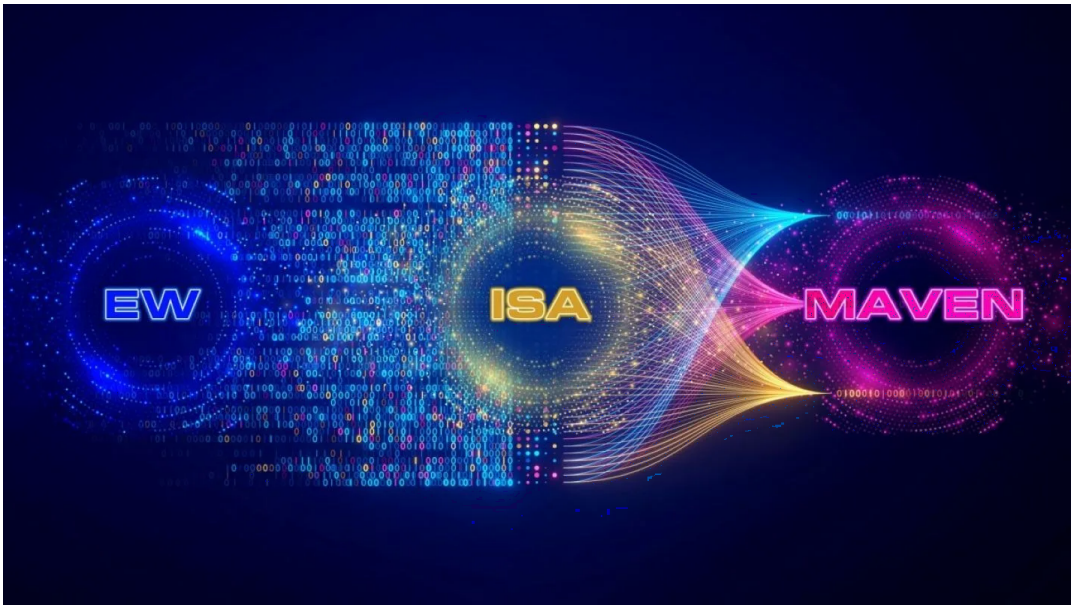

Sensors (ISA) and AI: the future of connected warfare takes shape with 82nd Airborne Division

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Fort Bragg (North Carolina) – During the latest edition of the exercise *Scarlet Dragon 25-2*, the United States Army tested a decisive integration for the future of electronic warfare and situational awareness: the connection between the Integrated Sensor Architecture **(ISA)** and the **Maven Smart System (MSS)**, a rapidly spreading artificial intelligence platform throughout the Department of Defense.

The experiment, coordinated by the **Program Executive Office Intelligence, Electronic Warfare & Sensors (PEO IEW&S)** in collaboration with the **82nd Airborne Division**, the **18th Airborne Corps**, and industrial partners, demonstrated the possibility of unifying data streams from electronic warfare sensors across different operational networks, ensuring interoperability and rapid decision-making.

An architecture that speaks to everyone

In the current operational landscape, every military mission involves dozens of sensors and platforms from different origins and generations. Without a common language, these systems risk remaining isolated, unable to cooperate. The **Integrated Sensor Architecture** was created precisely to solve this problem, providing a modular and open model that allows “legacy”, current, and future sensors to communicate with each other.

Unlike proprietary architectures, ISA is **government-owned** and built on open standards.

> *“Our goal is to free the user from closed interfaces that limit interoperability,” explained* ***Nick LeGrand****, Open Architecture lead at PEO IEW&S.*

During the exercise, technicians used ISA to transmit real-time data from **Beast+** sensors, portable and modular, through the **Tactical Cross Domain Solutions (TACDS)** — a secure communication system that allows information exchange between different classified domains.

The result was a continuous flow of electronic warfare data fed into the **Maven Smart System**, which, thanks to artificial intelligence, can interpret them and make them immediately available to command centers.

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Maven Smart System: intelligence that unites tactics and strategy

The **Maven Smart System (MSS)** is a software environment powered by AI algorithms, designed to connect the strategic and tactical levels of operations.
In the context of *Scarlet Dragon 25-2*, the integration with ISA allowed sensors and platforms to be connected in record time: just **two weeks**.

> *“We managed to integrate an ISA client and connect it to Maven in fourteen days: a demonstration of the value of a rapid and collaborative approach,” emphasized LeGrand.*

This achievement confirms that the digitization of the battlefield is now a priority: reducing the time from raw data to operational decision means increasing the effectiveness and survival of forces on the ground.

The experiment also demonstrated that data transmitted with ISA can travel **bidirectionally** through the TACDS, maintaining the security requirements imposed by classified networks. A significant technical result, paving the way for new applications in the field of intelligence and cyber defense.

Towards an open operational ecosystem

The ISA software and standards are **publicly releasable**, a choice that favors integration with systems from the intelligence community, allied forces, and the defense industry.
The goal is to create an **open operational ecosystem**, where data sharing and cooperation between domains are immediate and secure.

The U.S. Army now aims to extend the use of ISA to other systems, including those for multisource intelligence and surveillance. The model, based on open architectures and total interoperability, represents a concrete step towards real-time digital defense.

> *“Those who use ISA today are pioneers,” concludes LeGrand. “But after seeing it in action, no one wants to go back.”*

With this philosophy, exercises like *Scarlet Dragon* are charting the future of multi-domain command: a network of integrated sensors and platforms, where **artificial intelligence becomes the decisive multiplier of power and awareness.**

News link:

https://www.army.mil/article/286963/integrated_sensor_architecture_fires_things_up_at_scarlet_dragon_experimentation