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## SPE<sup>®</sup> ANNOUNCES FINALISTS, WINNERS FOR 37<sup>TH</sup>-ANNUAL AUTOMOTIVE INNOVATION AWARDS COMPETITION

**TROY, (DETROIT) MICH.** – The Automotive Division of the Society of Plastics Engineers (SPE<sup>®</sup>) International announced this year's nominations, finalists, and winners in the 37<sup>th</sup>-annual ***SPE Automotive Innovation Awards Competition***, the oldest and largest recognition event in the automotive and plastics industries. Category, Hall of Fame, and the prestigious Grand Award winners were announced the evening of November 7 during the ***SPE Automotive Innovation Awards Gala***.

The ***Grand Award*** winner – the most prestigious award of the evening – went to the winner of the *Materials* category, an application called **backlighting using color-converting plastic** used on *'07 MY General Motors Chevrolet<sup>®</sup> Tahoe SUVs*. The Blue-Ribbon judges felt this application was the most innovative in this year's entire competition. This patented system for producing custom-colored interior backlighting via LEDs (fed through light distribution pipes) relies on patented fluorescing dyes and proprietary light-scattering additives in translucent resins used to mold buttons, knobs, and backlit plates rather than far more costly custom-colored LED bulbs. Moving color control from the LED to the plastic button not only results in more uniform, controllable emitted color, but also makes backlighting in low-volume, niche colors economically feasible.

In the category of *Body Exterior*, the category winner, finalists, and other nominations were:

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- **Category Winner: COMPOSITE ASSIST STEP - '07 MY General Motors Trailblazer® / Envoy® SUVs -**  
**Description:** Innovation in rib design and use of weatherable material enabled this 1-piece running board to withstands higher loads with lower deflections than the 5-piece steel and plastic assembly it replaced. It is produced in a 2-stage injection molding process and provides a 50% mass reduction and a direct cost savings in excess of \$19 USD / vehicle, while also lowering assembly complexity, improving aerodynamics, eliminating corrosion, and quieting buzz/squeak/rattle noise.
  - System Supplier: Magna Decoma - Mytox Div.
  - Material Processor: Magna Decoma - Mytox Div.
  - Material Supplier: Magna Decoma - Mytox Div.
  - Resin: Myplas 40 long-glass polypropylene
  - Tooling Supplier: not provided
  
- **Finalist: GLASS RUN CHANNEL- '07 MY Chrysler® Town & Country / Dodge® Caravan minivans from Chrysler LLC -**  
**Description:** This is the first sliding door glass run channel for a minivan with an been used for this type of door without metal reinforcement. This fully recyclable TPV extrusion is produced with inline cutting and injection molding processes, reducing mass by 30% and cost 20-30% vs. the previous technology.
  - System Supplier: JYCO
  - Material Processor: JYCO
  - Material Supplier: DSM
  - Resin: Sarlink® highly cross-linked TPV
  - Tooling Supplier: JYCO
  
- **Finalist: TUBULAR COMPOSITE RUNNING BOARD - '07 MY Chrysler Jeep® Wrangler JK SUV (2- & 4-door models) -**  
**Description:** This is the first tubular-style, Class A, blow-molded composite running board, replacing injection-molded/electromagnetic assembly bonded and steel running boards at lower cost and better styling. A special resin was developed to meet the aesthetic and mechanical requirements and to provide modified melt-strength for this 1,880-mm long part.
  - System Supplier: MYTOX Division of Magna Decoma
  - Material Processor: MYTOX
  - Material Supplier: A. Schulman
  - Resin: Polyfort® FFP 3551E 20%-glass reinforced polypropylene
  - Tooling Supplier: Mach Mold

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- **Finalist: WINDSHIELD MOLDING – '07 MY Ford Escape® / Mariner® / Tribute® SUVs – Description:** This windshield molding provides aerodynamic properties that reduces wind noise 15% and represents the first time more environmentally friendly TPE and PP have replaced PVC in this application. Texturing at the point of contact to the vehicle's sheet-metal body eliminates the need for slip coating for BSR targets, and a new primer bonds PP to urethane as a retention feature.
  - System Supplier: Scherer Trier USA
  - Material Processor: Scherer Trier USA
  - Material Supplier: Kraiburg
  - Resin: TP 7 HSZ thermoplastic elastomer (TPE)
  - Tooling Supplier: Hoffman Tool (Germany)
  
- **Finalist: CARBON-FIBER DECKLID – '04 MY Ford® Focus® FCV fuel-cell vehicle from Ford Motor Co. – Description:** This structural, Class A sandwich panel assembly is 60% lighter than the 3-piece stamped steel assembly it replaced, which helps offset the mass of the vehicle's fuel-cell system for better vehicle range and lower operating costs. It was produced via vacuum bag / autoclave cure using one-sided carbon fiber tooling, which is 75% less costly than the aluminum benchmark.
  - System Supplier: Multimatic Technical Centre
  - Material Processor: Multimatic Technical Centre
  - Material Supplier: Advanced Composites Group
  - Resin: MTM49-3 epoxy reinforced by carbon fiber
  - Tooling Supplier: Multimatic Technical Centre
  
- **Nomination: FRONT FASCIA PANEL – '05 MY Tata Motors Ace mini-truck – Description:** This is the first light truck globally to use a large body panel injection molded from engineering thermoplastics to improve crash performance, aesthetics, durability, and assembly. Designed, engineered, and produced in India, it is 30% lighter than the stamped steel panel it replaced and provides durability, damage resistance, improved styling, and better fuel economy.
  - System Supplier: Tata Autocomp Systems Ltd.
  - Material Processor: Tata Autocomp Systems Ltd.
  - Material Supplier: Sabic Innovative Plastics
  - Resin: Xenoy® X5300WX PC-PBT
  - Tooling Supplier: Sridevi Tools

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- **Nomination: FASCIA APPLIQUÉ – '07 MY General Motors Saab® 9-7X SUV – Description:** This highly stylized thermoformed fascia appliqué uses precisely trimmed and thermoformed paintfilm with excellent stone-chip resistance to eliminate the two-tone paint process while providing a more durable finish and eliminating VOCs. A cost savings of ~10% is achieved by eliminating paint, and scrap is also reduced ~10%.
  - System Supplier: Plastech Industries
  - Material Processor: Durakon Industries
  - Material Supplier: Solvay Plastics
  - Resin: Sequel® E3000 TPO
  - Tooling Supplier: Portage Casting & Mold

For *Body Interior*, the category winner, finalists, and other nominations were:

- **Category Winner: DOOR TRIM & HARDWARE MODULE – '06 MY Chrysler® Caliber / Compass / Patriot SUVs from Chrysler LLC – Description:** This unique assembly combines all door hardware components plus trim panel in a single module produced via injection molding and the 2-shot bolster process. It is directly sequenced into the plant, arriving fully tested to reduce door dress-up at the vehicle assembly plant, and offers 10% weight and \$10-\$17 USD OEM cost savings per vehicle.
  - System Supplier: Grupo Antolin
  - Material Processor: IAC
  - Material Supplier: Dow Chemical
  - Resin: 702-20 polypropylene
  - Tooling Supplier: HiTech
- **Finalist: COMPOSITE DOOR MODULE – '07 MY Freightliner® P3 Cascadia trucks from Freightliner Trucks – Description:** This multifunctional hardware carrier and structural trim assembly features integrated structural, mechanical, and Class A trim surfaces and a vibration welded map pocket while saving 2.5 kg of mass per door, \$2 cost per part, \$200,000 in tooling savings, and \$5 USD of labor savings, plus additional savings due to 100% automated end of- line testing. A single family of low-cost, 100% recyclable polypropylene compounds improves appearance and tactile feel.
  - System Supplier: Delphi Interiors & Closures
  - Material Processor: Florida Production Engineering
  - Material Supplier: Adell Plastics
  - Resin: 40% glass-reinforced polypropylene
  - Tooling Supplier: UTC

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- **Finalist: REAR SEAT CUSHION RISER USING EPP FOAM – '07 MY BMW® X5 cross-over SUV from BMW AG –** Description: This application combines stamped steel and expanded PP bead foam to provide a lightweight, structural replacement for conventional stamped steel floor pans, while allowing common architectures and assembly steps to be used between 5- and 7-passenger vehicles. Insert molding of the steel / EPP foam component eliminated the need for secondary assembly, and saved 3.9 kg of mass, \$2.8-million USD in tooling investment, and \$500,000 USD in equipment avoidance vs. the previous steel system.
  - System Supplier: JSP International
  - Material Processor: JSP International
  - Material Supplier: JSP International
  - Resin: Arpro® expanded polypropylene
  - Tooling Supplier: JSP Mold
  
- **Finalist: STRUCTURAL CONSOLE SIDE PANEL – '08 MY General Motors Cadillac® CTS sedan –** Description: Replacement of conventional injection molded PP with sequential valve-gated injection molded glass-reinforced PC/ABS allowed thinner, stiffer console side panels to be produced, eliminating the need for several structural components and increased belt-clearance space and bin storage size. These side panels meet styling and structural requirements at lower mass, cost, and assembly time while improving airflow.
  - System Supplier: Dräexlmaier Automotive
  - Material Processor: Plastic Tec
  - Material Supplier: Bayer MaterialScience
  - Resin: Bayblend® T-88 2N glass-reinforced PC/ABS
  - Tooling Supplier: Delta Mold
  
- **Nomination: NVH TRUNK LOAD FLOOR – '08 MY Ford Focus® compact sedan –** Description: This is the first use of LWRT GMT composites to replace wood /hardboard in a trunk load floor. Carpet is insert molded with the composite is an one-step process, saving 4 lb per vehicle while improving NVH vs. the previous technology.
  - System Supplier: Polywheels Manufacturing
  - Material Processor: Polywheels Manufacturing
  - Material Supplier: Quadrant Plastic Composites
  - Resin: SymaLITE™ lightweight reinforced thermoplastic composite
  - Tooling Supplier: Service Mold Inc.

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- **Nomination: SCUFF PLATE – '08 MY Ford® Focus® compact car from Ford Motor Co. – Description:** This first-surface appearance part represents a unique use of LFT materials because it features molded-in-color and graining. Traditionally, LFT parts are black and used in non-visible locations due to aesthetic issues associated fiber loading.
  - System Supplier: Blue Water Plastics
  - Material Processor: Blue Water Plastics
  - Material Supplier: Ticona Engineering Polymers
  - Resin: Celstran® PP-GF20 long-fiber thermoplastic
  - Tooling Supplier: Delta Mold
  
- **Nomination: NANOCOMPOSITE INTERIOR CONSOLE – '06 MY General Motors Chevrolet® HHR retro-styled compact wagon– Description:** This is the first customer-visible interior application for polypropylene-based nanocomposites. The material provides outstanding dimensional stability, which allows parts to be manufactured free of warpage, while lowering mass, improving scratch and mar, and providing a low-gloss, high-quality finish.
  - System Supplier: Johnson Controls Inc.
  - Material Processor: PEMSA
  - Material Supplier: Noble Polymers
  - Resin: Forte ® 18CPP091 polypropylene
  - Tooling Supplier: RCO Engineering
  
- **Nomination: CONSOLE REINFORCEMENT BRACKET – '08 MY Nissan® Titan® pickup from Nissan Motor Co. – Description:** Glass-filled SMA with a molded-in Class A surface replaced GFPP for this console reinforcement bracket, allowing an additional steel bracket to be eliminated without any decrease in performance. Dimensional stability was improved for better fit and finish, plus an 0.80 lb mass and \$2 USD / part cost savings were achieved.
  - System Supplier: Visteon Corporation
  - Material Processor: Atlantic Automotive Components
  - Material Supplier: Nova Chemicals
  - Resin: Dylark® 480P16 glass-reinforced SMA
  - Tooling Supplier: Michael Tool & Mold (Windsor) Ltd.

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- **Nomination: INTEGRATED CENTER STACK – ‘08 MY General Motors Cadillac® CTS sedan–** Description: This integrated center stack provides a vehicle / brand-specific customer interface for radio and HVAC with a high level of integration between electrical and interior components. The system enabled commonization of high-cost complex componentry like radio and HVAC controls while allowing for customization of human interfaces.
  - System Supplier: Sanyo
  - Material Processor: Sanwa Malaysia
  - Material Supplier: UNG ABS Limited
  - Resin: PC/ABS TC6F
  - Tooling Supplier: Sanwav Japan

This year's *Chassis/Hardware* category winner, finalists, and other nominations were:

- **Category Winner: EXTRUDED SEAL FOR HIM DOOR MODULES – ‘07 MY Dodge® Nitro / ‘08 MY Jeep® Liberty SUVs from Chrysler LLC–** Description: This is the first time a TPE has been extruded directly onto a door module carrier, providing a 360° seal that acts as a water barrier between wet/dry sides, an acoustic barrier, and seals out dirt and dust. The seal is fully recyclable, simplifies assembly, is more robust than previous technology, and reduces material costs 53%, capital expenses 15%, seal mass 48%, and tack/cure time 90%.
  - System Supplier: Faurecia Interior Systems
  - Material Processor: Faurecia Interior Systems
  - Material Supplier: ExxonMobil
  - Resin: Santoprene® TPE
  - Tooling Supplier: Reiss Robotics / Gepoc
- **Finalist: ELECTRIC BRUSHLESS PUMP– ‘06 MY Nissan® Quest ®minivan from Nissan Motor Co. –** Description: This is the first brushless pump with MMT motor-control technology and overmolded integrated brackets. The lightweight, compact packaging increased the life expectancy for pump and brackets by reducing corrosion thanks to special hydrolysis- and ethylene glycol-resistant resin. The pump delivers 8% higher performance in flow at 53% of the size, 33% of the mass (vs. metal brush pumps), and at lower cost (\$2.3 million USD saved over 3 years), while increasing cabin comfort and improving vehicle fuel efficiency.
  - System Supplier: Cooper-Standard Automotive
  - Material Processor: Calico
  - Material Supplier: DuPont Automotive
  - Resin: Zytel® HTN polyphthalamide
  - Tooling Supplier: Lutman Precision Mold

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- **Finalist: OEM CARBON CANISTER – '07 MY Dodge® Charger & Magnum / Chrysler® 300 full-size sedans from Chrysler LLC – Description:** This is industry's first carbon canister with an extruded housing that can be cut to length to accommodate different carbon load rates without re-tooling the part. The unique linear canister design has higher carbon efficiency (fewer dead zones) and a spring plate assembly that maintains carbon pack, plus evaporative emissions are reduced by using a lower permeation rate material, reducing carbon waste, component mass (1.5 lb / vehicle), plus material, warranty, and tooling-avoidance costs.
  - System Supplier: Stant Manufacturing Inc.
  - Material Processor: Stant Manufacturing Inc.
  - Material Supplier: BASF
  - Resin: Ultraform® H4320 Blk120 Q 600 acetal (POM)
  - Tooling Supplier: Stant Manufacturing Inc.
  
- **Finalist: FRONT-END MODULE – '07 MY Ford® Edge® cross-over SUV from Ford Motor Co. – Description:** The is the first predominantly plastic front-end module, produced at lower weight and lower costs than metal or plastic/metal hybrid systems. The injection molded fully recyclable LFT component also decreases total vehicle part complexity, and allowed Ford to implement open-architecture vehicle builds, improving assembly line access.
  - System Supplier: Android
  - Material Processor: Meridian Automotive Systems
  - Material Supplier: Ticona Engineering Polymers
  - Resin: Celstran® PPGF40 glass-reinforced polypropylene
  - Tooling Supplier: Omega

In the *Materials* category, the category winner, finalists, and other nominations for 2007 were:

- **Grand Award & Category Winner: BACKLIGHTING USING COLOR-CONVERTING PLASTIC – '07 MY General Motors Chevrolet® Tahoe SUV – Description:** This innovative, patented system for producing custom-colored interior backlighting via LEDs (fed through light distribution pipes) relies on patented fluorescing dyes and proprietary light-scattering additives in translucent resins used to mold buttons, knobs, and backlit plates rather than far more costly custom-colored LED bulbs. Moving color control from the LED to the plastic button not only results in more uniform, controllable emitted color, but also makes backlighting in low-volume, niche colors economically feasible.
  - System Supplier: Delphi Electronics & Safety
  - Material Processor: Delphi Electronics & Safety
  - Material Supplier: RTP, BASF, and Bayer MaterialScience
  - Resin: Makrolon® 2405 polycarbonate (Bayer)
  - Tooling Supplier: Kno-Mar Tool

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- **Finalist: HIGH-GLOSS MOLDED-IN-COLOR METALLIC RESIN – '07 MY Ford® F250 pickup from Ford Motor Co. – Description:** This weatherable, integrally colored, high-gloss, metallic-look material eliminates the need for primer and paint (and its associated cost and environmental issues) while providing a scratch-and-mar-resistant surface that reduces apparent damage to the wheel flare caused by stone and gravel impact. A proprietary, patent-pending tooling configuration was also key. A cost savings of \$10 USD / vehicle was achieved and finished parts can be easily recycled.
  - System Supplier: Decoma International
  - Material Processor: Plastcoat
  - Material Supplier: Solvay Engineered Polymers, Inc.
  - Resin: Indure® X76 polyolefin alloy
  - Tooling Supplier: Accurate Mold
  
- **Finalist: THERMOPLASTIC COMPOSITE HEADLINER – '08 MY Honda® Accord® sedan from Honda Motors – Description:** A new grade of thermoformable, low-density GMT composite uses a special additive to provide greater loft and molded part thickness, yielding better stiffness (per area weight) and a 10% cost savings (through elimination of acoustic materials), as well as a 5% weight savings in this headliner. Acoustical performance is also improved.
  - System Supplier: TS Tech
  - Material Processor: TS Tech
  - Material Supplier: AZDEL, Inc.
  - Resin: SuperLite XLT lower density thermoplastic composite
  - Tooling Supplier: not provided
  
- **Finalist: BUMPER CORE IN EPS/PE – '07 MY Lexus® LS460 luxury sedan from Toyota Motors – Description:** This fully recyclable, EPP/PS interpolymer foam bead material is processed via expandable resin shape molding in conventional steam chests to provide superior tensile strength, thermal insulation, shock absorption, and chemical resistance at a 20% weight and cost savings over conventional EPP foam bead. The process allows insert molding of metal components, and can produce dual-density moldings with ribs to improve energy absorption.
  - System Supplier: Nittoku
  - Material Processor: Homec
  - Material Supplier: Sekisui Plastics USA Inc.
  - Resin: Piocelan® CP polystyrene/polyethylene interpolymer foam bead
  - Tooling Supplier: not provided

The winner, finalists, and other nominations submitted in the *Performance & Customization (Automotive Aftermarket)* category this year included:

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- **Category Winner: FOLDING PICKUP BED EXTENDER – '06 MY Ford® F250 pickups by Ford Motor Co. – Description:** This is the first blow-molded pickup bed extender, replacing roll-formed steel or aluminum profiles, while reducing part count, weight, cost, assembly, and quality costs. The high-strength fully-recyclable composite solution features in-mold-color and grained texture to meet OEM Class A specs, retaining excellent grain quality in such a large blow-molded part. The system's unique design provides 3 methods of use: cargo, storage, and stowaway to increase usable bed space on pickups.
  - System Supplier: ABC Group
  - Material Processor: ABC Group
  - Material Supplier: Salflex Polymers (ABC Group)
  - Resin: Salflex® S 815 glass-reinforced polypropylene
  - Tooling Supplier: Supreme Tooling (ABC Group)
- **Finalist: BRUSH GRILLE GUARD – '07 MY General Motors Chevrolet® Suburban SUV / Tahoe SUV / Avalanche Cross-Over Vehicle – Description:** This is the first composite brush grille guard with a chrome tube overmolded by glass-reinforced thermoplastic; it is also the first use of the direct-LFT/compression molding process to produce this type of part. A custom resin formulation limits color change due to UV exposure for longer part life, and part weight and cost savings of 50% were seen vs. previous methods and materials. The part was designed to minimize vibration for increased passenger comfort, and to allow continued use of the standard airbag sensor, while improving protection to the vehicle's front end in the event of impact, thereby potentially reducing repair costs (for a damaged front end) by up to 75%.
  - System Supplier: Algonquin Automotive
  - Material Processor: Composite Products, Inc.
  - Material Supplier: Composite Products, Inc.
  - Resin: Ineos H38G-02 polypropylene
  - Tooling Supplier: Delta Mold, Inc.
- **Finalist: UNDER-SEAT STORAGE SYSTEM – '08 MY Dodge® Dakota pickup by Chrysler LLC – Description:** This injection-molded Crate 'n Go storage system securely snaps into the vehicle to hold gear securely, then can be removed to carry contents out of vehicle for greater customer convenience. When not in use, it collapses and can be stored under the seat. Components snap together tightly to reduce BSR potential. An alternative, less innovative design, would have cost \$32 USD/ vehicle more and been less convenient for the customer.
  - System Supplier: Vikeda
  - Material Processor: Depo
  - Material Supplier: not provided
  - Resin: 20% talc-filled polypropylene
  - Tooling Supplier: not provided

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- **Finalist: MOLDED-IN-COLOR TONNEAU COVER – '07 MY General Motors Chevrolet® Silverado pickup –**  
**Description:** This is the first OEM-certified, thermoplastic hard tonneau cover offering a precise color match to the vehicle body through the use of a highly durable, molded-in color technology and the thermoforming process. The thermoplastic part is up to 50% lighter than competitive fiberglass tonneau covers of similar design and eliminates concerns over “witness” marks/lines and potential cracking of the top layer, which occur with competitive technology. A patented hinge attachment system enables the consumer to remove and securely re-install the unit in a matter of seconds. With molded-in-color, VOC emissions from paint are eliminated.
  - System Supplier: Penda Corporation
  - Material Processor: Penda Corporation
  - Material Supplier: Senoplast
  - Resin: Senosan® ABS/acrylic
  - Tooling Supplier: Tooling Technology
- **Finalist: INTEGRATED TAILGATE STEP SYSTEM – '08 MY Ford® Super Duty pickups by Ford Motor Co.–**  
**Description:** Industry’s first integrated tailgate step system features 9 separate assemblies of plastic and metal that provide a simple yet technical solution to an unmet customer need: for easy, safe entry into a pickup box. The main component’s GR-PP material provides mechanical strength, weldability, molded-in color, long-term weatherability, aesthetics, slip resistance, and durability to meet Ford’s specs. The product has been awarded 7 patents, with 3 additional patents pending.
  - System Supplier: Multimatic
  - Material Processor: Plastcoat
  - Material Supplier: A. Schulman, Inc.
  - Resin: Polyfort® FPP 1239H glass-reinforced polypropylene
  - Tooling Supplier: not provided
- **Nomination: TRUNK DIVIDER PANEL – '07 MY Nissan® Sentra® compact car –**  
**Description:** This is the first mid-trunk modular / removable divider system for a passenger vehicle application. The panel forms 2 compartments in the trunk (one hidden), has integral hooks for grocery bags, provides fold-flat design for wet / dirty item storage, and is removable for use outside vehicle. This solution met all cost, mass, performance, design, and functional requirements.
  - System Supplier: Meridian Automotive Systems
  - Material Processor: Meridian Automotive Systems
  - Material Supplier: Meridian Automotive Systems
  - Resin: not provided
  - Tooling Supplier: Radiance Mold

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- **Nomination: TRUNK STORAGE UNIT – '99-04 MY Ford® Mustang® sports car by Ford Motor Co. – Description:** This product went from concept to production in 3 weeks, providing unique additional storage and functionality to the vehicle. The patented DPM process uses uniform force over the total surface of the top and bottom thin-shell mold to compression form parts.
  - System Supplier: Vantage Technologies Inc.
  - Material Processor: Vantage Technologies Inc.
  - Material Supplier: AZDEL, Inc.
  - Resin: SuperLite® SL550800.738 low-density GMT composite
  - Tooling Supplier: Vantage Technologies Inc.

In the *Powertrain* category, this year's winner, finalists, and other nominations were:

- **Category Winner: ELECTRONIC THROTTLE CONTROL MODULE – '07 MY Chrysler® Pacifica cross-over vehicle from Chrysler LLC– Description:** This is the first plastic ETC housing, which replaces machined cast aluminum at mass savings of 28% and costs savings of 18%, while also reducing warranty costs and potential for ice freeze-up and potential throttle blade stick. A special zero-shrink BMC grade was used and the units tight concentricity better controls air flow at idle.
  - .System Supplier: Bosch
  - Material Processor: Christophery
  - Material Supplier: BMC, Inc.
  - Resin: Tetradur BMC TD 455 glass-reinforced thermoset polyester
  - Tooling Supplier: Christophery
- **Finalist: INTEGRATED TRANSMISSION BAFFLE / SEAL LIP – '08 MY General Motors Chevrolet® Malibu / Daewoo® Tosca / Buick® LaCrosse China sedans - Description:** This is the first-ever single-material design for an integrated transmission baffle/lip seal. The GM patent-pending design eliminates oil aeration for improved clutch durability to 200,000 miles, provides 50% increase in oil life, improves pump performance 45%, and offers easier assembly and provides smoother shift performance.
  - System Supplier: Chunil Engineering
  - Material Processor: Chunil Engineering
  - Material Supplier: DuPont Automotive
  - Resin: Hytrel® 7246 TCP/ET thermoplastic elastomer
  - Tooling Supplier: Chunil Engineering

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- **Finalist: TRANSMISSION THERMAL VALVE ASSEMBLY – '06 MY Nissan Nissan® Sentra® compact car -**  
**Description:** This is the first transmission by-pass valve with plastic poppet utilizing a patented, overmolded metal-to-plastic joint, which eliminates costly fittings and components, metal crimping, and welding processes. The application produced a 50% weight and 30% cost savings, while improving performance and reducing leaks.
  - System Supplier: Cooper-Standard Automotive
  - Material Processor: Calico
  - Material Supplier: DuPont Engineering Polymers
  - Resin: Zytel® HTN polyphthalamide
  - Tooling Supplier: Lutman Precision Mold
  
- **Finalist: ELECTRIC WATE VALVE ASSEMBLY – '05 MY Nissan Nissan® Titan® pickup / Armada® SUV / Quest® minivan -**  
**Description:** This is the first single-package, multi-function, underhood, water-valve assembly that uses overmolded joints to delivery better heat and AC performance. System provided 58% less pressure drop, 42% less internal leakage, 33% higher flow, and 17% less external leakage, all at 40% lower weight and 15% lower costs..
  - System Supplier: Cooper-Standard Automotive
  - Material Processor: Klum
  - Material Supplier: DuPont Engineering Polymers
  - Resin: Zytel® HTN polyphthalamide
  - Tooling Supplier: Klum

In the *Process / Assembly / Enabling Technology* category, the 2007 nominations, finalists, and category winners were:

- **Category Winner: FRONT-END CARRIER– '07 MY Volkswagen® Golf® / Bora® / Jetta® passenger cars -**  
**Description:** This is the first direct-long fiber thermoplastic (D-LFT) composite front-end carrier compounded with a twin- instead of single-screw extruder during the inline compounding (ILC) portion of the process. ILC provides cost and weight savings vs. conventional injection and GMT composites, while also eliminating many secondary operations.
  - System Supplier: Aksys de Mexico
  - Material Processor: Aksys de Mexico
  - Material Supplier: Basell Polyolefins (resin) & OwensCorning (glass)
  - Resin: inline compounded long-glass-reinforced polypropylene
  - Tooling Supplier: not provided

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- **Finalist: FRONT GRILLE MOLDING – '07 MY Mitsubishi FK Series medium-duty truck from Mitsubishi Motors**  
– Description: This is the first use of the Vacuum Injection Compression (VIC) process to produce such a part. The process provided the ability to pre-form, inject, and compression mold a Class A part edge-wrapped with a decorative film in a single-step process. Use of VIC eliminated the need for performing, requires no major trimming, and reduces the need for part handling, auxiliary equipment, additional labor, floor space, and the need for paint.
  - System Supplier: Sakae Riken
  - Material Processor: Sakae Riken
  - Material Supplier: A. Schulman Inc.
  - Resin: Invision® CX ionomer multilayer decorative film
  - Tooling Supplier: not provided
  
- **Finalist: PRESSURE FORMED IP TOP PAD – '06 MY Chrysler® Sebring mid-size car from Chrysler LLC** – Description: This top pad is the largest known component to use the in-mold graining pressure forming process. Replacing a 3-step spray-adhesive / injection molding / PUR back foaming process, the product is produced in a 2-shot process that yields crisp radii and uniform grain with no stretch or loss of graining as seen in traditional vacuum forming. As produced, the part is 45 g lighter, 35% less costly, and capital investment was reduced 40% vs. traditional in-mold graining / foam-in-place operations. The finished part does not need to be scored for airbag deployments and is invisible to customers. The 100% olefin family facilitates recycling and eliminates the VOCs associated with PUR foam and adhesive spray.
  - System Supplier: Faurecia Interior Systems
  - Material Processor: Pearl
  - Material Supplier: O'Sullivan (TPO laminate), Sunnex (adhesive), Basell (resin)
  - Resin: 20% talc-filled polypropylene
  - Tooling Supplier: KTX America (IMG)/ Kyowa (injection)
  
- **Finalist: CUT & SEW IP TOP PAD – '08 MY General Motors Cadillac® CTS luxury sedan** – Description: Cut & Sew PUR was laminated to an injection-molded LFT-PP retainer, then coupled with an innovative scoring technology to provide for seamless passenger airbag deployment while improving styling flexibility and enhancing appearance on this instrument panel. Cut & Sew PUR is a cost-effective solution for vehicle builds under 100,000 units, offering weight and cost savings, improved NVH, and the option for stitching and 2-tone colors to enhance perceptions of craftsmanship.
  - System Supplier: Dräxlmaier
  - Material Processor: Dräxlmaier
  - Material Supplier: Benecke / Ticona Engineering Polymers
  - Resin: Benova® polyurethane over Celstran® PP GF 30-02 LFT-PP
  - Tooling Supplier: HS Die

-more-

*SPE Announces Automotive Innovation Awards Competition Nominations, Finalists, & Winners  
15-15-15-15*

- **Nomination: AUTOMATED WRAP FLOOR CONSOLE – '08 MY General Motors Cadillac® STS luxury sedan – Description:** This process is an automated edge-wrapping technology for interior trim applications. The unique bonding process involves heat and pressure used in conjunction with automated edge wrap tooling and yields improved fit and finish at reduced cost
  - System Supplier: Dakkota Systems
  - Material Processor: Continental Plastics Co.
  - Material Supplier: Dow Automotive
  - Resin: Magnum® 975P high-heat ABS
  - Tooling Supplier: ASI
- **Nomination: SEAT ENERGY ARMREST – All MY – Commercial Buses – Description:** This armrest offers part integration and consolidation, reducing component counts from 26 to 8 parts, while offering enhanced aesthetics and ergonomics over previous product offering. The new arm can be configured for three different option levels, using common components
  - System Supplier: American Seating
  - Material Processor: MACK Molding Co.
  - Material Supplier: BASFCorp.
  - Resin: Ultramid® SEG7 nylon 6
  - Tooling Supplier: MSI Mold Builders

The winner in *Hall of Fame* category – for applications in continuous use for at least 15 years – was:

- **Category Winner: GLASS-REINFORCED NYLON RADIATOR END TANK – '82 MY Ford® Escort® / Mercury® Lynx® compact cars from Ford Motor Co. - Description:** As one of the first major underhood applications for engineering plastics, the radiator end cap broke ground for many future engine-compartment applications. The objectives for converting the application from aluminum to nylon were parts integration and cost reduction, weight reduction, and equal or better performance. It was particularly challenging to develop and test materials in hot ethylene glycol (antifreeze) solutions. DuPont developed new grades of their glass-reinforced nylon resin and tested prototypes in a "jungle room" with hot antifreeze running through the parts 24 hours a day. Mold design with movable cores, design for low part warpage, and multifunctional design were all partnered in this application among Ford PPD, Hoover Universal, and DuPont. The success of this application was later expanded by recycling strategies that included a novel chemical recycle method for radiator end caps that was honored with the 2004 Environmental Award for New Technology in Materials and Processes given by the Environmental Division of SPE at the Global Plastics Environmental Conference. Innovations in processing, materials, and design used in this application were later translated to charge-air coolers, thermostat housings, and many other powertrain applications that continue to this day.
  - System Supplier: Ford Plastics Product Division / Hoover Universal (ultimately became Carlisle)
  - Material Processor: Hoover Universal
  - Material Suppliers: DuPont Automotive
  - Resin: Zytel® glass-reinforced nylon 6/6
  - Tooling Supplier: not provided

-more-

*SPE Announces Automotive Innovation Awards Competition Nominations, Finalists, & Winners*  
*16-16-16-16*

According to Kevin Pageau, account manager, Tegrant Corp. and also ***SPE Automotive Innovation Awards*** past-chair and current ***Innovation Awards*** nominations chair, “While this year’s pool of accepted nominations wasn’t the largest we’ve seen in the last decade, the quality of the technology represented was really high. This made it difficult for judges in both the first and second rounds of presentations to pick a few finalists and a single winner in each category.”

Brian Grosser, automotive business manager for Samsung Chemical USA, and the '06 & '07 ***SPE Automotive Innovation Awards*** program chair as well as SPE Automotive Division chair, added, “The competition in each category was especially intense this year because there were so many interesting applications this year representing novel uses of technology. What you will see represented in this nomination pool is a true global gathering of the most innovative automotive plastics applications of the year.

SPE’s ***Automotive Innovation Awards*** program is the largest competition of its kind in the world and the oldest recognition event in the automotive and plastics industries. Dozens of teams made up of OEMs, tier suppliers, and polymer producers submit nominations describing their part, system, or complete vehicle module and why it merits the claim as *Year’s Most Innovative Use of Plastics*. This annual event typically draws over 600-800 OEM engineers, automotive and plastics industry executives, and media. As is customary, funds raised from the event are used for SPE educational efforts and technical seminars, which help to secure the role of plastics in the advancement of the automobile.

The mission of SPE International is to promote scientific and engineering knowledge relating to plastics worldwide and to educate industry, academia, and the public about these advances. SPE’s Automotive Division is active in educating, promoting, recognizing, and communicating technical accomplishments for all phases of plastics and plastic-based composite developments in the global transportation industry. Topic areas include applications, materials, processing, equipment, tooling, design, and development.

For more information about the ***SPE Automotive Innovation Awards Gala***, visit the SPE Automotive Division’s website at [www.speautomotive.com/inno.htm](http://www.speautomotive.com/inno.htm), or contact the group at +1.248.244.8993, or write SPE Automotive Division, 1800 Crooks Road, Suite A, Troy, MI 48084, USA.

For more information on the Society of Plastics Engineers International or other SPE events, visit the SPE website at [www.4spe.org](http://www.4spe.org), or call +1.203.775.0471.

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**TROY, (DETROIT) MICH.** - The winning entry in the *Body Exterior* category for the 37<sup>th</sup>-annual **SPE® Automotive Innovation Awards Competition** was the **composite assist step on '07 MY General Motors Trailblazer® / Envoy® SUVs** produced by system supplier Magna Decoma - Mytox Division.

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**TROY, (DETROIT) MICH.** - The winning entry in the *Body Interior* category for the 37<sup>th</sup>-annual ***SPE® Automotive Innovation Awards Competition*** was the **door trim and hardware module** on the **'06 MY Chrysler® Caliber / Compass / Patriot SUVs from Chrysler LLC** produced by system supplier, Grupo Antolin.

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**TROY, (DETROIT) MICH.** - The winning entry in the *Chassis / Hardware* category for the 37<sup>th</sup>-annual ***SPE® Automotive Innovation Awards Competition*** was the extruded seal for HIM door modules featured on **'07 MY Dodge® Nitro / '08 MY Jeep® Liberty SUVs from Chrysler LLC** and produced by system supplier, Faurecia Interior Systems.

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**TROY, (DETROIT) MICH.** – The winning entry in the *Materials* category and also the *Grand Award* winner for the 37<sup>th</sup>-annual ***SPE® Automotive Innovation Awards Competition*** was **backlighting using color-converting plastic** on the **'07 MY General Motors Chevrolet® Tahoe SUV** produced by system supplier Delphi Electronics & Safety.

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**TROY, (DETROIT) MICH.** – The winning entry in the *Performance & Customization* category for the 37<sup>th</sup>-annual ***SPE® Automotive Innovation Awards Competition*** was the folding pickup bed extender designed for '06 MY Ford® F250 pickups by Ford Motor Co. and produced by system supplier ABC Group.

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**TROY, (DETROIT) MICH.** - The winning entry in the *Powertrain* category for the 37<sup>th</sup>-annual ***SPE® Automotive Innovation Awards Competition*** was the **electronic throttle control module** for **'07 MY Chrysler® Pacifica cross-over vehicle from Chrysler LLC** and produced by system supplier, Bosch.

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**TROY, (DETROIT) MICH.** - The winning entry in the *Process / Assembly / Enabling Technologies* category for the 37<sup>th</sup>-annual ***SPE® Automotive Innovation Awards Competition*** was the **front-end carrier** used on '07 ***MY Volkswagen® Golf® / Bora® / Jetta® passenger cars*** and produced by system supplier Aksys de Mexico.

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