

GM's Continued Innovation Leads to Record Patent Filings

"Boss Kettering would be proud."

That's how GM spokesman Dan Flores reacted to this year's revelation that GM is a leader in overall patent filings.

Charles F. "Boss" Kettering, of course, was head of research at GM for 27 years and held 186 patents.

An indicator of General Motors' commitment to creating customer-driven innovation can be found in the results of two leading studies – the Patent Board and Clean Energy Patent Growth Index, said Flores.

Together, they show that GM as the leader in patent filings and those focused on clean energy technology.

GM finished first in overall industry patent filings for the 11th consecutive quarter, according to the Patent Board.

Additionally, GM now leads all companies in total U.S. clean energy patents granted since 2002, according to the Clean Energy Patent Growth Index, a third-party monitor of intellectual property involving clean technologies.

"Patents are an indicator of the potential for the GM enterprise to innovate," said Jon Lauckner, GM chief technology officer, vice president of Global R&D and president of GM Ventures.

"Thriving companies have a

track record of creating and commercializing innovation, and we are striving every day to discover technological breakthroughs that create tangible benefits for our customers around the globe."

During the past year, GM accumulated 1,643 patents, according to the Patent Board study, Lauckner said, adding that patent volume is necessary, but commercialization for customer benefit is most important.

"GM is the only company to have achieved the No. 1 position 11 consecutive times in the Patent Board's Automotive and Transportation industry ranking," said Karl R. Wilhelm, chief

executive officer of the Patent Board.

"GM's contribution to innovation in its industry has clearly put it ahead of its competitors."

The Patent Board is the leading independent provider of best practices research tools and metrics for patent analysis and intellectual property investment, Wilhelm said.

The Patent Board tracks and analyzes innovation and patents across 17 industries on a global basis.

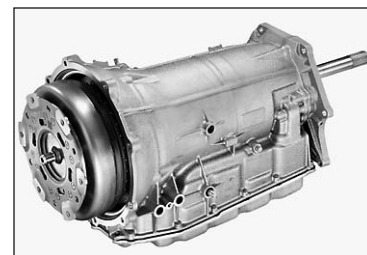
The Patent Board technology strength ranking is based on each company's patent portfolio scale, quality and impact.

Clean energy patents are grow-

ing faster than ever in the United States, Wilhelm said. With more clean energy patents than any other company, GM is committed to developing and implementing technologies that lessen the environmental impact of vehicle emissions, said Flores.

GM also led all companies in fuel cell patents granted in 2013 as it has since 2002, Wilhelm said. Fuel cell technology could enable vehicles to be fueled with renewable hydrogen, a sustainable alternative to the gasoline-powered internal combustion engine.

The Index tracks U.S. patents for solar, wind, hybrid/electric vehicles, fuel cells, hydroelectric,



GM's Corvette Z06 eight-speed transmission has 24 patents.

tidal/wave, geothermal, biomass/biofuels and clean, renewable energy, Flores said.

These patents and the technology they represent can be seen in

CONTINUED ON PAGE 3



Mary Barra

'People Care About More Than the Cars, Transforming Our Approach' – GM's Barra

Facing an automotive industry that General Motors officials say is unsustainable in its current form, GM is restructuring its global vehicle portfolio, rethinking manufacturing and collaborating with unlikely partners to advance the industry.

The Detroit automaker is working to transform transportation and describes its efforts in its latest sustainability report, said GM

spokesperson Sharon Basel.

"Our customer focus underscores why sustainability is and will continue to be a core strategy for GM," said CEO Mary Barra.

"People care about more than the cars. They care how we build them, and how we engage with the world around us.

"This knowledge, and the discipline that flows from it, is transforming our approach to product

design, manufacturing, safety, quality, the environment, customer care and a host of other areas at a remarkable pace."

From smaller and cleaner high-performing engines to mass reduction and improved aerodynamics, vehicle efficiency efforts will reduce carbon emissions and increase fuel economy while

CONTINUED ON PAGE 3

2,000 Museums Offer Free Entry To the Military

The nation's active duty military personnel will receive free admission to more than 2,000 museums across America.

The offer, by The Michigan Military Technical & Historical Society (MiMTHS) and Blue Star Museums, is a collaboration among the National Endowment for the Arts, Blue Star Families, and the Department of Defense, and includes National Guard and Reserve and their families from Memorial Day through Labor Day of this year.

CONTINUED ON PAGE 6



Professor Volker Sick, left, with student Philipp Schiffmann at U-M lab

GM to Continue Research Work with U-M Students

General Motors and the University of Michigan have extended their collaborative automotive research efforts through 2017.

Launched in 1998, U-M's Collaborative Research Laboratories (CRL) have led to significant commercial and academic success for students, the university and the automaker, said GM spokesman Dan Flores.

In 2011, it yielded a unique process to ultrasonically weld battery tabs together that played a role in enabling the Chevrolet Volt team to offer an eight-year,

100,000-mile warranty on its lithium-ion battery system.

The new Automotive CRL creates an organizational umbrella structure and initially will focus on research into engine systems and advanced manufacturing, Flores said.

In addition, GM and the University of Michigan have an existing, separate CRL that concentrates on smart material developments.

"We are excited to continue what is a more than 50-year rela-

CONTINUED ON PAGE 3

Military Suppliers Display Wares at MCC

by Jim Stickford

Even with the coming cuts in defense spending, there are still opportunities for small businesses in metro Detroit to get military contracts.

That was one of the major topics of discussion at the fifth annual Michigan Defense Exposition held in late May at Macomb Community College.

The event was put on by the Michigan Chapter of the National Defense Industrial Association (NDIA) and sponsored by such organizations as Rave Computer, Pratt Miller Defense, General Kinetics, Lockheed Martin, Meritor Defense and Clark Hill.

Deanne Mazzola, event chair and advisor to the board of directors of the Michigan NDIA chapter, said, "The theme of this year's show really boils down to setting tomorrow's future today."

Mazzola, who also works with

the Army's TACOM facility as a contract specialist, added, "What this really means is that we want to provide a venue for our exhibitors to show off their products and services and their capabilities in an environment that allows people to see and touch what they can provide the military."

This is important, Mazzola said, because it gets everyone in one place at one time, making communications easier. Being able to walk around and get in an armored car, she said, gives people a better sense of the vehicle than if they just saw pictures on a company Web page.

"That's so important when you're considering buying something," Mazzola said. "There are other shows around the country, but this is the only one that's held in metro Detroit."

The NDIA started putting on the show, Mazzola said, because

there is a defense corridor of businesses based around the TACOM facility in Warren.

There are also a lot of businesses in Michigan that have defense contracts and it was decided getting everyone together was a good way to show off what Michigan companies can do.

"We got a lot of support from the TACOM community when we put on this year's expo," Mazzola said. "In the past, it's been difficult to get people from the Defense Department to attend because permissions are needed long in advance for them to go to conferences. We worked with TACOM legal to make sure all the regulatory hurdles were overcome."

This year, Mazzola said, a lot of the discussions and speeches were about cuts in military spending. So people attending

CONTINUED ON PAGE 6



NDIA's Deanne Mazzola at the recent Michigan Defense Expo at MCC

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Suzuki Recalling 184,000 Vehicles

DETROIT (AP) – Suzuki is recalling more than 184,000 small cars in the U.S. because the steering columns can catch fire.

The recall covers Forenza models from 2004 through 2008 and Reno models from 2005 through 2008. Both vehicles were made for Suzuki by General Motors.

The Japanese automaker says the headlamp switch or daytime running light modules can overheat, melt and catch fire on the left side of the steering column.

WTO Ruling to ‘Benefit U.S. Auto Workers’ – Trade Representative Michael Froman

GENEVA (AP) – The United States has scored a victory before the World Trade Organization in a case that challenged China’s imposition of penalty tariffs on the sale of \$5 billion in U.S.-made vehicles in China.

A WTO panel has ruled that China’s tariffs violated international trade rules.

The ruling came during a week when the U.S. Justice Department charged five Chinese military officers with hacking into U.S. companies’ computer systems to steal trade secrets.

The two developments pointed to intensifying trade tensions between the world’s two biggest economies.

The dispute panel for the Geneva-based WTO sided with the United States in its ruling. It said China had acted “inconsistently” in imposing the anti-dumping requirements in violation of its WTO commitments.

U.S. officials said China withdrew the higher tariffs in December in response to indications that it would lose the WTO case. Officials said they pushed forward with the case to establish the precedent that China’s actions violated global trade rules.

The WTO allows countries to raise import duties to offset improper subsidies and dumping. But the complaint the Obama administration filed in 2012 accused Beijing of improperly imposing the anti-dumping duties.

The administration contended

Barra to Return to Congress After GM Recall Investigation

DETROIT (AP) – General Motors is telling Wall Street that a recent spate of recalls may last until mid-summer as the company continues to review unresolved safety issues.

The news comes on May 22, a day after The Associated Press learned that GM CEO Mary Barra told members of Congress that the company cannot make ignition switches fast enough to keep up with demand in its recall of 2.6 million small cars.

The ignition switch problem has been linked to at least 13 deaths in crashes involving Chevrolet Cobalts and Saturn Ions. Congress and the Justice Department are investigating why GM knew about the switch problem for at least a decade but only started recalling the cars this February.

GM has undertaken a safety review that has resulted in 29 U.S. recalls so far this year covering a total of 13.8 million vehicles, more than five times the number of cars and trucks the company sold in the U.S. last year.

In a note to investors, Barclays analyst Brian Johnson wrote that he met with GM management last week and was told by Product Development Chief Mark Reuss that GM continues to review safe-

ty data for potential recalls and that recalls could persist into mid-summer. Johnson also wrote that it’s possible that cars already subject to one recall could be part of future recalls.

Senior management will be more involved in safety, with Reuss leading a team of five people who will decide on future recalls, Johnson wrote. The company is trying to issue recalls as soon as it learns about an issue rather than waiting for more data, according to Johnson.

“This will increase the frequency of recalls, but will reduce the total number of vehicles recalled,” the analyst wrote.

Meanwhile, Barra is preparing for a return trip to Capitol Hill as an investigation by an outside attorney into the ignition switch recall delays nears a close.

She told lawmakers last week that GM’s plan to compensate victims of small-car crashes could be released at the same time as the results of the investigation, according to a congressional aide who asked not to be identified because the meetings were private.

Barra, who visited lawmakers on Capitol Hill for private meetings May 21, told them that GM’s supply of replacement ignition

switches likely won’t catch up to demand until July.

She said when that happens, GM plans to start a campaign to persuade people to take cars to dealers for repairs, according to a congressional aide who asked not to be identified because the meetings were private.

Among the lawmakers Barra met with were Sen. Claire McCaskill, D-Missouri, and Dianna DeGette, D-Colorado. Both were highly critical of the chief executive last month when she testified at Senate and House hearings about GM’s handling of the ignition switch problem.

With victims’ families looking on, Barra said she was unable to answer many questions until an internal investigation into the matter was complete.

Frustrated, lawmakers finally elicited a promise from Barra to return to testify when the

automaker’s probe was finished.

“In late May or early June,” she’ll have answers, she said. The automaker hired former U.S. Attorney Anton Valukas to investigate why it took so long for GM to recall the small cars. GM has promised an “unvarnished” report, and Barra told Congress last month she will take decisive action on its findings.

The company also hired compensation expert Kenneth Feinberg to negotiate settlements with crash victims. Lawyers say they have at least 400 possible cases against GM, and the settlements could cost the company billions.

GM has admitted to concealing the ignition switch problems from the National Highway Traffic Safety Administration and agreed to pay a \$35 million fine, the maximum the agency can impose.

GM Expects to be Ready for Replacement Parts by July

DETROIT (AP) – General Motors CEO Mary Barra has told Washington lawmakers that GM could simultaneously release results of an internal investigation into a deadly ignition switch problem and its plan to compensate victims.

Barra met with lawmakers on Capitol Hill and said the investigation and compensation plan could be done in a few weeks, said a congressional aide, who asked not to be identified because the meetings were private.

She also told lawmakers GM can’t keep up with demand for replacement ignition parts for its recall of 2.6 million older small cars.

GM expects to catch up in July and start a campaign to persuade people to take cars to dealers for repairs, the CEO told legislators, according to the aide.

The ignition switches in older small cars such as the Chevrolet Cobalt and Saturn Ion can slip unexpectedly out of the “run” position, shutting off the engine and knocking out power steering and brakes. The switches also can disable the air bags.

Many victims have lost control of their cars and crashed. GM links the switch problem to 13 deaths, but trial lawyers suing the company say it’s in excess of 53.

Congress and Justice Department are investigating GM’s slow response to the safety problem. The company has agreed to pay a \$35 million fine assessed by the

National Highway Traffic Safety Administration.

GM confirmed that Barra met with legislators and said in a statement that since becoming CEO in January, she has visited “to discuss issues that are important to them.”

The automaker has hired former U.S. Attorney Anton Valukas to investigate why it took so long for the company to recall the small cars even though GM knew about the problem for at least a decade.

GM has promised an “unvarnished” report, and Barra has told Congress she will take decisive action on its findings. Included in the scope of Valukas’ probe is the role of GM’s legal team in the delays.

The company also has hired compensation expert Kenneth Feinberg to negotiate settlements with crash victims. Lawyers say they have at least 400 possible cases against GM, and the settlements could cost the company billions.

Barra met with Sens. Claire McCaskill, D-Missouri; Chuck Schumer, D-New York; and Ed Markey, D-Massachusetts, as well as Reps. Dianna DeGette, D-Colorado and John Dingell, D-Michigan. Some of the legislators are the same ones who grilled Barra at subcommittee hearings last month.

Barra has agreed to return to committee hearings after Valukas’ investigation is finished.

GM Leads in Overall Patent Filings

CONTINUED FROM PAGE 1

vehicles like the Chevrolet Corvette Stingray’s all-new 8 speed automatic transmission, Flores said.

GM has been granted more than two dozen patents related to the all-new eight-speed automatic transmission that will be offered in the Chevrolet Corvette Stingray for 2015, Flores said, enhancing the performance and efficiency of the 2014 North American Car of the Year.

Designed and built by GM, the new transmission delivers world-class shift times that rival the best dual-clutch designs, said Flores.

The GM-designed 8L90 eight-speed is expected to contribute up to 5 percent greater efficien-

cy, when compared with the previous six-speed automatic, Flores said.

Patents go beyond improved powertrain designs, Flores said. For example, GM designs give the driver “additional control, in the palm of your hand,” he said.

In OnStar’s 18-year history, it has received more than 500 patents for vehicle navigation, safety and telematics, Flores said.

A handful of these patents are incorporated into the OnStar RemoteLink mobile app. This app allows users to start, stop, lock, unlock and activate the horn and lights on their vehicle from remote distances. These remote features are now free for five years on properly equipped 2014 and newer GM vehicles.

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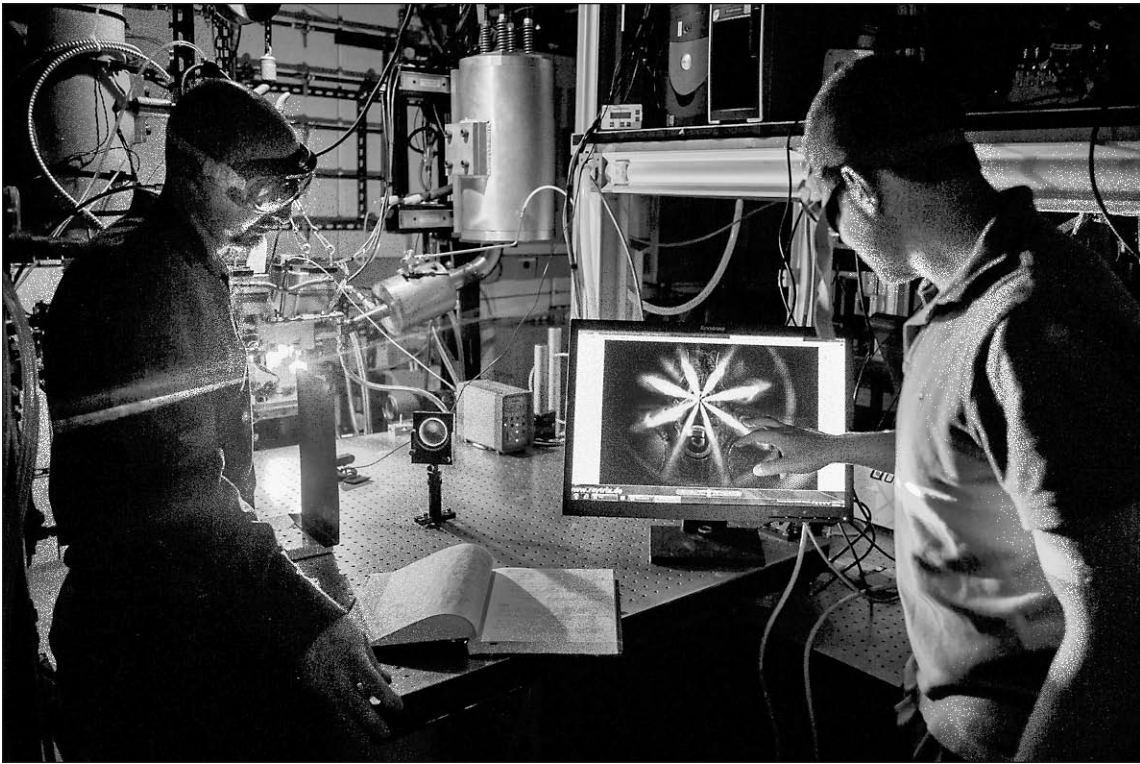
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Students Peter Lillo, left, and Philipp Schiffmann at U-M lab.

GM to Continue Research Work with U-M Students

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tionship with General Motors,” said David Munson, the Robert J. Vlasic Dean of Engineering at the University of Michigan.

“We believe our graduate students and faculty can operate as an extension of General Motors’ global research and development activities, which we are confident will enhance GM while providing exceptional experiences for our students.”

The programs will fund four fellowships for graduate students and provide support for postdoctoral scholars, research scientists and faculty, Munson said.

The chosen recipients will carry out research on real-world problems that affect GM while enhancing their academic experi-

ence at the University of Michigan, said Munson.

In the Automotive CRL’s engine systems research lab, students will use state-of-the-art laser imaging diagnostics and conduct engine simulation studies to make the most of future, highly efficient engines with ultra-low emissions, Munson said.

The Automotive CRL’s advanced manufacturing lab will focus on materials joining technologies, assembly systems and simulations to enhance plant floor quality, efficiency and responsiveness, Munson said.

In the smart materials lab, researchers apply technologies to reduce vehicle mass, add functionality, increase design flexibility and decrease component size and cost.

‘People Care About More Than the Cars,’ Says GM CEO Mary Barra

CONTINUED FROM PAGE 1

meeting a variety of customer needs, Basel said.

The company, she said, now has five models achieving more than 40 miles per gallon, noting that GM has progressed in its product commitments in fuel economy, electrification and emissions reduction, and added another to tackle its biggest market.

It has committed to reducing the average carbon emissions of its China fleet by 28 percent by 2020, which could result in an annual reduction of 2 million metric tons of CO2 and avoid the use of 1 billion liters of gasoline.

GM had 153,034 electrified vehicles on the road as of 2013, moving along its path to reach 500,000 by 2017, Basel said.

Last year, the company launched two new electrified vehicles – the Chevrolet Spark EV and the Cadillac ELR extended-range electric vehicle. They join the Opel Ampera in Europe, the Chevrolet Volt, the best-selling U.S. plug-in electric vehicle of 2012 and 2013, and the Chevrolet Springo EV in China.

“Climate change, energy security, and congestion challenge our environment and our industry, but we see value in the disruption,” said Mike Robinson, vice president, GM Sustainability and Global Regulatory Affairs.

“We are reimagining transportation using a long-term, customer-centric approach.”

As more people expect their cars to have the technology they use everywhere else in their lives, GM meets connectivity demands while enabling a more sustainable transportation future, Robinson said.

Customers can use OnStar route optimization to find ways around congestion and receive real-time feedback on how to drive more efficiently. GM also is working toward a vision for connected vehicles that share information with each other and their infrastructure to help anticipate and avoid crashes.

“This innovation helps our products stay relevant and broadens the positive impact of a connected world,” Robinson said.

GM also is changing how cars are made to reduce the industry’s environmental footprint, Basel said. The automaker completed a lifecycle analysis to better understand the greenhouse gas impacts of its products throughout the supply chain so it can make broader improvements.

GM remains the only automaker signatory of the Climate Declaration, which asserts there is economic opportunity in addressing climate change, Basel said. The company ranked among the top 10 percent of organizations that reported in the CDP Global 500 Climate Change Report 2013, she said, demonstrating transparency in emissions and energy measurement and climate change strategy.

Last year, GM met the voluntary ENERGY STAR Challenge for Industry criteria at nine additional plants for an industry-leading total of 63 facilities worldwide, said Basel, saving \$162 million in combined energy costs.

From removing coal-fired boilers at its Detroit-Hamtramck assembly plant, Basel said, to saving \$10 million in annual energy costs by using more landfill gas at its Fort Wayne and Orion assembly plants, GM is reducing its global carbon footprint, plant by plant.

This is just good business, Basel said, because GM and its communities continue to benefit from ongoing energy, water and waste reduction. Seven years ahead of schedule, the company

met its commitments to reduce total waste and volatile organic compound emissions by 10 percent each and to establish 25 non-manufacturing landfill-free facilities, said Basel, adding that it will now set new targets.

Basel said progress against other 2020 global manufacturing commitments with a 2010 baseline includes:

- Expanding renewable energy use to 66.2 megawatts, toward a goal of 125 megawatts;
- Increasing the number of landfill-free manufacturing sites to 83, toward a goal of 100;
- Reducing water intensity by 9 percent, with a goal of 15 percent;

- Reducing energy intensity by 10 percent, with a goal of 20 percent;
- Reducing carbon intensity by 7 percent, with a goal of 20 percent.

“We like the results we are seeing, but we fully recognize we have a tremendous amount of work to do,” Barra said.

“We must innovate more, seize opportunities faster and work harder to achieve true leadership – a claim that only matters if our customers, employees, communities and other stakeholders agree.”

Industry transformation will not come from one company’s actions alone, Barra said.

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New Paint Process Energizes Ford Transits at Kansas City

The new Ford Transit makes its North American debut with more durable paint, thanks to an industry-first paint technology now in use at Kansas City Assembly Plant.

Ford celebrated the start of North American Transit production at Kansas City Assembly Plant on April 30.

Vans with the new paint process will be available on U.S. and Canadian dealer lots this summer, said Ford spokesperson Jessica Enoch.

The Transit vehicles built in Kansas City are the first to use the new two-wet monocoat paint process developed by Ford and its paint suppliers, Enoch said.

The technology results in more durable paint, uses less energy and water, and reduces carbon dioxide and particulate emissions compared with conventional paint processes.

The new paint had to meet or exceed "Built Ford Tough" standards, and was subjected to a battery of tests that simulates typical conditions the vehicle will see during 10 years, Enoch said.

The paint was tested for its resistance to chipping and scratching, pollutants and sun exposure. Advanced weathering testing indicates that paint applied with the new two-wet technology will retain 90 percent of its gloss at four years in service compared with 1 percent gloss retention for paint applied using a conventional monocoat process, Enoch said.

"Durability was a critical consideration when we initiated this project," said Dennis Havlin, Ford global paint engineering development and launch supervisor.

"The advancements in paint chemistry enable us to deliver the appearance, performance

and durability our customers demand."

In addition to making paint tougher, the process reduces painting time and energy use by cutting the number of paint applications from three to two and the number of drying procedures from two to one, Havlin said.

"It is another example of the innovative technologies Ford is implementing to support its global manufacturing strategies with regard to carbon dioxide emissions and water use," Havlin said. "Ford plans call for a 30 percent reduction in carbon dioxide emissions per vehicle produced from 2010 to 2025, and a 30 percent reduction in water use per vehicle produced from 2009 to 2015."

The reduction in paint and energy consumed is expected to result in 9,500 tons fewer carbon dioxide emissions and a 35-ton savings in particulate emissions on an annual basis.

An innovative dry scrubber system will help save more than 10.5 million gallons of water. Overall, the system should save 48,000 megawatt hours of electrical power, enough electricity to power 3,400 homes, said Havlin.

The two-wet monocoat process uses a primer coat that requires only a few minutes of open-air drying time before the color coat is applied, Havlin said.

The color coat is formulated with the same appearance and protection properties of the clear coat, which, Havlin said, eliminates the need for a separate clear coat. The painted body is fully cured in an enamel oven after the color coat is applied.

The new paint procedure is being used for white-colored vehicles, which account for 80 percent of Ford Transit production



Paint applied through the new process will retain 90 percent of its gloss at four years in service.

at Kansas City Assembly Plant, Enoch said.

As each color must be developed uniquely for the two-wet monocoat process, other colors will be considered based on demand.

A conventional three-wet process – primer, base coat, clear coat – remains in use for metallic-colored vehicles.

The two-wet monocoat system helps increase production efficiency, Havlin said.

The more streamlined process takes the vehicle body through an electrostatically bonded corrosion-resistance (E-coat) bath. The Transit body remains on a carrier that is lowered into the E-coat by four pendulums, rather than being manually removed

from the carrier and attached to chains to be taken down, only to have to repeat the same steps before moving on to the paint booth.

The pendulums take the vehicle body into and out of the bath at steep angles, reducing the length of the bath by as much as 320 feet, Enoch said.

Transit's paint operation requires less space than that used in production of the smaller Ford Fiesta.

"The two-wet monocoat process allows us to design a system considerably smaller than a conventional paint shop, especially with regard to a vehicle of this size and complexity," said Havlin.

"Because painting time is cut

down, the technology enables greater productivity using less equipment."

A conventional paint process uses water filtration – known as a wet scrubber system – to remove the overspray from the air in the paint booth that produces sludge, Havlin said.

The new dry scrubber system pumps the air through a filter containing limestone that can be recycled.

The dry scrubber system alone reduces energy use and carbon dioxide emissions by 44 percent, cuts particulate emissions by 99 percent and uses 75 percent less water annually.

All the data on the pain system is based on preliminary testing, Enoch said.

Research Helps Economy

Michigan's University Research Corridor (URC) is playing a major role in protecting the water resources of Michigan and the Great Lakes region and using those resources to promote economic development in the state and globally, a new report shows.

The three universities that make up the URC – Michigan State University, the University of Michigan and Wayne State University – received nearly \$300 million in awards for water-related research and outreach from 2009 to 2013.

The 2,100 awards led to innovations in a wide variety of areas, from dealing with invasive species to monitoring water quality and finding ways to optimize water use in agriculture, according to "Innovating for the Blue Economy," a report released at the Detroit Regional Chamber's Mackinac Policy Conference last week.

In addition to R&D, the three URC universities each year produce more than 3,400 graduates prepared to analyze and find solutions to water-related issues in academia, government and the private sector, bringing new talent and energy to the field. Nearly 40 percent of those graduates earned advanced degrees, according to the report.

The three universities offer 68 undergraduate and graduate degree programs in water-related areas such as engineering, agriculture, public health, natural resources and business.

The report was prepared by East Lansing-based Anderson Economic Group (AEG).

"Michigan's entire history and quality of life is tied to water, and the URC works hard to protect that important resource and find ways to advance the state's economy through water-related technology and innovation," said URC director Jeff Mason.

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GM Appoints Cervone to VP Of Global Communications

General Motors last week named Tony Cervone senior vice president of GM Global Communications, effective immediately.

Cervone reports to CEO Mary Barra and rejoins GM from Volkswagen, where he served as executive vice president of group communications for Volkswagen Group of America.

“Tony brings an ideal mix of outside perspective and experience that complements a deep background in GM and today’s global auto industry,” said Barra.

“I’ve worked with Tony in the past and he has my trust and respect. I know he’ll be another catalyst for change on our leadership team.”

Cervone, 51, will have overall responsibility for GM’s global communications, including global products and brands, corporate, social media, executive support, and internal communications.

“It’s a great time to rejoin GM,” Cervone said. “A re-energized leadership team, the best products in its history, a renewed commitment to individual customer experiences, and a compelling drive for cultural change all combine to make this a key moment in this great company’s history.

“I’m proud to be a part of both the leadership and communications teams.”

Cervone has held top communications positions in the automotive and aviation industries.



Tony Cervone

Prior to Volkswagen, he was senior vice president for communications for United Airlines and was a key part of the team that oversaw the carrier’s merger with Continental Airlines.

He joined United from GM where he served as vice president of global communications strategy and operations.

His 10-year career at GM also included leading GM’s international communications operations in Europe.

Cervone originally joined GM from Chrysler where he was vice president for communications and held various communications positions during a 14-year career at the Auburn Hills-based automaker.

Cervone succeeds Selim Bin-gol who left GM in April.

‘Cars ‘R’ Stars’ to Feature Commercial Vehicles June 8

“Cars ‘R’ Stars @ PPG” (at the Packard Proving Grounds), returns to the site of the Packard Proving Grounds on Van Dyke and 23 Mile Road in Shelby Township, on Sunday, June 8.

It features hundreds of vintage vehicles from all eras, said event spokesperson Linda Ashley.

“This year, it’s not just cars but trucks that are the stars of the show,” Ashley said.

“The special feature of this year’s event are Historic Commercial Vehicles, including some of America’s most iconic trucks like the 1937 Ford Texaco Tanker, the 1947 Chevy Vernor’s Truck, the 1920 Model T Depot Hack with elaborate wood paneling, a 1963 Plymouth Scout Police Car, the 1934 Ford Delivery featuring Kodak advertising, as well as the Australian 1934 Chevy ‘Ute,’ Australia’s national vehicle with the tag line – ‘Real Aussie’s drive Utes.’”

This special gathering of vintage commercial vehicles and trucks is a great drive through history, featuring the signposts of car culture, Ashley said. This includes a Vernor’s truck along with vintage milk trucks that made home deliveries.

“Our hunt to bring together

the most famous and nostalgic trucks and commercial vehicles of America has been a real lesson in our industrial history,” said Don Sommer, ‘Cars ‘R’ Stars @PPG’ board member and founder of the Meadow Brook Concours d’Elegance.

“This will be a great opportunity for whole families to share memories and history together with the actual vehicles there to inspire stories.”

Vehicles will be judged in static (in-place) Concours fashion and participants will get awards uniquely crafted from the wood of the historic Packard Plant in Detroit.

Preferred car club and class parking will be available for all pre-registered cars. The pre-registration fee is just \$15 for non-judged cars and \$20 for judged cars.

“This is a wonderful venue for car clubs,” said Sommer. “By registering early, they get savings and are assured of a great location to show off their cars as a group, with their club friends.”

Registration the day of the show is \$20 for non-judged and \$25 for judged cars. For further information, call Tom Mitchell at 586-247-5921.

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Military Suppliers Display Their Wares at MCC Show

CONTINUED FROM PAGE 1

the expo were able to hear about just what small businesses and OEMs could do to get contracts in the future.

"This is our fifth show," Mazzola said. "Every year, we try to improve our offerings and bring back the best speakers. When we started, military budgets were much bigger and it was easy to get people to speak and to get exhibitors. Now, because of funding issues, it isn't.

"So, what we've done is help attendees understand the benefits of going to the expo. We show people how collaboration between government and industry can pay off for everyone."

Nancy Loerch, president of the Michigan NDIA chapter, said the expo was successful.

"This event continues to evolve," Loerch said. "There's a level of interest in where the opportunities will be in the future for people seeking contracts.

"We have so much capability right here in our own backyard that we can have a show like this and have a dialogue between defense providers and government."

One company that brought some products to show off was the New Hudson-based Pratt Miller. Kris Houghton, the company's director of engineering services, showed off the MAV-L, a vehicle, which, in partnership with Northrup, was designed by Pratt Miller for special operations military duties.

Houghton said the MAV-L was

created in response to a request by the military's Special Operations Command (SOCOM), which handles missions by outfits like Army Rangers or Navy SEALs.

"They wanted a mobile vehicle that had great off-road capabilities and was light but could carry a lot of equipment as well as troops," Houghton said. "It is a sort of 'super' jeep."

Pratt Miller designed and built the prototype and got it ready for testing. Northrup funded the effort and made all the proposals and did the electronics integration as well as the analysis of performance.

SOCOM ended going with another vehicle, Houghton said. But the expo has given Pratt Miller the opportunity to show off the MAV-L to other groups within the U.S. military as well as to officials from friendly nations.

"We are continuing to diversify and develop what we do by introducing products that we have developed," Houghton said.

"It's good to have a show like this where we can talk to people in the military for our country, as well as representatives from our allies. This is a very good place to be."

Michigan Teams Score in Robot Championships

Michigan teams finished first in three of the six major categories at the 15th annual Robofest World Championships held May 17 at Lawrence Technological University.

More than 70 teams competed in the final round of competition, including teams from nine other states besides Michigan – Ohio, Texas, Minnesota, Florida, Hawaii, California, Missouri, Indiana and Washington – and eight other countries – Canada, Mexico, South Korea, China, India, South Africa, Brazil and France, said Lawrence Tech spokesperson Eric Pope.

The winning teams at the Robofest World Championships included:

- Junior Exhibition: Metal Robots, Canton, Michigan.
- Junior Game: Hoben iTer-rifics, Canton, Michigan.
- Senior Game: NCA Lights, Northville, Michigan.

The People's Choice Award in the Michigan Exhibition category went to RoboClimbers and RoboCruisers, both of Canton, Pope said.

The Doge team from Farmington Hills was second in the Senior Vision Centric Challenge. RoboCruisers of Canton finished second in the Senior Game, Pope said.

"The level of competition continues to improve every year," said LTU Professor CJ Chung, the founder of Robofest.

"It is becoming harder and harder for teams here in Michigan to finish first. It is a real accomplishment when they do."

Students from the Shanghai University of Engineering and Science who are studying at LTU finished second in the College Vision Centric Challenge, Pope said.

Demonstrating the geographic diversity of the competition, the five winners of the Best Team Photo Award came from Brampton, Canada; Belton, Texas; Newark, Ohio; Seoul, South Korea; and Paris, France, Pope said.

Now in its 15th year, Robofest was just named national organizer for the United States for the World Robot Olympiad Association(WRO-USA), which runs a global LEGO robotics competition that draws participants from around the world.

2,000 Museums Offer Free Entry To the Military

CONTINUED FROM PAGE 1

Leadership support has been provided by MetLife Foundation through Blue Star Families, said MiMTHS president Chris Causley. The program provides families an opportunity to enjoy the nation's cultural heritage and learn more about their new communities after a military move.

The complete list of participating museums is available at arts.gov/national/blue-star-museums.

"The Michigan Military Technical & Historical Society is proud to announce its second year of participation in the Blue Star Museums initiative and invites personnel from Selfridge ANGB and U.S. Army TACOM to visit our museum free of charge over the summer," said museum President Chris Causley.

"As we kick off our fifth year of Blue Star Museums, more museums than ever are part of this military appreciation program," said NEA Acting Chairman Joan Shigekawa.

"Together with Blue Star Families and more than 2,000 museums, we are proud to help connect military families with the cultural resources in their communities."

Blue Star Families CEO Kathy Roth-Douquet added, "Blue Star Museums has grown into a nationally recognized program that service members and their families look forward to each year.

"It helps bring our local military and civilian communities together, and offers families fun and enriching activities in their home towns. We are thrilled with the continued growth of the program and the unparalleled opportunities it offers."

Museums that wish to participate in Blue Star Museums may contact bluestarmuseums@arts.gov, or Wendy Clark at 202-682-5451.

'We've Increased Ease of Customers' Entry And Exit' – GM Safety Director Gay Kent

Older drivers have different needs, and GM strives to meet those needs with active safety technologies, simple access to OnStar services and more spacious cabins, said GM spokesperson Jennifer Ecclestone.

As a sponsor of the North American Conference on Elderly Mobility, GM last week shared its numerous active safety features that can be helpful to older drivers who can have longer reaction times, limited perceptual abilities and reduced dexterity, said Ecclestone.

The Insurance Institute for Highway Safety points to several studies that have shown that higher levels of physical, cognitive or visual impairment among older drivers are associated with increased risk of being involved in a crash, Ecclestone said.

Also, many older drivers take medications, which can impair driving ability at any age but can be especially problematic for an older person.

Technologies like Rearview Back-up Camera, Front Park Assist, Rear Park assist, Side Blind Zone Indicators, Lane Departure Warning, Forward Collision Alert, Front Automatic Braking and Rear Cross Traffic Alert are among the active safety and driver assistance technologies that are particularly helpful to the aging population, Ecclestone said.

"The safety of all our customers is our utmost concern," said Gay Kent, director of GM Global Vehicle Safety and a presenter at the conference.

"The great thing about many of our active safety technologies is that some, like the vibrating haptic seat, provide intuitive, non-visual cues to avoid startling the driver and prevent information

overload or confusion."

GM engineers and designers also are addressing passenger spaciousness and comfort, Kent said. Focus areas include foot room and making it easier for passengers to get in and out of the vehicle.

Sitting in the back rows of a vehicle and swinging a foot through the open door can be a challenge for elderly people whose range of motion can be limited.

To make it easier to enter and exit its crossovers and SUVs, GM designers optimized the spacing between the front seat and second and third rows.

"We have hosted many customer clinics to assess customer preference and requirements," Kent said. "The information we gain through this research drives our teams' design decisions as we work to incorporate their feedback."

"We have been able to increase the ease with which our customers enter and exit our seats over the last decade."

Along with active safety and design modifications that provide benefit to all passengers including the aging population, Kent said, GM's OnStar technology provides elderly drivers the peace of mind they need while traveling.

Services such as Turn-by-Turn Navigation, Roadside Assistance, Automatic Crash Response, Emergency Medical Dispatch and Remote Door Unlock, coupled with access to a live advisor at the touch of a button, can make all drivers feel more confident while on the road.

"Advanced safety technologies, such as those found in GM vehicles, make our roads safer for everyone by sensing poten-

tial hazards and warning the driver to take appropriate actions to help prevent a crash from occurring," said Jim Santilli, executive director, Traffic Improvement Association of Michigan.

"With elderly drivers generally experiencing decreased visual performance and reaction time, these advanced safety technologies are especially beneficial to this age group. Vehicles with these technologies will help us with our goal to move closer toward zero deaths."

Michigan Race Track Produces Big Revenues

Michigan International Speedway's economic footprint is more than \$414 million a year according to a University of Michigan study released last week.

Speedway President Roger Curtis released the economic impact figures alongside U.S. Sen. Debbie Stabenow and Michigan Lt. Gov. Brian Calley during the Detroit Regional Chamber's annual Mackinac Policy Conference at The Grand Hotel on Mackinac Island.

"Hosting a NASCAR Sprint Cup Series weekend is about so much more than simply hosting a stock car race," Curtis said at the conference.

"It's about jobs, tourism, national visibility, economic impact and a quality of life for Michigan businesses and residents. This racetrack has been a financial shot in the arm for Southeast Michigan, including Detroit, since 1968 – and it takes place on an annual basis."

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Stop/Start Tech Increases Fuel Efficiency

Stop/start technology will be standard on the 2015 Impala base 2.5-liter ECOTEC engine.

The stop/start is an addition that improves the vehicle's city fuel economy by nearly 5 percent, or one mile per gallon, said GM spokesman Chad Lyons.

The Impala comes standard with a four-cylinder engine, which currently accounts for more than 30 percent of Impala retail sales, said Lyons. He said the car offers customers higher mpg city ratings and a more affordable entry price into the segment than six-cylinder competitors.

Stop/start shuts down the engine in certain driving conditions to reduce fuel consumption, Lyons said. The technology is becoming more prevalent worldwide.

A recent report from Navigant Research predicted worldwide sales of vehicles with stop/start technology will grow from 8.8 million in 2013 to 55.4 million in 2022.

The 2.5L Impala with stop/start yields an EPA-estimated fuel economy of 22 mpg city, 31 for the highway and 25 combined, Lyons said. The Impala with the 3.6L V6 engine will not include stop/start technology.

The Impala becomes the second

vehicle in Chevrolet's U.S. lineup to feature stop/start technology, following the segment-first standard inclusion in the 2014 Malibu introduced late last year.

The technology helps improve the Malibu's city fuel economy by 14 percent.

Chevrolet engineers developed the stop/start in the Impala from extensive experience with GM's eAssist system and the accompanying algorithms "that allow engines to engage and disengage subtly," said Mark Meyers, Chevrolet Global Vehicle Performance manager.

"Stop/start system customer research indicates they want the engine to start up as quickly and smoothly as possible after a stop," said Meyers.

During the development of this technology, a team of software engineers was created, Meyers

said. The Center for Excellence focuses on advancing stop/start technology and making its operation seamless to the customer.

A big challenge for the team was overcoming "change-of-mind events," instances in which the driver begins to stop, but then quickly accelerates, Meyers said. The algorithms adapt the system so the starter can fire even if the engine did not fully shut off.

The smart software also prevents the system from engaging if the car does not reach 6 mph since its last start, a welcome feature in stop-and-go-driving conditions, Meyers said. The system also considers cabin temperature, humidity, battery charge and other factors when deciding if the engine should come to a stop.

Hardware revisions also have been made. The noise and vibra-



2015 Impala

tion team worked closely with drivetrain engineers to revise motor mounts to provide the greatest isolation possible from the cabin, Meyers said. Additionally, the team included a larger heavy-duty starter motor to assist with the additional ignition cycles.

The 2015 Impala goes on sale this summer with a suggested

starting price of \$27,735 for the 4-cylinder LS model, and \$30,960 for the 6-cylinder LT model. These include an \$825 destination charge, but exclude tax, title, license and dealer fees.

For the 2015 model year, the Impala will be available with two powertrains, a standard 2.5L engine with stop/start, and a premium 3.6L six-cylinder engine.

Ford Fund Sends WW II Veterans To D.C. Memorial

For the second year in a row, Ford Motor Company Fund sponsored an Honor Flight May 21 transporting Cleveland-area veterans to the National World War II Memorial in Washington, D.C.

The World War II Honor Flight veterans – all in their eighties and nineties – will be greeted at the national memorial by members of Congress and Ford employees.

Ford Fund is covering the cost of the trip to Washington, D.C., for 50 World War II veterans from Cleveland and other parts of Ohio to experience national memorials dedicated in their honor, said Ford spokesperson Todd Nissen.

The trip was organized by Honor Flight Cleveland (www.honorflightcleveland.com), the northeast Ohio hub of the Honor Flight Network.

All veterans were accompanied by a volunteer guardian who will be paying for their own trip. Frankie Lannaggi, former U.S. Marine and process coach at Ford's Cleveland Engine Plant, volunteered to be a guardian for last week's trip.

"As a U.S. Marine, I am honored to participate in this great program and give back to the men and women who have given so much to our country and paved the way for the freedoms we have today," said Lannaggi.

"I am proud to be part of the Ford family who are recognizing these local veterans for their sacrifice and dedication."

In addition to the WWII Memorial, Nissen said, the veterans and their guardians also visited memorials dedicated to veterans of the Korean War, Vietnam War, Iwo Jima and the Tomb of the Unknown Soldier in Arlington National Cemetery.

Ford's support for veterans started more than 90 years ago when Henry Ford led a cross-country caravan of 50 Ford Model T's to transport disabled veterans to their convention, Nissen said.

Since 1974, Ford Motor Company and Ford Motor Company Fund have provided more than \$8 million to veteran organizations, including support for the National World War II Memorial. Ford Fund is sponsoring three Honor Flights this year.

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