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DECEMBER 30, 2019

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2019 Was a Busy Year for Automakers and UAW

Strikes, Merger, Technology and Union Scandals Dominate the Headlines

by Jim Stickford

VOL. 87 NO. 51

2019 is coming to a close and the auto industry saw some of the biggest changes in years.

GM had its first major labor strike since 1970... FCA first tried to merge with Renault. And, when that was unsuccessful, the company worked out a merger with Groupe PSA (Peugeot)... Ford continued down a path that will radically transform the automaker... And, the UAW saw several leaders resign in the wake of an investigation where senior members were convicted of charges relating to corruption.

2019 also saw the loss of automotive legend Lee Iacocca.

The GM strike was lengthy and costly. According to the Associated Press, the first two weeks of the strike alone cost GM \$1 bil-

The contentious 40-day strike that started in September - crippled General Motors' U.S. production – came to an end on Oct. 25 as workers approved a new contract with the company.

Under the new contract, temporary workers can get permanent jobs after two or three years depending on their start dates, but they start at the bottom of a pay scale, so people doing the same work can end up at different pay rates.

The deal also includes a mix of

payments and an \$11,000 signing bonus. But it allows GM to close three U.S. factories, a point of contention for many of the 42.8 percent of workers who voted

The five-week walkout was big enough to help push down September U.S. durable goods orders by 1.1 percent, the largest drop in four months.

"GM traded the ability to close the three factories in Lordstown, Ohio; Warren; and near Baltimore for higher labor costs,"David Kudla, chief investment strategist for Mainstay Capital Management of Grand Blanc, wrote in a note to investors.

The FCA Peugeot merger caught the public by surprise. Though FCA first announced a potential merger with French automaker Renault in May of 2019, the deal quickly fell apart due to restrictions placed on the deal by the French government, a major Renault stockholder.

But the FCA-Peugeot merger happened quickly. AP reported that the two companies announced a merger in October that would create the world's fourth-largest auto company worth \$50 billion and producing 8.7 million cars a year - just behind Toyota, Volkswagen and the Renault-Nissan alliance.

While the deal has been touted

maker PSA is expected to have the upper hand, with its cost-cutting CEO Carlos Tavares in charge and PSA controlling the new company's board.

AP reported that Fiat Chrysler chairman John Elkann, whose

wage increases and lump-sum as a 50-50 merger, French car- family founded Italian carmaker Fiat in 1899, is expected to remain chairman of the merged company. The role of Fiat Chrysler CEO Mike Manley remains unclear.

Fiat Chrysler has long been looking for an industrial partner

to shoulder investment costs as the industry faces a transition to electrified powertrains and autonomous driving.

Ford's big news for the year was the launch of its restructuring

CONTINUED ON PAGE 4



This 2019 Peugeot 508 SW GT sedan could now become a part of Chrysler's portfolio in North America.

FCA-Peugeot Merger a Sign of the Future

Now that FCA and Groupe PSA (Peugeot) have officially agreed to merge, the question becomes, "what's next?"

Automotive analyst John McElroy of Autoline, said the move by the two automakers to merge makes sense in an environment where radical change is the order of the day.

"Chrysler is now part of an automaker that is larger than Ford or GM," McElroy said. "That's something new. The merger of FCA and Peugeot creates the fourth largest automaker in terms of sales volume, the third largest in terms of revenue. The two companies signed a memorandum of understanding, which says they agree to the merger in broad details. Now comes the hard part, working out all the details of how the new

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Chevrolet Effort Supports Veterans Charity

As 2019 comes to a close, Chevrolet is helping U.S. veter-

Chevrolet presented \$50,000 to Operation Homefront on-field this month at the 120th Army-Navy Game to support the nonprofit's Critical Financial Assistance program, which provides

aid to U.S. military families and veterans.

This is the 10th consecutive year Chevy is serving as the official vehicle of the Army-Navy Game presented by USAA, and its third year as a partner to Operation Homefront, said GM spokesman Kyle Suba.

"Chevy's contribution to Operation Homefront will help ease financial stress for military families this holiday season," said Manny Sosa, Chevrolet's Philadelphia zone manager. "Helping our military families and veterans in their

CONTINUED ON PAGE 4



Operation Homefront's Margi Kirst (left) gets a \$50,000 check by Chevrolet Zone Manager Manny Sosa.

Ford and Microsoft Studying **Ways to Help Traffic Flow**

The advent of technology such as wi-fi, smartphones and the Internet, has made it possible for modern automobiles to be platforms of connectivity.

'Our connected world has helped billions of people improve their lives in numerous ways, such as offering instant access to information, enhancing health care, providing new ways to watch movies or experience music, and equipping our homes with smart speakers," said Dr. Ken Washington, Ford Motor Company's chief technology offi-

Yet with all these advancements, Washington said, many people find themselves stuck in more traffic, not less. The navigation technology that anyone can use and that helps people more efficiently get places simply does not have the power to coordinate traffic on a mass scale.

But could it? That's the big question, Washington said. And Ford is looking for the answer. Through a joint research pilot, Ford and Microsoft scientists have simulated thousands of vehicles and their impact on congestion by leveraging powerful quantum-inspired technology.

While we're still in the early stages of quantum computing development, encouraging progress has been made that can help us take what we've learned in the field and start to apply it to problems we want to solve today, while scaling to more complex problems tomorrow," Washington said.



Julie Love

"Quantum computing has the potential to transform the auto industry and the way we move. To do that, we need to have a deep understanding of the problems that companies like Ford want to solve, which is why collaborations like these are so important," said Julie Love, senior director at Microsoft who is leading their quantum computing business development.

To that end, Ford researchers teamed up in 2018 to develop new quantum approaches running on classical computers already available to help reduce Seattle's traffic congestion, Love

During rush hour driving, numerous drivers request the shortest possible routes at the same time, but current navigation services handle these re-

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Ford Hybrid Lets Drivers Escape Gas Prices

With the holidays upon us, a lot of families are driving long distances and burning lots of gas to visit relatives.

But the drive over the river and through the woods to grandma's house this holiday season might cost you less if you're behind the wheel of the new 2020 Ford Escape Hybrid, said Hau Thai-Tang, Ford chief product development and purchasing offi-

With a best-in-class combined EPA-estimated fuel economy rating of 41 mpg, the redesigned front-wheel-drive small SUV also tops its class while driving around town, with an EPA-estimated 44 mpg city. Thai-Tang said. The 2020 Escape Hybrid Titanium with front-wheel drive has an EPA-estimated rating of $37\,$ mpg on the highway.

With the average American driving 29 miles a day, making that trip in the new Escape Hybrid Titanium means barely using a gallon of fuel per trip – and fewer gas station stops along the journey.

This makes the new Ford Escape Hybrid easier on the wallet while helping to conserve fuel, said Thai-Tang.

"This all-new Escape Hybrid is

our best one yet, as it answers tomers can see their potential futhe call from our customers who loved the original Escape Hybrid but want better fuel efficiency without compromising interior space," said Thai-Tang. "Plus, with driving range like no Escape before, we're giving our customers a vehicle truly capable of letting them focus on living their lives while worrying less about stopping for gas.'

Each model in the new Escape lineup, whether hybrid-powered or equipped with EcoBoost technology, has an EPA-estimated range of at least 400 miles per tank, said Ford spokeswoman Michaela Johndrow.

Front-wheel-drive Escape Hybrid's outstanding fuel efficiency is bolstered by an EPA-estimated 582-mile driving range per tank more than enough for a one-way trip from Sacramento to San Diego

Outfitted with available allwheel drive, Escape Hybrid has an EPA-estimated 43 mpg city and 40 mpg combined with an EPA-estimated 568 miles of range. Like the front-wheel-drive Escape, the all-wheel-drive model has an EPA-estimated 37 mpg on the highway.

2020 Ford Escape Hybrid cus-

el savings come to life with a new EV coach feature included in the 12.3-inch digital instrument cluster, which is standard on SE Sport and Titanium trim levels, Johndrow said.

EV coach lets drivers know when they're using electric or hybrid power - allowing them to adjust their driving style to meet their power needs. In addition, eco mode, one of five standard selectable drive modes, helps conserve fuel when driving range is your priority.

There's also plenty of room for passengers and cargo, Johndrow

The new Escape Hybrid packages its liquid-cooled lithium-ion battery below the second-row seats rather than occupying a significant portion of the cargo



2020 Escape Hybrid offers an EPA-estimated rating of 44 city mpg.

The briefcase-shaped battery in the standard hybrid measures approximately one-third the size of the battery in the first Escape Hybrid, which was the world's

first-ever hybrid SUV when it debuted in 2004, Thai-Tang said.

The new Ford Escape, built at Louisville Assembly Plant, is on

Ford Shows Off New Shelby GT350 Mustang

It arrived just in time for holiday season shopping.

For 2020, Ford is producing a limited run of Heritage Edition fastbacks finished in classic Wimbledon White with Guardsman Blue side and over-the-top race stripes in a nod to the 1965 GT350 competition model developed by Carroll Shelby.

The United States has sported blue and white as its assigned international racing colors since the 1950s, said Ford spokesman Jivan Cadiz. Additional Heritage Edition cues include front and rear exterior badges finished in Guardsman Blue and a unique dash badge inside. GT350R models will feature all-black seats with red accent stitching.

The history between Ford and Carroll Shelby goes back a long way, Cadiz said. A year before Ken Miles set lap records at Le Mans in Ford's famed GT40, the noted race car driver and engineer made waves on the track in the first 1965 Mustang Shelby GT350 fastback coupe. Ford is celebrating this legacy 55 years later with a new limited-edition 2020 Mustang Shelby GT350 Heritage Edition Package.

Miles made Shelby GT350 an instant legend when he drove it to victory at Green Valley Raceway in Texas on Feb. 14, 1965. Since then, the Shelby GT350 has been a Mustang icon.

"Looking back on it, what Ford and Carroll Shelby created back in the mid-'60s was so important to Mustang," said Jim Owens, Ford Mustang marketing man-



The new Ford Shelby GT350 has echoes of the vehicle's classic past.

With their authentic exterior livery, unique appointments and performance Ken could have only dreamed of, the Mustang Shelby GT350 and GT350R Heritage Edition Package vehicles are a meaningful tribute to the legacy of the Shelby brand.'

The throwback Heritage Edition Package comes a year after Shelby GT350 received a host of upgrades, Owens said. These include revised front chassis geometry for improved steering feel, plus revised antilock braking and MagneRide tuning for optimized aerodynamic components resulting in improved ride, stability and handling for both road and track, said Owens.

Shelby GT350R gets a redesigned high-trail steering knuckle leveraged from the new Shelby GT500 for 2020. It also features a new steering rack and recalibrated electric power steering control.

The 2020 Mustang Shelby GT350 has a starting MSRP of \$60,440, plus taxes, title, delivery and license fees; GT350R has a starting MSRP of \$73,435, plus taxes, title, delivery and license

Police Emphasize Sober Driving For New Year

The holidays are fun, busy times to celebrate with family and friends. It is also one of the deadliest times of year for drunkand drugged-driving fatalities. This is why law enforcement officers, in partnership with the Office of Highway Safety Planning (OHSP), are encouraging safe, sober driving this holiday season, said OHSP spokeswoman Kari Arend.

The national Drive Sober or Get Pulled Over enforcement campaign runs from Dec.18 -Jan. 1. Increased enforcement, along with statewide messages about the dangers of impaired driving, aim to drastically reduce traffic crashes, fatalities, and injuries on the roadways.

"The holidays should be an enjoyable time to spend with loved ones," said Michael L. Prince, OHSP director. "It's important for people to drive sober this holiday season - and every day. If you're impaired by any substance, you shouldn't drive.'

To reinforce this message, OHSP has aired a new :30 ad titled "Toe Tags" emphasizing the dangers of drugged driving. The can be viewed youtube.com/watch?v=HezEPwoKpxk.





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Ford Recalls Sedans for Brake Issues

is recalling more than 600,000 midsize sedans in the U.S. to fix a problem with the brakes that can increase stopping distance and possibly cause a crash.

The recall covers certain 2006 through 2010 Ford Fusion, Mercury Milan and Lincoln MKZ cars. Ford says a valve inside the hydraulic brake control unit can stick open, resulting in extended ing the week of Jan 13.

DEARBORN, Mich. (AP) – Ford brake pedal travel. The company says there have been 15 reports of crashes related to the problem. Two people were hurt.

> The cars were built at a plant in Mexico from Feb. 22, 2006 to July 15, 2009. Dealers will inspect the control unit for signs of a stuck valve and replace it if necessary.

> Owners will be notified start-

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DECEMBER 30, 2019 DETROIT AUTOMOTIVE MANUFACTURING AND TECHNOLOGY INDUSTRIES

Ram's 1500 Engine Earns Highest Marks for its Design

Consistent excellence is some- ing capacity and payload. thing all automakers strive for, and FCA has managed to achieve that goal with its Ram V6 engine, said Micky Bly, head of FC's Global Propulsion Systems.

For the second consecutive year, Bly said, the fuel-saving 3.6liter Pentastar V6 with eTorque in the Ram 1500 pickup has been named to the list of Wards 10 Best Engines and Propulsion Sys-

The Pentastar V6 with eTorque electrification, rated at 305 horsepower and 260 lb.-ft. of torque and paired with the TorqueFlite 850RE eight-speed automatic transmission, is the standard powertrain in the popular Ram 1500.

"The Pentastar V6 with eTorque is a great example of giving consumers electrified powertrain technology that seamlessly works with their daily lives," said Bly. "The standard eTorque system delivers better fuel economy without compromising power or capability.'

The eTorque mild-hybrid system replaces the traditional alternator on the engine with a beltdriven motor generator unit that performs several functions. The motor generator unit works with a 48-volt battery pack to enable improved fuel efficiency, drivability, performance and value, said Bly. Six different modes of operation include quick, seamless stop-start functions and energy recovery with brake regeneration used to support increases in tow-

eTorque, said Bly, delivers nearly unnoticeable engine restarts by sending up to 90 lb.-ft. of supplemental torque to the engine crankshaft during stop-start maneuvers. Torque to the wheels travels within 400 milliseconds, more than twice as fast as many starter-motor-actuated engine stop-start systems.

There are lots of drivers," said Tom Murphy, WardsAuto managing editor, "who dislike stop-start systems because the engine may turn back on with a shudder, or they might think the engine won't restart at all. But the Ram 1500's 48-volt eTorque system is so smooth, quiet and consistently reliable that truck owners will appreciate the technology - and the money they can save at the

The 2020 Ram 1500 with the V6 and 3.6-liter Pentastar eTorque is rated at 20 (city)/25 (highway)/22 (combined) miles per gallon in rear-wheel drive and 19 (city)/24 (highway)/21 (combined) mpg in four-wheeldrive models by the U.S. EPA. The city mpg rating is an 18 percent improvement and the combined mpg rating a 10 percent improvement from the previousgeneration model.

The 3.6-liter Pentastar V6 with eTorque is also available in the 2020 Jeep Wrangler Sahara four-

the engine running, eTorque's motor generator unit feeds 48-volt current to a 430

watt-hour lithium-ion nickel manganese cobalt (NMC)-graphite battery. The battery pack includes a 3-kilowatt DC-to-DC converter to maintain the battery's state of charge and convert 48 volts to 12 volts to power the Ram 1500's accessories and charge its conventional 12-volt lead-acid battery.

In addition to spinning the engine for restarts to help launch the vehicle, eTorque also recaptures energy during deceleration and braking to charge the battery pack. eTorque also enhances the driving experience, said Bly, by adding torque to the crankshaft during gear changes to minimize noise, vibration and harshness (NVH).

In the 26-year history of Wards 10 Best Engines – renamed Wards 10 Best Engines and Propulsion Systems for 2020

- nine engines/systems produced by FCA US and its predecessor companies have accounted for 20 winners, including (engine/latest vehicles tested/years listed) in reverse chronological order:

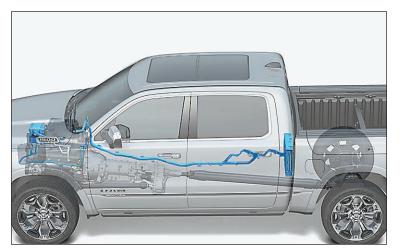
- 3.6-liter Pentastar Upgrade with eTorque (Ram 1500): 2019-2020.
- 3.6-liter Pentastar V6 hybrid (Chrysler Pacifica): 2017-
- 3.0-liter EcoDiesel V6 (Ram 1500): 2014-2016.
- 6.2-liter Hellcat super-charged Hemi V8 (Dodge Challenger SRT Hellcat):
- 83-kW electric motor (Fiat

500e): 2014.

- 3.6-liter Pentastar V6 (Dodge Avenger, Chrysler 300S, Ram 1500): 2011-2013.
- 5.7-liter Hemi V8 (Dodge Charger R/T, Chrysler 300C,

Dodge Challenger R/T, Ram 1500): 2003-2007.

- 5.9-liter Cummins turbodiesel I-6 (Ram HD): 2004.
- 4.7-liter SOHC V8 (Jeep Grand Cherokee): 1999.



The 2020 Ram 1500 – eTorque has an award-winning design.

Cadillac Offers Industry First New OLED Visual Technology

technology is making its way to

The 2021 Cadillac Escalade will offer the first curved OLED instrument cluster screen in the industry with more than 38 inches diagonal of total display.

Featuring twice the pixel density of a 4K television, this technology enables bold imagery, perfect blacks and the largest color range available in the automotive industry. This allows the driver to see important electronically created dials such as the speedometer more easily.

According to Web site CNET, "all modern televisions use one of two basic display technologies: LCD and OLED. The vast majority are LCD, and only some more recent TVs from LG and Sony are OLED. While LCD may be the norm, OLED TVs offer better picture quality overall, though at a higher price.'

CNET further stated that OLED stands for organic light-emitting diode. "Each pixel in an OLED display," it says, "is made of a material that glows when you jab it with electricity. Kind of like the heating elements in a toaster, but with less heat and better resolution. This effect is called electroluminescence, which is one of those delightful words that is big, but actually makes sense: 'electro' for electricity, 'lumin' for light and 'escence' for, well, basically 'essence.'

"What's the 'organic' part? The specific electroluminescent materials used in OLED displays are organic compounds, which means they contain carbon plus

From television to SUVs, OLED some other ingredients. Each color requires a different organic compound."

CNET further stated that "each tiny OLED pixel in the screen creates light depending on how much electric current you send it. Lots of current, lots of light. No current, no light. And that's one key to OLED's excellent picture quality.

"OLED TV marketing often 'claims 'infinite' contrast ratios, and while that might sound like typical hyperbole, it's one of the extremely rare instances where such claims are actually true. Since OLED can produce a perfect black, emitting no light whatsoever, its contrast ratio (expressed as the brightest white divided by the darkest black) is technically infinite. And contrast ratio is arguably the most important aspect of picture quality.

"From the highway to the big screen, the Escalade has been embraced by drivers and fans around the world," said Cadillac President Steve Carlisle. "We're excited to introduce the 2021 Escalade during Oscars week in February."

Escalade continues to reign number one in the segment, said Carlisle. Through the third quarter of 2019, Cadillac has sold more than 30,000 Escalades globally and leads the full-size luxury SUV segment's U.S. retail market share at about 25 percent, according to JD Power PIN estimates.

The 2021 Escalade will be unveiled Feb. 4, 2020, in Los Ange-



Five new officers have been elected to lead the North American Car, Utility and Truck of the Year Awards (NACTOY) jury over the next two years, said NACTOY spokeswoman Rachel Felice.

Now in its 26th year, NACTOY is expanding its voluntary leadership team from three officers to five as part of a multi-pronged effort designed to keep pace with the increased needs of the organization, Felice said.

The following officers were elected by a 50-person group of automotive journalists across North America who also serve as NACTOY jurors.

The incoming officers, who

will serve from 2020 to 2022, are Gary Witzenburg, president; Jack Nerad, v.p.; Gary Vasilash, secretary; Jeff Gilbert, treasurer; and Karl Brauer, membership chair, Felice said.

"I am pleased with the progress this organization has made over the past two years and am confident that NACTOY will continue to thrive and grow under the stewardship of these talented, dedicated incoming officers," said current NACTOY president Lauren Fix. "All of the new officers are highly respected automotive journalists and are capable of leading NACTOY into the future."



FCA-Peugeot Deal's a Taste of the Future

CONTINUED FROM PAGE 1

company will operate. That should take a year or two."

What's important for people in Michigan to remember is that the Chrysler portion of FCA is the "golden goose" for that company.

Chrysler makes all the money in FCA," McElroy said. "And we need to remember that the current Peugeot management led by Carlos Tavares was able to buy and turn around the Opel brand without any major plant closings. That was something GM wasn't able to do for two decades."

Peugeot doesn't have a presence in North America, McElroy said. That's where the Chrysler brands come in. They are profitable in a market where all OEMs want to be.

"So I don't expect there to be any plant closings here," McElroy said. "Chrysler is the golden goose and the Jeep brand has the most potential of all. It's becoming a true world brand. I think there's even hope for the actual Chrysler brand. It only has two vehicles in its portfolio. The 300 sedan and the Pacifica minivan. But Peugeot has some nice sedans that could be rebadged over here as Chryslers.

McElroy said that people shouldn't dismiss the sedan market right away.

Granted that the market share of sedans has shrunk from 50 percent to 25 percent in terms of vehicle sales in less than a decade," McElroy said. "But that still leaves sedans with a quarter of the North American auto market. That's still millions of vehicles every year. And for Peugeot, anything they sell in the North American market is a plus for the Peugeot brand. So rebadging a sedan with the Chrysler name is a quick way to get into the U.S."

The merger also makes sense from a financial standpoint, McElroy said. Peugeot has cash on hand and the two companies joining forces really does create economies of scale for the development of electric and autonomous technologies.

EVs and AVs appear to be the future, and no car company wants to be left behind, McElroy said. The problem is that developing this technology is a longterm and costly investment.

get more popular," McElroy said. "And FCA hasn't invested a lot in developing an EV, so this is good. As to AV technology, that will take the industry as a whole years and years to develop. It's funny, AV tech seems to be developing along the lines of the Silicon Valley business model. You lose money and lose money until suddenly you start making money. Things don't work until they do, and huge profits follow."

Merging with Peugeot also helps FCA in the transportation platform development game, McElroy said. Developing a ride service is a gamble. Companies like Uber still lose money, but the ride service platforms are growing quickly around the world, and no OEM wants to miss out on that profit potential.

Now FCA is part of a company with a "war chest" that can be used to develop AV tech and ride sharing service platforms, McElroy said. That's a huge reason for FCA to enter into a merger. Peugeot now has a pre-existing network that operates well in the profitable North American mar-

"I think EVs are only going to ket, which benefits them and gives them a presence where they didn't have one before.

The main thing to remember is that Chrysler is the golden goose and it's paramount that the new company doesn't screw that up," McElroy said. "Tavares will end up running the company as CEO, but FCA gets to pick the chairman of the board. The Agnelli family will own the most shares of the new company."

Another important thing to remember is that the new company will be a truly international company with a presence in all the major markets. There will be influences from the United States, Italy and France.

"The North American portion of the new company will be the most profitable," McElroy said. "But there will be a huge European influence. I will say that at some point the new company will have to fight for a larger presence in the Chinese market. That's one place where the Jeep brand hasn't done well. The new company will have to move the needle in China when it comes to brands like Jeep."

Hurray For Hollywood



Chevrolet is celebrating the Suburban's long history as both a popular vehicle with the public and with Hollywood. This 1949 Suburban appeared in the film "The Day the Earth Stood Still." The movie came out in 1951. Chevrolet first started making the Suburban in the 1930s, and Hollywood immediately began putting the vehicle before the camera. In the last 80 years the Suburban has appeared in a host of films and television shows, and GM officials say that the vehicles will continue to be in films in the future.

Ford, Microsoft Studying How to Fix Traffic

CONTINUED FROM PAGE 1

quests in a vacuum.

They do not take into consideration the number of similar incoming requests, including areas where other drivers are all planning to share the same route segments, when delivering results.

Just imagine a family trying to get ready for work and school in the morning with similar departure times, Love said. If an individual day planning app gave each person the quickest way to get going, there likely would be a bottle neck at the bathroom. Now scale that to a family of thousands.

Instead of this type of individualized routing, what if Ford could develop a more balanced routing system – one that could consider all the various route requests from drivers and optimize route suggestions so that the number of vehicles sharing the same roads is minimized?

That sounds great - and could potentially save everyone time, not to mention aggravation – but one major roadblock towards balanced routing is the fact that it would require extensive computational resources, Washing-

Simply put, it's not feasible to have traditional computers find the optimal solution from a huge number of possible route assignments in a timely manner. That's

where quantum computing can even reduced pollution. help. Essentially, existing digital computers translate information into either a 1 or a 0, otherwise known as a bit.

But in a quantum computer, information can be processed by a quantum bit (or a qubit) that can simultaneously exist in two different states before it gets measured.

Upon measurement, however, either a 1 or a 0 appears randomly and the probability for each is governed by a set of rules called quantum mechanics.

This ultimately enables a quantum computer to process information with a faster speed. Attempts to simulate some specific features of a quantum computer on non-quantum hardware have led to quantum-inspired technology – powerful algorithms that mimic certain quantum behaviors and run on specialized conventional hardware, Washington

That enables organizations to start realizing some benefits before fully-scaled quantum hardware becomes available.

With the ability to process vast amounts of data that's not possible today, it's easier to imagine how quantum computing has the potential to deliver balanced routing to drivers, which could create a series of cascading benefits: smoother flow of traffic, more efficient commutes, and

"By taking what we've learned about quantum computing and bringing it to hardware that's already available, we don't have to wait until quantum computers are deployed on a wide scale to take advantage of the technology," Love said. "Using world-class quantum algorithms customized for specific problems, we can bring measurable improvements and drive change that can impact people's lives.'

Working with Microsoft, Ford tested several different possibilities, including a scenario involving as many as 5,000 vehicles each with 10 different route choices available to them - simultaneously requesting routes across Metro Seattle, Love said.

In 20 seconds, balanced routing suggestions were delivered to the vehicles that resulted in a 73 percent improvement in total congestion when compared to 'selfish" routing.

The average commuting time, meanwhile, was also reduced by 8 percent – an annual reduction of more than 55,000 hours saved in congestion across this simulated fleet.

"These results are promising, so now we're expanding our partnership with Microsoft to further improve the algorithm and understand its effectiveness in more real-world scenarios.' Washington said.

Strikes, Mergers, New Tech **Dominate the News in 2019**

CONTINUED FROM PAGE 1

plan. On May 25, the company revealed details of its long-awaited restructuring plan as it prepared for a future of electric and autonomous vehicles by parting ways with 7,000 white-collar workers worldwide, about 10 percent of its global salaried workforce.

AP reported that the major revamp, which had been under way since last year, will save about \$600 million per year by eliminating bureaucracy and increasing the number of workers reporting to each manager.

In the U.S., about 2,300 jobs will be cut through buyouts and layoffs, Ford said. About 1,500 have left voluntarily or with buyouts, while another 300 have already been laid off. About 500 workers will be let go starting this week, largely in and around the company's headquarters in Dearborn. All will get severance packages.

The layoffs are across a broad swath of the company including engineering, product development, marketing, information technology, logistics, finance and other areas, AP reported. But the company also said it is hiring in some critical areas, including those developing software and dealing with self-driving and electric vehicles.

A strike at GM wasn't the only big news for the UAW in 2019. The union replaced its auditing firm, added four internal auditors and hired a big accounting firm to study its financial controls in an effort to prevent a re-

peat of the embezzlement and bribery discovered in a federal probe of the union.

The moves announced Dec. 2 by Secretary-Treasurer Ray Curry came after November's resignation of President Gary Jones, who has been implicated in the scandal.

Several other union officials have been charged or implicated in the probe, which embarrassed union leadership and angered many of its 400,000 members when it became public starting in

Curry said the reforms will put checks and balances in place to prevent financial misconduct.

Auto legend Lee Iacocca died in his California home on July 2. The AP obituary called Iacocca "the auto executive and master pitchman who put the Mustang in Ford's lineup in the 1960s and became a corporate folk hero when he resurrected Chrysler 20 years later, has died in Bel Air, California. He was 94.

"In 1979, Chrysler was floundering in \$5 billion of debt. It had a bloated manufacturing system that was turning out gas-guzzlers that the public didn't want.

"When the banks turned him down, Iacocca and the United Auto Workers union helped persuade the government to approve \$1.5 billion in loan guarantees that kept the No. 3 domestic automaker afloat.'

Bud Liebler, who worked for Chrysler public relations during lacocca's reign said the executive was "the last of an era of brash, charismatic executives who could produce results.

Chevrolet Program Aids U.S. Veterans Returning Home

CONTINUED FROM PAGE 1

everyday lives is a meaningful way to continue our century-long history of military support."

The contribution, presented by Sosa on behalf of Chevy, will help Operation Homefront fund financial grants for rent and mortgage, home and auto repair, food assistance, utilities and more, Suba said.

Since 2011, Operation Homefront has provided more than \$27 million in critical financial assistance. In 2018, Chevy provided Operation Homefront with a fleet of seven Silverado pickups to support six of the organization's regional offices, along with its headquarters in San Antonio.

Collectively, the fleet has accumulated more than 40,000 miles helping military families by distributing backpacks for children, holiday meals and toys, and baby supplies, in addition to supporting key programs throughout the year.

"We are honored to be a part of the Chevy Cares program again this year," said Margi Kirst, chief development officer for Operation Homefront. "We thank Chevrolet, its dealers and customers for their generous support - including the fleet of Chevy Silverado trucks that literally 'drives' our mission of building strong, stable and secure military families across America."

Military support is a key pillar of the community-focused Chevy Cares platform, which helps honor active service members, veterans and their families, Suba said.

Through this initiative, Chevy partners with several organizations, including Operation Homefront, Wreaths Across America, the U.S. Chamber of Commerce Foundation's Hiring Our Heroes Program and more. General Motors and its family of brands

have supported the U.S. military for more than 100 years and are proud to give back to those who have given so much for their country, said Suba.

Founded in 2002, Operation Homefront is a national nonprofit organization whose mission is to build strong, stable, and secure military families so that they can thrive - not simply struggle to get by - in the communities they have worked so hard to protect, Suba said.

Recognized for superior performance by leading independent charity oversight groups, 92 percent of Operation Homefront expenditures go directly to programs that support tens of thousands of military families each year. Suba said. Operation Homefront provides critical financial assistance, transitional and permanent housing and family support services to prevent shortterm needs from turning into chronic, long-term struggles.

NASCAR Legend Dies at Age 88

Robert Glenn "Junior" Johnson, the moonshine runner turned NASCAR driver described as "The Last American Hero" by author Tom Wolfe in a 1965 article for Esquire, died Dec. 20. He

NASCAR announced the death of Johnson, the winner of 50 races as a driver and 132 as an owner. He was a member of the inaugural class inducted into the NASCAR Hall of Fame in 2010.

"From his early days running moonshine through the end of his life, Junior wholly embodied the NASCAR spirit," NASCAR Chairman Jim France said in a statement. "He was an inaugural NASCAR Hall of Famer, a nod to an extraordinary career as both a driver and team owner."

Ford's new Super Duty Chassis is designed to handle horsepower.

Ford's Super Duty Chassis Cabs Ready to Go to Work

per Duty chassis cabs is built 65.6 percent total share of the even more capable, powerful, and work-ready, said Nathan Oscarson, Ford's commercial truck marketing manager.

The new lineup features an available new 7.3-liter V8, new 10-speed TorqShift transmission, available third-generation 6.7liter Power Stroke V8 diesel engine and a 6.2-liter gas V8, "all offered up to give customers the power of choice when the toughest jobs in the harshest conditions require maximum performance," said Oscarson.

The new available 7.3-liter V8 is the biggest displacement gas engine in the class, he said, and delivers dyno-certified horsepower at 3,900 rpm and best-in-class 468 ft.-lbs. of torque at 3,900 rpm, all in a compact, versatile engine designed with commercial durability in mind.

We don't operate in a vacuum in Ford commercial trucks, we talk to the customers, dealers and upfitters who know how hard our trucks are worked.' said Oscarson. "That kind of realworld feedback helps us engineer the level of commercial trucks that the industry demands.

Maximum grunt comes from the available 6.7-liter Power Stroke V8 offering dyno-certified 330 horsepower at 2,600 rpm and 825 ft.-lbs. of torque at just 1,600 rpm - and improvement of 75 ft.lbs. versus the previous model

A new heavy-duty 10-speed TorqShift automatic transmission is standard across all engine offerings with available live drive power takeoff. This new 10-bolt power takeoff provision is capable of a best-in-class maximum 300 ft.-lbs. of stationary torque and comes standard on dieselequipped models, Oscarson said.

"From the 6.2 V8 to the 7.3L V8 to the heavy duty 10-speed, these powertrains are always in the sweet spot of the power band for maximum efficiency and capability in towing and hauling," said Greg Stout, heavy duty drivetrain manager.

F-series Super Duty Chassis Cab models include businesscritical capability like best-inclass maximum payload of 12.750 lbs. which lets customers mount everything from utility bodies to boom cranes, Stout said. Vocational customization is simplified with available programmable upfitter interface module, said Stout. And, he said, drivers appreciate functionality like available flat under-seat stor-

"Ford Super Duty Chassis Cabs are number one in commercial

The 2020 lineup of Ford's Su-truck class 2-5 registrations with U.S market, proving that when the power goes out, when fires must be fought or when bridges need building – it's dedicated tradesmen in Ford Super Duty Chassis Cabs who come to the rescue," Stout said.

New Ford Telematics and Data Services are available to help commercial customers operate their fleets more efficiently, he said. Ford Telematics enables fleet managers to improve asset utilization, optimize running costs, protect their vehicles and encourage better driver behav-

This advanced technology is enabled in the Super Duty lineup by the inclusion of standard FordPass Connect with 4G LTE Wi-Fi for up to 10 devices that keep the truck, drivers and crews connected at all times, Stout said. Those uptime gains from smart technology continue with Pre-Collision Assist with Automated Emergency Braking and Audible Lane Departure Warning, which can help operators avoid or mitigate collisions.

Super Duty Chassis cab models are now available to purchase. For customers who need additional payload or need to mount heavier upfits but don't want to move into a larger truck, said Stout, the new Ford F-600 Super Duty chassis cab is just the right fit between F-550 and F-650 and will be available for order later in 2020.

Volkswagen Exec **Receives Early** Prison Kelease

BERLIN (AP) - A German lawyer representing a former Volkswagen manager jailed over the company's diesel emissions fraud says his client has been released from prison.

Frankfurt-based lawyer Gero von Pelchrzim confirmed a report by German weekly Der Spiegel that James Liang was granted early release Dec. 19 after serving two thirds of his sentence, with the remainder suspended.

Liang, a German citizen, was sentenced to 40 months imprisonment and a fine by a U.S. court in August 2017. The former senior VW engineer was transferred to a German prison last month.

Von Pelchrzim said his client was grateful to the German government for helping to bring him back home. VW used rogue software to trick authorities around the world into believing that it was meeting emissions rules.

Midwest Cities Seeking Technology Future

by JOHN SEEWER Associated Press

The day Youngstown's steel mills began shutting down 40 years ago remains fresh in the minds of those who live in the blue-collar corner of Ohio. Community leaders don't want the recent closing of General Motors' massive assembly plant to leave that same lingering gloom.

The region is embarking on an ambitious plan to become a research and production hub for electric vehicles and carve out a new economy for itself by mixing its industrial past with emerging technology.

There are positive signs already. GM in early December announced it will form a joint venture and hire more than 1,100 people at a new plant that it says will be among the largest electric vehicle battery cell factories in the world. And the Lordstown assembly plant that GM shut down in March has been sold to a newly formed company that intends to begin making electric trucks by late 2020.

But the Youngstown region, which for decades has been a symbol of the American Midwest's declining industrial might, faces plenty of competition from places like Detroit, Silicon Vallev and China - all of which also are positioning to be centers for electric and autonomous vehi-

While the electric transformation within the auto industry is just beginning to take shape, it's clear that fewer workers and factories will be needed to make cars that require fewer parts. Where those next clusters of electric vehicle manufacturing will sprout is yet to be determined.

U.S. Rep. Tim Ryan, a Democrepresents the

Youngstown area, thinks being involved with the development of electric vehicles early on is the best chance his hometown has had in decades to restore what has been lost.

"For a long time in our community, we were chasing smokestacks, chasing things that were on the decline," he said. "We're starting to move in a good direction.'

Economic development leadthat the point out Youngstown area already is home to a electric battery testing lab and business incubators that are focused on energy and additive manufacturing through 3-D printing. Youngstown State University is breaking ground on an advanced manufacturing technology center and wants to play a part in training students to work in the electric vehicle industry.

"We want to take charge of our future. An opportunity like this really plays to our regional strengths," said Mike Hripko, the university's associate vice president for economic development and government relations.

For decades now, those in the Mahoning Valley have been counting on "the next big idea" with investors promising to build factories that would make blimps, commuter airplanes and a new version of the Studebaker. The closing of the GM plant that had been churning out cars for 50 years marked the loss of the biggest manufacturing anchor remaining in what once was Ohio's industrial core.

It will take more than a battery cell plant for the Youngstown region to become a hub for electric vehicles, said Brett Smith, director of research at the Center for Automotive Research, an industry think tank in Ann Arbor, Michigan.

Technology and research will be centered largely in South Korea, China, Detroit, and California, he said. A big question is whether a place like Ohio that has had a big role in producing traditional engines and transmissions can stake a claim to a new way of making vehicles.

Both GM and Ford Motor Co. announced this year they are investing heavily in their Detroitarea factories, where they plan to build the next generation of electric and autonomous vehicles. Volkswagen is making Tennessee its North American base for electric vehicle production by expanding its plant in Chattanooga.

Where the manufacturing is centered will be determined by a number of factors, Smith said, including logistics, labor contracts, political influences, workforce training and how quickly car buyers embrace electric vehicles. Fully electric vehicles currently make up only 1.5 percent of U.S. new vehicle sales, and LMC Automotive forecasts that will rise to only 7.5 percent by the end of the next decade.

"We're still in the early days of this," Smith said.

Uncertainty also surrounds what will happen with the former GM assembly plant. It was bought by Lordstown Motors Corp., a new company that wants to begin making electric trucks by late 2020 but also needs more investors before manufacturing can begin.

While the new owner plans to start out with just 400 workers, CEO Steve Burns said he has a much bigger vision that includes bringing in other like-minded companies and becoming a center for electric vehicle production. There's also talk of potentially building a new generation of mail trucks for the U.S. Postal Service.





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GM Updates Satellite Radio, More Options

Thanks to the latest satellite radio technology, more GM customers will be able to enjoy driving in sonic style.

General Motors is bringing a new way to listen to music, sports and talk shows to nearly a million Chevrolet, Buick, GMC and Cadillac owners with SiriusXM with 360L, said GM spokeswoman Stephanie Lang.

Available on select 2020 model year vehicles, the rollout is the broadest integration by any automaker of SiriusXM's next generation listening experience, said Santiago Chamorro, vice president of GM's Global Connected Services.

SiriusXM with 360L represents the future of in-vehicle audio entertainment, said Chamorro.

The new platform and easy-touse interface delivers content via both satellite and streaming to give drivers and their passengers more than 200 live SiriusXM channels, plus the ability to make on-demand programming choices from a library of more than 10,000 hours of SiriusXM content - including SiriusXM exclusive interviews, shows and performances.

SiriusXM with 360L's "For You" recommendations also make it easier to find the programming that drivers and passengers love.

"Whether on a road trip, dropping off the kids at school or on their daily commute, drivers can get more choice in entertainment with our embedded SiriusXM with 360L experience," said Chamorro. "By bringing SiriusXM with 360L to nearly 1 million drivers, we are making it easier than ever for our customers to listen to their favorite SiriusXM channels or on-demand content.'

Additionally, Chevrolet, Buick, GMC and Cadillac drivers in the United States with a Remote Access Plan can now set up their



Drivers will have a new way to listen to music in GM's newest vehicles.

SiriusXM "Favorites" through the myChevrolet, myBuick, myGMC or myCadillac mobile apps even if they're not in the vehicle - and the selections will sync to the infotainment system, Chamorro said.

Drivers can also check and manage their SiriusXM subscription right from their myChevrolet, myBuick, myGMC or myCadillac mobile app. A three-month subscription to SiriusXM All Access is included for customers who purchase equipped 2020 vehicle models, meaning those customers can enjoy the benefits of SiriusXM in the vehicle, and also listen outside the vehicle on the SiriusXM app. Customers can also download the SiriusXM app through their myChevrolet, my-Buick, myGMC or myCadillac mobile app.

"General Motors has always been a leader in delivering innovative technology to their customers, and our SiriusXM with 360L platform is a great example of this," said Steve Cook, EVP, Sales and Automotive, for SiriusXM.

"SiriusXM with 360L transforms the way we listen to audio in the car by marrying our satellite network to embedded connectivity in vehicles. This allows for significantly more channels and choices than ever before while also making it easier than ever for our subscribers to find and listen to what they want to

"This truly changes the way people will expect to be entertained in the car."

The benefits of SiriusXM with

360L, said Cook, include: • More variety;

· More channels available to listeners, including many of SiriusXM's exclusive streaming channels;

• Access to 10,000 hours of on-demand SiriusXM exclusive shows, interviews, and events in the car, giving listeners more of what they want, when they want to hear it;

Enhanced sports play-byplay offering that makes it easier to find the listener's favorite team when it is game time, and gives them access to the official broad casts for more pro and college teams.

Smart content recommendations enable listeners to discover more of what they love, based on listening habits, and it is all served up on screen in an easyto-use way, Lang said.

Individual vehicle profiles allow multiple drivers and passengers to customize and maintain their own presets and favorites.

Dynamic user interface allows for easy navigation between satellite and streaming channels and SiriusXM On Demand content, Lang said.

Drivers and passengers sit back and let "For You" recommendations serve up great content choices.

SiriusXM with 360L will be available on 13 Chevrolet, Buick, GMC and Cadillac model year 2020 vehicles. A Connected Access plan and a SiriusXM All Access or SiriusXM Select subscription is required to experience the benefits of SiriusXM with 360L. More information about vehicle eligibility will be shared as the vehicles hit dealer lots.

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U.S. Steel Closing Down Operations

ECORSE, Mich. (AP) - U.S. Steel Corp. said Dec. 19 that it will indefinitely idle major company operations at factories near Detroit.

The Pittsburgh-based company said it would send notices to 1,545 employees at Great Lakes Works, although it anticipates that the actual number of people responsibly manage our reaffected will be lower.

U.S. Steel said it expects to begin idling the iron and steel-making facilities around April 1 and the hot strip mill rolling facility before the end of 2020.

Great Lakes Works, which serves the auto industry, is along the Detroit River in River Rouge and Ecorse.

"These decisions are never easy nor are they taken lightly," president and chief executive David Burritt said in a written statement. "However, we must

sources while also strengthening our company's long-term future – a future many stakeholders depend on."

Burritt said some work will shift to Gary Works in Gary, Ind.





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