

Indra Advances EW Test and Evaluation with EWASP

Electronic Warfare Test and Evaluation

01**Company**

Indra, a defense and aerospace technology company

02**Solutions**

Keysight EWASP with Simulation View Software

03**Challenge**

Validate EW systems in dense, dynamic electromagnetic environments

04**Results**

Precise threat simulation with automated, reusable verification

Indra selected Keysight's EW Advanced Simulation Platform (EWASP) to enhance and accelerate electronic warfare test and evaluation. The platform combines an open architecture with a scalable framework, enabling Indra to reuse legacy threat databases while adapting test programs for future threats.

EWASP supports precise, comprehensive threat simulation and automated signal validation. By strengthening realistic hardware-in-the-loop testing before platform deployment, the solution helps Indra improve test quality and address technical, schedule, and cost risks earlier in the program lifecycle.

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David Sáez

Systems and Solutions Executive Expert, Indra

As a critical part of our testing methodology, we must evaluate our electronic warfare (EW) systems against highly demanding, dynamic scenarios with dense electromagnetic environments. The system we use for this purpose must be flexible and scalable, accommodating varying numbers of apertures or antennas per sensor and different technologies to generate the angle of arrival (AoA). Keysight EWASP meets our EW sensors' current and future needs across multiple domains, enabling automated and reusable verification between simulated dynamic scenarios and threat databases, as well as the results obtained from our EW systems. Conducting the most realistic hardware-in-the-loop (HWIL) testing before final platform deployment is crucial for improving test quality and avoiding program risks, such as technical issues discovered too late, which could negatively affect schedule and cost. ”

The Challenge

Electronic warfare environments change continuously. New emitters, waveforms, and tactics require test systems that can evolve without abandoning established threat data or forcing programs into closed architectures.

Indra needed to validate EW sensors in demanding, dynamic scenarios with dense electromagnetic activity. The test environment also had to accommodate different numbers of apertures or antennas per sensor and multiple technologies for generating angle of arrival.

Realistic hardware-in-the-loop testing was central to this methodology. Finding technical issues before final platform deployment can improve validation quality and reduce the risk of late discoveries affecting schedule and cost.



Figure 1. Keysight RF capture and analysis software supports automated verification in scalable EWASP test environments.

The Solution

Keysight EWASP provides an open, scalable architecture for EW test and evaluation. Indra can integrate legacy threat databases, reuse scenario data across programs, and expand the system as technologies and mission requirements evolve.

Keysight's **Z9500A Simulation View Software** automates test processes by integrating data and RF capture and analysis tools. It imports information from diverse sources into an open, reusable format so operators can verify results more efficiently.

EWASP enables simultaneous monitoring and detection across multiple ports for comprehensive threat characterization. Dynamic scenarios, closed-loop feedback, automated RF verification, and legacy threat-model integration create realistic, mission-relevant simulations.

The platform supports frequencies up to 54 GHz, modulation bandwidth up to 2.5 GHz, comprehensive angle-of-arrival simulation, and up to eight pulse-on-pulse outputs. Its upgradable framework can be configured and scaled for changing test needs.



RF Capture and Analysis

Multi-Channel Signal Analysis

Figure 2. Keysight RF capture and analysis products support synchronized signal validation within EWASP.

Results

EWASP gives Indra a more precise and comprehensive way to simulate EW threats and assess sensor behavior in real time. Multi-port analysis and realistic mission scenarios broaden the conditions that teams can evaluate in the laboratory.

Automated and reusable verification links simulated dynamic scenarios, threat databases, and results from Indra EW systems. This workflow streamlines test routines while helping teams compare expected and observed behavior consistently.

The open architecture helps testing keep pace with emerging threats, while scalable hardware and software support current and future sensor configurations. More realistic pre-deployment testing can improve product quality and reduce program risk.

Conclusion

Indra's selection of Keysight EWASP strengthens a test methodology built around realistic, repeatable hardware-in-the-loop validation. The platform provides the flexibility needed to evaluate complex EW sensors across dense and dynamic electromagnetic scenarios.

By combining reusable threat data, automated verification, multi-port analysis, and mission-relevant RF performance, EWASP supports more efficient validation from laboratory testing through final system assessment.

The result is a scalable foundation that can adapt as Indra's programs, sensor architectures, and threat environments evolve—helping engineering teams identify issues earlier and enter deployment with greater confidence.

Related Information

- [Keysight Z9500A Simulation View Software](#)
- [Keysight Electromagnetic Spectrum Operations solutions](#)
- [Keysight EW Advanced Simulation Platform demonstration](#)
- [Keysight's EW Advanced Simulation Platform \(EWASP\) Enhances Indra's EW Test and Evaluation Capabilities](#), December 16, 2024, press release



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