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THURSDAY
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powertrains

CHRYSLER WELL POSITIONED ON FUTURE POWERTRAINS

Chrysler Group's strategy of buying an increasing share of its engines and transmissions from others will be a key competitive advantage when the unit is sold to Cerberus Capital Management and becomes an independent OEM called Chrysler Holding LLC.

That's the assessment by CSM Worldwide Inc., which says Chrysler has made great decisions over the last four years regarding future powertrain programs.

The Northville, Mich.-based forecasting group applauds Chrysler for increasingly outsourcing the design, engineering and production of new engines and transmissions. This includes working with Daimler-Chrysler AG's Mercedes-Benz unit and DCX Italian subsidiary VM Motori.

Currently, 42% of Chrysler's engines (by volume) and 35% of its transmissions are purchased designs, according to CSM. It forecasts such outsourcing will grow to 77% for engines and 68% for transmissions by 2013. CSM says the company's outsourcing strategy provides faster access to a variety of technologies and powertrain variants than would be possible if all those systems were developed internally.

One of the largest examples of outsourcing today is the family of four-cylinder engines produced by Chrysler's Global Engine Manufacturing Alliance joint venture with Mitsubishi Motors Corp. and Hyundai Motor Co., which did the bulk of the engineering work. The much-anticipated "Phoenix" V-6, due in 2010, will come from Mercedes-Benz.

Chrysler also purchases several manual and automatic transmissions from Mercedes-Benz. In addition, it buys transmissions from New Venture Gear and Germany's Getrag GmbH and will launch a dual-mode hybrid drivetrain next year that was developed in conjunction with General Motors Corp. and BMW AG.

Talk Back

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Is there a shortage of engineering talent in the U.S.?



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HONDA TO ADD WIND TUNNEL IN JAPAN

Jacobs Engineering Group Inc. in Pasadena, Calif., has won a contract from Honda Motor Co. to design and construct a wind tunnel in Japan to test full-scale vehicles. Jacobs, which has global revenues in excess of \$8 billion, also has worked with BMW, DaimlerChrysler, Ford, General Motors and Visteon. Last year, the company built a high-speed wind tunnel with a rolling road in North Carolina for Haas Racing.

hybrids

GM WINS NEW ORDER FOR DUAL-MODE HYBRID BUSES

Under a new five-year contract with King County, Wash., and Canada's New Flyer Industries Ltd., General Motors Corp. will supply up to 500 dual-mode hybrid systems for use in diesel-electric New Flyer city buses. The first 22 buses are to be delivered next spring.

GM currently supplies the two-mode system on 720 buses in 56 cities across the U.S. and Canada. King County, which includes Seattle, already has more than 200 GM hybrid buses in its fleet.

GM's dual-mode parallel system, which is supplied by GM's Allison Transmission unit, features two electric motors instead of just one as in most hybrid configurations. The system's basic architecture is being used by GM, DaimlerChrysler and BMW for light-truck hybrid applications. In the diesel-electric bus, the dual-mode system lowers fuel consumption by 23% compared to a diesel-only system. Tests conducted by the U.S. National Renewable Energy Laboratory also show that GM hybrid-powered buses reduced nitrogen oxides by 18%, carbon monoxide by 60% and total hydrocarbon emissions by 56%.

GM also notes the hybrid buses are more reliable and considerably quieter than diesel buses. Maintenance costs are lower too, thanks to extended brake, engine oil and transmission oil life. Other benefits include superior torque and improved acceleration.

The first passenger vehicle applications for the two-mode systems will be in the Chevrolet Tahoe and GMC Yukon full-size SUVs this fall. This will be followed next year by hybrid versions of the Cadillac Escalade SUV, Saturn Vue Green Line compact SUV and the Chevrolet Silverado and GMC Sierra pickups. The system is expected to boost fuel economy 25% in these vehicles.

mergers

MICHIGAN SOFTWARE DEVELOPER MERGES WITH INDIAN COMPONENTS SUPPLIER

Troy, Mich.-based Detroit Engineered Products (DEP), a CAE software and engineering services provider, is merging with India's Autoline Industries Ltd. Autoline makes sheet metal assemblies and formed tubular products such as exhaust systems for passenger and commercial vehicles in India, Europe and the Middle East.

The companies expect the combination to reap operational synergies, a broader customer base and the ability to design and produce products more efficiently. The merger teams Autoline's design, engineering, tooling and manufacturing capabilities—including a low-cost base in India—with DEP's product development services.

DEP plans to launch several computer-aided engineering and design tools that help OEMs and suppliers improve product development efficiencies. The software features the

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company's proprietary meshing, morphing and parameterization technologies. Launched in 1998, DEP boasts a wide-ranging global customer base. It also is increasing business in the aerospace, consumer goods and medical industries.

Autoline was launched in 1995 as Autoline Pressings and has changed its name several times since then. Among the products the company supplies are brake and floor assemblies, load bodies for mini trucks, formed tubular products such as silencers and exhaust systems for light and heavy commercial vehicles and "tippers" for heavy trucks. It now has five plants near Pune. Autoline sales zoomed 89% last year.

fuels

PARTNERS TO BUILD BIOFUEL FACILITY IN DETROIT

Santa Barbara, Calif.-based Biodiesel Industries Inc. broke ground this week on a new bio-fuel lab on the NextEnergy campus in Detroit. It's partnering on the new complex—the company's sixth facility in the U.S.—with the nonprofit consortium and DaimlerChrysler AG.

The new lab, which was announced a year ago, will conduct biodiesel research, development and production to help advance usage of the clean fuel. It will have the capacity to produce 10 million gallons per year of biodiesel from a variety of feedstocks, including crude, refined and recycled vegetable oils and animal fats using Biodiesel Industries' patented technology. The company says it also will use built-in quality control processes to meet global fuel standards.

After years of development, Biodiesel Industries began producing biofuel in late 2000. It now describes itself as America's largest biodiesel refiner.

DaimlerChrysler offers biodiesel-capable versions of the Jeep Grand Cherokee SUV, Dodge Ram pickup and Mercedes E320 sedan. In addition to providing engines to the new research facility, DCX also is offering the use of currently unused land at a former SuperFund environmental site to produce soybeans and possibly other oil-bearing crops.

staffing

ZF TO HIRE 250 ENGINEERS IN EUROPE

To support new hybrid and other electronic-related programs in Europe, ZF Friedrichshafen AG plans to hire 100 engineers this year and another 150 by 2009. It's seeking a mix of recent graduates and experienced engineers with expertise in electronics, electrical engineering, mechanical engineering and vehicle construction.

The company formed a partnership in 2005 with Continental AG to develop hybrid technologies, ranging from components and modules to complete hybrid drivetrain systems. ZF notes it has extensive experience in terms of electric motors, clutches, vibration dampers, software development and the spatial and functional integration of hybrid modules into a vehicle's driveline.

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