Southwest Research Institute® (SwRI®) provides software engineering solutions for avionics and support systems, including development and maintenance of:

- Real-time embedded systems
- Avionics equipment
- Automatic test equipment
- Test program sets
- PC-based systems
- Support equipment applications

Standards and Capabilities
- ISO 9001:2000
- MIL-STD-498
- Embedded systems
- Embedded avionics
- Graphical user interfaces
- Modeling and simulation
- Technology upgrades

Languages and Processes
- C / C++ / C#
- Visual Basic
- Ada
- JOVIAL
- Assembly
- UML
- OOA / OOD
- HP and HT Basic
- Atlas
- Test Basic

Development Tools
- IBM® Rational® ClearCase®
- IBM® Rational® ClearQuest®
- IBM® Rational® RequisitePro®
- IBM® Rational® Software Modeler®
- Telelogic Rhapsody® Developer
- Multi-Language
- Telelogic Rhapsody® Gateway
- CORBA ORB
  (OIS OrbExpress® RT)
- SCA Core Framework
  (CRC SCARI++)
- Green Hills INTEGRITY® RTOS
- Green Hills MULTI® IDE
- SEA JOVIAL Compiler
- Ada Compiler
- Borland® C Compiler
- LabVIEW™
- Lab Windows / CVI™
- Vx Works
- Microsoft Visual Studio
- Matlab

Software Engineering and Architecture
- Embedded application development
- Windows model-based design / GUI application development
- PC-based software (desktop and embedded)
- Standard and custom multi-tasking real-time operating systems (RTOS)
- Windows / Integrity / VxWorks / Linux and Unix operating systems
- Rapid prototyping
- Software re-engineering
- Software rehosting
- Legacy system support and migration

SwRI designed a real-time simulator which inserts real aircraft data to emulate and replay actual aircraft situations used for scoring weapons delivery for selected weapons.

The Improved Electronic Processor Unit (IEPU) software is responsible for acquiring signals, detecting engine, aircraft and structural events, and storing related data for later analysis by ground personnel. SwRI engineers develop software for the IEPU Operational Flight Plan (OFP).

SwRI designed an Operational Test System for flightline diagnostics.

SwRI designed, developed, tested and conducted activities necessary to provide Hill AFB with the Depot Level Tester for the Integrated Flight and Fire Control Computer (IFFCC) Line Replaceable Unit (LRU).
Southwest Research Institute (SwRI) has extensive experience in evaluating, developing, deploying and verifying embedded systems. The staff maintains a system focus and excels in forming small, interdisciplinary teams to solve difficult real-time and embedded systems problems for clients. SwRI provides services ranging from turnkey system development to system engineering and system integration services, to short-term consulting agreements.

Our clients choose the Institute because SwRI offers:

- Demonstrated software and technology expertise
- Track record of delivering innovative solutions
- More than 25 years of software development experience
- System architecture platform approach
- Proven software development process
- Design for low cost
- 100% focus on client success

Southwest Research Institute has earned its reputation for innovation and design success by consistently exceeding client expectations and delivering products, support and services that are geared toward success.

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

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