Ford to Demonstrate Smart Electrification Technology That Can Adapt with Green Cities Trend

- Ford researchers will demonstrate smart electrification technology that uses cloud-based computing and data to optimize a plug-in hybrid's powertrain efficiency at the 18th World Congress on Intelligent Transport Systems

- Ford Executive Chairman Bill Ford will be a keynote speaker and talk about his vision for the future of transportation

- Ford researchers first gave a glimpse into how cloud-based technology could be used to improve powertrain operation at the Google I/O Developers Conference and since have highlighted it as part of Ford's technology future in the Evos Concept car

DEARBORN, Mich., Oct. 14, 2011 – Ford Motor Company continues its research into how cloud-based technology can make vehicles smarter and – for the first time ever – will publicly demonstrate the innovation during the 18th World Congress on Intelligent Transport Systems next week.

Ford Motor Company Executive Chairman Bill Ford will be a featured conference speaker and talk about the future of transportation. He will emphasize how intelligent vehicles and innovations such as smart electrification can help solve emerging transportation issues on roads around the world.

Meanwhile, Ford researchers and engineers will showcase technology designed to personalize the driving experience that is centered on three areas of cloud-based innovation: intelligent routing, intelligent driving and intelligent operation.

"With this technology we are talking about pure customer benefit – creating the right individualized and optimized experience for each person, vehicle and situation," said Ryan McGee, technical expert, Vehicle Controls Architecture and Algorithm Design, Ford Research and Innovation. "As our transportation system evolves – say, with lower emissions zones – the research we are doing now will help us meet the future needs of our customers. For example, cars could one day adapt their powertrain performance to these types of varying driving conditions."

At the Google I/O conference in May, Ford introduced its research and innovation into using the cloud to predict driver behavior in order to optimize vehicle control systems and improve vehicle performance attributes such as fuel or hybrid-electric efficiency.

Ford's commitment to the technology was further showcased when the Ford Evos Concept was introduced at the 2011 Frankfurt Motor Show in September. The Evos Concept explores the potential for connecting a vehicle to the cloud in order to tailor the driving experience based on variables such as personal tastes and moods of the driver.

"Ford already offers cloud-based services through Ford SYNC®, but those services thus far have been used for infotainment, navigation and real-time traffic purposes to empower the driver," said McGee. "This technology has the potential to empower our vehicles to anticipate a driver's needs for various reasons, such as optimizing a vehicle's powertrain efficiency."

In the example that will be featured at the World Congress on Intelligent Transport Systems, researchers will show how a prototype Escape Plug-In Hybrid (PHEV) could use a combination of cloud-based and proprietary technology to learn when to switch from being gasoline-powered to all-electric upon entering a lower emissions zone. Cities such as London, Berlin and Stockholm already have such zones.

McGee said if a vehicle was able to predict exactly when it might be entering such a zone, it could optimize itself to comply with regulations and at the same time optimize energy usage over the total distance of the route by switching the engine to all-electric mode at specific times.

What's next?
Work is now under way to study the feasibility of incorporating variables such as driver style and habits into the optimization process, so Ford can further enhance vehicle control systems and allow car and driver to work together to maximize energy efficiency.

Integral to this next-step work is personal information security, an issue that is of the utmost importance to Ford. "We realize the nature of this research includes the use of personal data and location awareness, something we are committed to protecting for our customers in everything we do. Features like this would be offered on an 'opt-in' basis leaving the decision to participate up to our customers," said Johannes Kristinsson, system architect, Vehicle Controls Architecture and Algorithm Design, Ford Research and Innovation.

The press release detailing Ford's potential use of the Google Predict API tool in smart electrification can be found at http://media.ford.com/article_display.cfm?article_id=34591. A video of the presentation given at the Google I/O conference can be found at http://youtu.be/gamlTudh6DI. A video featuring McGee further discussing cloud-based optimization can be found at http://youtu.be/fcpbKUTizol.

#