Drivetrain Design and Development

Southwest Research Institute® (SwRI®) provides comprehensive design, development, test and evaluation services to clients from automotive, heavy-duty, off-road, marine, industrial and military industries.

SwRI engineers have extensive experience in a comprehensive array of specialty design, test and development capabilities to assist manufacturers with new transmission design, transmission and drivetrain component development, vehicle development, benchmarking and resolution of drivetrain problems. This includes automatic, continuously variable, hybrid, and manual transmission drivetrains and their components.

Test and Evaluation Assemblies
- Transmissions
- Transaxles
- Transfer cases
- Axles
- All-wheel drive systems
- Light and heavy duty
- Hybrid electric/hydraulic systems

Components
- Torque converters
- Clutches
- Gears
- Chains
- CVT components
- Pumps and hydraulics

Tests
- Engine firing pulse simulation
- Engine inertia simulation
- Dynamic road load
- Drive cycle
- Efficiency
- Spin loss
- Durability
- Functionality
- Development
Design and Development

- Automatic transmissions
- Dual clutch transmissions
- Continuously variable transmissions
- Hybrid systems
- Gearboxes
- Engine geartrain

Development

- NVH
- Shift calibration
- Torsional vibration
- Efficiency improvement
- Clutches
- Failure analysis
- Benchmarking

We welcome your inquiries.
For more information, please contact:

Randy McDonnell
Group Leader
Drivetrain Design and Development
210.522.2558
randy.mcdonnell@swri.org

Powertrain Engineering Division

swri.org
drivetrain.swri.org