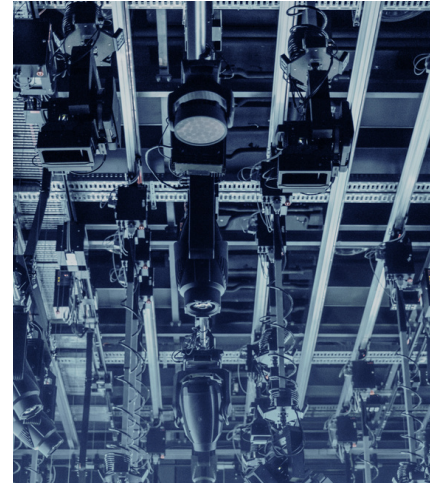# Aversan®

SYSTEM INTEGRATION LABS (SIL)

The AvSIL offers an affordable, flexible System Integration Solution that can quickly adapt to changing program requirements and can be easily repurposed for use across multiple test programs, reducing lab bring-up NRE costs, and allowing multiple test programs to share the same test platform and hardware.

Aversan's SIL is a real-time hardware-in-the-loop system integration and verification facility. Plant simulation models and facility control laws run on a powerful multi-core server with a real-time 64-bit operating system (RT Linux). Models can run as fast as processing resources permit, with the ability to interact with each other at frame rates greater than 10kHz and interact with physical interfaces at a rate of 1kHz.

FEATURES

- Comprehensive test data logging and powerful test debug tools, let testers spend more time solving testing faults and less time spent re-running tests.
- High-power hardware running AvSIL software enables a fast 1ms I/O interface and test data logging rate for better fidelity in simulations, I/O control, and test data logging.
- I/O Interface modules are purpose-built to interface with common domain sensors (such as aircraft, naval, and ground) and hardware, reducing the need to design custom interfaces when developing a new integration lab.
- Test report generation automatically links test procedures, test data and test results.
- Tests are written with built-in pass/fail criteria to minimize the need for manual disposition.
- Designed to integrate with your Configuration Management system – AvSIL supports industry-standard test processes and methodologies.
- The AvSIL computation core is not tied to proprietary hardware, can be sized for the project, and can be upgraded to take advantage of improvements in processors, memory and storage to provide continued value to your test programs.
- The batch Execution System automatically schedules and dispatches tests from multiple sources to multiple test platforms, enabling 24/7 test stand utilization

BENEFITS

Integrate with simulation models, graphing/ tabular interfaces, data logging, sharing, and analysis.
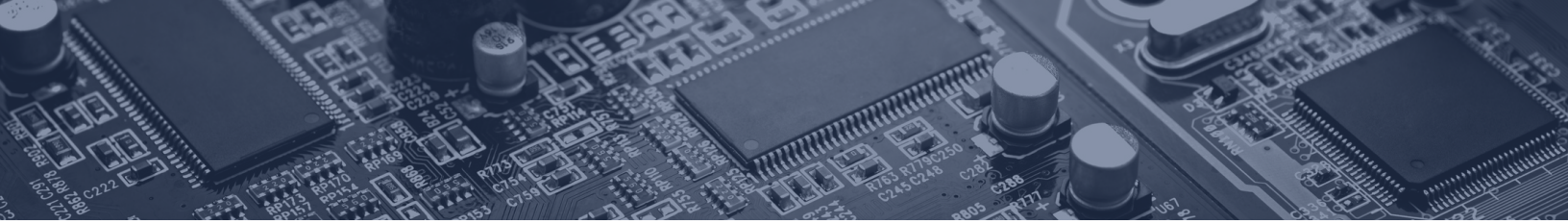
Versatile: can be used in engineering development and production level testing.

Can be combined with Aversan's Batch Execution System (BES).

Integrate with simulation models, graphing/ tabular interfaces, data logging, sharing, and analysis.

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THE AVERSAN EDGE

✓ **Experience With Complexity**

Integrating multiple complex electronics systems and simulation models can be highly challenging. As a company that specializes in the development and certification of complex system programs, Aversan has the experience to ensure the successful integration, operation, and management of SILs. Our SILs are designed to be expandable and scalable, enabling you to integrate additional UUTs and models to get the best from your investment. Thanks to our pedigree in the development and certification of safety-critical electronics, you can rest assured knowing that Aversan has the proven experience to get your integration lab working effectively and efficiently, saving you both time and money.

✓ **Minimizing Your Time-to-Market**

SIL labs are critical infrastructure on any aircraft program, and often create a bottleneck in the certification process. Aversan understands how crucial it is to get your program to market on time, and has developed a suite of features focused on ensuring our SILs are utilized as much as possible for only value-added testing activities:
- Offline test script checking, eliminating risk of scripting issues interrupting on-lab tests
- Maximum data saving and data visibility during tests, reducing the need for test re-runs if the right signals aren't instrumented
- Offline data playback at user workstation, enabling users to review and replay lab data without utilizing the primary SIL, allowing for offline root cause and test analysis
- In-line Python in tests scripts enables power automated monitoring and data injection, giving your systems engineers the tools they need to run smarter and better tests

✓ **Long-Term Support and Maintainability**

With the understanding that most industries require products to be fielded for multi-year programs, Aversan provides full long-term lifecycle support through:
- Electronic document control and configuration management, with emergency recovery plans and off-site backups
- Best in-class documentation practices and processes to ensure equipment and software can be maintained and upgraded
- Design for reparability, scalability, and upgradability to enable ongoing SIL maintenance and requalification as your product evolves
- Design for reliability practices to ensure SILs are designed for long service-life from day one
  Long-term support and maintenance service options that are flexible to your needs and the life of your program

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