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DETROIT AUTOMAKERS SEE TRUCK, SUV SALES RULE IN 2019

Strike Affects GM Fourth Quarter Vehicle Sales Figures

Crossover (CUV) and Sports Ulitity Vehicle (SUV) for General Motors.

The company delivered 2,887,046 vehicles in 2019 in the United States, said GM spokesman Tom Henderson. The total included more than 1 million crossovers for the second year in a row.

That is an increase of 12.7 percent compared to 2018, and more than 1 million full-size pickup trucks and SUVs.

"We've focused our resources

2019 was the year of the on what our customers want crossovers and trucks - and that has paid off," said Kurt McNeil, vice president, U.S. Sales Operations.

"In addition to our industryleading crossover sales, our fullsize truck franchise is unmatched. We're pleased with our full-size pickup launch and we look forward to launching our segment-leading, all-new, full-size SUVs in 2020."

GM's fourth-quarter North American wholesales declined an estimated 25 percent year over

year, due to the 40-day United Auto Workers work stoppage, McNeil said.

This includes the company's newly launched heavy-duty fullsize pickups, which saw its sales be off by approximately 17 percent.

"Our fourth-quarter stocks were leaner than we wanted, but as we get ready to launch our allnew full-size SUVs, we look forward to another solid year in 2020," McNeil said.

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GM saw sales for its crossover Chevy Trax increase by 29.9 percent.

Ram Trucks a Success with Sales Reaching Record Levels

A move by Chrysler in 2009 paid off handsomely for FCA in 2019.

In the midst of a recovering U.S. automotive industry 10years ago, a new leadership team decided to do the unthinkable launch a new brand.

The announcement came in October 2009. The Dodge brand, which consisted of Dodge cars and Dodge trucks, would be "unbundled" and the Ram brand was born.

For 2019, the Ram brand re-

ported record sales of 703,023 vehicles for 2019. It's the highest level of full-year sales ever for the brand and an 18 percent increase over 2018, said FCA spokesman Jeff Bennett.

Ram full-year pickup truck sales also rose to a record level of 633,694 vehicles - an 18 percent increase over 2018.

All this comes as the average transaction price of the Ram 1500 has jumped almost 50 percent from 2010 to about \$50,000, Bennett said. Meanwhile, the average

transaction price for the Ram Heavy Duty has increased more than 20 percent to about \$55,000.

These results underscore two significant decisions we have made when it comes to Ram - invest in technology and adopt a three-truck strategy," said Reid Bigland, head of Ram and U.S. Sales. "It has taken some hard work, but it has been a true reward to see how Ram has evolved over the past 10 years."



Ram has continued to enjoy great success with its 1500 vehicle lineup.

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Ford F-150 Continues Long-Running Sales Leadership

Ford vehicle sales kept on trucking for the year 2019, with the F-150 pickup truck leading all vehicle sales in the United States for the 43rd year in a row, according to Ford spokesman Said Deep.

Ford truck sales for the year, including pickups and vans, climbed 9.1 percent with more than 1.24 million trucks sold. In the fourth quarter of 2019, Ford's overall truck sales closed strong, increasing 15.9 percent.

It was Ford's best overall fourth folio and that's what we're deliv-

2001, Deep said, and the F-Series achieved its 43rd straight year as America's best-selling pickup.

"America's best-selling brand for the past decade is on a roll,' said Mark LaNeve, Ford vice president, U.S. Marketing, Sales and Service. "F-Series celebrates 43 years as the country's favorite truck and 38 years as its overall vehicle, and Transit stood at the top of the van podium again. "We promised a winning port-

quarter truck sales result since ering with more on the way, including Mustang Mach-E, an allnew F-150 and the return of Bronco. It's going to be an exciting year for new product at Ford."

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Additional Airbag Troubles Cause Takata Recall

by TOM KRISHER AP Auto Writer

DETROIT (AP) - Takata is recalling 10 million more front air bag inflators sold to 14 different automakers because they can explode with too much force and hurl shrapnel.

The recall is the last one the bankrupt company agreed to in a 2015 settlement with the U.S. safety regulators. It could bring to a close the largest series of automotive recalls in U.S. history.



The F-Series truck line has proven to be a real workhorse for Ford.

OCC Teaching Program Creating Real Job Opportunities slower to be effective. That expe-Training students about all skills and expertise in teaching

things "under the hood" is where Claude Townsend excels, said Kim R. Madeleine, Marketing & Communications coordinator at Oakland Community College (OCC).

As head of OCC's Automobile Servicing program, Townsend's students will attest to that fact, most receiving well-paying jobs after completing his courses, said Madeleine. And now he has taken his mastery of automotive teaching one step further, earning certification as an NC3 Master Instructor - the only instructor ranked with this certification among all community colleges in Michigan. Sanctioned by the National Coalition of Certification Centers (NC3), Townsend earned this prestigious recognition after shadowing four Master NC3 Instructors and then teaching classes under the watchful eye of mentors at colleges across the country this past year - including road trips to Wisconsin, Arizona and North Carolina. Townsend said he believes shadowing and teaching classes at other schools really exposed him to different types of students and teaching techniques with important feedback to elevate his

automotive service repair.

"In one of the classes I taught, I had a Deaf student who required a sign language interpreter to translate my lecture," he said. "So I had to learn to speak much

rience really helped me to understand a different way of teaching and adapting my lectures and instruction to make it easier for all my students to grasp important concepts.'

Townsend said the experience also provided him with greater exposure to other college automotive training workshops, giving him facility and design ideas

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Townsend's Automobile Servicing class at OCC lets him to help students develop in-demand, real-world skills.

The 10 million inflators are part of the approximately 70 million in the U.S. that Takata was to recall as part of the agreement with National Highway Traffic Safety Administration.

Vehicles made by Audi, BMW, Honda, Daimler Vans, Fiat Chrysler, Ferrari, Ford, General Motors, Mazda, Mitsubishi, Nissan, Subaru, Toyota and Volkswagen are affected.

Automakers will determine what models are affected and launch their own recalls. Some already have made the announcements.

The recalled inflators were used to replace dangerous ones made by Takata until a permanent remedy could be developed.

Takata used ammonium nitrate to create a small explosion

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view this week's edition at DetroitAutoScene.com

AAA's Foundation Looks at Elderly **Driving Habits**

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Older adults with discomfort or low confidence while driving are adjusting their driving patterns to avoid driving at night, on the freeway, in afternoon rush hour traffic, or in unfamiliar areas, according to new research from the AAA Foundation for Traffic Safety. Some of the selfregulated changes older drivers make can be unnecessary and do not always improve safety. In order to extend their mobility and reduce risk on the road. AAA recommends older drivers consult a healthcare professional when feelings of driving discomfort arise.

When older drivers become uncomfortable in certain driving situations, some may assume they have to live with the discomfort while others unnecessarily reduce their mobility, said Dr. David Yang, executive director of the AAA Foundation for Traffic Safety. Addressing issues of discomfort early, drivers can learn more about age-related changes to their body and discuss strategies to best compensate for declines.



The first 2020 Shelby GT500 Mustang off the line echoes a version of the vehicle, called the Green Hornet, dating all the way back to 1967.

Shelby GT500 Mustang Now Arriving at Ford Dealerships

first time for everything." That's true for the 2020 Ford Mustang Shelby GT500.

The 2020 Mustang Shelby GT500 wearing the VIN 001 tag has rolled off the production line and straight into the spotlight, said Ford spokesman J.T. Wong. And that vehicle is making its public debut.

VIN 001 of the new Shelby GT500, produced at Michigan's

The old saying goes, "There's a Flat Rock Assembly Plant, will join a lineup of other classic Mustangs on display at the Barrett-Jackson Auction Company auction in Scottsdale, Ariz., Jan. 11-19, Wong said.

Barrett-Jackson Chairman and CEO Craig Jackson purchased the vehicle last year and was on site at the plant before the holidays as the vehicle made its way down the line. Jackson's winning bid of \$1.1 million raises important funds for the Juvenile Diabetes Research Foundation.

"As a Mustang enthusiast, it's an honor to be the current caretaker of such a historically important car," Jackson said. "This newest Shelby GT500 is trailblazing for its innovation."

As part of his winning bid, Jackson was afforded the opportunity to choose any color for the vehicle exterior, Wong said. For inspiration, he looked to his collection and found – and decided collaborated with Ford Motor Co. to match – the candy apple green paint on his 1968 GT500 prototype known as "Green Hornet."

The "Green Hornet" enjoys the distinction of being one of the few surviving factory prototypes and is often recognized by Mustang enthusiasts worldwide for its innovative design, performance and handling modifications, Wong said. Carroll Shelby helped test and develop components for the project car.

Jackson's new 2020 Mustang Shelby GT500 will be on display alongside "Green Hornet," as well as two other vehicles from Jackson's collection.

His recently refurbished 1967 Shelby GT500 known as "Little Red" will pair with his second 2020 Shelby GT500 that's coated in rapid red.

Jackson, a long-time supporter of Ford philanthropic efforts, has

to auction many vehicles for charity over the years, Wong said.

Since 2007, Barrett -Jackson has provided the platform for Ford to auction 20 vehicles and raise more than \$6.5 million for JDRF.

"The power of the Mustang and Shelby brands is amazing,' said Jim Owens, Ford Mustang marketing manager. "We're thrilled to be able to help the JDRF in its important research."

The limited-production 2020 Mustang Shelby GT500 - the most powerful production streetlegal Mustang ever – features a hand-built 760 horsepower 5.2liter V8 engine mated to a sevenspeed dual-clutch transmission, Wong said.

Models are now available at Ford dealers throughout North America.





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FCA Displays Newest Tech at CES Event

What happens in Las Vegas won't stay in Vegas ... at least when it comes to FCA and its automotive tech.

FCA is sharing its latest auto technology with the rest of the world.

Using CES 2020 in Las Vegas Jan. 7-11, FCA will demonstrate the company's newest technologies related to electrification, Uconnect user experience (UX) and connectivity in a visual and physical array, honoring and building on the company's history and tradition of innovation, said FCA spokesman Nick Cappa.

Ever since the first car radio appeared nearly 100 years ago, automotive innovators have worked to contribute more technology to the space. Electric vehicles, connectivity and autonomous vehicles are among the hot topics in the auto industry. FCA's visually and physically stimulating approach at CES, said Cappa, showcases the company's efforts in an ever-changing wave of technology while respecting the company's history. The Jeep brand is utilizing CES to showcase three plug-in hybrid electric vehicles, the first step in the brand's plan to offer electrification options on all models by 2022. All Jeep electrified vehicles will carry a new "Jeep 4xe badge." Electrification, including the upcoming "no-compromise" Jeep 4xe vehicles, will modernize the Jeep brand, Cappa said, as it strives to become the leader in "green" eco-friendly premium technology. Jeep electric vehicles will be the most efficient and responsible Jeep vehicles ever, he said, providing absolute and quiet open-air freedom while taking performance, 4x4 capability and driver confidence to the next level. With greater torque and immediate engine response, Jeep electric vehicles will offer an even more fun-to-drive experience on the road and more capability than ever off the road, said Cap-

Jeep has demonstrated 4x4 capability leadership for nearly 80 years, he said, noting that merging electrification into the product lineup is a natural evolution.

CES attendees will have a unique opportunity to see the Jeep Wrangler 4xe, the Jeep Compass 4xe and Jeep Renegade 4xe. All three vehicles are part of FCA's commitment to globally launch more than 30 electrified nameplates by 2022.

Attendees wishing to experience a simulated 4x4 journey can take a ride in the new Jeep 4x4 Adventure VR Experience, Cappa said. Using Moab, Utah, one of the most popular off-road destinations for Jeep owners and enthusiasts, as a backdrop, participants will navigate the infamous Hell's Revenge trail.

The route is broken into different sections from intermediate to difficult. As an added bonus, among the virtual assets within the software is a driver's point of view inside the new Jeep Wrangler 4xe, giving participants a sneak peek of the most advanced Jeep Wrangler the company has ever built, said Cappa. To create the virtual experience, a Jeep Wrangler Rubicon is positioned on four hydraulic cylinders, one at each wheel. The Wrangler reacts to input provided by actual wheel position data recordings made on the trail. The hydraulic system pushes the Wrangler's engineered suspension, replicating the movement a driver would experience traversing an obstacle or cresting a hill. Inside the vehicle, participants wearing VR goggles will see the actual scenery correlated to the Hell's Revenge trail. Each time a participating team completes a portion of the trail, the accomplishment is logged with team score and a virtual Trail Rated badge that can be viewed live via the "Jeep Adventure" app.

ence. As the display travels to different shows and events around the world, additional offroad trails will be loaded into the module, giving participants a wide array of Jeep 4x4 seat time in different environments.

UX has experienced significant growth and innovation within the automotive industry, Cappa said, and Uconnect is a powerful foundation to build upon. What was once just about the radio is becoming less constrained to the vehicle itself, more helpful, content-rich and personalized. Tailored for each brand and vehicle, the system is becoming a significant reason for purchase, said Cappa, adding that about half of new car buyers consider technology in their purchase.

The Airflow Vision is a sculptural design concept that envisions the next generation of premium transportation and UX by considering how the driver and passengers could interact with advanced technologies. It's created, said Cappa, for customers with an on-the-go lifestyle and a desire for a first-class travel experience while balancing their technology needs within a serene environment. Inside, UX plays a prominent role and is designed to be a captivating experience using multilayered, high-contrast graphics and thoughtful details that provide a clean, sophisticated appearance, said Cappa. Built on the principles of depth, hierarchy, consistency and legibility, the user, he said, will be able to see and experience the interface in a way that is safe, easy to use and understand. Using a menu-based format, screens can be personalized, simplified and grouped to individuals. With multiple display screens, users can access needed information and determine how it's displayed. Information on the screens can be shared with all passengers by swiping, allowing each passenger to participate in the experience, Cappa said.

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Users can track their team score and compare with others who have participated in the Jeep 4x4 Adventure VR Experi-

pa.

Marelli, Xenomatix Joining Forces for Better LiDAR

Marelli, a global Tier I automo- vision will provide high reliabilitive technology supplier with its North American headquarters in Auburn Hills, and XenomatiX, a supplier of true "solid state Li-DAR," will enter into a technical and commercial development agreement in the autonomous driving field, said Lisa Van Giesen, head of Marelli Marketing and Communications, North America.

The announcement was made last week at CES in Las Vegas.

XenomatiX will provide Marelli's Automotive Lighting division with its true "solid state LiDAR" modules for Advanced Driver Assistance Systems (ADAS) and autonomous driving (AD) applications

Marelli's Automotive Lighting Division and XenomatiX will combine competencies and technologies to offer modular Li-DAR system solutions to meet future global automotive needs, also leveraging the Artificial Intelligence (AI) perception technology derived from "Smart Me Up", the French start-up acquired by Marelli in 2018, Van Giesen said.

LiDAR sensors are widely recognized in the automotive field for ADAS and AD applications. Applications such as lane change assist, highway pilot, or traffic jam assist will strongly rely on LiDAR systems, Van Giesen said. XenomatiX, with its true "solid state LiDAR" sensor, brings to the market a unique product based on proven semiconductor technology, designed for mass production, she said.

Thanks to its distinctive features, the true solid state and multi-beam LiDAR technology developed by XenomatiX and Marelli's Automotive Lighting di-

2020 MALIBU RS

ty and long-range coverage, crucial to enable a variety of ADAS functions, Van Giesen said.

XenomatiX LiDAR is known for its high resolution, reliability and durability, she said. Completely different from other Li-DAR offerings, XenomatiX uses non-scanning LiDAR. The company's XenoTrack and XenoLidar product lines already impressed many Tier I suppliers and OEMs, making XenomatiX a solid and experienced player in the LiDAR market.

"Marelli is glad to start this collaboration with a high-tech, added-value partner like XenomatiX," said Sylvain Dubois, CEO of Marelli's Automotive Lighting division. "Our objective is to support our customers in enabling a crucial set of functions in the ADAS and AD field thanks to the true solid state LiDAR technology of XenomatiX."

Marelli Automotive Lighting's long-standing systems integration, optical, electronics and software capabilities will perfectly complement XenomatiX state-of-the-art LiDAR components technology - either in a standalone form or as part of larger front and/or rear modules, said Dubois.

Leveraging its investments in perception technology, Marelli will be able to add object recognition and classification capabilities, based on AI, to the LiDAR systems built with XenomatiX components to support global OE customers on their journey toward making mobility more convenient and safe, DuBois said.

"Marelli is a leading automotive supplier with the right competencies to develop modular Li-

Thanks for making Buff Whelan Chevrolet the

Dubois, Geuens and Juerss were at the 2020 CES show in Las Vegas to talk about their tecg partnership.

DAR solutions fulfilling different Automotive OEM needs, integrating them into larger systems, based on the True Solid State LiDAR technology we designed for the automotive market," said Filip Geuens, CEO of XenomatiX. "Today, XenomatiX further reinforces its position as a Tier II supplier. Marelli's longstanding experience in the automotive field and with the 3D sensors is key to this partnership."

Marelli's Automotive Lighting division holds a position at key OEMs worldwide and an associated footprint, which will be a key enabler for a full-scale deployment of these solutions in the coming years, Van Giesen said. The novel modular approach XenomatiX is taking for LiDAR sensors will serve multiple applications with flexibility, while optimizing R&D effort. Marelli has strengthened its

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main with the introduction of the Smart Corner, a solution that integrates sensors for autonomous driving within vehicle headlamps and tail lamps, all the while maintaining attractive styling and world-class vehicle

competence in the ADAS/AD do- lighting performance, said Van Giesen.

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The Smart Corner technology has been named as a CES 2019 Innovation Awards Honoree in the vehicle intelligence and selfdriving technology category, Van Giesen said.

USABC Gives New Contract Aimed at Developing Tech

been awarded a \$919,000 contract for an active material coating technology assessment, an 18month project that began last vear.

The contract for PSI, an Andover, Mass, company, is funded by the United States Advanced Battery Consortium (USABC) - a subsidiary of the United States Council for Automotive Research (USCAR) - and a collaborative organization of FCA US, Ford Motor Company and General Motors.

PSI will evaluate cells against electric vehicle requirements to determine whether its active material coating technology improves cell level energy density and lowers cell cost.

The contract award includes a 50 percent cost share, said US-ABC spokeswoman Stacey Boyle.

Enabled by a cooperative agreement with the U.S. Department of Energy (DOE), USABC's mission is to develop electrochemical energy storage technologies that support commercialization of hybrid, plug-in hybrid, electric and fuel cell vehicles.

"The technology assessment contract award with PSI is part of USABC's broad battery technology research and development program," said Steve Zimmer, executive director of USCAR. "Programs like this are critical to advancing the technology needed to meet both near- and long-term goals that will enable broader scale vehicle electrification."

Physical Sciences Inc. (PSI) has energy security of the United States, Boyle said.

DOE's Vehicle Technologies Office works with industry, academia and national laboratories to develop advanced transportation technologies that improve energy efficiency, increase energy security, and reduce operating cost for consumers and business.

Electrochemical energy storage has been identified as a key enabling technology for advanced, fuel-efficient, light and heavy-duty vehicles.

Founded in 1992, USCAR is the collaborative automotive technology company for FCA US, Ford Motor Company and General Motors.

The goal of USCAR is to further strengthen the technology base of the domestic auto industry through cooperative research and development, Boyle said.

Michigan's Ficosa **Closing One Plant** In Kentucky

SHELBYVILLE, Ky. (AP) - An auto parts plant is closing in Kentucky and consolidating production with a plant in Tennessee

Michigan-based Ficosa said any of the 180 employees in Shelbyville, Ken., can transfer to its plant in Cookeville, Tenn., news outlets report. The company will close the Shelbyville site in July. The first job reductions at the plant will begin in April. The company's offering support and resources to help employees.





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Takata Airbag Manufacturer Orders Additional Recalls

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to inflate air bags. The chemical can deteriorate over time when exposed to high heat and humidity and burn too fast, blowing apart a metal canister and hurling shrapnel.

Permanent replacements don't use ammonium nitrate.

At least 25 people have been killed worldwide and hundreds injured by Takata inflators. About 100 million inflators are being recalled across the globe.

In paperwork posted Jan. 8 on the NHTSA website, Takata said the 10 million figure is an estimate and that many of the inflators were never installed in vehicles.

The company said it doesn't know how many vehicles were affected.

But the numbers are still huge. Subaru, for instance, on Jan. 8 issued recalls for nearly a half-million vehicles to replace Takata inflators that were used as interim fixes.

The recalls cover vehicles from the 2003 through 2014 model years including certain Forester, Baja, Impreza, WRX, Legacy and Outback models. Also covered is the 2005 and 2006 Saab 9-2x made by Subaru for General Motors.

Owners can check to see if their vehicles have been recalled by keying in their 17-digit vehicle

identification number on the NHTSA website.

All of the Takata recalls are being phased in by the age of the vehicle and location. Vehicles registered farther south, where conditions are hot and humid, get first priority.

The latest recalls could bring an end to a saga that began with the first recall in 2001 and mushroomed into what collectively is now considered the largest recall in United States automotive history.

There are still a few unresolved issues, though, for the company.

Takata had until the end of of the year 2020 to prove that inflators using ammonium nitrate with a moisture absorbing chemical are safe.

If it can't be proved, then Takata will have to recall millions more inflators. NHTSA has not yet made a decision on those inflators.

Also, General Motors, Ford and Mazda are seeking exceptions from the recalls for Takata inflators on millions of vehicles. The companies contend their inflators are safe.

The remnants of Takata were purchased by Chinese-owned Key Safety Systems for \$1.6 billion (175 billion yen).

The successor company is now called Joyson Safety Systems.

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Fourth-quarter customer deliveries totaled 735,909 units, down 6.3 percent year over year, Henderson said. A breakdown of the company's sales for the year 2019 showed that GM sold more than 1 million crossovers in the U.S. for the second year in a row.

GM had its best year ever for crossovers, achieving yearly records in the compact, small and small-luxury segments, Mc-Neil said. Crossover deliveries totaled 1,165,769 for the year, up 12.7 percent versus 2018. The following nameplates saw the largest sales increases year over year:

- Chevrolet Trax up 29.9 per cent;
- GMC Acadia up 12.2 percent; • Buick Envision up 10.2 percent:
- Buick Encore up 10.0 percent.

The Chevrolet Traverse and GM's best-selling crossover, the Chevrolet Equinox, both continued to grow, achieving their bestever sales in 2019, Henderson said

The new Chevrolet Blazer midsize SUV debuted in 2019 and gained retail market share nearly every month, McNeil said. Continuing this momentum, the Chevrolet Trailblazer small SUV will arrive in showrooms this Spring.

GM Sales Hurt by Fourth Quarter Strike

Cadillac crossovers also saw strong gains in 2019, up 22.4 percent year over year, given a full year of sales of the new XT4, continued popularity of the XT5, and debut of the XT6.

Overall, Chevrolet and GMC full-size pickups drove the business in 2019. McNeil said. Combined sales of the Chevrolet Silverado and the GMC Sierra were strong, totaling 802,962 pickups in 2019, while combined retail market share grew almost one full percentage point, according to J.D. Power.

In a piece of interesting news, McNeil said that three out of every four full-size pickups GM sold were crew cabs. Light-duty crew cab sales were up 15.1 percent compared to last year.

Heavy-duty crew cabs were up 2.6 percent year over year. In 2020, GM will increase capacity at Flint Assembly, where its HDs are built, by 40,000 vehicles annually.

GM has sold more full- and midsize pickups combined in the U.S. than any other competitor every year for the past six years, McNeil said. Nearly every year since 1975, he added, GM has had the bestselling full-size truck franchise in the U.S., including full-size pickups and SUVs.

Fleet sales remain strong. GM's fleet mix was 19.7 percent in the fourth quarter and 21.8 percent for the year.

Commercial and government deliveries made up more than half the company's fleet sales, as planned, for the third year in a row.

Overall fleet sales for the year were up, driven by commercial and government sales, in spite of the 40-day UAW work stoppage, McNeil said.

GM estimates that the light vehicle SAAR in the fourth quarter was 17.1 million units. Average transaction prices were a record \$37,558 in the fourth quarter and a record \$36,844 for the year, above industry averages, according to J.D. Power PIN.

Ram Pickup Truck Sales Lift FCA in 2019

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That wasn't the only good sales news from FCA US at the end of 2019, Bennett said. The company closed the fourth quarter and 2019 with a handful of records that pushed Ram and Jeep to new sales levels, he said.

Topping the year were the successful launches of the redesigned Ram Heavy Duty pickup trucks and the Jeep Gladiator.

The Gladiator finished 2019 with 40,047 vehicle sales following its May debut, Bennett said.

U.S. sales for the fourth quarter were 542.519 vehicles, down 2 percent, while sales for the year were down 1 percent at 2,203,663 vehicles. Retail sales reached 419,273 vehicles for the quarter. Fleet accounted for 22.7 percent of total sales, Bennett said.

The Ram brand led the portfolio with its record-setting yearly sales and its 190.655 vehicle sales for the quarter. The yearly sales number represented an 18 percent increase over 2018.

Jeep Wrangler, which notched a variety of records throughout the year, reported its highest fourth quarter with sales of

52,012 vehicles, Bennett said. Grand Cherokee reported a fullyear record with sales of 242,969 vehicles.

Dodge also bucked the trend in passenger cars by turning in one of its strongest years. The Charger notched sales of 25,829 vehicles for the quarter - the best fourth guarter for the nameplate since 2007 - and 96,935 vehicles for the year, the best since 2013. Dodge muscle cars Charger and Challenger combined sales in the second half were a record 84,216 vehicles

"Our dealers did an outstanding job in 2019, not only with meeting consumer demand, but also handling the introduction of the redesigned Ram Heavy Duty and new Jeep Gladiator," said Bigland. "We have read the expectations that sales may slow a bit in 2020. However, we believe there is still plenty of demand in the market and we are ready for a new year.'

Bigland credited Ram's success as a brand in 2019 with decisions made in 2018. FCA decided to leapfrog the competition in 2018, said Bigland, by introducing a new Ram 1500 equipped with the new Uconnect 4C with a massive 12-inch touchscreen in the center console.

It leads the pickup world in technology, featuring split-screen capability, 360-degree camera views and exclusive content from SiriusXM with Personalized Stations Powered by Pandora, which delivers ad-free personalization not found on any other audio entertainment service, Bennett said.

"The move was predicated on the belief that Americans were spending more time in their trucks and they wanted the same accessibility to all things cyberspace they could get in their homes," Bigland said. "Meanwhile, the idea of keeping a separate 'work truck' has faded. People are now making their trucks the family vehicle."

When FCA introduced the new Ram 1500 in 2018, it was decided that production of the previous generation would continue, Bigland said. The Ram 1500 Classic now provides consumers more choice since the entry-level truck represents the best full-size value in America, he said. FCA followed the Ram 1500 success by introducing a redesigned HD Ram.



This 2011 Chevy Silverado is just one of millions recalled for airbags.

OCC Tech Teaching Program Real Winner for Students

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to incorporate into OCC's newly renovated facilities as a model training area.

What makes this master certification really cool is OCC students can now earn up to 21 NC3 certifications and 5 certificates of attendance in the College's Automobile Servicing program," said Townsend. "Earning these certifications

Welding, Robotic, HVAC and Machine Tool programs are also earning master certifications.

As a result, OCC is currently ranked 29th out of 800+ schools in the world for the number of NC3 certifications earned by students, the highest ranking of Michigan, any college in Madeleline said.

Giving back to others is important to Townsend. In addigives students an added advan- tion to teaching students, he tage in the job market because now serves as a mentor to other instructors across the country trying to earn their certification and interested in this region – home of the automotive industry – for training.

F-Series Still a Workhorse for Ford in 2019

CONTINUED FROM PAGE 1

But the good news didn't end with the F-Series, Deep said. The Ranger finished its best sales quarter since its reintroduction

in early 2019. Combined sales of F-Series and Ranger totaled almost 1 million pickups at 986,097 vehicles for the year - an increase of 8.4 percent. Ranger fourth quarter sales hit 33,059 pickups for the quarter, totaling 89,571 for the year. As America's best-selling commercial van line, Ford's overall van sales delivered their best fourth-quarter results since 1978 on sales of 59,930 vans, Deep said. For the year, Ford van sales totaled 240,529 vehicles - a 10.5 percent gain. Additionally, Ford Expedition sales posted their best results in over a decade, while EcoSport had its best sales year since launch, Deep said. Expedition sales accelerated in the fourth quarter with a gain of 71.6 percent, while the affordably priced EcoSport reported gains of 19.1 percent for the year, said LaNeve.

new Ford Explorer continued to models are added, sales continexpand – totaling 48,083 SUVs. This represents a 52.4 percent increase over third-quarter volumes, LaNeve said.

In December, Explorer had its strongest monthly retail sales ues to grow, representing 43 perperformance since its launch in June.

ued to climb, posting sales of 6,424 in the fourth quarter. Aviator had its best sales performance in December with 2,810 SU-Vs sold. Lincoln Corsair contin-

auto dealerships and repair shops know these students are certified and they do not have to spend extra time and money training on various aspects of automotive repair.'

Another really important advantage of earning NC3 Master Instructor certification from OCC, said Townsend, is that whenever 10 or more students earn an NC3 certification on a particular automotive scanner, the manufacturer of these highly technical and sophisticated diagnostic tools will provide the school with free software updates, saving the college as much as \$10,000 a year.

"As an NC3 Master Instructor, we are at the forefront of helping to solve the skills gap by preparing the new skilled labor workforce, and that is something I am very proud of." Townsend said.

Townsend is not alone in his quest for master instruction certification. OCC instructors in

"I learned so much during this process that I really want to give back to others who are dedicated enough to earn the NC3 status, and being a mentor in this program is a great way to do that," Townsend said.

With five campuses in Oakland County, OCC is Michigan's number one transfer institution, offering nearly 100 excellent degrees and certificates.

The college empowers academic and developmental experiences, allowing students to reach their full potential and enhance the communities they serve through their education and the skills they obtained at the college.

More than a million students have enrolled in the college since it opened back in the year 1965, Townsend said.

Ford Explorer sales gained big. In the fourth quarter, on improved availability, sales of the

Sales of America's best-selling sports car, the Ford Mustang, saw a strong gain of 20.4 percent in the final quarter of the year on sales of 17,124 cars, Deep said. Overall, Mustang sales totaled 72,489 cars this year, making it America's best-selling sports car for a fifth straight year. Mustang began its first sales of GT500 in Q4, with GT350/GT500 sales up 35.2 percent.

And the good news was not limited to just sports cars. The Lincoln SUVs had their best annual sales results since 2003 on sales of 87,893 SUVs. In the fourth quarter, Lincoln SUVs were up 30.9 percent, making it Lincoln's best Q4 sales performance for its SUVs since 2001, Deep said.

Overall, Lincoln continued its growth with the strong performance of its new products, Deep said. As Aviator stock levels build and Aviator Grand Touring

cent of Corsair/MKC retail sales mix in December.

Sales numbers for 2019 compared to 2018:

- Ford 2,310,494 compared to 2,393,731 for a 3.5 percent drop;
- Lincoln 112,204 versus 103,587 for an 8.3 percent increase:
- Total sales for all Ford brands - 2,422,698 versus 2,497,318 for a 3 percent decline.

Deep said that, overall, Ford saw a 28.2 percent decline in sales of traditional cars. The company sold a total of 349,091 in 2019 compared to 486,024 in 2018. Sales of traditional cars, he said, will continue to drop over time as Ford stops making most models.

SUV sales were 872,215 in 2018 and 830,471 in 2019, a 4.8 percent drop. Sales of trucks went from 1,139,079 in 2018 to 1,243,136 in 2019 for a 9.1 percent increase.

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Ford Buys Robots Able to Make Deliveries From Vehicles

Seeing robots acting as delivery boys won't be that unusual a sight at Ford in the future.

Agility Robotics is launching Digit, a robot with arms and legs to work with humans and in human spaces, for commercial sale: and, Ford Motor Company is the first customer, receiving the first two robots off the line, said Ford spokesman Wes Sherwood.

This cooperation continues the existing partnership between Agility and Ford (https://www.agilityrobotics.com/ford-partnership) to explore ways to help commercial vehicle customers, including autonomous vehicle businesses, make warehousing and delivery more efficient and affordable for their customers.

Key applications for further exploration are indoor or first-mile logistics and last-50-feet delivery. Sherwood said. The research also will focus on how Ford's commercial vehicles and Digit "talk" to each other and their surroundings through advanced connectivity technologies.

For example, Ford's connected vehicles can continually update cloud-based maps that can be shared with Digit so it doesn't have to recreate the same type of information, Sherwood said.

The team expects that, as Digit will be part of a package delivery service, this communication channel will also provide delivery specific information such as where a customer prefers packages to be left, or other individual package delivery needs.

This communication channel also allows Digit to ask for help if something unexpected is encountered.

"As online retailing continues growing, we believe robots will help our commercial customers build stronger businesses by making deliveries more efficient and affordable for all of us." said Ken Washington, vice president, Ford Research and Advanced Engineering, and Chief Technology Officer. "We learned a lot this year working with Agility, now we can accelerate our exploratory work with commercial Digit robots.

Since the first Digit prototype was shown in May, Agility Robotics has tested it extensively, refined the design, and added features to be ready for production and sale to customers, Sherwood said.

Upgrades and improvements include more advanced feet that allow Digit to balance on one foot or carefully navigate obstacles, new sensors to perceive and map the world for robot navigation, and customer-ready, powerful onboard computer hardware.

"We're excited about the technical capabilities and advanced legged mobility of Digit", said Dr. Jonathan Hurst, CTO of Agility. "Videos can show a solid proof of concept - but this robot is ready to go out in the world in the hands of customers, and start to really explore pragmatic use cases.

Agility sold its breakthrough robot Cassie as a bipedal research platform from August 2017 through July 2019, and has spent the latter half of 2019 transitioning production over to Dig-

"Digit represents a major milestone for Agility," said Dr. Damion Shelton, CEO of Agility. "For the first time, a full humanoid robot with both mobility and manipulation capabilities - will be available for customer applications in a wide variety of industries, both lows it to tightly fold itself up for indoor and outdoor. We look forward to showing off our work on both logistics and non-logistics tasks in the coming months.'

Digit has been designed to walk upright without wasting energy, so it has no issue traversing the same types of environments most people do every day, Shelton said.

Digit's unique design also al-

easy storage in the back of a vehicle until it's called into action. Once a vehicle arrives at its destination, Digit can be deployed to grab a package from the vehicle and carry out the final step in the delivery process.

If it encounters an obstacle, it can send an image back to the vehicle to use more computing power.



This robot is designed to be able to navigate steps and deliver small packages within the confines of an office.

Visteon Makes a Tech Splash at CES Event

strated its newest SmartCore the world's first production cockpit domain controller with a third-generation Qualcomm Snapdragon Automotive Cockpit Platform - at the recent 2020 CES show in Las Vegas.

will be technology The launched on Chinese automaker Guangzhou Automobile Group's (GAC) new pure electric vehicle platform, Aion LX, said Visteon spokesman Jim Fisher.

Visteon's latest step to advance the intelligent integrated vehicle cockpit was jointly introduced at Visteon's exhibit at CES 2020 by Sachin Lawande, president and CEO of Visteon; Cham Zhong, vice president of Tencent; and Wang Qiujing, deputy chief of GAC's executive committee and president of GAC R&D Center. The SmartCore application on the Aion LX is the product of the collaboration by the three parties through a cooperative technology initiative announced one vear ago at CES 2019. Fisher said. The new SmartCore intelligent cockpit is integrated with the Tencent Auto Intelligence (TAI) system and the third-generation Snapdragon Automotive Cockpit Platform for the Aion LX, which is scheduled to launch in early 2020. Visteon's SmartCore domain controller is helping vehicle manufacturers transition to the intelligent cockpit by consolidating electronic control units (ECUs) to independently operate multiple displays and applications throughout the cockpit – keeping occupants informed and entertained while bringing advantages in weight, power consumption and cost, Fisher said.

Visteon Corporation demon- Township, was the first Tier I supplier to launch a cockpit domain controller on a production vehicle (in early 2018) and is the industry leader in this technology, said Fisher.

The Aion LX is the first production SmartCore application to power three cockpit domains including the instrument cluster, infotainment and a body control interface that allows the user to adjust the seats, exterior mirrors and cabin temperature with the swipe of a finger, Fisher said.

"We are proud that our industry leadership in cockpit domain controllers, and our technology cooperation with Tencent and GAC, has resulted in this intelligent cockpit on the Aion LX," Lawande said. "The Aion LX represents the integrated digital cockpit of the future, which will consist of multiple displays powered by a single domain controller that consolidates ECUs, offering higher computing power and consuming less power, which is ideally suited for electric vehicles. This is a prime example of the solutions Visteon will continue to drive for cockpit digitization, central computing and autonomous driving." As the industry's first massproduced smart cockpit domain controller, Visteon's SmartCore not only demonstrates Visteon's strong integration ability as the industry's cockpit electronics leader, but also marks a new era of mass-produced smart cockpits, Lawande said. GAC's Qiujing said the company is committed to being a mobility life value creator. The ADiGO in-car intelligence ecosystem developed by GAC - which combines Visteon's SmartCore with Tencent's TAI system – will bring an excellent experience to drivers and passengers, Fisher said.

The cooperation with Visteon, Tencent and Qualcomm Technologies supports GAC's "integration innovation" strategy and is a great effort to improve future mobility life, he said.

Zhong of Tencent said to address the trend of the intelligent vehicle, and with autonomous driving as a key focus of the industry, Tencent is pleased to cooperate with both Visteon and GAC.

"After one year of this cooperative effort, we have seen satisfying results," Zhong said. "We want to continue to bring the 'eco-intelligent internet of vehicle' to the products and services of our three parties, to make travel more consumer-friendly and smart."

On the Aion LX, SmartCore incorporates Tencent's TAI solutions to enable user interaction and control based on voice recognition, offering users a compelling new digital experience, Fisher said. The system ues the third-generation Snapdragon Automotive Cockpit Platform to provide powerful computing and AI capabilities for the next-generation cockpit system, with high-performance CPU and GPU cores, support for six to eight display screens, power intelligent voice interaction, augmented reality and image processing. "As the vehicle cockpit becomes increasingly complex with rich infotainment and driver assistance features, the complexity of processing hardware behind these systems needs to be reduced to minimize cost and energy consumption while maximizing system performance," said Shyam Krishnamurthy, senior director of product management at Qualcomm Technologies.



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The company, an automotive cockpit electronics technology firm headquartered in Van Buren

Auto Industry as Whole Sees Sales Drop

sales in the U.S. fell 1.3 percent last year, but the numbers still passed the healthy 17 million mark for the fifth straight year.

Automakers sold 17.05 million new cars, trucks and SUVs in 2019. Although buyers spent more on vehicles, companies had to prop up sales with record discounts, according to analysts.

Following a long trend, 69 percent of new vehicles sold last year were trucks or SUVs, with truck sales up 2.6 percent from a year ago. Car sales fell once again, by 10.1 percent, according to Autodata Corp.

Sales at General Motors fell 2.5 percent for the year as a 40-day strike by the United Auto Workers union cut into inventories in the fourth quarter. Ford sales fell 3.2 percent, while Fiat Chrysler sales dropped 1.4 percent. Sales at Toyota fell 1.8 percent and Nissan sales tumbled almost 10 percent.

The Edmunds.com auto pricing site predicted that more than half the new vehicles sold last year were SUVs, passing 50 percent market share for the first time

Also for the first time, Fiat said.

DETROIT (AP) - New vehicle Chrysler's Ram pickup beat the Chevrolet Silverado in full-year sales as GM retooled factories to build a new version of the Silverado.

> Electric vehicle sales rose almost 37 percent last year to just over 236,000, Autodata reported.

> Tesla reported global sales on Jan. 3 without singling out the U.S. The Palo Alto, Calif., electric vehicle company said sales rose over 50 percent to 367,500.

> Last year turned out to be strong as uncertainty waned in talks over a trade agreement with Canada and Mexico and progress toward a trade deal with China, said Jeff Schuster, president of global vehicle forecasts for LMC Automotive, a consulting firm.

Schuster predicted stability this year but wrote that sales could be a bit lower than in 2019.

Last year's sales numbers defied the odds, especially because high interest rates and record prices squeezed some buyers. said Jeremy Acevedo, senior manager of industry insights for Edmunds.

"If 2019 taught us anything, it's that you can't underestimate the power of a strong economy," he

Edmunds provides content for The Associated Press.

The average new-vehicle sale price in December hit an estimated \$34,602, setting a record, according to J.D. Power and LMC. Truck and SUV prices hit an estimated \$36,935, rising \$655 from 2018. Car prices averaged \$27,461, a small increase from a vear earlier

But the average incentive, or discount, per vehicle was expected to reach \$4,600, a record figure that's up almost 7 percent from 2018, according to LMC and J.D. Power.

Thomas King, president of analytics at J.D. Power, said the record sale prices shows that automakers are building the types of vehicles that people want to buy. But the record incentive level "signifies that there is still too much supply relative to overall demand."

Other major automakers reporting sales Jan. 3 included Honda, which rose 0.2 percent, and Hyundai, which was up 4.7 percent.

Subaru sales rose 2.9 percent, with the maker of all-wheel-drive vehicles reporting record sales for the 11th straight year. Volkswagen Group sales also rose in 2019, by 1.8 percent.

FCA Sells Tupy S.A. Component Business

Fiat Chrysler Automobiles N.V. site, the company "is closely has entered into an agreement with Tupy S.A. for the sale of FCA's global cast iron automotive components business, which is operated through FCA's subsidiary Teksid S.p.A. ("Teksid").

Tupy is a leading player in the cast iron industry, specializing in developing and manufacturing highly-engineered structural cast iron components for several applications in capital goods serving different industries, said FCA spokeswoman Shawn Morgan.

The proposed sale includes Teksid's cast iron production facilities in Brazil, Mexico, Poland and Portugal, in addition to Teksid's interest in a joint venture in China, Morgan said. Teksid's aluminum business is not included in the transaction and will remain a strategic asset in FCA's portfolio.

The agreement values the business at €210 million enterprise value. Consideration, subject to customary purchase price adjustments, will be paid at closing, expected in the second half of 2020, Morgan said. The proposed transaction is subject to customary closing conditions, including the receipt of antitrust approvals.

"Tupy has always been a strategic supplier in the cast iron structural components industry. Together, Teksid and Tupy will continue to develop new technologies to support the continued success of our products,' said Scott Garberding, FCA's global chief manufacturing officer. "The proposed transaction step in the implementation of FCA's business plan."

linked to the history of industrialization in Brazil and to the history of the city of Joinville, colonized as from the second half of the 19th century by European immigrants, mostly from Germany. Albano Schmidt, Hermann Metz and Arno Schwarz, who founded Tupy on March 9, 1938, descended from those immigrants. Albano was a businessman and his partners, people who had already been manufacturing iron artifacts, using rudimental foundry knowledge.

The Web site further stated that "10 years before Tupy was founded. Albano had challenged his companions to discover 'the formula of the malleable cast iron,' used in the production of pipe fittings, which, until then, had always been imported. With no laboratory resources or manuals that might give some sort of hint on how to get to the formula of that alloy (originally discovered in 1630 in England), everything was carried out on a trialand-error basis, until 1935, when they obtained the correct composition.

"Three years later, in the facilities of an existing workshop in downtown Joinville, the first pipe fittings with the TUPY brand started to be manufactured. In 1941, they received the similarity certification, which meant that they were similar to the imported ones."

From this beginning Tupy has

automotive industry. Originally known as Ferriere Piemontesi, Teksid is owned by Fiat Chrysler Automobiles, and was owned by its predecessor Fiat S.p.A. since 1917. The company was renamed Teksid in January 1978.

Wikipedia further states that in 1998, the French car manufacturer Renault merged its foundry business with Teksid, creating a change of ownership with a share 66.5 percent/33.5 percent to Fiat and Renault respectively.





grown into a company with oper-

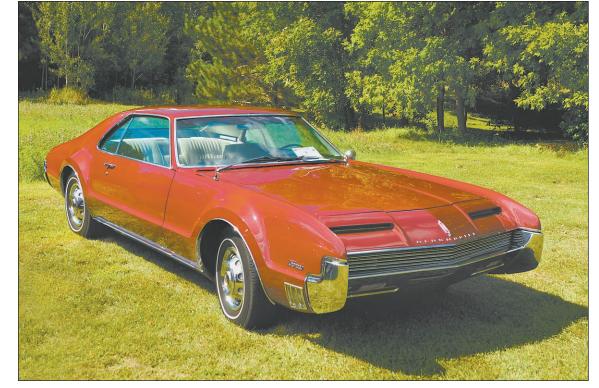
ations around the world. According to Wikipedia, Teksid represents another important (Teksid S.p.A.) is an Italian company based in Carmagnola, which specializes in the produc-According to the Tupy Web tion of iron and castings for the







Museums Celebrating Century of Excellent GM Designs



The 1966 Olds Toronado will be one of the vehicles in display at a DIA show this summer honoring car design.

The automobile has had a profound impact on society, making the subject worthy of study in a museum.

That's a fact that General Motors recognizes, said GM spokeswoman Teresa LoPiccolo. For the last two years, the Victoria and Albert Museum (V&A) in London has worked with General Motors and other OEMs to craft a new exhibition that explores the significant impact cars have had on society.

Over its 130-year history, the car has become one of the most loved, contested and influential innovations in the world. It has revolutionized manufacturing and transformed how people move, forever changing cities, environment and economies, LoPiccolo said.

The exhibition, named "Cars: Accelerating the Modern World," opened recently and will continue until April 2020, LoPiccolo said. It is a look at the automobile and its impact on everything from art and design to marketing, manufacturing, travel and the environment.

The exhibition brings together 15 unique automobiles to tell a story about design and its impact on the world. The unique

addition of automotive design along with fashion, graphics, photography and film.

"An exhibit like this underscores the power of design to change the world," said Michael Simcoe, vice president of GM Global Design. "We're seeing the ability and power of design to affect change. We played a major role in this in the 20th century and will continue carving that path throughout the 21st century.

Showcasing 15 cars and 250 objects, the exhibition is divided into three main sections: Going Fast, Making More and Shaping Space.

Going Fast is the first section of the exhibit. It looks at the initial draw and attraction of the car; it was this idea about speed and how the car changed people's relationship with speed. In the 19th century, trains were going fast, but the car put the thrill of speed into the hands of the driver, LoPiccolo said.

The idea of "speed" quickly grabbed the fascination of the public, inspiring a worldwide racing culture, pushing the design and technology of cars to go ever faster.

It's that race culture - which factor of this exhibition is the started at the end of the 19th

century and flourished at the beginning of the 20th century that started to drive the rapid advancement of car technology, LoPiccolo said.

The second part of the exhibition is called, "Making More," and explores the challenge of scaling up production to bring autos to the masses, the pioneering of styling at GM, and the sales and marketing side of the automotive industry.

In this exhibit, visitors learn of design history at GM and the museum's establishment of the "Art & Colour Section," turning cars from utilitarian machines into objects of desire, LoPiccolo said.

Following in the footsteps of the Paris fashion system, GM



This 1958 Firebird concept car shows GM's outside-the-box thinking.

would release annual model upgrades and color ranges, creating slight changes, making old cars redundant and new cars more desirable.

It's noted that GM was the first automotive company to formalize design as part of the product development process, LoPiccolo said.

General Motors was recognized as a leader in design in the 1950s and 1960s, LoPiccolo said, setting the trend for the majority of the 20th century. The Firebird I and supporting content from the Design Archive & Special Collections, as well as the GM Heritage Center, was sent to the V&A museum to display the capabilities of GM's automotive advances

The final section of the exhibition - called, "Shaping Space" explores the impact of the car on the world's cities, environment and economies.

It looks at how the gas engine beat early electric and steampowered competitors by promising the ability to travel the world, transforming drivers into individual explorers.

The exhibit also examines innovative technologies – electric

power, autonomous driving, service-oriented - that will transform the future of the driving experience.

The car has transformed how we move, our experience of speed, forever changing how we live. It has revolutionized manufacturing around the world, and introduced new ways of styling, making and selling," Simcoe said.

And this museum exhibition won't be the only one this year looking at the history of car designs, LoPiccolo said. The Detroit Institute of Arts (DIA) will be hosting a look at Motor City design this summer. Called, "Detroit Style: Car Design in the Motor City, 1950-2020," it will highlight the artistry and influence of Detroit car designers working between 1950 and today.

GM vehicles on display at the London museum:

- 1951 GM LeSabre Concept.
- 1958 GM Firebird III Concept. • 1959 Chevrolet Stingray
- Racer.
- 1966 Oldsmobile Toronado.

This DIA exhibit will run from June 2020 through January 2021 and admission is free, LoPiccolo said.



OEMs Hiring Full-Timers

The start of 2020 brought good pany makes heavy duty pickups, news to more about a thousand temporary UAW employees working for GM.

On Jan. 6, 930 people working for GM on a temporary basis received notification that they were going to become full-time employees.

These temporary workers

will become full-time.

The company's Delta Township facility near Lansing will see 103 temps become full time.

That wasn't the only good news on Jan. 6 for temporary workers in UAW-represented sites. The union reported that 592 temporary employees working for Ford will now be upgraded to full-time status. The Free Press reported that FCA is still working to implement its temporary worker conversions. These employees working at GM's Flint moves are part of the 2019 UAW contracts with OEMs.

were based in 30 of GM's 52 different UAW-represented facilities in the United States.

According to reports in the Detroit Free Press, 255 temporary Assembly Plant, where the com-



Ex-UAW Official Is Now Under *Investigation*

DETROIT (AP) - Federal prosecutors on Jan. 6 filed a revised charge against a former United Auto Workers official, signaling that another plea deal is likely in the government's investigation of corruption at the Detroitbased union.

Vance Pearson, a former UAW regional director in the St. Louis area, was charged with an embezzlement conspiracy.

Pearson was first charged in September in a sweeping criminal complaint that placed him in an alleged scheme to embezzle union money and spend cash on premium booze, golf clubs, cigars and swanky stays in California

The new charge was filed as a criminal "information," which is negotiated without grand jury review and typically leads to a guilty plea.

The Associated Press left message seeking comment was left for Pearson's attorney.

Pearson worked under Gary Jones in Missouri before Jones was promoted to UAW president in 2018. Jones hasn't been charged, but agents searched his Detroit-area home last summer. Both men resigned their union posts in November.

Luxury and off-roading don't have to be mutally exclusive.

Ford is adding its FX4 off-road package to the upscale 2020 Ford Expedition Limited for customers who want to travel further off the beaten path, said Devin McParlane, Ford Expedition consumer marketing manager.

"There's a growing trend in people looking to enjoy rugged terrain without having to give up the refinement, comfort or convenience of getting there," said McParlane.

The Expedition Limited FX4 off-road package brings off-road ruggedness and capability to the company's seven-passenger SUV, McParlane said.

Nearly 20 percent of Expedition owners use their vehicle for off-road adventures, with 45 percent taking their SUV hunting, camping or fishing, according to MaritzCX market research. And with an available heavy-duty trailer package, the standardwheelbase Expedition Limited FX4 can tow up to 9,200 pounds more than any other vehicle in its class.

FX4 includes athletic 32-inch all-terrain tires on 18-inch metallic gray-painted cast-aluminum rims and premium off-roadtuned shocks. Seven underbody skid plates, including a new



The Ford FX4 version of the Expedition has been designed to offer both comfort and off-road capability.

sand shield to protect turbocharger intercoolers, steel plates to protect steering gear, engine, transmission and transfer case, and a full-length guard for the fuel tank.

A chin spoiler beneath the front bumper is shortened to improve approach angles for climbing over steep obstacles. Chrome-plated running boards with angular step bars add offroad protection and passenger convenience, said McParlane.

Combining performance and extended off-road competency, he said, the Expedition FX4 powertrain features a 375-horsepower. 3.5-liter EcoBoost engine mated to a 10-speed automatic transmission and a two-speed electronically controlled four-wheeldrive transfer case with neutral towing capability.

A patented 3.73:1 electronic limited-slip differential and heavy-duty engine radiator further aid the vehicle's off-road driving capability and performance, said Ford spokeswoman Michaela Johndrow.

An advanced Terrain Management System adds still more offroad prowess by automatically selecting optimal power transfer and engine control to give drivers greater confidence out in the wild, she said.

Along with its enhanced offroad capabilities and extensive underbody skid plate protection, Expedition Limited FX4 brings upscale appointments, Johndrow said

This includes a 360-degree camera system with split-view that offers driver and passengers a better view of surrounding terrain.

Premium leather-trimmed seating and rich wood accents are included as part of the Limited series package, along with durable rubber floor liners front and rear to protect the interior. The cabin features the same FX4 badging that adorns the liftgate and front fender.

For 2020, Expedition gets standard Ford Co-Pilot360 that features a host of driver-assist technologies, including Pre-Collision Assist with Automatic Emergency Braking, Lane-Keeping System, Blind Spot Information System with Cross-Traffic Alert and a rearview camera.

The Limited model goes further with standard Ford Co-Pilot360 Assist featuring Adaptive Cruise Control with Stop-and-Go, voice-activated touch screen navigation and optional Enhanced Active Park Assist.

Pro Trailer Backup Assist is also available, Johndrow said, to help take the stress off lining up a trailer or boat to make maneuvering more enjoyable.

The new 2020 Expedition Limited FX4 package is available for both the standard Expedition and extended-length Expedition MAX versions at Ford dealers now.

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FCA Names a New Communications Officer

Fiat Chrysler Automobiles N.V. (FCA) has appointed Simon Sproule has been appointed FCA's chief communications officer and head of North America Communications, effective Feb.

Sproule joins FCA from Aston Martin Lagonda where he served as vice president and chief marketing officer. In that role, he was responsible for leading an integrated marketing and corporate communications function that also included the company's corporate affairs and corporate soresponsibility initiatives, cial said FCA spokeswoman Shawn Morgan.

Prior to Aston Martin, Sproule ber.

held positions of increasing global responsibility in communications at Tesla, Nissan Motor Company and Ford Motor Company.

"Simon brings a wealth of automotive experience, including a deep understanding of both mass market and luxury brands," said FCA's CEO Mike Manley. "He is joining FCA at an unprecedented time as we embark on an electrified, connected and autonomous future for our brands and, at the same time, create a new entity as we work toward a merger with PSA."

Sproule replaces Niel Golightly, who left the company in Decem-



Simon Sproule

most.

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Trialon Buying an Auburn Hills-Based Testing Facility

Resilience Capital Partners' portfolio company, Trialon Corporation ("Trialon"), is acquiring the Customer Technology Center Michigan of Delphi Technologies ("Trialon-Auburn Hills"), which will expand its testing business and continue establishing Trialon as one of the amjor regional independent providers of testing and validation services to the automotive and other manufacturing industries.

Located in Auburn Hills, Trialon-Auburn Hills is a state-ofthe-art testing facility in a strategic location in Greater Detroit that includes over 130.000 square feet of combined lab and office space. said Bassem Mansour, co-CEO of Resilience Capital Partners.

With the acquisition, Trialon adds a wide variety of additional testing capabilities including vehicle emissions, engine and chassis dynamometers, vehicle test lab, acoustics, materials and design and fabrication. Mansour said.

Trialon-Auburn Hills also includes complementary testing capabilities to Trialon's Burton, Mich. and Kokomo, Ind. facilities' current capabilities of environmental, corrosion, vibration and EMC testing.

"Since our acquisition of Trialon in 2016, we have been heavily investing in broadening Trialon's testing capabilities. With this acquisition, Trialon is able to further broaden its service offering to existing and new clients and continue positioning itself as a value-added partner to its customers," said Mansour.

Jerry Johnson, CEO of Trialon Corporation, added, "Delphi Technologies and Trialon have had a successful long-term partnership and Delphi knew Trialon

would be the right company to acquire and grow the Trialon-Auburn Hills laboratory. This acquisition further strengthens Trialon's competitive position in the marketplace and opens a strong strategic footprint in Greater Detroit."

By adding the Trialon-Auburn Hills facility to Trialon's testing footprint, Trialon will continue to solidify its strategic position with both industry leading capabilities and geographic locations to meet the demands of its current and future customers, Mansour said.

Trialon-Auburn Hills, along with Trialon's existing Burton, Mich. and Kokomo, Ind. capabilities, will be able to provide customers with full validation testing resources complemented by Trialon's reputation as a superior customer service partner, Mansour said.

Ghosn's Wife Caught Up in His Legal Troubles in Japan

by YURI KAGEYAMA AP Business Writer

TOKYO (AP) - Tokyo prosecutors issued an arrest warrant Jan. 7 for the wife of Nissan's former chairman, Carlos Ghosn, on suspicion of perjury, adding to the couple's legal troubles in the country where he once was revered as a star executive.

The move against Carole Ghosn, who is not in Japan, followed her husband's flight to Lebanon last week while he was out on bail awaiting trial for alleged financial misconduct.

Details on the allegations against Carole Ghosn were not immediately available. Japanese officials have said anyone caught helping a fugitive escape will face legal consequences.

Carole Ghosn was banned from meeting with her husband while he was out on bail because she was seen as someone who might help his escape.

Earlier Jan. 7, Ghosn's former employer, Nissan Motor Co., said it was still pursuing legal action against him despite his escape from Japan to Lebanon.

The Japanese automaker said in a statement that Ghosn engaged in serious misconduct while leading the Nissan-Renault-Mitsubishi alliance.

The company will continue to take appropriate legal action to hold Ghosn accountable for the harm that his misconduct has caused to Nissan," it said without giving details.

Japan's chief government spokesman told reporters Tokyo has told Lebanon that Ghosn left the country illegally and was seeking cooperation in finding out what happened.

Japan and Lebanon do not have an extradition treaty.

Experts have said it would be difficult to bring Ghosn back to stand trial in Tokyo and Chief Cabinet Secretary Yoshihide Suga said the situation had to be handled very carefully.

The Foreign Ministry said the Japan's ambassador to Beirut planned to meet with Lebanese President Michel Aoun later in the day.

He managed to skip bail and leave the country despite heavy surveillance while he was staying at a home in Tokvo.

Japanese news reports Jan. 7 gave new details of that escape, saying he left his residence alone, met two men at a Tokyo hotel, and then took a bullet train to Osaka before boarding a private jet hidden inside a case for musical equipment.

Prosecutors are investigating why the cargo was not inspected before it was loaded, the broadcaster NHK and financial newspaper Nikkei said, citing unnamed sources.

The jet used, made by Canada's Bombadier, is designed to allow easy access between its passenger and cargo compartments.

The Nikkei report said dozens of people in various countries helped to plan his clandestine departure.

Nissan's statement was the first word from the company since Ghosn's flight the week before. The automaker and Japanese prosecutors allege Ghosn misstated his future compensation and diverted company assets for personal gain. He says he is innocent.

Ghosn has not appeared in public since arriving in Lebanon. He is expected to give his side of the story in a news conference planned for Jan. 8 in Beirut.

Earlier, he said the allegations against him were concocted by Nissan, Japanese authorities and others who wanted to block efforts toward a fuller merger between Nissan and its French alliance partner Renault SA.

Ghosn said in a statement last week that he wanted to escape "injustice." Critics of the Japanese judicial system say his case exemplifies its tendency to move too slowly and keep suspects in detention for too long.

Nissan said in its statement that an investigation is ongoing in France, and the U.S. Securities and Exchange Commission has found some wrongdoing.

Ghosn has not been charged with any crimes in France or the United States.

Japan's Justice Minister Masako Mori said Japan would tighten border control precautions to prevent a recurrence. She did not confirm reports that Ghosn left via the Kansai Airport in Osaka, hidden inside a musical equipment box as he was brought aboard a private jet and flown first to Turkey and then to Lebanon.

Mori told reporters Jan. 7 that all airports will be required to check all cargo and luggage, including items destined for private jets

She reiterated her defense of the justice system and denounced Ghosn's escape as an "unjustifiable" crime. She said

each nation's system has its own way of making arrests and granting bail.

The scandal over Ghosn's case has tarnished Nissan's image and created a leadership vacuum at a time when the automaker's profits and sales are tumbling. Ghosn's successor Hiroto Saikawa also resigned last year amid financial misconduct allegations related to questionable income.

"Nissan will continue to do the right thing by cooperating with judicial and regulatory authorities wherever necessary," the Yokohama-based company said.

Although Ghosn is unlikely to face trial in Japan, Greg Kelly, another Nissan former executive, is still facing charges of under-reporting Ghosn's future compensation. He says he is innocent.

Kelly, an American, who is out on bail, has not been charged with the breach of trust allegations Ghosn is also facing.

Nissan has also been charged as a corporate entity.

The company says it won't fight the charges and will pay the required fines.



Ex-Nissan CEO Carlos Ghosn escaped from Japan to Lebanon.

Tesla 'Autopilot' Crashes Bring Scrutiny to the Technology

involving Teslas that killed three people have increased scrutiny of the company's Autopilot driving system just months before CEO Elon Musk has planned to put fully self-driving cars on the streets.

On Dec. 29, 2019, a Tesla Model S sedan left a freeway in Gardena. California, at a high speed, ran a red light and struck a Honda Civic, killing two people inside, police said.

On the same day, a Tesla Model 3 hit a parked firetruck on an Indiana freeway, killing a passenger in the Tesla.

And on Dec. 7, 2019, yet another Model 3 struck a police cruiser on a Connecticut highway,

though no one was hurt.

DETROIT (AP) - Three crashes tions that the system does not prevent all vehicle crashes.

Even so, experts and safety advocates say a string of Tesla crashes raises serious questions about whether drivers have become too reliant on Tesla's technology and whether the company does enough to ensure that drivers keep paying attention. Some critics have said it's past time for NHTSA to stop investigating and to take action, such as forcing Tesla to make sure drivers pay attention when the system is being used.

NHTSA has started investigations into 13 Tesla crashes dating to at least 2016 in which the agency believes Autopilot was operating. The agency has yet to issue any regulations, though it is studying how it should evaluate similar "advanced driver assist" systems.

Tesla plans to use the same cameras and radar sensors, though with a more powerful computer, in its fully self-driving vehicles. Critics question whether those cars will be able to drive themselves safely without putting other motorists in danger.

Doubts about Tesla's Autopilot system have long persisted. In September, the National Transportation Safety Board, which investigates transportation accidents, issued a report saying that a design flaw in Autopilot and driver inattention combined to cause a Tesla Model S to slam into a firetruck parked along a Los Angeles-area freeway in January 2018. The board determined that the driver was overly reliant on the system and that Autopilot's design let him disengage from driving for too long. In addition to the deaths on Sunday night, three U.S. fatal crashes since 2016 - two in Florida and one in Silicon Valley - involved vehicles using Autopilot. David Friedman, vice president of advocacy for Consumer Reports and a former acting NHTSA administrator, said the agency should have declared Autopilot defective and sought a recall after a 2016 crash in Florida that killed a driver. Neither Tesla's system nor the driver had braked before the car went underneath a semi-trailer that had turned in front of the car. "We don't need any more people getting hurt for us to know that there is a problem and that Tesla and NHTSA have failed to address it "Friedman said In addition to NHTSA, states can regulate autonomous vehicles, though many have decided they want to encourage testing. In the 2016 crash, NHTSA

closed its investigation without seeking a recall. Friedman, who was not at NHTSA at the time, said the agency determined that the problem didn't happen frequently. But he said that argument has since been debunked.

Friedman said it's foreseeable some drivers will not pay attention to the road while using Autopilot, so the system is defective.

"The public is owed some explanation for the lack of action," he said. "Simply saying they're continuing to investigate - that line has worn out its usefulness and its credibility.'

In a statement, NHTSA said it relies on data to make decisions, and if it finds any vehicle poses an unreasonable safety risk, "the

Tesla Increased **Global Output** Helps Company

-DETROIT (AP) – Tesla's global deliveries rose more than 50 percent last year, meaning the company surpassed the low end of its sales goals for 2019.

The release stated that "in the fourth quarter, we achieved production of almost record 105,000 vehicles and record deliveries of approximately 112,000 vehicles. In 2019, we delivered approximately 367,500 vehicles, 50 percent more than the previous year and in line with our full year guidance.

"We continue to focus on expanding production in both the US as well as our newly launched facility in Shanghai. Despite breaking ground at Gigafactory Shanghai less than 12 months ago, we have already produced just under 1,000 customer salable cars and have begun deliveries. We have also demonstrated production run-rate capability of greater than 3,000 units per week, excluding local battery pack production which began in late December."

The announcement Jan. 3 pushed Tesla's shares up more than 4 percent to a record high of \$449.37.

The stock hit a record in the flast week of December in anticipation of the release of strong sales numbers.

The electric car maker delivered a record of about 112,000 vehicles in the fourth quarter and about 367,500 for the full vear.

Tesla, based in Palo Alto, Calif., had earlier projected deliveries of between 360,000 and 400.000 units worldwide.

The lower-cost Model 3 accounted for 83 percent of the company's fourth-quarter sales at 92,550. The higher priced Model S Sedan and Model X large SUV made up the rest.

The sales increase should bode well for Tesla's fourth-quarter and full-year earnings next month.

But the company issued a note of caution Jan. 3, saying that while sales figures are slightly conservative, they could vary by 0.5 percent or more when final numbers are out.

"Vehicle deliveries represent only one measure of the company's financial performance and should not be relied on as an indicator of guarterly financial results, which depend on a variety of factors" including cost of sales, foreign currency fluctuations and the mix of leased versus sold vehicles. Tesla said in its statement to the media and public.

In the third quarter, Tesla posted a surprising \$143 million profit, raising hopes that the company, which also makes solar panels and battery storage units, could finally be turning the corner to profitability. Tesla has posted mostly losses during its first decade as a publicly held company, and it lost \$1.1 billion during the first half of last year. Tesla's new factory in Shanghai, China, produced just under 1,000 cars for sale and deliveries have started in the world's largest car market, the company said in a prepared statement to the media and to the public. Tesla broke ground on the factory less than a year ago, and spokespeople for the company said that executives expect to produce more than 3,000 vehicles per week there at the factory once everything is up and running. Wedbush analyst Daniel Ives, in a note sent to financial investors Jan. 3, wrote that the recent rally in Tesla's share price was driven in part by short-sellers covering their positions as the stock rose.

The special crash investigation unit of the National Highway Traffic Safety Administration is looking into the California crash. The agency hasn't decided whether its special-crash unit will review the crash that occurred Sunday near Terre Haute, Indiana. In both cases, authorities have yet to determine whether Tesla's Autopilot system was being used.

NHTSA also is investigating the Connecticut crash, in which the driver told police that the car was operating on Autopilot, a Tesla system designed to keep a car in its lane and a safe distance from other vehicles. Autopilot also can change lanes on its own.

Tesla has said repeatedly that its Autopilot system is designed only to assist drivers, who must still pay attention and be ready to intervene at all times.

The company contends that Teslas with Autopilot are safer than vehicles without it, but cau-

"At some point, the question becomes: How much evidence is needed to determine that the way this technology is being used is unsafe?" said Jason Levine, executive director of the nonprofit Center for Auto Safety in Washington. "In this instance, hopefully these tragedies will not be in vain and will lead to something more than an investigation by NHTSA "

Levine and others have called on the agency to require Tesla to limit the use of Autopilot to mainly four-lane divided highways without cross traffic. They also want Tesla to install a better system to monitor drivers to make sure they're paying attention all the time. Tesla's system requires drivers to place their hands on the steering wheel. But federal investigators have found that this system lets drivers zone out for too long.

agency will not hesitate to take action." NHTSA also has said it doesn't want to stand in the way of technology given its life-saving potential.

Raj Rajkumar, an electrical and computer engineering professor at Carnegie Mellon University, said it's likely that the Tesla in Sunday's California crash was operating on Autopilot, which has become confused in the past by lane lines. He speculated that the lane line was more visible for the exit ramp, so the car took the ramp because it looked like a freeway lane. He also suggested that the driver might not have been paying close attention.

"No normal human being would not slow down in an exit lane," he said.

In April, Musk said he expected to start converting the company's electric cars to fully self-driving vehicles in 2020 to create a network of robotic taxis to compete against Uber and other ridehailing services.







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Impact 100 Group Seeking New Grant Applicants

The women of Impact100 Metro Detroit at their 5th Annual BIG REVEAL event on Jan. 8 at the Community House in Birmingham, revealed that their members have donated \$200,000 to be awarded to local nonprofits in Metro Detroit. For the first time in their five year history, Impact 100 Metro Detroit will award TWO \$100,000 grants to local nonprofits from Metro Detroit, said group spokeswoman Tricia Skapyak.

Grant applications will be accepted from Jan 10 - Feb 7, Skapyak said. Local nonprofits in Metro Detroit (Macomb, Oakland and Wayne counties) can learn more about how to apply for the Impact 100 Metro Detroit Grant at https://impact100metrodetroit.org/apply-for-a-grant/.

Grant proposals are fully vetted by members and include financial reviews and site visits. The two grants will be awarded at their Annual Awards Luncheon on May 19, 2020 at the Detroit Yacht Club.

During the event each nonprofit finalist will present their transformational grant proposal. Voting by Impact100 Metro Detroit chapter members will occur immediately after the presentations. TWO \$100,000 Grant Award Winners will be announced at the event.

Each year Impact100 Metro Detroit awards a high-impact grant to a local charity that is headquartered in and serves Macomb, Oakland, and/or Wayne County. Each Impact100 member donates \$1,000 toward a collective grant of \$100,000, which is awarded to the nonprofit finalist who receives the most member votes. This year the organization, with 200 members, will award TWO \$100,000 grants.

"The women of Impact100 Metro Detroit are thrilled to once again be fueling transformation in our community through local nonprofit heroes at not one, but two of our five nonprofit finalists," said Amy Bouque, president, Impact100 Metro Detroit. "We are a diverse group of women who are passionate about caring for our hometown heroes where we live, work and play. Together we will multiply the good we do in this community and our grant process helps ensure that our money will go on to have a positive impact on many lives.

Across the country, Impact 100 organizations empower women to join together to have greater impact through philanthropy. Impact100 Metro Detroit, the first such group in Michigan, has experienced growth each year and will have given away over \$600,000. Their mission is to fuel transformation in Metro



Detroit by uniting women to support local nonprofit heroes and award high impact grants.

U.S. EPA Collects Contaminated Water Samples

MADISON HEIGHTS, Mich (AP) – The U.S. Environmental Protection Agency collected roughly 11,000 gallons of water from a contaminated industrial site in suburban Detroit, officials said.

Groundwater and soil samples were taken Jan. 3 from Electro-Plating Services in Madison Heights, *The Royal Oak Tribune* reported.

High levels of multiple contaminants were found in soil and groundwater at the site when an inspection was launched after brightly-colored ooze was seen last month seeping through a concrete barrier along Interstate 696.