FLAMES Solutions

FLAMES® Simulation Framework

FASTER DEPLOYMENT. BETTER CAPABILITIES. CHEAPER COST.

Ternion, a Precise Systems Company's approach to simulation development is built on a simple principle: deliver more capability, faster, with less risk. By leveraging the proven FLAMES® framework as a foundation, every solution starts with a fully functional, battle-tested architecture rather than a blank slate. This enables rapid development through modular extensions and reuse of existing components, significantly reducing design effort while maintaining flexibility and scalability.

The result is a streamlined development lifecycle with minimal testing overhead, lower sustainment costs, and accelerated delivery timelines. Backed by decades of experience and a consistent record of success, Ternion provides cost-effective, high-performance simulation solutions that meet evolving mission needs without the delays and risks typical of traditional development approaches.

The FLAMES Automated Simulation Trainer (FAST)

FAST™ is a turnkey, commercially available simulation developed by Ternion Corporation specifically to serve as the central constructive simulation in a live-virtual-constructive (LVC) training exercise. FAST provides a powerful yet user-friendly graphical user interface for automatically creating scenarios from standard military data sources and for controlling simulated entities during scenario execution. Flexible, versatile, and configurable, FAST can be embedded in operational command and control (C2) systems to provide deployable, individual unit training, and it can also support large, multi-unit distributed, interactive training exercises. For training that requires high-fidelity 3D visualization, FAST incorporates the FLAMES Unreal Engine Option.

The United States Marine Corps, with expanding interest from the United States Navy, relies on FAST as its embedded trainer in its Common Aviation Command and Control System (CAC2S). The Marine Corps also relies on FAST for its in-vehicle trainer for its Ground Based Air Defense program (GBAD). In both systems, FAST interfaces directly with the C2 software in place of organic, live systems. In the GBAD trainer, FAST integrates directly with vehicle weapon system hardware.



USAF Command and Control Weapon System Part Task Trainer (C2WSPTT)

C2WSPTT is a lightweight, high-fidelity modeling and simulation solution that enables U.S. Air Force Air Operations Centers (AOCs) to conduct realistic, on-demand training without external dependencies. Built by Ternion using the FLAMES® framework, it consolidates multi-domain simulation—air, space, land, and cyber—into a single, integrated environment, eliminating the need for complex distributed systems while still supporting interoperability through DIS and HLA when required.

By directly integrating with TBMCS and other AOC systems, C2WSPTT automates scenario generation using real mission data and delivers live operational inputs such as Link-16 and USMTF messaging. With intuitive controls for real-time scenario manipulation and minimal manpower requirements, it provides a flexible, cost-effective platform for training, experimentation, and analysis—empowering warfighters to operate in a realistic, mission-driven environment with unmatched efficiency.



NATO Consultation, Command and Control Agency Integrated Training Capability (ITC)



The NATO Integrated Command and Control (ICC) system is a mission-critical C3I system that enables Combined Air Operations Centers (CAOCs) to plan, task, and execute air operations and air defense operations across all phases of conflict. To ensure operators are fully prepared, Ternion developed the Integrated Training Capability (ITC) using the FLAMES® framework under NC3A sponsorship. ITC delivers a high-fidelity, cost-effective training environment that runs on a single system integrated with ICC, simulating realistic combat scenarios, including ATO execution, multi-domain assets, and both friendly and adversary forces. Through seamless data exchange and standard NATO messaging, operators train exactly as they fight.

Built on FLAMES' object-oriented architecture, ITC enables rapid scenario generation, real-time mission simulation, automated reporting, and detailed after-action review with minimal support personnel. Air and ground vehicles, sensors, communication devices, computers, weapon systems, and electronic warfare are simulated by ITC. The result is a scalable, efficient training solution that enhances readiness, supports operational analysis, and ensures NATO forces can effectively employ ICC in complex, joint environments.

Republic of China (Taiwan) Air Force (ROCAF) Distributed Wargaming System-Enhanced (DWS-E)



The ROCAF DWS-E is a scalable, high-fidelity simulation platform designed to train command personnel in tactical decision-making within a realistic, multi-domain operational environment. Built by Ternion using the FLAMES® framework, DWS-E integrates constructive simulation with man-in-the-loop interaction, enabling users to design and execute fully customized scenarios that reflect real-world force structures, command hierarchies, and environmental conditions. Participants engage through virtual (flight simulator) and role-based interfaces, gaining hands-on experience in command and control (C2) operations as scenarios unfold dynamically.

DWS-E features centralized execution and distributed user access with intuitive scenario creation tools, real-time simulation control, and comprehensive after-action review capabilities. DWS-E provides an end-to-end training solution that enhances decision-making, coordination, and mission readiness across the ROCAF. DWS-E may also be used in a standalone mode to conduct comprehensive defense trade study analysis.

(256) 881-9933
Huntsville, AL 35805
flames_sales@ternion.com
www.flamesframework.com

TERNION®
A PRECISE SYSTEMS COMPANY

Copyright © 2026 Ternion All rights reserved. Ternion, FLAMES, and the Ternion logo are registered trademarks of Ternion. The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement. All other trademarks referenced are the property of their respective owners. Speci cations subject to change without notice.