

Fuel-saving software could be used in GM vehicles

January 6 2015



Tula Technology's Dynamic Skip Fire (DSF) technology integrates advanced digital signal processing with sophisticated powertrain controls to create a software-based approach to variable displacement engines. The result makes the most of vehicle fuel economy across a wide range of driving conditions. DSF could be deployed in future gasoline engine-powered General Motors' vehicles.

GM Ventures is optimistic that its 2012 equity investment in Silicon Valley-based startup Tula Technology will result in a revolutionary new fuel economy technology that could be deployed in future gasoline engine-powered General Motors' vehicles.

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Instead of relying on fixed cylinder deactivation or switching between fixed patterns like current multi-cylinder engines, Tula's DSF technology continuously makes dynamic firing decisions on an individual cylinder basis to deliver the required engine torque for all vehicle speeds and loads while avoiding vibration.

Independent testing commissioned by Tula shows that the application of DSF technology can improve fuel efficiency in a multi-cylinder engine (4/6/8 cylinders) by as much as 15 percent when compared to a vehicle equipped with an engine that does not have cylinder deactivation.

"This technology holds the potential to improve [fuel economy](#) on select GM vehicles without degrading power capability when it's required," said Jon Lauckner, GM chief technology officer, vice president of Global R&D and president of GM Ventures. "This joint effort combines software expertise from Silicon Valley with powertrain expertise from General Motors."

Co-investors in Tula with GM Ventures include Sequoia Capital, Sigma Partners and Khosla Ventures. Since its founding in mid-2010, GM Ventures' international portfolio includes investments in more than 20 startup companies.

"We've worked closely with GM during this exciting stage of DSF development, and they've provided essential financial support while allowing us to run our business with full autonomy," said R. Scott Bailey,

president and CEO of Tula Technology. "Our goal is the same as GM; we both innovate to make the lives of people better."

Provided by General Motors

Citation: Fuel-saving software could be used in GM vehicles (2015, January 6) retrieved 26 April 2024 from <https://phys.org/news/2015-01-fuel-saving-software-gm-vehicles.html>

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