



Stinger Training System

The Stinger Training System (STS) is a SLM virtual trainer built on the versatile Cyclops modular platform. Designed to deliver unmatched realism, the STS replicates the form, function, and weight of the actual Stinger.

The STS is in prototype stage with government production starting in 2026.

KEY FEATURES

- 01 Realistic, SLM virtual trainer that replicates the form, function, and weight of the Stinger for true-to-life operator training.
- 02 Delivers authentic engagement drills, thermal/seeker cues, target tracking, and real-time feedback, without live ordnance.
- 03 Designed for individual and collective air defense training, STS increases operator confidence, reduces range costs, and shortens qualification timelines.

THE BY LIGHT ADVANTAGE

By Light's innovative technical solutions deliver secure performance with integration and scalability aligned with DoD priorities and standards to maximize readiness, survivability, and efficiency.

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Mortar Training System

The Mortar Training System (MTS) is an inert-fire training solution that replicates the operation of actual mortar systems using unit-provided baseplate and bipod. Supports US M252A2 and UK L16A1 versions of the 81mm mortar and M224A1 60mm

The UK L16A1 is in service in Kenya and engineering effort required to finish out the firing mechanism for the M224A1.

KEY FEATURES

01

Authentic, inert-fire mortar trainer that replicates real crew drills using unit-provided baseplate and bipod — delivering hands-on, no-live-ordnance realism.

02

Supports US M252A2 (81mm), UK L16A1 (81mm), and M224A1 (60mm) form-factor handling and firing procedures, preserving real weapon handling (elevation, deflection, leveling).

03

Commercially available, lightweight, and field-ready to train realistic firing sequences, reduce risk, and accelerate crew proficiency without live munitions.

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Small Arms Live Training

Small Arms ASP is a hybrid training system combining optical tracking, laser engagement, and geo-pairing technologies into a single, integrated system that mounts on the barrel of the weapon.

The system works by mounting on the weapon barrel. Successfully tested proof of concept.

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KEY FEATURES

- 01 Transforms a standard weapon into a hybrid training sensor by mounting on the barrel, combining optical tracking, laser engagement, and geo-pairing for precise, instrumented live training.
- 02 Reinforces true marksmanship and realistic engagement dynamics while preserving weapon handling, giving units immediate, actionable performance feedback.
- 03 Proven at proof-of-concept testing, lightweight and scalable for both home-station training and force-on-force exercises.

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Battlefield Observer Targeting System

A lightweight hardware and software training solution designed to integrate seamlessly with standard military or commercial binoculars. By attaching externally, BOTS transforms traditional optics into an advanced training tool for Forward Observers (FOs).

The system is in prototype stage.

KEY FEATURES

- 01 Turns standard binoculars into an AR-enabled Forward Observer training system.
- 02 Visualizes call-for-fire effects in real time, reinforcing accuracy and decision-making.
- 03 Lightweight, field-ready, and already integrated into live training environments.

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Kinetic Counter UAS

Lightweight, weapon-mounted counter-UAS system that enables Soldiers to kinetically defeat Group 1-2 drones using their existing small arms.

The system employs a combination of optical sensors and computer vision to track and cue targets, providing real-time guidance that improves accuracy and reduces engagement time.

KEY FEATURES

01

Turns any standard rifle into a counter-UAS weapon — giving Soldiers the ability to track and defeat drones in real time.

02

Combines optical sensors and computer vision for precise target cueing and faster engagement.

03

Lightweight, low-power, and easily configured for both live operations and training.

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Force-on-Force Drone Training

The Force-on-Force (FoF) Drone Training solution brings offensive and defensive drone operations into live, non-lethal exercises to mirror modern battlefield conditions. Leveraging a private 5G LTE backbone, GPS-instrumented forces, and CESI's Appended Sensor Package (ASP), it enables attack drones, CUAS, munitions-dropping drones, and soldier-mounted counter-drone systems in training.

Safety is enforced through geo-fencing and fail-safes, supporting realistic 3D engagements without risk. The result is a scalable, data-rich environment that integrates aerial threats, counter-drone tactics, and after-action review tools to prepare units for drone-saturated conflicts.

THE BY LIGHT ADVANTAGE

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KEY FEATURES

- 01 Brings live offensive and defensive drone operations into safe, non-lethal training — mirroring the realities of modern battlefields.
- 02 Integrates attack and counter-UAS drones through a 5G network, GPS-tracked forces, and CESI's Appended Sensor Package (ASP).
- 03 Delivers scalable, data-driven training with realistic aerial engagements, full safety controls, and after-action insight.

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Automated Target Recognition

The Automated Target Recognition (ATR) system is an AI-driven EO/IR engine for UAVs that provides real-time maritime surveillance and recognition of ships, USVs, and small craft. Using a Sense → Detect → Classify → Track → Target workflow, it detects, classifies, and tracks targets in sea clutter or low visibility, streaming data to operational centers.

The edge-ready system runs fully onboard, delivering sub-200 ms recognition loops and >90% precision. Powered by the computer vision (CV), ATR combines speed, accuracy, and efficiency for operational use.

KEY FEATURES

01

Delivers AI-powered target recognition that detects, classifies, and tracks targets (e.g. vehicles, vessels) in real time from UAVs or edge devices.

02

Available as either a model training service for customer-owned algorithms or a fully integrated ATR system with onboard processing.

03

Provides sub-200 ms recognition and >90% accuracy, giving operators fast, reliable situational awareness in any environment.

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CENTS® ON-PREMISES, CLOUD-BASED & HYBRID CYBER RANGE PLATFORMS

WE OFFER POWERFUL SOLUTIONS TO SUIT YOUR NEEDS

Our platform combines a versatile learning management system (LMS) with a powerful cyber range to offer a unique learning experience that:

- ✓ Provides a highly customizable landing page, capable of hosting a wide variety of learning content including coursework, videos, practice labs, and simulations
- ✓ Supports multi-tenancy, nesting multiple distinct LMS instances within an overall framework
- ✓ Tracks enrolled users' progress and grades on customer-designed learning paths

The LMS interoperates with the cyber range in a dynamic and high-fidelity virtual training environment that creates networks within an emulated Internet, enabling users to understand the Internet's structure, services, and protocols.

By Light's cyber ranges expand to include operational technology (OT), industrial control systems (ICS), Internet of Things (IoT) devices, and any networkable Hardware in the Loop (HWIL). Within the safe virtual training environment, threat actors launch campaigns that employ malware, ransomware, and other malicious code to mimic the dangers of the Internet.



FOR INFORMATION

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CYBER RANGES

Prepare for defensive and offensive operations with high-fidelity simulations of networks on custom cyber ranges. We offer On-premises, cloud-based & hybrid cyber range platforms.

Cyberoperations Enhanced Network & Training Simulators (CENTS®)

CENTS, powered by RangeOS, is a simulated virtual environment that is fully customizable and is deployed on prem or remotely via hosted networks. CENTS includes a high-fidelity representation of the Internet “grey space”, network traffic profiles, and has virtual users using applications for host traffic.

- ✓ True-life system response through emulation
- ✓ Scenario builder & automated playback
- ✓ Multi-mode & re-roll capability
- ✓ Open architecture
- ✓ Learning Management System integrated labs for targeted individual and collective training

RangeOS®

RangeOS is our newest operating system for CENTS, introducing universal deployment capability and greatly increasing scalability.

RangeOS supports “Cyber Range as Code”, allowing users to create, deploy, and manage cyber ranges declaratively using native DevOps tools. With universal deployment, users can build a range once and then run in public cloud, private cloud, and/or on premise at the same fidelity. RangeOS scenarios can support individual up through large-scale collective training and can be run simultaneously on a single platform.

- ✓ Environments can be configured (Cyber Range-as-Code) to deliver software automation, testing, and maintenance.
- ✓ Creates a machine-readable definition of the desired state of infrastructure.
- ✓ Features standardized objects, content, and mappings for reuse across events.
- ✓ Self-testing for internal validation/testing while orchestrating the environment.

USERS CAN CREATE, MODIFY, SAVE, AND SHARE CYBER RANGES, AND WITH AN OPEN STANDARD, IT IS THE ONLY CYBER RANGE OPERATING SYSTEM YOU WILL EVER NEED



Elevating Cyber Operations workforce development with CENTS® range-based training courses and scenario-based cyber exercises.

Providing self-paced work role-focused courses and prep courses for professional certification through our Imerzi Knowledge Center.

CYBER WORKFORCE TRAINING & EXERCISE



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CYBER WORKFORCE DEVELOPMENT TRAINING & EDUCATION

CyberCENTS® offers cyber operations training courses, ranging from basic to advanced skill levels. Training takes place within our cyber range running on RangeOS®, our range automation software. Students freely engage within the virtual environment to foster learning. Our proven training can be selected from a catalog, or we can customize training to meet your specific needs. Course information and registration is available through our Imerzi and By Light websites, and through the NICCS® website: <https://niccs.cisa.gov/training/search/light-cybercents>. Our courses include a portfolio of National Institute of Standards and Technology (NIST) National Initiative for Cybersecurity Education (NICE)-based topics for use by all cybersecurity training and assessment needs, as well as customized packages aligned to your organization's needs.

CYBER EXERCISE PLANNING & EXECUTION

Our exercise planners can work with you to determine a “best fit” mix of scenarios to challenge players and integrate those with our cyber ranges. Our exercise services provide technical assistance on the details that contribute to the overall value and strength of the exercise—the various controls, criteria, expectations, tools, scripts, training requirements, situations, and other issues. Cyber technical advisors develop scenarios mapping to exercise objectives and monitor the progress of the activity. A post-exercise analysis is a reflective look at the entire exercise, highlighting what was learned, the responses, and the outcomes. We get an initial quick look at the conclusion of the exercise while the event is fresh on every mind. We then use the feedback we gather from all participants to refine future exercises.

CYBER COMPETITION PLANNING & EXECUTION

We offer cyber competition planning and execution to government, industry, academic, and international customers. CyberCENTS' accomplished planners know that cyber competition requires a special set of considerations apart from standard exercises. We design and run Capture-the-Flag and Force-on-Force (Red vs. Blue) competitions with teams within a cyber range. Our trainers and engineers will work with you to align network resources with competition goals. Cyber competitions can be formulated to support advanced concepts applications, team skills refinement, or force-on-force operations and rehearsals.

IMERZI® KNOWLEDGE CENTER

Our Imerzi Knowledge Center is built to meet the needs of learners at their proficiency level from those just starting out to seasoned professionals looking to stay ahead of the curve. Through self-paced traditional cyber security and industry certification courses, Imerzi aligns content and courses for cyber work roles. Whether advancing in your current role or planning for a new position, Imerzi has your tools for success.



**COLE ENGINEERING
SERVICES, INC.**
a By Light Company

CESI CYBER

**ENTERPRISE CYBER RANGE TRAINING
POWERED BY SCALABLE, SECURE
PRIVATE CLOUDS**

*AS THE PRIME FOR ENTERPRISE DOD CYBER TRAINING,
CESI RUNS THE LARGEST CYBER RANGE IN THE WORLD*

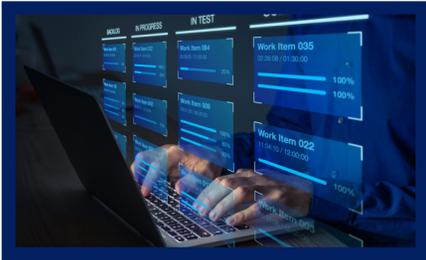
- We offer scalable, secure enterprise systems, software, and content that deliver world-class offensive and defensive cyber operations training.
- We ensure successful operations with professional NOC, SOC, and help desk support across classifications.
- We build and execute large scale, multinational cyber range events, such as Cyber Flag and Cyber Shield.
- We support realistic cyber mission rehearsals.

CESI - ENGINEERING CYBER READINESS

CYBER OPERATIONS AND TRAINING ENVIRONMENTS

We have expertise across the complete spectrum of enterprise IT and cybersecurity operations.

CYBER OPERATIONS



We support the needs of the operational cyber community with highly skilled range designers, event planners, content creators, trainers, range engineers, software developers, and cybersecurity engineers. With skills in both OCO and DCO mission spaces and toolsets, our cyber operations experts are at the center of the DoD's Joint Cyber Training Enterprise.

CYBER TRIDENT



We are the Prime for the DoD's Cyber TRIDENT contract, which is an enterprise cyber ID/IQ with a \$957M ceiling and an ordering period through November 2029. If the scope involves cyber, it is relevant to Cyber TRIDENT.

AGILE DEVSECOPS



Our Agile DevSecOps approach allows us to "move at the speed of cyber" while delivering high quality, secure applications that meet the ever-changing demands of the cyber community. We integrate across organizations to enable collaborative planning, execution, and accountability at scale. We respond to user feedback and utilize mature processes to drive both the development process and the transition to operations.

ENTERPRISE PRIVATE CLOUDS



We design, build, operate, and maintain enterprise private cloud systems that support the massive demands of the DoD and international partner cyber training. Our systems support thousands of simultaneous users spread geographically and at different classifications, while being secure and scalable. We utilize infrastructure as code to rapidly deploy infrastructure and ensure quality and consistency.

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