# STATE OF SUPPLIERS

## IT'S ALL ABOUT THE SOFTWARE

Sales are strong for global suppliers, but strategies to develop new products are as challenging as ever. Meanwhile, computers are breathing new capability into brakes, powertrains, air conditioning and many other systems. For a report on these and other supplier issues | PAGES 29-52 | For stories, blogs and TV reports from the Management Briefing Seminars this week in Traverse City, Mich., go to autonews.com/tcity

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# Automotive News®

AUGUST 3, 2015



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**future product pipeline**

THIRD IN A 9-PART SERIES

> EUROPE: Europe's luxury brands will embrace new technology — and fill every niche from compacts to crossovers. | PAGES 56-61 |

# Luxury titans: A case of too much variety?

## German brands add vehicles to pad profits

Christiaan Hetzner
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BMW is renowned for sporty rear-wheel-drive sedans. But its front-wheel-drive 2-series Gran Tourer seats seven and needs only a sliding door to be a full-blown minivan.

Meanwhile, Mercedes-Benz may need to change its slogan to "engineered like no other [Japanese] truck in the world" when it begins building a luxury pickup based on a Nissan Frontier chassis before the end of the decade.

Kaellenius: If targets are met, "We go for it."

In their quest to boost sales and achieve double-digit profit margins, Germany's premium carmakers are divvying segments into ever-thinner slices. In the process, they are stretching their brands figuratively — and their cars literally — in ways previously unimaginable.

"We take into consideration what the investment is that we have to make, what's our gross sales potential, what's the net sales potential after cannibalization effects and what's the margin we make on the car," explained Ola Kaellenius, Mercedes board member for sales and mar-

see LINEUP, Page 18

## Did Sergio get it right?

Six industry superstars delve into Sergio Marchionne's dire warnings about the state of the auto industry. Does the Fiat Chrysler CEO know what he's talking about? SEE ANSWER ON PAGE 23

FIRST IN A 6-PART SERIES

# INDUSTRY ON TRIAL

### > 'PURE ECONOMIC WASTE'

Fiat Chrysler CEO Sergio Marchionne says the auto business has a big problem: A value-destroying addiction to capital. We dig into the details over the next 5 weeks.

**Aug. 10:** The capital crisis ... and its implications
**Aug. 17:** R&D spending: How much is wasted?
**Aug. 24:** The case for consolidation
**Aug. 31:** A matter of life or death for FCA?
**Sept. 7:** Four alternatives to mergers

### > ONLINE COVERAGE

Keep track of the entire series as it unfolds, including video of the roundtable discussion that appears in this issue: autonews.com/industryontrial

### > ALLIANCE BREAKDOWN

Internal documents show how the alliance between Volkswagen and Suzuki fell apart without producing any joint products — a cautionary tale for companies seeking efficiencies through consolidation. | PAGE 3 |

The yellow and red brackets helped the 2015 Ford F-150 SuperCrew earn a Top Safety Pick, IIHS said.

# F-150 fix: Elegant simplicity

## Ford, Ram adopt low-tech solution for tough IIHS test

Larry P. Vellequette
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In the high-tech world of pickups, where sensors and computers regularly outnumber cylinders, often the best solutions are the simplest.

Case in point: To pass the Insurance Institute for Highway Safety's vexing small offset crash test, Ford's simple, low-tech solution did the job.

■ Pricier insurance for F-150? Ford disputes higher repair bills | PAGE 8 |

Ford engineers welded tubular bars to the pickup's frame and placed them in the front wheel wells, fore and aft of the tire.

It was so effective that the redesigned 2015 Ford F-150 SuperCrew passed the IIHS offset test with flying colors, the institute revealed last week. Rival Ram has decided to use a similar solution for all its pickups, beginning with the 2015½ Ram Rebel, released last month.

The IIHS testing on light-duty pickups is only beginning. On Thursday, July 30, the institute crash-tested a 2015 Toyota Tundra. Results of the Tundra test haven't been made pub-

see TEST, Page 65



NEWSPAPER


" When you get that idea to do good, you run with it."

**MARK LOWREY** *F-Series Fleet Marketing Manager Ford Motor Company, Dearborn, Michigan*

Mark Lowrey hands out gifts at the Christmas in July event outside Cleveland Clinic Children's Hospital for Rehabilitation in Cleveland, Ohio.


This custom-made Ford F-750 TONKA truck is bringing smiles to children's faces across the Midwest.

The concept to build a life-size TONKA® truck started as an idea to bring attention to the new 2016 Ford F-650 and F-750 trucks, but when an unexpected audience became emotionally connected to the dump truck, that idea turned into something bigger than the truck itself. "When we saw the reaction from kids, we realized that we could use this truck to do good," Lowrey said. "This giant-size Ford TONKA truck, loaded with gifts, is delivering 'Christmas in July' to kids in hospitals across the Midwest — it's a real rock star. Summer has to be the worst time for children to be in the hospital; they can't go out and play or go on vacation. It's our hope that the TONKA truck and the gifts it brings will really brighten their days." Earlier this July, the truck made a visit to a local science center in Kansas City, Missouri, and is making its way to a children's hospital in Ann Arbor, Michigan, in August. "It's incredible the amount of joy and smiles this truck delivers and we're excited to have the opportunity to connect with families and communities," Lowrey said. Find out more about Ford at **social.ford.com**.



Go Further

# NHTSA uses FCA order to clean up industry

## Pact widely targets safety lapses and loopholes

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WASHINGTON — The National Highway Traffic Safety Administration's July 24 consent decree with Fiat Chrysler Automobiles seeks to punish and remedy the automaker's safety shortcomings while also addressing recall issues vexing the entire industry.

The agreement and its record-setting $105 million penalty stemmed from a NHTSA probe into violations that occurred in 23 Fiat Chrysler safety recalls since 2009. But the terms of the pact, especially its list of nearly 30 "performance obligations," also are designed to spread and cement the lessons of recent safety crises involving General Motors, Takata and Honda.


**Ditlow: Model of behavior**

"It doesn't have any teeth with other OEMs, but what it's trying to do is set up a model or a standard of behavior within the industry," said Clarence Ditlow, executive director of the Center for Auto Safety here and a vocal critic of Fiat Chrysler recently.


**Rosekind: "An evolution"**

Central to the pact is a top-to-bottom revamp of FCA's current recall and defect practices, a process that will be overseen by an independent monitor who will report to NHTSA and will have broad authority to hire staff and investigate safety issues. That represents a deeper level of scrutiny than similar consent orders imposed on GM and American Honda Motor Co. in the last 18 months.

"What you've seen is an evolution of the consent orders to try and get more and more future safety," NHTSA Administrator Mark Rosekind told reporters last week. "What started in GM with some independent oversight has clearly evolved now to having a monitor, which was used by DOJ previously with Toyota. We have tried to take the best of what we learned from every one of these and continue to improve each one of these actions."

That approach may help NHTSA satisfy some of the public demand for tougher safety standards and enforcement, even as legislative ef-

see **NHTSA**, Page **66**

## Free for all

All stories on the *Automotive News* website are available to nonsubscribers through Sunday, Aug. 9, as part of an open house sponsored by ADESA. For access, sign up at **autonews.com/FreeThisWeek**.

## CORRECTIONS

■ A photo caption on Page 21 of the July 27 issue misidentified a Toyota Corolla.

■ A story on Page 8 of the July 27 issue gave an incorrect number of dealerships that TrueCar Inc. expects to add by year end to replace AutoNation Inc. stores that have stopped doing business with the car-shopping site. TrueCar will replace the 279 franchises that equated to 226 AutoNation rooftops.


AUTOMOTIVE NEWS ILLUSTRATION

# Alliance breakdown: How VW-Suzuki went wrong

## With arbitration decision looming, internal documents detail a once promising tie-up that produced nothing but distrust

Hans Greimel
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It was a tense, two-hour summit at the Frankfurt Sheraton hotel.

For months, Suzuki Motor Corp. and Volkswagen AG had been sparring over their unraveling alliance. Now, Suzuki Executive Vice President Yasuhito Harayama was about to drop a bombshell.

The date: Sept. 9, 2011, days before the Frankfurt auto show.

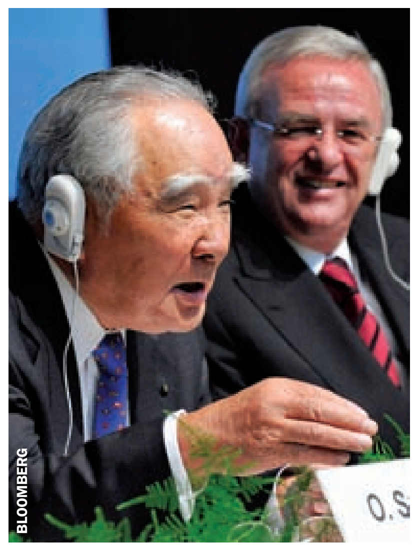
VW, Harayama warned, had three days to say whether it would start negotiating an end to the ill-fated capital tie-up with Suzuki, or Suzuki would go public with its demand that VW sell off its 19.9 percent stake.

Chairman Osamu Suzuki, who had inked the much-ballyhooed alliance with VW a mere 21 months earlier, already was preparing for a news conference the following Monday in Tokyo — where he would blast his German partner as a "ball and chain" and demand a "divorce."

A filing to the Tokyo Stock Exchange was all ready to go.

Harayama, a feisty negotiator hired by Suzuki from Japan's powerful Ministry of Economy, Trade and Industry, had flown to Germany to deliver the ultimatum to VW Vice President Detlef Wittig.

"The alliance is meaningless," Harayama told his interlocutor, according to internal Suzuki documents chroni-


BLOOMBERG

**Suzuki Motor Corp. CEO Osamu Suzuki speaks at a news conference with Volkswagen AG CEO Martin Winterkorn in 2009. Suzuki spoke to the press again in 2011, this time demanding a "divorce" from the Germans.**

cling the demise of the alliance that were obtained by *Automotive News*.

"Our engineers have lost the desire to cooperate with VW."

A tipping point, Harayama added, came during an earlier top management meeting. The Suzuki side presented VW CEO Martin Winterkorn a list of complaints. But the tactic backfired.

According to Suzuki's version of events, instead of contemplating Suzuki's suggestions for mending relations, the ticked-off German surprised the Japanese by pounding the table in irritation.

"With this, we understood that it is impossible to work with top management to resolve the front-line problems," Harayama told an off-guard Wittig, who insisted he hadn't come to the meeting to negotiate with Harayama. "We want a 'yes' or 'no' answer about whether we will hold joint discussions," Harayama demanded before excusing himself to catch his flight home.

**"The alliance is meaningless. Our engineers have lost the desire to cooperate with VW."**

Suzuki Executive Vice President Yasuhito Harayama in 2011

A satisfactory answer never came. The next Monday, Osamu Suzuki, the bushy-browed patriarch of the tiny Japanese maker, went in front of the press to demand his "divorce" from the German giant.

In an era in which industry consolidation is again being urged by leaders such as Fiat Chrysler Automobiles CEO Sergio Marchionne, the VW-Suzuki tie-up provides a cautionary tale. Common wisdom held that it would be a boon to both players. Suzuki would gain access to next-generation, fuel-efficient powertrain technologies and advanced markets while VW would get help tapping India and learn low-cost manufacturing.

Yet two years later, the honeymoon came to a crashing halt without the realization of a single joint project.

### 'We are embarrassed'

The episode above and the details that follow largely are taken from Suzuki documents that were reviewed by *Automotive News*. They offer an insider's peek, from Suzuki's vantage point, into how the partnership imploded: from failed efforts to cobble joint projects and mutual recriminations of breached contracts to a bitter tailspin into estrangement.

Suzuki provided only limited comments about the dispute. VW declined to comment.

The fresh insights from the documents emerge as both sides await the result of protracted arbitration meant to finally

see **VW-SUZUKI**, Page **68**

# Can inventory hubs aid small Caddy stores?

## Brand mulls regional centers to help keep supplies fresh

**Mike Colias**
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ELKHART LAKE, Wis. — A long effort to whack away at Cadillac's swollen vehicle inventory culminated last month with the brand's trimmest levels in four-and-a-half years.

Cadillac chief Johan de Nysschen was pleased with the 77-day supply as of July 1, down from 113 days a year earlier. But he doubts he can get down to his preferred target of about 60 days, a level at which Cadillac's luxury rivals tend to stick.

The reason: About 500 of the brand's 928 dealerships sell relatively few Cadillacs — just five to 10 a month on average, de Nysschen said. Those stores are focused on selling Chevrolets or Buicks, for example, and more likely to allow their Cadillac inventory to get stale, he says.

**De Nysschen: 77-day supply shows progress.**

De Nysschen said Cadillac is considering a solution: "Centralized regional inventory hubs," which those smaller dealerships could call on when needed.

"That keeps the inventory fresh and frees them from having to tie up so much capital," de Nysschen said here last week on the sidelines of a media drive for the CTS-V sedan, due out by early fall. He said the idea is "under discussion" with Cadillac's dealers.

Other luxury brands have considered a similar approach but for different reasons: Their vehicle lineups have gotten so broad and complex

see **CADILLAC**, Page **65**

**Some dealerships that sell relatively few Cadillacs could be helped by regional inventory hubs, the brand's top executive says.**

REUTERS

**Jon Ikeda seems positioned to transform Acura's image into one that promises more excitement.**

# A designer boss may be just what Acura needs

## Ikeda's upside: TL styling, respect from HQ in Japan

**David Undercoffler**
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LOS ANGELES — The unexpected appointment of Jon Ikeda to head Acura puts him on a short list of top brand executives in the auto industry who got there by way of the design studios rather than the business offices.

It's a route that has produced mixed results. But having a designer in charge of a luxury brand that's light on cachet could be exactly the shot in the arm Acura needs, both for its product portfolio and its relationship with the Honda mothership in Japan.

> **"He's got both the design pedigree and, almost more importantly, the political pedigree within Acura."**
> Karl Brauer
> Kelley Blue Book

"You could argue Ikeda's the human embodiment of Acura," Karl Brauer, senior analyst at Kelley Blue Book, told *Automotive News*. Acura is a U.S.-based Japanese luxury division now led by a Japanese-American who has worked for the company in both the U.S. and Japan.

Though Acura has had to push continually for resources and respect from headquarters, Ikeda already has proved he can get both. In 2006, he was instrumental in getting Acura its own design studio at Honda's campus in Torrance, Calif.

"He's got both the design pedigree and, almost more importantly, the political pedigree

see **IKEDA**, Page **66**

**Mitsubishi's Outlander Sport crossover is due to be redesigned for the 2017 model year.**

# DRIVE OR REVERSE?

## Mitsubishi plans to move forward with U.S. sales, but experts wonder

**Gabe Nelson**
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Three years after assigning the task of building crossovers to its only North American assembly plant, the Japanese automaker closed up shop, deciding instead to import all of its U.S.-bound cars from across the Pacific.

This might sound like Mitsubishi Motors Corp., which will end production in November at the Normal, Ill., factory that has built the Outlander Sport crossover since 2012.

But in this case, the company was Suzuki Motor Co., which made a near-identical decision in 2009 with its XL7 crossover. Three years later, its product lineup decimated and its dealer body thinned by attrition, Suzuki abandoned the U.S. for four-wheelers.

Mitsubishi's situation differs greatly from Suzuki's. Yet this history, fresh in the minds of auto industry veterans, led to skepticism last week as Mitsubishi President Tetsuro Aikawa insisted the company still sees the U.S. as a growth market.

"We've heard that sort of rhetoric before," said Ed Kim, vice president of industry analysis at AutoPacific. "But when you consider what's in Mitsubishi's product pipeline, when you consider their current financials, when you consider the current relationship between the yen and the dollar, it does seem to make some sense for them to stay here."

This spring, Mitsubishi reported operating profit of ¥500 million ($4.2 million) in North America for the fiscal year that ended March 31, giving the region its first profit in seven years. U.S. sales rose 25 percent through the first half of 2015 to 49,544 vehicles, aided by a strong dollar that made Mitsubishi's imported cars cheaper to sell.

Demand from the U.S. "is expected to continue to expand," Aikawa said at a press conference in Tokyo. "Through exports from Japan and Thailand, we will continue to endeavor to build brand value and increase our sales."

Yet by ending North American production, Mitsubishi will make itself more

see **MITSUBISHI**, Page **66**

**Mitsubishi President Tetsuro Aikawa: Demand from the U.S. "is expected to continue to expand."**

### Road signs

Mitsubishi insists it will keep selling cars here, despite plans to shut its only U.S. plant. Here are developments to watch for clues to Mitsubishi's future.

- **Product plans:** The redesigned 2017 Outlander Sport will show Mitsubishi's commitment to the U.S. So will further investment in new product.
- **Dealers' commitment:** If dealers start dropping the brand, it's a sign the retailers expect Mitsubishi to pull out.
- **Exchange rates:** Today's weak yen makes importing from Japan profitable. If that changes, watch out.

**Mitsubishi's Normal, Ill., plant will cease production in November.**


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# cars&concepts



## A V-series version of Cadillac's coming crossover? Don't count on it

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ELKHART LAKE, Wis. — Any Cadillac customer hoping that the replacement for the SRX midsize crossover scheduled for next spring will be followed by a go-fast V-series version is likely to be disappointed.

Luxury brands have expanded their high-performance portfolios to include crossovers, such as BMW's X5 M, a 567-hp beast that can go from 0 to 60 mph in 4 seconds flat. But Cadillac President Johan de Nysschen isn't interested in affixing a V badge to a crossover anytime soon.

"If you want to get our engineers to instantly experience a massive rolling of the eyes, you should ask them" about a V-series crossover, de Nysschen said here on the sidelines of a media test drive for the 2016 CTS-V sedan.

Instead, de Nysschen hinted that Cadillac will look to offer Vsport variants of its crossovers. Cadillac introduced the Vsport line in 2013 as an answer to Audi's S line, for example: It's a step below a track-ready V series, but still offers more powerful engines than standard versions and some high-performance hardware, such as magnetic damping.

Cadillac offers just one crossover today, the SRX, which will be renamed XT5 for the next generation. But at least three more are in the works.

De Nysschen said some future crossovers will lend themselves to a high-performance package. And he even envisions a Vsport badge on an Escalade someday.

SAM WEINTRAUB/ SPIEDBILDE

**The Cadillac XT5 crossover replaces the SRX for the next generation.**

"I could well imagine a high-performance, sporty, satisfying version of an Escalade," he said, "that's quite different than what we have today." AN

KGP PHOTOGRAPHY

## The Civic's new virtues

A camouflaged prototype of the redesigned Honda Civic, due to go on sale this fall, looks larger than the model it is replacing. Also, the current Civic sedan's cab-forward silhouette gives way to a fastback profile and longer hood. Spy shots suggest LED headlights and dual exhaust on some models. Honda wants to amp up the sportiness with this 2016 Civic and has promised versions with a 1.5-liter turbocharged four-cylinder engine and a six-speed manual transmission.

## Lotus won't bring Elise back to U.S. before '20

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HETHEL, England — Lotus will reintroduce the two-seat Elise sports car in the U.S. after the company brings out the next generation of the car in 2020, the company's CEO said.

The U.K.-based company first imported the Elise in 2004 but had to withdraw the car in 2011 after exemptions from certain safety regulations expired. It continues to sell a handful models for use on racetracks.

Lotus recently made safety changes to the bigger Evora to enable the company to start selling that car again in January as a 2017 model, but CEO Jean-Marc Gales told *Automotive News* that similar changes would be too onerous for the Elise.

**Lotus Elise sales in the U.S. were halted in 2011 after exemptions from certain safety rules expired.**

"We'd need smart airbags, plus side airbags and to change the whole front crash structure. It would add 100kg (220 pounds)," he said.

Lotus delivered 2,385 Elises to the U.S. in its first 12 months starting July 2004, when it was priced starting at $40,780, including shipping. In the first six months of this year, Lotus sold just 74 cars. AN

## Hyundai may be ready to add small pickup

Hyundai appears close to adding a compact pickup to its U.S. lineup.

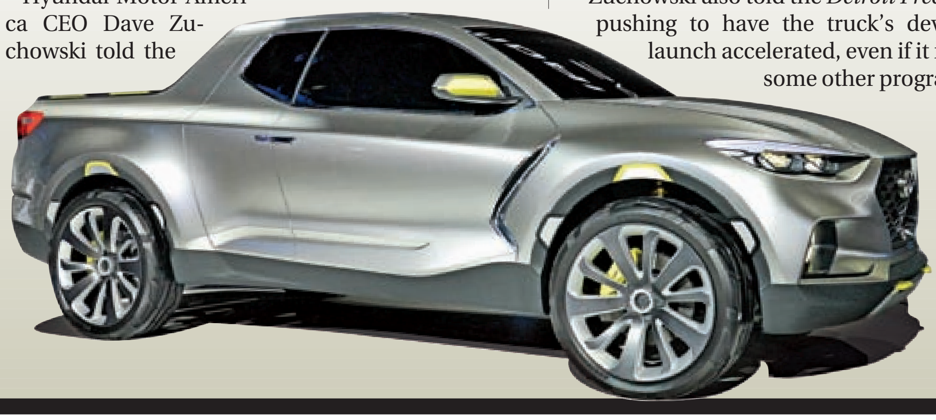
*Car and Driver* reported last week that company officials are expected to approve production of a truck to take on the Toyota Tacoma, Nissan Frontier, Chevrolet Colorado and GMC Canyon.

Hyundai Motor America CEO Dave Zuchowski told the magazine that approval for the Santa Fe SUV-derived truck could come as early as this fall. But Hyundai later said only that a decision on whether to build the truck is expected in the fall.

The pickup would be based on the Santa Cruz concept shown in January at the Detroit auto show.

Zuchowski also told the *Detroit Free Press* that he is pushing to have the truck's development and launch accelerated, even if it means delaying some other programs.

*—Richard Truett*



**The Santa Cruz concept shown at the Detroit auto show would be the basis for the Hyundai pickup.**

## Ferrari 488 Spider drops its top

Ferrari has released photos of the 488 Spider, which debuts next month at the Frankfurt auto show. The convertible features a folding hardtop like its predecessor, the 458 Spider. But Ferrari says it will have the same torsional rigidity as the 488 GTB hardtop. The Spider will pack a twin-turbo 3.9-liter V-8 producing 660 hp and 561 pounds-feet of torque. Deliveries start next spring; pricing is expected to be announced at Frankfurt.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# Pricier insurance for F-150?

## Policy costs stable so far; Ford disputes higher repair bills for aluminum truck

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The Insurance Institute for Highway Safety reported last week that, after a crash test, it cost 26 percent more to repair the new aluminum Ford F-150 pickup than it did the truck's steel-bodied predecessor.

But that doesn't necessarily mean insurance premiums for the aluminum truck will rise above those for the outgoing steel model. Insurers say they need more time to study costs before deciding whether to change premiums. They add that factors other than repair costs influence rates. The aluminum-bodied F-150 went on sale in the fourth quarter last year.

> **"Rates for the aluminum version of the new F-150 won't change unless enough actual claims data indicates a need for an adjustment."**
> State Farm Insurance spokeswoman

"Rates for the aluminum version of the new F-150 won't change unless enough actual claims data indicates a need for an adjustment," a State Farm Insurance spokeswoman said.

In its response to IIHS' report, Ford pointed to stable insurance premiums as a sign that insurers agree with Ford's assertion that repair costs won't increase.

But insurers were noncommittal on the possibility of future rate increases.

The State Farm spokeswoman said the company will determine whether F-150 premiums will change after it has collected "a sufficient amount of claims data" for the 2015 model.

An Allstate Insurance Co. spokesman said its premiums for the 2015 F-150 are still in line with those for the year-earlier model as the company awaits more data.

"We're currently looking at early loss results to see how the performance is relative to earlier model years at a similar point in time," he said. "Admittedly, the data will be a little thin given the fact that the vehicle count and accident volume is just beginning to mature."

IIHS also said that, in addition to the repairs on the 2015 F-150 costing 26 percent more than those on the 2014 model, the aluminum-bodied F-150's repairs also took longer than the steel model's.

BRADFORD WERNLE PHOTOS

**The change to aluminum bodies has required most dealerships and body shops to create separate spaces for working on the metal and to buy specialized repair tools and equipment. Above, a rubberized curtain is intended to keep aluminum dust from settling on steel parts and corroding them. At left is a Ford repair demonstrator prototype of the aluminum-bodied F-150.**

### Ford: No cost increase

Ford disputed those conclusions.

"Ford's view is based on real-world accident repair data," the company said in a statement. "In fact, real-world repair costs on the new 2015 Ford F-150 average $869 less than last year's F-150 model, according to Assured Performance, an independent body shop certification company that works with leading automakers."

The IIHS report, released last week, came shortly after Chevrolet's July launch of an Internet marketing campaign that portrays its Silverado pickup as superior to the F-150 because the Silverado is made of high-strength steel. In January, Edmunds.com took a sledgehammer to an F-150 and found that fixing the dent took longer and cost more than it would have on a steel pickup.

"From a simple bolt-on parts replacement to a more-involved removal and installation of entire body panels, fixing the aluminum F-150 is more expensive than repairing a steel-body F-150," David Zuby, chief research officer for IIHS, said in the institute's report.

Ford designed the aluminum F-150 with a modular structure that it says can be easier to repair than its predecessor. But the change in material also required that most dealerships and body shops spend tens of thousands of dollars creating separate spaces for working on alu-

see **IIHS**, Page **65**

# FCA profit surges on strong Jeep sales

**Larry P. Vellequette**
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Strong global Jeep sales helped the automaker post much-improved global earnings in the second quarter and stave off weakness in Latin America and Asia.

Net income rose 69 percent to 333 million euros ($364 million), the automaker said last week.

Sales of Jeep, which FCA is expanding into a global SUV brand, have grown in North America and elsewhere as the company boosts production outside the United States.

Sales of the new subcompact Jeep Renegade have been brisk in Europe and growing in the U.S., while the brand plans to begin building Cherokees in China this year for Asian markets.

The company did not break out global Jeep sales in the second quarter. In the U.S., its largest market, Jeep sales rose 19 percent to 222,940, compared with the second quarter of 2014.

In the North American Free Trade Agreement region, FCA reported adjusted earnings before interest and taxes of $1.45 billion, more than double the $651 million it earned during the same period last year. NAFTA revenue grew 40 percent to $18.8 billion from $13.4 billion last year.

**FCA boosts profits**

Fiat Chrysler Automobiles posted strong global financials in the 2nd quarter.

| | Q2 2015 | CHANGE VS. Q2 2014 |
|---|---|---|
| Net income | $364 million | +69% |
| Net revenue | $32.03 billion | +25% |
| Vehicle shipments | 1,193,000 | +1% |

Source: FCA

Driving the results were U.S. sales, which were up 6.1 percent through June on growing strength of the Jeep and Chrysler brands.

The company said it had improved its margin, net income as a percent of revenues, in North America to 7.7 percent in the second quarter, up from 4.9 percent during the same quarter of 2014.

Second-quarter global revenue grew 25 percent to $32.03 billion, the company said Thursday, July 30.

The company said it had booked a charge of $88.8 million related to the wide-ranging consent order it agreed to last week with the National Highway Traffic Safety Administration.

**Marchionne: No plans to divest Magneti Marelli**

The consent order covered FCA's conduct in 23 previously announced recall campaigns and involved fines, vehicle buybacks and increased oversight.

In comments to analysts, FCA CEO Sergio Marchionne said:

■ A repurchase program for recalled Ram pickups involved a maximum of 175,000 vehicles and would not cost the company more than $20 million.

■ FCA has no immediate plans to divest parts maker Magneti Marelli, contrary to reports that it is on the block.

■ Ram has effectively "sold out" of its 3.0-liter EcoDiesel diesel engine in the Ram 1500, which is limited by engine availability. AN

Ford has completed 12 of the 16 launches planned this year, including the Explorer.

# Ford says earnings will be even better in 2nd half

## Dealers finally will have full supply of aluminum F-150

Nick Bunkley
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DETROIT — Ford Motor Co. earned in the first half of this year nearly as much as it did in all of 2014.

But here's the kicker: Ford says the second half will be even stronger.

Dealers will finally — after one of the most complex and closely watched model changeovers in industry history — have full supplies of the redesigned, aluminum-bodied Ford F-150. The new truck didn't factor into the 44 percent increase in second-quarter profits because launch costs and lower sales offset a big jump in transaction prices.

The company also entered the third quarter having completed 12 of the 16 launches on the docket for this year, including the highly profitable Explorer, Edge and Lincoln MKX, as low gasoline prices and interest rates keep encouraging consumers to buy big, expensive SUVs and trucks.

A combination of variables has put Ford in a sweet spot in terms of profitability, but CEO Mark Fields acknowledged last week that the U.S. market is beginning to "plateau," which could make similar results tougher to achieve in future years. Until then, Ford is enjoying a number of tail winds.

"We are clearly on a path toward a breakthrough year," CFO Bob Shanks said. "This was a very broad-based performance, which is one of the things we feel so excited about."

In the second half, Shanks said, "we're going to go from really good to great."

If Ford's largest quarterly profit since 2000 and a record pretax profit of $2.6 billion in North America qualifies as only "really good," what will "great" look like?

Shanks: On way to a big year

Ford said its North American operating margins could be as high as 9.5 percent this year, at the high end of its early projection. And global pretax profits could be as much as 22 percent higher than the $4.3 billion Ford earned in the first half.

Ford's net income totaled $2.8 billion in the first half, compared with $2.3 billion in the same period of 2014 and $3.2 billion in the full year.

### Higher prices

Ford said higher transaction prices and lower incentives improved its North American results by $745 million from the same period a year ago (see box). That's a gain of $913 per vehicle. Transaction prices for the F-150 alone rose about $3,600 to more than $44,000.

Last month, Ford unveiled the new, top-of-the-line F-150 Limited, which will start at about $60,000.

"We're not done plumbing every dollar of revenue we can out of that product, and customers are demanding it," Shanks said.

Pricing for the F-150 and other new vehicles is bound to level off and begin declining after they have been on the market longer and Ford begins shipping more trucks to fleet buyers. For now, though, Ford finds itself in an enviable position, even as it has had to ratchet up incentives on smaller cars to keep them moving.

"Their timing has been spot-on," said Eric Lyman, TrueCar's vice president of industry insights. "This is the time to have the new trucks and SUVs because those segments are on fire."

### Help from credit, Asia

Another bright spot for Ford has been its credit arm, which is producing strong profits in addition to helping Ford sell more vehicles. Ford Motor Credit earned $989 million in the first half.

Outside North America, Ford posted small losses in Europe and the Middle East, and its loss in South America was 37 percent less than a year ago. In Asia Pacific, where it had expected to break even, cost cuts helped profits rise 21 percent to $192 million instead.

But the biggest story has been North America, with the record second quarter coming just as Ford begins contract talks with the UAW. Many union members see the recent performances by Ford and General Motors as an opportunity to reverse concessions they made when the automakers were near collapse during the recession.

"It goes without saying that the sacrifices of our membership for nearly a decade have been a key driving factor behind the economic rebirth of Ford," Jimmy Settles, the UAW vice president in charge of negotiations with Ford, said in a statement, "and I am confident that we will secure an agreement that rewards the more than 52,000 UAW represented hard-working men and women for their efforts."

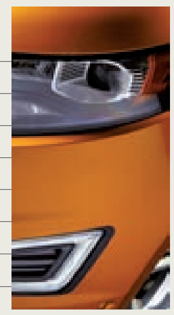
Investors have been less enthusiastic, dimming the chance that Ford's stock could begin to rally after being stuck between $14 and $17 for most of the last two years.

"Although both Ford and GM just posted very strong results in North America with signs of improvement in Europe, it's not clear that this will be enough to overcome investor concern of a U.S. peak and headwinds in China," Brian Johnson, an analyst with Barclays Capital, wrote in a report last week. "Is this fair? No, not at all. But this is the environment we face today." AN

### More than F-150

Ford Motor Co. is commanding higher prices and spending less on incentives across much of its lineup.

| | '14-'15 CHANGE IN TRANS. PRICE | '14-'15 CHANGE IN INCENTIVES |
|---|---|---|
| Edge | +6.4% | –3.2% |
| Expedition | +14% | –46% |
| Explorer | +0.9% | –6.2% |
| F series | +9.7% | –45% |
| Mustang | +14% | –74% |
| Navigator | +12% | –20% |
| **Total** | **+3.9%** | **–18%** |



Source: TrueCar

# Wholesale financing helps retain customers

## Washington dealer rejects dealer reserve and builds loyalty

**Hannah Lutz**
hlutz@crain.com

Denver Morford doesn't charge for arranging customers' financing.

When Morford's customers receive loan approval, he gives them the lender's wholesale rate, also known as the buy rate.

Morford, dealer principal at Barry Chrysler-Dodge-Jeep-Ram in Ephrata, Wash., says he doesn't believe in dealer reserve, the percentage of interest a dealership is allowed to add to an auto loan as a fee for arranging the loan.

**BEST PRACTICES**

The rejection of dealer reserve is "a value-add to our business," Morford says.

After he tells each customer the buy rate, he explains that he has the legal right to mark up the interest rate for compensation, which most dealers practice, but he chooses not to. The average dealer reserve in his region is about 2 percentage points, or 200 basis points, he says.

Morford wants his customers to understand and be a part of what happens behind the scenes during financing.

### Mystery

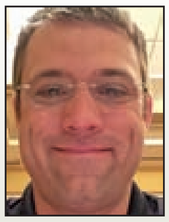
"We show them the return stream when banks come back, and we show them the approval screens with lending options," he says. "We take the mystery out of the financing process."

Barry Chrysler-Dodge-Jeep-Ram salesmen such as Ray Shearer, left, and Robert Bepple work with buyers from beginning to end of a transaction.

So how does he make a profit on the loan? He doesn't.

Repeat customers drive his business. Morford believes his transparency has helped build his store's high level of customer retention. Business from repeat customers offsets any profit he has missed by forgoing dealer reserve, he says.

Morford says most of his customers have good credit scores, in the upper 600s or lower 700s. He thinks they should be rewarded for that, not charged extra.



Morford: Taking the mystery out of financing

"There are so many mysteries surrounding the car business," he says. It is important to "cut to the bottom" and explain financing.

"Everything else is smoke and mirrors," he says.

Reputation has proved to be vital to Morford's success. In the last 10 years, the advertising budget for his new-vehicle dealership and two used-vehicle stores has plummeted to several hundred dollars per month, from many thousands before, he says. Most of that funding goes toward search engine optimization.

Morford sold 160 new and 220 used vehicles at Barry Chrysler-Dodge-Jeep-Ram in 2014. At his two used dealerships, Barry Moses Lake Auto Center in Moses Lake, Wash., and Barry Motors of Wenatchee in Wenatchee, Wash., he sold about 170 each.

### No F&I, used managers

Morford's dealerships have no finance managers and no used-car managers. Instead, he trains his salesmen on both so that the customer works with the same employee throughout the transaction.

He works "hand in hand" with salesmen until they fully understand financing, he says.

If a salesman has a customer with a low credit score or encounters another unusual financing situation, however, Morford has a backup plan.

The used dealership in Wenatchee is about a 45-minute drive from the new-vehicle store, and the Moses Lake dealership is about 25 minutes away. The general managers of those dealerships specialize — one in used cars, and one in finance and insurance.

"They are basically brought into the loop when a salesman is backed into a corner," Morford says. "They're utilized as a tool, but not as a process."

On average, salesmen finish customers' paperwork in 10 to 15 minutes, Morford says.

"Salesmen have vigor for doing it our way because they've been stuck doing it the historical way for so long," he says. "They can't fathom a customer sitting there for half a day."

**Financing break**

Denver Morford, dealer principal at Barry Chrysler-Dodge-Jeep-Ram in Ephrata, Wash., doesn't believe in dealer reserve. He gives customers the wholesale rate for loans, and the practice keeps them coming back.

### Loyal customers

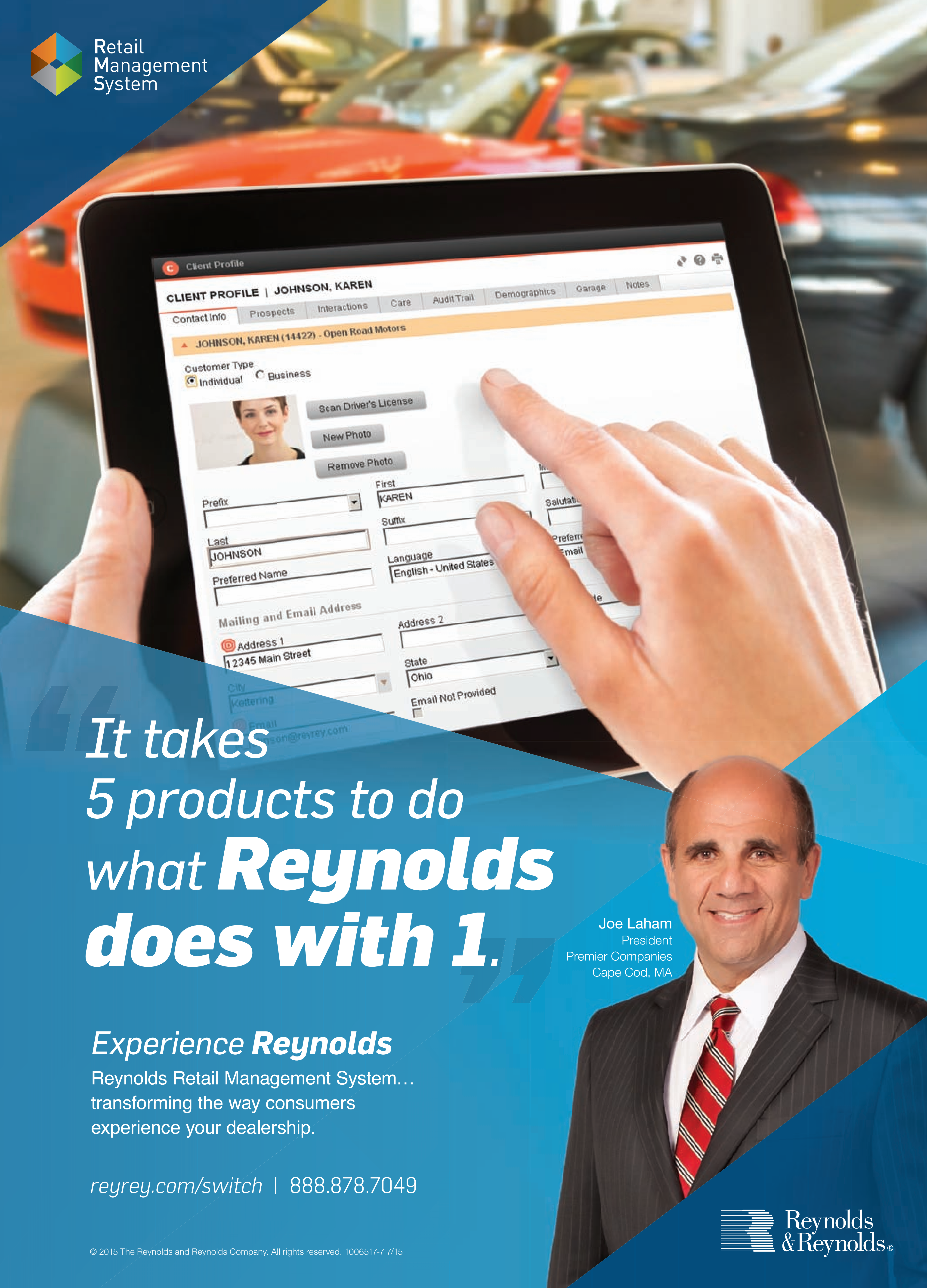
Working with a customer through the transaction helps salesmen build a loyal following, and eliminates the risk that comes with turning the customer over to someone else, he says.

Morford also has a short list of F&I-related product offerings. He only sells guaranteed asset protection and extended service contracts, on which salesmen make commission. For other F&I-related products, he refers customers to their local insurance agents.

Selling such products is an "opportunity to make a profit, but also an opportunity to make mistakes," especially without an F&I manager, he says.

Morford views insurance sales as something separate from the dealership business. "We don't sell lumber. We don't sell insurance," he says.

"We sell cars. If you want insurance, go to someone who is specialized in that." AN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# opinion

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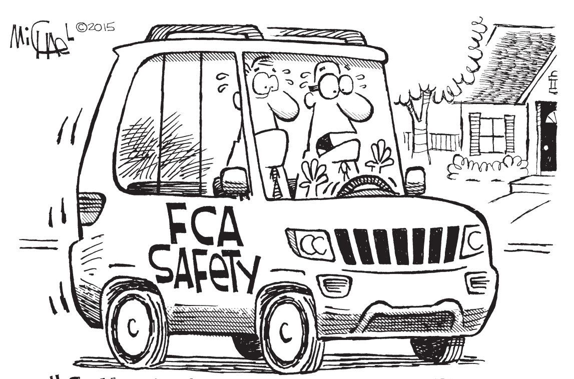


"SOME HACKER JUST SEIZED CONTROL. I THINK IT'S NHTSA."

## Sweet harmony: How trade pacts could pay off

Harmonizing global auto standards and regulations is an elusive goal, but two pending trade pacts offer a window of opportunity.

Both the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership include a goal to reduce differences in country-specific rules, standards and regulations. If trade negotiators can hammer out the terms, the financial payoff for the auto industry could rival that of the treaties' primary target of lowering tariffs and duties.

The industry's stake is huge. If carmakers didn't have to design and build dozens of substantially different versions of vehicles to meet the rules of various world markets, automakers and suppliers would gain economies of scale and reduce the burden on their product-development staffs.

As capital demands mount for manufacturers, that's a critical advantage. Consumers also would benefit directly from more affordable autos and more choices.

It won't be easy. Governments hate to limit their power to set policy. Established automotive standards and trade law take on a life of their own.

Not every rule can be standardized. No country will switch which side of the road its citizens drive on, for example. But others may be easier, such as harmonizing crash standards, fuel purity, evaporative emissions and onboard diagnostics.

The path to greater harmonization is clear. The Alliance of Automobile Manufacturers, the American Automotive Policy Council and the European Automobile Manufacturers' Association have worked together to lobby for harmonization within the Transatlantic deal.

That's a laudatory approach. Regulators should listen to arguments based on sound data.

If harmonization is impossible, governments should at least recognize one another's standards if their safety or environmental outcome is effectively the same.

Automakers and suppliers should keep lobbying for trade rules that reduce complexity and waste, communicating clearly with appropriate officials.

It's horse-trading time. The winners will be those that have decided exactly what they want and how to get it.

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FROM THE PUBLISHER

## Putting Sergio's thesis to the test

*Automotive News* turns 90 this month.

Nine decades and, to the best knowledge of anyone old enough to remember, we have never done what you see printed in this issue and what you'll see in the five installments of "Industry on Trial" that follow.

In a nutshell, we have devoted enormous time and resources and turned the mirror on the industry — questioning whether the entire structure, the bones of the business, needs a rethink.

We have explored the thesis that the industry burns too much capital, wastes too much effort and is beautifully inefficient at what it professes to do so well.

We decided to challenge the notion that this is a healthy industry — that in the sixth year of recovery from the Great Recession, it is sustainable as structured.

This spring, in his PowerPoint manifesto, "Confessions of a Capital Junkie," Fiat Chrysler Automobiles CEO Sergio Marchionne challenged analysts and the industry to ponder those questions.

Some high-ranking executives within the industry whispered that Marchionne was desperate.

But no one appeared to put his thesis to the test. So we did.

Starting with this issue and continuing with the next five, we reveal the findings from our deep-dive exploration into the viability of this capital-crazy world.

Virtually every editor and reporter in the *Automotive News* world had a hand in the process.

The results from dozens of on-the-record and off-the-record conversations are fascinating.

Our findings will appear in the print and online pages of *Automotive News*.

**Jason Stein is publisher and editor of Automotive News.**

And, in a first-time effort, we also have the view of six industry experts filmed over 90 minutes in our Detroit TV studios. That video begins running today, Aug. 3, online.

In essence, that conversation resulted in broad agreement that:

- The industry burns through too much capital, destroying value.
- The valuations of automotive giants are "pitiful" compared with other industries.
- At least half of product engineering is needlessly duplicative because it involves components car buyers can't distinguish.
- The industry is headed toward an inflection point; new non-auto giants with high valuations are poised to become auto industry players.

**We decided to challenge the notion that this is a healthy industry — that in the sixth year of recovery from the Great Recession, it is sustainable as structured.**

- There must be more standardization — from EV plugs to safety regulations — between Europe and the U.S.
- It's an irrational industry. For example, there is general agreement among all six participants on our panel that consolidation is needed now but much cynicism about whether it will happen.
- No merger can work without a strong leader, or, in the words of former GM executive Bob Lutz: "a boss ... not overly compassionate."

Maybe our findings were best summed up by Aston Martin CEO Andy Palmer, a man at the center of the most successful alliance to date while a top executive at Nissan-Renault.

"The rational time to be looking at consolidation is probably on the up cycle when the company has got money," Palmer told us in the videotaped roundtable, "but we're an irrational industry."

*You may email Jason Stein at jstein@crain.com.*

LETTERS TO THE EDITOR

## TrueCar raises dealers' selling costs

**To the Editor:**

Regarding "A lunch date, then a breakup," July 13: Scott Painter and his TrueCar minions are bent on portraying dealerships as rip-off artists and portraying TrueCar's service as the only way to purchase an automobile without getting ripped off.

Any dealer that signs up with them should have his head examined. Why would any dealership want to pay someone a per-car fee for the privilege of being portrayed as a business that doesn't offer customers competitive pricing?

TrueCar wants to leach money from dealerships by trying to create an unnecessary third-party intermediary in the purchase process. All it does is raise the selling costs of participating dealers.

MARK HARMON
President
Harmon's Auto Center
(Buick-GMC-Cadillac)
Provo, Utah

### Painter's business model is flawed

**To the Editor:**

TrueCar CEO Scott Painter's letter to the editor is misleading ("TrueCar does not misuse dealer data," July 20).

Manufacturers in many cases have strong-armed dealers into excessive facility requirements in addition to various "incentives" to create high customer satisfaction. Those investments are intended to create customers for life.

Painter's model is flawed if he needs to access dealer data to determine who his customer is. His company's service is a digital version of a print ad. What newspaper would claim that the dealer's customer belongs to the newspaper for billing purposes?

Scott is not solely at fault here; dealers must reconsider a business model that permits access to their customer data.

At some point, TrueCar's business model will attempt to convert dealers' customers into TrueCar's customers without the tremendous investments that dealers have made in facilities, personnel and capital to create a favorable experience in the purchase and service of vehicles.

STEVEN J. ROSENBLATT
Rosenblatt, Levittan, Vulpis, Goetz & Co. LLP
New Hyde Park, N.Y.
*The firm provides accounting, tax and consulting services to several dealerships.*

### Thanks for taking up the titling cause

**To the Editor:**

I applaud the July 20 editorial, "All states must get on board to close title-washing spigot." I couldn't agree more.

This is one of the most challenging issues facing our industry. Title washing is rampant, dangerous and knowingly tolerated by some states because of the tax revenue it brings them.

In 2005, after Hurricane Katrina, I had the honor of testifying before a subcommittee of the U.S. Senate Committee on Commerce, Science and Transportation at a hearing on flooded and salvage vehicle fraud.

VADA, along with Commissioner Rick Holcomb of the Virginia Department of Motor Vehicles and the National Automobile Dealers Association, had been working for many years trying to develop a national titling system. We were astounded at the roadblocks raised by many states.

It became clear that many state agencies were unwilling to join a national titling system voluntarily. Whether that was because of the costs of updating their antiquated computer systems, potential loss of revenue from titles that flow through their state or just a desire to be in complete control, I cannot say.

Thank you for taking up this cause. I hope you won't let it go.

DON HALL
President and CEO
Virginia Automobile Dealers Association
Richmond, Va.

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## opinion

OTHER VOICES

# Takata apology is a sign that accountability is new normal

**Ricardo Martinez**

The recent apology of CEO Shigehisa Takada to those killed or injured by Takata Corp.'s faulty airbag inflators signals the end of an era.

A half century ago, Detroit was the world's auto capital, home of U.S. automakers, suppliers and industry-related companies. Those manufacturing titans transformed America's economy, changed how people lived and created millions of jobs. But they also used big congressional influence to starve regulators of resources needed to oversee a booming industry.

Back then, the prevailing message was that anything that hurt the industry hurt America. Safety and environmental advocates were often called "safety nazis" or "tree huggers."

**Martinez**

In the late 1990s, Bill Ford Jr. acknowledged the automobile's environmental impact and pledged that Ford Motor would work to cut emissions and boost fuel economy. The industry response was not kind.

Over time, industry responses to defect investigations became predictable. First, a manufacturer would deny any problem existed while withholding information and urging congressional allies to quash further investigation. If a problem was proved, the manufacturer would assert that it was rare and insignificant. If a problem was clearly more widespread, the manufacturer tried to limit any recall to certain geographic areas or a small number of vehicles. If all else failed, automaker lawyers often argued that the vehicle had met federally mandated safety standards and was not required to do more.

Times have changed. Today, consumers hold the key to the economy. The Detroit 3 control less than half the U.S. market. Consumers expect greater corporate responsibility and accountability, particularly on health and safety.

When its airbag problems arose, Takata tried to use the old playbook. It simply doesn't work anymore. Takata failed to show a proper sense of concern, urgency or accountability. Government authority and resources have changed, too. There are stronger reporting requirements for manufacturers and higher fines for misconduct. The Department of Justice is more likely to intervene.

Americans don't want an overbearing government, but they want one that works. Regulatory agencies must objectively enforce rules, ensure fair market competition and protect the public. As in sports, quality competition depends on honest referees.

Yet recent government audits and reports show that the agency charged with overseeing auto safety, the National Highway Traffic Safety Administration, has been chronically underfunded, understaffed and undertrained. To work effectively, NHTSA needs resources and expert personnel.

With so many brands available, market share determines an automaker's fate. Value and quality are still important, but increasingly market share relies on trust and meaningful relationships. That means automakers putting consumer safety and well-being ahead of corporate profits — a hallmark of corporate responsibility. Vehicles often share parts across multiple platforms to reduce costs. But if a part is defective, it's in more cars. The longer a manufacturer waits to fix bad parts, the more it costs and the greater the risk to the public.

Early intervention is more effective, cheaper in the long run and demonstrates corporate responsibility, which fosters trust and deepens relationships with consumers. Trust is the real key to building market share and long-term profits. It may not be the traditional approach, but it is certainly a sustainable one. More important, it saves lives.

*Ricardo Martinez is chief medical officer of North Highland Worldwide and a former NHTSA administrator.*



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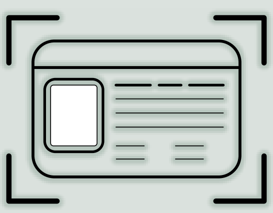

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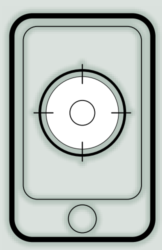

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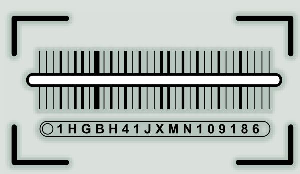


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# Infiniti: App will add sales panache

## Tablets help satisfy shoppers, exec says

Lindsay Chappell
lchappell@crain.com

NASHVILLE — Infiniti retailers will move to a tablet approach to working with showroom customers by year end, covering the complete sales process from vehicle presentation to delivery.

The carmaker believes that its newly designed ICAR-X tablet app will let dealers knock an hour or more out of the typical vehicle-purchase process and improve Infiniti's performance in industry customer-satisfaction ratings.

"We believe this will give Infiniti a more efficient premium car-buying environment," says Jon Finkel, global director of Infiniti client experience.

Once the system is fully operational, it will allow an Infiniti salesperson to call up a customer's ownership history with the store or dealership group. It will upload the details of any specific model that the customer configured on the factory website, connect that configuration to a specific vehicle in the dealership's inventory and produce a full report on the vehicle's features, complete with video demonstrations and technological explanations.

Then the tablet will alert store personnel to bring up the vehicle in question for a test drive. If the dealership has multiple vehicles that fit the customer's buying preferences, the tablet will display the cars in order based on their age in inventory to let the customer have his pick.

Finkel says sales tablets are proving particularly helpful in the luxury-brand segment by allowing dealerships to make a more thorough presentation of features, materials and technologies to shoppers. Matt Wilson, who is managing the ICAR-X rollout for Infiniti, reports that Infiniti stores that participated in the app's pilot program this year already have experienced an improvement in customer sales satisfaction.

The new approach has been in development for about 18 months and went live in most of the brand's 207 dealerships in July on a limited basis. The full suite of ICAR-X features will be running by year end, Finkel says.

Dealership personnel also will use ICAR-X to move the customer through the negotiation process and to prepare the customer's credit information and finance preferences to speed up the financial portion of the sale. The salesperson will be required to demonstrate all features and technologies before concluding the transaction and to set up owner services and service appointments with the customer.

"In retail, there is the amount of time it takes to conclude a vehicle sale — and we'd like to reduce that," Finkel says. "But there is also the issue of 'perceived time.' That's the customer's perception that his time is valuable and he doesn't want it wasted by sitting around at a dealership in unproductive ways on a Saturday afternoon, like waiting 30 minutes for a meeting with the finance department or waiting 20 minutes while store personnel pull the car out of inventory for a test drive." AN



# TrueCar, Sonic settle suit over 'True' usage

TrueCar Inc. and Sonic Automotive Inc. have reached a settlement in TrueCar's lawsuit against the dealership group over trademark infringement.

As part of the settlement, Sonic has agreed to transfer to TrueCar all rights to and use of its True Price, True View and all other True-related marks. Sonic also said it would lift its ban on using TrueCar at its dealerships, according to a statement issued by TrueCar.

Sonic will stop using True Price and other True-related marks effective immediately, TrueCar said.

The companies did not say whether the settlement involved any payments from either side.

TrueCar, a vehicle shopping site, sued Sonic, the nation's fifth-largest dealership group, in August 2013 in a California federal court. It contended that Sonic was committing trademark infringement by using the term "True Price" for a new pricing system. In addition to trademark infringement, TrueCar's lawsuit accused Sonic of unlawful business practices, false advertising and unfair competition.

Sonic stopped using TrueCar at its dealerships the following January when its contractual obligations expired. At the time, Sonic President Scott Smith said he wouldn't do business with someone who would sue Sonic. About 20 of Sonic's then-105 dealerships had been using TrueCar, Smith said.

The lawsuit had been slated to go to trial this September.

*—Amy Wilson*

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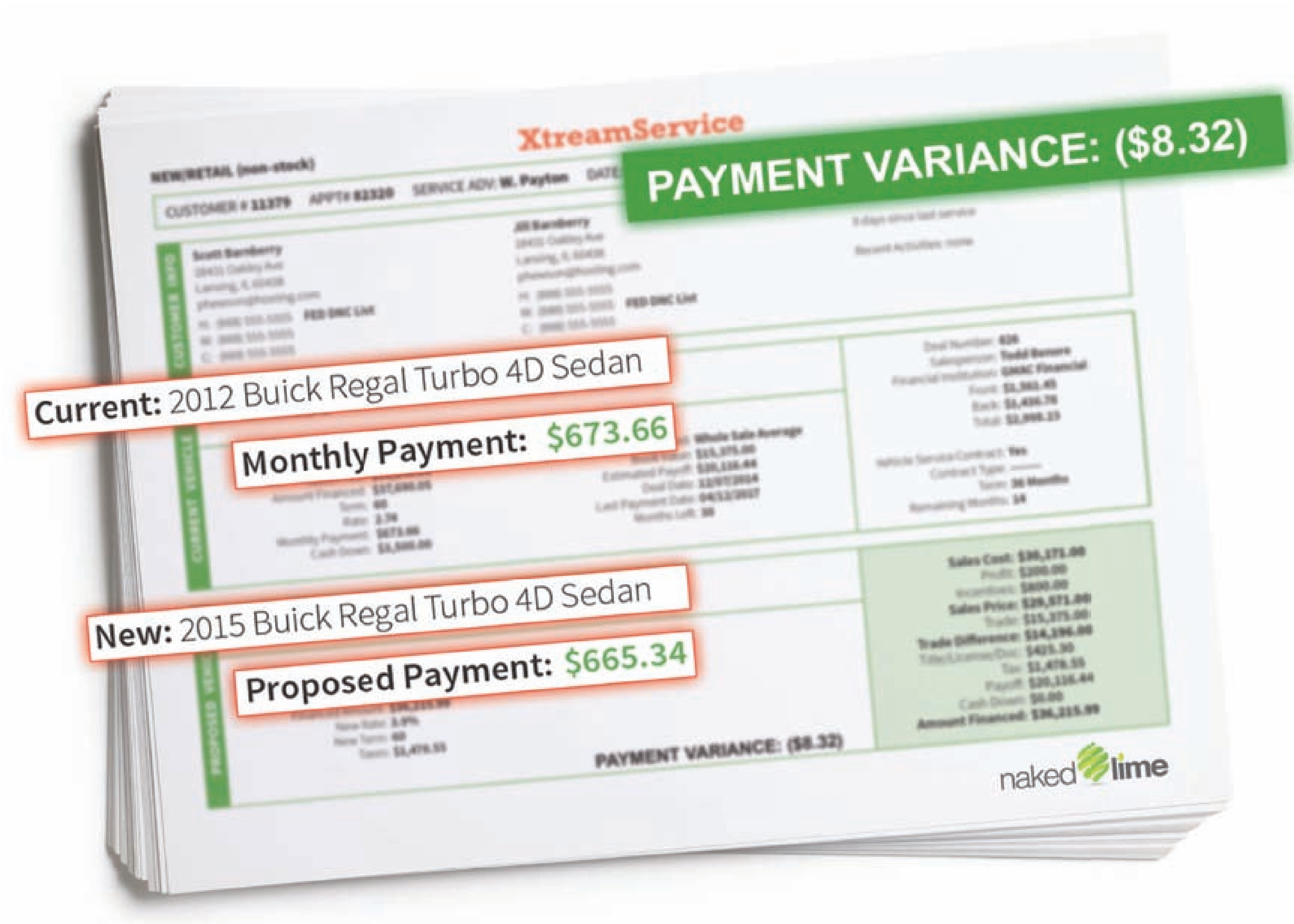


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# LINEUP

## How Porsche makes the most of its popular 911

continued from Page 1

keting. "Then we run that through the machine, and if we get a net present value that meets our targets, we go for it."

In the coming five years, Audi says it will add seven new vehicles, including at least two SUVs, increasing its range to 60 models. Mercedes plans to add 10 models in new segments by 2020.

Carmakers often recombine the DNA of other vehicles as they try to create the next breakthrough concept that drivers didn't know they wanted. "Coupe-ifying" sedans and SUVs is the latest trend, including the new Mercedes GLE Coupe that costs nearly $17,000 more than its M-class sibling.

"In an increasingly crowded marketplace it's important to give their customers a sense of differentiation, so you are not driving the same BMW as your neighbor," said Anil Valsan, global lead analyst for EY's automotive team. Valsan adds that popular niche cars are typically packed with sought-after features, enabling automakers to charge higher prices and offer lower incentives.

Audi's A7 Sportback, a four-door fastback, "is based on the same architecture of the A6, [but] has average transaction prices close to the A8," Audi CEO Rupert Stadler said in an interview.

BMW's 2-series Gran Tourer: Add a sliding door and it's a minivan.

### Moving downmarket

A study last year by U.K.-based CAP Automotive revealed that the number of vehicle derivatives introduced annually has quadrupled since 2009. Much of this has taken place in the smaller segments, leading to a considerable boost in prices as premium carmakers move downmarket with vehicles such as the Audi A1 subcompact or Mini Countryman crossover.

Mercedes and BMW are not alone in giving an existing chassis a nip and tuck and adding some sheet metal here and there to roll out a new vehicle.

Fiat offers European customers a choice among nine slightly different versions of its popular 500 subcompact. The higher profitability of niche vehicles enticed Ford into launching the Vignale premium trim level for Europe, where Lincoln is too weak to compete. In an unusual move, Land Rover will even launch a convertible version of its popular Range Rover Evoque SUV next year.

Nevertheless, the Germans may be the most prolific in their attempts to find untapped profit pools.

For one thing, high-end automakers have more leeway in pricing. Porsche sells more than 20 versions of the 911, for example. These include the Carrera S Cabriolet, Targa 4 GTS and GT3 RS and range from $85,295 to $195,595, including shipping, for the sportiest open-top 911 Turbo. Global 911 sales last year totaled 30,510 vehicles, or fewer than 1,500 per variant, and yet Porsche has among the highest profit margins in the industry, thanks in part to the drawing power of the 911.

It may seem risky, but experts say the economics largely work. Automakers' highly flexible platforms allow new, higher-priced niche vehicles to retain much of the underlying chassis and components, while reskinning the body at only an incremental increase in tooling costs.

"The trick is to use globally networked production plants employing standardized equipment and machines that build cars off scalable modular architectures," said Markus Schaefer, Mercedes production and supply chain head.

"Were we to take someone from our German compact car factory in Rastatt who builds the GLA crossover and put them the very next day in our Hungarian site in Kecskemet, they would be able to adapt to building the CLA four-door coupe very quickly," he said.

### CLS was forerunner

It is difficult to determine when the trend began, but it may have started with the 2004 launch of the Mercedes CLS. The company hit a nerve by taking a four-door E-class sedan and drawing the sloping silhouette down the roof and trunk that is typical of a sporty coupe. More than 50,000 were sold in the first full year on the market.

Not to be outdone, BMW followed four years later with the X6. BMW combined SUV elements such as a higher seating position and ease of entry to create what looked to be a sports car on steroids.

Sometimes ideas don't pan out, though. Mercedes tried to blend a wagon, minivan and SUV when it brought out the all-wheel-drive R-class sports tourer in 2005. U.K. dealership group Inchcape called the vehicle a "miscellaneous curiosity ... that the market never really understood or took to," dubbing it "the Mercedes that time forgot." The vehicle has since been pulled in all markets but China.

Taking note of the flop, BMW scrapped plans for a rival vehicle and instead announced in 2007 it would launch a "progressive activity sedan." The result: a 4-inch-higher 5 series with the wheelbase of a 7 series and almost 600 pounds of added weight. Dubbed the GT, officials claimed BMW's heaviest sedan was a "car that one has to discover from the inside out."

Few customers have been able to look beyond the exterior styling, though. Sales of the 5-series GT, which costs $10,000 more than the 5-series sedan, peaked in its first full year. As with the R class, demand is now heavily

continued on next page

# LINEUP

continued from previous page

concentrated in China, where comfort is prized over handling.

### ‘Pressure from the dealers’

Mark Wakefield, a managing director of AlixPartners, a New York consulting firm, says carmakers habitually copy each other, in part to placate retailers who get anxious when their rivals have a hot new vehicle in showrooms.

“There’s pressure from the dealers, more so than from customers, to have a competing version,” Wakefield said. “But then they also push back when the proliferation becomes too much and they don’t want to stock all these different vehicles.”

One U.S. dealership sales manager, whose BMW store was carrying a lot of inventory in part because of the proliferation of models, fears these niche derivatives are cannibalizing demand for mainstream cars such as the 320i xDrive sedan, which now leases for less than $300 a month.

“They have created so many models and so much inventory, I don’t know if the demand is there to sustain that naturally,” said the manager, who asked not to be named. “So now they have to be more aggressive with their incentive dollars than they ever have been in the past.”

In the process, the flood of derivatives has forced the two German carmakers to overhaul their nomenclature in favor of a logical consistency that replaces the confusing and seemingly arbitrary designations of the past.

Wakefield said the trend is forcing automakers to divert mainstream advertising dollars to brand campaigns, while shifting more product ads to less-expensive social media platforms.

“When you spread your resources, it’s fundamentally harder to break through to consumers if a certain product isn’t the one to get the Super Bowl ad,” he said. “I think that is a part of the renaming — to help customers along that journey, as opposed to forcing them to understand what an ML or GL means.”

Mercedes-Benz may have started the multiple-variant trend when it launched the CLS.

### ‘Jekyll and Hyde’

Peter De Lorenzo, AutoExtremist.com publisher, says BMW and Mercedes in particular suffer from what he calls the “Jekyll and Hyde disease.” He believes the companies risk their premium image as they push deeper into mass-market territory.

“While Porsche has done a very good job reminding customers why its brand is special, and Audi has been consistent, BMW and Mercedes are guilty of losing their focus,” he said.

A major reason why the two German brands are so prolific is to gain scale, given that Audi and Porsche benefit from the size of their parent group, Volkswagen. According to data from PwC, VW not only spent more on r&d than any other carmaker in 2014 for the third year straight, it outspent any company in the world, period.

To compete on costs, Mercedes has banded together with Renault-Nissan, which includes the cooperation on pickups. BMW is splitting its r&d bill for fuel cells and lithium air batteries with Toyota.

The financial incentives to create as many body styles off a platform as possible are significant, since the easiest method to drive profitability higher in a capital-intensive, fixed-cost-heavy business is growing volumes.

A broad lineup also cushions an automaker against market volatility. Officials at German premium brands argue that purchasing habits and customer tastes have changed markedly from 10 years ago, when demand for a vehicle over the course of its life cycle used to resemble a symmetrical bell curve.

### Spiky demand

Now, vehicles have become more of a fashion item, with volumes spiking in the first year or two only to then tail off sharply in the remaining four or five. By offering fresh derivatives, carmakers can smooth volumes over the life cycle enough to maintain a relatively steady curve in terms of capacity utilization rates.

Lastly, the increasingly strict carbon emission targets for carmakers are prompting premium carmakers to sell smaller, more fuel-efficient vehicles. Mercedes forecasts that the share of its sales from compact cars will rise to 42 percent in 2025 from 33 percent last year. Executives feel there is room to add to its five-car compact range when the next generation debuts by 2018.

But signs are popping up that the trend may have gone too far.

“The checkerboard of segments and body styles is almost full,” said Ian Robertson, BMW board member for sales and marketing, warning that other nameplates may start to disappear. “In the years ahead, we have to decide whether to replace models that play in segments which are contracting.”

Meanwhile his boardroom colleague, Peter Schwarzenbauer, already shrank the product range of BMW’s Mini brand after poor sales of several nameplates.

“Naturally, it’s controversial, since it’s going in a different direction from ‘the more derivatives I have, the more volume I make,’” Schwarzenbauer said. “Mini is a brand that I believe can prove the opposite to be true — that’s my conviction. Now, I need to prove this strategy works.” AN

*Luca Ciferri contributed to this report.*

# fixed operations

## GM prepares to fight aftermarket repair parts

**Mike Colias and Richard Truett**
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DETROIT — General Motors plans to roll out a new pricing system later this year for its original-equipment collision parts, a bid to take back market share from aftermarket parts makers.

The program will do away with list prices on GM collision parts, replacing the old system with an online system that the automaker says will give collision-repair shops quotes on GM parts that are "competitively priced upfront, at the initial repair estimate."

That's not how it works now. Repair shops usually write their initial estimates using aftermarket parts, which are typically 20 to 40 percent cheaper than GM's parts. Later, the shops can call a GM parts distributor, typically a dealership, to see whether it can match the price of some parts or at least come close.


**Mayer: Process is inefficient.**

Kris Mayer, general director of GM's wholesale dealer channel, says that process is inefficient and costs GM sales because it requires the body shop to take an extra step in the process.

"It's kind of like you're training your customer to use a coupon in order to be competitive. It's a waste," Mayer said last month during a panel discussion about GM's new program, called MyPriceLink.com.

GM is conducting pilots of the program this summer and plans to launch it nationwide sometime in the fourth quarter, Mayer said.

The new process will help GM collision-parts wholesalers sell more higher-margin GM parts, instead of aftermarket parts, GM says.

"This gives our GM dealers an opportunity upfront in the estimating process," Mayer told *Automotive News* after the panel discussion, which was hosted at the collision repair and service convention, NACE|CARS Expo & Conference.

But the new method could create more work for GM dealerships' parts departments. They will get collision-parts pricing from MyPriceLink, rather than through their dealer management system. That will require them to transfer the prices from MyPriceLink into the DMS invoice, with the help of an integration tool that GM is providing.

"There is some anxiety from a workflow perspective," said Bill Lopez, vice president of OEM programs at OEConnection, an online automotive parts marketplace formed in 2000 by several automakers, including GM. "The dealers are probably taking on a little more workflow change than the shop because there's no static list price anymore."

Jack Leet, fixed operations director at Voss Auto Network in Dayton, Ohio, which sells Chevrolets, Cadillacs and other brands, attended the panel discussion. He worries that the new process will be more time-consuming for his parts depart-

see **PARTS**, Page **22**






## Repeat repairs on older Volvos are free

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Volvo Cars of North America has launched a new parts and labor warranty for older cars to drive more business to dealerships.

If an off-warranty vehicle is repaired at a Volvo dealership and comes back with the same problem, the fixes are free.

The repairs include labor, which is usually half of a customer's bill, said Scott Doering, vice president of customer service. The program doesn't cover wear-and-tear items, such as brake pads and wipers.

The program went into effect June 1 for vehicles that have come off Volvo's 4-year/50,000 mile warranty. It is part of the Volvo Service Advantage plan, which includes courtesy transportation, a car wash and free diagnostics.


**Doering: Plan helps dealers.**

Doering said Volvo decided to offer the program because its sales have declined in the past several years, which means fewer cars are returning to dealerships for service.

"The park of [used vehicles] is expected to decline. We looked at what we can do to support dealers."

The quickest way was to offer the new repair warranty to "drive service retention and bring more customers back to dealers," Doering said.

"We feel this offer aligns [with] where we are going with our brand. We are a customer-focused and customer-oriented brand. Providing this level of assurance felt natural."

Volvo found more than a third of owners usually turned to the aftermarket for post-warranty repairs rather than a dealership because of the lower cost and trust concerns, Doering said.

About 1.6 million Volvos are on U.S. roads.

The new program replaces Volvo's previous 2-year warranty on repair parts and service, he said.

Items that wear out such as brakes, wipers, belts, batteries, bulbs and tires are still not covered. They weren't under the old 2-year warranty.

The new warranty does cover the water pump, alternator, transmission and even engine replacement — "some of the items you would not expect to wear out," Doering said.

The program covers only original Volvo parts installed at Volvo dealerships. Many dealerships sell parts to independent repair shops. Even if those businesses use a Volvo part, the lifetime warranty won't apply. If a customer installs a part, it is not covered.

Parts sold over the counter that are not installed by a Volvo dealership are covered by a 1-year, parts-only warranty.

The new warranty ends when the car is sold.

Doering did not disclose statistics on how often a car under warranty has to come back to have the same problem fixed or the cost of the program.

"It is costly," he said. "We believe it will be more than offset by increased customer retention." AN

# AutoNation's online pilots edge forward

## Retailer delays paperwork, F&I sales phases

Nora Naughton and Amy Wilson
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AutoNation Inc. says the rollout of AutoNation Express, its online car-selling platform, is ahead of schedule. But the retailer has slowed two key elements of the platform.

In November 2014, AutoNation CEO Mike Jackson said customers would be able to finance and buy a car online, even sign the paperwork electronically from home, by the end of 2015. But the crucial step of online documentation has been pushed into the first half of 2016. The sale of F&I products via AutoNation Express also has been pushed into next year. Online shoppers will be supplied educational information, but not prices, about F&I products this year.

The final documentation phase is the most complicated because lenders and state regulators have different requirements. For instance, some entities legally require blue ink signatures.

"In principle, the total project is ahead of schedule is how I look at it," Jackson said. "Things that were working very well, we took resources that would have gone to documentation and said, 'Let's pull forward and get it across the full country sooner. Let's get these other pilots up and running and then we'll dig into documentation.'"

Jackson told analysts during a conference

Jackson: "This is working."

call last month that AutoNation Express was rolled out nationwide as of June 30. That's "six months ahead of schedule," he told them.

That might be a stretch, considering Jackson's promise for fully online transactions. On top of that, two AutoNation stores still had not implemented AutoNation Express by the end of July.

Those two stores, in Mobile, Ala., are undergoing renovations and IT systems conversions. Company executives say it would be too disruptive to launch AutoNation Express while those projects are ongoing. So it will be late this year or 2016 before those stores are brought into AutoNation Express.

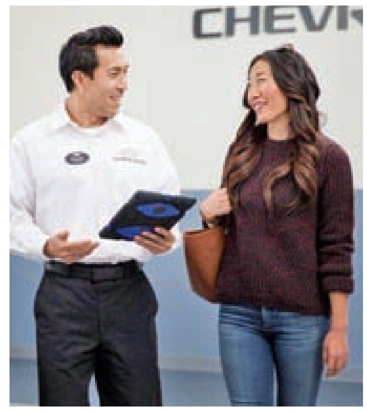
Despite these missing pieces, Jackson boasted about AutoNation Express' popularity among customers and employees. He said more than 20 percent of the retailer's business is now generated by AutoNation's digital platforms; in April 2014, he had indicated that figure was above 13 percent.

"You look at that report card and you say, 'Yeah, this is working,'" Jackson told analysts.

The push to accelerate the AutoNation Express platform comes after AutoNation cut ties with the digital car buying site TrueCar Inc. over disagreements about TrueCar's demand for AutoNation's customer data.

"I've been very clear before that we wouldn't be overly dependent on third parties," Jackson said. "I knew one of them would eventually make a demand and we would be over a barrel. And look, it happened." AN






GM's new parts-pricing system may mean more work for dealerships.

## PARTS

### MyPriceLink was postponed last year

continued from Page 20

ment and left unconvinced that the program will lead to an increase in collision-parts sales.

"Our guys already do so much. They say, 'We don't have time to do this,'" Leet said. He also acknowledged that his GM parts sales have room for improvement.

"We don't conquest the parts we should."

Mayer said GM has worked hard to streamline the process.

"We don't want to make more work" for dealerships, Mayer said. "They're our selling force, and they don't want the disruption either. We've heard that loud and clear."

### Attack on aftermarket?

GM acknowledged that questions from dealerships and collision shops about how the system would affect their workload forced the company to postpone the rollout of MyPriceLink.

GM introduced it last November with a press release calling it an "aggressive and game-changing initiative that will change the way the market gets Genuine GM collision parts," before pulling it back a week later.

Meanwhile, aftermarket parts makers are concerned that the program will siphon business away from them. And they fear that other automakers will follow GM's move to real-time, upfront pricing.

"We feel it's a direct attack against the aftermarket," says Ed Salamy, executive director of the Automotive Body Parts Association, which represents aftermarket parts manufacturers and distributors. "One can only speculate that this is a tool to drive out the aftermarket." AN

FIRST IN A 6-PART SERIES

Sergio Marchionne says the auto industry is broken.

He says automakers waste billions on pointless r&d investment and destroy heaps of shareholder value in the process.

The Fiat Chrysler CEO says companies must consolidate now or face "disastrous consequences" later.

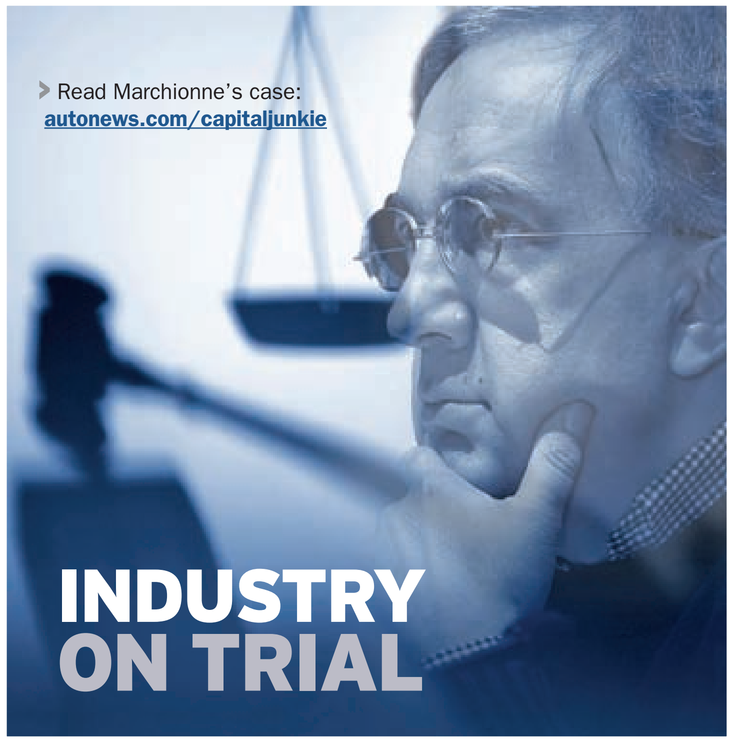
In April, Marchionne laid out his plan for saving the industry. It was a cold, candid assessment by the head of a global auto giant, or as he put it: "A dispassionate look at the industry from the outside using insider knowledge."

"It is about … fundamentally changing the paradigm for the industry," he said.

Is Marchionne right or was he simply putting FCA up for sale? We asked six superstar industry thinkers to discuss the matter in detail: Bo Andersson, Arndt Ellinghorst, John Krafcik, Bob Lutz, Tim Manganello and Andy Palmer.

Not all are convinced it's the right time for companies to merge, but like Marchionne they all see an industry with huge challenges.

What follows is an edited transcript of a two-hour video roundtable discussion held last month in the *Automotive News* TV studio in Detroit.




# 'SERGIO WAS RIGHT'

## Six superstars ponder the future of an 'irrational' auto industry

### 'Pure economic waste'

*What Marchionne says: "The capital consumption rate by OEMs is unacceptable — it is duplicative, does not deliver real value to consumers and is pure economic waste."*

**FORMER GM VICE CHAIRMAN BOB LUTZ:** The automobile business consumes enormous amounts of capital, which is why our fixed cost is so high and why when there's a downturn and the volume collapses, we're all into the multibillion-dollar losses and hemorrhaging cash.

**AVTOVAZ CEO BO ANDERSSON:** Very few car companies are making more than 5 percent net income. For 66 percent of my business I'm a supplier. I'm more healthy as a supplier than making cars.

**FORMER BORGWARNER CEO TIM MANGANELLO:** At BorgWarner … we used an artificially high cost of capital. Our true cost of capital is probably 10 or 11 percent. We set our hurdle at 15 percent. Anything we did had to have a return on invested capital of 15 percent. That accounted for canceled programs, unexpected price-cut demands that weren't part of the contract.

So I thought Sergio was right. It's kind of simple. If your return on invested capital isn't greater than your cost of capital, you are destroying shareholder value. Bottom line was, there aren't too many companies in the auto sector at the OEM level that basically return their cost of capital.

**ANDERSSON:** The cost of powertrains is going up every year.

**ASTON MARTIN CEO ANDY PALMER:** What often … get called minor projects in an automobile company have simply exploded. Those kind of projects, basically regulatory compliances, are now a major part of our r&d spend every year. That is really, really a problem. It creeps up on us. Basically that's destroying value.

**LUTZ:** I no longer have access to General Motors figures, but I would be surprised and shocked if the 200-mile electric Bolt is going to make money. You look at the cost per kilowatt hour of batteries and the number of kilowatt hours they have got in there and then you look at the selling price. It's just not going to work.

**MANGANELLO:** This is a great opportunity for OEMs to partner with suppliers on longer-term partnerships … to help them offset some of their need to spend their capital.


**ROUNDTABLE: Industry insiders and Automotive News editors Dave Versical and Jason Stein discuss Fiat Chrysler CEO Sergio Marchionne's plan. Seated at the table are, from left, Tim Manganello, Versical, Stein, Bob Lutz and John Krafcik. Joining via video are, clockwise from the bottom, Bo Andersson, Andy Palmer and Arndt Ellinghorst.**

**PALMER:** If we look at … our enterprise value and how we compare to those other industries, it is really rather poor. That's the point Sergio is making. Should the auto industry be compared with the other industries? The answer has to be yes. People putting money into shares have choices.

### Same old crisis?

*What Marchionne says: "Historical returns have been broadly below cost of capital, even after the restructuring of the U.S. auto industry and NAFTA volumes at peak."*

But hasn't that always been true?

**LUTZ:** For the last 30 or 40 years, investors and analysts have been saying the automobile business is a great consumer of capital and does not return economic value to the shareholders.

What's new here? This is the first time somebody in the business — rather than being defensive and saying, "Wait until next year" and "We just went through a rough patch," etc., etc. — is agreeing with the premise that the automobile business is a destroyer of capital. It really is.

**ANALYST ARNDT ELLINGHORST:** It's important to understand why Sergio makes that point. It's a very fair point, but he has an interest because he is running a company which is probably most challenged within the global industry.

**LUTZ:** The knowledge that one is to be hanged in the morning focuses the mind wonderfully.

### All that r&d spending … do customers care?

*What Marchionne says: "OEMs spend vast amounts of capital to develop proprietary components, many not really discernible to customers"; 45 to 50 percent of products and tech-*

see TRIAL, Page 24

INDUSTRY ON TRIAL

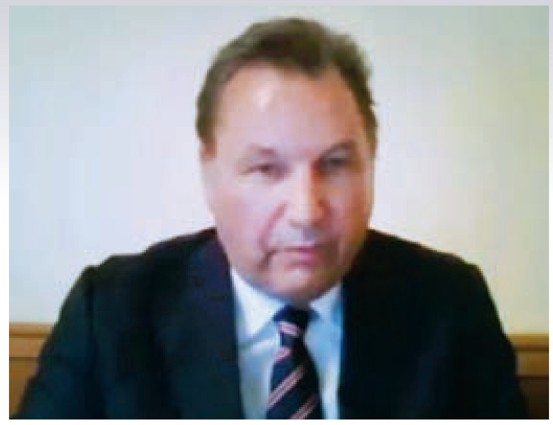
## Bob Lutz

Lutz joined General Motors’ Adam Opel in Germany in 1964, embarking on a career that would last until 2009 — by which time he was back at GM. In between were high-impact jobs at BMW, Ford and Chrysler.

When Lutz retired in 1998, a decorated hero of Chrysler’s revival, he was the very model of the kind of product development leader GM CEO Rick Wagoner was looking for. So the choice was simple for Wagoner: The real Bob Lutz would do until the imitation came along.

## Tim Manganello

After launching his career at Chrysler Corp. in engineering management, Manganello joined the supplier ranks and moved to BorgWarner in 1989. During his decade as the company’s CEO, from 2003 to 2013, Manganello forged an ideal portfolio of customers and geographic balance and rejected the unprofitable business that bedeviled so many suppliers during the dark days of brutal Detroit 3 purchasing.



## Bo Andersson

Andersson was a Swedish military officer before joining Saab in 1987, just before General Motors took control of the company. He quickly climbed GM’s parts procurement ranks and became head of worldwide purchasing in 1999, a job of almost incalculable power and influence.

In 2009, he was named CEO of Russia’s troubled GAZ Group and drew praise for turning things around. He moved to AvtoVAZ as president in January 2014, just in time for the country’s economic crisis.

**TRIAL** continued from Page **23**

*nologies are “undiscernible,” potentially overlapping with competitors.*

**TRUECAR PRESIDENT JOHN KRAFCIK:** I think 50 percent could even be conservative. You’re talking to a bunch of car guys, right?

We might notice, but 95 percent of the human car buyers around the globe really couldn’t tell the difference, maybe even between — I don’t know — a BMW and a Mercedes, or a BMW and a Chrysler.

**LUTZ:** How many people — other than by the unique styling and the brand on the truck — could really discern a meaningful difference between a Ford F-150, a Chevy Silverado, a GMC Sierra or a Ram?

**KRAFCIK:** That’s a great example.

**MANGANELLO:** In the Volkswagen family, you would be surprised how many — from my powertrain background — how many parts in the engine and transmission are common between a Volkswagen, an Audi, a Seat.

**LUTZ:** Can you say Bentley? That is basically an Audi A8.

**MANGANELLO:** I won’t speak about Bentley because some of the stuff we had to do was totally special for Bentley. Long story short, they created a different personality and a different feeling for the [VW group] vehicles based on their tuning rather than an engine and transmission.

**PALMER:** [At Nissan] it was always a point of huge debate. I completely agree with everybody, by the way, in terms of 50 percent of the value of the car is probably invisible to the customer, and maybe even higher than that. The key, from the experience I have had planning new cars for various brands, is making sure you pick the right 50 percent. You can have a debate about whether, for example, an engine is perceivable or imperceptible to a customer.

## One-off partnerships, aka ‘Band-Aids’

*What Marchionne says: “Some OEMs are trying … one-off cooperations, JVs and other equity tie-ups. But all this has produced poor results so far.”*

**KRAFCIK:** They’re OK on the margin and they’re small little victories, but it doesn’t solve the whole problem. If you are not totally merged and working together on the same product plan, working three or four years out and taking those synergies for those massively expensive product programs ... you just don’t get that consistent victory. You are making a lot of tactical deals that are just little Band-Aids that in the end don’t fix the structure.

**LUTZ:** I agree fully. That’s why General Motors rejected the overture at the time from [Renault-Nissan CEO] Carlos Ghosn of joining the alliance because somebody has got to be in charge and say, “No, we’re not going to do your architecture. We’re going to do this one over here.” Somebody has to have the capability to override the naysayers. Because in every company, everybody protects their turf and their jobs.

**PALMER:** There is a natural flaw to the concept of an alliance insofar as if you have two executive committees making their own decisions. You tend to take the easier route, which is to go your own direction. What you need is a strong leader that pulls it together.

> **“There is a natural flaw to the concept of an alliance insofar as if you have two executive committees making their own decisions.”**
>
> Andy Palmer

Most of the profit pullout of the industry is in premium, luxury and entry. Almost nothing is made in the middle. That’s where you need the real sledgehammer to get the economies of scale that one would get through full mergers where there is only one guy in charge, where you can demand those synergies. I think that’s where Sergio is absolutely right.

## Stupid industry tricks

*What Marchionne says: “Why does industry consolidation matter?” … “Consolidation carries executional risks, but benefits are too large to ignore.” … “Potential synergies from consolidation of auto OEMs would be [up to] 70 percent.”*

**PALMER:** I agree about the technologies that are coming forward — shared [vehicles], the alternative fuels, the connected vehicles and the autonomous vehicles — but we’re all doing them separately. As an industry, we can’t even agree on a common plug for a plug-in electric hybrid or a plug-in electric vehicle. How stupid is that? What hope do we have of competing with those other industries if we can’t get over the basics? I think in that sense, actually the industry is getting worse rather than better.

The debate that Sergio raises ... is a call to the industry that we need to start addressing. I don’t know whether we have to sit down and have a discussion in terms of M&A. I’m not sure that M&A is necessarily going to suit when there are so many scattered scrapheaps around M&A. … We have to have some discussion of better standardization.

**ELLINGHORST:** We all know that very few mergers have survived or make sense. Nissan is probably the only global integration that has really worked out. It’s incredibly difficult.

**LUTZ:** International mergers are very, very tough because it’s so hard to consolidate. You have got a headquarters on one continent, a headquarters on another. You have legal requirements, tax requirements, human resources, legal, etc. and … you can’t run European legal or European human resources or European procurement [from the U.S.]. What does work are mergers in the same geography if they’re done well.

The problem with most mergers or acquisitions is that … when they put the plan together and show all the synergies, it looks great. Like BMW and Rover. It looked like a great thing on paper. Once they had the deal done, they never moved in and actually smashed the two companies together. That has to be a pretty brutal process where you move with uncommon haste, plan everything in advance and then do it.

When Chrysler bought American Motors in 1987, we had a plan. Within 90 days of the merger, the total fixed cost of the combined company was no higher than what Chrysler’s was before because it was done with a great deal of energy and discipline.

General Motors twice tried to buy Chrysler in recent years. It made all the sense in the world … because with the headquarters right next door, man, you could just shut down one headquarters, you could have one rear-wheel-drive architecture, you could go to one truck architecture, consolidate your crossover architectures. GM still had Hummer back in those days. It could have been easily integrated with Jeep, etc., etc.

I was always in favor of GM acquiring Chrysler and I honestly think it would deserve a serious look now. You would get synergies ... which would be massive.

**KRAFCIK:** There does have to be some kind of pressure. I’m not sure if Darwinism is going to work because so many of these companies are big national champion players within their countries.

**LUTZ:** Look at Citroen. I mean, Citroen failed and it never went away.

## Why mergers fail

*What Marchionne says: “It is ultimately a matter of leadership style and capability.”*

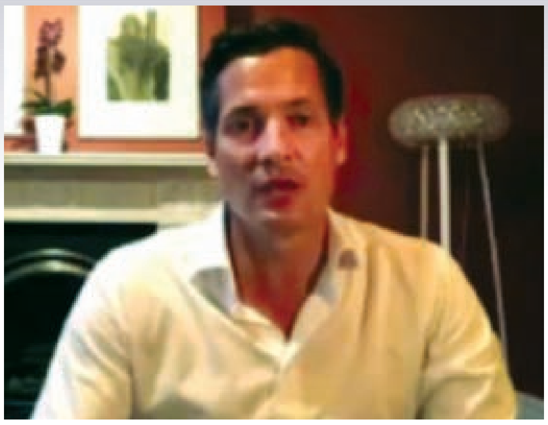
**LUTZ:** One reason mergers fail is an absence of really powerful leadership. That’s what caused BMW to fail with Rover. They went over there and they got a spiel from the Austin Rover guys saying, “We’re perfectly all right. We just ran out of money. All we really need is a little capital infusion and here is our hockey stick.”

The BMW guys thought, “Well, this is going to be easier than we thought.” The thing became a huge cash drain. You can’t do that. It takes guys like Lee

see **TRIAL**, next page

## Andy Palmer

Palmer is known as a modern-day Whiz Kid, a Ph.D. cut from the same analysis-soaked cloth as the data gurus who pioneered modern business principles at Ford Motor Co. in the 1950s. The British mechanical engineer shot up the ladder at Nissan, becoming the global company's No. 3 executive in 2013. In 2014, he was named CEO of Aston Martin.



## Arndt Ellinghorst

One of Europe's most influential auto analysts, London-based Ellinghorst is head of global automotive research at Evercore ISI. Previously, he was in charge of European automotive research at Credit Suisse.

## John Krafcik

Krafcik made his mark early in the auto business. While earning a master's degree at MIT's Sloan School of Management in the 1980s, he coined the term "lean production" to describe Japan's vehicle assembly philosophy. In 1990, he joined Ford and eventually became the company's chief truck and SUV engineer. He moved to Hyundai Motor America in 2004 as head of product development, and was the company's CEO from 2008 to 2013. He was named president of TrueCar Inc. in 2014.

**TRIAL** continued from Page **24**

Iacocca and Carlos Ghosn who say, "Here are the marching orders." Without the push from the top, they never get anywhere. Heard anything recently about the General Motors-Peugeot alliance?

**PALMER:** The common thread ... between partial success and complete and utter failure is one of leadership. It's leadership and it's focus and it's will to get it done.

**ELLINGHORST:** That is the absolutely crucial thing.

**LUTZ:** We look at DaimlerChrysler as having been a failed merger. Well, it wasn't failed for the Chrysler shareholders. At the time of the merger, the Chrysler shareholders realized an enormous gain.

The subsequent execution was flawed in that Daimler never stepped in. Everybody kept doing their own architecture, and you had the hubris as part of the Mercedes [side] that said, "We will never use a Chrysler engine." I have news for you: Our four-cam V-6 engine 3.2-liter was every bit as good as the equivalent Mercedes-Benz.

**ANDERSSON:** Being part of the Renault-Nissan Alliance, I would say it's working well. It's 15 years now and we really see the benefits of one engineering organization, one manufacturing organization ... Carlos Ghosn is a very strong leader and very effective.

**MANGANELLO:** I don't see [mergers] happening right now. Everybody is moving along pretty well right now with their sales. Everybody is feeling comfortable with their profitability. I don't think any OEM — or any CEO of an OEM — wants to take the risk.

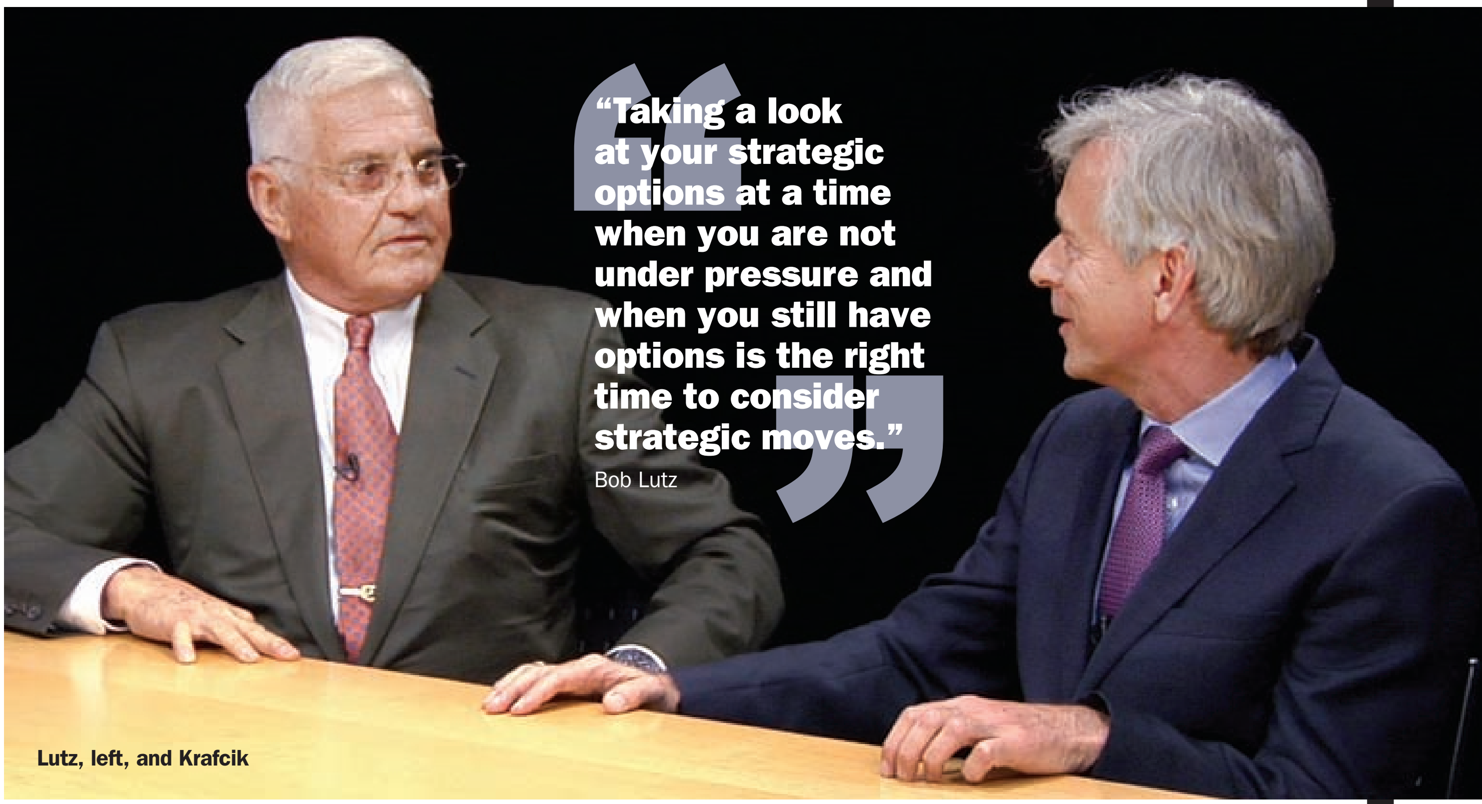
**LUTZ:** No CEO wants to lose his job.

**MANGANELLO:** Unless they're ready to retire. Then they can go out with a nice package. [Marchionne] may be desperate, but he is putting on a pretty good bluff. He is looking down the road and somebody has got to come up with all that cash if he wants to do all the projects he needs to do.

**KRAFCIK:** You could argue that some of these companies are distressed today.

**MANGANELLO:** They just don't know it.

**KRAFCIK:** I know times are good, but if you look at the market cap of car companies right now, Ford is worth about $60 billion, give or take, GM is worth about $53 billion, give or take. These are companies with $150 [billion], $200 billion top lines selling at a quarter of their revenue.



"Taking a look at your strategic options at a time when you are not under pressure and when you still have options is the right time to consider strategic moves."

Bob Lutz

Lutz, left, and Krafcik

**LUTZ:** That's just pitiful.

**MANGANELLO:** They think, "We'll survive, but those other guys may not."

**LUTZ:** I agree with John. There may not be the pressure to do it now, but at some point we're not going to have this level of prosperity.

**ELLINGHORST:** There is probably no other industry where you can buy a huge r&d power at a cheaper price than the auto industry right now. Look, I do generally believe in the whole idea of consolidation. I just really think it's not going to happen at the peak of the cycle.

**LUTZ:** I would take exception to the comment that it makes no sense now. Taking a look at your strategic options at a time when you are not under pressure and when you still have options is the right time to consider strategic moves. If you are in deep trouble and hemorrhaging cash, it's kind of too late. One of the problems with GM in '07, '08 was we were running out of options.

**PALMER:** The rational time to be looking at consolidation is probably on the up cycle when the company has got money, but we're an irrational industry.

## Open-sourcing: A solution?

Does it make sense for the industry to share intellectual capital?

**KRAFCIK:** It's a really interesting hypothesis. Tesla is essentially open-sourcing all of their EV-related patents. Ford quickly followed suit with the same approach and Toyota took the same approach with hydrogen and fuel cells. So everyone is doing it now. That's an interesting play.

**MANGANELLO:** Remember the days of the beta and VHS? Maybe they want everyone to lock in on their path.

**LUTZ:** Their old stuff.

**KRAFCIK:** Right now there are just two paths on zero-emission vehicles.

**LUTZ:** I'm cynical. I think part of it is sleeves out of our vest. You know, "Let's make a big pronouncement. We don't need this stuff anyway." If you look at, for instance, Tesla's battery technology, everybody thinks there is a secret sauce in there someplace. There is no secret sauce. It's lithium ion. They just pack more of it into the car than anybody else.

My prognosis is everybody is going to do some fuel cell vehicles. Now, there would be an ideal architecture to share.

**KRAFCIK:** The skateboard.

**LUTZ:** Yeah. Just do one fuel cell vehicle and have about six companies each participate in the architecture so that at least they might attain a volume of maybe 100,000, so that everybody can have their 5,000 or 6,000, which they're going to need to comply with California.

I don't know if anybody noticed, but full-size sport-utilities used to be — just a few years ago used to be $42,000, all in, fully equipped. You can't touch a Chevy Tahoe for under about $65 [thousand] now. Yukons are in the $70 [thousands].

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**TRIAL** continued from Page **25**

The Escalade comfortably hits $100 [thousand]. Three or four years ago they were about $60,000. What this is, is companies trying to recover what they're losing at the other end with what I call compliance vehicles, which are Chevy Volts, Bolts, plug-in Cadillacs and fuel cell vehicles.

**KRAFCIK:** The open-sourcing comment is a good one. It's an interesting way for the industry to share intellectual capital and to stop redundant waste in reinventing similar solutions to get around patent barriers. The reason the industry is a capital junkie is the industry is duplicating the same solutions over and over and over across companies, across suppliers. We're spending duplicative engineering effort, duplicative capital investment, duplicative tooling. Open-sourcing avoids that.

**MANGANELLO:** If you have more open sourcing, that means the car companies go more and more toward the assemblers … because they all have access to the same product. You can do something similar with supplier partnerships and still have some control.

**KRAFCIK:** The challenge then becomes: What are you going to do to differentiate your company?

**LUTZ:** Yeah.

**MANGANELLO:** A transmission is 80 percent common in terms of electronics, all the hardware, everything else. But then you sell it to various OEMs and they calibrate it completely differently.

**LUTZ:** If you are going to open-source your valuable intellectual property, why would you do that? I mean, why would you have your r&d people and your engineers work for the benefit of the industry and say, "Here, guys, we invented this new type of fuel injection that improves fuel economy by 25 percent. We'll open-source it."

**KRAFCIK:** In this case with EVs and hydrogen, I think it makes a whole lot of sense. If you have got something you cherish as part of your brand, it would be foolish to do that.

## Getting off the junk

*What Marchionne says: "Large-scale integrations are required to unleash full potential."*

**PALMER:** You know, Sergio uses the word "junkie." I think it's an interesting analogy. Normally a junkie is needing some help to get off drugs. You can't do it by yourself. I think that's true in this industry. Maybe it comes from open sourcing. Maybe it comes from the likes of Tesla. To me, once you publish a patent I think it's all out there anyway. So I think it's all a little bit of an entertainment value.

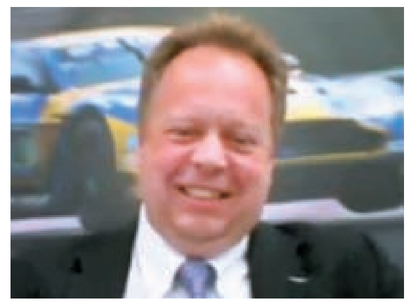
I do wonder in the discussions that are starting to happen right now around free trade whether the likes of SAE, [the Japan Automobile Manufacturers Association and the European industry trade group] have a role, a very important role, to play and I come back to simple stuff like a plug. It's stupid that we have at least four or five standards of plugs around the world.

I think the industry does need help getting off the capital drug and I think it will need external help. It will need some form of destruction. Whether that's the Google cars of the world, I doubt. Whether it's the Teslas of the world, I doubt. I think it could come through good old capital discussions and Darwinism and the rest of it and through thinking about free trade.

**LUTZ:** Ultimately capitalism is going to talk. As long as the price-earnings ratios of automobile companies are where they are … the automobile industry is going to have a tough time generating new capital. At some point, there is going to be pressure from shareholders, shareholder activists, hedge funds or whatever, for mergers.


Manganello, left, predicts that eventually, tech companies that are developing vehicles, such as Google, will have to seek expertise through partnerships with automotive companies.

Lutz: At some point, auto companies will face stiff pressure to merge.



Palmer: Will free trade be a solution?

## A new breed coming

Fast-moving tech companies with high valuations see opportunity in a changing auto industry.

**KRAFCIK:** The global industry is huge — like $2 trillion, if you just looked at the transaction value of new-car purchases. Look at it another way: If you assume a dollar per mile traveled and look at all of the miles that humans are traveling, new and used cars, it's a $10 trillion addressable market, if you look at personal mobility as a service.

> **"A transmission is 80 percent common in terms of electronics, all the hardware, everything else. But then you sell it to various OEMs and they calibrate it completely differently."**
>
> Tim Manganello

What's exciting about the industry now and maybe some of what's underlying Sergio's passion and urgency is that other nonincumbent companies, really interesting companies with big market caps who are used to earning much more on invested capital, are looking at this and saying, "Holy smokes! We could totally do something in this industry."

**MANGANELLO:** I know they're developing their own vehicles at Google and so forth. I think they're going to end up having to partner up with car people that can actually take the electronics and the mechanics or the mechatronics and make it all work together seamlessly, not just a bunch of electrical engineers.

**LUTZ:** That could be. But … the industry of multiple brands, multiple shapes, high-performance cars, minivans, sport-utilities and everything, that is … not the world as I see it 30 years from now.

**KRAFCIK:** I see two vectors ... the industry is really worried about. One is operating systems, all this stuff we're talking about on the road to autonomy, but also on the road to [vehicle] sharing. That's sort of operating system stuff, software system stuff.

The second vector is propulsion systems which will change radically over the next decade or two. Bob, you may disagree. I think a lot of internal-combustion solutions are going to decline with time. You are going to see more zero-emission vehicle solutions.

**MANGANELLO:** The problem is how much.

**LUTZ:** How much and how fast. AN

# GM takes a fresh look at emerging markets

## Company to spend $5 billion on tech-rich small cars

**Neal Boudette**
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DETROIT — General Motors' plan to invest $5 billion in a family of technology-rich small cars reflects the industry's changing attitudes toward opportunities in emerging markets, where consumers and regulators are increasingly demanding more advanced vehicles.

In the past, Western automakers typically served these markets with low-cost, bare-bones cars, or produced stripped-down versions of vehicles that had reached the end of their product lives in mature markets.

GM President Dan Ammann said the company believes neither approach will work in the future.

"We believe customer requirements are moving very rapidly in these markets," Ammann said. Consumers and regulators "want to have connectivity, good fuel economy, the right levels of safety [technology]. In order to provide the feature and content level, we need to come at this from a different way and from a different level of scale."

The $5 billion project announced last week also represents a deepening of GM's ties to its Chinese joint-venture partner, SAIC Motor Corp., which will co-develop the engines and platform with GM and contribute an unspecified investment. It will be the first time the two companies have developed a platform together.

The resulting vehicles will be sold under the Chevrolet name in China, Brazil, India, Mexico and other emerging markets. GM aims to have the first of the small cars in production by 2019 and expects the program eventually to account for sales of more than two million vehicles a year, Ammann said.

Of the $5 billion in planned investments, GM will devote $1 billion to India, where it hopes to launch 10 new models, double its market share and use an expanded plant to export to other Asian markets.

"GM cannot remain a global leader without making a serious investment towards expanding our presence in growth markets like India," GM CEO Mary Barra said last week at a briefing in New Delhi.

An additional $1.9 billion will be invested in Brazil, GM said.

Ammann said GM believes it can take advantage of economies of scale to produce content-rich cars that it can sell at affordable prices while still generating "the right kind of returns" for the company.

The emerging-market program is one of several big bets GM is making to strengthen its operations now while it is flush with cash. The company also has earmarked $5.4 billion for improving plants in the U.S. and Mexico and is spending heavily to build up Cadillac.

With the latest effort, GM hopes to use its scale to leap ahead of competitors in markets that are expected to drive much of the global growth in auto sales over the next 15 years.

"We are making clear where we see growth opportunities and where we are placing our bets," Ammann said.

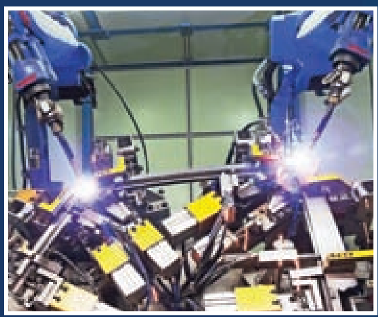
Analysts expect global production to climb to more than 130 million light vehicles by 2030, up from about 90 million last year. Almost all of the growth will come from emerging markets. China is estimated to grow to about 40 million vehicles by 2030.

The new architecture GM plans to develop will replace several lines of unrelated vehicles now sold overseas, and should result in a "significant consolidation" of platforms, Ammann said. GM has a broader effort to produce almost all of its vehicles from just four vehicle sets by 2025. The company now derives about 75 percent of its models from 14 core architectures. AN

*Reuters contributed to this report.*


**GM CEO Mary Barra displays the TrailBlazer SUV in New Delhi. Barra emphasized the importance of investing in growth markets such as India.**

Swift and secure vehicle software updates? PAGE 44 | Denso maps out two-pronged mpg drive PAGE 48



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Automotive News INSIGHT

# STATE OF SUPPLIERS

**> Complete coverage from Traverse City**
Nine *Automotive News* reporters, editors and videographers are covering the Management Briefing Seminars this week in Traverse City, Mich. For stories, blogs, photos and TV reports, go to autonews.com/tcity.



**"Software is the major factor, and in some cases the deciding factor."** Egil Juliussen, IHS Automotive

**Visteon's Kyle Entsminger, far right, with help from Aaron Forsman, is working on a new graphic display for a concept cockpit that may feature 3-D images.**

# Hard-core software

## A new breed of software engineer is creating nifty graphics and features for computer-laden vehicles

**David Sedgwick**
dsedgwick@crain.com

Software is king.

Now that smart cars can evade road obstacles, display 3-D maps and respond to voice commands, the software and electronics hardware for these features can cost more than a vehicle's raw metal.

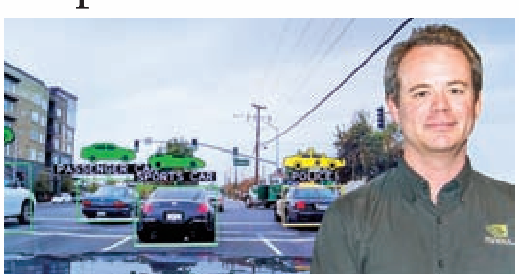
According to an estimate by IHS Automotive, the price tag for a vehicle's software can range from $350 to $1,050.

The electronics hardware — that is, the computer chips, displays and user controls that put this software to use — can add another $2,000 to $6,000 to a vehicle's cost, says Egil Juliussen, a researcher for IHS Automotive.

"Software is the major factor, and in some cases the deciding factor" in an automaker's decision to buy a particular component, Juliussen said.

As suppliers beef up their software development, the hunt for software talent has taken on the urgency of a gold rush.

"Software expertise is in short supply in any industry, and certainly in the auto industry," Juliussen said. "That's why suppliers are opening up research centers in Silicon Valley — it's easier to attract talent."



**Nvidia's Mike Houston is an expert in software that helps computers identify objects.**

To cope with the software engineer shortage, suppliers such as Visteon Corp. are turning to unconventional sources — such as the movie and video game industries — to recruit people such as Kyle Entsminger.

### Holograms, hand gestures

Before he joined Visteon's advanced product design team in 2011, Entsminger, 34, earned his software chops as a video game developer and special effects editor for the movie industry.

Now, he's working on a new graphic display for a concept cockpit that may, among other things, feature 3-D images, perhaps even holograms.

At this early stage, Visteon is cagey about the type of data that might be displayed, or whether the company will display it at the International CES in January in Las Vegas.

In the meantime, Entsminger will continue to scout the consumer electronics industry for new technology and find new uses for it. "We dream up cool stuff, and then the sales staff pitches it to the automakers," he said.

The trick is to make infotainment data available to the motorist without distracting him with a string of menus on the center console screen, Entsminger says. To create intuitive controls, Entsminger is developing a system that responds to hand gestures, voice commands and head-tracking technology.

If the motorist looks at the radio, for example, the computer awaits instructions for an audio selection. "The goal is to get rid of [long] menus," Entsminger said. "You don't want to create a whole menu of commands."

Before he joined Visteon, Entsminger ran his own Dallas-based video game company, Perpetual FX Creative.

Entsminger developed expertise in gesture control when he designed the "Alien Monster Bowling League" game for Nintendo. But his company ran out of money in 2010 when it produced an ill-fated rodeo game for a couple of Texas oilmen.

see **SOFTWARE**, next page

# SOFTWARE

## Some develop their key code in-house

continued from previous page

It was a tricky job. How, for example, do you simulate a lasso flying through the air?

Sony eventually shut down that project, and Entsminger moved back to Detroit — where he had grown up — with his fiancée. After a chance encounter with a Visteon executive at a party, Entsminger joined the company.

While infotainment accounts for the lion's share of a vehicle's software, collision avoidance generates the second biggest chunk of code.

Because it's a safety technology, some automakers prefer to develop key portions of the software in-house. "BMW adds a lot of software integration in the final stages, much more so than Kia, which buys black boxes," Juliussen said. "Other companies are in between."

But even companies such as BMW, Volvo and Audi don't write all their software. Which is why more than 70 percent of chipmaker Nvidia's 9,500 employees are engineers — most of them software developers.

One of them is Mike Houston, a 36-year-old senior software engineer who helped "train" Nvidia's Tegra X1 graphics chip, which will power future collision avoidance systems.

Houston, who received his Ph.D. in computer science at Stanford University, is an expert in "deep neural networks" that help computers identify previously unseen objects. Facebook used this technology to develop facial recognition software, and now Houston is helping adapt it for collision avoidance.

For autonomous vehicles, the biggest problem on city streets is a vehicle or object that the computer can't identify and thus cannot anticipate. The solution: Let each vehicle consult a central supercomputer, which identifies the obstacle by analyzing millions of images transmitted from other cars.

To evaluate the chip's capability, Houston and his team drove six test vehicles around Santa Clara, Calif., for a couple of weeks in November and December. Their task: Develop algorithms to let the computer distinguish different types of vehicles.

The team collected 40 hours of video of cars, then tagged them — sports car, SUV, police car, fire truck — and fed them to the computer. Then the computer learned how to identify them even if they were partially obscured.

### Smarter vehicles

But certain traffic conditions proved tricky. In a construction zone, how should the computer interpret the flagman's hand signals? "If we had no humans on the road and just autonomous vehicles, it would be a much easier problem," Houston said.

While infotainment and collision avoidance require the auto industry's most cutting-edge software, the entire vehicle is getting smarter. (See story, above.)

By 2020, sales of semiconductors for "body and convenience" (i.e. adjustable seats, self-dimming LED headlamps, etc.) will rise 43 percent from 2014, according to a forecast by IHS Automotive.

And sales of semiconductors for powertrains are expected to jump 40 percent. Where one electronic control unit might be sufficient for a conventional gasoline engine, hybrid powertrains require as many as five, says researcher Ahad Buksh of IHS Automotive.

"As more features are employed, the electronics are really advanced," Buksh said. "There is a lot of performance being added, and that has a significant impact on software."

The result? Automotive suppliers are suffering a chronic shortage of software engineers, and they are poaching talent from other industries.

For example, after Entsminger joined Visteon in 2011, he recruited Aaron Forsman, a former associate who worked for his video game company in Dallas.

As a teenager, Forsman taught himself to write code for video games, then dropped out of college and supported himself as a freelance game developer and professional poker player.

"I taught myself everything that I know," Forsman said.

Now that Forsman is a member of Visteon's innovation team, he's helping Entsminger write code for the concept cockpit.

"Somebody like Aaron would have been completely overlooked had he applied for a job through normal channels," Entsminger said. "'Do you have a degree? No?' Aaron wouldn't have gotten an interview. The computer would have kicked out his resume." AN

# Today's Volvo XC90: A rolling computer chip

David Sedgwick
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To understand a vehicle's computing power nowadays, consider the redesigned 2016 Volvo XC90.

When the XC90 was introduced in 2002, it had as many as 38 electronic control units — small computers that receive data from sensors and components and issue control instructions. Now, it has as many as 107, says Kent Melin, Volvo's senior technical leader.

The vehicle has 1 gigabyte of memory — 200 times more than the original. Eighty percent of that memory is for infotainment, 10 percent for safety and the rest for all other functions.

Volvo's software engineers write about 30 percent of the XC90's code, focusing on core functions such as analyzing data from radar, lidar (laser-based radar) and cameras to identify road obstacles.

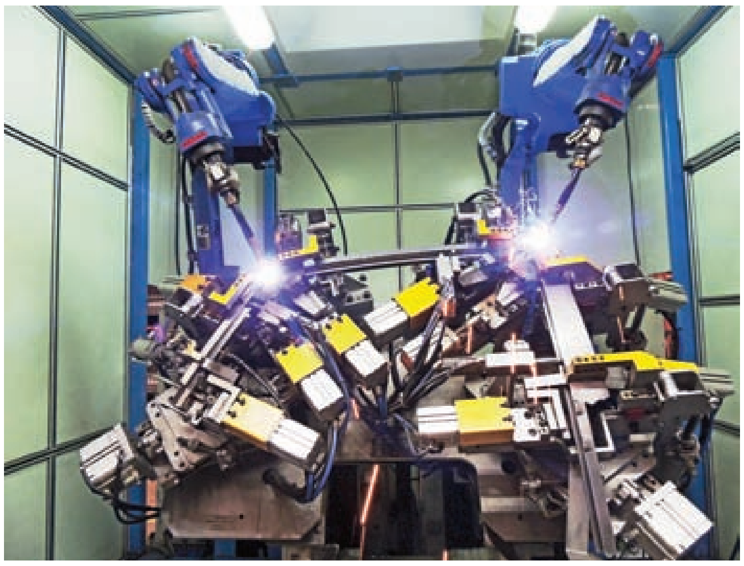
"We want to keep core knowledge in-house," Melin said. "We have a couple of hundred software engineers, and we are expanding quite a lot."

Suppliers handle the rest. Delphi Automotive, for example, provides radar and cameras for the XC90, along with software to operate them.

Suppliers also are developing software for previously "dumb" components that now sport sensors. The XC90's windshield wipers, supplied by Robert Bosch GmbH, are a case in point. Using data from the windshield's rain sensor, the vehicle's body control module sets the appropriate speed for the wiper blades.

Once the wiper blades have their own microcontroller, one can easily add functions, said Kyle Williams, Bosch's director for automotive systems integration. For instance, by collecting data on external temperature, the microcontroller could automatically turn on the windshield defroster.

The computer also could determine whether the road is likely to be icy. With adaptive cruise control, the vehicle can maintain a safer distance from the vehicle ahead. AN



Production at a Minth Group plant in Mexico. The Chinese supplier has three plants in Mexico, where it is taking advantage of cost savings.

# Seeking N.A. niche, China's Minth expands in Mexico

**David Sedgwick**
dsedgwick@crain.com

Saddled with high shipping expenses and rising labor costs, some auto suppliers in China are migrating to North America. And Mexico is looking like a favored destination.

After all, that's where the growth is.

Consider Minth Group, a maker of roof racks, decorative trim and structural components in the east China city of Ningbo. With sales last year of $1.1 billion, the company hopes to gain a niche in North America.

It's making progress, too. The company supplies the Detroit 3 along with Audi, BMW, Honda and Nissan, and it already has three plants in Mexico and one in Michigan.

In past years, automakers used the China price, supposedly the lowest price in the world for any given auto part, to encourage suppliers to cut prices, source parts in China or both. But as China's wages rise — and automakers try to cut shipping costs — Mexico has become a competitive location for suppliers.

Howard Boyer, president of Minth Americas, says shipping costs have driven much of the company's investment in North America.

## Minth Group

**Headquarters:** Ningbo, China
**2014 sales:** $1.1 billion
**Products:** Decorative parts, trim, structural components, roof racks, seats
**Customers:** Audi, BMW, Fiat Chrysler, Ford, GM, Honda, Nissan

For an easily packed component such as a small badge, shipping might account for 3 percent of its cost. No problem, says Boyer, to make that part in China and ship to North America.

But for an easily packed medium-size grille, shipping would add up to 8 percent of the total — enough to consider North American production.

And if a Chinese factory is producing a hard-to-pack component such as a Dodge Dart grille, shipping might amount to 14 percent of the total. "That's the tipping point," Boyer said. "That's beyond our ability to compete."

To complicate things, Minth produces 60,000 Dart grilles a year — not enough to justify the cost of a North American chroming operation.

Boyer's solution: Make the chromed portion in China and the unchromed portion in Mexico, with final assembly in the company's plant in East Tawas, Mich. Problem solved.

The other big factor is labor costs. Wages in China's coastal factories have been rising 10 to 20 percent a year, and labor rates in Mexico are starting to look competitive — especially if the plant is automated.

Boyer: Evaluate each part.

The company's Mexican workers earn a bit more than $5 an hour in wages and benefits — about 30 percent more than its Chinese employees, who average $4 an hour. Meanwhile, the company's U.S. workers' total compensation can run as high as $20 an hour.

As wages in China rise, Minth has automated production there, Boyer said.

Will Mexico's low wages lead Minth to build all its future North American plants there? Maybe not; the 1,500-mile shipping route from Mexico to a U.S. customer can be costly.

So if Minth decides to build a North American powder-coating plant for roof racks, the factory likely would be built in the southern United States.

Minth is not about to stop exporting parts from China to the United States. Even with China's rising labor costs and high shipping expenses, the country still has advantages.

Minth produces some of its own tooling in China, Boyer says, which results in a significant cost advantage for its 31 Chinese plants. So it still makes sense to produce easy-to-pack components in China — especially if they are chromed.

The bottom line? "China is still competitive," Boyer says, "but you have to evaluate the cost of each component." AN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# Diversity is Calsonic Kansei's top priority

## Supplier targets customers, managers and products

**Hans Greimel**
hgreimel@crain.com

SAITAMA, Japan — Calsonic Kansei Corp., a leading supplier of auto interiors, electronics and climate systems, is on pace to achieve its ambitious sales and profit goals for 2017.

But CEO Hiroshi Moriya already is aiming for growth beyond that. And the top priority of the next phase is diversification.

"The key word for the next midterm plan is diversity," Moriya said in a July 24 interview at Calsonic Kansei's global headquarters just north of Tokyo. "This means diversifying our customer base, our management and also our product line."

Moriya wants a bigger slice of sales from customers other than Nissan Motor Co., its top shareholder with a 42 percent stake.

He also wants to internationalize Calsonic Kansei's management. Of its 23 top global executives, just three are non-Japanese.

Finally, he wants to develop new products by mixing and matching the company's broad range of components.

**Moriya: Expand customer base beyond Nissan.**

Moriya's goals underscore how many Japanese parts makers are reacting to market changes that have rocked the country's traditionally close-knit ties between automakers and suppliers.

Two trends are undermining Japan's long-established *keiretsu* relationships of vertically integrated auto groups.

The first is the rapid expansion of Japanese automakers overseas and their need for companies that can supply them in such disparate markets as Mexico, India and China.

The other is a shift toward modular vehicle development, which relies on common parts and modular systems that can be used in multiple vehicles.

### Nissan: 80% of revenue

Nissan was among the first Japanese automakers to crack open their supplier *keiretsu*. And that trend continues unabated.

"It is very difficult to get Nissan's business. We have to be more competitive," said Moriya, 58, who joined Calsonic Kansei in 2007 after years in purchasing at Nissan. "If we can maintain our business with Nissan, our products will be more competitive, so we should be able to expand business to others."

Today, Nissan accounts for about 80 percent of Calsonic Kansei's total global revenue. Moriya wants to reduce that to 70 percent in the fiscal year ending March 31, 2017.

Its next biggest customers are Isuzu Motors and Renault Group.

Calsonic Kansei booked revenue of ¥965.6 billion ($7.82 billion) in the fiscal year ended March 31.

Breathing more global perspective into its management will help Calsonic Kansei compete on the international stage, he said. To bring in more non-Japanese managers, Moriya has made English the official language of its executive committee.

### New product

In product offerings, Calsonic Kansei wants to combine parts and expertise in its six units — compressors, interiors, electronics, heat exchange, climate control and exhaust systems — to develop new products.

For example, Calsonic Kansei doesn't make a head-up display system, but it sees room to use its expertise in electronics and interiors to offer a complete package.

"These kind of synergies are very important," Moriya said. "By using this expertise, we are making various proposals."

Expanding cockpit business beyond Nissan will be difficult because so much of those products is design-focused and related to brand identity.

But Moriya said there is potential to build non-Nissan sales in such items as radiators, compressors and air conditioners, components typically hidden from view.

"This is a big opportunity," he said.

Increasingly stringent fuel economy standards will drive innovation in other products, Moriya added.

For example, the company is developing an electric compressor to drive onboard air conditioning units. Today's compressors are mostly run by hydraulic power from the engine. This saps fuel economy but is typically deemed necessary because on-board batteries lack enough power to run the compressors.

Now electric-powered compressors are coming into demand for use in electric vehicles, which don't have an engine but do have a large battery. Calsonic Kansei sees potential use of such electric compressors in hybrid vehicles as well.

Also, Calsonic Kansei has introduced seven of the 10 new environmentally friendly products it promised through March 31, 2017.

They include an exhaust gas recirculation cooler and a new energy-efficient brushless motor. Three more are on tap.

Moriya said he will set yet-higher goals for sales and operating profit margin for the next midterm plan. He declined to give figures, saying he will unveil details late next year. AN

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# OESA zeros in on Mexico, new-tech suppliers

The number of assembly plants under construction in Mexico is starting to cause headaches for suppliers.

Tier 1 companies are struggling to build networks of Tier 2 and Tier 3 suppliers in Mexico because smaller vendors are reluctant to shoulder the financial risk, says Julie Fream, CEO of the Original Equipment Suppliers Association.

"The big suppliers are setting up plants, but it's very difficult to get the smaller suppliers to do so," said Fream, 51. "Generally, sales to [only] one customer will not support setting up a plant. That's the biggest challenge we're hearing about."

With 450 member companies that generated combined sales of $300 billion last year, OESA acts as an advocate for suppliers in North America.

Before Fream joined the industry group in 2013, she spent 30 years in a variety of engineering, sales and planning jobs at General Motors, Ford Motor Co., TRW and Visteon Corp.

She spelled out her priorities in a July 9 interview with News Editor Charles Child and Staff Correspondent David Sedgwick.

**Fream: Mexico needs small suppliers.**

**Q: In recent years, a lot of automakers have built plants in Mexico. How has OESA responded?**

A: We do have members that are headquartered in Mexico. So that is part of our reach. We also work with INA (Mexico's supplier association). The big challenge for suppliers in Mexico is developing a network of Tier 2 and Tier 3 vendors.

**So there's a shortage?**

Correct. The big suppliers are setting up plants, but it's very difficult to get the smaller suppliers to do so. Generally, sales to one customer will not support setting up a plant. That's the biggest challenge we're hearing about.

**Does OESA play matchmaker between big and small suppliers?**

We have been asked to provide lists, and we do so. Members will say, "We need a supplier who can make a certain type of plastic molding. Do you know anyone who can do this in Mexico?" And we'll find a supplier that fits their needs.

**So OESA plays the role of information clearinghouse?**

We can. That's what we do.

**How many OESA members have plants in Mexico?**

A very significant percentage has some kind of facility in Mexico. It's got to be 60 percent or more.

**What are OESA's top priorities this year?**

We are focusing on the new-technology suppliers. We're making sure that we're bringing in those new suppliers [as members] and offering them the services they need. The other priority is to make sure we have a global presence. That doesn't mean we'll open offices all over the globe, but we want to make sure we can assist our suppliers in Europe, Japan or elsewhere.

**When you talk about new-technology suppliers, are you talking about software developers, chipmakers, infotainment?**

Those are the biggest groups. It's what you hear about in the press all the time. But there are others, [such as suppliers of] lightweight materials like carbon fiber. This is a complex market. We want to make sure they can network.

**Have the new-tech suppliers increased OESA's membership?**

We have more than 450 members, and that's really consistent. We have seen a demographic shift. Our affiliated membership has gone down a little bit. That includes people who are connected with the auto industry but don't manufacture parts. But our supplier membership has gone up, which is a good thing. That's our core group.

**Some time ago, your predecessor introduced a model terms-and-conditions contract. Have you updated it?**

Our latest effort is a model contract for three-party agreements. Let's say an automaker directs a Tier 1 supplier to use a particular Tier 2 vendor. Our [model contract] creates the right environment for those three-way discussions. We reviewed it with several automakers, and it's been adopted by at least one.

**So that's a win, right?**

It's a big win, and we had another win that I can tell you about. I've been put on the supplier councils at Ford Motor Co. and FCA.

**Does your council presence allow you to speak frankly about issues that suppliers might not be willing to communicate directly to the company?**

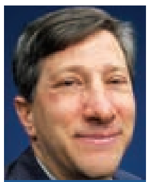
Yes. We've been told by many automakers that they appreciate that. Our relationships with the automakers are better than ever.

**Are OESA's members upbeat?**

The mood is good. We're seeing some uneasiness about Greece and China, but the mood is good, and the production numbers are very strong. But we all realize that the shoe will eventually drop and eventually there will be a downturn. The question is when. AN

# Performance rules — despite the push for more mpg

COMMENT



RICHARD TRUETT
STAFF REPORTER

Sometimes, you can't see something when you are in the middle of it.

Right now, we are in the golden age of high-performance cars, be they gasoline, electric or hybrid.

Who knows how long it will last?

The original muscle-car era spanned from 1964 — when Pontiac dumped a big engine in a midsize car (a V-8 in the Tempest) and created the GTO — to the end of the decade.

Pontiac's GTO ignited a horsepower and cubic-inch war that lasted until emissions regulations, oil embargoes, high insurance rates and consumers' desire for higher fuel economy killed the muscle car.

It's taken awhile, but engineers have solved all the problems that prevented high horsepower *and* good fuel economy. And they're not done yet. More power is coming.

"I do not think we have reached the limit for power density in production engines for performance-oriented vehicles," says Prabjot Nanua, General Motors' global director for advanced and racing engine engineering.

"Advances in engine technology, computing power and control methods are enabling us to push the boundaries on the power density for performance engines," he told *Automotive News*.

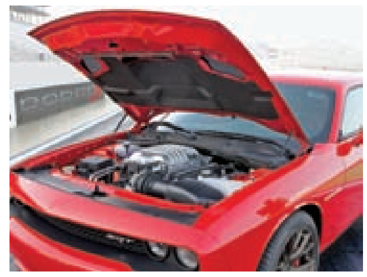
One measurement of engine output — horsepower per liter — shows how dramatically engineers have boosted performance.

Between 1968 and 1970, you could buy a 426-cubic-inch Hemi engine from Chrysler in a number of cars. The 7.0-liter engine was rated by Chrysler at 425 hp. That works out to 60.7 hp per liter.

The output per liter of today's engines blows away that old 426 monster.

Ford offers a 1.0-liter EcoBoost three-cylinder engine with 123 hp, achieving more than twice the power per liter of the 426 Hemi. In the CLA45 AMG, Mercedes-Benz's 2.0-liter, four-cylinder, twin-turbo engine is rated at 355 hp and moves the car to 60 mph in just 4.4 seconds.

Today's fastest nonexotic cars often avoid the gas-guzzler tax because they get good fuel economy. For instance, the current 455-hp Chevrolet Corvette gets higher highway fuel economy — 29 mpg — than most economy cars did a decade ago.



**At about $65,000, a nicely equipped Hellcat Challenger may be the bargain of the century in terms of horsepower per dollar.**

Delphi Automotive is one supplier whose products are helping improve engine output. One of Delphi's specialties is direct fuel injection. Over the years, Delphi has continually increased the pressure of gasoline that is forced through fuel injectors. The fuel-injection system on the 464-hp Cadillac ATS-V, for example, runs at 2,900 bar, or more than 42,000 pounds per square inch. That helps atomize the fuel into a fine mist, causing more efficient combustion.

"Where horsepower is going depends more on OEM strategy," said John Kirwan, Delphi's chief engineer for advanced r&d in the company's powertrain systems division. "We are not at any limit based, for example, on fuel octane," he adds.

Let's not forget about electric cars. Tesla's Model S is capable of reaching 60 mph in 3.1 seconds, the company says. And later this year Acura is launching the new NSX, which will have three electric motors along with a powerful V-6.

Analyst Dave Sullivan at AutoPacific says some automakers have been finding ways to boost performance without increasing power. He's not convinced horsepower will continue to increase, though performance likely will improve thanks to weight reductions, fast-shifting, electronically controlled transmissions and suspension systems that allow for better handling.

"If we can shave more weight, we won't need crazy horsepower. Also, look at what Porsche has done with dual-clutch automatics. Software is making cars faster without having to add more power," Sullivan said.

"If cars go on a diet, we might not need all that power. A 1995 Mustang GT had 215 hp from a V-8. Now, we have the base engine in a Mustang making a lot more than that," he added.

The staff of *Automotive News* recently tested a Dodge Challenger SRT with the 707-hp Hellcat engine. One editor used two words to describe the car's acceleration: "breathtaking" and "hair-raising."

A nicely equipped Hellcat Challenger sells for about $65,000. That may be the bargain of the century in terms of horsepower per dollar.

If you ever wanted to go fast, this is the time to do it.

*You may email Richard Truett at rtruett@crain.com.*

# Former Toyota exec leads supplier into new era

## Advics is key to automaker's safety, auto-drive push

**Hans Greimel**
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KARIYA, Japan — In the world of global auto suppliers, Toyota-affiliated brake maker Advics Co. is a relative newcomer.

Despite being the go-to brake company for the world's biggest automanufacturer, Advics is less than 15 years old and only began running its first factory in its home country in 2010.

But car-stopping technology has come a long way from clunky, conventional drum brakes. Today, high-tech braking is an indispensable element in autonomous driving, hybrid energy regeneration and sophisticated auto-stop and auto-steer safety systems.

Toyota Motor Corp. sees braking as so critical to its next-generation vehicles, it has sent one of its highest-profile executives to run Advics. It marks the first time Toyota has installed a leader at the brake maker, though it routinely does so at other suppliers in its vast stable of affiliates.

Advics' new chief is Satoshi Ogiso, 54, a former Toyota global product planning guru and longtime development leader for its Prius family of hybrid vehicles. He took the wheel June 24.

**Ogiso: Former Toyota product planning guru**

Ogiso's mission: Shepherd Advics into the new era by integrating old-school mechanical braking technology with the new high-tech digital controls that run everything from hybrid battery recharging and pre-crash emergency stopping to four-wheel-drive traction features and adaptive cruise control.

"I am very strong at complicated vehicle system development management," Ogiso said in a July 13 interview at Advics' global headquarters here just outside Nagoya. "Toyota wants Advics to make good proposals to expand these systems."

### Balancing growth

Demand for advanced braking systems will soar as safety regulations and assessments increasingly require advanced driver-assistance systems, such as pre-crash emergency braking, he said.

The former Toyota managing officer also will oversee Advics' expansion with a technical center opening this month in Kariya and its first factory in Mexico scheduled to start production in March. That plant, in Lagos de Moreno in the state of Jalisco, initially will employ 130 workers and manufacture drum brakes.

Advics' global sales grew 3.1 percent to ¥527.3 billion ($4.41 billion) in the fiscal year ended March 31.

Toyota accounted for about 70 percent of that business, with Nissan, Daihatsu, Mitsubishi, Isuzu and Suzuki fleshing out the next tier of customers. Toyota owns a 9 percent stake in Advics.

Advics is growing thanks to booming sales to Toyota. But it is also wary of growing too fast. Ogiso keenly remembers Toyota's global unintended acceleration crisis and the quality problems that the carmaker attributed to unbridled expansion.

### Young company

Advics was founded in 2001 as a joint venture of Toyota and three brake-related suppliers: Aisin Seiki Co., Denso Corp. and Sumitomo Electric Industries. Today, Aisin holds a 55 percent stake, while Denso and Sumitomo Electric have 18 percent each. The company is not listed on a public stock exchange.

In 2001, it had only a sales and engineering staff. Manufacturing was outsourced to its shareholder companies. Advics acquired its first domestic factory in 2010 after buying its Kariya brake plant from Aisin Seiki.

Today, Advics has 6,790 employees worldwide and factories around the globe, including plants in Ohio, Georgia and Indiana.

Advics makes the regenerative brakes for every Toyota hybrid. Those brakes convert the kinetic energy of braking into electricity that recharges the onboard battery. A top goal here is to improve the efficiency of that regeneration, Ogiso said.

Cutting costs is another priority, Ogiso added.

Using regenerative braking contributes to the hybrid premium that automakers charge for gasoline-electric vehicles. It can boost the cost of a conventional braking layout by up to 30 percent.

### Software surge

In traditional braking, Advics is looking at several advances.

It aims to reduce squeal noise, shorten stopping distance, minimize friction during coasting and eliminate weight.

But it is in the new fields of safety and comfort where rapid gains are expected. For example, Advics supplied the brakes and controllers for two new pre-crash auto-stop systems rolled out by Toyota, its so-called Toyota Safety Sense packages.

The shift puts a premium on hiring software engineers.

Some 200 of Advics' 1,200 engineers are already software specialists, and most new hiring will be for such positions.

About 500 engineers of all stripes will move into the technical center when it opens this month.

"Such driver-assist systems are expanding step by step. The requirements are becoming stricter," Ogiso said. "We need to improve the computer system speed and brake reaction speed." AN

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# Swift and secure vehicle software updates?

## Software specialist Redbend says it has the answer

Bradford Wernle
bwernle@crain.com

When it comes to connected cars, Redbend, an Israeli software company, is sitting in a prime position.

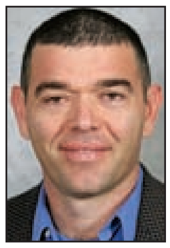
As automakers add software to vehicles, those systems will require updates, just as home computers and mobile devices do. And Redbend's specialty, first developed for the smartphone and personal computer markets, is to update software quickly and efficiently.

Redbend expects the field to grow exponentially — and beyond infotainment. That's why Harman International bought Redbend for $170 million early this year.

To update vehicle software quickly, unobtrusively and securely, Redbend focuses on sending the minimum amount of code necessary and providing defenses to keep hackers from messing with onboard computers.

### Software transformation

"You don't need to send the whole version" of the software, says Yoram Berholtz, director of automotive for Redbend, based in Hod Hasharon, Israel. "You only need to send the part that is changed. The same is applicable for the engine control and infotainment systems. It's not making sense to send the whole image over the air. This is our secret sauce."



**Berholtz: "You don't need to send the whole version [of the software]. You only need to send the part that is changed. ... This is our secret sauce."**

That expertise has put Redbend at the forefront of the software transformation taking place inside vehicles, says Egil Juliussen, director of research in automotive technology for IHS Automotive.

"They have that experience, having updated hundreds of millions of smartphones. So they leveraged that expertise because software needs to updated remotely in the auto industry as well.

"If you go 10 years down the road, a vast amount of software is going to be updated over the air," says Juliussen. "The advantages and costs are too great for it not to happen."

### Over-the-air updates

Earlier this decade, most system updates were done in dealership service departments, where technicians installed the updates via flash drives.

That's the route Ford Motor Co. took in 2012 when it was flooded with customer complaints about bugs in its MyFord Touch infotainment system. At the time, customers had a choice of taking their vehicles to dealerships or inserting the flash drive themselves. Customers had to download the software patch to their computers, transfer it to a flash drive and carry the flash drive to their vehicles.

Over-the-air updates have been confined to telematics and infotainment units, already connected to the cloud. But that's about to change, says Berholtz. The telematics software is held in the head unit, or control box, of a car's media system.

"I think that the next frontier is to update not only the head unit and the telematics, it's to update all the ECUs [electronic control units] to have a more holistic solution," says Berholtz. That means updating software bumper to bumper, from engine controls to steering, braking and suspension systems, he says.

Over-the-air updates mean that carmakers can avoid recalls and bypass dealership installations, increasing efficiency and reducing cost. But the increase in data updates also raises the risk of invasion by hackers.

Says Berholtz: "If you know the head unit is connected to the cloud, that opens the door to malware and viruses that can get from the cloud into the car."

So carmakers need to protect the car's internal, embedded systems — such as engine, steering and brakes — from viruses arriving from the cloud via the telematics and infotainment systems. That's Redbend's other business, isolating autos' critical software from hackers while enabling over-the-air updates.

### Better customer relations

Berholtz says he expects Redbend to grow its automotive business much as it did its mobile device business.

Berholtz believes the capacity to do remote updates can improve the automaker-customer relationship. Juliussen says Tesla is a leader in over-the-air updates.

Berholtz declines to name any of Redbend's customers, but a June 25 Wells Fargo analyst report lists Tesla as one.

"You need to remember that by having an over-the-air update service, this is the first time OEMs will have a direct relationship with the owner," Berholtz says. "Until today, most of the relationship is done via the dealer. [With over-the-air updates] this relationship between the OEM and the owner will be better."

In conjunction with the capabilities of parent company Harman, Redbend can combine infotainment updates, software security and analytics.

Says Berholtz: "I think this is the future. The future is not so far from now." AN

# GM powertrain plan: Advance on many fronts

DETROIT — Ask Dan Nicholson about a certain powertrain or technology, and he won't say why it can't be done. Chances are, he'll explain where it fits in General Motors' ambitious global powertrain portfolio.

Nicholson, 51, who took over as GM's vice president of global powertrain late last year, helps decide which technologies deserve GM's investment. Nicholson spoke last month with Staff Reporter Richard Truett at GM's Warren, Mich., technical center.

**Q: From small-displacement diesel engines to various hybrids, GM offers an array of powertrains. Where does the company go from here?**

A: We intend to cover a broad range of technologies because we think that's what's called for in today's marketplace, with lots of tailpipe emissions and CO2 concerns, and with very demanding customers and with very intense competition. So, it pays to cover the ranges. Going forward, we'll continue to cover the range of propulsion systems, and we're going to keep working on refining them and improving them. So long as we are never out of ideas, we'll continue on that path.

**Nicholson: "It pays to cover the ranges."**

**What if some of GM's powertrains don't make money, maybe because of changing consumer demands?**

We are managing our propulsion systems like a portfolio of innovation investments. We know some of these won't pay off, at least in the short term. We plan to be flexible in our investments. And if we are right, like any good portfolio manager 80 or 90 percent of the time, then I think that is going to be successful for us.

**GM has a number of partnerships with other companies, such as the GM-Ford transmission joint venture and the GM-Honda fuel cell project. Is that the way forward to rein in engineering costs?**

We want to be innovation leaders, and we are focusing on innovation. We think being innovation leaders makes us an attractive partner, both for other OEMs and for key suppliers. We want to be the partner of choice — that really lends flexibility to us. We don't have a strict partnering strategy; we have an innovation strategy that makes us an attractive partner.

**Does GM see dual-clutch transmissions ever breaking out of niche status in the United States?**

We're watching the U.S. market very closely. We have a DCT in the marketplace in China right now. We have some of the best design development capability in the industry, and we're ready to jump into the U.S. market when the time is right.

**What's your view on continuously variable transmissions in the U.S.?**

We have a CVT in the Chevrolet Spark. I think they have a future in the U.S. as well as other markets. When I look at J.D. Power IQS numbers, there is pretty wide variation in customer acceptance of the many applications that are out there. I think it is possible, if done correctly, to be successful in the U.S. with a CVT. We're very proud of the Chevy Spark; it's the best driving Spark we've ever done. I think it is a technology we'll see a bit more of in the future. I see CVTs on the upswing.

**There's a 707-hp Dodge, and Chevrolet has introduced a 650-hp Corvette. Is the industry in a horsepower war in the middle of escalating fuel economy standards?**

I don't want to refer to it as a horsepower war. In the '60s, those were cars that had very powerful engines and four-wheel drum brakes and hardly any steering. We think of it now as a total performance package, where we have cars that not only accelerate great but stop and handle great.

**Does fuel economy technology that the customer has to pay extra for need to pay for itself?**

With regard to diesels, I think the value proposition for customers is made up of a lot of things. It depends a little bit segment by segment. Customers find fuel economy important, not just mpg, but in range. Customers don't find the refueling experience the highlight of their day. So if they can spread that out from once a week to once every 10 days, that adds a bit of value. The drive quality and driving character with the low-speed torque that diesels are known for is a customer benefit.

**Have lower fuel prices affected GM Powertrain's product planning?**

In terms of product development, we've got relatively long lead times. So we have to not look at fuel prices six months ahead of time but further ahead. Our product plans are not just driven by fuel prices, but by CO2 requirements and other things. Short-term, segment-by-segment sales don't impact our long-term plans. We're moving forward to have the right technologies that please our customers. AN

# Denso maps out two-pronged mpg drive

## Supplier still sees gains in engine management, air conditioning

Hans Greimel
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KARIYA, Japan — Yasushi Yamanaka, the newly appointed global r&d chief at Toyota Group megasupplier Denso Corp., is chasing two elusive methods to radically improve fuel efficiency by 2025.

And neither involves sexy next-generation technologies such as electric-gasoline hybrids.

Instead, Yamanaka aims to tap the core technologies that helped transform his Japanese supplier into the world's No. 4 parts maker: engine management systems and air conditioning.

To be sure, Denso will be working on hybrid systems. But its engineers say there are big breakthroughs to be had in updating conventional technologies.

On the engine side, Denso plans to develop technologies that will boost the thermal efficiency rates of internal combustion engines to 50 percent. Thermal efficiency is a measure of how much engine power is lost through heat; a higher rate is better.

The ultraefficient engine on the current Toyota Prius hybrid, for example, achieves thermal efficiency of 37 percent.

In climate control, Denso wants to develop more efficient air conditioning that will narrow the gap between a vehicle's fuel efficiency rating and its real-world mileage.


Denso's headquarters in Japan directs the fourth-largest global automotive supplier.

Denso estimates that the actual mileage logged in everyday driving can be as much as 40 percent lower than the sticker mileage derived under contrived testing conditions.

Denso's goal: Whittle that gap to 20 percent.

The Japanese supplier wants to deliver both the superefficient engine technology and the improved real-world road efficiency by around 2025, said Yamanaka, a thermal systems engineer who was promoted to executive vice president in charge of global r&d on June 19.

"For Denso, the engine is the heart of the whole system, so we are working on r&d from all angles," Yamanaka said in a July 8 interview at the company's global headquarters outside Nagoya.

The Toyota Prius' ultraefficient engine gets 37 percent thermal efficiency. Denso aims for 50 percent.

"There is a lot of growth that will come from these areas."

Yamanaka, 58, joined Denso in 1979 working extensively as an engineer in its air-conditioning business. In 2013, he also worked as CEO of the Japanese supplier's European unit.

Powertrain management and thermal control components are Denso mainstays, accounting for more than half of its revenue.

Sales of powertrain products, such as fuel injectors, throttle bodies and fuel-air modules, rose 6.7 percent to ¥1.53 trillion ($12.79 billion) in the fiscal year ended March 31.

Sales of thermal products such as air-conditioning systems increased 7.8 percent to $10.28 billion.

> **"For Denso, the engine is the heart of the whole system, so we are working on r&d from all angles."**
> Yasushi Yamanaka, Denso Corp.

Both businesses outpaced the overall 5.2 percent increase in global sales that the company posted on a consolidated basis.

In fiscal 2014, Denso's sales to global automakers were an estimated $32.37 billion, No. 4 on *Automotive News'* list of top global suppliers.

### 'Never give up'

Yamanaka said there is still plenty of room to improve the efficiency of the internal combustion engine.

Denso reckons it can offer technology that will help those engines achieve thermal efficiency ratios of 50 percent by focusing on better lean-burn cycles, higher combustion pressures and improved direct-injection technologies.

Denso cites its help in developing the line of Skyactiv engines for Mazda Motor Corp. Those direct-injection engines use Denso's injectors and have high combustion ratios

see DENSO, next page

# DENSO

## Waste heat could turn into electricity

continued from previous page

to deliver a clean burn.

"It will be very difficult to achieve," Yamanaka said of 50 percent thermal efficiency, "but we will never give up."

Denso also is working on homogeneous charge compression ignition, or HCCI. That technology compresses the fuel-air mixture to such a high pressure and temperature that it ignites by itself without a spark, similar to how a diesel engine operates.

Another approach under review: recovering waste heat from the engine and converting that into electricity that can be stored in a battery. The battery can then run such parts as oil pumps, which traditionally have run off efficiency-sapping hydraulic power from the engine.

"Maybe engine improvements will eventually become saturated," Yamanaka said. "But if we can recover the heat and use that as energy, it could bring another breakthrough."

Engineers can eke further gains from the internal combustion engine through 2025, Yamanaka said. But after that, the physics of thermal efficiency butt into the law of diminishing returns.

Additional gains will have to come from other sources, such as electrifying the drivetrain to give the engine an extra boost from a battery-powered motor, Yamanaka said.

### Real-world mileage

In parallel, Denso is pursuing better real-world fuel economy. A big goal there is improving the efficiency of air conditioning and reducing the impact of cold-start losses.

Denso estimates that air-conditioning use accounts for 27 percent of the gap between sticker mileage and the lower mileage that drivers experience in everyday life. Cold-start accounts for 18 percent.

When an engine starts from a cold standstill, it takes a while to operate at peak efficiency because the lubricating oil is cold. Until the oil warms, there is more loss to friction.

Denso wants to heat the oil more quickly and efficiently. That can improve fuel efficiency by up to 3 percent, Yamanaka said.

The idea is to develop chemical thermal storage — a means by which waste heat is stored chemically in an on-board heat sink that can be rapidly discharged to heat the oil.

Denso developed a similar system to heat the engine in the first-generation Toyota Prius hybrid. But that system stored the heat in a water medium, like a thermos, and was dumped in the second and third generations because it was too bulky. Denso is working on a more compact system that employs a chemical storage medium.

In air conditioning, Yamanaka said, better efficiency can deliver as much as another 3 percent increase in real world fuel economy. Some gains will come through downsizing the system.

Denso also is trying to isolate cool air delivery to places it is needed most, without wasting it on the entire cabin.

That may entail routing air conditioning through the seats, rather than blasting it through vents in the front console.

Doing so also may free up space in the control panel, allowing automakers to redesign the front with more value-added features.

### Cold storage

Denso also is considering ways to expand the use of cold storage systems that work in tandem with stop-start systems.

Stop-start systems shut down the engine to save gasoline when the car comes to a stoplight. But the downside is that the air conditioner's compressor shuts down at the same time. This can make for some sweltering red lights in warmer climates.

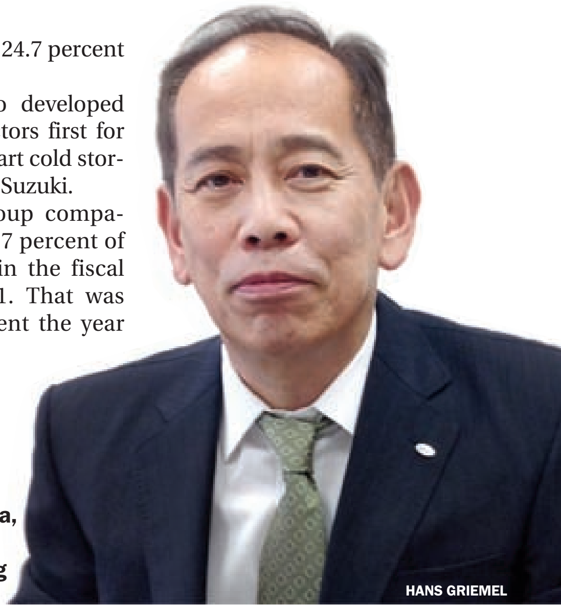
Denso's solution is a cold storage evaporator. It uses a fan that blows air over a cold sink in the air conditioner's evaporator and into the cabin. Keeping the cabin cool without the engine powering the air conditioning allows the stop-start period to be longer, saving fuel.

The supplier sees big potential for this system in crowded, hot regions, such as Southeast Asia, where stop-start systems can save a lot of gasoline in massive traffic jams.

Denso's efforts on engine and thermal management underscore its push to expand sales to automakers beyond Toyota, its biggest customer and top shareholder. Toyota holds a 24.7 percent stake in Denso.

For example, Denso developed the Skyactiv fuel injectors first for Mazda and the stop-start cold storage evaporator first for Suzuki.

Sales to Toyota Group companies accounted for 46.7 percent of Denso's global total in the fiscal year ended March 31. That was down from 48.7 percent the year before. AN



**Engineers can eke further gains from the internal combustion engine through 2025, says Yasushi Yamanaka, Denso's global r&d chief. Then, diminishing returns are a factor.**

HANS GRIEMEL

# JTEKT targets diversification and steer-by-wire technology

## Chief wants steering giant to be a 'real global company'

**Hans Greimel**
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NAGOYA, Japan — JTEKT Corp. is not just the world's biggest supplier of steering systems but the world's 19th largest auto parts supplier, period. The Toyota-affiliated company also employs some 43,000 people worldwide and has 139 subsidiaries in more than 20 countries.

Yet to President Tetsuo Agata, his company is still not a "real global company."

Of JTEKT's 40 top executives, for example, only one is a non-Japanese. Agata wants more.

He is rushing to internationalize the Japanese supplier because demand is booming for electric power steering, thanks to the proliferation of advanced safety technologies such as lane-keep assist and auto-parking functions that help drivers steer their vehicles.

To keep its No. 1 position in steering, JTEKT needs to expand sales with non-Toyota customers, diversify its work force and branch into new technologies such as steer-by-wire, said Agata, who took office in 2013 after stints as an executive at Toyota Motor Corp. and Toyota Industries Corp.

Agata also targets massive cost reductions and quality improvements, by importing more efficient manufacturing processes from JTEKT's biggest shareholder, Toyota Motor, which holds a 22.5 percent stake in the company.

He aims to slash the cost of JTEKT's electric power steering systems by 20 to 30 percent in the next two years. And Agata wants to reduce the number of quality problems to one-tenth their current level in the same period.

"We are not satisfied with the current situation," Agata, 62, said in a June 30 interview at JTEKT's global headquarters here. "Just dealing with Japanese automotives is not good enough."

JTEKT President Tetsuo Agata: "We are not satisfied with the current situation. Just dealing with Japanese automotives is not good enough."

### 'Hot issue'

In fiscal 2014, JTEKT's sales to global automakers were an estimated $11.2 billion, according to *Automotive News'* list of top suppliers.

About 41 percent of JTEKT's global sales come from Toyota. The Renault-Nissan Alliance is the next biggest customer, chipping in about 17 percent of total revenue.

JTEKT says it owns a quarter of the global steering market. And when it comes to electric power steering, JTEKT says its penetration is even deeper, with a 33 percent share.

Its positioning in the latter is key because of an industrywide shift toward electric power steering, or EPS, driven by stricter emissions rules and demand for driver-assist safety features.

With EPS, an electric motor, not hydraulic pressure, moves the steering gears. It saves fuel because it uses energy only when the driver turns the steering wheel. With hydraulic steering, a belt on the engine constantly drives a pump to maintain hydraulic pressure.

EPS also responds more quickly and accurately to the software running such features as parking assist and lane-keep assist, making a good match for modern autonomous driving technologies.

The downsides of EPS long have been added cost and limited use in big cars, SUVs and pickups because of restricted power. But more powerful motors are pushing use into bigger vehicles, including the current Ford F-150 pickup.

"Right now, steering is kind of a hot issue due to automated driving systems," Agata said.

### Going global

But Agata says to better compete on the global stage, JTEKT needs to broaden its outlook.

Agata, who speaks fluent English and spent 16 years working overseas, including stints in the United States and Belgium, said an epiphany came to him years ago while talking to an executive from Dow Chemical Co. He was stunned to learn that the company, based in rural Michigan, had a Brazilian CFO and was about to get an Australian CEO.

"That's a real global company," Agata said. "We seem to be a global company. However, from my idealistic point of view, we are still not good enough. We have to localize, and we have to pick up more local executives.

"If we Japanese always head the divisions, there will be a glass ceiling, and good, well-trained managers will quit. We have to break the glass ceiling."

Agata is overhauling human resources with the help of a consulting firm to review the 100 top positions at the company worldwide and decide who is the best person for each role.

Having a more diverse work force is one step toward diversifying its customer base away from Toyota, Agata said. A top conquest target is the Detroit 3, which have traditionally accounted for only a small piece of JTEKT's global business.

### Steer-by-wire

JTEKT also aims to expand sales by advancing into new technologies.

"We are working with steer-by-wire because it is necessary and almost mandatory to achieve autonomous driving systems," Agata said. "We are working now to develop such a system."

JTEKT doesn't sell a steer-by-wire system.

But steer-by-wire systems, such as that introduced in the Infiniti Q50 sedan, are being explored by several carmakers. That technology breaks the mechanical link between the driver and the wheels. Instead, it converts steering wheel movements into electronic signals that control electric motors to move the wheels.

Proponents see the steer-by-wire technology as a natural progression of brake-by-wire and throttle-by-wire systems already in use.

Skeptics say steer-by-wire is gimmicky because it requires too many costly redundancies.

In the Infiniti system, for example, three electronic control units backstop one another to constantly monitor for malfunctions. And if anything still goes awry, another fail-safe feature re-establishes a backup mechanical connection.

"Jetliners are already steer-by- wire," he said. "The speed of adopting autonomous driving systems is accelerating. If we can eliminate the mechanical linkage, we can have more freedom in automotive design. In the future, steer-by-wire is essential."

### Another vision

He's also exploring another vision for the future: Technology that reads the road and automatically tweaks steering without the driver knowing. The idea is to use sensors and computers to assess conditions and dictate minute steering adjustments much more quickly than a human could, Agata said.

"We have to have a more sophisticated system like this to achieve smooth driving," he said.

Agata did not give a time for bringing such a technology to market but said the supplier is working with several manufacturers to develop such a system. AN

# High-end fashion inspires Nissan

## Maxima gets material used in exotic cars

**Lindsay Chappell**
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NASHVILLE — Nissan wanted some European fashion to move its American-made Maxima sedan further upscale for 2016.

It turned to Alcantara S.p.A., the Italian producer of material — also called Alcantara — used in high-end apparel and automotive seating, to give the Maxima SR sport package the look of some exotic European sport coupes.

The move took Nissan into unfamiliar waters, says Vishnu Jayamohan, Nissan North America's head of advanced strategy and product planner on the Maxima.

"Our mindset from the beginning was to create a car that was truly upscale," Jayamohan says. "Not just to stand out in the segment, but to also showcase what Nissan can do.

"So the Maxima has a lot of details and execution that we've never seen before at Nissan."

Alcantara is a synthetic suedelike material that has been — until now — the elite domain of such exotic cars as the Lamborghini Gallardo LP 570-4 Squadra Corse, Maserati GranTurismo MC Stradale and McLaren 650S Coupe.

Alcantara is used in limited amounts in that vehicle segment to create soft but firmly gripping surfaces for seats and steering wheels that help performance drivers take racetrack curves at high speeds.

Nissan wanted it for those same appearance and performance reasons. And U.S. designers incorporated it into the seats, steering wheel and door trim of the Maxima SR.

But Nissan also wanted Alcantara to create a "wow" effect on sports car-savvy consumers who might have heard of Alcantara or seen it on exotic cars at auto shows and might be surprised to find it on a mass-market Maxima.

Jayamohan says Nissan is making sure the brand name is mentioned in dealer showrooms. Part of Alcantara's supplier arrangement requires the Italian company to help Nissan market it.

But feeding the material into a production line in Smyrna, Tenn., with its carefully choreographed just-in-time suppliers, was not as simple as issuing a purchase order. The material is exclusively produced by Alcantara. The company is headquartered in the fashion capital of Milan, Italy, and keeps 100 percent of its manufacturing there under close watch.

Alcantara stepped up efforts to market to automakers in 2008. But unlike other European and Asian automotive suppliers, it has shown no interest in localizing production to be closer to its customers.

Dave Kalinowski, Nissan North America manager of seat engineering, was heavily involved in the Alcantara plan from concept to final sourcing. Early in the project, Nissan broached the subject of whether Alcantara would — or should — offer Nissan localized fabric output, Kalinowski says.

As a rule, Nissan hates transportation costs. Nissan has been on a campaign to localize production of as many of its parts as possible and is even urging its U.S. suppliers to move closer to Smyrna.

Against that backdrop, the decision to source interior parts from a posh fashion supplier 5,000 miles away in Milan might look like a contradiction. But Kalinowski says there is more to it than logistics.

"We wanted to maintain our exclusivity. We were willing to go halfway around the world to get it. If they moved production here or to a place like Mexico, anyone would be able to get it at a lower cost. We'd lose our advantage over competitors like the Chrysler 300 or the Toyota Avalon. They'd be able to get the same material at the same price."

The resulting arrangement is that Nissan holds upfront negotiations with Alcantara and establishes the purchase orders. The material is sent in bolts by ship from Italy. It is received by Nissan's local Maxima seating supplier, Tachi-S Automotive Seating USA, which processes the Alcantara into seat and trim pieces at its plant in Mount Juliet, Tenn.

Other solutions might have been easier, the Nissan team acknowledges.

"We could have simply used leather instead of the Alcantara," Kalinowski agrees. "There is additional cost involved with the Alcantara. But there was more to it than that. The Alcantara brand name itself brings value to the car." AN


**Alcantara is in cars such as the Lamborghini Gallardo LP 570-4 Squadra Corse, left, and the McLaren 650S Coupe.**

# Aisin aims to increase sales beyond top customer Toyota

## Added business expected to improve product price, performance

**Hans Greimel**
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TOKYO — It may seem counterintuitive, but Toyota Motor Corp. installed former board member Yasumori Ihara as the new president of one of its most important suppliers with the mission of selling more parts to Toyota's rival automakers.

But Toyota's strategy is hardly altruistic.

Indeed, its thinking goes: If Aisin Seiki Co., the Toyota Group parts maker Ihara now runs, sells more to Toyota's competitors, Aisin's own products will improve in price and performance.

Call it the virtuous cycle of Toyota Group suppliers stepping up business with outside automakers.

By tailoring components to global specifications for those competitors, the suppliers in turn can make their own parts more compatible with Toyota's increasingly standardized platforms.

And, as an added benefit, the higher sales volume brings down parts prices for all carmakers, benefiting new partners as well as long-established customer No. 1, Toyota Motor Corp.

Tapping that cycle — of expanding business with Toyota Motor by increasing sales to its competitors — is now a top priority for Aisin, the Toyota Group's second-largest supplier and a global leader in transmissions, engine components and braking systems.

"Before, Toyota's purchasing policy was 'Don't sell to non-Toyota,' 'Please insist on only Toyota,'" Ihara, 63, said in a July 7 interview. "But now they are promoting it, that we should sell to non-Toyota. They have changed the policy."

### Keiretsu guru

Few executives are as versed as Ihara in Toyota's complex *keiretsu* system of vertically integrated suppliers.

For years, he worked in purchasing at Toyota Motor, eventually overseeing purchasing as executive vice president on the board until April, when he was transferred to Aisin. Ihara joined Aisin as an adviser and took over as president in June.

It's not unusual for Toyota to install its own executives at *keiretsu* suppliers because the world's biggest automaker is usually their biggest shareholder and top customer.

Toyota owns 23 percent of Aisin, for example, and accounts for about 64 percent of Aisin's total global sales. Around 15 percent of Toyota's total purchasing comes from Aisin.

But Aisin and other Toyota Group suppliers are coming under increased pressure as Toyota switches to a new modularized product platform dubbed Toyota New Global Architecture, or TNGA.


Toyota is rolling out a new generation of vehicles developed with massive component commonization. The parts increasingly will be developed to global specifications, opening the door to more sourcing from giant international megasuppliers.

Today, about 60 percent of the parts in an average Toyota vehicle are sourced from Toyota Group companies, but that could rapidly fall as Toyota looks afield for competitive suppliers.

The first TNGA vehicle is expected to be the next-generation Toyota Prius hybrid arriving later this year.

Aisin is supplying the seat rails, oil pump, intake manifold and timing chain cover, among other parts, to the next Prius.

### 'Fighting spirit'

To keep its business with Toyota, Aisin needs to boost its competency in globalized standards, Ihara said.

Before, Toyota demanded parts built largely to propriety specifications that were unique to Toyota. Now, it will increasingly use parts built to more generic international specifications. The switch will allow it to use parts made from a greater range of suppliers, such as Bosch and Continental.

"I think we will lose out to our competitors if we do not respond to Toyota's aspirations for TNGA," Ihara said.

"Toyota realized that the best way to gain the highest competitiveness means selling not just to Toyota."

Toyota Group companies, including Toyota Motor, minicar specialist Daihatsu and truckmaker Hino, still account for the lion's share of Aisin's sales. But their slice is declining.

In the fiscal year ended March 31, Toyota Group sales accounted for 63.5 percent of Aisin's sales, down from 64.4 percent the year earlier. Volkswagen Group, PSA Peugeot Citroen and Mitsubishi are its next biggest customers.

To win more business outside Toyota, Aisin needs to be more proactive in pitching its technologies to potential customers, rather than waiting for orders from Toyota, Ihara said.

"Before, Toyota would ask us to produce something. But now we should make our own proposals," he said.

That means rattling cages at the company's operations in Japan, where cozy ties with Toyota lulled many into complacency.

"The headquarters has big-company disease," he said. "There's not enough fighting spirit. It should be more aggressive."

In fiscal 2014, Aisin's sales to global automakers were an estimated $28.07 billion, according to the *Automotive News* list of top parts suppliers. It is the fifth largest supplier on the list.

### Transmission targets

Fortunately for Aisin, Ihara sees big growth potential in one of its mainstay products: automatic transmissions. Aisin is already the world's biggest maker of those gearboxes.

And it aims to keep that lead by selling 10 million automatic transmissions a year in the fiscal year ending March 31, 2021, Ihara said. That would be a 46 percent surge over the 6.87 million it produced last year.

The biggest growth will come from China, where customers are turning away from stick shifts, and from demand for fuel-efficient continuously variable transmissions. CVTs change gear ratios with a belt and pulley system, not with toothed gears.

But Aisin also will have to fend off a challenge from Nissan-affiliated transmission maker Jatco. In May, that company's president, Teruaki Nakatsuka, said he aimed to be the global No. 1 in automatics by selling as many as 10 million by 2020.

Jatco may have an edge if CVT demand surges because the company controls 45 percent of the global CVT market.

But Aisin is hardly standing idle. It plans an upgrade to its bread-and-butter toothed-gear automatic transmissions.

Engineers are butting against the law of diminishing returns in adding more gears to achieve better fuel efficiency, Ihara said. For now, six speeds are good enough for mass-market vehicles.

Next, the company has developed a new automatic transmission that employs locking gears to provide a more direct, efficient transfer of power through the drivetrain, similar to a manual.

That new transmission will be deployed in a Toyota Motor vehicle in 2016, Ihara said. AN


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# DEALERS

## 35 with Mazda

**Thane Hawkins,** left, dealer principal at Polar Mazda in White Bear Lake, Minn., receives a 35-year award from Scott Farabee, Mazda North American Operations' Midwest regional general manager.

## 25 with Toyota

**Larry Cloninger,** left, owner of Cloninger Toyota in Salisbury, N.C., receives a 25-year award from Craig Pollock, assistant general manager of Southeast Toyota Distributors.

# DEALERSHIP BUY/SELL

*This* Automotive News *feature lists recent dealership acquisitions as reported by brokers, official announcements and news media.*

### Coastal States/ Vaden

**BUYER:** Coastal States Automotive Group

**SELLER:** Vaden Automotive Group

**OLD NAME:** Vaden Volkswagen, Savannah, Ga.

**NEW NAME:** Savannah Volkswagen

### Vaden/Coastal States

**BUYER:** Vaden Automotive Group

**SELLER:** Coastal States Automotive Group

**OLD NAME:** Hilton Head Nissan, Hilton Head Infiniti, Hardeeville, S.C.

**NEW NAME:** Vaden Nissan of Hilton Head, Infiniti of Hilton Head

### Courtesy/Ballweg

**BUYER:** Courtesy Auto Group

**SELLER:** Ballweg Automotive

**OLD NAME:** Ballweg Ford, Sauk City, Wis.

**NEW NAME:** Courtesy Ford of Sauk City

### McGrath/Scheffer

**BUYER:** Gary McGrath

**SELLER:** Loren Scheffer

**OLD NAME:** Volvo of Fort Myers, Fort Myers, Fla.

**NEW NAME:** Volvo Cars of Fort Myers

**MORE:** Rob Lee of Tim Lamb Group advised the buyer.

### Young/Schanski

**BUYER:** Young Automotive Group of Michigan

**SELLER:** Richard Schanski

**OLD NAME:** Schanski Dodge-Chrysler-Jeep-Ram, Ionia, Mich.

**NEW NAME:** Young Chrysler-Dodge-Jeep-Ram of Ionia

**MORE:** Brad Bickle of Tim Lamb Group was the adviser.

**You may submit information about a dealership acquisition on our website. Here's how.**

- Go to **autonews.com.**
- Near the top of our home page, put your cursor on "Dealers" on the dark blue bar. A menu will open.
- Click on "Dealership Buy/Sell."
- Click on "CLICK HERE" in the light blue box at the upper right. That brings up a form.
- Fill it out. Click on "Submit."



# Penske reports strong 2nd quarter, expands its online sales pilot

**Jamie LaReau**
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Penske Automotive Group Inc. reported record profits in the second quarter and said it will expand its online sales pilot program, known as "Preferred Purchase," to more stores in the third quarter.

Penske launched Preferred Purchase in March on the websites of five Florida stores and six Washington, D.C.-area stores. Penske has 244 dealerships.

Penske is rolling out Preferred Purchase to nine stores in Texas and will add it to its five stores in Atlanta later in August.

Preferred Purchase enables customers to handle most of a transaction online, which trims the time spent in a store. It also improves pricing transparency, Penske says, by allowing a customer to research vehicles, start a purchase or complete most of the purchase from home.

The closing ratio at the 11 Preferred Purchase stores is now 20 percent, or "two-and-a-half times more than what we had on our normal Internet leads," Chairman Roger Penske told *Automotive News.*

"Transactions are significantly shorter in timeframe, and it's streamlined the sales [research] process to below one hour. So it's achieving the impact we want."

Penske, the second-largest U.S.-based dealership group, reported that second-quarter net income rose 29 percent driven largely by a high volume of vehicle sales and a solid performance in all business segments. Revenue increased 12 percent to $4.90 billion.

But the gains hid dips in per-vehicle gross profit, offset by higher volume.

Retail sales volume rose 7.5 percent to 108,277 units. The company retailed 58,758 new vehicles, up 6.3 percent, and 49,519 used vehicles, up 8.8 percent.

**Penske's strong Q2**

| | Q2 2015 | CHANGE VS. Q2 2014 |
|---|---|---|
| **Revenue** | $4.9 billion | +12% |
| **Net** | $95.7 million | +29% |

Source: Penske Automotive Group Inc.

On a same-store basis, retail revenue increased 6 percent to $4.5 billion. But gross profit per new vehicle dropped 4.3 percent to $2,992. Gross profit per used vehicle fell 10 percent to $1,780.

Penske's same-store retail sales of new units rose 5.7 percent, to 58,191, beating the 3.3 percent gain in U.S. industrywide light-vehicle sales for the quarter.

About 72 percent of the products Penske sells are luxury vehicles. Penske said per-vehicle margins suffered because of limited inventory for some of those brands. In contrast, he said, there was more availability in the high-volume import brands.

"The average premium luxury gross profit is twice what it is on a volume brand. So I can sell half the number of cars in premium and generate what you have to do two times on the volume side," Penske said.

"That's obviously going to have some impact because of availability."

He said good margins on Land Rover and Porsche sales help stave off a bigger margin decline.

"I take my hat off to my management team as they managed through, maintaining growth," said Penske.

"It's market-to-market and mix that make a big difference."

Penske Automotive ranks No. 2 on the *Automotive News* list of the top 150 U.S.-based dealership groups, with retail sales of 216,462 new vehicles in 2014. AN

# future product pipeline

**PART 3: EUROPE** | **BMW** | **MERCEDES-BENZ** | **JAGUAR LAND ROVER** | **VOLVO**

## Luxury brands draw tech battle lines

**Diana T. Kurylko**
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European luxury brands are leaving few segments untouched, but the new battleground is high technology and semi-autonomous features.

Mercedes-Benz is the leader. But BMW has gotten very serious about these features and is offering the redesigned 7-series sedan with all the bells and whistles — including a few Mercedes doesn't offer.

On the product side, the future will bring new crossovers — coupelike and traditional — more compact cars, convertibles, sports cars and perhaps even a pickup. The German goliaths Mercedes-Benz and BMW in particular appear determined to flood the market with niche and volume models.

Players that weren't so strong, including Volvo and Jaguar, are refreshing their lineups with new, lightweight platforms. Volvo has one architecture for all of its models. Jaguar is using more modern aluminum platforms. Mini is using a new BMW Group front- and all-wheel-drive architecture.

Building vehicles in North America, whether it's the U.S. or Mexico, is another must. Volvo will be building cars in South Carolina starting in late 2018. Jaguar Land Rover is looking for a plant site.

Mercedes-Benz and BMW are both expanding their U.S. factories in the South and building new ones in Mexico. They'll be assembling new models. Expect more compacts from Mercedes and perhaps a 1-series BMW sedan to be built in Mexico toward the end of the decade. AN

**Diana T. Kurylko has covered European import brands for Automotive News for many years.**

### WHAT DO THE TERMS MEAN?

- **Freshen:** Minor changes to interior and exterior, such as new grille, fascia, front and rear lights or seat surfaces.
- **Re-engineering:** Significant engineering changes, such as revised powertrain, chassis, suspension, center stack or interior. Often includes some new sheet metal.
- **Redesign:** New platform, powertrain, interior and sheet metal. Engine and transmission could be carried over.
- **New:** A nameplate added to the lineup.

**2016 BMW X5 xDRIVE40e PLUG-IN HYBRID**

## TIMELINE

| | 2015 2ND HALF | 2016 1ST HALF | 2016 2ND HALF | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| **BMW** | M235i xDrive convertible launch<br>3-series freshened<br>7-series sedan redesign<br>X1 redesign<br>X5 xDrive40e plug-in hybrid launch | 2-series coupe freshen<br>M2 high-performance coupe variant launch<br>330e plug-in hybrid launch<br>4-series coupe, convertible freshen<br>5-series sedan redesign | 3-series GT freshen<br>740e xDrive plug-in hybrid launch | M4, 4-series Gran Coupe freshen<br>1-series sedan launch<br>2-series convertible freshen<br>X3 redesign | 3-series sedan redesign<br>i5 launch<br>X4 redesign<br>X6 redesign | M1 launch?<br>6-series coupe, convertible, Gran Coupe redesign<br>Z4 roadster redesign<br>X7 launch |
| **M-B** | C450 AMG 4MATIC launch<br>GLC redesign<br>GLE freshen<br>GLE coupe launch<br>GLE550e 4MATIC plug-in hybrid launch<br>Metris launch<br>Mercedes-AMG G65 freshen | CLA freshen<br>C350e plug-in hybrid launch<br>C300d 4MATIC diesel launch<br>C-class coupe redesign<br>E-class sedan redesign<br>SLC freshen<br>Mercedes-AMG GT launch<br>GLS freshen<br>SL freshen<br>S-class convertible launch | C-class convertible launch<br>C-class convertible AMG version launch<br>C-class coupe AMG redesign<br>E-class station wagon redesign<br>GLC coupe launch | GLA freshen<br>E-class coupe redesign<br>E-class convertible redesign<br>S-class sedan freshen<br>S600 Pullman launch? | B-class Electric Drive redesign<br>CLS redesign<br>Pickup launch? | A-class variant launch?<br>Mercedes-AMG GT4 launch<br>GLE redesign<br>CLA redesign |
| **Jaguar** | XF redesign | XE launch<br>F-Pace launch | | XE coupe and station wagon launch? | F-Type coupe, convertible freshen<br>XJ redesign | J-Pace launch?<br>XJ coupe launch? |
| **Land Rover** | Range Rover Evoque freshen | Range Rover Evoque convertible launch | Range Rover Sport freshen | LR4 (Discovery) redesign<br>Range Rover freshen | Defender launch | |
| **Mini** | | Hardtop freshen<br>Convertible redesign<br>Clubman redesign | Electric or hybrid Hardtop launch possible<br>Countryman redesign | Hardtop 4 Door freshen | Sports car launch? | |
| **Smart** | ForTwo redesign | | | Plug-in electric redesign | ForTwo freshen | |
| **Volvo** | S60 Cross Country launch<br>S60 Inscription launch | | S90 launch<br>V90 wagon launch | XC60 redesign<br>V90 Cross Country launch | XC40 launch?<br>S40 redesign?<br>V60 redesign<br>S60 redesign<br>XC90 freshen? | V60 Cross Country redesign |

**2016 VOLVO S60 INSCRIPTION**

**2016 JAGUAR XE**

**2016 SMART FORTWO**

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# M-B will grow, from compacts to Maybach

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Mercedes-Benz continues to add rapidly to its model range with coupelike crossovers and the high-end Mercedes-Maybach subbrand. And it is even considering a pickup for the U.S.

It also set up its high-performance AMG unit as a subbrand, whose vehicles now are called Mercedes-AMG models.

Mercedes also is rolling out vehicles with its revised nomenclature to better identify its expanding car and light-truck portfolio. The first renamed vehicle is its traditional four-door luxury crossover, the former M class, which becomes the GLE for 2016.

**CLA:** The front-wheel-drive compact sedan will be freshened in the first half of 2016. It will be redesigned after 2018, when production of some compact models will shift from Germany to a factory in Mexico shared with Nissan.

Additional compact Mercedes models are expected in 2018 because of the rapid growth of the segment. These models likely will include replacements for the CLA and the GLA crossover, and compact variants of other crossovers such as a baby GL.

**A class:** A variant of the subcompact A class may be sold in the United States when the lineup is redesigned in the next few years.

**B-class Electric Drive:** The niche plug-in electric will be redesigned after 2017.

**GLA:** The compact crossover will be freshened in mid-2017.

**C class:** The C450 AMG 4MATIC, a competitor to the Audi S4, goes on sale in September.

The C350e plug-in hybrid that debuted at the Detroit auto show goes on sale in the first half of 2016. It will be sold in states with zero-emission vehicle standards only.

**The 2016 Mercedes-Benz GLC goes on sale in November. It moves up in size and features.**

The C300d 4MATIC diesel sedan goes on sale in early 2016. It will have a 2.1-liter, four-cylinder diesel already used by various Mercedes models. It will be available in all-wheel drive only.

The C300/C300 4MATIC redesigned coupes with awd go on sale next March or April. The convertible and high-performance AMG versions of both two-door models will go on sale in the early fall of 2016.

**Mercedes also is rolling out vehicles with its revised nomenclature to better identify its expanding car and light-truck portfolio.**

**CLS:** The four-door with coupelike styling will be redesigned in late 2018. Although it shares the architecture used by the E class, the CLS will not be renamed using the new Mercedes-Benz nomenclature.

**E class:** The midsize car range will be redesigned starting with the sedan in the spring of 2016. The 2017 model will have new semiautonomous and safety features that exceed those of the S class.

The E class will move to the new MRA architecture.

The station wagon will be sold in late 2016. The coupe and convertible will be sold in early 2017.

**S-class sedan:** The flagship sedan will be freshened in 2017 and redesigned in 2020.

The second Mercedes-Maybach model, the Pullman, was shown at the Geneva auto show. It was designed to be chauffeur-driven and armored.

The extended-wheelbase Pullman is expected to cost about $570,000 without the armor and $1 million with it.

The four-door, six-seat model will offer 2+2+2 seating with a middle row of rear-facing seats.

The S600 Pullman is 21.3 feet long, which will make it 3.5 feet longer than the Mercedes-Maybach S600. The new limousine also will be 3.9 inches taller than the standard S class, for extra headroom.

U.S. deliveries could begin in 2017, but the vehicle hasn't yet been approved for sale in this market.

**S-class convertible:** An all-new, open-top car based on the new S-class coupe that went on sale earlier this year is due in the first half of 2016. It will be a big car but will have the svelte lines of the S-class coupe and will compete with the Bentley Continental GT. Mercedes hasn't said whether the car will have a retractable hard top or a soft top, which wouldn't add as much weight.

**SLC:** The SLK will be renamed the SLC when the freshened roadster goes on sale in the first half of next year. It will debut at the Detroit auto show.

**SL:** The larger two-seat roadster gets a freshening in the first half of 2016 and a redesign by the end of the decade.

**AMG GT, GT4:** The base model of the Mercedes-Benz AMG GT goes on sale in mid-2016.

The all-new GT4 will use the coupelike body of the redesigned CLS and will go on sale in 2018 or early 2019. Reports say it will be shorter than the CLS but will have four seats. AMG will build the engine, most likely using the 4.0-liter V-8 with horsepower of anywhere from 500 to 600 mated to a nine-speed transmission.

**GLC:** The compact crossover has been redesigned and renamed. The former GLK goes on sale in November.

Like its sister C-class sedan, the five-seat GLC moves up in size and features. It is no longer Mercedes' entry crossover because of the addition of the GLA compact crossover last fall. There is more interior space, especially in the rear.

The GLK has a boxy shape, making it a smaller version of the iconic G-class SUV. The GLC is sleeker with flowing lines.

The GLC is expected to start at under $40,000 with shipping, according to sources.

see **MERCEDES**, next page

**The C450 AMG 4MATIC will compete with the Audi S4.**

**The freshened GLE has an updated front end.**

# Jaguar filling the compact, crossover void

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Jaguar is revamping its product range with a compact sedan and crossover.

The brand sold fewer than 16,000 cars in the United States last year with its limited lineup of four vehicles.

The F-Type convertible and coupe have helped add luster to the brand's image. But to be a real player, Jaguar needs a volume vehicle and a crossover. Both are coming next spring — the XE compact sedan and the F-Pace crossover.

The rear-wheel-drive XE will use the new family of modular, four-cylinder Ingenium engines that will be built at a new plant in Wolverhampton, England. They are the first engines the company has developed since the 1990s.

According to reports, Jaguar also is considering a midsize crossover, the J-Pace.

**XE:** Jaguar won't fill the biggest gap in its product line until early 2016, when the sub-$40,000 sedan is expected as a 2017 model-year entry. The compact sedan will launch with optional all-wheel drive and a four-cylinder diesel engine. Rwd and a six-speed automatic transmission will be standard.

The XE will share its aluminum-intensive modular architecture with the F-Pace awd crossover arriving early next year.

The U.S. will get the XE 35t with a supercharged, 340-hp, 3.0-liter V-6 and the XE 20d with a 2.0-liter, four-cylinder, Ingenium diesel engine.

**The 2016 Jaguar XF has aluminum-intensive tech.**

The XE is expected to have awd here when it launches — a major reason it was delayed for the U.S. A coupe and possibly a station wagon could arrive in early 2017.

**F-Type:** The coupe and convertible won't be freshened for at least three years — 2018 at the earliest.

**XF:** The redesigned midsize sedan goes on sale in November. The XF features aluminum-intensive technology, increased interior room and a host of high-technology safety and entertainment features. Jaguar calls it "the brand's most comprehensive suite of advanced performance, driver assistance and infotainment technology."

Because of the aluminum-intensive construction and other weight savings, the awd XF is up to 265 pounds lighter than the current car. It also is up to 28 percent stiffer, Jaguar said. The 2016 XF is available with either rwd or awd and with either a 340-hp or 380-hp, 3.0-liter, supercharged, V-6 engine mated to an eight-speed automatic transmission.

**XJ:** Jaguar's replacement of the large sedan isn't expected until 2018. The BMW 7-series competitor will continue to have standard and long-wheelbase models. A four-seat coupe may be produced in 2019.

**F-Pace:** The rwd and awd midsize crossover will be unveiled at the Frankfurt auto show in September and go on sale in the U.S. in early 2016. Jaguar hasn't released dimensions or details yet, but it likely will have a four-cylinder, 2.0-liter engine and six-cylinder, 3.0-liter engine. It is unclear whether both powerplants will be available in the United States.

**J-Pace:** A seven-seat, three-row crossover is likely in 2019. It would use the redesigned XJ sedan architecture. The larger crossover would be Jaguar's version of its sister brand Land Rover's Range Rover. There's talk about short- and long-wheelbase models, a plug-in hybrid and high-performance SVR derivative. Jaguar needs the J-Pace to satisfy the market's growing thirst for crossovers rather than large sedans.

**The 2016 F-Pace**

# Land Rover will add convertible, bring Defender back

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Jaguar Land Rover is investing $5.3 billion in new products this year, including a new Range Rover Evoque convertible and a redesigned Defender, its least expensive and most rugged SUV.

Land Rover also is getting into the high-performance business with the Special Vehicle Operations unit that has developed two vehicles for the brand. The latest is the Range Rover Sport SVR priced, including shipping, at $111,400 — about $30,000 more than the supercharged V-8 model.

**Land Rover LR4:** The SUV will be renamed Discovery when it is replaced in the next two years.

**Range Rover:** The flagship Range Rover and its sibling, the Range Rover Sport, both

**A spy shot offers a peek at the upcoming Range Rover Evoque convertible.**

get a new 3.0-liter turbocharged V-6 diesel engine later this year. Fuel economy is 25 mpg combined, 32 percent better than the supercharged V-6 gasoline engine.

No major changes are expected to the flagship SUV until a refresh in 2017.

**Range Rover Sport:** A freshening is likely in 2016.

**Range Rover Evoque:** The compact crossover will be refreshed late this year. It will be followed by the launch of a convertible version.

**Defender:** Land Rover's least expensive range will be the revamped Defender, which hasn't been sold in the United States for years. The redesigned Defender family will be sold here, but it isn't clear whether every variant will make it overseas.

According to reports, the Defender will be launched in 2018, and there will be five variants, including two two-door models, a four-door with a long wheelbase, and two- and four-door pickups.

The Defender will move to unibody construction but maintain its off-road capabilities.

# MERCEDES

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The GLK starts at $38,825 including shipping.

The U.S. gets the GLC300 rear-wheel-drive and GLC300 4MATIC awd models at launch this fall. The 2.0-liter, four-cylinder engine produces 241 hp and 273 pounds-feet of torque mated to the nine-speed G-TRONIC automatic transmission, according to Mercedes. Additional powertrains will debut in 2016 and 2017. The all-new GLC coupe goes on sale at the end of 2016.

**GLE:** The freshened GLE, previously the ML, goes on sale this month. It is the first vehicle to use the new Mercedes-Benz nomenclature. The 2016 GLE got a midcycle freshening with an updated front end and new front and rear lights.

**The Metris van goes on sale in October.**

The GLE550e 4MATIC plug-in hybrid goes on sale by the end of the year in ZEV states only. Pricing hasn't been announced.

The new coupelike version of the GLE that will compete with the BMW X6 also goes on sale in August. It is designed to appeal to buyers looking for sporty, emotional styling and will not be available with an off-road package. It will be sold in the United States as a high-performance model only.

In 3½ years, when the GLE is updated, both vehicles will get a total revamp — but the new-generation coupe may not be launched at the same time.

**GLS:** The full-size crossover will be freshened and go on sale in early 2016. Changes won't be radical, and the GLS will not get Mercedes' new generation of interiors. It will be redesigned by the end of the decade.

**G class:** The Mercedes-AMG G65 goes on sale in November featuring an updated exterior. The G550 gets a 4.0-liter, V-8 engine, new styling and enhanced performance.

There are unconfirmed reports that the 35-year-old SUV initially designed for military use will be revamped in 2016. The G-Wagen, as it is called, would keep its tall, boxy shape and body-on-frame construction.

**Metris:** Mercedes-Benz Vans USA, the commercial arm of the German automaker, will sell the Metris, a midsize tall Euro cargo van that will have a starting price of $29,945. Passenger versions will be priced at $33,495. Both prices include shipping, and both vans go on sale in October. The Metris will be the largest of the small vans, with a wheelbase about 13 inches longer than the Ford Transit Connect. Mercedes says the additional length will help the Metris haul 880 more pounds of cargo than the Transit Connect.

The Metris is to be powered by a four-cylinder, 2.0-liter, 208-hp gasoline engine from the C-class sedan mated to a seven-speed automatic transmission.

**Pickup:** Daimler AG and Nissan Motor Co. will jointly develop a midsize pickup for Mercedes-Benz, but it is not clear whether it will come to U.S. showrooms. Mercedes' U.S. sales arm is studying whether to sell a version of the pickup, possibly in 2018 or 2019, said Steve Cannon, CEO of Mercedes-Benz USA, at the New York auto show.

# Mini drops models in its move upmarket

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Mini is revamping its model range, trimming three models and using a BMW Group architecture and engines.

As the new cars become bigger and more luxurious, Mini will move the range upmarket and away from competing with cheap subcompacts. Simply put, Mini wants to be taken more seriously.

That will be clear when the redesigned Clubman wagon goes on sale early next year. It is bigger, more premium and has unique features.

Mini will ditch slow-selling models — the Roadster, Coupe and Paceman.

Mini will pack its models with more high-tech safety and handling features, as well as high-end entertainment, in search of fatter margins. Executives have said they want the more expensive S versions to account for at least a third of sales and the high-performance John Cooper Works versions to double sales to 5 percent of the range.

**Roadster:** The Roadster will be dropped in the coming years.

**Coupe:** The two-seater will be phased out in the next year or two.

**Paceman:** The coupe version of the Clubman will be dropped in the next few years.

**Cooper:** The Hardtop, a three-door hatch, will likely be freshened in 2016. It is the first car using the BMW Group's front-wheel-drive architecture.

The Hardtop 4 Door, a five-passenger hatchback, will be freshened in late 2017 or early 2018.

The redesigned convertible goes on sale in early 2016. It will continue to have a soft-top roof and seat four passengers. But the interior will be revamped and made more premium, similar to the Hardtop.

An electric vehicle or a hybrid Hardtop may come in 2016 or 2017.

**Countryman:** The crossover will be redesigned next year and grow bigger and more luxurious. All-wheel drive will continue to be an option.

**Clubman:** The new Clubman arriving early next year is 12.4 inches longer and 4.6 inches wider than its predecessor and sheds a quirky door design for four conventional passenger doors. It can seat five passengers. Because of the larger size, the Clubman will be a compact — Mini's first car in the segment.

**Sports car:** A sports car derived from the Superleggera concept is awaiting final approval. It may go on sale by 2018. It will reportedly get a plug-in hybrid powertrain adapted from the BMW i8 sports car. Peter Schwarzenbauer, BMW AG board member for Mini, has stressed it would not be a replacement for the Coupe and Roadster. He has talked about "a serious sports car" that would show how far the brand can be stretched. AN

The Superleggera could inspire a sports car.

# After XC90, Volvo continues its product barrage

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Volvo is revamping its product range with an all-new scalable platform and design and new four-cylinder family of engines. And it will start building cars in the United States in a new South Carolina factory in late 2018.

The Swedish brand said it will have seven new or redesigned vehicles by the end of 2017. The XC90 crossover that went on sale this spring was the first.

Volvo wants to be perceived as a true luxury player on the same field as Mercedes-Benz, BMW and Audi. Volvo executives admit that the brand has been conceived as near luxury. Volvo's Scalable Product Architecture will be used next on the replacements for the S80 and XC70.

**S40, XC40, V40:** Volvo's smallest car sold in the U.S. was the S40 sedan. It was discontinued here in 2011. Volvo continued to sell it as a hatchback in Europe. The redesigned S40 and a new XC40 crossover will be built on its new Compact Modular Architecture that Volvo is jointly developing with Chinese owner Zhejiang Geely. Executives have hinted that some of the new compacts will be sold here, without giving specifics.

The 2016 Volvo S60 Cross Country variant goes on sale this month. It will compete in a niche that blends sedan and crossover attributes.

The XC40 is expected in 2018 in Europe, but there's no timetable for the U.S. market. The S40 sedan or hatchback — the design hasn't been revealed — will follow in 2018. According to a Dutch newspaper, Volvo executive Alain Visser recently confirmed that the next-generation V40 will be available in the U.S.

**V60:** The V60 wagon, one of Volvo's newer cars in the U.S., will be redesigned in 2018. The taller Cross Country variant will be redesigned in 2018 or 2019.

**S60:** The S60's own tall Cross Country variant goes on sale this month and will compete with the BMW 5-series Gran Turismo in a niche that blends sedan and crossover attributes.

The Cross Country's ride height has been increased by 2.5 inches and all-wheel drive has been added. It uses Volvo's T5 2.5-liter inline five-cylinder engine with 250 hp and costs nearly $10,000 more than the entry S60 sedan.

Built in China, the S60 Inscription is a long-wheelbase version of the sedan with 2.9 inches of additional legroom — making the car competitive with the larger, revamped Mercedes-Benz C-class sedan. The Inscription is now arriving at dealerships.

A redesigned version of the S60 compact sedan is expected in 2018.

**XC60:** The redesigned compact crossover is expected in 2017 or early 2018.

**XC90:** The redesigned crossover went on sale this year featuring new styling, safety technologies, more fuel-efficient engines and a more premium interior than its predecessor. It may be freshened in 2018.

**S90:** Volvo's flagship sedan will be renamed the S90 when it goes on sale in late 2016. It replaces the S80, the oldest car in Volvo's lineup. The S90 will be filled with infotainment and connectivity features as well as upgraded trim to compete with the large German sedans. Styling will be modernized, taking cues from the Concept Coupe. There may be a coupe derivative called the C90. A station wagon is possible, based on the Concept Estate that debuted in 2014 in Geneva.

**V90:** The full-size wagon will also debut by the end of 2016.

A Cross Country version to replace the XC70 is expected in 2017. AN

# 7 series continues BMW's high-tech push

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BMW has focused on its i subbrand for the last several years, striving to become a leader in green cars and lightweight vehicles with carbon fiber.

The carbon fiber know-how is being applied to BMW's main lineup, starting with the redesigned 7-series sedan that goes on sale later this year.

With the 7 series, BMW is again concentrating on high technology and playing a bit of catch-up on semiautonomous features. BMW executives used to pooh-pooh self-driving features, saying that owners of their cars wanted to drive them and weren't interested in vehicles that could drive themselves.


**The 3 series introduces a new engine.**

But the brisk sales of the Mercedes-Benz S class — with its high-tech features — over the 7 series have proved them wrong. BMW sales in the United States have grown, making it the No. 1 luxury brand here for the last two years. But sales of the higher-volume 5 and 6 series have dropped.

BMW will address other lineup gaps. It doesn't have a compact car to compete with the Audi A3 or the Mercedes-Benz CLA. That won't change until 2017, when the all-new 1-series sedan arrives.

Ditto a full-size crossover, a segment BMW eschewed and now wants to enter with the X7, due around 2019.

Its i cars are niche vehicles; a volume model called the i5 that can compete with the Tesla Model S is due in 2018.

**1 series:** The 1-series sedan, scheduled to arrive in 2017, will precede the third-generation 1-series hatchback, whose current rear-wheel-drive powertrain will be replaced by front-wheel drive. Both will ride on the company's new UKL architecture. The 1-series sedan targets Audi's A3 sedan and Mercedes-Benz's CLA. Like the competition, the new BMW model has been developed to support fwd and four-wheel drive.

It is unclear whether the hatchback will be sold in the United States. Expect U.S. sales of the sedan to begin in early 2017, with an M1 performance version a year or two later.

**2 series:** BMW adds all-wheel drive to the M235i xDrive convertible model this summer.

The 2-series coupe will get a midlife revamp next year, probably in the spring. An M2 high-performance coupe variant made by the BMW M GmbH unit with about 400 hp is expected in early 2016.

The soft-top convertible went on sale in early 2015 and won't be freshened until 2017, at the earliest. An M2 convertible is possible, but BMW likely will opt not to build it because of low demand for a compact with a price tag approaching $60,000.

BMW of North America has taken a pass on the compact fwd 2-series Active Tourer minivan and the 2-series Gran Tourer. They are the first BMW-badged vehicles off the new platform being shared with Mini. Executives say U.S. buyers won't pay for these premium smaller compacts — but they have reversed course on a product before, for instance, the X1 crossover, after seeing demand for small vehicles rise.

**3 series:** The 3-series sedan and station wagon were freshened and go on sale this month.

The 340i, which replaces the 335i, marks the world debut of the TwinPower, 3.0-liter, inline six-cylinder gasoline engine, producing 320 hp with 330 pounds-feet of torque — 20 hp more and 30 pounds-feet more than the outgoing powerplant.


**The BMW 7 series will try to make up for lost sales.**

**The 7 series has more comfort, tech and safety features than the Mercedes-Benz S-class sedan.**

The 330e plug-in hybrid replaces the 3-series ActiveHybrid and goes on sale in March. It will have a combined 250 hp and be capable of driving 22 miles in all-electric mode. Further details haven't been announced.

The compact 3-series GT wagon will be freshened in 2016.

The 3-series sedan will switch to the new CLAR cluster scalable architecture when it is redesigned in 2018. The architecture uses submodules, or clusters, that can be changed to suit a vehicle's size.

With the advances made by Mercedes-Benz, and Cadillac nipping at its heels, the 3 series is expected to make a significant leap in interior space, packaging and features. Expect semiautonomous features trickling down from the 5 and 7 series, including air suspension, an enhanced head-up display, entertainment and engine improvements.


**The X1 will add interior and cargo space.**

**4 series:** The coupe and convertible compacts will be freshened next year. An update is expected in 2017 for the high-performance M4 and Gran Coupe four-door with coupelike styling. A redesign is expected in 2020.

**5 series:** The midsize sedan will be redesigned next year — BMW's 100th anniversary — on the CLAR architecture. It features high-strength steel, carbon fiber and aluminum modules and components.

The 5-series Gran Turismo and station wagon also will continue.

To keep pace with the Mercedes-Benz E-class sedan, BMW will migrate new semiautonomous driving features from the redesigned 7-series sedan to the 5 series. Awd, M high-performance, diesel and hybrid variants are expected.

**6 series:** All three body styles were freshened earlier this year, and the BMW Alpina B6 xDrive Gran Coupe was added.

The 6-series coupe, convertible and four-door Gran Coupe with coupelike styling will be redesigned in 2019.

**7 series:** BMW is trying to make up for lost sales and a ding in its reputation as a technology and performance leader with the 2016 flagship sedan. The redesigned 7-series sedan has more features — comfort, technology and safety — than its archrival, the Mercedes-Benz S-class sedan.

The 7-series sedan is the first BMW to use the CLAR architecture, with extensive use of carbon-fiber, high-strength steel, aluminum and magnesium. That combination makes it

see **BMW**, next page

future product pipeline

## BMW

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about 190 pounds lighter and faster than the current car.

The 7 series has a self-leveling air suspension and multiple settings for the chassis, engine and transmission. Optional active steering can pivot the rear wheels.

Sales begin this fall for the six-cylinder, rwd 740i and the V-8 awd 750i xDrive. Later in 2016, an awd plug-in hybrid, dubbed the 740e xDrive, will join the lineup.

**Z4:** The two-seat sports car will be redesigned in 2019. Few details are known, and BMW management admits it is not a priority. The redesigned Z4 will use an architecture jointly developed with Toyota.

**i3:** No changes are expected for the next several years to the compact electric vehicle that's also available with a range extender.

**i8:** No changes are expected for the next several years to the plug-in hybrid sports car.

**i5:** A plug-in electric and plug-in hybrid based on the 5-series long-wheelbase sedan sold in China only will go on sale in 2018, according to reports. The hybrid will rely heavily on styling cues from the redesigned 7-series sedan.

BMW will position the i5 as a competitor to the Tesla Model S.

**X1:** The 2016 X1 — BMW's entry-level crossover in the U.S. — will go on sale this fall. The second generation of the compact crossover will use the company's new transverse engine architecture, giving the X1 more interior and cargo room than the current version.

Initially, the U.S. will get only the awd X1 xDrive28i with a 2.0-liter, twin-turbo, four-cylinder engine from a new family of modular engines. A fwd model will be sold in Europe; it is unclear whether this version will come to the U.S.

**X2:** BMW reportedly has approved the launch of a coupe-styled crossover called the X2 to rival the Range Rover Evoque. The X2 will be based on BMW's fwd UKL 1 platform like the next-generation X1 and recently launched BMW 2-series Active Tourer compact minivan, according to *Autocar* magazine. The X2 likely will debut as a concept at the 2016 Geneva auto show, *Autocar* said.

**X3:** The X3 will be redesigned in 2017, and there's talk of a plug-in hybrid and M high-performance model.

Because it will sit on the CLAR architecture, rather than the 3-series sedan platform, the replacement X3 is expected to gain interior space.

Expect the X3 to get the X5's plug-in hybrid engine.

**X4:** The crossover with coupe-like styling likely will be redesigned in 2018 to keep it competitive with new models from rivals, including next year's Mercedes-Benz GLC coupe. The X4 is a smaller version of the X6; it went on sale in the United States in July 2014.

**X5:** A plug-in hybrid version of BMW's X5 SUV is expected to go on sale late this year. The X5 xDrive40e combines a 2.0-liter, TwinPower Turbo, four-cylinder engine with an electric motor, powered by a lithium ion battery for a combined 308 hp and 332 pounds-feet of torque and an eight-speed automatic transmission. It can travel 13 miles in pure electric mode.

**X6:** The crossover with coupe-like styling will be redesigned in 2018, at the earliest.

**X7:** The new seven-seat crossover will be built at BMW's factory in South Carolina. Specifics are unavailable, but it will go on sale around 2019. The X7 will be considerably roomier than the X5. It needs to have all of the semiautonomous features the competition already is rolling out on its models, a diesel and a hybrid variant.

The X7 will be pricy — BMW's version of the Range Rover, a brand the Bavarian automaker once owned and helped re-engineer. AN

# Smart sticks with single nameplate

The Smart microcar will continue to be a niche product in the U.S. with annual sales of about 10,000.

Management has chosen to sell only one car here — the miniscule ForTwo and not the four-seat ForFour. There's concern there wouldn't be demand for a tiny four-seater.

**ForTwo:** The redesigned ForTwo two-door car goes on sale in November. The 106.1-inch length stays the same.

The ForTwo has a turbocharged, three-cylinder 898cc engine with 89 hp mated to either a five-speed manual or a new six-speed dual-clutch transmission.

The new front axle was adapted from the new-generation Mercedes C-class sedan from parent Daimler.

The ForTwo will be freshened in 2018.

A plug-in electric version goes on sale in 2017.

*— Diana T. Kurylko*

**2016 Smart ForTwo**


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the week on the web

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**Most-read story:**
Dodge cancels unfilled '15 Hellcat orders, doubles '16 output

**Tesla Model S**

### Renault-Nissan, Daimler detail plans for Mexico JV plant

Daimler and the Renault-Nissan Alliance said their new plant for Mercedes-Benz and Infiniti cars in Aguascalientes, Mexico, will employ some 3,600 staff and have an initial production capacity of more than 230,000 vehicles. Production of Infiniti vehicles will begin in 2017, with the first Mercedes-Benz vehicles due to roll off the line in 2018, Daimler said in a statement. Depending on demand, there will be potential to add capacity, it added.

**Smith**

### Sonic names Scott Smith CEO

Sonic Automotive is shuffling some executive positions, naming its co-founder, President Scott Smith, as CEO, effective immediately. Smith, 47, replaces his father and the company's founder, O. Bruton Smith, 88, who has become executive chairman.

### Average age of U.S. fleet hits record

The average age of light vehicles on the road in the U.S. reached an all-time high of 11.5 years at the end of 2014, while the total number of light vehicles in operation hit a record 257.9 million, up 2.1 percent from 2013, IHS Automotive said. IHS forecasts that the average age will hit 11.6 years in 2016 but will not reach 11.7 years until 2018.

### Tesla offers word-of-mouth discount on Model S

Tesla, testing the power of viral marketing to sell its electric cars, will offer a word-of-mouth discount on the Model S sedan through October, with both referrer and buyer getting $1,000. CEO Elon Musk characterized the program as a test of an approach that ultimately could cut the cost of opening retail stores around the country. He said it costs Tesla about $2,000 to sell a car through one of its showrooms, but word-of-mouth could lower that.


### Jeep fire-death award slashed; FCA denied new trial

A judge in Decatur County, Ga., reduced a $150 million award to $40 million for the family of a young boy killed when the 1999 Jeep Grand Cherokee in which he was riding was rear-ended and burst into flames. Judge J. Kevin Chason said the family of Remington Walden should receive $30 million for his wrongful death and $10 million for pain and suffering. The judge also denied a motion from Fiat Chrysler for a new trial, calling the evidence presented against it during a nearly two-week trial this year "overwhelming."

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08.03

July U.S. auto sales released

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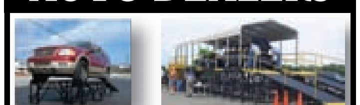

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# TEST

## Horns seem to do 'good job' of protecting cabin

continued from Page 1

lic. However, a spokesman for Toyota said the full-size 2015 Tundra "did not require any modification, but airbag overlap was improved for the IIHS small offset" testing.

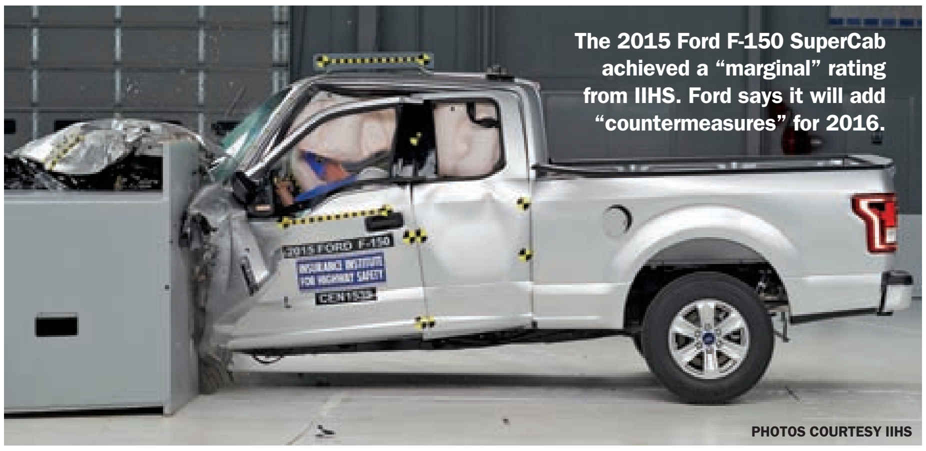
IIHS spokesman Russ Rader said a 2015 Ram 1500 Crew Cab will hit the wall in September. Tests of 2016 Chevrolet Silverado 1500 pickups will take place in December, he said.

At stake are safety ratings from the IIHS for the Detroit 3's top-selling nameplates, which are widely considered by shoppers. The offset test mimics a vehicle hitting a tree in the front corner at 40 mph.

Ford chose to leave the protective bars off its two other versions of the 2015 F-150, the regular cab and extended cab, called the SuperCab. The bars absorb energy and redirect some crash force away from the passenger compartment.

Without the bars, the SuperCab received a "marginal" rating on the IIHS offset test — the second to the bottom, ahead of "poor," of four ratings on its scale. The regular cab, which IIHS says is structurally similar to the SuperCab, was not tested.

Recognizing the disparity in the test results, Ford spokesman Mike Levine said last week that the company now plans to equip the regular cab and SuperCab with "countermeasures" to protect passengers in the 2016 model year. He declined to say whether they would be the protective bars, called wheel blockers by many engineers.



The 2015 Ford F-150 SuperCab achieved a "marginal" rating from IIHS. Ford says it will add "countermeasures" for 2016.

PHOTOS COURTESY IIHS

Without the countermeasures, during crash testing the SuperCab's steering column moved 8 inches toward the dummy's chest. The lower leg area was also compressed.

### Simply effective

Metal bars welded on one end to a pickup frame, which resemble cattle horns, might seem simple. But David Zuby, IIHS' chief research officer, says they are effective.

Consider how they performed in the IIHS' two F-150 tests.

"In the [SuperCrew], we see those horns that extend from the frame do take some load. They're bent after the crash test. They help absorb some energy and deflect the vehicle away from the barrier," Zuby explained.

"As the structure crumples around those horns, the whole vehicle starts to move to the right," so some force is directed away from the toe pan and door hinge pillar, Zuby explained.

When the extended cab pickup without the protective bars struck the barrier, the wheel was driven back toward the passenger compartment. Zuby said it shoved the steering column 8 inches back toward the crash-test dummy's chest, and it moved the toe pan and brake pedals rearward about a foot toward the dummy's legs.

The SuperCrew's "horns," as Zuby calls them, are relatively inexpensive, at least as compared with such safety technology as sensor-activated automatic braking. Ford's parts catalog lists the retail replacement prices for its "Frame Bracket with Crew Cab Protectors" as $50-$58 each.

Though his sample size is still limited to just the two F-150 tests so far, at least in terms of pickups, Zuby said the horns "seem to do a good job of protecting the occupant compartment from excessive intrusion in this type of crash."

### More tests

The IIHS is continuing to crash-test other automakers' pickup trucks through year end, the institute's Rader said.

Zuby said the IIHS will now test more than one body style of the pickups — a departure from past IIHS practice. The institute originally planned to test only the 2015 F-150 SuperCrew. But it tested the SuperCab after *Automotive News* informed IIHS staffers that the SuperCab and regular cab lacked the protective bars.

"In the short term, we're going to test at least the two most popular versions of pickup trucks, so that we know the full story on front crashworthiness on these vehicles," Zuby said.

Other pickup crash tests "will be 2016 models," Rader said. The IIHS will retest the F-150 SuperCab, which had received only the "marginal" rating, "when the 2016 model with the small overlap changes becomes available." AN

### Headed for the wall

The Insurance Institute for Highway Safety has just begun testing full-size pickups. Here is the remaining test schedule.

**September:** 2015 Ram 1500 Crew Cab

**October:** 2016 Ram 1500 Quad Cab

**December:** 2016 Chevrolet Silverado 1500, crew and extended cab

**TBD:** 2016 Ford F-150 SuperCab*

*To be retested after additional "countermeasures" installed

Note: IIHS has no plans to date to test the Nissan Titan, Chevrolet Colorado and GMC Canyon

Source: IIHS

●●●

# IIHS

## Aluminum F-150 had more damage

continued from Page 8

minum and buying specialized repair tools and equipment. (Aluminum dust can ignite and explode if cross-contaminated with steel dust.)

The State Farm spokeswoman said that over the past several years, whenever automakers began building a vehicle with a different material, repair costs "initially increased but not necessarily because of the uniqueness of the material itself."

The increase in overall repair costs typically stems from new equipment, repair training techniques and repair processes, she said. "As the use of the different materials become more common, the costs tend to level out and are more competitive."

### Ford battles critics

The institute's findings are the latest round of evidence that it could cost more to own a vehicle made with significant amounts of aluminum, a perception that Ford has been fighting since it began rolling out the redesigned pickup.

IIHS said it crashed a 2014 F-150 and a 2015 aluminum-bodied F-150 into each other at low speeds to simulate offset rear-end accidents. It said the tests caused more damage to the aluminum truck in both the front and the rear.

The cost to repair the front of the aluminum F-150 was $4,147, compared with $3,759 for the front of the steel truck. Fixing the rear of the aluminum truck was $4,738, vs. $3,275 for the steel truck.

Repair costs for the aluminum truck were 42 percent higher for parts and 22 percent higher for labor, IIHS said. In addition, one side of the aluminum truck's bed had to be replaced while the steel truck's bed needed only a repair.

Eric Lyman, vice president of industry insights at TrueCar, said evaluating repair costs will be difficult until such jobs become more common. He said Ford likely has some sort of plan to help ensure customers won't have to pay significantly more to fix their trucks, such as a goodwill fund to quietly cover some of the dealerships' costs.

"Ford had to have done their due diligence," Lyman said. "This is the goose that lays the golden egg, their bread-and-butter vehicle, the key to their profitability. I would expect that they were not foolish to bring this vehicle to market without fully understanding what those repair costs would be and how that would affect residual values and ownership costs."

### Chevy attacks

Ford's biggest rival, Chevy, has begun trying to use the uncertainty over aluminum as a marketing tool. In one new ad, people are put in a room and told to choose between a cage made of aluminum and another made of steel to protect them as a bear is released.

Another video features former pro football player Howie Long, a Chevy pitchman for a number of years, questioning the Silverado's chief engineer about the cost to own and the durability of the aluminum F-150. The spot cites a Chevy-commissioned experiment that found that fixing F-150s cost an average of $1,755 more and took nearly 34 days longer than fixing Silverados.

"If I'm a guy who uses my truck for work, every day I don't have that truck, that costs me money. In addition you've got higher repair bills," Long says in the video. "All that certainly makes me think twice about an aluminum-body truck. Seems like you'd be taking a risk."

Meanwhile, a report last week by enthusiast website Jalopnik detailed an actual customer's 2015 F-150 repair that took a month and cost $17,000. AN

# CADILLAC

## Proposed inventory solution for dealers

continued from Page 4

that many dealers aren't able to keep adequate supplies of each model.

Old inventory is a problem for both the dealer and the brand, de Nysschen says. The dealership has capital tied up in those aging cars. And it doesn't help Cadillac's image much to have 2014 models gathering dust midway through 2015, triggering big discounts that can harm residuals.

Still, Cadillac dealer CJ Spadafora in Indiana, Pa., has mixed feelings about the concept. Spadafora's Colonial Motor Mart sells about 40 to 50 Cadillacs a year, while also selling GMC, Mazda, Mitsubishi, Toyota and Nissan.

On one hand, an inventory hub would allow the store to stock fewer cars — Cadillacs tend to sit on the lot for 80 to 100 days on average, Spadafora said. And he suspects that in a few years, it will be harder to keep adequate supply on the lot, because several new models are expected to join Cadillac's lineup.

But he also sees potential pitfalls in the regional lots.

"How would they base what we could pull out of there and not pull out of there?" he says.

For example, like most Cadillac stores, Spadafora's dealership has been short on Escalades. "I could sell three today if I had them," he says. "How would they decide who gets priority?"

He also sees a need for some sort of guaranteed delivery turnaround — say 72 hours — that salespeople could reference to soothe customers. Spadafora says it's tough enough competing with large, well-stocked Cadillac stores in metro Pittsburgh, about 90 minutes away.

"In today's world, if a customer doesn't see a car in your inventory, they won't come to see you," he says.

De Nysschen says those details would need to be worked out. He believes the system would alleviate cash-flow problems for smaller dealers.

"If they have $2 million worth of capital tied up, I'd rather have that going toward an exclusive environment that can support the brand positioning and customer experience," he says, "as opposed to having it tied up in vehicles that are just sitting there." AN

# New U.S. policy could mean dealer penalties

**Ryan Beene**
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WASHINGTON — Fiat Chrysler dealers stand to lose incentive dollars from the automaker if they sell used cars with open, unrepaired recalls under a new policy ordered by U.S. regulators.

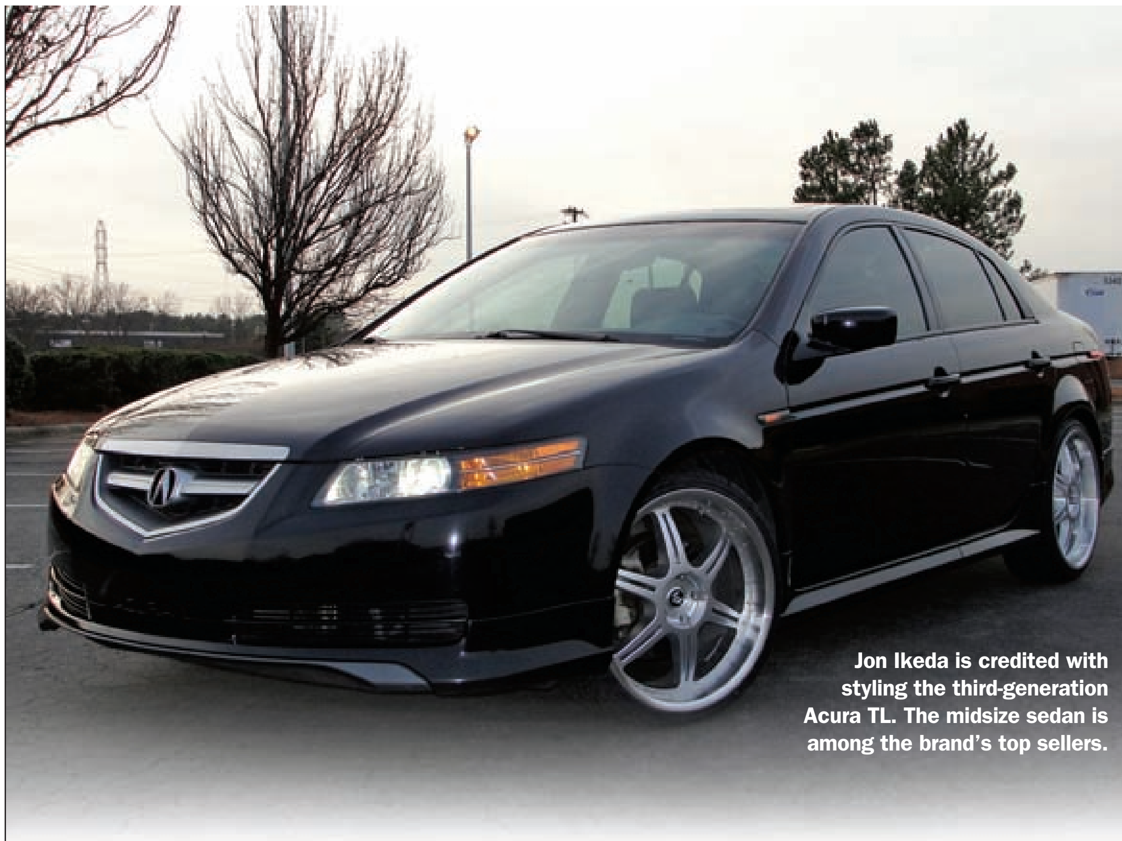
The policy is outlined in the 36-page consent agreement between Fiat Chrysler and the National Highway Traffic Safety Administration, imposed July 24 for violations of U.S. auto safety laws tied to 23 FCA recalls.

According to the agreement, FCA US must "develop and implement a process to deter dealer sales of unremedied vehicles subject to a recall." That will include training to reinforce FCA's existing policy against selling cars with open recalls. It also calls for "imposing a financial penalty … and/or prohibiting any dealer from receiving any incentive from FCA US, if the dealer sells an unremedied recalled vehicle regardless of whether new or used."

It's illegal to sell new cars with open recalls, but no such law exists for used cars.

Dealer groups have opposed recent legislation introduced to ban the sale of used cars with unrepaired recalls. The National Automobile Dealers Association said one such bill recently proposed by U.S. Sen. Richard Blumenthal, D-Conn., would diminish the value of millions of used cars and ground vehicles recalled for minor compliance issues such as a typo in an owner's manual.

Details of how the policy will work are still unclear. A Fiat Chrysler spokesman said the automaker was still developing the policy in the days after the consent order with NHTSA was announced last week and said dealers would be briefed when it was finalized. AN



Jon Ikeda is credited with styling the third-generation Acura TL. The midsize sedan is among the brand's top sellers.

# NHTSA

## Ditlow: Effective monitoring is key

continued from Page 3

forts to strengthen auto-safety laws and boost regulators' resources languish in Congress.

"This may be a way for NHTSA to leverage its limited manpower in the enforcement area by requiring this independent monitor to do a lot of the legwork that NHTSA can't do itself because it doesn't have the person-power to do it," said Allan Kam, a former NHTSA enforcement attorney and safety consultant.

> **"If it's a Fiat Chrysler show from start to finish, is it really going to be good?"**
> Clarence Ditlow

For example, the deal calls on FCA to impose penalties, such as withholding incentives, on dealers that sell unrepaired recalled vehicles, new or used. That's aimed squarely at tightening the so-called used-car loophole that has allowed unrepaired used cars to be sold to unwitting buyers, as was the case with Carols Solis IV, who died in Texas in January from injuries caused by a defective Takata airbag in a Honda Accord he had bought secondhand.

Federal and state lawmakers have proposed several bills to close that loophole in the past year, but they have faced resistance from dealers and industry lobbyists who consider it too burdensome.

NHTSA will make FCA ease that burden, ordering it to lead an effort to compile recall data — based on vehicle identification numbers — from other automakers to be made available for bulk recall searches, a key need for dealers seeking to check their used-car inventories for recalled cars.

Another provision bars FCA from postponing a decision about whether to issue a recall until it finds a root cause or a proposed fix. That was a factor in both the GM switch and Takata airbag cases.

Under the deal, Fiat Chrysler must fund a number of "outreach" initiatives over the next three years to share best safety practices and help improve recall participation industrywide.

It will be required, for example, to develop and "scientifically" test options for making recall notifications more effective.

With so much work entrusted to FCA, effective monitoring will be key, Ditlow said.

"If it's a Fiat Chrysler show from start to finish, is it really going to be good?" he asked. "Because you're depending on the same company that had bad practices for so many years that led to this consent agreement." AN

# IKEDA

## Exec must avoid pitfalls of some of his fellow designers

continued from Page 4

within Acura," Brauer said.

This will be important as Acura's planners seek to elevate and better define the brand. In February 2014, Honda created a separate business office for Acura to articulate a clearer product strategy and distinguish it from the bread-and-butter Honda brand. While Acura revived its "precision crafted performance" marketing tag line this year, the broader effort to wow U.S. consumers and Honda executives in Japan has bogged down.

Honda declined to make any of its executives available for interviews following Ikeda's appointment last week. Ikeda succeeds Mike Accavitti, a longtime marketing executive who had been with American Honda since 2011.

By the numbers, Acura has a lot going for it. Sales through the first half of the year are up 12 percent, outpacing the market's overall gains. And Acura has bucked the trend of shrinking car sales this year.

Yet overall volume for Honda's luxury brand still lags far behind that of BMW, Mercedes and, crucially, Lexus, a brand that has spent the last few years spinning its dowdy image toward one that promises more excitement.

"That used to be Acura's thing," Brauer said.

As a designer with some notable successes, Ikeda should be well-placed to see Acura through a similar transformation.

"If there's a brand's essence to be communicated to the public, I think a designer has a very strong way of communicating that," said Tom Matano, a former Mazda designer and company executive. He is now executive director of the School of Industrial Design at Academy of Art University in San Francisco. "That's what Acura needs right now."

In addition to securing the U.S.-based design studio, Ikeda is credited with the styling on the third-generation TL, which ran from the 2004-08 model years. The midsize sedan is among Acura's top-selling vehicles. More recently, Ikeda was instrumental in naming Michelle Christensen as the exterior designer of the upcoming NSX supercar.


Outgoing Acura boss Mike Accavitti, left, and Jon Ikeda with the MDX crossover prototype.

At the same time, Ikeda will need to avoid pitfalls some of his fellow designers have encountered.

Designers aren't usually known for their skills with budgets and management, said Stewart Reed, chairman of transportation design at Art Center College of Design in Pasadena, Calif., Ikeda's alma mater. Those who have succeeded in management roles, such as Ed Welburn at General Motors or Peter Schreyer at Kia and Hyundai, have had strong business managers with whom to work

Others, such as Ralph Gilles, FCA's current global head of design, or Bryan Nesbitt, Buick's chief stylist, lasted in executive roles for only brief periods before returning to the studio.

Another potential roadblock, says Matano, is skepticism from other execs. "A lot of people think because we're designers we're different and crazy and do whatever we want to do," he said, "but we're not." AN

# MITSUBISHI

## Dealers want proof of commitment to U.S.

continued from Page 4

vulnerable to swings in exchange rates. So executives at Mitsubishi's U.S. headquarters will face the challenge of proving that their company won't be the next Suzuki.

Suzuki, crippled by a failing subprime lending business and a then-punishing dollar-yen rate, skimped on new products for years, resulting in a thin, outdated lineup that drew little attention from U.S. buyers. Fed-up dealers threw in the towel at an increasing rate. Only about 220 remained when Suzuki filed for bankruptcy in 2012, paying those remaining a total of $42.3 million in buyouts.

Mitsubishi's cupboard is not as bare. This summer, the company launched a re-engineered Outlander crossover with a gaudy black-and-chrome grille. Early next year, it plans to launch a budget-priced sedan based on the Mirage subcompact.

The true test, industry watchers say, will be the Outlander Sport, which is due for a mild face-lift for the 2016 model year and a redesign for the 2017 model year.

"That's their top-selling model line, and we're expecting massive growth in that segment in the next few years," Kim said. "If they were to discontinue that model line [in the U.S.], then I might see it as a sign that they're preparing to pack up and leave. You don't abandon your top seller if you're serious about staying."

Gremore: Thousands will be affected.

Mitsubishi is market-testing the U.S. 2017 Outlander Sport, spokesman Alex Fedorak wrote in an email. "No plans have changed," he wrote. "It will come to the States."

Still, dealers want proof they aren't sinking time and money into a lost cause.

Ryan Gremore, general manager of a Mitsubishi dealership in Normal and chairman of the brand's U.S. dealer council, has worked in Mitsubishi showrooms since he was 18. He always had faith in the brand's commitment to the U.S., even as sales fell and once-popular products such as the Eclipse and Galant disappeared.

Yet the specter of job losses in Normal, where the company employs 1,220 people, including 915 hourly line workers, has him feeling uneasy. He is asking Mitsubishi to send a top executive to the U.S. to publicly confirm the company's commitment.

"I won't defend the decision, but I respect it," Gremore said. "There are thousands of people in my community that are going to be affected by this, but this is being done for millions of people worldwide. I've got to level with that." AN

*Ryan Beene and Hans Greimel contributed to this report.*

# Suppliers to the 2016 Mercedes-Benz GLE Coupe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SupplierBusiness

# Japanese score big in N.A. in 1st quarter

## Rising sales and weak yen help boost earnings

**Hans Greimel**
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TOKYO — Booming business in North America was a bright spot for Japanese automakers in the latest quarter, but it wasn't always enough to offset weakness elsewhere.

North America sales and operating profits climbed higher in the April-June fiscal first quarter at Nissan, Honda, Mazda, Mitsubishi and Subaru's parent company, Fuji Heavy Industries. Toyota Motor Corp. reports earnings Tuesday, Aug. 4.

Results were pumped up by a combination of rising sales, a shift toward SUVs, improved capacity utilization and a weak yen.

In the fiscal first quarter, North America emerged as the top-selling market for Nissan, Honda, Subaru and Mazda.

At Nissan Motor Co., North American volume climbed 9 percent to 486,000 vehicles, a record result for any quarter.

North American operating profit nearly doubled at Nissan, surging to ¥96.04 billion ($782.6 million) from $415.4 million a year earlier, despite rising incentive spending.

### Higher margins

North America leapfrogged Japan to become the most profitable region for Japan's No. 2 automaker. And the robust growth underpinned a 36 percent increase in global net income for Nissan that was aided by favorable foreign exchange rates.

"These figures indicate that Nissan is on the right path," Corporate Vice President Joji Tagawa said of the results. North American results should continue to improve as Nissan rolls out redesigns of high-margin nameplates such as the Maxima sedan and Titan pickup, he added.

**Increasing demand for the HR-V compact crossover helped fuel a strong quarter for Honda.**

The upswing was mirrored across the board in Japan.

At Honda Motor Co., North America was again the biggest sales and profit center. Sales rose 11 percent to 497,000, while regional operating profit climbed 64 percent to $888.2 million. Honda got help from foreign exchange windfalls but also rode swelling demand for light trucks, including its new HR-V compact crossover, said Tetsuo Iwamura, executive vice president. Honda expects further momentum from trucks with this year's release of the redesigned Pilot SUV, he said.

Fuji Heavy posted record first-quarter sales, globally and in North America. Sales in North America, which accounted for 69 percent of its worldwide volume, rose 25 percent to 154,300 vehicles. Fuji Heavy's operating profit in North America more than doubled to $216.8 million.

The company attributed the increase partly to soaring U.S. demand for SUVs and crossovers amid moderate gasoline prices, a market trend favoring Subaru's all-wheel-drive lineup. Also, the company's only assembly plant in North America is operating at maximum capacity, driving operating margins higher.

Indeed, on a global basis, Fuji Heavy delivered a stunning 17.5 percent operating-profit margin for the quarter, another record.

### Even Mitsubishi

Mazda Motor Corp.'s North American sales rose 6 percent to 116,000 vehicles, while North American regional operating profit more than tripled to $112.7 million as buyers snapped up CX-5 crossovers and the updated Mazda6 sedan.

Even Mitsubishi Motors Corp. caught the wave. Unlike its Japanese rivals, Mitsubishi counts North America as one of its smallest markets. Yet demand for its Outlander Sport compact crossover helped drive a 25 percent jump in North America sales to 35,000.

The longtime money-losing regional operations swung to a narrow $26.9 million operating profit in the period from a $17.9 million operating loss a year earlier.

Still, the healthy sales and profits in North America didn't translate into global gains for everyone. Mazda and Mitsubishi both reported decreases in net income for the quarter.

Global profits at Mitsubishi were hurt by slumping sales in Japan, Russia and Southeast Asia as well as by foreign exchange rate losses against such currencies as the euro, Russian ruble and Thai baht. Mazda also had currency losses dent the bottom line, along with depreciation costs for its new assembly plant in Mexico and a new transmission factory in Thailand. AN

### Rising sums

| Fuji Heavy | APRIL-JUNE | CHANGE |
|---|---|---|
| Revenue | $6.24 billion | +30% |
| Net income | $686 million | +61% |
| Vehicle sales | 225,000 | +16% |
| **Honda** | **APRIL-JUNE** | **CHANGE** |
| Revenue | $30.15 billion | +16% |
| Net income | $1.52 billion | +20% |
| Vehicle sales | 1,147,000 | +4.9% |
| **Mazda** | **APRIL-JUNE** | **CHANGE** |
| Revenue | $6.57 billion | +14% |
| Net income | $299.5 million | –25% |
| Vehicle sales | 370,000 | +17% |
| **Mitsubishi** | **APRIL-JUNE** | **CHANGE** |
| Revenue | $4.08 billion | –3.3% |
| Net income | $195.5 million | –15% |
| Vehicle sales | 262,000 | +1.6% |
| **Nissan** | **APRIL-JUNE** | **CHANGE** |
| Revenue | $23.63 billion | +18% |
| Net income | $1.25 billion | +36% |
| Vehicle sales | 1,294,000 | +4.4% |

Note: Results converted at an exchange rate of ¥122.72 = $1 as of June 30.

Source: Companies

# VW-SUZUKI

## Small carmaker wary of a giant's intentions

continued from Page **3**

end their nearly four-year feud.

Speaking at his company's annual shareholders meeting on June 26, Osamu Suzuki confirmed that the proceedings, which began in November 2011 at the ICC International Court of Arbitration in London, had concluded. Both sides are now standing by for the decision.

"We are embarrassed by the fact that the arbitration took so long," Suzuki said. "We will disclose the conclusion as soon as it comes out."

Arbitration may in fact salvage some kind of a partnership. Both companies are legally bound not to comment publicly on the hearings, and few details have leaked.

But some outsiders aren't betting on reconciliation. To be sure, the internal documents that *Automotive News* reviewed archive mounting discord that chilled initial optimism.

Most analysts say separation is a forgone conclusion.

"We assume Suzuki is offered the opportunity to repurchase its shares," wrote Kurt Sanger, an auto analyst with Deutsche Securities Japan.

The plot thickened in June, when Osamu, the outspoken boss of his namesake carmaker, appointed his son president and likely successor. Some observers wondered whether the company's stance toward VW might soften with the 85-year-old chief clearly planning succession after nearly four decades at the helm.

After appointing his eldest son, Toshihiro, Osamu Suzuki told reporters at a Tokyo news conference that he had hoped to settle the VW partnership dispute before naming a new president.

"But it is taking so long," Suzuki said of the arbitration. "So I decided not to wait and announced the management change."

Suzuki, who simultaneously unveiled a new midterm business plan, told reporters he will stay on as CEO and chairman, helping to handle the VW disagreement through its resolution.

"Suzuki had postponed the drafting of a new medium-term plan due to its ongoing dispute with VW," J.P. Morgan auto analyst Akira Kishimoto wrote in a report on the management overhaul. "Although we do not expect the personnel changes to significantly affect Suzuki's management vision, we believe resolution of the dispute with VW will likely take more time."

Suzuki Motor declined further comment on the alliance with VW, citing the ongoing arbitration.

But spokesman Ei Mochizuki said his company moved to end the partnership after being denied access to VW technology the company claims it was promised in the initial framework.

"We entered into the framework agreement in December 2009, recognizing each other as independent, equal partners and in so doing, agreed to facilitate, among other things, access to Volkswagen's core technology," he said. "But we couldn't access Volkswagen's core technology, so we couldn't have continued our alliance. So we terminated the framework agreement."

VW's senior vice president for communications, Andreas Lampersbach, also declined comment on the Suzuki alliance, citing the pending decision by the arbitration court.

In the past, VW said it was disappointed by Suzuki's demand for a breakup and called the step "without foundation."

It has long maintained it intends to keep its holding.

With the dispute reaching a crescendo in early November 2011, Volkswagen AG said it

**Suzuki hoped to develop a hybrid system with Volkswagen's help for its SX4 or Swift, above. VW said it doesn't even share sensitive hybrid information with its Audi subsidiary.**

no longer was classifying Suzuki Motor Corp. as an "associate," retracting wording that angered Suzuki.

"The opportunity to exert notable influence upon Suzuki is, for the time being, no longer available," Volkswagen said, according to press reports at the time, adding that it had begun listing Suzuki under "other holdings."

It was too little, too late. Suzuki initiated arbitration later that month anyway.

### Lingering damage

In the documents, Suzuki comes across as growing obsessed with independence, wary of VW's intentions and sensitive of its stranglehold on India and expertise in emerging markets. Laid bare are the small manufacturer's weaknesses in advanced drivetrain technologies and developed markets — and its shattered hope to enter the global hybrid vehicle race in 2012 with an electrified version of its Swift or SX4 compact cars.

"The most important reason for this partnership is for Suzuki to survive," one document concedes.

Meanwhile, executives in Wolfsburg seemed eager to learn Suzuki's winning formula for low-cost cars and enlist the Japanese carmaker's help in penetrating hard-to-crack India.

But over time, Suzuki seemed to feel that the German juggernaut, with its upper hand in size, financing and global reach, was hoarding its own toolbox of technologies, which Suzuki so badly coveted.

**"Suzuki lacks manpower, and one of its objectives from the partnership was to have VW personnel supplement the manpower lack. Nevertheless, Suzuki's manpower burden was actually increased instead."**

A Suzuki internal document from summer 2011

In the end, Suzuki couldn't shake the suspicion that VW planned a power grab by acquiring a controlling share in it. And memos reveal a sense of exasperation among VW executives about what it saw as a failure to communicate and Suzuki's lack of patience.

Trust gradually evaporated. And years later, both sides still are feeling the hurt.

VW continues to struggle to jump-start its fledgling business in India, a promising emerging market. And the collapse of the technology exchange stalled Suzuki's roll-out of hybrid cars and likely hastened its embarrassing withdrawal from the U.S. in 2012.

At one point in the negotiations, Suzuki hoped VW would supply its Jetta Hybrid sedan and other vehicles through Suzuki's North American sales network, the documents revealed. Tweaking its own cars to meet American specifications increased Suzuki's development man-hours by half.

"It is becoming difficult for Suzuki, a company focused on compact cars, to bring together a North American product line sufficient to continue operating a N. American sales network," Suzuki said in one document before the tie-up that outlined the items it wanted incorporated into a VW agreement. "The development cost burden is heavy."

### Shattered plans

Indeed, high hopes for joint projects quickly fizzled.

Suzuki wanted VW's help in developing a hybrid system to deploy in its SX4 or Swift by the end of 2012. Suzuki also asked for VW's assistance in battery packs for electric vehicles.

But Suzuki said VW never complied.

Suzuki, for example, demanded open access to full technical information partly so the company could provide proper aftermarket service to the hybrid vehicles, documents said.

Volkswagen AG countered that it doesn't even share such sensitive hybrid information with its own luxury subsidiary Audi.

Meanwhile, the Germans chafed at what they saw as Suzuki's reluctance to commit manpower.

"Any number of people can be assigned if it brings advantages to your side, but I can hear that people cannot be invested to benefit VW," Wittig told Harayama in an April 2010 meeting. "Are you trying to get technology transfers without allocating up to the adequate numbers of people?"

The companies discussed supplying VW with versions of Suzuki's A-Star minicar to sell in India and Europe, Suzuki's Wagon R to sell as a rebadged Skoda and an SX4 to rebadge for Seat. At one point, VW also requested 315,000 units of Suzuki's India-made K12B 1.2-liter engine. The two also talked about selling locally produced VW cars through Suzuki's sales network in India.

The A-Star project epitomized the divisions.

Suzuki complained it spent four months doing a cost comparison between the A-Star and the VW Up! VW's conclusion, according to the documents, was that it didn't need the A-Star for Europe after all.

"We were responsive despite our lack of manpower, but it resulted in a waste," Suzuki wrote in one document listing points of negotiation.

Both sides then argued about the July 2012 start-of-production timeline for the downsized project that would target India only. Suzuki claimed VW dragged its feet on submitting key computer-aided design data needed to give the VW-badged car distinct external styling.

As a result, Suzuki wanted to delay production; VW wanted to stay on target.

"Suzuki lacks manpower, and one of its objectives from the partnership was to have VW personnel supplement the manpower lack," said one internal report from summer 2011.

"Nevertheless, Suzuki's manpower burden was actually increased instead."

VW, Suzuki argued, threw another wrench into the plan by insisting that its A-Star be laser-painted, instead of spot-painted. VW also grumbled, according to the Suzuki documents, that Suzuki's prices for the rebadged vehicles were too high and wouldn't guarantee fat-enough margins.

### Trust busting

But in the end, it was nagging distrust about VW's intentions that scuttled the A-Star and that undermined the entire alliance. The flashpoint was VW's decision to apply the equity method to its shares in Suzuki for accounting purposes, an issue that became aired in public in 2011. Under this method, the investing company logs its share of the profits or losses booked by the partner company. The approach raised hackles at Suzuki because it usually applies when a company owns more than 20 percent in an "associate" company and can claim influence over the decisions of that company.

To the Germans, VW's 19.9 percent stake was close enough to make that claim, infuriating Suzuki, as was reported at the time.

The issue dominated a January 2011 meeting between VW and Suzuki executives.

Frank Schakau, who was then head of VW's Suzuki cooperation office, said the German company had "no other choice" but to use the equity method, saying the 19.9 percent triggered its automatic application. "It must be used," he said, according to notes of the meeting.

Then-VW Vice President Hans Demant tried to reassure his Suzuki counterparts that "we don't believe the equity method means that VW will wield its power over Suzuki."

Suzuki wasn't buying it.

"Chairman Suzuki can never tell the shareholders that he is subject to great influence from VW," Harayama countered. "VW lacks respect for Chairman Suzuki's thinking behind his setting the equity ratio not to 20 percent but to 19.89 percent."

The documents show Suzuki also was wary of what it saw as VW's assertion that VW needed an even bigger stake if it were to entrust Suzuki as its global development center for small cars.

Suzuki was angling hard to be entrusted with this duty on behalf of the VW Group.

But anxieties began bubbling as early as April 2010.

VW had its own reasons for cementing a strong bond with Suzuki. It wanted to block any outsized influence from an interloping rival.

"Ownership stability is required in order to have you take responsibility as a development center," Wittig told Harayama at an April 15 meeting, according to the documents.

"If you become a development center, the VW Group will rely on Suzuki, and our fate will be shared," he said. "Although it is not that we don't trust you, we don't know what will happen in the future. The future may bring concerns that you will be controlled by another company."

Indeed, Suzuki was turning to VW because it recognized its need to shelter under the wing of a global powerhouse. For years, it had circled wagons with General Motors, which eventually raised its stake in the Japanese company to 20 percent. GM sold its last remaining shares in 2008 as it raced to raise cash on the eve of its bankruptcy.

In the autumn of 2010, then-VW Chairman Ferdinand Piech fanned suspicions by telling Suzuki that VW would need a 33 percent stake to ensure smooth technology transfers, the documents say.

For its part, VW tried to allay Suzuki's concerns about a secret takeover until the end.

see **VW-SUZUKI**, next page

# VW-SUZUKI

continued from previous page

At the September 2011 meeting with Harayama in Frankfurt, Wittig tried to calm the waters.

"VW always regards Suzuki as an independent, self-reliant entity," Wittig said, according to a meeting memo among the Suzuki documents.

"Both in the past and in the present, we have never thought to bring Suzuki under VW's umbrella. We have never intended, nor do we now intend, to increase our investment in Suzuki."

But by that time, both companies were accusing each other of breaching contracts.

VW said Suzuki didn't honor the alliance, complaining that Suzuki was buying engines from European rival Fiat instead of VW. Suzuki said VW welched on an agreement to compensate Suzuki for a penalty it paid after yielding to VW's request that it break a contract with Austrian engineering firm AVL List GmbH. It also claimed VW broke the bargain by not sharing its promised technology.

### Deepening distrust

The public barbs only deepened the distrust, and Suzuki took them almost personally.

"Suzuki's reputation is damaged," Harayama charged during a late 2011 meeting with Demant, according to meeting notes.

"Unless VW retracts its allegations of contract breach, it will not be settled and finished. Suzuki will do whatever it takes to restore its good name."

When Suzuki finally gave up hope, it suggested face-saving excuses, in true Japanese style, that VW might use as a fig leaf for the acrimonious breakup.

Among them, Harayama suggested both companies could announce a congenial end because "VW already successfully learned enough about compact car development and production from Suzuki to raise its own level." Another: Suzuki no longer could cooperate because it was preoccupied with recovering from the killer earthquake and tsunami that hit Japan in March 2011.

But for whatever reason, be it underestimating Suzuki's resolve, still hoping for a cooperative solution or simply stalling for time, VW didn't bite.

Even as Harayama incessantly demanded an end to the alliance at their meeting, Demant instead insisted on leaving a door open.

"There were misunderstandings between VW and Suzuki," Demant said, before adding with seemingly little hint of irony: "VW wants to understand what kinds of misunderstandings they were and the thinking process that led to them." AN

## Customer Incentives

**Incentives in this table are a summary of retail programs offered. Programs may vary by region and model.**

| | Cash rebate | Finance rate |
|---|---|---|
| **BMW** | | |
| *Expires Aug. 31.* | | |
| **2015 models** | | |
| **Mini** Cooper* | | 0.9-4.9% |
| **FORD MOTOR CO.** | | |
| *Ford expires Sept. 7. Lincoln expires Sept. 30. In lieu of rebates, cut-rate financing is available.* | | |
| **2016 models** | | |
| **Ford** F-250, F-350, F-450 | $1,000 | 1.9-9.9% |
| Fusion, Fusion Energi | $500-$750 | 0-7.9% |
| Fusion Hybrid, Escape | $500 | 0-7.9% |
| C-Max Hybrid, Fiesta, Focus, Focus ST, Transit 150, Transit 250, Transit 350 | $500 | 0.9-8.9% |
| Mustang, Explorer, Expedition, Expedition EL, Transit Connect | $500 | 1.9-9.9% |
| Focus Electric | | 0-7.9% |
| C-Max Energi | | 0.9-8.9% |
| **Lincoln** MKC, MKZ (incl. Hybrid) | | 0-7.9% |
| MKX | | 0.9-8.9% |
| **2015 models** | | |
| **Ford** Taurus | $3,000 | 0-5.9% |
| F-250, F-350, F-450 | $1,000-$2,500 | 0.9-8.9% |
| Fusion (incl. Hybrid) | $250-$2,250 | 0-4.0% |
| Escape | $250-$2,000 | 0-4.0% |
| C-Max Hybrid, Expedition, Expedition EL | $1,500 | 0-5.9% |
| Transit Connect | $1,500 | 0-8.9% |
| Transit 150, Transit 250, Transit 350 | $1,000-$1,500 | 0.9-8.9% |
| F-150 | $300-$1,500 | 0.9-8.9% |
| Focus, Focus ST | $250-$1,500 | 0-4.0% |
| Explorer, Fiesta | $250-$1,500 | 0-5.9% |
| Edge, Fusion Energi | $1,000 | 0-8.9% |
| Flex | $500 | 0.9-8.9% |
| Mustang | $500 | |
| C-Max Energi, Focus Electric | | 0-5.9% |
| **Lincoln** MKS | | 0-7.9% |
| MKX, MKZ (incl. Hybrid), Navigator, Navigator L | | 0-5.9% |
| MKC, MKT | | 0-8.9% |
| **2014 models** | | |
| **Ford** Transit Connect | $1,250-$3,000 | 0-4.0% |
| Focus | $250-$3,000 | 0-4.0% |
| F-150 | $250-$1,750 | |
| Focus ST | $250-$1,500 | 0-4.0% |
| **Lincoln** MKS, MKZ | | 0-4.0% |
| MKT, MKX | | 0-5.9% |
| **GENERAL MOTORS** | | |
| *Expires Aug. 31. In lieu of rebates, cut-rate financing is available.* | | |
| **2015 models** | | |
| **Buick** Enclave, Regal | $500-$2,250 | 0-6.9% |
| LaCrosse | $750-$1,000 | |
| Encore | $250-$1,000 | 0-6.9% |
| Verano | $1,000 | 0-6.9% |
| **Cadillac** XTS | $4,000 | 0-3.9% |
| SRX | $3,000 | 0-3.9% |
| ATS, CTS, CTS-V | $1,000-$2,000 | 0-3.9% |
| Escalade, Escalade ESV | | 0-3.9% |
| **Chevrolet** Spark EV | $1,000-$3,500 | 2.9-6.9% |
| Silverado 2500HD, Silverado 3500HD | $2,000 | 2.9-6.9% |
| City Express | $1,500 | 0-5.9% |
| Impala, Volt | $1,000-$1,500 | 0-7.9% |
| Camaro, Traverse | $750-$1,500 | 0-3.9% |
| Silverado 1500 | $750-$1,500 | 2.9-6.9% |
| Malibu | $500-$1,500 | 0-3.9% |
| Cruze, Equinox | $500-$1,000 | |
| Express 2500, Express 3500 | $1,000 | 2.9-6.9% |
| Sonic, Spark. Trax | $500-$750 | 2.9-6.9% |
| Suburban 1500, Tahoe | | 2.9-6.9% |
| Corvette, SS | | 3.9-7.9% |
| **GMC** Acadia | $500-$2,250 | 0-6.9% |
| Sierra 1500 | $500-$2,000 | 0-6.9% |
| Sierra 2500HD, Sierra 3500HD | $2,000 | 3.9-6.9% |
| Savana 2500, Savana 3500 | $1,000 | 3.9-6.9% |
| Terrain | $1,000 | |
| Yukon, Yukon XL 1500 | | 3.9-6.9% |
| **2014 models** | | |
| **Chevrolet** Spark EV | $3,000-$5,500 | 2.9-6.9% |
| Camaro, Cruze | $500-$3,500 | 0-6.9% |
| Silverado 1500 | $2,500 | 0-4.9% |
| Impala | $1,000-$2,500 | 0-5.9% |
| Express 1500, Express 2500, Express 3500 | $2,000 | 2.9-6.9% |
| Sonic, Volt | $500-$1,500 | 0-6.9% |
| Spark | $500 | 3.9-6.9% |
| SS | | 1.9-5.9% |
| **AMERICAN HONDA MOTOR CO.** | | |
| *Expires Sept. 7.* | | |
| **2015 models** | | |
| **Honda** Odyssey, Pilot, Civic (incl. Hybrid) | | 0.9-4.9% |
| Accord (incl. Hybrid) | | 0.9-5.9% |
| **MAZDA** | | |
| *Expires Aug. 31. In lieu of rebates, cut-rate financing is available.* | | |
| **2016 models** | | |
| Mazda6 | | 0-7.4% |
| **2015 models** | | |
| CX-9 | $4,000 | 0-7.4% |
| Mazda5 | $2,000 | |
| Mazda6 | $1,000-$1,250 | 0-6.7% |
| **TOYOTA MOTOR SALES** | | |
| *Expires Sept. 8.* | | |
| **2015 models** | | |
| **Lexus** ES 300h, ES 350, LS 460 | | 0.9% |
| CT 200h, ES 300h, ES 350, GS 350, IS 250, IS 250C, IS 350, IS 350C, LS 460, RC 350, RX 350, RX 450h | | 0.9-1.9% |
| **VW GROUP OF AMERICA** | | |
| *Expires Oct. 1.* | | |
| **2016 models** | | |
| **Audi** A3, A4, A5, A6, A7, allroad, Q3, S3, S4, S5, S6, S7, S8, SQ5 | | 2.5-9.9% |
| **2015 models** | | |
| **Audi** S3, S4, S7, S8, SQ5 | | 1.4-7.4% |
| A6 | | 1.9-8.9% |
| A3, A4, A5, A7, allroad, S5 | | 1.9-9.4% |
| Q3, Q5, Q7, TT, TTS | | 2.5-9.9% |
| S6 | | 2.9-9.9% |
| **2014 models** | | |
| **Audi** SQ5 | | 1.4-7.4% |

*Applies to select models only

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# VW to roll out high-end safety tech across lineup

**Gabe Nelson**
gnelson@crain.com

SAN FRANCISCO — Volkswagen Group has long sold sensor-based crash prevention systems in high-end models from Audi, Porsche and Bentley. Last week, it showed the trickle-down effect in action as it detailed plans to roll out features such as adaptive cruise control, blind-spot monitoring and automated parking across the entire U.S. lineup of the Volkswagen brand for the 2016 model year.

**Horn: Time to "democratize" the features**

Many of these features have been available only on the premium-priced Touareg SUV. Volkswagen decided the time had come "to democratize these technologies," Volkswagen Group of America CEO Michael Horn said.

Most of the features are intended to protect against driver error. A new automatic braking system offered on models such as the Beetle, Golf and Tiguan, for instance, will bring a car to a halt from up to 18.6 mph to prevent a crash.

Offering the features will help Volkswagen compete with Honda, Toyota and Hyundai, which already offer such features in their core models. Volkswagen will offer the feature mostly in "driver assistance" packages for between $695 and $1,495.

Volkswagen also announced that its entire lineup, except for the Touareg and the soon-to-be-discontinued Eos convertible, will have touchscreen infotainment systems for 2016. The first cars were due in showrooms in July.

Core models such as the Jetta, Beetle and Tiguan will come standard with a 5-inch touch screen, with an option to upgrade to a 6.5-inch touch screen.

VW said all 2016 cars with the larger screen will support the CarPlay interface for iPhone, Android Auto and MirrorLink, a competing interface championed by smartphone manufacturers such as Samsung. AN

# Delphi invests in connectivity, driver assistance

Delphi agreed to buy the HellermannTyton Group for £1.07 billion ($1.7 billion) to add cabling gear used in cars.

HellermannTyton, a U.K. supplier, manufactures ties, insulation and protection systems for cables in cars. The acquisition, to be completed late in the fourth quarter, will help Delphi capitalize on growing demand for cars that connect to the Internet, mobile phones and other devices, Delphi said.

Delphi also said it bought Ottomatika, a maker of automated driving software, and made an investment in Quanergy, a company that develops light detection and ranging scanners, technology that enables cars to detect objects and execute digital mapping, surface modeling and distant imaging.

Those deals will bolster Delphi's advanced driver-assistance system applications and may help speed the adoption of automated vehicles, the company said.

*— Bloomberg*

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## Plant overtime

**Week ending Aug. 8**

| | |
|---|---|
| **FCA NA** | |
| Brampton, Ontario | car |
| Toledo (Ohio) North | truck |
| Toledo (Ohio) Supplier Park | truck |
| Warren, Mich. | truck |
| **Ford Motor Co.** | |
| Chicago | car/truck |
| Kentucky Truck (Louisville) | truck |
| Louisville (Ky.) Assembly | truck |
| **General Motors** | |
| Arlington, Texas | truck |
| Bowling Green, Ky. | car |
| Ingersoll, Ontario (CAMI) | truck |
| Lansing (Mich.) Delta Township | truck |
| Wentzville, Mo. | truck |
| **Hyundai** Montgomery, Ala. | car |
| **Kia** West Point, Ga. | car/truck |
| **Mitsubishi** Normal, Ill. | truck |
| **Volkswagen** Chattanooga | car |

Note: Overtime could be daily, Saturday or both.

## Plant closings

| | Resumes |
|---|---|
| **Ford Motor Co.** | |
| Cuautitlan, Mexico | Aug. 17 |
| Detroit Chassis | Aug. 10 |

Source: Automotive News Data Center

## Production news

**Volkswagen:** The 500,000th Passat produced in Chattanooga was built in late July. Production began at the plant in February 2011.

# final assembly

CAR briefings: Go to autonews.com all week for coverage of the 2015 CAR Management Briefing Seminars.

## Nissan store takes a factory lump after Trump thump video

Yes, **Nissan** wants to win over Hispanic buyers, but it doesn't condone one of its Southern California stores beating up on Donald Trump.

Last week, Van Nuys Nissan in California posted a video online that shows store managers whacking away at a pinata resembling the Republican presidential candidate, complete with yellow hair and a business suit.

The "Trumpudo pinata" has become a symbol of protest and outrage in Hispanic communities after Trump said Mexican immigrants to the United States are "bringing drugs. They're bringing crime. They're rapists."

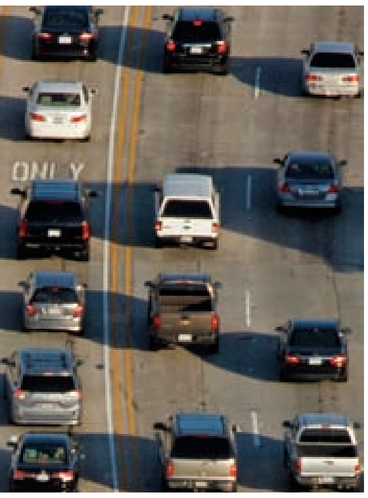
After store managers hit the pinata, Van Nuys General Sales Manager Martin Cuevas declares, "*Aqui en Van Nuys Nissan, los Latinos mandan.*" (Translation: "Here at Van Nuys Nissan, Latinos rule.")

Nissan North America has launched a major initiative to target Hispanics, but it condemned the Van Nuys video.

"We find these advertisements to be neither responsible or respectful, and we do not condone what they represent. We expect our dealers to establish advertising that is responsible and respectful and represents the best interest of the Nissan brand."

One posting on Van Nuys Nissan's Facebook page accused the dealership of racism, since the pinata has blond hair.

**The Donald gets pummeled in Van Nuys Nissan's online video.**



BLOOMBERG

**Vehicles 11 years and older hold aftermarket repair opportunities.**

## Aging vehicles may shift the aftermarket sweet spot

The average age of light vehicles on American roads is still rising, just not as fast as it once was. So what, if anything, does that mean for aftermarket and service managers?

Well, it's a little complicated.

IHS Automotive reported last week that the average vehicle age hit an all-time high of 11.5 years at the end of 2014. But rising sales in recent years means the volume of vehicles zero to five years old will grow by 24 percent over the next five years, while vehicles in the six- to 11-year-old category will decline by 11 percent.

Meanwhile, vehicles 12 years and older will continue to grow and will increase by 15 percent by 2020. IHS says that's because of improved quality and consumers holding onto their vehicles longer.

IHS analyst Mark Seng said: "While the decline in volumes of vehicles six to 11 years old appears to indicate that the aftermarket sweet spot — those model years driving the majority of aftermarket repair opportunities — is shrinking, I believe we need to begin thinking about that sweet spot differently.

"Now that the average age is 11.5 years," he said, "the key repair opportunities must include vehicles older than 11 years, which hasn't been considered by many in the marketplace up to now."

**Bob Lutz's mobility forecast calls to mind "Minority Report."**

## In Bob Lutz's crystal ball, Apple, Google may win

*Bob Lutz, 83, has been around longer than most in the auto industry. The former General Motors, BMW, Ford and Chrysler executive knows a lot about change because he's seen so much of it.*

*At a recent* Automotive News *roundtable discussion (see Pages 23-26), Lutz offered his vision of personal mobility in the future. He didn't say when it would happen, but he was fairly explicit about what it would look like.*

"The end state is going to be the fully autonomous, fully electric module with no capability for the driver to steer it or exercise any sort of command. You will call it up, it will arrive at the domicile, you'll get in, input the destination and go to the freeway.

"On the freeway, it will merge seamlessly into a stream of other standardized modules that are traveling at 120, 150 miles an hour. It doesn't matter. You have a blending of rail-type transportation with individual transportation.

"Then, as you approach your exit, your module with split off and go into deceleration lanes, take the exit, [and] go to your final destination. You will be billed for the transportation. You key in your credit card number or your thumbprint or whatever it will be then. The module takes off and goes to its collection point, ready for the next person to call it up.

"On the freeway, [the vehicle will] be on inductive rails, not using its own battery. Of course, the batteries will be much more capable.

"What we're seeing now are various transitional elements — shared cars, Uber, all of these things. It's on-demand transportation without the need for actually owning a car.

"You could look at Uber as an intermediate stage, a stepping stone on the way to fully autonomous. They basically serve the same purpose as autonomous cars, except there's a driver and in most cases, there's an internal combustion engine.

"The [next stage] will be autonomous driving on the freeway, which is pretty much feasible now. That doesn't solve the problem of getting off the freeway and going to the final destination, which is still going to be hands on the wheel.

"If we look at that end point of these standardized modules … [they] have to be the same length, the same width, the same shape and so forth. You think, how is the automobile industry going to supply that nondifferentiated demand?

"That is a scary proposition. That's where you have to worry about people like Apple and Google, because 90 percent of the content of the vehicle is going to be in the electronic systems and the connectivity and, of course, the battery. The module itself is going to be relatively trivial."

## After 1 billion calls, oh, the stories OnStar can tell

**General Motors**' OnStar has fielded 1 billion calls since it was founded in 1996, including one involving a monkey in Mississippi that locked itself in its master's Chevrolet Silverado.

The vast majority of OnStar requests for help and directions are routine. But now and then, an oddball call comes in. Here are three more from the OnStar blotter:

■ A subscriber at a campground locked his keys, wallet and his pants inside his car and had to call OnStar in his underwear from another person's car.

■ A subscriber accidentally flushed her car keys down the toilet at a restaurant. Roadside assistance delivered a new set of keys free of charge.

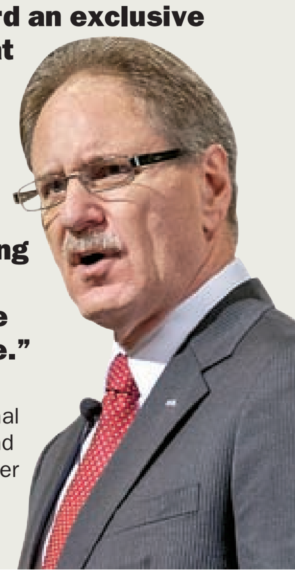
■ A subscriber got stuck inside a gas station's car wash. The driver could not get out of his car and did not have the number for the station. The driver called directory assistance but was told the station didn't exist. So he called OnStar. The adviser located the gas station phone number and called the attendant, who let the customer out of his car.

## the final say …

**"Can we collectively say 'wow'?"**

Ford Motor Co. CFO Bob Shanks, referring to the company's 44 percent rise in net income to $1.9 billion in the second quarter.

**"If they have $2 million worth of capital tied up, I'd rather have that going toward an exclusive environment that can support the brand positioning and customer experience, as opposed to having it tied up in vehicles that are just sitting there."**



Cadillac chief Johan de Nysschen on the regional inventory hubs the brand is considering for smaller dealerships


Pete Kerpiniotis – Used Car Director/COO, X Motorsport, Inc.
Dick McKinlay – Account Executive, Central Region, Ally
Branko Zecevic – President, X Motorsport, Inc.
Driven by what we love.
**A love of racing leads to a celebration of the future.** Every one of our customers has an individual history all their own. And we get to know every one of them. For the dealers at X Motorsport, their adoration for the auto business began with speed, adrenaline and checkered flags. So Ally AE Dick McKinlay joined them for a day at the track. Because the better he knows where his dealers come from, the better he can help them win down the road. Even if it means doing so at 150 mph. Learn more at **ally.com/driven/GoX**.
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