Ford's Gioia Joins Panel of Auto Experts on EV Future

By Jim Stickford
Staff Reporter

The race to develop the best electric vehicle (EV) systems and great plug-in electric vehicles (PEVs) presents OEMs and innovators with an opportunity to get in at the beginning of a whole new phase of the auto business.

The green car initiatives taking place right now in the car business boil down to the creation of knowledge, and the best ways to apply this knowledge in a business format, said David Cole, emeritus chairman of the Center for Automotive Research (CAR) in Ann Arbor, Mich.

Cole was moderating a symposium at the recent Business of Plugging In Conference in Detroit.

He kicked off the event by saying that today's automotive technologies are doing things that have never happened in the past, such as bringing together OEMs and public utilities, something that was incomprehensible only a few years ago.

With the invention of the lithium-ion battery, OEMs now have something that is here right now and makes predicting future trends a little easier. The battery has also caused innovative thinking that will require OEMs to come up with new ways of doing things, from tires to drag reduction to vehicle electronics.

And, Cole said, all this innovation has to make sense financially, making right now an exciting and challenging time for automakers.

John D. Schaaf, Jr., vice president, Market Development Power Solutions for Johnson Controls, said he sees three strategies for making EVs and PEVs work.

"All strategies will be driven by the consumer," Schaaf said. "Surveys show the public say they'll buy EV and hybrids if given the choice – if it makes dollars and sense. When the choices finally made by the public the economics always win."

The first strategy is to look at the potential of start-stop technology for the North American market. Start-stop is more heavily used in Europe and the technology can act as a bridge from Internal Combustion Engines (ICE) to deeper EVs.

Second, it will be important to support new technologies with tax incentives for hybrid-electrics for a while. These incentives make vehicles attractive to consumers for economic reasons. Again, it comes down to the math.

Third, there clearly needs to be more investment in plug-in hybrids and full plug-in vehicles. Developing this technology means learning on a steep curve. Working with fleet operators is one way to go. Fleets are stable and the people manning them tend to be better at knowing the future cost of ownership.

Johnson Controls recently purchased electric delivery vans for its own corporate fleet. Schaaf said they'll save money in the long run and the information they collect will help with development, and will give them a better idea of return on investment.

"We believe in a blended approach," Schaaf said. "It requires the right technology at the right cost while looking at other technologies in other parts of the world."

Nancy Gioia, director of Ford's global electrification, called today's auto market a time of "evolution and revolution," with things moving toward fuel diversity.

"This means investment and a number of players in the auto industry at a level we haven't seen in a hundred years," Gioia said. "My colleagues are right when they say it always starts with the customer. We must provide good cars that meet their needs at costs they can afford."

Ford has invested in a variety of different green techs and information gained from one project informs the parallel research on the other green projects, she said.

Gioia said no one technology will meet every customer's needs. Just developing battery technology takes two to three years for each design cycle, and she estimates two to four design cycles before they really get it right.

All three panelists agreed that for new tech to work, it must appeal to buyers on a cost level. Good intentions won't be enough, and getting costs to work is not easy.

Schaaf compared it to the chicken and the egg. An increase in sales volumes allows economies of scale to kick in, reducing cost, but buyers won't buy until costs are down.

Doug Parks, GM's global vehicle line executive and global vehicle chief engineer for electric vehicles, said each new technology will have its own economic model.

"I handle the Volt and said while the car is exceptional from an engineering and driving standpoint, we aren't there yet economically," Parks said. "And we won't be for a while. Not in two years, but hopefully in five. There have to be companies that have the courage to lead even though the costs of getting these vehicles viable in the marketplace will be high."

Cole asked about government support. Parks said tax incentives for the purchase of vehicles like the Volt really help make the car affordable. He admitted that a $41,000 MSRP is steep and they'd really like to see the cost go down by about $10,000, but that isn't easy. Incentives help sell the vehicle. That helps with volume, which will ultimately help bring costs down.

Gioia said there will need to be a full public/private partnership to create a full EV.

"Technology will have to be continually developed, and everyone wants to avoid a bubble with adoption of new tech," Gioia said. "This is costly and foreign competitors are helped by their governments."

Schaaf said a simple way government could help was by buying green product. The federal government maintains the largest fleet service in the country. Simple policy adjustments resulting in the government purchasing electric fleet vehicles could really make a difference.

As electric technology is adopted, Schaaf said, the public will also have to change the way it thinks. Moving from miles per gallon to kilowatt hours. There will have to be new ways to calculate cost per miles.

Gioia said how taxes are collected will also have to change. Right now, roads are heavily funded through gas taxes. Once electric vehicle penetration hits about 5 percent of vehicles being driven, fuel taxes will decline in a noticeable way. Electric vehicles will still be using roads, but they won't be paying their way via gas taxes.

Nancy Gioia

Cole concluded the symposium by asking who the new players in electric technology will be. Parks said it will be a mix of OEMs, traditional suppliers and innovators. Google is already getting involved through its smart technology.

Schaaf called the field wide open. But he warned that it's expensive to participate and, while there's room for new entrants such as Tesla, many players here today won't be here 5 or 10 years from now.

The Business of Plugging In Conference was very well attended by the Big Three.

Ford Executive Named to Head China Business

DETROIT (AP) – Ford Motor Co. last week made several executive moves in its international operations, including added responsibility for one of several possible candidates to succeed CEO Alan Mulally should he decide to retire.

Joe Hinrichs, former global manufacturing chief who is now president of Ford's Asia Pacific and Africa operations, will take on the added role of chairman and CEO of Ford of China starting Nov. 1. Hinrichs is among several executives mentioned as possible successors for Mulally.

Ford said Robert Graziano, the CEO of Ford China, will become CEO of Ford Australia and New Zealand.

The Dearborn automaker also said that Jeffrey Shen, president of Changan Ford Mazda Automobile Co., Ford's joint venture in China with Mazda, will retire on Dec 31. The company named Marin Burela, now CEO of Ford Australia and New Zealand, to replace Shen.

Hinrichs' added responsibilities reflect the importance of Ford's growth in the world's largest automotive market, the company said in a statement.

PHOTO: JIM STICKFORD

Ford steering wheel driver/airbag design and release engineer Jennifer Easton and Ford senior engineer of auto body architecture Edgar Donabedian participated in Technology Day at UDM.

Ford Engineers Participate in UDM's 'Technology Discovery Day' for Teens

By Jim Stickford
Staff Reporter

For Ford Motor Co. engineers Edgar Donabedian and Jessica Easton, participating in the University of Detroit Mercy's (UDM) Technical Discovery Day gave them the chance to recruit the next generation of scientists to the field of engineering.

Technical Discovery Day is an annual event sponsored by the school's College of Engineering and Science as a way of informing local high school students about careers in engineering and science.

Professors and UDM students host events pitting students against each other in contests of scientific skill. Students also get to see displays of science in action.

But also an important element to the event is the chance for students to speak with engineers from companies such as Ford. This gives them the chance to learn more directly about careers available to science majors, said Leo Hanifin, UDM dean and Chrysler professor of Engineering, College of Engineering and Science.

Easton, 27, is steering wheel, driver airbag design and release engineer for Ford. She said people shouldn't think of engineering as something for men only.

"Women can do anything they want as long as they put their minds to it, and have goals," Easton said. "It's a matter of what path they choose and if they choose engineering and science, they'll have a lot of opportunities."

Easton said she got her degree in chemistry and started working as an intern at Ford in 2006. Later that year, she was hired as a Ford College Graduate – a program that puts hires in six-month rotations around the company so that they can get an understanding of how the company works.

"I found that I liked working on things and deploying technology that improves the company's products and saves lives," Easton said.

Donabedian, senior engineer – automotive body architecture, said he got started with Ford by answering a newspaper ad back in 1995. He was hired as a sheet metal designer.

"I hadn't completed my undergraduate degree yet, but was only one of two people hired as a result of that ad," Donabedian said.

"They hired me because of my Computer Aided Design (CAD) skills. So I worked for Ford and completed my undergraduate education at the same time. I got that degree in 1999, and my master's in product development in 2001."

Donabedian said he came to the event as a representative of Ford and to let students know the company is alive and needs engineers.

"We showed the students (that) advanced technology and dynamic design create vehicles consumers are interested in," Donabedian said. "Students need insight into the field of engineering and science and what the real world applications are. We also want to reinforce the idea that engineering is thriving. To prosper, a company has to create products people want and that requires engineers."

Easton said it's important to reach out to students and stress the importance of education and the options a good education in science provides them.

Among the students attending the technology day were Livonia Ladywood High School seniors Erin Barnes and Country Smith.

They had the chance to here what Easton and her colleagues had to say about careers in science.

Barnes said she saw the announcement for the event and thought it might be interesting to attend. Her coursework over her high school career includes a full year of biology, a full year of anatomy, as well as a full year in chemistry, physics and a semester in genetics. She is planning on taking a course in forensic science later this year.

Smith has taken courses in biology, chemistry, forensic science, physics and Advanced placement chemistry. She said she likes math and would like to be an accountant or architect.

"I don't know yet," Smith said.

Barnes said she doesn't yet know what she will study in college, but believes it will probably be science-related.

"I like the science behind crime scene investigation," Barnes said. "I might want to study that."

She said she enjoyed the hands-on nature of some of the demonstrations, but wished she had done better at the Jeopardy game.

"It was hard," Barnes said. "Only two people got 100 percent in the preliminary round, and that was the one with the easy questions."

"I am happy with the outcome of the day," Smith said. "and I liked the experiences in which I was able to participate. It's nice to know there's room in science fields for younger students."

Mopar Puts 35 Vehicles Into 2010 SEMA Show

If it's early in November, it must be "SEMA season" for the local auto industry.

Indeed, Mopar is preparing 35 vehicles for the upcoming 2010 Specialty Equipment Market Association (SEMA) show, which takes place Nov. 2-5 in Las Vegas. Mopar will fill its 15,300-square-foot space with customized Chrysler, Dodge, Fiat, Jeep and Ram Truck vehicles.

"With five exhibits, the Mopar brand will have a major presence at SEMA," said Pietro Gorlier, President and Chief Executive Officer – Mopar, Chrysler Group's service, parts and customer-care brand. "Mopar will showcase cutting-edge technology, innovative accessories, authentic parts, and new customer-care initiatives. And our Moparized vehicles will be must-see."

"We created an amazing cast of Mopar image vehicles for SEMA," said Ralph Gilles, President and Chief Executive Officer, Dodge Car Brand and Senior Vice President – Product Design. "As all of our new vehicles arrive in dealerships this year, we want to inspire customization and personalization. Our Mopar image vehicles will definitely turn heads."

The Mopar Underground group and the Mopar design team worked together to create these image vehicles. Projects originated in the Chrysler Group Product Design office and were led by Mark Allen, Chief Designer – Head of Jeep Design Studio, and Jeff Gale, Advance Studio Design Lead. In addition to image vehicles, other "Moparized" vehicles for the show were developed under the direction of Brian Rogos, Head of Accessories and Performance Parts, and Pat Muldoon, Head of Mopar Product Development.

One of the featured Mopar's cars is the 2011 RedLine Dodge Charge. At SEMA, America's baddest sedan gets a little more fearsome. The diehard enthusiasts at Mopar Underground wasted no time in taking the not-yet-in-market 2011 Dodge Charger under their wing.

"We let the designers of the production car and their friends at Mopar rip," said Gilles. "I wanted them to show us what they would do with this vehicle if it were their own dream car."

The RedLine Charger brings the 2011 version of the popular vehicle lower to the ground with a tuned suspension that lowers the car one inch. The RedLine Charger's aggressive appearance is backed by the 5.7-liter HEMI® engine tucked under a unique aluminum hood. Mopar parts, including headers, an exhaust system and a cold-air intake, provide horsepower and torque gains, while a Mopar strut tower brace amps up the handling and driveability needed to corral the additional horsepower.

The RedLine Charger's power matches its stealthy appearance. The blacked-out feel is accomplished with a black roof, front lower and rear-end treatment and continues with carbon fiber mirror caps. The 22-inch staggered-width Super Alloy wheels, with Pirelli tires wrapped around (265/35/22 front, 295/30/22 rear), follow the blacked-out theme as do the unique carbon fiber lower air dam/splitter and rear spoiler, created by the Mopar Underground team specifically for the RedLine Charger. Headlamps and tail lamps also get the blacked-out treatment.

Recalling Dodge Charger's legendary heritage is a side scoop reminiscent of the scoop on the 1970 Dodge Charger R/T. The black side scoop is emblazoned with a red R/T logo, offering a nice tie-in to the RedLine Red paint employed on the RedLine Charger.

SEMA has become the largest and most visible automotive aftermarket car show in the country. It is held every November in Las Vegas.

Ford Uses SEMA Show To Market

CONTINUED FROM PAGE 1

on the California Special Mustang. To check out the accessories used, visit www.fordaccessoriesstore.com

The interior of the Mustang features a concept design that uses white and black Ultrafabrics material on a variety of surfaces, with inserts that resemble carbon fiber.

The white material is highlighted on the seats, door inserts, steering wheel and dash appliqué. Coral accents also set the mood inside, where they are used on the steering wheel, gauge cluster, shifter knob and air vents. Interior styling also includes coral accent lighting for a unique touch.

The Big Three are expected to have the largest presence at SEMA, led by Ford's Mustang lineup and Chrysler's 35 aftermarket muscle cars from its Mopar unit.

UDM Warms Students to Engineering

CONTINUED FROM PAGE 1

any away.

This year, competitions included students building bridges using only glue and toothpicks. The bridges were then tested and the one that held the most weight compared to its own weight was the winner.

Other students built catapults that had to shoot a tennis ball over a five-foot-tall bar. They aimed the tennis balls at stacks of tin cans, with the winner being the person or team that knocked over the greatest number of cans.

Other students got to play King of the Hill. In that contest, two four-wheeled devices powered by stored energy, went up a slope at each other. The winner was the vehicle that pushed the other one over the slope.

There was a Jeopardy-like contest in which students answered science-based questions. Other students got to participate in an egg-drop contest in which they were given materials and had to build a covering that would permit them to drop an egg 40 feet without the egg breaking. Other students built Rube Goldberg devices that had to do simple things in an absurdly complicated manner.

The chemistry department put on a display of chemistry in action. Students got to see, among other things, pumpkins frozen with liquid hydrogen. The pumpkins were then smashed. There were also displays where hydrogen and fire were mixed to explosive results.

Students wishing to take UDM's engineering courses have dropped over the past couple of years, Hanifin said. There was some fear that, during the recent difficulties in the auto business, there was less of a need for engineers.

The opposite is true, Hanifin said. The OEMs and their suppliers are making a comeback, and many engineers tooks buyouts or retired, so those slots have to be filled. The demand for engineers is greater than ever, Hanifin said.

The contests and displays were manned by professors and science students from UDM. Participating high schools included Communications Media Arts, University of Detroit Jesuit, Cody Prep, Finney High School, Roseville High School, Brother Rice High School, Bishop Foley High School, Marian High School, Huron Valley Lutheran High School, Renaissance High School, West Bloomfield High School, Madison High School, the Advanced Technology Academy of Dearborn, Waterford Mott High School, Kettering High School, Romulus High School, Arts Academy in the Woods, Ladywood High School and Farmington High School.