

Connected Powertrain

Our solutions leverage connected vehicles and powertrain engineering, spanning speed/route optimization, and applied research/testing. Connected powertrain technology uses onboard sensing and external connectivity via V2V, V2I, and V2X technologies to improve fuel efficiency and performance of various powertrain categories.



- SwRI drive-by-wire system
- Large-scale vehicle and traffic simulations
- Connected and automated vehicle dynamometer
- Virtual traffic enabled track testing
- Emissions controls using preview
- Eco-Driving mobile application



Southwest Research Institute® is a premier independent, nonprofit research and development organization. With eleven technical divisions, we offer multidisciplinary services leveraging advanced science and applied technologies. Since 1947, we have provided solutions for some of the world's most challenging scientific and engineering problems.

SwRI is working to create cutting-edge sustainable energy and mobility technologies and is actively engaged in developing innovative low-carbon-intensity solutions to address environmental concerns. By developing and leveraging the latest advances in technology, SwRI aims to build a more sustainable future.



For more information,
please contact:

SustainableEnergyMobilitySolutions@swri.org

powertrain.swri.org

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SOUTHWEST RESEARCH INSTITUTE

Sustainable Energy and Mobility



Developing sustainable energy and mobility technologies for the transportation industry and low-carbon-intensity solutions for other industries, including utilities and manufacturing

Engine and Electric Motor Controls

SwRI has invented a range of powertrain technologies, from ultra-fuel-efficient gasoline engine technology to electric powertrain systems. We offer modeling and analysis support, component-level testing, subsystem-level testing, and vehicle-level testing for internal combustion, hybrid, and fully electric powertrain systems.

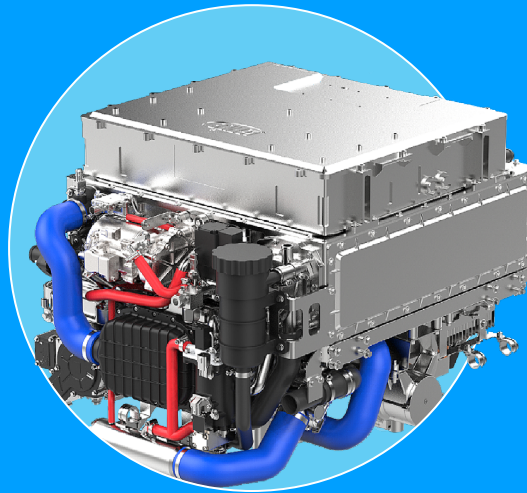


SwRI develops powertrain R&D electronics such as RPECS™, an advanced programmable controller designed for custom control and data acquisition.



Fuel Cells

Fuel cell and hydrogen research aims to create a clean and sustainable energy system by developing efficient and environmentally friendly fuel cells, cost-effective methods for producing and storing hydrogen, and expanded use in transportation and power generation.

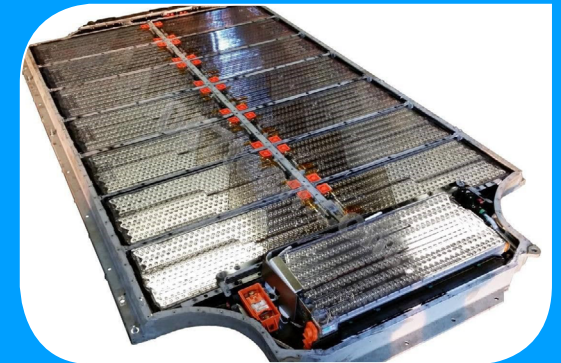


SwRI's energy-related research experience and test capabilities include cell, stack, system design, benchmarking, and performance testing.



Electric Powertrain Systems and Battery Energy Storage Systems

SwRI develops batteries and energy storage systems for electric vehicles, grid storage, and stationary systems. With over 30 years of experience in vehicle electrification, we offer technical expertise to assist customers with their electric powertrain needs for new emissions control strategies which could employ connected vehicle technology.



- Electric vehicle testing services
- EV modeling and analytical services
- Certification and abuse testing
- Physical and environmental testing services
- Grid-connected battery energy storage systems