to guide process selection for the most robust product concept and determine the equipment required to optimize the forming

processes will be included. Features of in-line, rotary, and twin vacuum form machinery will be explained in detail with side-by-side comparisons of labor, facilities cost and floor space requirements. Included are the latest developments in male and in-mold-grain forming techniques and advancements in technologies to streamline the manufacturing operation and maximize product quality.

4:00 p.m. Automotive Cockpit Skin Production Methods and Tooling
Production Methods Corporation (U.S.A.)
 Slush, cast, vacuum and spray methods using PVC, PU, TPU and TPO are the choices for the production of instrument panel and other cockpit component skins. The supporting patterns to produce tools using galvanic or vapor nickel deposition for these processes to produce the skins are quite different from each other. This presentation will show the major steps in producing tools and quality control procedures.

4:30 p.m. Thermal Control of the Automotive Interior with Phase Change Material
Textile Testing & Innovation (U.S.A.)
 Phase Change Material (PCM) changes its physical state from solid to liquid and vice versa in a certain temperature range. During this phase change, the PCM absorbs or releases a high amount of latent heat while its temperature remains nearly constant. Applied to a car’s passenger compartment, the PCM can provide thermal control mechanism to the vehicle’s interior which does not require the use of an external energy source. In the presentation, the concept will be explained, the newly developed products will be introduced and some test results, received in rigorous field tests, will be discussed.

5:00 p.m. Closing Remarks and Cocktail Reception

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