



G-2 OPERATIONAL ENVIRONMENT CENTER

[Delivering the Operational Environment]



G-2 Operational Environment Center (OEC)

Mission. *The OEC delivers complex Operational Environments (OE) by leveraging real world data, information, and knowledge in order to enable learning across all Training, Education, and Leader Development and advocates solutions to key OE capability gaps in Army forums.*

<http://oe.tradoc.army.mil/OEC/>

Replicating the OE to Reflect a Complex World. An arm of the TRADOC G-2 Operational Environment Enterprise(OEE), the OEC replicates a complex OE by manipulating real-world and



other data and information, using innovative technologies, and capitalizing on a widely diverse workforce of subject matter experts (SMEs). These SMEs specialize in a multitude

of areas such as intelligence, surveillance and reconnaissance (ISR), special operations forces, conventional war fighting functions (WfFs), data processing and manipulation, and OE Live, Virtual, and Constructive integration, and deliver it via unique methods which present both efficiency and value over traditional Army means. The Decisive Action Training Environment (DATE), a dynamic, composite model of real-world environments, with embedded actors that make up the full range of potential threat capabilities, has become the OE foundation for Army training. The OEC also ensures operational environments used in both operational and institutional settings meet requirements for complexity and realism. As well, the OEC is missioned to ensure OE compliance across the six Army M&S-enabled Communities (Acquisition, Analysis, Experimentation, Intelligence, Test & Evaluation, and Training).

Supporting the Centers of Excellence and Schools. The OEC assists Army schools and Centers of Excellence (COE) in developing OEs for institutional training. Customized virtual replications deliver complexity in a manner more engaging than the typical Powerpoint briefs. OE event and process visualizations, and virtual practical exercises (micro-simulations) use real-world data and virtual game engines (VBS3, Unity) for more engaging student-centric, blended learning. Access the OEC **Gaming and Visualizations page here:** <https://www.milsuite.mil/book/groups/oetsc>

The OEC works with centers and schools to inject the DATE OE into various Programs of Instruction (POI) that are sequenced through the blocks of instruction and culminate in end-of-course or CAPSTONE exercises. As an example,

the OEC worked with the Ranger Training Brigade to transform the separate Battalion Situation Training Exercise (STX)-focused field training to an integrated DATE compliant OE with an increasingly complex and dynamic scenario that also sequentially links all phases of Ranger school.

OEC also supports Cadet Command in their execution of Cadet Summer Training (CST). OEC supported the shift in focus from separate tactical STX lane scenarios to a larger, holistic, integrated OE. The new OE builds from day to day and allows assessment of critical thinking skills by increasing both the complexity and effectiveness of OE conditions. In addition, the introduction of the **Information Operations Network** (see below) allows cadets to access internet-based DATE information well before their summer training, optimizing valuable Summer Training time by eliminating a cold-start. To achieve this, the OEC developed the scenario, orders, missions, role players, mission injects, and provided on-site dynamic scripting during the training. OEC direct support to CST continues through FY19.



Support to Readiness. Collaborating closely with units, mission training complexes (MTC), the Mission Command Training Program (MCTP), and the Global Simulation Capability (GSC), the OEC provides conventional and special operations units focused and scalable exercise design expertise, and OPFOR training and support to develop tough, realistic, and complex multi-echelon training within any real-world or training operational environment.

In direct support, the OEC manipulates or “bends” historical information and data in time and space in order to stimulate Mission Command Systems. Support includes both classified and unclassified products and services via NIPR, SIPR and JWICS networks; simulated real time operations and scenario synchronized intelligence products; and Road to War, SIGACT analysis, surveillance feeds and message traffic.

To provide persistent indirect support 24/7, the OEC “bundles” these products and services into comprehensive exercise support packages (ESP) and posts them to the **Exercise Support Application (ESA)** which serves the Army training community by providing access to previously executed exercise content. Anyone with a CAC card may find exercise products, download exercise material for reuse, and request additional support from the OEC.

<https://oedata.army.mil/esa/>

The OEC is also implementing its MTC-Integration Program where

it sends MTTs to the local MTCs and trains MTC staffs and available unit Soldiers on all OEC tools and support processes. The OEC also conducts quarterly Tools Training locally at Fort Eustis. Both aspects of this program are designed to provide key OEC tools so that greater value and support may be provided to home station at the point of need.

OPFOR Training and Support. The OEC provides direct support in training assigned OPFOR to adequately replicate the threat and serve as OPFOR/Red Team leaders, and indirect support via the **Virtual OPFOR Academy (VOA)** which provides information, tools, and resources to learn, apply, and replicate OPFOR counter-tasks to achieve unit training objectives within a collective training environment by exposing users to OPFOR tasks, conditions, and standards.

<https://www.milsuite.mil/book/groups/voa>

Another persistent indirect support capability is the **Information Operations Network (ION)**. ION emulates the open source internet environment by providing realistic webpages, blogs, streaming media/video, Twitter, Facebook, and other common internet entities in order to immerse units in the IO environment. Content is unique to each unit exercise and accessed via the web allowing the training audience access to the social media environment specific to their scenario during the exercise.

<https://ion.army.mil/ion-browser/>

OE Data Integration Network (ODIN) digitally links together the Worldwide Equipment Guide (WEG), DATE and accompanying Force Structures, and TC 7-100 series, combining over **3,000 hard copy pages** of exercise creation documentation into a single web-based format, which is not only user friendly, but useful to the modeling and simulations community as well. .

<https://ODIN.TRADOC.army.mil/>

Network Engagement Training Division (NE-TD) develops and presents Network Engagement training to a variety of audiences from brigade to COCOM level. NE training is focused on the human domain and assisting a staff in developing increased capacity to perform human network analysis in support of decision-making to influence human behavior, shape the operational environment, and win the clash of human wills. The NE-TD offers pre-exercise NE training and on-site NE mentoring during exercises and events across the Army, joint, interagency, intergovernmental, and multinational (JIIM) communities.

OEC's **Exercise Design Tool (EDT)** is a collaborative open source, web-based tool that enables the design of exercises to meet training objectives in accordance with Army standards. Training designers and planners create, clone, store, share or modify training support packages utilizing current force structures for Army and other Services, including those of the DATE. Imbedded links to approved doctrinal tasks, including OPFOR tasks, and previously developed scenario events facilitate the development of specific storylines.

<https://oedata.army.mil/app/>

Sociocultural Modeling – The Athena Simulation is a laptop-based decision support tool used to help leaders assess the potential consequences of their courses of action. It provides a framework to better understand the complex interactive dynamics of political, military, economic, social and informational interventions as well as a simulation for computationally assessing the long-term effects of those actions across the operational environment. Athena calculates change over time including: population satisfaction levels, volatility/stability, control and influence over regions, and how relationships between key actors and civilians are being affected.

<https://www.milsuite.mil/video/watch/video/19101>

Intelligence, Surveillance, and Reconnaissance

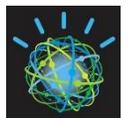
Integration (ISR-I) ISR-I supports home station exercises by developing and delivering real-world ISR processes and capabilities applied against unit problem sets using the **ISR Staff Integration Trainer (ISIT)**, a multi-player virtual practical exercise, developed to assist operational force staffs in integrating ISR into fires and maneuver. With iSIT, staff (or students) can employ a virtual practical exercise in a blended learning training environment, and assist in providing Joint ISR and Fires integration. The iSIT may be downloaded from MIL GAMING at:

<https://milgaming.army.mil/VBS3/files/ResourceDetail.aspx?rid=1703>. ISR-I also supports deployed forces through the ISR Mobile Assistance Teams which provide subject matter expertise and training/mentoring support on the application of Theater ISR to OE- specific problem sets.

Emerging capabilities and initiatives. As the Army and TRADOC seek innovative cost effective ways to organize, train, and equip the force to win in a complex world, OEC will continue to seek the best technologies and rapidly develop advanced capabilities to fully represent and deliver all facets of the OE. Important new developments include:

- ◆ OEC collaborates with sister Services, allied countries, and Joint Staff to refine requirements and prototype solutions of OEC tools and capabilities for use and potential transition.

- ◆ The OEC is pursuing partnerships from across the Army and business world to build both Artificial Intelligence and Big Data processing capabilities in order to provide the warfighter intuitive information exactly when and where needed.



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