

# Tech Center News™

WARREN, MICHIGAN

VOL. 38 NO. 14

Covers the Hub of Macomb County's Auto Industry

DECEMBER 9, 2013

## Cadillac Elmiraj – The Bridge Between Sculpting and Math

Art meets science in the 2014 Cadillac Elmiraj.

That's how David Caldwell, manager of Cadillac Communications describes the car that uses the latest technology, such as structured-light 3-D scanning.

An advanced measuring technology often used for fine art restoration and reproduction, structured-light 3-D scanning helped create a "work of art" in the Cadillac Elmiraj concept car that appeared at the recent Los Angeles International Auto Show.

3-D scanning uses projected light patterns and an advanced

camera to capture three-dimensional shapes and translate them into math data that can be manipulated in digital modeling programs.

Developers of Elmiraj, a modern update of a classic two-door grand coupe, extensively used the digital mapping technology.

"With the Elmiraj, we were able to use 3-D scanning as the bridge between traditional hand-sculpting teams who work in clay and digital modeling design teams who work in math," said Frank Saucedo, director of General Motors' North Hollywood Advanced Design Studio.

reverse-engineer and update the master math model. Changes made to the math model are in turn updated in the physical model by milling the clay.

GM has used 3-D scanning since 2001, more on clay interior and exterior properties than drivable concept cars, Caldwell said. Elmiraj is an exception. GM's Design Center Fabrication Shops in Warren and Advanced Design Studio in California used 3-D scanning to validate nearly every pattern, mold and part during each phase of the vehicle build.

3-D scanning plays an increasingly important role in car design, which typically starts when a 2-D image is turned into a 3-D mathematical rendering. Math models serve as the basis for computer-controlled milling and hand-modeling in clay. 3-D scanners allow designers to quickly

reverse-engineer and update the master math model. Changes made to the math model are in turn updated in the physical model by milling the clay.

GM has used 3-D scanning since 2001, more on clay interior and exterior properties than drivable concept cars, Caldwell said. Elmiraj is an exception. GM's Design Center Fabrication Shops in Warren and Advanced Design Studio in California used 3-D scanning to validate nearly every pattern, mold and part during each phase of the vehicle build.

"It provides a means of recording every design change with the utmost accuracy," said David Bolognino, director of GM Design Fabrication Operations. "A scan can even reveal the need to take

CONTINUED ON PAGE 7

## Concert-Goers will Hear 'Sleigh Ride,' Other Renditions

The Warren Symphony Orchestra (WSO) will present its holiday program, "Joy of the Season," on Sunday, Dec. 15, at the Warren Woods Community Auditorium.

The program will feature religious and secular selections performed by the Cantata Academy Chorale and the symphony.

"Joy of the Season" gives the Warren Symphony the opportunity to showcase rich vocal talent accompanied by the full symphony," said Dr. Gregory Cunningham, music director.

"The concert repertoire will include the contemporary Karl Jenkins composition of "Gloria" and Leroy Anderson's popular light orchestral piece, "Sleigh Ride," as well as selected holiday

CONTINUED ON PAGE 2

## GM Scores Big as Silverado Named Urban Truck of Year

The Chevrolet Silverado has been named 2014 Urban Truck of the Year by Decisive Media.

Following on the heels of that announcement was the naming of the Chevrolet Impala as a runner-up in the Urban Car of the Year category and the Cadillac ELR as a runner-up in the Urban Green Vehicle of the Year grouping.

The voting is done by a panel of independent automotive journalists specializing in enthusiast and consumer automotive content.

Winners will be honored at the

18th Annual Urban Wheel Awards (UWA), the official multicultural event of the North American International Auto Show, on Jan. 12, 2014, at the Marriott Renaissance hotel in Detroit.

About the Truck of the Year, UWA juror and free-lance automotive reviewer Mary Chapman said, "The new Chevrolet Silverado's exterior lines are cleaner and squarer, and set off by just the right amount of tasteful bling.

"An absolutely beautiful truck, the Silverado's also undergone a



2014 Chevrolet Silverado

host of structural upgrades, making it even more robust. Further, it can be fitted with three engines, including a new, remarkably efficient 4.3-liter V6 with 285 horses. This new Chevrolet dis-

plays improved performance all around."

Freelance reviewer Mark Elias added, "GM continues to refine

CONTINUED ON PAGE 3

## Late-Month Surge Boosts November Sales

by Jim Stickford and the Associated Press

The Thanksgiving holiday weekend and an ongoing shift from cars to small SUVs boosted the auto industry in November.

Buyers took advantage of Black Friday deals, and analysts say the late-month surge boosted November sales above a strong month last year.

Chrysler rose a surprising 16 percent, General Motors posted an increase of 14 percent while Ford sales increased 7 percent.

GM dealers delivered 212,060 vehicles in the United States in November, up 14 percent versus a year ago and the highest November sales in six years. Retail sales were up 19 percent and fleet sales were down 3 percent.

"November sales were strong at all four of our brands, and demand was robust for everything from cars to crossovers to the industry's newest and best full-size pickups," said Kurt McNeil, vice president, U.S. Sales Operations. "The sheer number of award-winning new models we have helped us grow faster than the industry for the second month in a row."

GM's product momentum will continue unabated. For example, the new 2014 Cadillac CTS, which is building availability, was recently named *Motor Trend's* Car of the Year, an *Automobile Magazine* "All Star" and one of *Car and Driver's* 10 Best cars, McNeil said.

Chevrolet sales were up 13 percent and retail deliveries rose 20 percent. Sales of Chevrolet cars increased 19 percent, with Malibu up 41 percent, Volt 26 percent, Impala 20 percent and Camaro 14 percent. Retail deliveries of the Cruze were 39 percent

higher and Impala more than doubled. The Chevrolet Cruze, Equinox and Volt had their best November sales ever.

Sales of the Chevrolet Tahoe were up 23 percent, the Traverse rose 21 percent and the Silverado was 12 percent higher.

GMC sales increased 20 percent, with the Sierra up 22 percent and the Acadia crossover up 108 percent, which keeps it on track for its best year ever.

Buick deliveries increased 13 percent and the brand is on track for its best year since 2005. November was Buick's 19th consecutive month of year-over-year retail sales growth.

Cadillac sales increased 11 percent and retail sales have grown in each of the past 18 months, driven by the success of the new XTS and ATS.

"We feel good about the direction of the economy and our own momentum," McNeil said. "The economy is creating jobs and household wealth. Energy costs are dropping and credit is available and affordable. All of this bodes well for future growth."

Chrysler reported U.S. sales of 142,275 units, a 16 percent increase compared with sales in November 2012 (122,565 units), and the group's best November sales since 2007.

The Chrysler, Jeep, Dodge and Ram Truck brands each posted year-over-year sales gains in November compared with the same month a year ago, said Chrysler spokesman Ralph Kisiel. The Jeep brand's 30 percent increase was the largest sales gain of any Chrysler Group brand during the month.

"Our all-new Jeep Cherokee is off to a terrific start with more than 10,169 units sold in its first

full month on sale," said Reid Bigland, head of U.S. Sales. "Our launch emphasis on Jeep Cherokee quality is now being rewarded with brisk sales and helping Chrysler Group achieve our 44th consecutive month of year-over-year sales growth."

In its first full month of sales, the all-new 2014 Jeep Cherokee mid-size SUV recorded sales of 10,169 units, Kisiel said. The addition of the Cherokee to the product lineup helped the Jeep brand attain its best November sales ever. In addition, the Jeep Grand Cherokee, Jeep Wrangler, Jeep Patriot and Jeep Compass each posted year-over-year sales gains in November, led by the 31 percent increase in Compass sales.

Four Chrysler vehicles set sales records during the month of November. The Wrangler, Patriot, Dodge Dart, and Ram Cargo Van each recorded their best November sales ever. The Dart achieved its record with a 44 percent year-over-year sales gain.

Chrysler Group finished the month with a 91 days supply of inventory (500,536 units). U.S. industry sales figures for November are internally projected at an estimated 16.3 million units Seasonally Adjusted Annual Rate (SAAR).

Ford's November U.S. sales of 190,449 vehicles are up 7 percent overall compared with last year. Retail sales are up 9 percent, for the best November performance since 2004, said Ford spokesman Erich Merkle.

The November retail sales performance of 147,021 vehicles reflects broad-based gains, with passenger cars up 6 percent, util-

CONTINUED ON PAGE 4



2014 Jeep Wrangler



2014 Chevrolet Tahoe



2013 Lincoln MKZ

Contact us: [info@techcenternews.com](mailto:info@techcenternews.com)