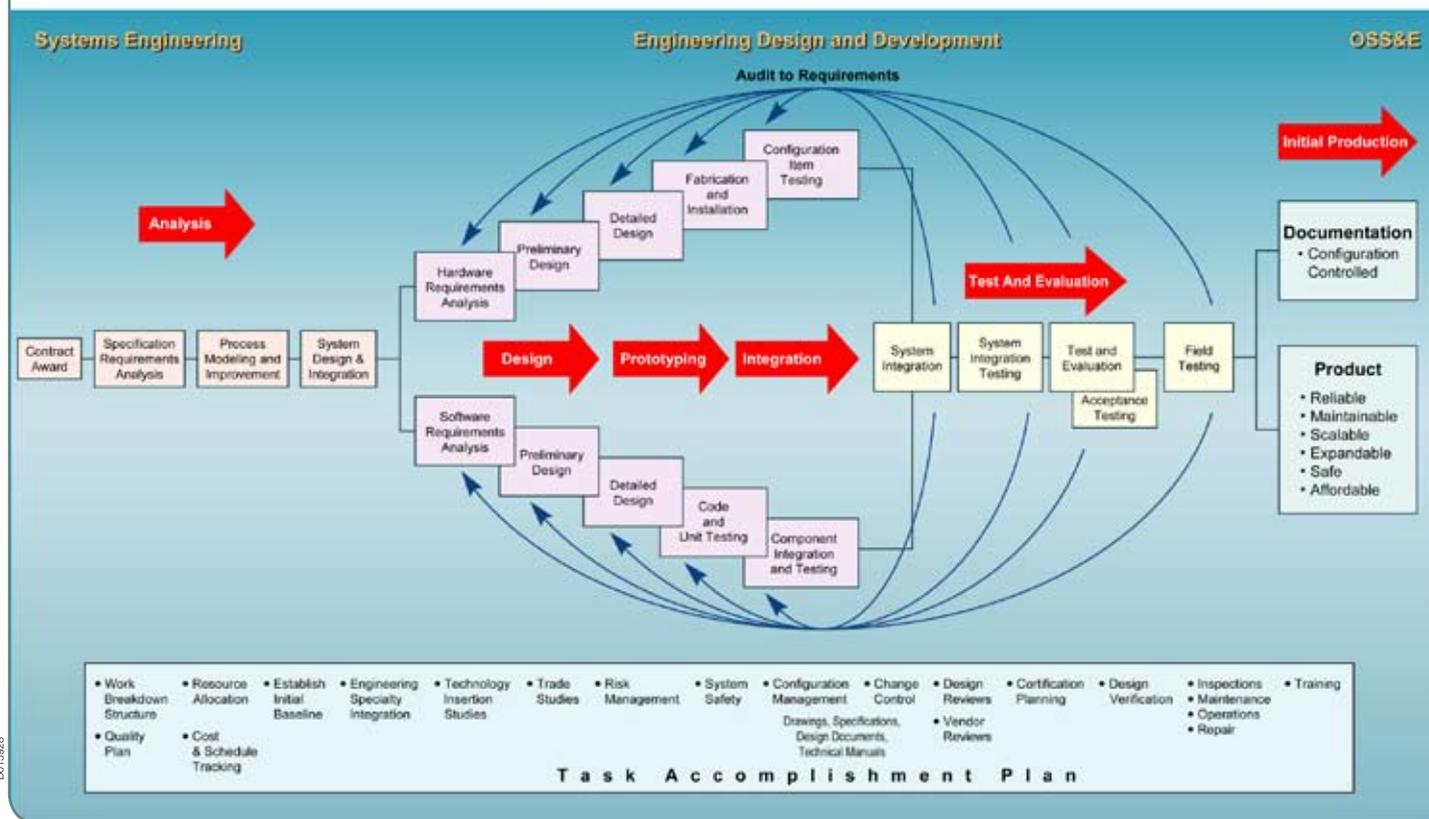# AIRCRAFT SYSTEMS ENGINEERING

SwRI SYSTEM ENGINEERING PROCESSES

SwRI's systems engineering approach offers the capability and experience to manage the complex organizational and technical interfaces required to achieve large-scale design, development, integration, test and documentation.

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

Christopher E. Camargo
Director
Defense & Intelligence Solutions Division
(210) 522-2095 • Fax (210) 522-2572
christopher.camargo@swri.org

Aerospace Electronics and
Information Technology Division
Southwest Research Institute
6220 Culebra Road (78238-5166)
P.O. Drawer 28510 (78228-0510)
San Antonio, Texas

Southwest Research Institute is an independent, nonprofit, applied engineering and physical sciences research and development organization using multidisciplinary approaches to problem solving. The Institute occupies 1,200 acres in San Antonio, Texas, and provides more than 2 million square feet of laboratories, test facilities, workshops and offices for more than 3,000 employees who perform contract work for industry and government clients.

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Southwest Research Institute® (SwRI®) applies an integrated project team approach using systems engineering processes to solve customer problems. SwRI staff members have experience and expertise covering the entire systems engineering spectrum including requirements analysis, specification development, preliminary design, detailed design, integration and testing (I&T) and prototyping.

SwRI maintains full integration laboratories and test facilities for I&T support. The Institute also has extensive experience in integrating new and replacement line and shop replaceable units (LRU/SRU) on aircraft, as well as developing requirements specification documents and performing trade studies.

SwRI has supported a variety of avionic systems engineering programs including integration of the Situational Awareness Data Link (SADL) system, Precision Engagement (PE), Global Air Traffic Management (GATM), Enhanced Global Positioning System / Inertial Navigation System (EGI), Turbine Engine Monitoring System / Airborne Data Recorder (TEMS/ADR), and Head Up Display (HUD) on the A-10 aircraft.

SwRI has performed numerous avionics and support equipment redesigns for the F-16 aircraft. One recent example is the replacement of a video interface circuit card assembly (CCA) and core memory module in the Expanded Programmable Display Generator (XPDG). This redesign provided significantly improved reliability and maintainability (R&M) of the XPDG, thereby reducing the associated maintenance costs.