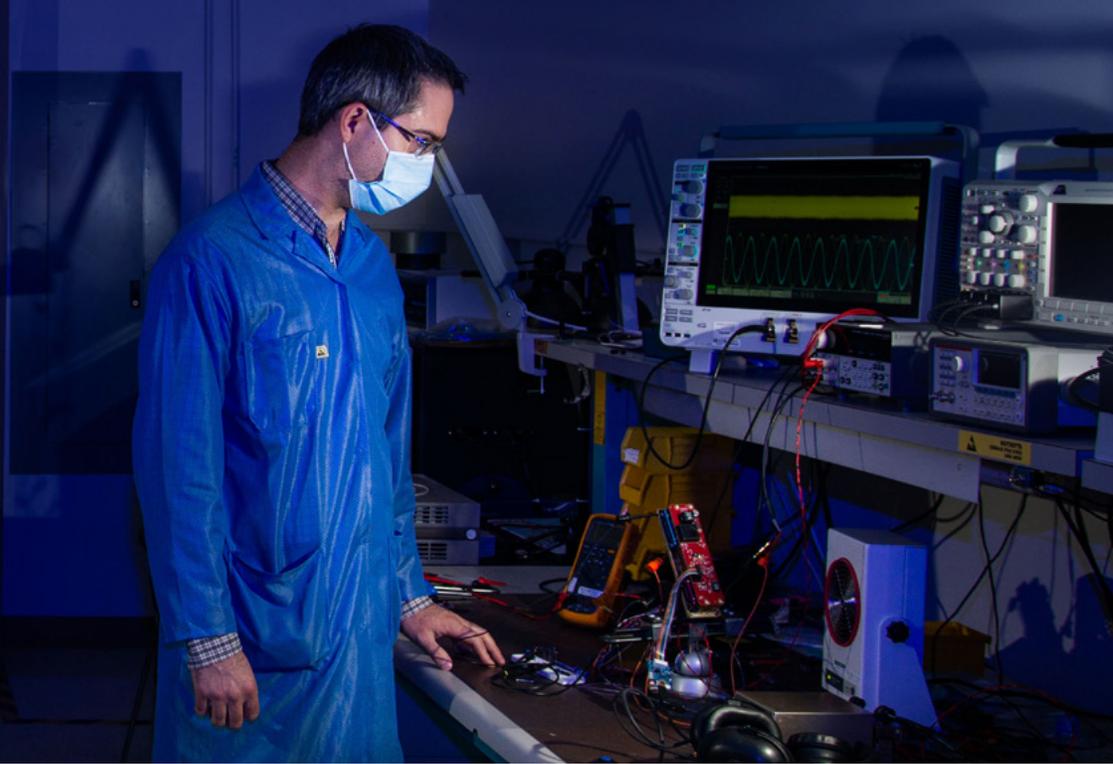


# RESET

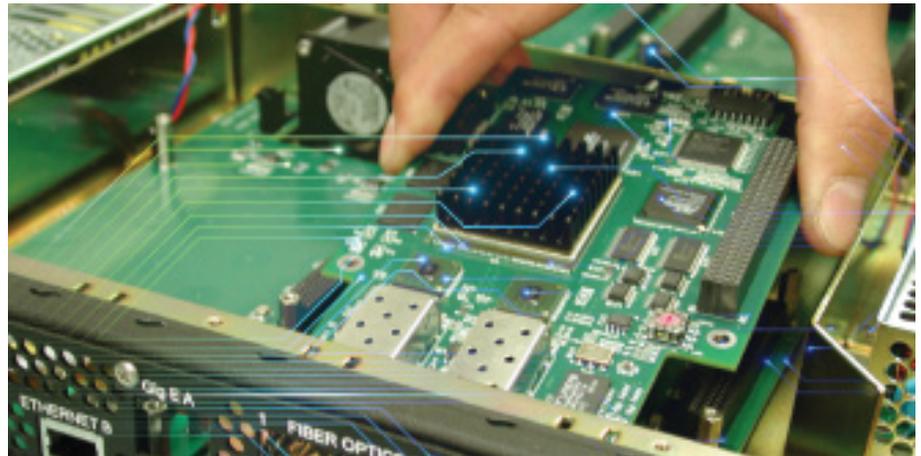
## Re-Engineering, System Engineering & Test Services



The Space Dynamics Laboratory (SDL) provides cost-effective Re-Engineering, System Engineering, and Test (RESET) services for Government flight- and ground-based hardware systems. Located close to Hill Air Force Base, SDL has over 60 years of experience in complex system development and test.

The DoD is migrating toward organic maintenance capability to reduce costs. However, effective testing is often hindered by missing documentation and inadequate board test systems. Additionally, as platform lifecycles extend by decades, obsolete assemblies must be replaced despite little knowledge of their original design. SDL's RESET team overcomes these challenges by developing cost-effective depot-level maintenance capabilities and seamless technology insertion solutions.

SDL's RESET services are backed by the larger SDL organization for additional manpower and expertise. As a nonprofit University Affiliated Research Center (UARC), SDL provides the Government with unlimited rights on all project deliverables, including production-ready technical data packages. The Lab's size enables accessible contract communication and execution. SDL's overall quality system is registered to the ISO 9001 standard, which is indicative of the Lab's commitment to high-quality engineering practices.



### SERVICES

#### Re-Engineering

- Generate technical data packages for assemblies with missing or unavailable documentation
- Tear down & re-engineer components
- Create mechanical drawings, Gerber files, parts lists & obsolescence information
- Create technical manuals
  - Depot maintenance overhaul instructions
  - Illustrated parts breakdowns

#### Technology Insertion

- Enhance electronic board functionality
- Redesign form & fit of existing boards
- Update designs for increased functionality & maintainability

#### Board Replacement

- Develop electronic board replacements
- Engineer form, fit & function replacements for obsolete or difficult-to-test boards or systems
- Deliver specifications, drawings & assembly procedures suitable for outside procurement

#### System Test Development

- Create testing platforms enabling organic testing
- Develop test program sets (TPSs) for organic electrical & functional testing
  - Stand-alone or interface test adapters (ITAs)
  - Software- & hardware-based tests

## HERITAGE

### Depot Support: F-16 Flight Display Unit Re-Engineering

SDL re-engineered 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 technical data package and associated shop manuals to support depot-level activities of the F-16 flight display.

In addition to re-engineering the electrical and mechanical subsystems, SDL created TPSs to support depot troubleshooting and repair. SDL built 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 technical data package, 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

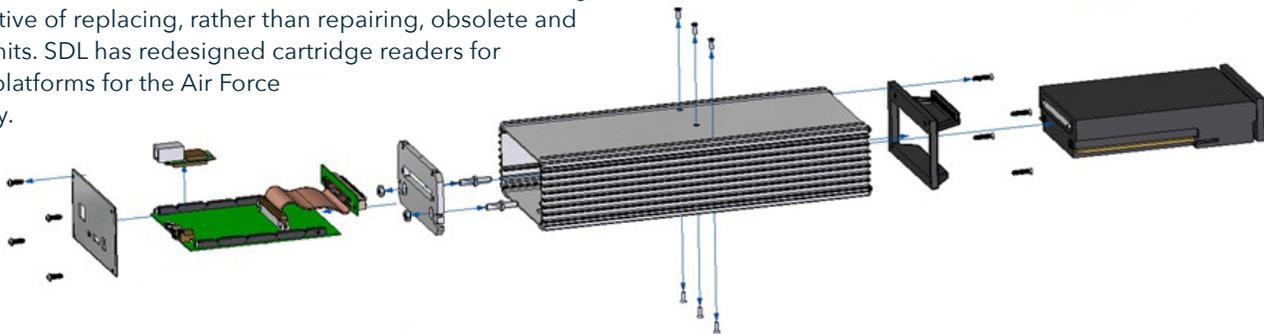
To assist the Air Force in establishing organic repair capability and to support future procurements of the P4R1 flight subsystem, SDL re-engineered the advanced digital interface unit (ADIU) and intelligent flash solid state recorder (IFSSR) assemblies and delivered form, fit, and function direct replacements of the existing assemblies. SDL redesigned the electronics but maintained the housing and functional operation for seamless insertion into the existing pod. SDL's continued involvement in pod-related re-engineering/redesign efforts has evolved to include updates to implement a secure operating system to support data encryption and other future security requirements.



ADIU

### Ground System Technology Insertion

Providing a vital function in supporting flight control systems, SDL re-engineered 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 SDL's RESET services, please contact:

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