

# Live, Virtual, Constructive (LVC) Training Systems

## Embedded Virtual Avionics (EVA)



# EVA™

## Embedded Virtual Avionics for Trainer and Advanced Tactical Aircraft

Elbit Systems' Embedded Virtual Avionics (EVA™) transforms trainer aircraft into advanced virtual fighter aircraft and provides fighter aircraft with virtual air and ground adversaries while simultaneously lowering training costs. Pilots in trainer aircraft get to see, operate and experience functional weapon systems while operational fighter pilots get to train in challenging scenarios free from range, threat and adversary aircraft scheduling constraints. EVA™ fills the large gap between trainer aircraft and mission oriented, weapon systems laden fighters. EVA™ requires minimal aircraft integration, limiting integration costs.

### EVA™ – A Revolution in Pilot Training

Training for the operation of advanced avionics, sensors and weapons (radar, EW systems and guided weapons) has traditionally only been possible on advanced fighter aircraft. EVA™ revolutionizes pilot training by enabling advanced mission operations on trainer aircraft and tactical fighter aircraft, significantly increasing training effectiveness and dramatically reducing training costs.

- Create virtual entities (air and ground threats) displayed on existing fire control radar (FCR), tactical situation display (TSD), radar warning receiver (RWR), electronic warfare (EW), and helmet mounted cueing displays, that act autonomously according to interactive responses and logic trees.
- Create RED FLAG, GREEN FLAG, MAPLE FLAG type scenarios on your local ranges or at sea with multiple virtual air to air and ground to air threats.
- Train to simple or advanced tactical threats in an EW environment, anywhere, anytime.
- Train pilots in simple 1v1, 1v2, 2v2, etc. tactical intercepts replicating basic threats, or continuation training (CT) for operational squadron pilots, honing their skills in 4vX type complex tactics replicating 5th generation threat aircraft and 3-1 tactics.
- Squadron Weapons & Tactics and Intelligence Officers can develop multiple large-scale scenarios with air to air and ground to air threats, tailoring CT training as desired.

### Major Advantages

- Complete embedded simulation suite for trainer and fighter aircraft
- Provides fully functional, virtual weapon systems and sensors and fully responsive air and ground threats
- Includes air combat maneuvering instrumentation (ACMI) with debriefing capabilities
- Incorporates internal data link for multi-participant distributed training
- P-5 ACMI secure encryption compatible
- Packaged in a minimal integration configuration
- Proven, unmatched cost savings
- Patent-protected worldwide
- EVA™ integrated with TARGO™ helmet mounted cueing provides the ability to actually see virtual entities

A proven solution, EVA™ is successfully integrated with numerous mission computers installed on the world's leading trainer aircraft. Elbit System's Embedded Training was selected by leading air forces including NATO and others and is in operational use on fighters, advanced trainers, helicopters and transport platforms.



# IFEWS™

## In-Flight Electronic Warfare Simulator

Elbit Systems' In-Flight Electronic Warfare Simulator (IFEWS™) provides programmable, real-time, virtual ground threats integrated with existing RWR and countermeasures systems. IFEWS™ enables today's fighting force to cost-effectively maximize operational readiness, while supporting diverse battlefield requirements.

Real time kill notification (RTKN), mission data recording, extensive debrief data playback, mission rehearsal, and real time scenario changes by instructors on the ground all provide superior, positive training in an airborne environment.

IFEWS™ implementation minimizes EW range requirements from scheduling to build-up, upgrade and maintenance – ensuring a rapid return on investment (ROI).

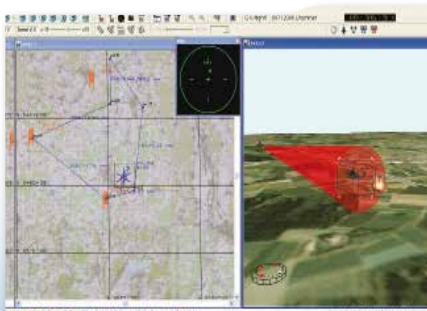
### Major Advantages

- Proven cost saving, measured in millions of dollars per implementation
- Proven ROI
- Maximized operational readiness
- Mobile/portable infrastructure simplifies deployment
- Advanced, customizable, and realistic training experience

Featuring complete training versatility, IFEWS™ simulates legacy and new threats including laser, IR/EO and RF guided threats.

### The IFEWS™ provides a concrete multi-layer solution for each EW training requirement:

- Doctrine – Authentically simulates a variety of threats through the stimulation/simulation of the aircraft's self-protection suite (SPS).
- Methodology – A smart threat generator, capable of simulating the majority of current and future EW threats is installed onboard the IFEWS™ equipped aircraft providing a realistic airborne training without the need for actual flight over an EW range.
- Logistics – Establishes a self-sufficient, rangeless EW training environment without the conventional and expensive logistics that are a prerequisite for any land based EW range.



Mission Planning and Debriefing



Threats and CM Simulation

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Embedded avionics feature several end-user configurations:

- Embedded configuration – A single board computer (SBC) within an existing avionics system, designed for upgrade programs or new aircraft deliveries.
- Line-replaceable unit (LRU) configuration- an LRU integrated with existing aircraft displays and/or image generators, designed for upgrade programs for advanced aircraft.
- Standalone configuration – Additional LRU and display with minimal integration. This configuration is an ideal solution for non-equipped aircraft, veteran platforms, or trainers not equipped with modern avionics.

### Each configuration is provided with the following elements:

- Hardware, LRU or embedded card
- Core-embedded simulation software
- Simulation software adapted to specific requirements
- Planning and debriefing software and hardware
- Integration and installation
- Training
- Life cycle support and maintenance
- Advanced packages include: Data link capabilities, management protocols, transceivers, installation and more



A-A RADAR



Virtual Threats



FLIR Sensors

