

The Omnivorous Engine Is No Picky Eater

Did you know...

Flexible-fuel vehicles that run on either gasoline or ethanol are not a new idea. In 1908, the Ford Model T was introduced as the world's first commercial vehicle built to run on both fuels.

Opportunity

Current flexible-fuel vehicles can run on different fuels, but they are still designed with gasoline in mind. These vehicles are not calibrated to take full advantage of alternative fuels, so they don't always run as efficiently as possible.

Argonne's Solution

Argonne's omnivorous engine takes the flexible-fuel concept to a whole new level. Gasoline, ethanol, butanol — this engine can run at maximum efficiency on any type of spark-ignited fuel. Sensors tell the engine what fuel or fuel blends are being used, and the engine adjusts itself accordingly.

Potential Benefits

The omnivorous engine would allow vehicles to run more smoothly and efficiently on ethanol and other next-generation alternative fuels. This could benefit the U.S. economy by reducing dependence on foreign oil while also increasing the demand for domestically produced biofuels.

Industry Partnerships

Argonne is partnering with Mahle Powertrain, Visteon, and Michigan State University. The laboratory also received in-kind support from General Motors.



Chris Cooney, a Ph.D. candidate from Michigan Technological University, views test results from the omnivorous engine.



Argonne engineer Thomas Wallner adjusts an ion-sensing circuit used to get real-time combustion feedback.



Steve McConnell, Argonne principal fuels engineer, adds ethanol to the fuel cart for the omnivorous engine.



INVENTING THE FUTURE. *efficient. clean. safe.*

Visit www.transportation.anl.gov to learn more!



Research funding provided by the U.S. Department of Energy's Vehicle Technologies Program.