GM's 'Boss' Kettering Awards Honor Top Innovators

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Summary of Press Release (and excerpt about Intelligent Assist Devices)

DETROIT, April 26, 2000 /PRNewswire/ -- General Motors has recognized 44 employees for developing outstanding innovations encompassing a wide range of technologies including virtual prototyping systems, wireless communications, assembly line processes, and powertrain and transmission improvements.

Fourteen innovations or inventions were selected for the "Boss" Kettering Award for 1999, the corporation's top technical honor, for providing significant benefit to the corporation, its customers and employees. In addition to receiving a substantial cash award and trophy, awardees will be honored at a recognition banquet hosted by top officers on May 4.

The annual awards are named for Charles "Boss" Kettering, first vice president of the GM Research Laboratories. He was a prolific inventor, with more than 140 patents in his name. Now in its 24th year, the "Boss" Kettering Awards have recognized 476 individuals for 174 inventions.

Underscoring GM's commitment to champion and implement technical innovation, nearly $5 million in cash awards have been granted through the "Boss" Kettering Awards program since its inception. "A cash payment accompanies this award as an expression of appreciation and reflects GM's renewed commitment to remain the industry leader in technology," said John F. Smith, Jr., GM chairman and chief executive officer, in a letter to honorees.

Intelligent Assist Devices (IADs):

Intelligent Assist Devices (IADs) are novel computer-controlled material handling devices designed to guide and assist assembly line operators in handling large, bulky and awkward subsystems. The IADs improve ergonomics and safety by use of "virtual walls" and power assists. The systems are currently used in assembly plants in Flint, Mich. and Moraine, Ohio.

Awardees:

Prasad Akella, Controls, Robotics & Welding Group, Warren, Mich.
Nidamaluri Nagesh, General Assembly Center, GM North America Car Group, Warren, Mich.

Full Text of Press Release

Fourteen Technologies Recognized for Innovation Leadership

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A list of this year's "Boss" Kettering Award winners and their inventions follows:

1999 GM "BOSS" KETTERING AWARDS

Active Driveline Damping: This technology automatically senses and corrects driveline vibration, known as "shuffle," which sometimes occurs in manual transmissions. This math-based solution yielded excellent performance at near-zero cost. It was implemented beginning in 1998 and subsequently used in all 1999 GM North American vehicles with manual transmissions.

Awardees:

Robert L. Morris, GM R&D and Planning, Warren, Mich.

Patrick Usoro, GM R&D and Planning, Warren, Mich.

Advanced Aluminum Forming: This unique aluminum forming process was developed for production of automobile component parts with improved performance.

Awardees:

Chongmin Kim, GM R&D and Planning, Warren, Mich.

Sooho Kim, GM R&D and Planning, Warren, Mich.

M. S. Rashid (1979 & 1992)*, GM R&D and Planning, Warren, Mich.

Edward F. Ryntz, Jr., GM R&D and Planning, Warren, Mich.

Frederick I. Saunders, GM R&D and Planning, Warren, Mich.

Ravi Verma, GM R&D and Planning, Warren, Mich.

Architectural Virtual Prototyping: This is the key enabler for a fast vehicle development process providing virtual vehicle assessments prior to hardware decisions and builds. This math-based technology is the fundamental tool to migrate from hardware-based to math-based development, using computer aided design (CAD) in the computer aided engineering (CAE) environment, thus reducing the vehicle development cycle.

Awardees:

Christoph Goettlicher, Adam Opel AG, International Technical Development

Center (ITDC), Russelsheim, Germany

Christian Goerg, Adam Opel AG, ITDC, Russelsheim, Germany

Klaus Hieronimus, Adam Opel AG, ITDC, Russelsheim, Germany

Laszio Kreth, Adam Opel AG, ITDC, Russelsheim, Germany

Willi Krummeck, Adam Opel AG, ITDC, Russelsheim, Germany

Sylke Rosenplanter, Adam Opel AG, ITDC, Russelsheim, Germany

Automatic Transmission Park Pawl: Allison Transmission is the first and only automatic transmission producer in the world to offer a park pawl system up to 26,000 lbs. gross

vehicle weight (GVW). The design is part of Allison Transmission's 1000 Series(TM) and 2400 Series(TM) transmissions, which went into production in June of 1999.

Awardees:

James A. Raszkowski, Allison Transmission Division, Indianapolis, Ind.

William S. Reed, Allison Transmission Division, Indianapolis, Ind.

DynaIdle: This model-based algorithm improves powertrain performance by utilizing an automated calibration procedure which reduces engine speed deviation during idle conditions and reduces engine calibration time. DynaIdle results in improved idle quality and was first applied in the Premium V-8 engine in the 2000 Cadillac DeVille.

Awardees:

Scott J. Chynoweth, GM Powertrain, Milford, Mich.

Michael Livshiz, GM Powertrain, Milford, Mich.

Sharon Singh, GM Powertrain, Milford, Mich.

Joe Tolkacz, GM Powertrain, Milford, Mich.

EGR Valve Maintenance Method: This control algorithm improves driveability by maintaining the operating condition of an Exhaust Gas Recirculation (EGR) valve by removing carbon deposits on the valve shaft upon power-up and before engine start. First used in the 1996 model year, the EGR valve carbon removal method was fully implemented across GM North America in the 1998 model year.

Awardees:

Paul Bauerle, GM Powertrain, Milford, Mich.

Robert Semrau, GM Powertrain, Milford, Mich.

John Stockbridge, GM Powertrain, Warren, Mich.

Generation II Driver Air Bag Module: This Generation II driver air bag module provides a significant cost reduction through a 58 percent reduction in parts and 77 percent in warranty costs. In addition, the Generation II module increases the visibility of the

instrument cluster and steering column controls. This was first introduced in the 1998 Chevrolet C/K / GMC Sierra pickups, Chevrolet Astro / GMC Safari mid-size vans, Chevrolet Chevy Van / GMC Savana full-size vans, and 1999 Chevrolet S-10 / GMC Sonoma pickups, Chevrolet Blazer / GMC Jimmy SUVs, and Chevrolet Silverado / GMC Sierra pickups.

Awardees:

Robert E. Bowser, GM Truck Group, Pontiac, Mich.

Mary S. Christopherson, GM North America Safety Center, Warren, Mich.

George F. Seymour, IV, GM Truck Group, Pontiac, Mich.

GRINDsim: This PC math-based simulation program is used to simulate and optimize grinding processes throughout General Motors. Grinding represents 10-20 percent of manufacturing expenditures with over 600 grinding machines used in GM Powertrain plants. The use of GRINDsim resolved potential manufacturing issues prior to start of production on various engine programs.

Awardees:

Scott A. Hucker, GM Powertrain, Warren, Mich.

Robin Stevenson, GM R&D and Planning, Warren, Mich.

Guioxian Xiao, GM R&D and Planning, Warren, Mich.

Intelligent Assist Devices (IADs): Intelligent Assist Devices (IADs) are novel computer-controlled material handling devices designed to guide and assist assembly line operators in handling large, bulky and awkward subsystems. The IADs improve ergonomics and safety by use of "virtual walls" and power assists. The systems are currently used in assembly plants in Flint, Mich. and Moraine, Ohio.

Awardees:

Prasad Akella, Controls, Robotics & Welding Group, Warren, Mich.

Nidamaluri Nagesh, General Assembly Center, GM North America Car Group, Warren, Mich.

Light Emitting Diode (LED) Rear Combination Lamp: This totally Light Emitting Diode (LED) rear combination tail, side marker, stop and turn lamp assembly eliminates all wire connections while supporting and thermally managing the LED array. This industry- first LED combination lamp debuted on the 2000 Cadillac DeVille.

Awardee:

Ronald L. Steen, GM North America Car Group, Flint, Mich.

Lightweight Structural Sheet Molding Composite (SMC-3374): This advanced generation of lightweight composites was developed for use in under-the-hood components which are capable of performing under the demanding conditions of constant load and variable temperatures. This technology results in 30 percent weight savings at no added cost. This lightweight SMC material was used in front-end support panels for the 2000 Buick LeSabre, 2000 Pontiac Bonneville and 2001 Oldsmobile Aurora.

Awardees:

Hamid G. Kia (1996)*, GM R&D and Planning, Warren, Mich.

Harry A. Mitchell (1996)*, GM R&D and Planning, Warren, Mich.

OnStar's National "500" Wireless Network: This is the first implementation of a national wireless network using a non-geographic area code (500) to deliver OnStar mobile communication services. This network protects OnStar from fraudulent practices such as telephone number cloning and enables subscribers direct access to OnStar's safety, security and information services. The network was first implemented in the 1999 model year in conjunction with the introduction of OnStar's second-generation three-button system.

Awardees:

Ray A. Westbrook, OnStar, Troy, Mich.

Programmable Adaptive Assembly System (PAAS): This innovative body shop tooling system reduces floor space requirements and investment costs while allowing multiple body style production, compared to traditional tooling systems. PAAS is being implemented in assembly plants in Lansing, Mich. and Moraine, Ohio.

Awardees:

Bill Hoder, Controls, Robotics & Welding Group, Warren, Mich.

Marty Linn, Controls, Robotics & Welding Group, Warren, Mich.

Gary C. Rieck, Metal Fabricating Division, Warren, Mich.

Jon A. Wagner, Controls, Robotics & Welding Group, Warren, Mich.

Charles W. Wampler, GM R&D and Planning, Warren, Mich.

Janet M. Wondero, Controls, Robotics & Welding Group, Warren, Mich.

VisualEyes(TM), Virtual Prototyping Display System: This system of integrated hardware, internally developed virtual reality software, and user interfaces is used to create stereoscopic, full- size, visually realistic displays of vehicles and components. VisualEyes(TM) is used throughout GM for vehicle design review, rapid prototyping, die and engineering analysis, and manufacturing validation.

Awardees:

Donald J. McMillan (1990)*, GM R&D and Planning, Warren, Mich.

Lawrence E. Peruski, GM R&D and Planning, Warren, Mich.

Randall C. Smith, GM R&D and Planning, Warren, Mich.

* Previous Kettering Award(s)

General Motors (NYSE: GM), the world's largest vehicle manufacturer, designs, builds and markets cars and trucks worldwide. In 1999, GM earned $5.6 billion on sales of $176.6 billion. It employs about 388,000 people globally.

GM is investing aggressively in high technology and e-business within its global automotive operations and through such initiatives as e-GM, GM BuyPower, OnStar and its Hughes Electronics Corp. (NYSE: GMH) subsidiary. GM also operates one of the world's largest and most successful financial institutions, GMAC. More information on General Motors can be found at www.gm.com . SOURCE General Motors Corporation

References
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