

FOR IMMEDIATE RELEASE

HELLA PREDICTS ENERGY SAVINGS WILL BOOST NEW VEHICLE OPTIONS

PLYMOUTH, Mich. – Taking a cue from European drivers, U.S. car buyers are telling automakers they want fuel-efficient vehicles, but with the amenities they have come to expect in large cars and SUVs.

The shift in U.S. buying patterns has caused some vehicle manufacturers to re-think how new fuel and carbon dioxide (CO₂)-saving vehicles should be marketed to technology-savvy drivers who may want a premium sound system in a smaller vehicle.

“Small cars don’t have to lose all the features drivers have come to enjoy just to be energy efficient,” said Dr. Martin Fischer, president of Hella Corporate Center USA and Hella Electronics Corporation. “Today’s automotive electronics can provide the energy management systems needed to maintain luxury equipment American consumers want – and manufacturers can profitably build.

“Hella has considerable experience in implementing energy management technologies on production vehicles in Europe,” he said. “We see growing opportunities to contribute our expertise in the U.S.”

In the past, Fischer noted, the most fuel-efficient vehicles came equipped with smaller engines along with mostly stripped-down packages of optional equipment. The moon roof, navigation system and leather seating were reserved for cars with larger engines. Now consumers are saying they want a fuel-efficient vehicle, but with large-vehicle options.

Hella believes most U.S. car buyers can have it both ways by applying energy management principles learned in Europe, where drivers are accustomed to more expensive fuel prices. Today, technologies such as automatic start-stop controls, intelligent battery sensors, electronic pedal sensors, fuel-quality and oil-quality sensors, demand-driven fuel pumps and electric vacuum pumps are available and in use to reduce fuel consumption and CO₂ emissions. The savings in energy use can then be applied to comfort and convenience options U.S. buyers want.

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A side by side comparison of two European vehicles with similar engines (approximately 138 horsepower, 229 foot-pounds of torque), found that the vehicle equipped with Hella's intelligent battery sensor and voltage stabilizer produced 17 percent less CO₂ than the vehicle without these technologies. In addition, fuel consumption for the Hella-equipped car was 20 percent better.

“By the middle of the next decade, U.S. federal mandates will require auto manufacturers to produce vehicles averaging 31 percent better fuel economy than current models,” Fischer said. “Rather than devote research programs just to hybrid or electric vehicles, automakers can modify gasoline, diesel and gasoline-electric hybrid models by integrating energy management systems available now to boost fuel economy.”

Automatic Start-Stop Increases Hybrid Vehicle Fuel Savings

The most dramatic cost savings can be realized in hybrid cars and trucks through an automatic start-stop control. Start-stop controls turn off an engine during traffic stops and quickly restarts the motor when it's time to move. In city driving, a 20 percent increase in fuel economy is possible, while combination city-highway use yields a savings of about five percent.

“The ‘secret’ components making this possible are a battery-condition sensor and a voltage stabilizer,” explained Winfried Menge, vice president of Marketing and Business Development for Hella Electronics Corporation. The voltage stabilizer protects the vehicle's sensitive electronic systems, such as lighting, infotainment and navigation systems, from powering down during engine restart.

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Intelligent Battery Sensor Saves 3.8 Grams of Carbon Dioxide Per Mile

The size of a postage stamp, the intelligent battery sensor (IBS) is a key energy-management contributor. It measures the vehicle battery's precise current, voltage and temperature values. With this information, the system calculates state of charge (SoC), state of health (SoH) and the cranking prediction state of function (SoF). This ascertains a maximum availability and reliability of the vehicle's functionality and ensures that sufficient power is available the next time the engine is cranked. By using information from the IBS, an intelligent alternator control can be implemented which helps reduce energy consumption, while saving approximately 3.8 grams of CO₂ per mile.

"An IBS, used in tandem with Hella's voltage stabilizers, is integrated with other systems on the BMW 1 Series in Europe, boosting the car's fuel economy up to 24 percent, while trimming emissions by 21 percent," Menge said.

Hella's Accelerator Pedal-Sensor Module Sets the Pace Globally in Fuel Efficiency

Hella's now ubiquitous pedal-sensor module currently allows automakers to optimize vehicle performance and reduce both fuel consumption and CO₂ emissions.

Hella has earned market leadership status by developing the industry's first integrated electronic pedal sensor for diesel and gasoline engines and now supplies pedal sensors to nearly every automotive manufacturer and many commercial vehicle makers across the globe. It has replaced mechanical accelerator pedals in nearly all new vehicles.

The company's sensor module records pedal position to accurately determine the driver's intentions, from idle to full throttle. The distance measured is converted to an electronic signal and sent to the engine controller, which calculates the proper air and fuel amounts to achieve the speed indicated by the pedal movement. Hella's latest generation of pedal modules has more electronic capabilities, yet is more compact and weighs 50 percent less than the first units produced in 1996. In February, Hella produced its 100-millionth pedal-sensor module in Recklinghausen, Germany.

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Integrating Electronic Systems is Key to Improvements in Energy Consumption

For years, Hella has worked intensively with its customers and partners to develop strategies for improving fuel economy.

“Hella has many energy management technologies already in place on vehicles in Europe, North America, Asia and elsewhere,” said Fisher. “Additional technologies include air-conditioning sensors, LED daytime running lights and others.

“No single product will be the ‘silver bullet.’ The solution will come from integrating electronic systems that will lead to overall improvements in fuel economy.”

Hella KGaA Hueck & Co. develops and manufactures lighting and electronics components and systems for the automotive industry. Its joint venture companies also produce complete vehicle modules and air conditioning systems.

In addition, Hella has one of the largest aftermarket organizations in the world for automotive parts and accessories, with its own sales companies and partners in more than 100 countries. The consolidated annual turnover of the Hella Group is about \$5.7 billion.

Hella is one of the top 50 automotive parts suppliers in the world and one of the 100 largest industrial companies in Germany. Nearly 25,000 people work in 70 manufacturing facilities and production subsidiaries throughout the world, including more than 3,500 research-and-development engineers and technicians. Customers include all of the world’s leading vehicle and systems manufacturers, as well as the automotive parts aftermarket.

Additional information is available at www.hella.com.

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