# Tech Center News®

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**FEBRUARY 13, 2017** 

# **GM Designer Enjoys the Stars Wars Life**

by Jim Stickford

When asked why he chose to create a set of Star Wars Imperial Storm Trooper armor, Derek Lane-Waters, a senior design engineer at GM's Tech Center, said the answer was simple - "good guys don't get the love.'

Lane-Waters is both a Star Wars fan and a member of the 501st Legion's Great Lakes Garrison, which is part of a worldwide organization of Star Wars enthusiasts who create photo-realistic outfits based on characters from the various Star Wars media. After having a particular ensemble approved, enthusiasts become members.

They then make appearances to raise money for charities, Lane-Waters said. The Legion's main charity is the Make-A-Wish Foundation, Lane-Waters said. But if a parent wants to have a bunch of Storm Troopers at his or her child's birthday party, that parent can donate money to a charity of the parent's choice.

No one in the Legion is paid for a public appearance, Lane-Waters said.

When asked why he chose to be a Storm Trooper, Lane-Waters said there were a couple of reasons. First, a garrison can have as many Storm Troopers as they want, while there can be only one Vader or Han Solo at a partic-



Lane-Waters representing the 501st Legion Great Lakes Garrison.

ular garrison at any one time.

And, Lane-Waters said, Rebel soldiers just don't get the love at events that Storm Troopers get.

"All the feedback that I've received is that people like the look of the bad guys," Lane-Waters said. "But we like to say of ourselves that we're the bad guys who do good.'

When the armor he built was approved, Lane-Waters was given the official Storm Trooper designation number TK6778.

"The TK part of the designation comes from the first movie," Lane-Waters said. "Once you get that number, it's yours for life."

Lane-Waters said he's always

been a bit nerdy, and he built his armor back in 2010.

"My wife Diana always knew I had a passion for Star Wars," Lane-Waters said. "I have a workshop in the basement of my home in Rochester Hills. I've been married for 20 years and always collected Star Wars memorabilia. When I became aware of the 501st Legion, I decided to build a set of armor. My wife said go for it because it keeps me qui-

Lane-Waters is originally from Great Britain and has been living in the U.S. for the past 13 years.

**CONTINUED ON PAGE 3** 

# GM-UAW Employees Receive \$12,000 in Profit Sharing

vestors' conference during Detroit's auto show in January, confident General Motors executives told investors to expect improved pretax profits for 2016 and 2017, thanks to strong sales in key markets and cost cuts.

On Feb. 7, the company partly delivered, reporting a 16 percent increase in last year's pretax income. An encore could be a lot

Overall auto sales are flattening in the U.S., GM's biggest profit center, and car inventories are growing. Economic troubles linger in Europe and South America. And a new U.S. president

DETROIT (AP) - At an in- wants to redo the North American Free Trade Agreement and could slap a border tax on imports from Mexico. All of these will make it hard for GM to beat last year's net income of \$9.4 bil-

> Financial analysts say GM has big advantages over most competitors with a larger presence in China and newer products, especially in profitable trucks and SU-Vs that are becoming increasingly popular with U.S. and global buyers.

> But Barclays analyst Brian Johnson says GM is at risk

> > **CONTINUED ON PAGE 2**



2017 Cadillac XT5

# **Achates' New Engine Design Gets Results**

by Jim Stickford

It's not exactly the reinvention of the wheel, but Achates Power has had some success reinventing the opposed piston engine, a type of powertrain that fell out of favor in the 1950s.

Achates, which is based in San Diego, opened an engineering office in Farmington Hills about 18 months ago, said company CEO David Johnson.

'We went from zero to about 20 engineers quickly at the Farmington Hills site," Johnson said.

The office's growth is because the company wants to work with the auto industry and Detroit is the place to be for companies with that goal.

And Johnson said that after years of research, the company was able to announce in January of this year that it had achieved ty trucks. This engine will surpass CAFE 2025 regulations and it will also be 30-50 percent more

efficient than comparable engines, reduce emissions and cost less than alternative technologies under development for meeting CAFE.

The opposed piston engine, Johnson said, is not a new idea. It's actually been around for more than 100 years. The tech is still used in Russian tanks today and was used in engines for trucks made by the English company Commer in the 1950s.

As to why the technology was abandoned, Johnson said the company's reading of history showed that the choice was made when circumstances required industry to get more efficiencies from engines.

"The opposed piston engine is complicated to design and build," Johnson said. "With the advent of emissions regulations and mileage requirement even success in upgrading the op- standard Internal Combustion posed piston engine for light du- Engines (ICE) had to be redesigned. That where the industry decided to put its efforts."

In fact, Johnson said, many



David Johnson

people thought that redesigning the opposed piston engine to get the efficiencies needed was impossible and when something is impossible people don't try it. As a result the technology fell by the

But the tech was never entirely forgotten, Johnson said. Achates

CONTINUED ON PAGE 2

# **Cadillac Strong in China**

January, a 44.2 percent increase. This is the eighth consecutive month of double-digit percentage increases for Cadillac.

Driven by the new XT5, Cadillac sales in the midsize luxury crossover category - the industry's strongest segment – grew 51.7 percent, said Cadillac spokesman David Caldwell. The XT5 sold 11,880 units in January. Cadillac's ATS sport sedan and coupe product line rose 63.8 percent, and the XTS luxury sedan saw sales increase 29.3 percent.

Cadillac continued its massive growth in China, the world's largest market, Caldwell said, with sales rising 116 percent in January. In the U.S., Cadillac retail sales increased 1.2 percent. However total U.S. sales declined (4.1 percent) driven by a reduction in sales to commercial fleet customers.

"Cadillac begins 2017 with a continuation of the robust global 20,636. A 44.2 percent increase.

Cadillac sold 29,764 vehicles in growth of 2016, a year in which we sold more products worldwide than any point in the past three decades," said Cadillac President Johan de Nysschen. "We are growing the business significantly and attracting a youthful and affluent demographic, elevating the aspirational character of the brand. This is particularly the case in China, where our growth is explosive and sustained.'

> Cadillac January sales 2017 compared to 2016 by region:

- United States 10,298 versus 10,740. A 4.1 percent decline. • China – 18,011 versus 8,337.
- A 116 percent increase. • Canada – 657 versus 811. A
- 19 percent decline. • Middle East – 293 verus 289
- A 1.4 percent increase.
- Rest of World 505 versus 459. A 10 percent increase.
- Total Sales 28,764 versus



One of Ford's donated vans being put into use by the Salvation Army.

# Ford, Salvation Army Holding Fundraiser

The Salvation Army of Metro Detroit will celebrate its 30th Annual Bed & Bread Club Radiothon Presented by Ford Motor Company Fund from 6 a.m. to 10 p.m. on Friday, Feb. 24.

The fundraiser will broadcast live on News/Talk 760 WJR from Emagine Theatres in Royal Oak. WJR hosts Paul W. Smith, Frank Beckmann, Guy Gordon and Mitch Albom will speak with local and national celebrities, and will be joined by special guest host Jim Vella, president, Ford Fund, beginning at 2 p.m.

Ford Motor Company Fund,

the philanthropic arm of Ford will join the radio legend during Motor Company, has provided five vehicles over five years to The Salvation Army Eastern Michigan Division. Ford Fund is increasing its support for the Bed & Bread Club Radiothon this year to assist The Salvation Army's expanded efforts to serve those in need across the region.

Dick Purtan, Bed & Bread Club chairman and retired Detroit radio Hall of Famer will once again lead the broadcast from 6 to 10 p.m. His daughters, Jackie and Joanne Purtan, along with his former "Purtan's People" cohorts

the final hours of the broadcast.

"This milestone anniversary of the Radiothon is a testament to the generosity of our corporate partners, the community, volunteers and staff of the Bed & Bread program," said Major Russ Sjögren, general secretary and metro Detroit area commander for The Salvation Army Eastern Michigan Division. "Their dedicated support has allowed The Salvation Army to provide millions of meals and nights of shelter to those in

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#### Ford's Helping Salvation Army Raise Money

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need for more than 30 years. We give special thanks to Ford Motor Company Fund for stepping up as our presenting sponsor and leading the corporate giving charge."

The Salvation Army's Bed & Bread program feeds and shelters metro Detroiters every single day of the year. A donation of \$120 helps feed five people for nearly a month. Those doubling their generosity to \$240 will help feed 10 people and receive a special incentive gift for supporting The Salvation Army's Bed & Bread program.

Supporters can donate now through the end of the 16-hour Radiothon by:

- Texting BREAD to 91999;
- Visiting www.salmich.org or www.wjr.com;
- Calling 248-528-0760 .

Sending a check or money order, made payable to The Salvation Army's Bed & Bread Club, to 16130 Northland Drive, Southfield, MI 48075.

# General Motors' Profits Remain Strong For Year 2016

CONTINUED FROM PAGE 1

should President Donald Trump impose a 20 percent tax on vehicles imported from south of the border. About 20 percent of GM's North American production is in Mexico, higher than both its Detroit rivals, Johnson wrote in a recent note to investors. Plus, 42 percent of GM's Silverado and Sierra pickup trucks, which are two of the company's highestrevenue vehicles, are made at a plant in Silao, Mexico, and could be hit by a tax, Johnson wrote.

GM executives said Feb. 7 that it's too early to tell exactly what will happen with a border tax. CEO Mary Barra, a member of Trump's council of business leaders, said she has explained the complexity of the auto industry to the president, detailing its long decision-making times for picking parts suppliers and locating factories. "If there are shifts, they have to happen over time," she said.

GM's full-year net profit fell just under 3 percent, but it reported a record pretax profit of \$12 billion in North America. That means big checks for most of the 52,000 union workers, who will get \$12,000 each, costing the company \$624 million. That's up from \$11,000 last year.

GM said Feb. 7 that it made \$6 per share for the year. Without special items it made \$6.12, beating Wall Street expectations by a dime, according to a survey by FactSet.

Despite looming issues, GM estimates it will earn a pretax profit this year in a range from \$6 to \$6.50 per share. Johnson wrote that he's "somewhat skeptical" of GM's full-year guidance.

Edward Jones analyst Jeff Windau gives GM shares a "hold" rating but also thinks the company's optimism for 2017 is justified. GM, he said, is on track to cut costs by \$6.5 billion per year by 2018, over 2014 levels. Although the company is spending heavily on new technology such as electric and autonomous cars, it's also making a lot of money as consumers shift from cars to trucks. Services such as OnStar and GM's financial unit also will add to profits, he said.

"Those all kind of balance some of the pressures that we see coming into this year," Win-

Chief Financial Officer Chuck which works to GM's advantage. Stevens said the company is benefiting from strong sales of higher-priced trucks and crossover SUVs. Since cars are selling slowly amid demand for SUVs, Stevens said GM will shift capital spending toward SUVs and

'We are allocating more capital to growth and profit pools where we think we can earn a long-term return," he said.

Sales of cars in the U.S. are slowing as buyers shift to SUVs, Car sales accounted for only 37 percent of the market in January, when they were nearly 50 percent just two years ago.

At the end of January, GM had enough cars on dealer lots to supply them for 131 days. Normally automakers like to have around a 60-day supply. Stevens said if the car slump continues, GM will further adjust factory production to match it, meaning there could be more layoffs at car factories.

# Achates Builds Better Engine Prototype

CONTINUED FROM PAGE 1

started working on it in 2004 and in 2010, they had a fundamental combustion system breakthrough.

"The fundamentals of combustion are that engines with opposed pistons have two pistons in one chamber," Johnson said. "Traditionally the shape of the chamber is flat like a hockey puck. The breakthrough was that we made the chamber shaped like an American football. This allows for very clean and rapid combustion by reducing the surface area of the combustion chamber?

The Achates engine does not need cylinder heads, which are a major contributor to heat losses in conventional engines. Ports in the cylinder walls replace the complex poppet valves and friction-creating valve trains of conventional engines.

The intake ports at one end of the cylinder and exhaust ports at the other are opened by the piston motion and enable efficient uniflow air scavenging. The twostroke, compression ignition engine has been engineered to achieve superior thermal efficiency by the virtue of its lower engine shouldn't cost any more heat losses, higher expansion ratio, lean combustion and reduced pumping losses.

Achieving this break through wasn't easy, Johnson said. He credits the development of lowcost computer technology that enabled engineers to be able to make the massive computations needed. They were able to develop a theoretical engine in a computer in 2010. During the next seven years, they went from the theoretical to the real.

It took that long because making engines that are cost-effective and right-sized isn't easy.

"Since 2010 we've registered 135 patents," Johnson said. "We' had just 78 in 2016 alone. To sell an engine it has to be low-cost, able to fit in an actual vehicle and be easily manufactured. We've gone from the dynameter to the track. The brand of the vehicles being tested doesn't matter. What does count is the size of the engine compared to the vehicle. Our engine is perfect for vehicles like the F-150, the Ram 1500, the Silverado or the Tahoe. These are profitable vehicles for the OEMs and they are vehicles that really use better mileage and lower emissions the most.'

The new Achates Power 2.7 liter Opposed-Piston Engine will make 270hp, and the vehicle will achieve 37 MPG, above the 33 MPG fully phased-in CAFE 2025 requirement for a full-size, lightduty pick-up truck (65-70 sq. feet). The demonstration engine will be integrated into a drivable prototype in 2018; development engines will also be available for automakers.

The EPA's draft Technical Assessment Report released in 2016 forecast cost increases to integrate fuel saving technology, using this information and a related National Academy of Sciences report, Achates Power determined that including the Opposed-Piston Engine in the roadmap to achieve CAFE will be at least \$1000 less expensive

Johnson said Achates' development process also included determining the best way to actually manufacture the engine. The practical and the theoretical were important parts of the development process. So should a Detroit OEM decide to purchase the engine from Achates, they can retool one of their regular engine plants to make it.

"Retooling a plant to make our

Or Ours

seating up to 75

than it would to retool or modernize an engine plant under norcircumstances," Johnson said. "The opposed piston engine uses fewer parts, including the

eliminating the cylinder head(s) and related components, eliminating the valvetrain and related components, and a reduction in the aftertreatment system size and cost, among other things. A comparison between the 2.7L OP Engine and a comparable V6 with supercharger shows a part reduction of more than 60 percent, enabling an approximate 10 percent cost reduction.'

In 2018 the company will have a demonstration vehicle that proves an internal combustion engine is able to cost effectively meet the CAFE standard, does not require the adoption of costly vehicle modifications, infrastructure upgrades, or a change in how the driver operates or maintains the vehicle, Johnson

"The OP Engine confirms what the industry already knows: the technology needed to exceed these standards and deliver fuel economy and cost savings to customers is currently available, and works with existing infrastructure and fuels," said Johnson. "We have a development program underway to create the engine and look forward to coming back to the North American International Auto Show in 2018 to show our progress and we're even more excited to drive the vehicle later that year."

#### **MCC Hosting Home Show for Public**

Are you ready to get your home improvement projects started for the new year? If so, you are in luck.

Macomb Community College will be hosting Your Spring Home Show on Feb. 18th-19 at the Macomb Community Sports & Expo Center.

Your Spring Home Show is a home improvement exhibit featuring "inside, outside and everything for your home.'

The event is free and will be held from 10 a.m. to 6 p.m. on Saturday, Feb. 18 and from 10 a.m. to 4 p.m. on Sunday, Feb. 19.

Macomb Community Expo Center is located at 14500 E. 12 Mile Road, Warren. For more information, please call 248-481-

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# **Chevrolet Statistics Demonstrate Public's Growing Use of Streaming Data in Driving**

Chevrolet owners in the U.S. used a whopping 4,220,684 gigabytes (or 4,220 terabytes) of data in 2016, an increase of nearly 200 percent over 2015.

'That's a staggering amount of data when you think about it," said GM spokesman Monte Do-

"That's why we put in the table breaking down just what one could do with all the data. And it just shows you how prevalent data usage has become in our every day lives. It's become more integrated in our day-to-day

The most significant increase was seen with Tahoe and Suburban owners, who used three-anda-half times more data than a vear ago

For example, Tahoe and Suburban owners used 713,669 gigabytes of data in 2016, a 260 percent increase over 2015. For perspective, 713,669 gigabytes is equivalent approximately:

- 3 million hours of streaming standard video;
- 25 million hours of streaming music;
- 1.8 billion song, game or app downloads:
- 1.5 billion photos posted to social media.

OnStar 4G LTE enabled by AT&T is part of an extensive list of available technologies that are helping make Tahoe and Suburban the best-selling full-size SUVs in the industry. In 2016, retail sales climbed 21 percent and retail share climbed 2 percentage points to 49.3 percent of the segment.

"To me, the most significant thing to understand is that one reason why these two SUVs have become so successful is because of the technology that comes with them," Doran said. "This technology ranges from safety with things like Side Blind Zone Alert to convenience features like Power Folding Seats to connective technology like OnStar 4GLTE and Wireless phone charg-

As a strategic plan to grow retail sales, Chevrolet has continually invested in new safety, convenience and connected technologies across our trucks, utilities and cars," said Alan Batey, president of General Motors North America and global head of Chevrolet.

We are attracting new buyers to Chevrolet by offering technologies like OnStar 4G LTE not available on competitive models. New owners are in turn more likely to become repeat Chevrolet customers as these features become an integral part of their day-to-day lives.'

As Chevrolet owners have come to appreciate the ability to stream video on a tablet, send email on a laptop or play online using a gaming console in their vehicles, data use has increased exponentially.



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# **CHEVROLET 4G LTE** DATA USAGE BY OUARTER 1.500.000 1,200,000 900,000

Consumer use of OnStar's data services have grown tremendously.

OnStar 4G LTE connectivity was introduced across the Chevrolet car, truck and utility portfolio for the 2015 model year in the U.S. and Canada.

600,000

300,000

Today, a 4G LTE connection is standard equipment on all new Chevrolet retail models, along with the OnStar Basic Plan, which also features remote vehicle access and the AtYourService marketplace via the myChevrolet mobile app, Doran said.

Now the all data doesn't come free. What people pay for it depends on what OnStar data package they purchase for their vehicles, Doran said.

Also, AT&T users, for \$10 a month, can have their vehicles

synced up with their AT&T data

What amount of data they get depends on what AT&T data plan they have, for their devices and smart phones, Doran said.

As to OnStar, there are three basic data plans. For \$10 a month, OnStar users can receive up to one gigabyte of data, Doran

For \$20 a month, consumers are able to receive up to four gigabytes of data and for \$40 a month, consumers are able to receive up to 10 gigabytes of data through OnStar.

For more information on plans and pricing, please visit On-Star.com.

# Enjoying Stars Wars Lifestyle

CONTINUED FROM PAGE 1

He's been working for GM two years as of this April.

"I've worked for Chrysler and several Tier I OEMs," Lane-Waters said. "I have two daughters. They used to think I was cool, but now I'm the embarassing dad. But they liked going to the fundraising events in the past."

Lane-Waters said that his garrison has been successful in fundraising. In 2015, they raised about \$300,000 for charity, something they are all proud of.

"I've had several colleagues contact me after Halloween parties and tell me how cool it was I built the armor myself," Lane-Waters said. "I made the armor using vacuum-formed ABS plastic. I've found out that there are, on line, plans that show several different ways to assemble the armor and put it together. But the look from the outside must be movie accurate. There are forums people can visit to get help.'

Right now Lane-Waters is working on Tusken Raider outfit and hopes to get its approval

"That's the thing with Star Wars," Lane-Waters said. "When I saw the first movie back in 1977, I never dreamed that I'd be doing something like this, or that Star Wars would still be a cultural force 40 years later. But the year 2017 is a big year for Star Wars. I will be attending a big convention in Orlando, Fla.'



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#### THURSDAY, MARCH 2, 2017

TIME: 11:45 a.m. - 12:30 p.m. (lunch included)

**LOCATION:** Courtyard Marriott 30190 Van Dyke Ave., Warren, MI 48093 (across from GM Tech Center)

#### THURSDAY, MARCH 9, 2017

Meeting 1: 11:45 a.m. - 12:30 p.m. (lunch included) Meeting 2: 4:00 p.m. - 4:45 p.m. (refreshments)

Detroit, MI (Meeting space TBA)

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# **State Agency Aids Funding** For Michigan Businesses

Automotive North America, part of a global automotive glass supplier's network, will open a new facility in Plymouth with support from the Michigan Strategic Fund, the Michigan Economic Development Corporation (MEDC).

North Automotive America, Inc. is a wholly-owned subsidiary of Fuyao Group, China's largest automotive glass supplier and the second largest auto glass supplier in the world, said MEDC spokesman, Tracey L. Shavers Jr.

Through its various subsidiaries, Fuyao Group supplies automotive glass products to virtually every automotive OEM in the world. The company is experiencing rapid growth and plans to open a new manufacturing operation in the city of Plymouth, investing \$66.3 million and creating 533 jobs.

As a result, the company has been awarded a \$1 million Michigan Business Development Program performance-based grant. Michigan was chosen over a competing site in Ohio. The city of Plymouth has offered to coordinate and fund a traffic study that will be required as part of the site plan review and approval process, Shavers said.

That expansion, along with two other business expansions and a community development project that have also received MSF approval, will generate a total private investment of more than \$75 million and create 683 jobs in Michigan.

This project demonstrate that we're committed to sparking business growth, revitalizing communities and creating more and better jobs for Michiganders around the state, said Steve Arwood, CEO of the MEDC, which administers incentives and programs on behalf of MSF. Fuyao's decision to further expand in Michigan rather than other locations means good jobs for our residents and underscores the strength of the state's manufacturing talent.

The other two businesses helped by the MEDC include Martinrea Jonesville LLC, and Poultry Management Systems,

Martinrea Jonesville is part of Canada-based Martinrea International. It produces steel and aluminum metal parts, assemblies, and modules and fluid management systems, primarily for the industry. Martinrea Jonesville plans to retrofit its existing facility to add production of stamped welded assemblies in the city of Jonesville, investing more than \$6.8 million and creating 123 jobs. As a result, the company has been awarded a \$615,000 MBDP performancebased grant.

Martinrea recently announced, along with the MEDC, it would build an all- new technical center in Auburn Hills to expand its research and development activities. That project is expected to be completed this summer.

Poultry Management Systems, Inc. manufactures control systems and software used by the poultry industry worldwide. The company is experiencing increased growth due to industry standards changing to accommodate poultry farms transitioning to cage-free chickens by 2025. The company plans to expand to a new facility in Vergennes Township (Kent County), investing more than \$2 million and creating 27 jobs.



Brian Moran of the Mopar team shakes hands with Mike Barker of the Dodge team with Materazzo watching.

# Chrysler Teams Shoot, Score for Charity

by Jim Stickford

It just makes sense - a hockey battle of Fiat Chrysler brands taking place at the Joe Louis Arena. After all Detroit is both the Motor City and Hockey Town.

The icy showdown took place on Sunday, Jan. 29, said Fiat Chrysler spokeswoman Kaileen Connelly. Mike Merlo, director for Product Development, Supplier Quality and Assembly Plant Supplier Quality, was in charge of this year's event - officially called the "Farewell to the Joe" Battle of the Brands Hockey Challenge V. The now-annual event raises money for the United Way for Southeastern Michi-

More than 1,000 FCA US employees, friends and family members gathered for the day, Merlo to donations from players, Fiat said, with employees from Michigan, Ohio, Indiana, Illinois, Arizona and Ontario.

This event has seen each iteration becoming a little bigger than the last, said Merlo. The 2017 hockey challenge helped raise a record amount of more than \$60,000 to benefit United Way.

Game day included four 40minute match-ups: Team Dodge vs. Team Mopar, Team Jeep vs. Team Ram, Team Alfa Romeo vs. Team Chrysler and Team Abarth vs. Team Hellcats. Merlo said. with more than 130 Fiat Chrysler employees and contractors selected to play on the teams.

"Every year we try to get at least two Red Wing alumni to skate on the ice with our players," Merlo said. "This year we got to skate alongside Detroit Red Wings alumni including: Petr Klima, Jimmy Carson, Josh Langfeld, Jason Woolley, Jiří Fischer, Kirk Maltby and John Ogrodnick.

We set up registration to play at least two months before the event," Merlo said. "This year we had 280 people register to play. Not all who registered were able to play and this year the total number of players was 136.'

Team captains are picked and then players were assigned to teams, Merlo said. They did try to match players to teams who needed their particular hockey skills and whose brand they worked for.

Once the teams were set, captains then could try to arrange ice time for practice. A lot of the players, Merlo said, are on their own club teams and didn't always need more practice to hone their skills.

Money was raised when each player bought a team jersey. This year they had the most teams ever, and they try to have jerseys use NHL colors.

"But as we have more teams, the mixing of the colors is going to become more interesting, Merlo said. "I also want to say having real Red Wing Alumni play with us really adds to the excitement of playing at the Joe."

Merlo said his favorite story comes from a couple of years ago. A player from Windsor who played on the Chrysler team came up to Merlo and said that he could cross off a couple of items from his bucket list. He got to play at the Joe with real NHL. veterans - in this case Kirk Malpby and Mickey Redmond.

"He told me he could die happy," Merlo said. "Getting players to sign up hasn't been a problem. We're a big company and we draw a number of players from our facilities in Ontario."

Money for the United Way is raised via a number of different methods, Merlo said. In addition

Chrysler brands donate money and they sell tickets to the events and spectators and friend and family of participants can buy their own jerseys.

We even were able to get a hold of a jersey Steve Yzerman wore a couple of years ago at a special alumni game," Merlo said. "That should help raise a couple of bucks.'

Carlo Materazzo, head of World Class Manufacturing, helped kick off the event by dropping the ceremonial first puck, Merlo said. The final Scores were as follows:

- Team Dodge won the first
- game against Team Mopar 12-7; • Team Jeep beat Team Ram 6-
- Team Chrysler won against Team Alfa Romeo 7-3;
- Team Abarth tied Team Hell-

Attendees enjoyed the games as well as the opportunity to participate in two open skate sessions throughout the daylong event, Merlo said. More importantly, in five consecutive years, the Battle of the Brands hockey challenge has raised \$275,000 for United Way for Southeastern Michigan.

Merlo said they're going to take a few months off before planning next year's event. The big question is where will it be played. Will the Joe still be there and available? Will they be able to use the new Little Caesars Arena? The answer to those questions are something to be determined at a later date, Merlo said.

#### Volkswagen's **Legal Trouble Hits Home**

BERLIN (AP) - A fish wholesaler has become the first major Volkswagen customer in Germany to sue the automaker for selling diesel vehicles rigged to cheat on emissions tests.

Deutsche See GmbH says it filed a lawsuit with a court in Braunschweig on Feb. 3, alleging "malicious deceit" on the part of Volkswagen, after failing to reach an out-of-court settlement.

Deutsche See says it wants Volkswagen to repay about 11.9 million euros (\$12.8 million) in leasing fees paid for its fleet of 500 Volkswagen diesel vehicles since 2009.

Volkswagen said Monday that it hadn't yet received official notification of the lawsuit and therefore couldn't comment on the case.

Volkswagen has agreed to buy back up to 500,000 cars in the United States under a \$15 billion settlement agreed with U.S. authorities and car owners.

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# Consumers Not Yet Sold on Idea of Autonomous Driving

Consumers around the world remain skeptical about the safety of fully autonomous vehicles and hold widely divergent views on who they trust to bring autonomous vehicles to market, according to a new study from De-

The study compares consumer attitudes from 17 countries on self-driving cars, advanced safety, powertrain systems and cockpit technologies, along with people's willingness to pay for these features, said Detoitte spokesowman Courtney Flaherty.

The report, called "What's ahead for fully autonomous driving: Consumer opinions on advanced vehicle technology," features insights from consumers in the United States, Germany, Japan, South Korea, China and India, Flaherty said.

Reflecting on the findings of the research, Craig Giffi, vice chairman and U.S. automotive industry leader, Deloitte LLP, and co-author of the report said, "Automakers are under significant pressure to invest more heavily and place bigger bets with less certain returns than we have seen in this industry in several generations."

Interest in fully autonomous vehicles has risen slightly in China (4 percent) and the U.S. (3 percent) since 2014, but interest has remained flat or declined in the four remaining countries in the report, Flaherty said.

Trust appears to be the biggest roadblock to selling the notion of self-driving cars in every country surveyed. In the U.S., nearly three-quarters of consumers (74 percent) believe fully autonomous vehicles will not be

More than two-thirds of Americans (68 percent) say they'll change their opinion with a proven track record for such vehicles and more than half of U.S. drivers (54 percent) say they would ride in an autonomous car if it was offered by a brand they trust, Flaherty said.

However, consumers have widely divergent views of who they trust. In the U.S., less than half of consumers (47 percent) trust a traditional car manufacturer to bring autonomous vehicles to market.

The news is worse for Silicon Valley technology companies with only 20 percent of U.S. consumers indicating they trust these companies when it comes to autonomous vehicle technology. Another 27 percent of U.S. consumers said they would trust a new company specializing in autonomous vehicle technology.

"Automakers and technology companies first have to earn consumers' trust, then turn that trust into a willingness to pay for a must-have feature," said Giffi. "Today trust is lacking. Ironically, fully autonomous vehicles are being engineered to be much safer than today's vehicles."

Giffi went on to say that to win consumers' trust, automakers will need to integrate limited selfdriving and advanced-safety features into new product offerings steadily over time to introduce people to the technology, demonstrate the improvement for vehicle safety and develop a proven track record.

> "It's a genuine delimma for automakers...."

> > - Craig Giffi, Deloitte LLP

Across the six focus countries, four predictive safety capabilities were ranked as the most-preferred on a list of 32 advanced technology features. These include features that recognize objects on a road to avoid collision, inform the driver of dangerous driving situations or block them from one, or can assist in a medical emergency or accident.

Least useful to surveyed consumers are features that provide customized entertainment, or many forms of cockpit connectivity including notifications when places of interest are near, Flaherty said.

This also includes features that manage daily activities such as: locating, reserving and automatically paying for parking or paying for tolls; connectivity allowing a driver to control automated home systems; and enabling the use of personal smartphone applications through the vehicle dashboard. These are important findings for manufacturers considering investing resources to offer these features in future vehicles.

Trying to get consumers to pay for new technology features is even harder: Most forms of cockpit connectivity technologies are among those that consumers are also least likely to pay for. The amount Americans are willing to spend on advanced automotive technologies dropped nearly one-third (32 percent) to \$925

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from Deloitte's 2014 study when it averaged \$1,370 across five technology categories.

Joe Vitale, global automotive industry leader, Deloitte Touche Tohmatsu Limited, and co-author of the report, said, "Consistent with their views that advanced safety features are most useful, consumers are far more willing to pay for these features versus other technologies such as connectivity and cockpit convenience features. Consumers expect those to be a part of the base price at no additional cost."

Complicating the decisions for automakers is limited consumer interest around alternative powertrains

Vitale noted, "Unfortunately, unless preference in hybrid-electric and battery-electric vehicles increases considerably in the U.S. and Europe over the next five years, automakers will be hard pressed to meet the stringent fuel efficiency and emissions targets being mandated by regulators in the years to come."

Giffi added, "It's a genuine dilemma for automakers. Many of the technologies automakers are investing heavily in today, are not considered useful, safe or preferred by the consumers we surveyed, and under very few circumstances are they willing to pay anything extra for these technologies. The desire for safety features seems to be the lone bright spot."

Vitale went on to say, "Consumers have shown they can change their opinions quickly. But getting a fair return on investment has to be a key concern for automakers at this point."

Consumers who use ride-hailing services are most likely to question whether they need to own a vehicle in the future, a sentiment worth automakers' notice, particularly those looking to appeal to younger generations of buyers, Flaherty said.

Giffi summed up the study findings saying, "We are at the dawn of a completely new age in automotive technology and personal mobility and the stakes are very high for automakers and technology companies.

"Brands can differentiate themselves with product reliability, usefulness, safety, value and service offerings as they have in the past; the difference is that everything in this new world of mobility has changed, and past success is not an indicator of future success.

"Individual brands will either be bolstered or hindered by their track record with these new technologies and services, and it is not a given that consumers will forgive mistakes, missteps or failures of trust. While an enormous opportunity exists to develop lifelong loyal customers for companies with a proven track record, consumers won't hesitate to turn their backs on companies they've trusted decades."

#### Former GM Plant Purchased by Chinese Firm

ANDERSON, Ind. (AP) - A company that imports tires from China has purchased a former General Motors plant in Indiana as a site to service its business customers.

Anderson economic development director Greg Winkler says Houston-based Sutong China Tire Resources is in the process of upgrading the 330,000-square foot building.

Resource Commercial Real Estate says the company plans to have 20-40 workers at the site, where it will service the utility and RV trailer industry, large retail chain stores and independent tire retailers and wholesalers. The (Anderson) Herald Bulletin reports ) no financial details were released.

S&S Steel had orginally bought the former General Motors plant in 2010 for an expansion, but the company filed for bankruptcy protection in 2015 and put the site up for sale as a result of that action.





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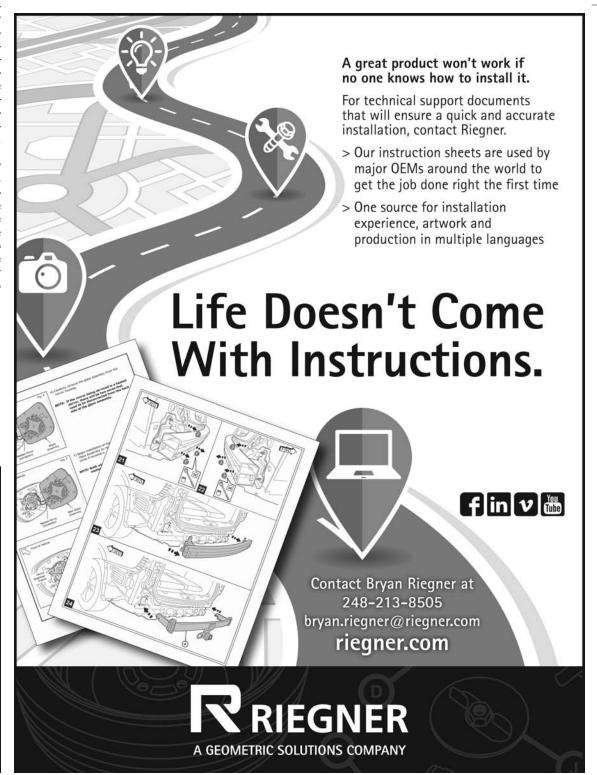
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# Ford Starts 2017 by Introducing Company's Latest Tech

Ford Motor Company introduced its next-generation Fusion Hybrid autonomous development vehicle, just in time for CES and the North American International Auto Show held in January, said Ford spokesman Karl Henkel.

The new vehicle uses the current Ford autonomous vehicle platform, but ups the processing power with new computer hardware, Henkel said. Electrical controls are closer to production-ready, and adjustments to the sensor technology, including placement, allow the car to better see what's around it. New Li-DAR sensors have a sleeker design and more targeted field of vi-

Ford Motor Company introduced its next-generation Fusion Hybrid autonomous development vehicle, just in time for CES sion, which enables the car to now use just two sensors rather than four, while still getting just as much data.

> The new vehicle also evolves the two main elements to creating an autonomous vehicle – the autonomous vehicle platform, which is an upgraded version of the car itself, and the virtual driver system. Henkel said.

> The next-gen Fusion Hybrid autonomous development vehicle follows Ford's current generation, which hit the streets three years ago. It will be tested in California, Michigan and Arizona.

The vehicle, Henkel said, will feature new software and its sensors will use lasers and cameras as well as LiDAR. As a result it should be able to "see" up to two football fields in distance. It will also feature high-powered computers to act as the vehicle's brain. The ultimate goal of the project, Henkel said, is to deliver working vehicles in the year 2021 for fully-autonomous ride-hailing service companies.

This project builds on more than a decade of autonomous vehicle research and development, Ford's first fully autonomous vehicle will be a Society of Automotive Engineers-defined level 4-capable vehicle, Henkel said. Plans are to design it to operate without a steering wheel, gas or brake pedal, for use in commer-

cial mobility services such as ride sharing and ride hailing within geo-fenced areas and be available in high volumes.

"Ford has been developing and testing autonomous vehicles for more than 10 years," said Raj Nair, Ford executive vice president, Global Product Development, and chief technical officer. "We have a strategic advantage because of our ability to combine the software and sensing technology with the sophisticated engineering necessary to manufacture high-quality vehicles. That is what it takes to make autonomous vehicles a reality for millions of people around the world."



Ford experimental autonomous Fusion hybrid fleet.



Ford employee instals new LiDAR to test an autonomous Fusion hybrid.

# **Shell-Eco Marathon Coming to Cobo Center This Spring**

The Shell Eco-marathon for the Americas is returning to Detroit this April. tra-energy-efficient Rosen said. Their put to the test on an

The event is a featured element of a four-day, festival of ideas and innovation – Make the Future Detroit – taking place from April 27 through April 30, said Pamela Rosen, general manager for Shell Eco-marathon Americas.

The festival will be held at Cobo Center, Rosen said, and celebrate energy ideas that will inspire current and future energy solutions, offering free virtual reality experiences and hands-on science experiments for an expected crowd of more than 20,000 visitors from the Great Lakes Region,

"While many students spend their holiday break relaxing with family and friends, an ambitious group of young inventors is spending their time preparing for the ultimate energy-efficiency challenge in 2017," Rosen said. "The challenge? Compete against more than 1,000 students from across the Americas – including Canada, Mexico, Brazil and the United States to see which team can go the furthest distance on the least amount of fuel.

"The students competing in Shell Eco-marathon work to design, build and drive the world's most energy efficient vehicle. The Université Laval team, last year's gasoline-powered prototype category winner, attained 2,585 miles per gallon at Shell Eco-marathon Americas 2016."

Shell Eco-marathon is a vital part of the #makethefuture campaign, which aims to celebrate some of the brightest and most exciting innovations helping to address the global energy challenge, Rosen said.

"We are thrilled to host a platform like Make the Future Detroit where we can bring brilliant young individuals, energy entrepreneurs and global and local partners together to foster collaboration and conversations about how the world can produce and consume much more energy while emitting much less CO2, and we can all work together to find the best solutions," Rosen said.

More than 100 student teams from nine countries across the Americas have been working for months against key milestones to plan, construct and test their ultra-energy-efficient vehicles, Rosen said. Their work will be put to the test on an urban track on a downtown Detroit street circuit during Make the Future Detroit

Shell Eco-marathon is a global competition that attracts thousands of young engineers aiming to go the furthest with the least amount of fuel, Rosen said. It has been held annually in the Americas, Europe and Asia for more than 30 years. Students have a year to design, build and test their vehicle before the track challenge where winning is based on streamlined design, lightweight materials and driving strategy.

Student teams can choose to participate in one of two vehicle categories – Prototype or Urban-Concept, Rosen said.

The Prototype category challenges teams to enter futuristiclooking, streamlined vehicles designed purely to reduce friction and maximize efficiency, Rosen

While the UrbanConcept category focuses on more "roadworthy" energy-efficient vehicles. For both categories in the Americas event, teams can use any of seven official energy sources – including fuels such as gasoline,

diesel as well as alternative fuels such as hydrogen, ethanol, gasto-liquid (GTL), compressed natural gas (CNG) and battery electric technologies.

Returning for the second year to the Shell Eco-marathon competition is the Drivers' World Championship (DWC) – a head-to-head race of the UrbanConcept winners from the Americas, Asia and Europe to find the quickest and most energy-efficient driver, Rosen said.

The winners from the DWC Regionals will compete together in London in May of 2017 to find out who is the fastest energy-efficient driver. The winning team in 2016 was awarded the exclusive opportunity of a week's training with Scuderia Ferrari in Maranello, Italy.

Rosen said Shell believes friendly competition and collaboration is central to Shell Ecomarathon Americas. Mater Dei High School in Evansville, Ind., which has participated in the competition since its inception and has consistently led in their categories, has a history of helping other teams.

Last year, these students helped provide a Detroit team with a missing spark plug and kill switch so they could pass technical inspections and compete alongside one another, Rosen said.

"Their passion also shines outside the competition, as they helped advise college students in Israel and Afghanistan on the best fuel-efficient engines, communicating primarily through Facebook messages," Rosen said.

"We are looking at a new generation of young scientists and engineers who crave collaboration and are motivated by their interests and inspirations," said Norman Koch, Global Technical director for Shell Eco-marathon. "Shell Eco-marathon is the perfect platform that offers this generation meaning and purpose to innovate and to create a real impact in the world today."

Over the past two years, Rosen said Shell has helped shape the future of sustainable mobility in Detroit by uniting the industries and individuals that will help drive a cleaner, brighter future for everyone by the developmen of new technology.

Now entering its third year in the city of Detroit, Shell continues its investment in the city by participating in events that foster dialogue about future energy challenges and near-term solutions.

# yet to be named, will be 51 percent owned by Hitachi and will have manufacturing and sales operations in the U.S. and China, the companies said. Global environmental regula-

The joint venture, which has

Honda, Hitachi Form Agreement

On EV Tech

tomaker Honda Motor Co. has

signed a deal with Hitachi Auto-

motive Systems to jointly devel-

op, make and sell motors for

electric vehicles, as the industry

adapts to concerns over global

The companies announced the

Honda, which also makes its

own electric motors, has a fuel-

cell vehicle and hybrids in its

lineup. It's planning an electric

vehicle for sale later this year,

The wholly owned subsidiary

of Tokyo-based Hitachi has supplied electric motors to other automakers in the past, including General Motors Co. of the U.S. and Nissan Motor Co., which makes the Leaf electric car.

The deal, signed two weeks ago, is part of a bigger push by Honda Motor Co. to get into elec-

warming and the environment.

agreement on Feb. 7.

mostly abroad.

tric cars.

TOKYO (AP) - Japanese au-

Global environmental regulations are expected to grow stricter, pushing up demand for electric vehicles, they said. The joint venture, capitalized at 5 billion yen (\$45 million), will be based in Hitachinaka city, north of Tokyo.

#### Window, Door Problems For Nissan Recall

DETROIT (AP) – You might not want to open a rear window if you happen to be driving a Nissan Altima.

The company is recalling nearly 363,000 of the midsize cars worldwide from the 2015 through 2017 model years because the doors might open unexpectedly if a rear window is lowered.

Documents posted Feb. 3 by the United States National Highway Traffic Safety Administration show that the latch and lock cable in the doors may not have been routed properly at the factory where the vehicles in question were made.

In certain situations, the window assembly can interfere with the cable and inadvertently open a door.

The documents say there were "several incidents" that could have been caused by the problem, but Nissan said it knows of no crashes or injuries.

The documents say that Nissan first found out about the problem last summer when it was told of a single incident in which the rear door opened unexpectedly.

The company investigated but wast't able to duplicate the problem.

It happened again in September or October. Nissan investigated further and found the improperly routed cable. It made changes at the factory but attributed the problem to an isolated assembly error.

Nissan got more reports about the problem from October through December and decided to do the recall on Jan. 10, the documents show.

Most of the recalled vehicles are located in the United States and Canada, with some also found in Mexico and South Korea.

Nissan has stated that the company will notify owners about the recall within the next two months.

Dealers can modify the doors to ensure that the cables are routed properly.

# Gleaners Community Food Bank Gets Grant

Gleaners Community Food Bank of Southeastern Michigan received a \$10,990 grant from the Red Nose Day Fund to support its School Food Mobile Pantry Program aimed at reaching hungry children in southeast Michigan communities with the greatest need. The grant allowed Gleaners to provide 32,970 meals to hungry neighbors through mobile food pantry distributions at 12 schools.

The School Food Mobile Pantry Program launched in April of 2011 with five sites. Currently, the program provides monthly distributions of nutritious, healthy food to students and families at 78 school sites in five counties – Livingston, Oakland, Wayne, Monroe and Macomb. Each distribution provides 75 to 100 families with up to 30 pounds of fresh fruit, vegetables, grains, protein and other nutritious food.

"This food assistance program

is a lifeline in our community," said Jocelyn Sexton from Detroit's Marvin L. Winans Academy of Performing Arts. "We love the comradery this opportunity affords us, in that we get to service our school families in a tangible way. It has helped us build a bridge of trust with our surrounding neighborhood and our families love the variety of food."

The grant provided food for more than 1,100 low-income students and their family members through the School Food Mobile Pantry Program.

Funds raised through Red Nose Day help nonprofits that work to lift children out of poverty. Red Nose Day selected Feeding America as one of its domestic partners. Gleaners is a member of Feeding America's nationwide network of food banks.

Red Nose Day is a fundraising campaign run by the non-profit organization Comic Relief Inc., where people across the country come together to have fun, raise money and change lives. Red Nose Day launched in the U.S. in 2015.. In 2016, the U.S Red Nose Day raised over \$36 million.

Gleaners Community Food Bank has been "feeding hungry people and nourishing our communities" for nearly 40 years. Headquartered in Detroit, Gleaners operates five distribution centers in the Metro area and provides food to 535 partner soup kitchens, food pantries, shelters and other agencies throughout southeastern Michi-

Gleaners collects 34.5 million pounds of food a year and distributes 79,000 meals each day including providing nourishing food and nutrition education to 84,700 children a year.

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# **FEV Helps Cyber Security**

When automotive safety features are mentioned, many people think of things like air bags and seat belts. But that's not always the case

As the number and variety of communication technologies employed in connected vehicles continues to grow, the risk of a security breach increases profoundly, said FEV spokesman Andreas Albers.

FEV, which has its North American headquarters in Auburn Hills, is a leader in the development and testing of electronics systems and subsystems, Albers said.

The company has created a comprehensive suite of services that make it a "one-stop shop" for design, development, testing, and deployment of cyber security and Advanced Driver Assistance Systems (ADAS) solutions, among other connected/smart vehicle technologies.

Some of these technologies were demonstrated by FEV at the CES 2017 last month.

FEV's Cyber Security and ADAS services focus on Smart Vehicles and its numerous components and interfaces, Albers said. These services encompass the entire product end-to-end lifecycle, from concept to in-field support through management, testing, hardware and software design solutions, and on to integration and validation.

Working together with the company's partners, FEV assists its customers in designing and integrating advanced ADAS and Autonomous Driving (AD) features and functions.

At CES FEV showcased the company's Connected Vehicle Gateway (CVGW) module hardware operating with the unique Karamba Security (Karamba) cyber security software solution for protection from cyber at-

tacks, Albers said. Karamba is a provider of autonomous cybersecurity software for connected and autonomous vehicles. Karamba's embedded software products automatically harden the electronic control units (ECUs) of connected and autonomous cars, preventing hackers from manipulating and compromising those ECUs and hacking into the car.

The solution demonstrated by FEV at CES showed how the company's systems provide protection from arbitrary code execution during in-memory and external attacks, Albers said.

The FEV-Karamba solution locks down factory settings and prevents in-memory attacks, as well as offers incident response capabilities. Other in-car cyber security solutions can trigger false positives, putting driver safety at risk. The FEV-Karamba solution hardens the ECU against cyber attacks and is immune to false positives.

Albers said FEV also showed off its Trusted Platform Module (TPM)/Hardware Security Module (HSM) based solution with partners Infineon and GlobalSign at CES.

This security integration system provides a robust Root of Trust for electronic control mod-The FEV-Infineon-GlobalSign solution provides a strong and extended authentication through a secure device identity implementation.

The TPM represents a mature and public standard-based fully functional security module which acts as a Root of Trust for electronic control modules, Albers said.

It supports enhanced authentication, verification of platform trust and platform integrity, remote attestation, and secure key storage.



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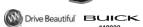
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# **Bosch Group Seeking Buyer** For Turbo System Venture

MAHLE Group have decided to seek a buyer for their joint venture, Bosch Mahle Turbo Systems (BMTS).

The joint subsidiary was founded in 2008. With a total of around 1,400 employees, it develops and produces turbochargers for manufacturers of passenger cars and commercial vehicles, said Bosch spokesman René Ziegler. Bosch maintains several sites in Warren, including the company's Automotive Service Solutions office.

Production is largely based in Europe and China, Ziegler said. The international market for turbochargers is also expected to continue to grow in the years ahead as the trend toward smaller engines fitted with turbochargers, especially for hybrid drives, remains strong. BMTS has already benefited from this market trend. However, the company is not yet large enough to achieve sustainable success in this market environment.

"Large production quantities and the associated economies of scale represent a critical competitive advantage," says Dr. Rolf Bulander, chairman of the Business Sector Mobility Solutions at Bosch. "Despite bulk orders received from renowned customers, the associated high capacity utilization at our plants, and above-average growth rates, present sales volumes at BMTS are still too low in comparison with our larger competitors and must be further expanded."

For this reason, further investments are needed to achieve the company size required in the market, Bulander said. Bosch and MAHLE do not intend to drive forward the further expan-

The Bosch Group and the sion of BMTS themselves, because both parent companies need to focus their investments on new areas of development.

"Thanks to our state-of-the-art locations and BMTS's good products, we are currently confident of finding a prospective buyer, who will successfully expand the business," states Wolf-Henning Scheider, chairman of the MAHLE Management Board and CEO of the MAHLE Group.

Employee representatives and employees have been informed about the intention to sell the joint venture, Ziegler said. Discussions are taking place with the relevant employee representatives to prepare the next steps in the sale process.

Exhaust gas turbochargers are a key component of modern, energy-saving, and low-emission combustion engines in passenger cars and commercial vehicles. BMTS develops solutions for gasoline and diesel engines, which are characterized by excellent responsiveness, ultrahigh levels of efficiency, and optimal acoustics. The company's most recent achievement is development of a variable turbine geometry for exhaust gas turbochargers in gasoline engines in largescale production.

The market recognizes innovative standards of quality and technology as BMTS's production strengths, Ziegler said. In recent years, alongside product development, the company has made investments in production processes, including end-of-line testing. BMTS is the world's first company to test the perfect functionality of each individual exhaust gas turbocharger in a fully automated process at the end of the production line.

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## Visteon's SmartCore Tech Gains Traction

Visteon Corporation, an auto- technology is aimed at the conmotive cockpit electronics supplier, has secured a second major customer vehicle program for its industry-leading cockpit domain controller technology, Smart-Core.

Visteon is the only supplier offering an automotive-grade, integrated domain controller approach that can independently operate the infotainment system, instrument cluster and potentially other features on one System on Chip (SoC), said company spokesman Jim Fisher.

Visteon is scheduled to launch the first SmartCore-based solution in 2018, for a European vehicle manufacturer, Fisher said.

"Through our agreement with our customers, we won't be releasing their names until we actually get closer to production in 2018," Fisher said. "We've been talking with potential customers about this system for about a year. Getting two customers like this really validates what we've been working on."

This second SmartCore business win, also with a European automaker, offers instrument cluster and infotainment features and expands the platform to high-end applications with industry-first 3-D display and augmented reality head-up display capa-

This second major business win further validates SmartCore as a viable solution to manage the increasing cost and complexity of in-vehicle electronics," said Sachin Lawande, Visteon president and CEO. "Visteon is wellpositioned to lead the consolidation of electronic control units in technologies and this is on the the cockpit space, and we are in active dialogue with several automakers to adopt this technology into their vehicles.'

"I think we're in this position because so much of today's auto sumer," Fisher said. "These days so much of what influences the experiences of vehicle passengers is related to electronics. That includes how intuitive it is to use and the safety aspects of the technology. These are important topics and Visteon is right in the middle of it.'

The SmartCore architecture is fully scalable and cyber-secured through virtualization of the different cores and controlled firewalls. This enables independent functional domains with different levels of ASIL requirements - initially driver information and infotainment - while future domains can be added to operate separately and securely.

"For the automaker, SmartCore offers a cost-effective, space-saving cockpit electronics solution that is fully scalable and can be updated over-the-air," Lawande continued. "Drivers and passengers will benefit from an enhanced instrument cluster and infotainment experience, boosted by a single seamless human machine interface, offering access to multiple levels of information.'

SmartCore is designed to integrate infotainment, instrument clusters, information displays, head-up displays, advanced driver assistance systems (ADAS) and connectivity – providing a foundation for the evolution to autonomous driving.

Fisher said that the company expects to hear more from Detroit automakers about Smart-

"Everyone is looking for new cutting edge," Fisher said. "We are a Detroit-area company with facilities around the world. Much of SmartCore was developed in Germany, but with input from our facilities here and elsewhere. We expect to make the system at our manufacturing sites in Europe, Asia and North America."

Visteon is a global company that designs, engineers and manufactures cockpit electronics products and connected car solutions for most of the world's major vehicle manufacturers, Fisher said. It is a leading provider of instrument clusters, head-up displays, information displays, infotainment, audio systems, telematics solutions and SmartCore cockpit domain controllers. Visteon also supplies embedded multimedia smartphone connectivity software solutions to the global automotive industry.

#### Toyota Reports **Falling Profits In Year 2016**

TOKYO (AP) - Toyota, which recently relinquished the crown of world's biggest automaker to German rival Volkswagen, is reporting a 23 percent decline in October-December profit from the previous year.

Toyota Motor Corp. said Feb. 6that its fiscal third quarter profit was 486.5 billion ven (\$4.3 billion), down from 627.9 billion yen in 2015. A weaker yen eroded 205 billion yen (\$1.8 billion) from its quarterly operating prof-

Sales of the maker of the Prius hybrid, Camry sedan and Lexus luxury cars slipped 3.5 percent to 7.1 trillion yen (\$63 billion).

Toyota raised its full year profit forecast through March 2017 to 1.7 trillion yen (\$15 billion).

That's better than its earlier projection of 1.6 trillion yen (\$14 billion) profit, but lower than the 2.3 trillion yen earned in the previous fiscal year.



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