Tech Center News

WARREN, MICHIGAN

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GM Takes Step to Speed Up Autonomous Tech

General Motors Co. is acquiring Cruise Automation to add Cruise's software talent and development capability to further accelerate GM's development of autonomous vehicle technology, said GM spokesman Alan Adler.

"Fully autonomous vehicles can bring our customers enormous benefits in terms of greater convenience, lower cost and improved safety for their daily mobility needs," said GM President Dan Ammann.

Cruise, Ammann said, will operate as an independent unit within GM's recently formed Autonomous Vehicle Development Team led by Doug Parks, GM vice president of Autonomous Technology and Vehicle Execution, and will continue to be based in San Francisco.

Founded in 2013, Cruise has moved quickly to develop and test autonomous vehicle technology in San Francisco's challenging city environment, Adler said.

'GM's commitment to autonomous vehicles is inspiring, deliberate, and completely in line with our vision to make transportation safer and more accessible," said Kyle Vogt, founder of Cruise Automation.

'We are excited to be partnering with GM and believe this is a groundbreaking and necessary step toward rapidly commercializing autonomous vehicle technology.

"Cruise provides our company with a unique technology advantage that is unmatched in our industry," said Mark Reuss, GM executive vice president, Global Product Development, Purchasing and Supply Chain. "We intend to invest significantly to further grow the talent base and capabilities already established by the Cruise team.'

The acquisition of Cruise is GM's latest step toward its goal of redefining the future of personal mobility, Reuss said. Since the beginning of the year, GM has allied with ride-sharing company Lyft; formed Maven, its personal mobility brand for car-sharing fleets in many U.S. cities, and established a separate unit for autonomous vehicle development.



Ammann (right) with Cruise Automation co-founders Kyle Vogt (center) and Daniel Kan (left)

Warren Furniture **Chain Grows with Hillside Purchase**

Warren-based Art Van Furniture is expanding its operations in Southeast Michigan.

The company has purchased Bloomfield Hills-based Hillside Contemporary Furniture and its real estate assets from the company's founder and owner, Bruce Selik, said Art Van spokeswoman Diane Charles.

Hillside has been in operation for 42 years and its 46,000square-foot store, located on Telegraph Road, will continue to operate under the Hillside name as the newest addition to Art Van's umbrella of brands, Charles said.

"Hillside Furniture has been one of metro Detroit's most respected names in contemporary home furnishings for many years," said Art Van Elslander, chairman of Art Van Furniture.

"This acquisition is a wonderful opportunity for us to serve new customers, and we're honored to be entrusted with the brand Bruce has worked so hard to build.'

Selik's son Jeff will serve as general manager of the store and all of Hillside's sales associates are expected to be hired by Art Van, Charles said. Art Van CEO Kim Yost called the sale a real win for consumers.



Student Sophie Martin shows her experiment to judge James Boileau.

Students Compete in Cobo STEM Fair

by Jim Stickford

The 59th annual Science and Engineering Fair of Metro Detroit (SEFMD) took place at the Cobo Center in Detroit March 8-12.

SEFMD spokesman and retired architect Jim Meloche said the fair showcases more than 2,800 students from the 6th through 12th grades, representing Wayne, Oakland and Macomb counties. This year's Fair comprises over 2,300 innovative projects in Science, Technology, Engineering and Math (STEM) disciplines.

"I want to say that there is significant representation from Detroit Public Schools: 37 schools participating, 854 individual en-

tries, 194 team projects," Meloche said. "These numbers are significant because Detroit schools are having financial difficulties, but the administration realizes the value of STEM.

Meloche said his first involvement with the fair dates back to the 1960s, but he's been on its board for the past decade.

"SEFMD judges come mostly from the auto industry," Meloche said. "Ford especially, but also Chrysler and GM. We also have a few judges from academia -Wayne State, Oakland University, U-D Mercy. This year there are 20 different scientific categories in which students can participate. They range from biochemistry to chemistry to mathematics to robotics.'

The competition is separated into two groups - junior division (6th, 7th and 8th grades) and senior division (9th-12th grades), Meloche said. Students are judged within their respective categories based on scientific discipline. Up to six students limit of one student per school in the senior division - and one team project (two or three students) may be selected to participate in the 2016 International Science and Engineering Fair (ISEF) in Phoenix.

"What's interesting is that the

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Mural Helps Build Meritor's Teamwork "It was sort of like a coloring we united procurement employ-

It can be difficult to perform

team-building exercises when you have teams spread out around the world.

Meritor, Inc. is a global supplier of drivetrain, mobility, braking and aftermarket solutions for commercial vehicle and industrial markets, and the company found a way around that problem, said Meritor spokeswoman Cheryl Kilborn.

The solution - have all eight of the Meritor's procurement teams ing Meritor's business, products work together on one project by creating a mural consisting of eight different elements completed by eight different teams.

The results of that philosophy were unveiled in Troy on March 10 in the form of a 5-by-20-foot mural, Kilborn said. An artist, Daniel Cascardo, drew an overall design on a single canvas, based on input from the different teams about their jobs and functions within the company.

book page," Kilborn said. "The design was divided into eight pieces and sent to the different teams. They then filled in their portions of the design with their own colors and even added their own personal touches."

The pieces were sent pack to Troy, where Cascardo put them back together in the shape of a truck.

The colorful mural representand work environment now hangs in the Troy lobby for visitors, customers and recruits to see, Kilborn said.

"We're serious about being a great place to work because companies perform better when they have engaged teams of people who feel valued and have fun in the workplace," said Jon Rose, vice president, Procurement.

team-building can be a challenge,

ees across borders and built relationships by teaming up to paint segments of the mural.

Meritor Procurement teams in the United States, the United Kingdom, India, China, Sweden, Italy, Switzerland and Brazil submitted photos symbolizing their country, workplace and Meritor products to Cascardo.

Groups of employees at each location painted their portion of the mural, Kilborn said. The team in Italy, for example, painted a fighter plane because Meritor's Cameri facility once produced military hardware. Teams in Bangalore, India painted the Taj Mahal, and Florence, Kentucky employees painted one of their city's landmark images - a water tower with the saying, "Florence Y'All.'

Teams were encouraged to be "Although effective global creative when painting in the white space, Kilborn said Dave



Rose, left, and Cascardo with mural in Meritor's Troy headquarters

ist as well as a U.S. Army veteran based at Troy headquarters, painted the American flag into a free-flowing ribbon that runs through part of the mural. When

Rice, a forward program special- finished, the individual segments were returned to Cascardo for assembly into a single mural. Artist Cascardo, based in

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More Girls Gravitate to STEM, Concentrate on Robots

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Meritor Hangs Mural Painted Around World

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metro Detroit, has been commissioned by several companies and other organizations to work with hundreds of employees to create what he calls Art, Action, Experience murals, Kilborn said. He likens the exercise to increasingly popular adult coloring books that become art when pieced together.

Due to the global nature of Meritor's business, Cascardo created a video explaining the project's scope and process as well as materials each site would need. Cascardo gave very little additional instruction, except to say that everyone should just team up and fill in the white spaces.

"In workplace environments – whether on plant floors or in office cubicles - employees may work together but never really engage each other," said Kate Lieffers, manager, Employee Engagement. "With this kind of project, we bring people together to do something really fun, and afterward they can look at the piece and be reminded that we're all part of something much bigger. When we pull together and work collaboratively, we celebrate our strength as one global team."

Library 'Friends' Holding Sale

The Friends of the Warren Library is holding another "bookbag" book sale on the weekend of March 18-19, at its store located at 5961 Beebe in Warren.

Friends member Naida Okray said that for \$10 a person may buy all the books he or she can carry in one of the organization's bags, which may be purchased at the sale.

"If you previously purchased a bag at one of our sales, simply bring it in," Okray said. Call 586-296-8635 for more information. DETROIT (AP) – As the state's wildly popular robotics season kicks off this month, organizers are noticing a welcome trend: More girls are joining teams and more are taking on leadership roles.

That's key in a state that has invested heavily in boosting education in STEM – science, technology, engineering and math – and where there are many efforts under way to get girls into those fields.

Michigan has excelled in robotics, the so-called sport of the mind. The state has 411 teams, far more than the second-highest state of California, which has 258 teams. And Michigan teams have a track record of excelling at the world finals, the *Detroit Free Press* reported.

In robotics, the growth in female participation is happening at all levels – on coed teams and all-girls teams.

"I'm seeing an uptick," said Gail Alpert, president of the state's robotics association. "They're taking on critical roles. They're drivers. They're coaches. They're mentors."

The growth is happening amid widespread efforts to get more girls to consider science careers. In January, the Michigan Science Center launched the STEMinista Project to encourage more interest in STEM careers among middle-school girls.

"Research tells us that middle school can be a make or break time in building interest in STEM and STEM careers," said Tonya Matthews, president and CEO of the center.

Girls who sign up to be STEMinistas will have access to special programming at the science center in Detroit and an opportunity to meet and learn from women in STEM careers.

The project is aimed at combating numbers that show that while half the workforce is made up of women, less than 25 percent of the STEM workforce includes women. Also, statistics compiled for the project show that half the women in STEM careers leave those jobs in the first 10 years.

Numbers compiled by the Michigan Department of Education for STEM programs that are part of career-tech education centers show that a larger percentage of girls are participating, though there is still a wide disparity. Of the 3,851 students enrolled in such programs during the 2012-13 school year, for instance, 528 were girls. In the 2014-15 school year, there were 812 girls out of 5,361 total students.

The push to get more girls into STEM fields is important, said Ashley Jones, 16, a junior at Voyageur College Preparatory in Detroit. Ashley is the captain of the all-girls Mercy Midnight

Storm robotics team from Detroit.

"Females can do just as much as males can do. And I think by doing robotics, it's a learning thing – you realize, 'Hey, I can cut metal' or 'Hey, I can do this.' It's a very rewarding experience," she said.

The Mercy Midnight team is helping fuel the robotics growth this year. Team members stood out in their first competition over the weekend in Southfield, decked out in silver capes, black shirts and green and silver hair ribbons.

> "Hey, I can cut metal... I can do this." – Ashley Jones, *Mercy Robotics*

The rookie team went into the competition knowing it would be an important learning experience.

And while their robot had some technical problems early on, they still walked away with a coveted award: the all-star rookie award, given during each competition to new, promising teams. Teams from Royal Oak High School and Woodhaven High School won the competition.

"They were beyond excited," Autumn Horton, one of two adult lead mentors for the team, said of the rookie award. "Now they want to work even harder."

Members said they hope they can set an example for other girls.

"You can do whatever you put your mind to," said Denasia Robinson, 15, a homeschooled student from Detroit. "I think having an all-girls team is powerful for a lot of people."

The team isn't the first all-girls team or the only all-girls robotics team in Michigan to participate in FIRST – For Inspiration and Recognition of Science and Technology. For instance, there's the veteran Pink Panthers team from the Detroit International Academy for Young Women.

More all-girls teams participate in the Bloomfield Girls Robotics Competition, which is part of FIRST in Michigan but held during the off-season. That all-girls competition is held annually at Bloomfield Hills High School and has seen such a growth in teams wanting to compete, it had to put some teams on a waiting list for its last contest.

Robotics requires students to work alongside adult mentors to build a robot that can battle with other robots during competitions, with students controlling the robots from outside a playing field. At the competitions, three teams and their robots compete as part of two alliances.

But every year, the theme of the game changes. This year, it's called FIRST Stronghold and the playing field includes two large castle towers. The goal? Weaken and capture the opposing alliance's tower. Robots score points by successfully navigating barriers on the playing field, including a low bar and a rocky terrain. They also score points by shooting boulders into the opposing tower, and finally by surrounding and scaling the tower.

Michigan has been a robotics powerhouse. Michigan teams have won 14 winning trophies at the world competition, more than any other state. California is second with 12 winning trophies and Indiana is third with five. The number of teams in the state, 411, is up from 345 last year, said Alpert, the president of FIRST in Michigan, which organizes robotics competitions in the state.

And in 2018, the state will host the world finals for the first time.

Much of that growth is happening because the state has invested heavily in increased funding for robotics. In 2014, the state allocated \$3 million for robotics. In 2015 and 2016, \$2 million was invested.

The Mercy Midnight team of about a dozen girls is sponsored by Mercy Education Project, a Detroit agency that provides tutoring and educational services for school-age girls and women. And they prepare alongside five other coed teams at the Detroit Hispanic Development Corp.

Most of the girls are part of Mercy's programs. None had robotics experience, but some have had a passion for building things.

"My dad, he usually builds things. I was like his little helper. And I absolutely loved to build things," said Nuha Alhamdi, 14, a freshman at Dearborn High School. Her sister Nada, 17, also is on the team.

The team is mentored by 13 adults with a diverse set of backgrounds, including more than a handful of engineers. Among the adults are lead mentors Autumn Horton and Keysha Camps.

"It's very inspiring to see how they grow in just six weeks," said Camps, a GM engineer.

They call their robot Storm. And when they built Storm, they thought about ensuring that it could perform some functions well. So while it can't shoot the boulders into the towers, it can do other things.

"Our biggest advantage is we can get through all the obstacles," Ashley said. "It's short enough to get under the low bar but has an arm that can allow it to lift the gates and open them. It can also pick up a ball and move it around and give it to other teams."

The Mercy team got its first taste of robotics competition by participating in the all-girls event at Bloomfield Hills High.

Andrew Raine is the head coach of the Bionic Black Hawks, the robotics team for Bloomfield Hills High that has hosted the allgirls robotics competition for three years.

The idea behind the girls' competition is to give girls a chance to experience all facets of a robotics competition – which may not always be possible on a coed team, he said. That means the girls do everything – they drive the robots, they handle the mechanical issues, they do the repairs.





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MARCH 14, 2016

COVERS THE TECH CENTER AND THE IMMEDIATE AREA

students come up with their is-

sues or projects and then solve

them themselves," Meloche said.

from Detroit who developed a

presentation on autistic behavior

and the special needs autistic

students have. He then made

proposals on how their lives can

be made better. It turns out that this student was autistic himself.

to the quality of municipal wa-

ter.'

"This year, there are at least two dozen projects based around the problem of and the solution

"Last year, we had a winner

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2016 GMC Yukon Denali

Yukon Called Family-Friendly

week announced the 2016 GMC Yukon is the Best Large SUV for Families, praising the vehicle for its capability, features and comforts.

"The Yukon has the most family-friendly features in the class," said Jamie Page Deaton, managing editor for U.S. News Best Cars blog. "The Apple CarPlay and incar Wi-Fi are really cutting edge, standout features. The Yukon also won because it has such a high U.S. News score - it gets really positive reviews not only for its space and comfort, but also its performance."

Evaluation and methodology for the award included: overall sentiment of professional automotive reviews, safety and reliability ratings, seating and cargo volume and the availability of family-friendly features.

"The GMC lineup is designed with the expectation of premium comforts, utility and unique features for any passenger," said Duncan Aldred, vice president of GMC Sales and Marketing.

tomers and our brand."



U.S. News & World Report last ing for that cut above - offers everything - "tons of room for people and their things, premium features like 4G LTE wifi, adaptive cruise control, premium styling, just to name some."

The Yukon also was recently ranked highest in its segment for the third straight year in the 2016 J.D. Power Vehicle Dependability Study.

Aldred said that GMC worked hard on the design and the technology that went into the Yukon and that winning this award was not a surpise, but "it was a nice validation for us."

The students are helped by their teachers and they attend a couple of special classes at the Detroit Public Library headquarters on how to develop and present their projects.

Judges such as Ford Tech Specialist James Boileau reviewed the students' experiments and came up with evaluations.

"I love being a part of this," Meloche said. "The kids are so enthusiastic and as a board member and not a judge, I get to help them with their projects and presentations to the judges. I love how comfortable and capable these students are in their presentations to the judges."

The Science and Engineering

Warren Schools Holding Senior Day

Warren Consolidated Schools is holding a special "Senior Citizens Showcase" on Tuesday, March 15, from 10 a.m. to 1 p.m. at the WCS Administration Building, 31300 Anita Drive in Warren.

The event is meant to show the school district's senior citizens what's going on at the schools.

Attending seniors will also have the opportunity to have a health screening, learn about crime prevention, gather wellness information and be educated on other community resources.

To learn more about the event, interested seniors can call 586-698-4044.

Fair could not function without the assistance of volunteers and sponsors, Meloche said. Members of the Operating Council direct over 40 volunteers for setup, support and tear-down each year. In addition, almost 200 judges from Detroit's engineering community evaluate the submissions and select the best of the best.

Area Students Enjoy Detroit Science Fair

This year, Meloche said that five corporations are acting as the main sponsors for the SEFMD event - Toyota Motor DTE Energy, Corporation, Comerica Bank, Marathon Oil Corporation and Ford Motor Company.

Meloche said the winners will be named after the end of the show.



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adillac





Cadillac's XT5 Crossover, **CT6 Sedan Set to Debut**

The Cadillac brand sold 18,096 for the month, Caldwell said, as new vehicles globally in February, as it continued its focus on building a stronger foundation for growth, said Cadillac spokesman David Caldwell.

Cadillac now enters a period of key product launches in its largest markets. These moves are designed to expand its portfolio and reinforce the rising stature of the brand, Caldwell said.

Initial deliveries of the new CT6 flagship sedan will begin globally this month, followed closely by the first-ever XT5 luxury crossover, which enters the luxury market's strongest segment.

"We're building a strong foundation of product substance and luxury brand appeal on a global basis, elevating every aspect of our business," said Cadillac President Johan de Nysschen.

"We continue to see consumers selecting a richer mix of models. The latest available data shows Cadillac with the highest average transaction prices (\$54,000) in the U.S. market mainstream among luxury brands.

"With rising brand prestige, the stage is set for the launch of two all-new models - the CT6 prestige sedan and XT5 luxury crossover.'

Cadillac's February sales grew slightly in the U.S., while results in China were down 16 percent

the company phases out the importation to that market of the popular SRX crossover, in preparation for the new XT5 crossover model.

Cadillac closed 2015 as the fastest-growing luxury brand in China. In February, Cadillac's sales in Canada - its third-largest market - continued to grow, increasing 44.5 percent in February, Caldwell said.

"Cadillac's business in Canada has doubled over the past three years, driven by increasing demand for our transformed product portfolio and reflecting the enhanced stature of the brand," de Nysschen said.

Caldwell said that according to J.D. Power data from mid-February, strong demand for Cadillac in the domestic market has driven inventories lower as the brand prepares to launch two new product lines now.

Cadillac's February sales globally included a 17 percent decline in the sale of the ATS model, going from 4,046 to 3,358. Sales for the Escalade, on the other hand, saw a 24.5 percent increase, going from 2,717 in February of 2015 to 3,383 this year.

Overall, Caldwell said, Cadillac sales for the year so far are statistically indentical to 2015. This year the brand has sold 38,721 compared to last year's 38,738.



2017 Cadillac XT5

Feds Checking F-150 Brakes

DETROIT (AP) – The U.S. government is investigating complaints that the brakes can fail on Ford's F-150 pickup truck, one of the most popular vehicles in the nation.

Ford's F-Series pickup is the top-selling vehicle in the U.S., and the F-150 accounts for twothirds of those sales.

The probe covers about 420,000 pickups with 3.5-Liter, six-cylinder engines from the 2013 and 2014 model years, according to documents posted March 4 on the National Highway Traffic Safety Administration's

driveway in May of 2015 when the pedal went to the floor and he completely lost his brakes. The pickup crossed the street, went over a curb and hit a neighbor's landscape wall, causing severe damage, the driver wrote.

"I am surprised that there has been no action on this issue yet the complete failure of the most important safety system of a 2.5ton-plus vehicle," the driver wrote. Drivers who file complaints with NHTSA are not identified in the agency's database.

NHTSA investigators will check into how often the problem happens and how large it might be to decide whether a recall is necessary. Ford sold 763,402 F-series pickups in 2013 and another 753,851 in 2014, according to Autodata Corp. The investigation isn't the first into brake problems with Ford's flagship F-150. Last June, NHTSA began looking into complaints that the power brake assist can fail on about 250,000 pickups from the 2011 and 2012 model vears that also have 3.5-liter engines. It's a problem that apparently is not related to the investigation just announced. In October, the agency upgraded the probe to an engineering analysis, taking it a step closer to a recall. Investigators found 432 complaints, seven crashes, one injury and 6,476 warranty claims related to the electric brake vacuum pump. The problem happens after starting a cold engine or at low speeds when power brake boost is used.



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website.

The agency says it has 33 complaints about the problem, including some drivers reporting that the pedals can suddenly go to the floor with a complete loss of braking. Four drivers reported that the problem caused crashes, although there were no injuries. The agency reported that 31 of the complaints from F-150 drivers came in the past year, with 20 in the past seven months.

Some of the drivers reported that mechanics told them brake fluid had leaked from the master cylinder to the brake booster, causing the problem.

Ford said it takes customer safety seriously and will cooperate with the investigation. Trucks with other engines could also be covered. Ford savs F-150s with other engines have the same braking system.

One owner from San Marcos, Calif., told NHTSA that he was backing his pickup out of the

Drugged Driving Suit Aimed at Teenagers

It's been said that teenagers think they're immortal and are apt to do stupid things like drink and drive. Ford would like to stop all teens from thinking that way.

That's where Ford Driving Skills for Life comes in, said Ford spokesman John Cangany. The company launches its 13th global tour with the addition of a new Drugged Driving Suit for its U.S. curriculum that's designed to stress the dangers of driving while impaired.

The program expands this year as Driving Skills for Life takes its training across the United States and travels to six additional countries worldwide.

The 2016 program also provides experiences with a Drunk Driving Suit, which debuted in 2013, Cangany said.

Students attending ride-anddrive events will wear both suits to gain perspective on how being impaired can slow movement, reduce coordination, blur vision and make tasks difficult.

They'll also learn the importance of safety belt use and pedestrian safety, and about the risks of drowsy driving.

"Our 2016 program features some of the newest and most innovative tools available to teach new drivers to be safe and make sound decisions behind the wheel," said Jim Graham, manager of Ford Driving Skills for Life.

'Our new Drugged Driving Suit is intended to complement our Drunk Driving Suit, giving students a critical eye into the consequences of impaired driving."

Driving Skills for Life takes its training to 15 stops in the United States this year, Cangany said, including Alabama, Arizona, California, Delaware, Georgia, Hawaii, Michigan, New York, North Carolina, Oregon, Pennsylvania and Texas.

The safe driving message also expands globally as the tour travels to Argentina, Bahrain, Finland, Oman, Poland and South Korea.

American Axle Adds to Guys' **Responsibilities**

American Axle & Manufacturing Holdings, Inc. (AAM), has expanded the role of Philip R. Guys. He currently is the vice president of Driveline Product Engineering and will assume the title of chief technology officer (CTO).

Guys will continue to have responsibility for AAM's global driveline product and advanced engineering organization, which includes over 1,500 engineers, scientists and technologists located in 14 technology and development centers around the world. With the addition of CTO



Drugged Driving Suit is designed to stress dangers of impaired driving.

has reached 800,000 new drivers of all ages with free ride-anddrive courses, school and community events, and its interactive website.

By the end of 2016, Cangany said the program will have reached 1 million people in 35 countries.

"Despite progress in recent years, teens continue to be overrepresented in motor vehicle crashes and fatalities across the country," said Jonathan Adkins, executive director, Governors Highway Safety Association.

'For this reason, the association and the State Highway Safety Offices are looking forward to bringing this powerful program to even more teens and their parents - coast to coast and around the globe.'

Ford Driving Skills for Life was established in 2003 by Ford Motor Company Fund, Governors Highway Safety Association and a panel of safety experts with the mission of teaching newly licensed drivers the necessary skills for safer driving and the

Aluminum and its Alloys – March 28 – 30, 2016

Macomb

To date, Driving Skills for Life importance of making good decisions behind the wheel.

> Through free, hands-on rideand-drive courses, classroom material and an interactive website, the core curriculum focuses on vehicle handling, hazard recognition, speed management and space management, which account for 60 percent of all crashes.

In its first 12 years, Ford Driving Skills for Life provided handson training to more than 41,000 teens in all 50 states and Puerto Rico.

Thousands of teens and parents have used the Web-based curriculum at www.drivingskillsforlife.com.

"Ford Driving Skills for Life has grown in both content and reach since it launched 13 years ago," said Graham.

"We focus on parental behavior, because research shows it has an impact on teen driving behavior.

"And we continue to modify the program to keep up with an ever-evolving world that newly licensed drivers must face."

VW Looking for a Break In U.S. Decision on Fines

BERLIN (AP) – The head of Volkswagen's employee council said March 8 he hopes that American authorities will consider the potential fallout on jobs in the U.S. and beyond as they mull what fines to impose on the company over its emissions-rigging scandal.

The cost to Volkswagen of the scandal that erupted in September remains unclear. In January, the U.S. Justice Department sued it over the emissions-cheating software found in hundreds of thousands of vehicles sold in the country, potentially exposing VW to more than \$20 billion in penalties for clean air violations.

The company and its executives could also still face separate criminal charges, while a raft of private class-action lawsuits filed by angry VW owners are pending.

"If Volkswagen's sustainability is endangered by a penalty of a so-far unique size, this will also have dramatic social consequences - not just at our U.S. locations, but also in Europe and elsewhere," the company's influential employee council chief, Bernd Osterloh, told a workers' assembly at VW's Wolfsburg headquarters.

"We very much hope that U.S. authorities also ultimately have this social and employment dimension in view," he added, news agency dpa reported.

News of the scandal broke on Sept. 18 when the U.S. Environmental Protection Agency said Volkswagen had installed software on 482,000 cars that enabled them to cheat on emissions tests. Four days later, Volkswagen said about 11 million diesel vehicles worldwide were fitted with the software.

The governor of Volkswagen's home state of Lower Saxony, who sits on Volkswagen's supervisory board as a minority shareholder, cautioned that more bad news can be expected.

"We will repeatedly be confronted this year with unpleasant news in connection with 'Dieselgate,"' Stephan Weil told workers. He didn't elaborate.

Prosecutors in Germany have been investigating suspected fraud connected to the emissions-rigging scandal since September.

On March 9, Braunschweig prosecutors' spokesman Klaus Ziehe confirmed a report by the Funke newspaper group March 8 that the number of people under investigation has increased to 17 from six.

He didn't identify them or give further details, though the newspaper report said without citing sources that the suspects didn't include any current or former management board members.

Ford Vehicles Go **LEGO Toy Route**

Call it child's play.

Ford Mustang and F-150 Raptor LEGO Speed Champions sets are now available online.

Kids ages seven and up can purchase either set directly from the LEGO store at en.lego.com.

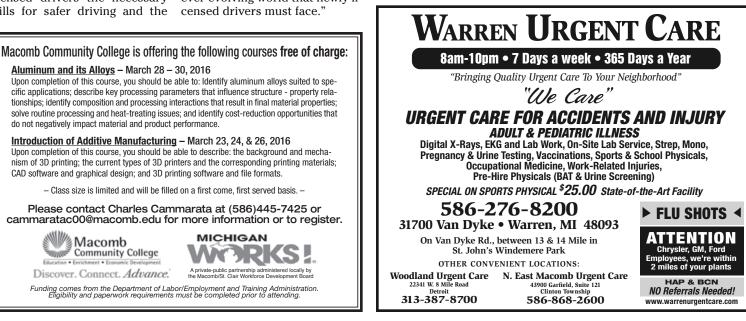
The 185-piece Mustang kit includes a time board and race driver.

It retails for \$14.99.

The 664-piece F-150 Raptor set sells for \$49.99.



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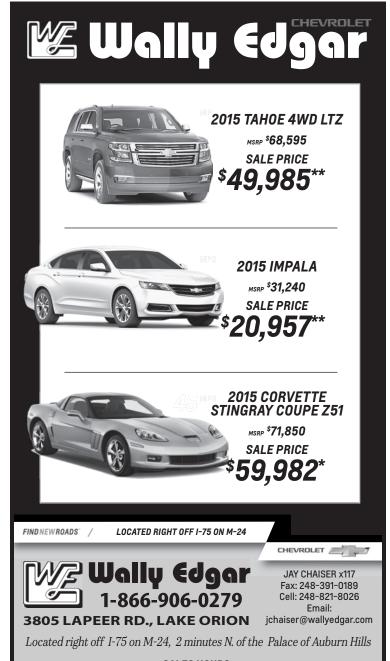
to his formal title and responsibilities, Guys will now also lead the company's innovation strategy and roadmap while driving the design and development of advanced technologies as part of AAM's growth plan.

"Phil's leadership style, steadfast integrity and immense knowledge of systems integration and design will serve him well in this expanded role," said AAM Chairman & Chief Executive Officer David C. Dauch. "Including the responsibilities of CTO further strengthens AAM's commitment to being a technology leader in our industry. We will continue to deliver powerful and efficient products and solutions that are smarter and safer for our customers all around the world.'

Guys has over 30 years of automotive experience and leadership in the design, development and manufacture of driveline and drivetrain products and systems.



TECH CENTER NEWS - WARREN



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*Corvette sale price at GM Employee Discount Price plus tax, title, plate and doc. fees due at signing with all rebates assigned to dealer. **Impala and Tahoe sale prices at GM Employee Discount Price plus tax, title, plate and doc. fees due at signing with all rebates including Chevrolet Loyalty Private Offer (only current 1999 or newer Chevrolet passenger car or light duty truck owners/lessees are eligible) assigned to dealer. Due to advertising deadlines, prices subject to change. See dealer for details.



Turns Out Millennials Do Like Automobiles

by DEE-ANN DURBIN AP Auto Writer

DETROIT (AP) – Millennials were once a source of panic in the auto industry. Dubbed the "go nowhere" generation, they weren't getting driver's licenses, never mind buying cars. Headlines declared it was "The End of Car Culture."

New data suggests at least some of that worry was misplaced. Millennials – especially the oldest ones – are these days buying cars in big numbers. They just had a late start.

Now the largest generation in the U.S., millennials bought 4 million cars and trucks in the U.S. last year, second only to the baby boomers, according to J.D. Power's Power Information Network, which defines millennials as those between 21 and 38 in 2015. Millennials' share of the new car market jumped to 28 percent. In the country's biggest car market, California, millennials outpaced boomers for the first time.

Industry watchers say it's been hard to get a read on millennials because the generation is big and diverse, ranging from recent college graduates to settleddown suburbanites. Automakers were also unsure about the impact of new transportation choices, like ZipCar and Uber, which helped millennials delay car buying. But as they got jobs and started families, millennials headed into car dealerships just like previous generations.

"This whole idea that they're not going to need cars is absolutely ridiculous," said Steven Szakaly, the chief economist for the National Automobile Dealers Association. "The new car buyer age is just happening much later."

It's a very different story from

2010, when millennials – who make up around 30 percent of the population – bought just 17 percent of new cars. Auto executives wondered aloud if the trend would be permanent.

In 2011, a University of Michigan study showed a steady decline in the number of young people getting their driver's licenses. In 1983, the survey found, 87 percent of 19-year-olds had a license. By 2010, that had fallen to 69 percent. Millennials told the study's authors that they were too busy to get licenses and were happy to hitch rides from others.

But there was more to the story. The advent of graduated licensing laws – which make teens practice driving in stages before granting a full license – was one reason millennials were getting their licenses later. An even bigger reason? The economy.

For many millennials, the Great Recession hit just as they were getting their first job or graduating from college. By 2010, millennials' unemployment rate reached 13 percent – four percentage points higher than the national average – according to a report by the White House Council of Economic Advisers. For teens, things were even worse. The teen unemployment rate rose from 15 percent to 26 percent between 2006 and 2012.

Millennials' unemployment rate has improved to around 8 percent. Add low interest rates and low gas prices to the mix and the car market suddenly looks more enticing to young buyers.

Lucy Mueller, 26, lived in Los Angeles for eight years without a car. She took buses and trains, hitched rides with friends and used ride-sharing services like Lyft. Her commutes lasted more than an hour each way. Finally, last July, she bought a slightly used 2015 Fiat 500.

"Now that I have a car, it's almost bewildering to me. I feel like a grown-up," said Mueller, a project manager and video producer for financial software maker Intuit. Several things kept Mueller out of the car market. She didn't have a credit card until a year ago; without any credit history, financing a car would have been difficult. Also, like many recession-weary millennials, Mueller wanted to avoid accruing debt, so she saved enough for a substantial down payment.

Szakaly says it will take millennials another four to five years to match the spending power of boomers. According to government data, the median household income for people ages 25-34 is \$54,243. For those ages 55-64, it's more than \$60,000. In addition, the average 25-year-old has more than \$20,000 in student debt, according to Goldman Sachs. That's enough to buy a new Kia Optima sedan.

Bret Hyde, a cameraman with Access Hollywood in New York, waited until he was 37 to buy his first car. He and his wife used to rent ZipCars or take buses to visit friends and family. It was tiresome and expensive, he said, but there wasn't much parking in their old neighborhood. After moving to a new neighborhood and renting a garage last spring, the couple bought a 2015 Nissan Rogue SUV.

Sheryl Connelly, a futurist with Ford Motor Co. who studies buying trends, said even as millennials start buying cars in bigger numbers, their attitudes are different than previous generations. Owning a car and getting a driver's license aren't the milestones they once were, and that may be a permanent change.

"The sense of freedom and independence that used to come with getting a vehicle has been arguably displaced by the cellphone," she said.

Automakers have taken note. They're improving in-car technology to make it easier for young drivers to stay connected to their friends and music while they're driving. They're forming partnerships with ride-hailing and car-sharing services and conducting mobility experiments of their own.



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GM Facilities Earn Award for Smaller Carbon Footprint

Eleven General Motors facilities have earned ENERGY STAR certification for superior energy efficiency from the U.S. Environmental Protection Agency.

These buildings, which include seven parts distribution centers, a global headquarters office and three IT innovation office centers, have optimized their buildings to leave a smaller carbon footprint, said GM spokeswoman Colleen Oberc.

To earn ENERGY STAR certification, buildings must perform better in energy efficiency than 75 percent of similar buildings nationwide and meet strict energy efficiency performance levels set by the EPA.

"It makes good business sense to pursue a greener product in every segment of the value chain," said Al Hildreth, GM's global energy manager. "This includes the areas that support our business and keep our company running optimally, like our efficient warehouses, IT centers and office buildings.3

GM leads the automotive industry in certified distribution centers, Hildreth said. The following Customer Care and Aftersales facilities, which supply automotive parts to dealerships and customers for vehicle repair, achieved certification:

• Customer Care and Aftersales World Headquarters, Grand Blanc;

• Denver Parts Distribution Center, Colo.;

• Fontana Parts Distribution Center, Calif.;

• Lansing National Parts Distribution Center;

• Martinsburg Parts Distribu-

tion Center, W. Va.; • Memphis ACDelco Parts Distribution Center, Tenn.;

• Rancho Cucamonga Parts Distribution Center, Calif.;

• Willow Run Parts Distribution Center.

These facilities implemented a number of energy conservation projects. The Grand Blanc facility installed energy-efficient LED lighting, upgraded heating and cooling systems, and engaged employees in a "Bring Your Green to Work" event with local energy utilities to discuss energy-saving ideas for both the home and office, Hildreth said.

"This recognition demonstrates the collaborative work by our employees who are focused on saving energy and improving our efficiency," said Tim Turvey, GM Customer Care and Aftersales global vice president.

Additionally, three new GM IT innovation office centers earned certification:

• The Arizona IT Innovation Center in Chandler uses solar to power 9 percent of its monthly energy use.

• The Georgia IT Innovation Center in Roswell installed an advanced intelligent boiler control to optimize energy efficiency.

• The Austin IT Innovation Center in Texas sets workplace and conference room lighting to operate at 50 percent of maximum output.

These three sites house software developers, project managers, database experts and other IT professionals supporting GM's business worldwide, Oberc said.

All buildings were designed and built following Leadership in Energy and Environmental Design strategies and practices, and rank an average of 43 percent below the median national average for energy use.







2016 BUICK REGAL



WASHINGTON (AP) – Volkswagen's top U.S. executive is stepping down amid the company's ongoing emissions cheating scandal, the company announced March 9.

U.S. President and Chief Executive Michael Horn is leaving "to pursue other opportunities effective immediately," the automaker said in a statement. He had been with the German automaker for 25 years, assuming his most recent post in 2014.

Horn's sudden departure comes as the company continues to grapple with the fallout from its admission last year that nearly 600,000 cars were sold in the U.S. with software that regulators say was designed to cheat on required emissions tests.

VW potentially faces more than \$20 billion in fines from state and federal regulators, as well as hundreds of class-action lawsuits filed on behalf of angry vehicle owners. The Justice Department is also conducting a criminal investigation.

It was Horn who was sent to apologize to consumers at a congressional hearing in October. But at the same time, he told lawmakers that top corporate officials had no knowledge of the cheating software installed in 11 million diesel cars worldwide.

"To my understanding, this was not a corporate decision, this was something individuals did," Horn said, adding that he felt personally deceived.

A federal judge has given the company until March 24 to reach an agreement with the government on recalling the affected vehicles. U.S. District Court Judge Charles R. Breyer wants to know about available technical solutions to fix the cars and the status of negotiations on a potential settlement with affected owners. VW has not indicated if it can meet the deadline.

Volkswagen in September admitted to U.S. regulators that it had used illegal software installed in its so-called "Clean Diesel" engines. The cheating allowed cars to pass lab emissions tests while spewing high levels of harmful nitrogen oxide.

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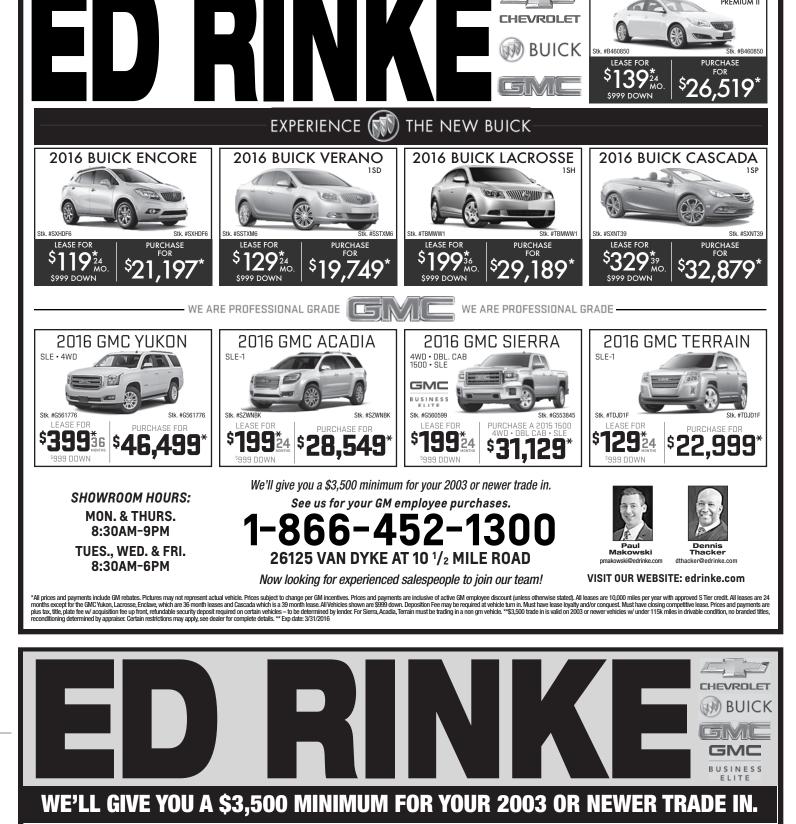
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Delphi Earns Ethical Award Fourth Time

Delphi Automotive PLC has been named one of the "World's Most Ethical Companies" by the Ethisphere Institute, a global leader in defining and advancing the standards of ethical business practices. said Delphi spokeswoman Andrea Knapp.

Delphi was recognized for its commitment to leading ethical business standards and practices and has been named to the list the last four years. The company is one of only three automotive companies to be included on the annual list, Knapp said. The other two companies were Ford and Cummins, Inc., of Indiana. "At Delphi, we foster a culture of responsibility and ethics throughout our organization. These are values that are integral to how we do business each day and we are proud to be recognized for this work," said David M. Sherbin, senior vice president, general counsel, secretary and chief compliance officer, Delphi Automotive. Ethisphere's World's Most Ethical Companies are selected using scores generated in five key categories: ethics and compliance program, corporate citizenship and responsibility, culture of ethics, governance and leadership, innovation and reputation, Knapp said.



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