

## Supplier to Use Transit Electric

Azure Dynamics confirmed last week that Johnson Controls will participate in the Ford Transit Connect Electric Lead customer program.

Johnson Controls, already a partner in the vehicle development, will receive one of the exclusive supply of 2010 Ford Transit Connect Electric vans in December 2010, with the remaining 19 vans to be shipped in the spring and summer of 2011.

"Earlier today, we finalized an agreement with Johnson Controls on its purchase of 20 Ford Transit Connect Electric vans for its corporate fleet," said Scott Harrison, Azure Dynamics CEO.

"So, Johnson Controls becomes both a partner and a customer for the Transit Connect Electric, which says more than anything else they could say about their enthusiasm and confidence in the product."

The Ford Transit Connect Electric is powered by Azure's proven ForceDrive electric powertrain, which utilizes an advanced lithium-ion battery from Johnson Controls-Saft.

The announcement was made at Azure's Oak Park headquarters during an event that included Gov. Jennifer Granholm along with speakers from Ford Transit Connect Electric partner organizations Azure, Ford Motor Company, Johnson Controls and AM General. More information is available at Azure Dynamic's corporate Web site.

Azure works with Ford to upfit the standard Transit Connect delivery van into the electric version.

Among the early buyers of the Transit Connect Electric, besides Johnson Controls, will be Southern California Edison.

The base Ford Transit Connect was also named the 2010 North American Truck of the Year at the Detroit auto show.

# Eaton Plans Charging Network for EVs

By Jim Stickford  
Staff Reporter

Eaton Corp. recently unveiled a plan to create a widespread electric vehicle charging network by teaming up with Murphy Oil USA.

Murphy has more than 1,000 retail gas stations in 22 states, many of which are located next to popular Wal-Mart stores.

Tim Old, electric vehicle infrastructure business unit manager for Eaton, said as electric vehicles hit the marketplace, the demand for charging systems that can be accessed by drivers at home or public locations will only grow.

Placing what Old called a Level Three charger at Murphy gas stations makes sense because they're located where the public is used to fueling their vehicles and it's possible to have the infrastructure needed to install Eaton's EV Quick Charger.

Old said different chargers take different lengths of time to fully charge an electric vehicle. Level One might take up to 8 to 12 hours. Level Two can take between 3 and 6 hours. Level Three can charge a car in 20 minutes.

But that speed requires what Old called "a commercial-grade power source." It requires a dedicated 200 amp power source. Eaton's Pow-R-Station Level Two charger needs only a 40-amp power source.

Residential buildings tend not to have the electrical infrastructure required for the installation of a Level Three charger. But gas stations do.

After initial tests at a location in Tennessee, Eaton and Murphy Oil USA will evaluate ways to expand the program and utilize the combined capabilities of their organizations to help make charging stations more widely available.

"Murphy Oil USA is commit-

ted to being a pioneer and early adopter of alternative fuels and green energy," said Han Heithaus, president, retail marketing, Murphy Oil USA. "Through our collaboration with Eaton, we are paving the way for development of the infrastructure leading to adoption and expanded use of electric vehicles."

Homes can have Level Two chargers installed without too much trouble, Old said. Level Two chargers can also be installed without too much difficulty in other locations such as hotels or restaurants or shopping malls - places where it's natural for a car to be parked for two or three hours.

Placing chargers in such places is important because not everyone has a garage. People who live in urban environments where vehicles are parked on the street or live in apartment buildings can't have a private charger.

People who are renting cars for business purposes would be able to charge their rentals overnight at their hotels. Because the Level Twos are smaller and require less infrastructure, it's possible to place more at a location.

The design for the Eaton EV Quick Charger, a Level Three device, came from Japan, Old said. Two vehicles, the Nissan Leaf and the Mitsubishi i MiEV will be entering the U.S. market in the next year, so there will be a demand for quick chargers.

Eaton designed the Pow-R-Station. Among its features is an Ethernet connection that makes it possible for commercial users to pay by using their credit or debit cards. While that feature isn't important for home users, it makes a big difference for commercial operators.

One of the benefits of using Eaton's charging systems, Old said, is the support available. The company has offices and personnel in most cities

across the country.

This will be important, Old said, because, thanks to federal stimulus dollars, he expects many companies to start providing these kinds of infrastructure services.

But what happens when the federal money dries up? How many of them will be hanging around?

Old said Eaton is a long-established company that's not going anywhere. They have the resources and staff available to help their customers in time of trouble.

If something were to happen over the weekend, Eaton could get people to where they needed to be right away.

The need for this kind of EV infrastructure is only going to grow, Old said. Ford has recently announced that it's launching strictly plug-in vehicles for the consumer. The company just recently unveiled its Ford Transit Connect Electric Vehicle for the business marketplace.

As EVs become more commonplace, the need for infrastructure will grow, which, in turn, will make it easier for buyers to purchase and use EVs.

This business cycle pres-



PHOTO: JIM STICKFORD

**Eaton Corp. is getting ready to market this Level 2 EV charger that can be used in garages.**

ents great opportunities for companies such as Eaton, which have the resources in both the electrical and automotive fields, as well as the resources needed to service the growing demand for infrastructure, Old said.

## Ford, Partner To Build Engine Plant in China

DEARBORN (AP) - Ford and Chinese partner Changan Ford Mazda Automobile Ltd. plan to build a \$500 million engine plant in China.

They signed a memorandum of understanding with the city of Chongqing last week.

Construction is to begin next year with engine production starting in 2013. The plant can make 400,000 engines annually, more than double the partnership's existing engine capacity in China.

The partnership operates two assembly plants in China, including one in Chongqing. It is building a third to produce the Ford Focus.

Dearborn-based Ford is the 11th-ranked brand by sales in the Chinese market, but its sales have risen dramatically since it entered the country in 2003.

Ford and its partners have sold 368,103 vehicles in China through August, an increase of 42 percent from a year ago. Sales slowed recently in China together with the global recession, but overall, sales have picked up once again.

## Eaton's New Slip Differential Provides Better Mileage, Improves Oversteering

CONTINUED FROM PAGE 1

quick tank venting, minimizing refueling splashback caused by high fuel tank pressures, Tolley said.

Eaton was able to combine solenoids and vapor management valves into a simpler, customizable, smaller and smarter system than traditional venting systems, Tolley said.

Eaton also demonstrated how their Supercharger technologies can be easily adapted to small vehicles such as the Chevy Cobalt.

Niven said in the past, GM had used Eaton's Superchargers in the Cobalt using older technology. They then switched to a turbocharge system, but since then, Eaton has created its new Twin Vortice Series (TVS) Supercharger.

This new technology boosts power and low-end torque. Niven said the TVS Supercharger is a Roots-type positive displacement device but has twin four-lobe rotors that are twisted 160 degrees. The fourth lobe and added twist, when combined with redesigned air inlet and outlet ports, creates a smooth and efficient flow of air into the engine.

The Supercharger is used in such high-performance vehicles as the 2009 Corvette ZR1, a vehicle with a top speed of 205 mph and 638 horsepower. The SuperCharger can also be



PHOTO: JIM STICKFORD

**A supercharger that supplier Eaton sells to GM is seen in this 2011 Cadillac CTS-V coupe. Eaton had the Cadillac available at its test track in Marshall, Mich. for media drives recently.**

found in the 2010/2011 Cadillac CTS-V, which Niven calls the fastest production sedan in the world.

"Eaton is now making our Superchargers smaller," Niven said. "They can be put in places where you wouldn't expect a Supercharger to fit. That's why we created a demonstration Chevy Cobalt. We've replaced the turbocharger with one of our Superchargers."

The compact size of the Supercharger meant that it was able to fit into a production vehicle without any trouble, Niven said.

Tom Nellenbach, global marketing & planning manager - Eaton vehicle group, said Eaton is celebrating its 100th anniversary in 2011. Automot-

ive is just part of what the \$12 billion company does. The supplier is involved in the designing and building of electrical systems, and has a hydraulics group, as well as an aerospace sector.

Niven said this expertise in different fields is helping Eaton's auto division to adapt to the changing times.

"Everybody wants to head toward electrics," Niven said. "The Supercharger and our TVS devices are there right now. As car manufacturers put more resources into electric vehicles, we'll be there with them providing our hard-earned expertise in and out of the auto field."

The media ride-and-drive event in Marshall was a particularly well attended event.

## Ford Piquette Plant Tour Is Oct. 23

The Detroit Historical Society continues its popular weekly "Behind the Scenes" series, sponsored by the DTE Energy Foundation, with tours of the Detroit Golf Club on Saturday, Oct. 9 and the Ford T-Plex on Saturday, Oct. 23. Tours begin at 11 a.m.

The Oct. 9 tour takes place at the Detroit Golf Club, a club founded in 1899 by William R. Farrand and several of his friends. Membership was originally limited to 100 guests but grew quickly and the club formally opened in 1906. Additional property was purchased in 1913. Donald Ross, a world-famous golf course architect determined that two 18-hole layouts could be built on the land. Work began on the course in 1914.

In 1916, the decision was made to build a new Clubhouse. The Old English-style Clubhouse was designed by

Albert Kahn. Construction was hampered by wartime problems and it was finally completed in 1918.

Today, the club features an electric car garage and tennis courts as well as the Crystal Dining Room.

Cost for the clubhouse tour is \$40 for Detroit Historical Society Members and \$50 for guests. The tour will include lunch.

The Oct. 23 tour involves visits the T-Plex, which consists of the Ford Piquette Avenue plant, the original home of the Model T. The plant is in Detroit's Milwaukee Junction district at 461 Piquette Ave. in Detroit.

The plant's third floor resembles the operating plant of 1905 and has not been painted since 1910. Guests will see the Model T during its many stages of assembly, Henry Ford's office, the sta-

tionary assembly area, various Model Ts and Piquette-era Fords as well as the secret experimental room where Ford created the Model T.

The cost for the T-Plex tour is \$20 for Detroit Historical Society members and \$30 for guests.

To reserve a spot on either tour, call (313) 833-1801 or visit the Detroit Historical Society website at [www.detroithistorical.org](http://www.detroithistorical.org) and buy your tickets at the secure online store. Reservations are accepted by phone Monday through Friday from 9 a.m. to 5 p.m. Telephone or online reservations can be purchased with a Visa, MasterCard, Discover or American Express. Tickets are not sold the day of the tour. Those who register receive directions to the tour location, a map, and addition information in the mail.

## TRW Offers Electric Park Brake

TRW Automotive Holdings Corp., a global leader in active and passive safety, is seeing increased interest in its industry-leading Electric Park Brake (EPB) technology in the North American market.

The EPB system functions as a conventional hydraulic brake for standard service brake applications, and as an electric brake for parking and emergency braking.

TRW launched the first integrated caliper EPB system in 2001 and has seen steady growth of this product in Europe and Asia.

In North America, adoption of this technology has lagged other regions primarily as a result of a higher percentage of automatic transmissions and drivers using their parking brake less often. However, as the technology evolves, a wide range of functional and ancillary benefits can be included at lower system cost making EPB more attractive to consumers and vehicle manufacturers.

TRW now expects the penetration rate for vehicles sold in North America to approach 10 percent by 2015.

Jim Cossins, chief engineer, EPB Systems for North America, said: "TRW EPB technology goes well beyond the simple functionality of holding a

vehicle in a stopped position - because it is based on electronics it can be integrated with other vehicle systems. For example, the EPB can work with a vehicle's Electronic Stability Control system in emergency stop situations to enable full four-wheel anti-lock functionality enhancing safety in an emergency braking situation.

"The EPB system, utilizing electrical cables and a control switch instead of a typical foot pedal or hand lever, simplifies routing and allows for greater freedom of design for vehicle interiors.

"Its smaller package becomes even more attractive as vehicle manufacturers continue to requisition vehicle space for new features and options and it can significantly reduce weight when compared to conventional park brake systems. For example, in a larger SUV/pickup popular in the North American market, an EPB system can save as much as 16 pounds versus a Drum-in-Hat rear park brake system. Furthermore, for the OEM, the assembly of the EPB system into the vehicle is much simpler and the robustness of the system can result in fewer warranty complaints."

According to TRW, other



**Supplier TRW anticipates further growth for its market-leading Electric Park Brake system that enhances safety and fuel savings in passenger vehicles.**

benefits include an auto-apply option - if the driver were to exit the vehicle and mistakenly leave the vehicle in gear - the EPB system can be activated automatically when the driver opens the door or releases their seatbelt.

This is particularly beneficial for preventing unintentional roll-away either in a driveway or at a boat launch ramp. There is also a drive away assist function which holds the vehicle in a stopped position without the need to constantly depress the brake pedal - an excellent traffic jam feature.

With 2009 sales of \$11.6 billion, TRW Automotive ranks among the world's leading automotive suppliers. TRW's headquarters is located in Livonia.

## IT Firm CIBER Adds Jobs in Southfield

CIBER, Inc., last week announced it had hired 150 highly skilled information technology (IT) professionals to join its expanded Detroit Global Solutions Center (GSC) in Southfield.

CIBER is investing more than \$8 million in this facility over the next seven years, with a commitment to add more than 700 jobs.

CIBER was originally founded in Dearborn back in 1974 and is now a \$1 billion global IT services and management consulting company with more than 8,000 employees.

The new jobs are the direct result of a partnership between the State of Michigan, the City of Southfield, and CIBER, responding to the needs of clients who want expert consulting services.

"CIBER provides IT services to major corporations, and this center will serve clients not only in Michigan but across the U.S., and potentially around the world," said David Peterschmidt, CEO of CIBER.

"These are sophisticated jobs, requiring employees with a deep knowledge of specific technologies and business acumen. With the type of industries historically present here in Detroit, there is a deep base of talent that we are able to tap into."

"We want to thank the State of Michigan, the Michigan

Economic Development Corporation and the City of Southfield for working with us in setting up the structures and incentives for both CIBER and our employees," continued Peterschmidt. "We will expand our presence here, and continue to bring additional jobs to meet our clients' needs."

The Michigan Economic Development Corp. (MEDC) recommended and the Michigan Economic Growth Authority (MEGA) Board approved a state tax credit earlier this year to support the project. The city of Southfield also provided incentives.

"These jobs represent the future of Michigan employment - knowledge workers creating value for clients around the globe," said Greg Main, president and CEO of the MEDC.

"We're proud that CIBER selected Michigan as the location for this new facility, and congratulate them for being ahead of plan, already bringing 150 new jobs since just the beginning of the year."

Meanwhile, the Michigan Economic Growth Authority, the state's response to interstate competition for company expansions and relocations, may provide a refundable tax credit against the Michigan Business Tax (MBT) to companies expanding or relocating their operations in

Michigan.

Since January, 2010, more than 71,200 new and retained jobs have been announced as a result of the MEGA program supporting expanding businesses in the state.

And the Michigan Economic Development Corp., a partnership between the state and local communities, promotes smart economic growth by developing strategies and providing services to create and retain good jobs as well as a high quality of life.

As Michigan reinvents its state economy in the wake of manufacturing industry upheavals, IT jobs such as those provided by CIBER appear to be the wave of the state's future according to economists.

CIBER, Inc. is a global information technology consulting and services company applying practical innovation through services and solutions that deliver tangible results for both commercial and government clients.

Services offered by CIBER include application development and management, ERP implementation, change management, project management, systems integration, infrastructure management and end-user computing, as well as strategic business and technology consulting.

Founded in Michigan in 1974, CIBER now boasts more than 8,000 global workers.