

RESET

Reengineering, System Engineering & Test Services



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Sustainment of aging Department of Defense systems presents significant challenges. The Space Dynamics Laboratory (SDL) offers a cost-effective partnership to help the military maintain or enhance the capability of legacy systems. SDL provides trusted reengineering, system engineering, and test (RESET) services, providing Government-owned technical solutions that help the military:

Resolve Mission Impaired Capability Awaiting Parts (MICAP) and Cannibalization (CANN) issues

- Root cause & options assessment of critical components with high failure rates
- Rapid development & qualification of repair/replacement options

Facilitate organic maintenance to bolster 50/50 rule compliance

- Reverse engineering of systems or subsystems lacking technical documentation & creation of complete technical data packages (TDPs)
- Replacement of aging, irreparable test assets with modern, maintainable testers
- Full data rights & Government ownership of the technical baseline

Increase labor efficiency

- Low-cost alternatives for reparable assets
- Modern electronic components with faster data transfer & improved compute capabilities

Modernize existing assets

- Platform & component modernization with advanced electronics, enhancing system performance while adhering to strict size, weight & power (SWaP) requirements

Expand the vendor base

- With full data rights, the Government can select any vendor for component manufacture

Augment Government engineering capability

- Embedded SME support with Government engineering or oversight teams
- Third-party test capability

Assess and characterize systems

- Full-spectrum system assessments
- Characterization & reverse engineering of military, COTS & non-US systems & components

MODERNIZATION LIFECYCLE SUPPORT

SDL offers services for any phase of the modernization lifecycle.

DEFINITION

SDL develops comprehensive system definitions for projects with incomplete technical data and unclear requirements, reducing risk.

DESIGN

SDL is experienced in designing both flight and ground-based military hardware and software systems and provides production-ready TDPs.

PROTOTYPE

SDL leverages in-house facilities and qualified partners to develop prototypes for lab, field, and environmental tests.

PRODUCTION

SDL supports manufacturer selection and oversight to facilitate faster technology transfer and improved quality control.

HERITAGE

Depot Support: F-16 Flight Display Unit Reengineering

SDL reengineered the F-16 Display Unit subassemblies, including the common color multi-function display (CCMFD), color programmable display generator (CPDG), and enhanced CPDG, providing the Air Force with the TDP and associated shop manuals to support depot-level activities of the F-16 flight display.

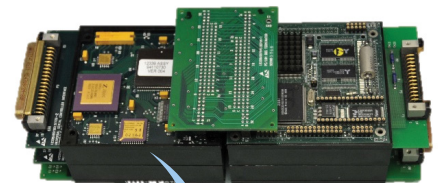
In addition to reengineering the electrical and mechanical subsystems, SDL created test program sets (TPS) to support depot troubleshooting and repair. SDL built interface test adapters (ITAs) and integrated them into the Air Force's testing platform. The TPS package included the ITA hardware and software, an acceptance test strategy, the ITA TDP, and associated technical orders. SDL was awarded the F-16 project based on cost-effective delivery of high-quality engineering services. SDL continues to support the Government through subassembly modernization and depot test stand-up efforts.



F-16 Display ITA

Flight Systems: P4R1 Replacement

To assist the Air Force in establishing organic repair capability and to support future procurements of the P4R1 flight subsystem, SDL reengineered the advanced digital interface unit (ADIU) and intelligent flash solid state recorder (IFSSR) assemblies and delivered form, fit, and function direct replacements of the existing assemblies. SDL redesigned the electronics but maintained the housing and functional operation for seamless insertion into the existing pod.

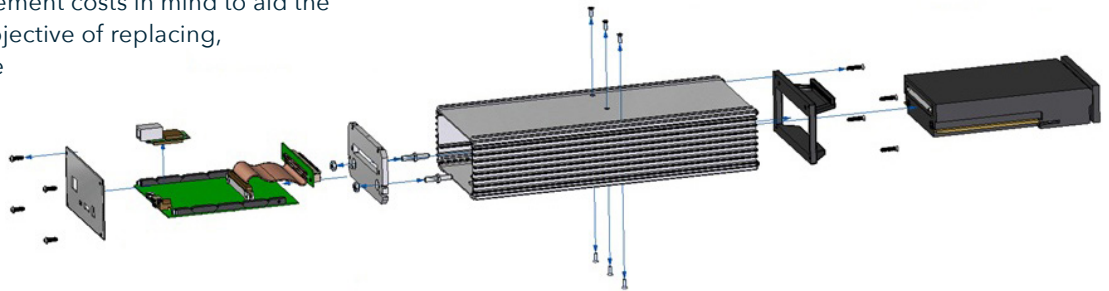


ADIU

Ground System Technology Insertion

Providing a vital function in supporting flight control systems, SDL reengineered a solid state data cartridge reader, creating a replacement unit with enhanced capabilities that supports several existing cartridges. The cartridge reader was designed with modest procurement costs in mind to aid the Government in reaching its objective of replacing, rather than repairing, obsolete and failing units.

SDL has redesigned cartridge readers for various platforms for the Air Force and Navy.



Miscellaneous Hardware

SDL's knowledgeable staff perform a wide array of system testing and repair using extensive electronics, machining, and logistics facilities. SDL works with customers to determine if a subassembly needs to be redesigned for improved capability/maintainability or modernized to remove obsolescence, then recommends the most cost-effective solution.

Questions? SDL welcomes all inquiries. For more information about RESET services, please contact:

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