ADVANCED TRAINING AND SIMULATION REVIEW

SIMULATORS
SHARPENING THE WARFIGHTERS BITE

ADVANCED TRAINING CAPABILITIES DIVISION
DELIVERING THE SKILL TO KILL

2025 - 2026

AIR FORCE LCMC

U.S. AIR FORCE

TRAINING DIRECTORATE
AIR DOMINANCE BEGINS HERE

AIR DOMINANCE BEGINS HERE

TRAINING DIRECTORATE

Our mission is to develop, deliver and sustain integrated training capabilities to enable war-winning AirPower.

PEO MESSAGE

The revolutionary advances in simulator and simulation technology position the United States Air Force at the forefront of a training transformation that will define air superiority for decades to come. Through synthetic environments, we now possess the unprecedented capability to replicate the most complex and challenging operational scenarios—from contested airspace to multi-domain operations—delivering realistic, repeatable training experiences that transcend the limitations of traditional live exercises.

This technological evolution empowers our warfighters with battle-tested knowledge and decision-making skills honed through immersive synthetic combat environments. By integrating artificial intelligence, machine learning, and adaptive feedback systems, we are pioneering personalized training pathways that respond to each airman's unique learning profile and performance metrics. This represents more than incremental improvement—it's a fundamental shift toward developing the complete airman through data-driven, individually optimized training experiences.

I/ITSEC serves as our strategic showcase, where cutting-edge innovation meets operational necessity. Here, our industry partners demonstrate breakthrough capabilities that directly address critical training gaps, accelerating our path to next-generation readiness. Together, we are not merely adopting new technologies—we are architecting the future of military training.

While our Training portfolio may be in its formative stages, the exponential potential for growth and impact is extraordinary. The convergence of advanced simulation, artificial intelligence technologies, coupled with open architectures, and industry innovation creates an unprecedented opportunity to develop the most capable, adaptable, and mission-ready airmen in our nation's history.

I am energized by the groundbreaking innovations emerging at I/ITSEC, and even more inspired by our collective potential to transform how we prepare Airmen in meeting their Nation's call. Together, we are building the foundation for sustained air dominance.

Rodney Stevens, SES, PEO Training

SNAPSHOT

Top Priorities

- Deliver on commitments
- Strengthen our team
- Establish Organizational Excellence
- Drive Enterprise Integration

3 Primary Locations

Operating across three primary locations —Wright-Patterson AFB, Tinker AFB, and Hill AFB—the directorate maintains a strong support presence.

1600 Members Strong

With four divisions and a team of 1,600 military personnel, civilians, and contractors, the directorate is a diverse and dynamic organization.

Strong Support Presence

The directorate provides support to 166 programs, 65 mission partners, 9 Major Commands, all branches of the U.S. military, as well as NASA and the Department of State.

CONTACT US

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ADVANCED TRAINING CAPABILITIES

Delivering the Skill to Kill

MISSION: Aiming warfighters with advanced training capabilities to dominate evolving global threats.

449
Members Strong

Supporting:
- 17 Programs
- 8 MAJCOMS
- 44 Program Offices
- 15 Foreign Partners
- Air National Guard, Space Force, Navy

Devices:
- 1850+ Training Devices
- 280+ Training Portals
- 22 Worldwide Ranges

LEGACY TRAINING AIRCRAFT

The Alpha and Omega of Air Power

MISSION: Develop, deliver and sustain integrated capabilities for our domestic & foreign partners to support flying training operations, test support & allied security.

358
Members Strong across 7 locations

Supporting:
- 85 Programs
- 4 MAJCOMS
- 42 Countries
- Navy, Army, NASA, Department of State

Devices:
Executes lifecycle management responsibility for 14 aircraft variants, 1500+ aircraft.

SIMULATORS

Sharpening the Warfighter's Bite

MISSION: Acquire, modernize and sustain training systems to enhance lethality and readiness, sharpening the Warfighter's Bite.

455
Members Strong

Supporting:
- 64 Programs
- 9 MAJCOMS
- 29 Program Offices
- 24 Foreign Partners
- ANG and Navy

Devices:
- 22 Weapons Systems
- 2300+ Simulation Training Devices

T-7 RED HAWK

From Red Tails to Red Hawks

MISSION: Deliver Advanced Pilot Training capability to develop premier fighter and bomber pilots.

180+
Members Strong

Supporting:
- AETC MAJCOM
- 5 Training Base Locations
- 1 Program Office

Devices:
- 351 T-7A Aircraft
- 46 Simulators

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SHARPENING THE WARFIGHTERS BITE

SIMULATORS JOURNAL

2025 - 2026

AIR FORCE LCMC

U.S. AIR FORCE

TRAINING DIRECTORATE
AIR DOMINANCE BEGINS HERE

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WELCOME

The United States Air Force is undergoing a training transformation, fueled by revolutionary advances in simulator and simulation technology. The Simulators Division is proud to play a central role in this evolution, one that promises to define air superiority for decades to come.

At I/ITSEC, the cutting edge of innovation converges with operational necessity. We are here to engage with our industry partners and discover breakthrough capabilities that directly address critical training gaps, accelerating our path to next-generation readiness. This isn't merely about adopting new technologies; it's about architecting the future of military training, together.

As always, the Simulators Division is laser-focused on delivering timely, concurrent, and lethal training capabilities to our platforms, and our work directly supports the Secretary of Defense's priorities of restoring the Warrior Ethos, rebuilding military capabilities, and enhancing national deterrence.

Our Air Combat Branch supports over 350 devices across ACC and AFGSC units and continues to ensure our warfighters receive the most up-to-date and concurrent training by upgrading simulators and training systems for almost every Air Combat platform. They continue to lead the way in demonstrating open architecture solutions by leveraging OFP virtualization with the F-16 SCARS integration effort, as well as the B-1 Reconfigurable Cockpit Procedures Trainer and the B-52 Mission Employment Trainer Family of Systems development efforts.

Our SOF & AETC Branch significantly enhanced aircrew readiness, training over 1,500 personnel by maintaining and upgrading training devices for a dozen special operations and standard weapons systems. Furthermore, the team has successfully proven open architecture solutions through "Project Jericho"—an immersive training environment for JTACs and CCTs, and "Project TANIS"—the Training Agnostic Non-proprietary Immersive Simulator to address T-38 visual system obsolescence.

Our Mobility Branch provided training systems support to more than 430 aircrew and maintenance training devices for 7 mobility platforms. The team delivered a new C-17 Weapon System Trainer (WST), a new KC-46 ATS WST, 2 KC-46 ATS Boom Operator Trainers, and 4 new C-130J training devices across the globe. In addition, the team successfully fielded a Common Visual Database solution on the C-5 and KC-135 trainer fleets, with more deliveries occurring every month to AMC units worldwide.

These and many more efforts across the Simulators Division translate into tangible results. Our training systems proved vital in preparing for global operations, including Operation Midnight Hammer, whereby our training devices enable mission rehearsal and directly contributed to mission success. Additionally, our systems participated in more than 8,700 distributed training events, totaling over 27,500 training hours.

In addition, our Foreign Military Sales (FMS) portfolio continued to grow as we supported training system development, testing, fielding and sustainment for 24 different partner nations, a number is sure to continue growing in 2026.

I am particularly excited to leverage I/ITSEC to inform our simulators and training roadmap. The insights gained from the exhibits, presentations, and discussions will be invaluable as we chart the course for the next generation of training technologies. I hope you will engage with our team, as well as Air Force and Space Force senior leaders, to understand our shared vision for the future of warfighter training. I look forward to connecting with old friends and partners, meeting new people, and continuing our shared mission to deliver the necessary training capabilities that enable war-winning airpower.

Sharpen the bite!

COL NICHOLAS FERANEC, USAF

Senior Materiel Leader, Simulators Division
PEO Training Directorate (AFLCMC/WNS)

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SENIOR MATERIEL LEADER
Col Nicholas Feranec

DEPUTY DIVISION CHIEF
Mr. Timothy Frey

MISSION

Acquire, modernize and sustain training systems to enhance lethality and readiness by growing a talented workforce motivated to sharpen the warfighter's bite.

VISION

To provide the premier warfighting digital twin - real, ready and lethal; capability delivered at the speed of relevance.

CHIEF OF CONTRACTING
Ms. Katie Rasmussen

CHIEF OF ENGINEERING
Mr. Joseph Harber

CHIEF OF FINANCE
Mr. Steve Heyl

CHIEF OF LOGISTICS
VACANT

CHIEF OF TEST
Mr. Christopher Lowe

CYBERSECURITY CHIEF
VACANT

AIR COMBAT BRANCH
Ms. Renee Sauerland
Materiel Leader

AIR MOBILITY BRANCH
Ms. Monika Mapley
Materiel Leader

SPECIAL OPS & AETC TRAINING SYSTEMS BRANCH
Lt Col Phillip Closson
Materiel Leader

INTERNATIONAL PROGRAMS BRANCH
Mr. Kevin Hamlin
Materiel Leader

ANALYSIS & INTEGRATION BRANCH
VACANT

ORGANIZATIONAL CHART

DIVISION CHIEF (SML)

DEPUTY

AIR COMBAT (ML)

Bombers / Special Mission

- B-1 TS
- B-2 TS
- B-52 TS
- E-3 DRAGON
- E-3 FCT/MTS
- E-3 MTC
- E-4B

Fighters / Attack

- A-10 ATS
- F-15 EX
- F-15 TDAS
- F-15C/E MTC
- F-16 STP
- F-35 DMO SPT
- T2

AIR MOBILITY (ML)

Airlift

- C-5 TS
- C-17 TS
- C-130 ATS/MTS
- C-130J MATS
- C-130 ANG RWST
- HC/MC-130J

Tankers

- KC-10 Training Systems
- KC-46A ATS
- KC-46A MTS
- KC-135 Training Systems
- KC-135 BOSS (ANG)

ANALYSIS & INTEGRATION

Program Control

- Strategic Planning / Roadmaps
- TSA IDIQ Contracts
- Enterprise Scheduling
- Analysis & Metrics
- WN SIO Liaison
- PMRT Admin
- CPAR Focal Point
- USAF New Business

Division Action Group

- A&AS Management
- Administrative Support
- Quality Assurance
- Self-Inspection/MICT
- Supplies / GPC
- Travel / DTS
- Knowledge Management
- Timekeeping / ATAAPS
- Awards & Decorations
- SIMS University

SOF/AETC (ML)

SOF/UAV

- AFSOC ACTS
- JTC TRS
- KDAM ATARS C&I
- RATS CLS/TSSC

AETC

- A&OP Training Systems
- Spatial D
- T-1A GBTS
- T-6 GBTS
- T25 SECT
- T-38C ATS
- URT GBTS
- VTRAT

INNOVATION CELL

FMS (ML)

Fighter Programs

Airlift / Tanker Programs

FMS New Business

SIMULATORS SNAPSHOT

SUPPORTING

64 PROGRAMS

9
MAJCOMS

29
PROGRAM OFFICES

24
COUNTRIES

455 MEMBERS STRONG

2,300+ TRAINING DEVICES

Over 93% of the Air Force inventory

FY25

554
Funding Documents

$949.5M
Expiring Funds Executed

535
Contract Actions

TRAINING SYSTEM ACQUISITION (TSA) CONTRACT VEHICLE

TSA IV is an omnibus contract designed to accommodate training systems and training-related acquisitions, to include requirements analysis, development/production, modifications, sustainment, and instruction, managed by the Simulators Program Office and is decentralized for use by all offices in the Air Force. TSA IV is established as a multiple award, indefinite delivery/indefinite quantity (ID/IQ) contract of which task orders will be issued and allows United States Government (USG) Acquisition Teams a streamlined acquisition process using FAR Part 16 multiple award ordering procedures. It is anticipated that many task orders will be competitively selected with minimal interchanges. The competitively selected contractors, both large and small, demonstrated in the TSA IV source selection that they have solid training system practices and procedures, and demonstrated performance. It is designed to streamline the acquisition planning and source selection process for issuance of task orders. A pre-qualified industrial base of training systems contractors is available to compete for the various task order requirements. The benefits of TSA IV for the task order teams are:

- Streamlined acquisition planning process to maximize time and resource savings
- Strongly endorsed by senior leaders at AFMC and AFLCMC
- “Tailorable” templates (Instructions to Offerors (ITO), Evaluation Factors for Award (EFFA), Special H Clauses)
- Menu of Contract Line-Item Numbers (CLINs)/Contract Data Requirements List (CDRL)
- Service Summary items
- Re-certify Systems Engineering Management Plan (SEMP) and Configuration Management
- Plan (CMP) at the task order level, but not resubmit
- Individual task order Requirements Approval Documents (RAD) eliminated
- Approved blanket Quality Assurance Surveillance Plan (QASP); no requirement for individual program QASPs (Attachment 12)

TSA IV is the preferred contract vehicle for use on competitive Training System acquisition, operation, and sustainment support unless otherwise directed by the Acquisition Strategy Panel (ASP) Chair because of the benefits. TSA IV has a 10-year ordering period: a five-year base with one two-year option and one three-year option; ending 31 May 2033. The TSA IV PM should be consulted during acquisition planning for a program.

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B-1 TRAINING SYSTEMS

The B-1 Training System has two components that support initial, continuation, and re-qualification of the B-1's aircrew and maintainers. The Aircrew Training System consists of the Weapons System Trainers (WST), Mission Trainers (MT), and Cockpit Procedures Trainers (CPT). The WSTs and MTs are classified as “legacy” training systems. Their host computers simulate aircraft systems, weapons, sensors, and environment using the actual aircraft Avionics Flight Software (AFS) to provide aircrew with visual, oral, and motion cues.

The Reconfigurable Cockpit Procedures Trainer (RCPT) was awarded in July of 2022. The contract will address deficiencies by converting existing CPTs into RCPTs. This modification is bringing the CPT concurrent with the aircraft fleet and WSTs, while also allowing the flexibility to easily switch between different configurations. It will also lower the operating costs of the training devices by employing common architecture, software, and computational system across all operational flight trainers. The current WSTs and MTs will also receive a technology refresh. Obsolete systems and software programs which may fail and degrade WST and MT performance are being replaced.

B-1 Training Systems Weapons System Trainer

The Training System Support Center (TSSC) performs minor hardware and software updates for all B-1 devices. Contractor Logistics Support (CLS) provides sustainment, repairs, Diminishing Manufacturing Source issue resolutions for all B-1 devices and concurrency upgrades. Both TSSC and CLS, along with concurrency upgrades are provided by Aero Simulation Inc. under the Training Systems Service contract with a period of performance for this delivery order through June 2026.

The B-1 Training System Integrated Product Team also manages an organically supported Armament Systems Trainer (AST). This trainer furnishes weapons load students with hands-on familiarization training in munitions and weapons loading and the Long-Range Anti-Ship Missile addition.

B-1 Training Systems Avionics and Armament Maintenance Training Systems

Recently the B-1 Agile Software Release (ASR) 20, emphasizing maximum commonality across training devices, was delivered and integrated into the WSTs, MTs, Avionics/Armament Maintenance Training Systems (A/AMTSs), Simulated Maintenance Trainer Systems (SMTSs), and Primary/Secondary Flight Control System Maintenance Trainers (P/SFCSMTs). Common designs and hardware/software implementations were used wherever possible, providing benefits in reducing non-recurring engineering efforts and schedule, reduced hardware procurement costs due to purchasing efficiencies, and reduction in life cycle sustainment costs. Also delivered in FY25 were Input/Output (I/O) visual upgrades the WSTs and maintenance training devices, resolving obsolescence issues, improving reliability, increasing availability and increasing stability.

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B-52 TRAINING SYSTEMS

The B-52 Training System consists of two distinct training devices: three Weapon System Trainers (WSTs) and two Offensive Station Mission Trainers (OSMT). The WSTs are composed of three separate yet integrated trainers, including, the Flight Station Subsystem (FSS), Offensive Station Subsystem (OSS), and the Defensive Station Subsystem (DSS).

The B-52 Training System program provides total maintenance, logistics, and modification support for the entire Aircrew Training System (ATS). In addition to the major components identified above, the system includes a Support Center System (SCS), and all computer/peripheral equipment. Contractor Logistics Support (CLS) provides operators which support crew training in any of the aircrew training devices, in addition to maintaining a very-high availability rate despite the age of the fleet. The Training Systems Support Center (TSSC) provides lifecycle sustainment of the B-52 trainers. It is composed of resources required to support all ATD software, hardware, documentation, mission generation, database, and firmware changes. The Training System simulates the necessary visual, motion, and aural cues to provide ground training of Air Force Global Strike Command (AFGSC) aircrew members, including aircraft commanders, pilots, and navigators. All the B-52 WSTs no longer participate on the Distributed Mission Operations (DMO) Network – the network that allows multiple, diverse training systems to engage in “live virtual” training missions.

The current B-52 Training Systems contract underwent a Fair Opportunity Source Selection, combining the CLS and TSSC contracts. The contract was awarded to Nova Technologies in 2024 with a 1-year base and 8 option years.

B-52 Offensive Station Mission Trainer (OSMT)

B-2 Aircrew Training System (ATS)

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B-2 TRAINING SYSTEMS

The B-2 Training System provides realistic aircrew, maintenance, and weapons loading training in all phases of B-2 operations. Training includes initial qualification, proficiency and re-qualification training in areas such as emergency procedures, tactics, maintenance certifications, mission rehearsals, and weapons loading certifications. The B-2 Training System consists of 69 training devices designed to the highest practical level of fidelity to reflect actual look, feel, circumstances, and conditions of the Weapon System. The specific Aircrew Training devices are the Weapon System Trainers (WST), Mission Trainers (MT), and Cockpit Procedure Trainers (CPT – which is both an Aircrew and Maintenance Trainer). Maintenance Training devices include Crew Escape System Maintenance Trainer (CESMT), Computerized Maintenance Training Systems (CMTS), Flight Control System Trainer (FCST), Radar Image Generation Workstation (RIGW), Weapon System Training Aids (WSTA), Weapons Loading Trainer (WLT), and two virtual reality maintenance classrooms (4 student seats and 1 instructor seat per classroom).

The B-2 Training System provides the warfighter fully integrated, effective, efficient, and economical off-aircraft training in the operation, maintenance, weapons system loading and employment of the world's most sophisticated weapon system. Training System modifications occur in parallel with aircraft changes to maintain concurrency with the air vehicle, and to support the 509th Bomb Wing for trainer operations, academic instruction, curriculum/ courseware development, and sortie mission generation. Training System unique modifications are also accomplished to provide for technology upgrades and improvements to the quality and value of the training. The Government Training System Integrated Product Team (IPT) oversees and manages the concurrency upgrades, evolution of the Training System and operations and maintenance of the devices. The IPT includes the program management office at Wright-Patterson AFB, users and subject matter experts at Whiteman AFB, Air Force Global Strike Command, Air Education and Training Command and the Training System prime contractor.

The program awarded a sole source contract to the incumbent with a one-year base and seven one-year options; the program is Currently in its sixth option year. The B-2 Training System continues to participate in distributed training events such as Large Force Exercises and Red Flag events. Distributed training permits multiple, diverse training systems to engage in "live virtual" training missions. There are Currently over 15 Engineering Change Plans (ECPs) in work including multiple concurrency and obsolescence efforts.

B-2 Weapons Loading Trainer (WLT)

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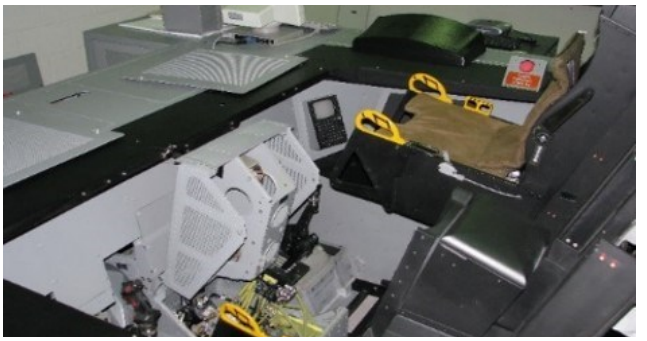

B-2 Maintenance Training System (MTS)

E-3 AWACS MAINTENANCE TRAINING SYSTEM (E-3 AWACS MTS)

The E-3 Airborne Warning and Control System (AWACS) Maintenance Training System (MTS) program provides hands-on training in organizational on and off-equipment maintenance procedures defined in E-3 Technical Orders. Mockup exercises familiarize students with the physical characteristics, location, removal, and replacement of line replaceable units (LRUs), shop replaceable units (SRUs), external test connectors (ETC), and built-in test equipment (BITE). The E-3 MTS program is supported by a wide variety of training devices to meet Air Force maintenance training objectives.

The Flight Deck Trainers (FDT) consist of a Familiarization Maintenance Trainer (FMT) and a Procedures Maintenance Trainer (PMT). Both are utilized to train new and experienced aircraft maintenance personnel on fundamentals, such as core task training, flight deck familiarization, aircraft

servicing, engine operation, and various other actual flight deck operations.

The Surveillance Radar Training Set (SRTS) is used to train AWACS personnel in the operation and maintenance of E-3 Radar System Improvement Program (RSIP) modified radar systems. This device consists of student workstations, instructor operator workstations, SIMWARE development workstations, graphics workstations, prime mission equipment mockups, and simulated test equipment (STE).

The E-3 MTS also includes eleven additional mobile training sets that provide maintenance training for a variety of other subsystems. All devices under this program are located at Tinker AFB, OK.

Support for this program was awarded in June 2018 to Fidelity Technologies, Inc. The contract's period of performance will end on 31 December 2025, and the program is in a recompete. Support includes Contractor Logistics Support (CLS) for the FDTs, SRTSs, on-call Contractor Support (CS) for the mobile training sets, Training System Support Center (TSSC) support, and modification support.

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E-3 AWACS DIMINISHING MANUFACTURING SOURCES REPLACEMENT OF AVIONICS FOR GLOBAL OPERATIONS AND NAVIGATION FLIGHT CREW TRAINING SYSTEM (E-3 AWACS DRAGON FCTS) PROGRAM

The Airborne Warning and Control System (AWACS) Diminishing manufacturing sources Replacement of Avionics for Global Operations and Navigation (DRAGON) Flight Crew Training System (FCTS) program provides development, maintenance, logistics, and modification support for AWACS DRAGON aircrew training devices. DRAGON updates the Boeing 707/320 E-3 B/C (now known as the E-3G) fleet from the 1970s analog avionics technology and

E-3 AWACS DRAGON Cockpit Interior

traditional analog cockpit instrumentation to a modern, glass cockpit founded on digital instruments and displays and driven by a flight management system.

This conversion simplifies E-3 operations, allowing flight crews to focus on the most time-critical information. It also provides for future growth and enhanced operation, safety, and reliability while reducing lifecycle costs. The DRAGON upgrade removes the navigator position and transfers the responsibilities to the pilot, co-pilot, and flight engineer. Once DRAGON is fully fielded, the US Government will have one Federal Aviation Agency (FAA) Level 6-equivalent (fixed) Flight Training Device (FTD) and two FAA Level D-equivalent (full-motion) Full Flight Simulators (FFS).

Training services and support for this program are provided under contract to Link Simulation and Training, a division of CAE (formerly L3Harris). The contract was awarded in July 2016 with a period of performance through July 2027. While a final decision has not been confirmed, the notional timeline plans for the E-3G platform to sunset in 2030 and be replaced by the E-7A. The DRAGON FCTS will operate accordingly.

The FTD and both FFS devices will ultimately be located at the Consolidated Simulators Building (CSB) at Tinker AFB.

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E-4B TRAINING SYSTEMS

The E-4B Training System (TS) is a critical program designed to ensure that aircrews operating the specialized E-4B aircraft are fully prepared for their worldwide missions. Its overall objective is to provide a comprehensive training program that equips these aircrews with the necessary skills and knowledge for global E-4B operations.

The current contractor responsible for managing and supporting this vital training system is CymSTAR LLC. Their involvement in the program spans a performance period from September 14, 2020 to March 31, 2026. A key component of this training program is a full-motion simulator, which provides a realistic training environment for aircrews. This advanced simulator is conveniently located at a contractor facility in La Vista, Nebraska, situated near Offutt Air Force Base, NE.

CymSTAR operates under a Contractor Logistics Support (CLS) contract, which ensures the continuous operation and effectiveness of the single contractor-operated E-4B Training System. This contract specifically provides essential resources such as personnel, equipment, tools, materials, and management oversight. In addition, it includes the operation of a dedicated Training System Support Center (TSSC), responsibility for the creation and development of training courseware, and direct aircrew instruction. Furthermore, the CLS contract manages the procurement, replenishment, and maintenance of all necessary materials, including spare parts and related services to support the E-4B TS.

The E-4B Training System offers a diverse range of academic courses, specifically tailored for E-4B pilots, co-pilots, and flight engineers. These include Initial Qualification Training for new aircrew members, Refresher Training to maintain proficiency, Senior Officer Training, and an Instrument Refresher Course essential for pilot instrument flying skills.

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A-10 AIRCREW TRAINING SYSTEMS

The A-10 Aircrew Training Systems (ATS) program provides modifications, upgrades, and sustainment of the A-10 simulator devices and subsystems. Contractor Logistics Support (CLS), composed of on-site technicians and on-call field service engineers, delivers continuous operational capability for 9 locations across Air Combat Command (ACC), Air Force Reserve Command (AFRC), Air National Guard (ANG), and Pacific Air Forces (PACAF) at Osan Air Base, Republic of Korea (ROK). The government solely owns all training assets, software and databases produced for the program, and purchases the services and equipment necessary to operate the Training System Support Center (TSSC) at Davis-Monthan AFB, and any contract Engineering Change Proposals (ECPs) affecting trainer hardware and software. Fielded inventory consists of 20 Full Mission Trainers (FMTs), 9 Hands-on-Throttle-and-Stick (HOTAS) trainers, 10 Brief/Debrief Systems (BDBSs), one FMT used for development and all supporting systems and equipment at the Software Integration Laboratory (SIL). FMTs are a high-fidelity replica of the A-10C Thunderbolt II aircraft cockpit with a 360-degree visual display used to execute training for A-10C Initial Qualification, Mission Qualification and Continuation Tactical training, as well as Distributed Mission Operation (DMO) exercises and events. HOTAS trainers are a medium-fidelity cockpit used to train weapons delivery functions during the A-10C Formal Courses (Initial Qualification Training, Re-qualification Training) at Davis-Monthan AFB.

A-10 Hands on Throttle and Stick (HOTAS) Trainer

A-10 Full Mission Trainer (FMT)

The mission of the A-10 ATS program is to provide a concurrent, combat realistic A-10 pilot training system, ultimately increasing combat capability and flight safety while decreasing overall training cost. The A-10 ATS devices are a fundamental component of Combat Air Force (CAF) pipeline pilot production, and A-10C Ready Aircrew Program (RAP) training requirements. The A-10 ATS augments reduced live-fly training with simulator events and protects unit-level aircrew readiness and currencies with direct operational readiness impacts to theater Combatant Commanders. FMTs enable pilots to train to wartime missions at the required proficiency levels, complete with a full-spectrum electronic warfare range, full-scale weapons deliveries, and large force DMO exercise takings. The A-10 ATS delivers unique training capability to simulate dangerous live-fly scenarios and enables Emergency Procedure (EP) training which ultimately impacts safety of flight and survivability during combat operations.

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F-15 TRAINING SYSTEMS

The U.S. Air Force (USAF) maintains a robust training ecosystem for its F-15 Eagle and Strike Eagle aircrews, crucial for maintaining combat effectiveness. This system hinges on three key programs; implemented across strategically located sites across four Major Commands, Air Combat Command, United States Air Forces Europe, Pacific Air Forces and Air Education Training Command. These programs are inclusive of F-15 Training Device Acquisition and Support (TDAS) program, the F-15 T2/EX Training Systems program, and the F-15C/E Mission Training Center (MTC) initiative.

The F-15 Training Device Acquisition and Support (TDAS) program, managed by the Air Force Life Cycle Management Center, provides and sustains the physical and virtual training devices essential for effective training. The F-15 TDAS program contains key components, like Integrated Avionics Trainers (IATs) at Seymour Johnson AFB, NC, and a variety of dispersed Maintenance Training Devices (MTDs) to foster proficiency in critical training tasks.

F-15 Mission Training Center (MTC)

The F-15 T2/EX Training Systems program utilizes a tiered fidelity approach to training the F-15C, F-15E, and F-15EX fleets. These scalable system employs a range of devices, from low-cost Personal Computer Aircrew Training Devices (PCATDs) to high-fidelity Full Mission Trainers (FMTs). Training occurs at locations such as the F-15E/EX schoolhouse at Seymour Johnson AFB, NC, the ANG F-15C schoolhouse at Kingsley Field in Klamath Falls, OR, and Air Battle Management Support at Tyndall AFB, FL. Realism is ensured through continuous Operational Flight Program (OFP) updates mirroring the operational fleet. The Boeing Training System Support Center (TSSC) in St. Louis, MO centrally manages the T2 trainer fleet.

The F-15E Mission Training Center (MTC) initiative leverages commercial services contracts with Boeing

to provide high-fidelity, networked training in a Distributed Missions Operations (DMO) environment. These MTCs, located at sites such as RAF Lakenheath, UK; Seymour Johnson AFB, NC; Nellis AFB, NV; and Mountain Home AFB, ID; enable single and multi-ship training, fostering interoperability with other simulators and providing a realistic combat environment. Future efforts are focused on integrating these simulators into the Joint Simulation Environment (JSE) at sites like the Nellis AFB Joint Integrated Test and Training Center (JITTC).

This multi-faceted approach, combining government-managed acquisition with tiered fidelity training to ensure concurrency with aircraft capabilities and commercial services across strategically chosen sites, creates a robust and adaptable/cost effective F-15 training solution. This comprehensive system is crucial for maintaining aircrew readiness and ensuring the continued dominance of the F-15 in the modern battlespace.

Program Managers:
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F-16 SIMULATORS TRAINING PROGRAM

CAE USA (formerly L3 Harris Technologies) was awarded the follow-on comprehensive Simulators Training Program (STP) contract in November 2018. The STP contract includes development and installation of the Consolidated Unit-Level Trainers (CUTs) and allows for the future procurement of additional Mission Training Centers (MTC). The F-16 STP provides simulators, concurrency upgrades, and Contractor Logistics Support (CLS) for Air Combat Command (ACC), Air Education and Training Command (AETC), and Air National Guard (ANG) to conduct individual and full-mission training, including Distributed Mission Operations (DMO) networked capability with other training systems. The program supports the SCARS (Simulator Common Architecture Requirements and Standards) initiative to ensure standardization across training systems. STP also includes sustainment and modification for 17 types of Maintenance Training Devices (MTD). The contractor operated Training Systems Support Center (TSSC) at CAE USA's Arlington, TX facility provides engineering support to accommodate concurrency and trainer-unique modifications for all devices; and includes a 4-ship MTC, CUT I, CUT II, CUT III devices, and 5 MTDs.

Currently there are 10 fielded MTCs providing 4-ship high-fidelity training for both local and DMO training. The unit-level trainers provide individual and multi-ship training within the squadron for familiarization, emergency procedures and tactical training. The 69 legacy unit-level trainers will be replaced by 36 CUTs. The CUTs started fielding June 2023 with 20 in the field at 4 CONUS locations while 22 legacy devices including 16 Unit Training Devices (UTD), with 6 Weapons & Tactics Trainer (WTT) Advanced Sustainment Program (WASP) trainers remaining in the field. Currently, there are 101 MTDs in the field. CUT installations will be completed by 2027, with 11 CONUS and 5 OCONUS locations. STP provides a mix of on-call and on-site support to 24 United States Air Force locations world-wide.

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F-16 Weapons System Trainer (WST), Interior

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C-130 AIRCREW TRAINING SYSTEMS (ATS)

On 28 Aug 2018, CAE was awarded the sustainment Task Order under the Simulator Division TSA III IDIQ contract after a FAR Part 16 Fair Opportunity Selection. The seventh option year will be awarded on 1 Jan 2026. Overall, the C-130 Aircrew Training System (ATS) consists of forty-five devices supporting nine primary Weapon System Trainers (WSTs), geographically located at five ATS sites (with one potential future site planned), and one training system support center (TSSC). It includes initial qualifications, mission qualification, upgrade, and continuation training with guaranteed student training and student throughput. In addition, the C-130H ATS accomplishes maintenance and training on one Landing Gear Trainer (LGT) which supports advanced troubleshooting and hydraulics courses. The landing gear trainer is located at Little Rock AFB, AR.

Major modifications ongoing are: Propulsion Modification, Cybersecurity Obsolescence, Fuselage Trainer (FuT) conversion, Electric Motion leg install, and Satellite Navigation Station (SNS) conversion. The Propulsion modification will modify the fleet for NP2000 (8-Blade Propeller) and Enhanced (3.5) Engine system. The Cyber Obsolescence will update the operating system and hardware across all A . The FuT conversion will integrate three C-130H2 fuselages into the new building to be fully operational FuTs. The

C-130H Weapon System Trainer (WST)

Electric motion install and SNS conversion will install electric legs on WST-08, Currently hydraulic. The SNS conversion will repurpose an obsolete SNS to be modernized and support WST-11. These modifications are Currently active, and the program is working ongoing execution along with additional modification requests.

C-130H Self-Contained Flight Trainer (SCFT)

The program has completed the Electronic Propeller Control System upgrade to remove the mechanical propeller syncrophasr system. A Fleet Visual upgrade was completed that upgraded all WSTs with image generators, projectors, replaced the back projection screens, and reskined Mylar.

The program office is also working closely with the Avionics Modernization Program (AMP) 2 program, which recently completed a modification to WST-01, WST-06, and CPT-01.

In addition, the program has utilized the CLIN for minor modifications throughout the year. The program has used this CLIN to award mods for Joint Mission Planning System (JMPS) computers, Pacific Air Forces – Modular Airborne Fire Fighting Systems (PACAF-MAFF) Radar Database creation, MAFFs Airdrop Switch, Bluedrop Graphic Latency, Tech Insertion, and JIRA routing. The JIRA mod, as well as the WST 10 Radar Displays, were closed and completed.

The C-130H program will award the final option year in 2026 due to the current contract ending 28 August 2026. The program has begun source selection activities and will award in May of 2026 (which will include a 3-month transition period).

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C-130J MAINTENANCE AND AIRCREW TRAINING SYSTEMS (JMATS)

The C-130J Maintenance and Aircrew Training System (JMATS) provides the U.S. Air Force with a long-term training solution for the C-130J Hercules aircraft. The ordering period of the current production contract runs through mid-2025. The prime contractor for the production and modifications contract is Lockheed Martin Rotary and Mission Systems (LM-RMS), with major subcontractors that include CAE USA and Flight Safety International. The Program Office is Currently developing a follow-on sole-source contract to LM RMS for another 10-year performance period.

The production/modifications contractor (LM-RMS) is also providing operations of the Training System Support Centers (TSSC) at Little Rock AFB for AMC and Naval Air Systems Command (NAVAIR) devices only. The TSSC is operated under a separate contract delivery order under the current TSA III contract. Certain concurrency upgrades for both aircrew and maintenance devices can also be managed by the TSSC. Similarly, the maintenance training element of the JMATS program provides organizational maintenance training via Air Force-provided academic instruction and contractor-provided training devices sufficient to deliver 3c “go”-level student certification.

C-130J MATS Enhanced Integrated Cockpit Systems Trainer

Aircrew training and Contractor Logistics Support (CLS), for Air Mobility Command (AMC) only, was awarded to a small business provider, Nova Technologies, in January of 2020. The AMC training program provides ground and flight simulator instruction to C-130J pilots, co-pilots, loadmasters and engine-run technicians at Little Rock, Keesler, Dyess, Ramstein Air Force Bases and at Yokota Air Base Japan, along with to Air National Guard (ANG) crews at Quonset Point Rhode Island. The JMATS AMC CLS contractor provides maintenance and instruction and is required to be capable of delivering guaranteed students to the operational Air Force using Commands to include U.S. Marine Corps (USMC), KC-130J, and participating allied nation aircrews.

C-130J MATS Weapon System Trainer, Exterior

Current contract deliverables to the formal training unit at Little Rock, and the Main Operating Bases at Keesler, Dyess, Ramstein, and Yokota AB, and Quonset Point include Weapon System Trainers (WST), Aircrew Courseware, Avionics System Management Trainers, Cockpit Procedures Trainers (CPTs), Integrated Cockpit Systems Trainers, Fuselage Trainers, Engine and Propeller Trainers, Flight Control Trainers, Loadmaster Part Task Trainers, and local Little Rock AFB networking of

C-130J MATS Multi-Function Training Aid

WSTs. Five KC-130J WSTs and Four Fuselage Trainers (FuTs) have been delivered to Marine Corps Air Station (MCAS) Cherry Point, MCAS Miramar, Iwakuni, Japan and the Joint Reserve Base (JRB) at Fort Worth, TX, with three more produced or in production, yet to be delivered.

NAVAIR has also purchased multiple CPTs and Observer Training Aids (OTA). These efforts are being managed by the Air Force Life Cycle Management Center (LCMC) in support of NAVAIR/USMC. The contract was modified to procure and deliver additional Air Combat Command (ACC)/Air Force Special Operations Command (AFSOC) HC/MC/EC/AC-130J WSTs delivered to various CONUS and OCONUS bases. The program operates a Systems Integration Laboratory (SIL), as well as a classified laboratory used to facilitate the incorporation of modifications into the fielded device baselines.

C-130J MATS Loadmaster Fuselage Trainer (interior)

The JMATS team has also begun efforts to provide production and modifications of trainer devices specifically support the Air Force Reserve Command (AFRC) in the form of WC-130J training. The first AFRC Multi-Function Training Aid (MFTA) is scheduled to deliver in the summer of 2025.

The JMATS team continues to maintain a very high operations tempo to provide first class service to multiple Major Command customers.

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C-17 TRAINING SYSTEMS

The C-17 Training System (TS) contractor logistics support (CLS) contract is managed through the C-17 TS Program Office at Wright Patterson AFB and supports C-17 aircrew training IAW AFI 11-202 Volume 1 Aircrew Training and AFI 11-2C-17 Volume 1, C-17 Aircrew Training. Air Mobility Command (AMC), as lead command, in coordination with Air Education & Training Command (AETC), Air Force Reserve Command (ARC) and Air National Guard (ANG) user commands, establish C-17 aircrew training requirements through the ATS/CLS contract. This contract spans formal training at Altus AFB (13 initial and instructor upgrade courses) and periodic (monthly, quarterly, semi-annual, etc.) classroom and simulator training at 17 regional USAF sites. The C-17 TS trained 2,559 pilots and 1,579 loadmasters through Ordering Period 8 (OP8 12-month period). Additionally, through calendar year 2024, the C-17 TS provided training culminating in simulator device usage for a total of 61,327 hours and loadmaster devices for a total of 15,200 hours. The TS contract services include the following:

- Operation, maintenance, sustainment, and support of 53 C-17 Aircrew Training Devices (ATD) and 36 Maintenance Training Devices (MTD).
- Hardware and software engineering support System-wide logistics support Day-to-day system -wide management
- Support of government quality assurance programs including the periodic simulator certification (SIMCERT) program and semiannual system review boards (SRB) Development and maintenance of simulator and simulator facility design criteria Simulator construction consulting services
- Studies that apply Instructional System Development (ISD) best practices
- Development and maintenance of training information and materials including web-based training programs
- Annual reviews and updates for all lesson materials through Level of Effort (LOE); recruit special qualified Aircrew Training System (ATS) contract instructors who conduct aircrew training in both traditional classrooms and/or aboard ATD's to each pilot Instruction and Training of

USAF Air and Maintenance crews

The ATS provides initial training to pilots and loadmasters through individual instruction to aircrews and guarantees aircrew training standards by assessing proficiency levels. It also provides instruction at the "crew" level including annual Cockpit Resource Management (CRM) instruction, periodic Visual Threat Recognition and Avoidance Training (VTRAT), and the annual Instrument Refresher Course (IRC). The ATS contractor instructor teams may travel, when required, to C-17 equipped units to instruct a variety of aviation ground training courses. In addition, the Maintenance Training System (MTS) maintains, updates all aircraft maintenance training devices, provides full maintenance and logistical support for C-17 hardware, and operates a Training System Support Center (TSSC) that updates, supports, and provides configuration management for all MTS components and computer systems. The MTS devices provide the means to deliver over 20 thousand hours of off-aircraft task certification training annually. This capability is essential to support operational aircraft and affords the warfighter the tools necessary to meet the challenges of an ever-changing wartime effort.

C-17 Training System, Cockpit

The C-17 CLS Contractor is an integrated team member with the C-17 Training System Program, Wright-Patterson AFB, OH. This integrated team includes the Boeing Company, St. Louis MO, and their supporting Contractors. This integrated team format helps keep the ATS/MTS systems concurrent with the latest aircraft configuration. To date, the C-17 TS Team has accepted and declared ready for training, a total of 28 Weapon Systems Trainers (WST) and associated learning centers. The Boeing Company Currently provides aircrew training and MTS CLS on 17 USAF training sites: JB Charleston, SC; JB Lewis-McChord, WA; Altus AFB, OK; Jackson ANG, MS; JB McGuire-Lakehurst-Dix, NJ; Dover AFB, DE; Stewart ANG, NY; Martinsburg ANG, WV; Wright-Patterson AFB, OH; Memphis ANG, TN; Travis AFB, CA; JB Elmendorf-Richardson, AK; JB Pearl Harbor-Hickam, HI; March ARB, CA; Charlotte ANG, NC; Pittsburgh ARB, PA.

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C-5 TRAINING SYSTEMS

The C-5 Training System (TS), located at four training sites, provides aircrew and maintenance training that is concurrent with the C-5M Super Galaxy weapon system and its operating procedures.

The C-5 TS is used to initially train, upgrade, and maintain currency for C-5 pilots, flight engineers, loadmasters, and maintenance personnel. C-5 TS is composed of Aircrew Training System (ATS) and Maintenance and Aircrew Training System (MATS) delivering a total contractor training package, including total contract support in two major areas: student instruction and training device contractor logistic support. Instruction includes courseware maintenance and presentation for initial and mission qualification, continuation, and upgrade training for the ATS.

The latest C-5 Aircrew Training System simulator modifications include the Windows 11 upgrade and Red Hat Enterprise Linux 7.0 upgrades bringing the C-5 Aircrew Training System up to the latest standards. Recent successes include SCARS installations testing at several sites as well as MAF DMO connections.

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KC-135 TRAINING SYSTEM

The KC-135 Simulator System is composed of 19 KC-135 Operational Flight Trainers (OFT), 9 Boom Operator Weapon System Trainers (BOWSTs), 3 Pilot Cockpit Familiarization Trainers (CFT), 2 Fuel Savings Advisory System (FSAS) CFT trainers, 1 Navigator Flight Trainer (NFT), and 1 Virtual Threat Recognition and Avoidance Trainer (VTRAT). The KC-135 TS also includes 28 Global Air Traffic Management Interactive Hand Controller Part Task Trainers (GIPTTs) Computer -Based Training (CBT) workstations, one Cargo Load Trainer (CLT), one Auxiliary Power Unit (APU) Trainer, three Boom Familiarization Trainers, two Oxygen Trainers, and one Air Refueling (A/R) Mockup Trainer.

KC-135 OFT Cockpit

The OFTs are fully replicated, functional cockpit trainers. All 19 OFTs are equipped with full, six degrees-of-freedom motion systems equipped with Lateral Maneuverability and Motion technology for improved lateral motion fidelity. They are also equipped with a collimated visual display using the Rockwell Collins EP-8,000 Image Generator to meet Federal Aviation Administration (FAA) level C+ certification. The projectors are being replaced by Norxe P55 projectors. The Image Generators are being replaced by the Aechelon Nucleus 10 as part of the MAF Common Visual Database effort. OFTs are in the reflect the Block 45 Configuration plus subsequent OFP updates of Block 45.

The BOWST consists of a complete boom compartment that provides a realistic visual representation of air refueling. It enables the student to identify visual cues from the air refueling boom and receiver aircraft. This enables them to maintain proper situational awareness during air refueling operations, including emergency procedures.

KC-135 OFTs at Altus

BOWSTs provide realistic control forces in the controls used by the boom operator during refueling.

All devices and operating locations are undergoing updates to become Mobility Air Force Distributed Mission Operations (MAF DMO) capable as funding allows. OFTs and BOWSTs are being updated to have the capability to connect to one another and enable Same Aircraft Simulation (SAS) mode training where the OFT/ BOWST students train as being in the cockpit and boom pod within a single aircraft. OFTs and BOWSTs located at the Formal Training Unit (FTU) are being connected to the Intra-Altus Network to enable interaction with C-17 and other KC-135 devices at the FTU. OFTs and BOWSTs not located at Altus are in the process of connecting to the Distributed Training Center Network (DTCN).

There are 3 Cockpit Familiarization Trainers (CFTs) located at the Altus FTU. These systems are non-powered cockpit panel replications to enable students to learn switch position, gauge position, and limited normal procedure training. Two additional CFT devices are higher-fidelity FSAS devices that also provide a functioning fuel management system.

The KC135.net is a server system housing a host of applications which support the scheduling delivery, update and security of all KC-135 TS training. It enables continuation training CBTs to be accessible to KC-135 aircrew members via internet access from their squadron and other locations.

The Cargo Loading Trainer, located at Altus is a full-

sized trainer using a modified KC-135 fuselage designed to train boom operators on cargo loading and handling.

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KC-135 BOOM OPERATOR SIMULATION SYSTEM (BOSS)

The KC-135 Boom Operator Simulation System (BOSS) program's primary objective is to provide comprehensive operations, maintenance, and sustainment program to ensure Air National Guard (ANG) KC-135 Boom Operators (BO) have fully functional base level training devices.

The National Guard Bureau (NGB) KC-135 BOSS is a high fidelity, squadron level continuation simulator that replicates the KC-135R, Block 40 boom pod. The KC-135 BOSS is composed of the boom pod, a Visual Display Unit (VDU), two (2) Instructor Operator Stations (IOS), platform/stairs assembly for boom pod ingress and egress. The KC-135 BOSS provides an immersive simulation environment that utilizes realistic computer-generated images with an emulation of the actual aircraft boom controls.

The KC-135 BOSS is designed to support complete boom operator training curriculum (initial qualification, difference qualification, certification, requalification, mission certification, and instructor upgrade training) and meet Aerial Refueling Airplane Simulator Qualification (ARASQ) standards. It is designed for squadron-level training and to be operated by unit personnel with the option of dedicated on-site contractor personnel. The simulator system is composed of 17 KC-135 BOSS training devices. The system is Currently fielded at sixteen ANG KC-135 wings, in both CONUS and Outside Continental United States (OCONUS) (Hawaii and Alaska) locations.

The KC-135 BOSS Mobility Air Force (MAF) Distributed Mission Operation (DMO) connectivity is via Air Reserve Component Network (ARCNet). The ARCNet is operated and maintained by the Distributed Training Operations Center (DTOC) in Des Moines IA. The DTOC organizes DMO events for ANG and Air Reserve Component pilots. The requirement to operate on the ARCNet is the same as MAF DMO. However, connections to the MAF DMO will be made through the DTOC to the Mobility Air Force (MAF) Distributed Training Center Network (DTCN).

Current locations of the ANG KC-135 BOSS are Meridian, MS; McGhee Tyson, TN; Salt Lake City, UT; Birmingham, AL; Lincoln, NE; Bangor, ME; Pittsburgh, PA; Ann Arbor, MI ; Milwaukee, WI; Sioux City, IA; Hickam AFB, HI; Phoenix, AZ; Eielson AFB, AK; Selfridge, MI; Rickenbacker, OH; and Forbes Field, KS.

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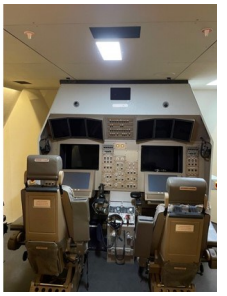
KC-135 BOOM Operator View

KC-46 AIRCREW TRAINING SYSTEM (ATS) PROGRAM

The KC-46 Aircrew Training System (ATS) is being developed concurrently with the KC-46A aircraft to support long-term training of aircrews. A thirteen-year contract was competitively awarded to Flight Safety International-Defense (FSI-D) Company on 1 May 2013 for the design, development, delivery, and maintenance of the KC-46 training devices, creation of the courseware, and providing student instruction.



KC-46 ATS Boom Operator Trainer

KC-46 ATS FuT #2

FSI-D has an Associate Contractor Agreement with The Boeing Company to facilitate obtaining design information for the ATS. Requirements for the KC-46 ATS are directed by the KC-46 Aircraft Program Capabilities Development Document. Military Construction (MILCON) delays resulted in lost production options expiring for some of the planned MOBs. New device acquisitions will be required to complete these. The contract period of performance is to end 31 December 2026.

The aircrew training suite consists of five device types: Weapon System Trainer (WST), Boom Operator Trainer (BOT), Fuselage Trainer (FuT), Pilot Part-Task Trainer (P-PTT), and Boom Operator Part-Task Trainer (BO-PTT). AMC has directed that no more Part Task Trainers will be ordered. Aircrew training started in 2019 after the delivery of initial devices.

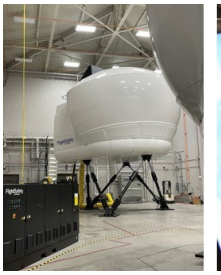
Current fielded devices (as of Jul 2025):

- Altus AFB, OK Formal Training Unit (FTU): 6 WSTs, 6 BOTs, 2 FuTs, 6 P-PTTs, 3 BO-PTTs
- McConnell AFB, KS (MOB 1): 3 WSTs, 2 BOTs, 1 FuT, 2 P-PTTs, 1 BO-PTT
- Pease Air National Guard Base, NH (MOB 2): 1 WST, 1 BOT, 1 FuT, 1 P-PTT
- Seymour Johnson AFB, NC (MOB 3): 1 WST, 1 BOT, 1 FuT, 1 P-PTT
- Joint Base McGuire-Dix-Lakehurst, NJ (MOB 4a): 2 WSTs, 2 BOTs, 1 FuT, 2 P-PTTs
- Travis AFB, Fairfield, CA. (MOB 4b) 1 WST, 2 BOT, 1 FuT

PROGRAM IMPACT

The KC-46 ATS will deliver more capability than any other training system in the Air Force fleet. In addition to having Distributed Mission Operations capabilities to operate with simulators at other bases across the nation, the FTU will feature the Intra-Altus Network, allowing the KC-46 ATS devices to connect to and operate with KC-135 and C-17 simulators co-located at the base.

The KC-46 ATS is postured to be the first Air Force training system to achieve Federal Aviation Administration (FAA) Level D-equivalent certification. Air Mobility Command/Detachment 2 uses the FAA certification guidelines to award 14 CFR Part 60 Level D certification. The program will also deliver Air Refueling Airplane Simulator Qualification (ARASQ) Level II training capabilities. Upon delivery of the ARASQ data the KC-46 Aircraft Program will obtain FAA Level-D with ARASQ Level II certification. This will result in significant cost savings to the Air Force, allowing an unprecedented amount of aircrew qualification training to be completed in the simulator rather than on the aircraft.



KC-46 ATS Weapon System Trainer

PROGRAM DESIGN MATURITY

The KC-46 ATS uses an incremental approach for device fidelity. Increment One (1) will match the KC-46 aircraft's Initial Operational Test & Evaluation (IOT&E) configuration with some performance characteristics estimated until exact aerodynamic performance data can be collected. Increment Two (2) will match the aircraft's configuration once the KC-

KC-46 ATS Pilot Part Task Trainer

46 Delta Physical Configuration Audit (DPCA) is complete and free-air aerodynamic data is collected – leading to the achievement of 14 CFR Part 60 Level D equivalent certification for the WST. Increment Three (3) will provide additional fidelity to the WST and BOT for tanker/receiver aerodynamic performance via ARASQ data collection. The program remains in spiral development with an expectation of completing all the Increment 1 and Increment 2 capabilities. Due to ARASQ testing delays, the ARASQ portion of the Increment 3 requirement will shift to the next contract.

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KC-46 MAINTENANCE TRAINING SYSTEM (MTS) PROGRAM

The KC-46 Maintenance Training System (MTS) is being developed concurrently with the KC-46A aircraft to support long-term training and certification of KC-46 maintenance personnel. The contract was awarded to Boeing on 6 July 2016 under a Firm Fixed Price contract for the Engineering and Manufacturing Development (EMD), production and initial sustainment of training devices supporting three regional maintenance training facilities: McConnell AFB, KS, Joint Base McGuire–Dix–Lakehurst, NJ, and Travis AFB, CA Requirements for the KC-46 MTS are directed by HQ Air Mobility Command (AMC) and HQ Air Education and Training Command (AETC) and are captured in the KC-46 Aircraft Program (AFLCMC/WLC) Capabilities Development Document (CDD).

The maintenance training suite consists of seven Augmented Hardware Training Device (AHTD) types (Advanced Wiring and Electrical Repair; Flight Controls; Aerial Refueling; Flight Deck/Avionics; Landing Gear; Engine/Auxiliary Power Unit; Fuels Systems) and Interactive Multimedia Instruction (IMI) provided in Virtual Maintenance Training System (VMTS) classrooms.

The first training devices will be delivered to McConnell AFB. During EMD, the KC-46 MTS devices have a staggered delivery which started with the VMTS in November 2,018 and will complete with the Flight Controls Trainer delivery by March 2026 excluding Landing Gear Trainer. Ready for Training (RFT) with the Mission Ready Airman (MRA) course was achieved in August 2019 and MRA training courses, along with the transition, general familiarization and Maintenance Qualification Training Program (MQTP) Phase I and II, are Currently being conducted at McConnell AFB's Regional Maintenance Training Facility (RMTF).

Delivery of a second suite of training devices and IMI/VMTS classrooms to Joint Base McGuire–Dix–Lakehurst, NJ began in February 2023 and completed delivery in September 2024 for 12 IMI Classrooms.

The third suite of training devices and IMI/VMTS classrooms will be delivered and ready for stand-up in September 2026 to Travis AFB, CA. RFT for the IMI courseware is scheduled for November 2026. A separate contract action was necessary and executed in January 2025 to cover installation of a Local Area

KC-46 MTS ART Boom

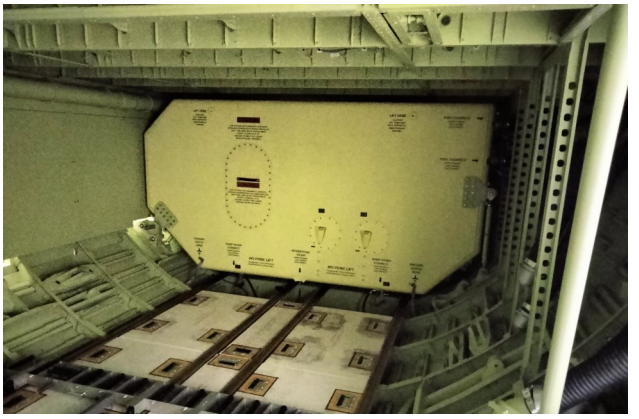
KC-46 MTS E-APU

KC-46 MTS Engine

Network (LAN), checkout and sustainment for this 3rd suite of training devices.

PROGRAM IMPACT

The KC-46 MTS will provide a blended solution of hardware and software, high-fidelity maintenance training devices and IMI to be used in conjunction with minimal dependence on the aircraft. The MTS provides total KC-46 unique operational level maintenance training to include classroom instruction utilizing IMI, along with a suite of hardware training devices augmented with IMI capabilities. These AHTDs support instructor-monitored practice training leading to proficiency and certification. As a result, the use of operational aircraft for student certification is minimized and limited to those tasks which can only be accomplished on an operational aircraft. These on-aircraft certifications will only be performed after the student has been qualified through the MTS. Certifying non-critical tasks and pre-training critical tasks in the classroom will alleviate an enormous training burden from the KC-46A aircraft and enhance the aircraft's operational mission effectiveness.



KC-46 MTS FST Belly Tank

KC-46 MTS FST Belly Tank

KC-46 MTS FST Fuel Cell

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SPECIAL OPS & AETC TRAINING SYSTEMS BRANCH

LT COL PHILLIP CLOSSON

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AIR FORCE SPECIAL OPERATIONS COMMAND (AFSOC) AIR COMMAND TRAINING SUPPORT (ACTS)

The AFSOC ACTS program was awarded on 8 February 2018 and provides training devices and support to prepare Air Force Special Operation Forces AC/MC-130J, and Air Combat Command's Combat Search and Rescue HC-130 teams to successfully conduct mission operations. Additionally, AFSOC ACTS has incorporated the Air Force's only Osprey tilt rotor training devices that provide highly trained aircrew support for CV-22 operations. The AFSOC ACTS contract is held by Lockheed Martin Mission Systems and Training and continues through January 2026.

The AFSOC ACTS program supports 98 training devices for five different aircraft Mission Design Series platforms, at ten locations worldwide. The Simulators Division has responsibility for program management, contracting, engineering, logistics, cybersecurity, financial management, and configuration management of each training system, along with all associated Contractor Logistics Support (CLS).

The AFSOC ACTS program is also responsible for providing concurrent configuration between aircraft and its respective training system, supporting exercises, keeping pace with technological upgrades, and providing training campus administrative functions. The CLS portion at each operating location of AFSOC ACTS includes contractor staff personnel responsible for the support of mission rehearsal system hardware and software.

The program also provides database and Distributed Missions Operations (DMO) support throughout the Special Operations and Air Force communities. All training sites are responsible for producing mission-ready special operations aircrews. Special operations aircrew training is accomplished through a combination of state-of-the-art equipment, talented instructors, and an extremely dedicated support staff that manages everything from device maintenance to DMO.

CV-22 Flight Training Device (FTD)

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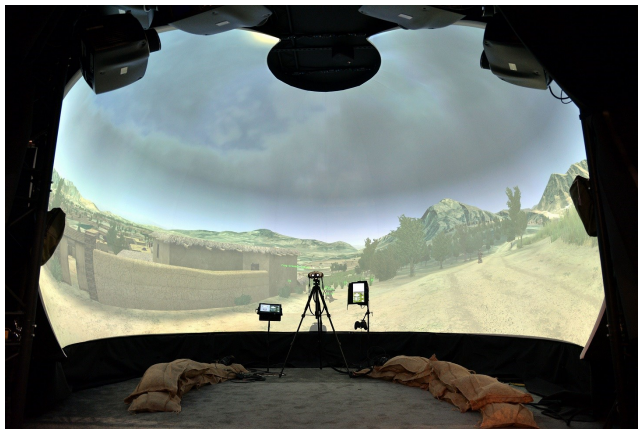
JOINT TERMINAL CONTROL TRAINING AND REHEARSAL SYSTEM (JTC TRS)

The JTC TRS provides a realistic trainer/simulator for Joint Terminal Attack Controllers (JTACs) that enhances terminal attack control, tactical fires integration, effective targeting, battlespace awareness and mission rehearsal. Mission rehearsal improves operational awareness and improves the capability to support time-critical targeting.

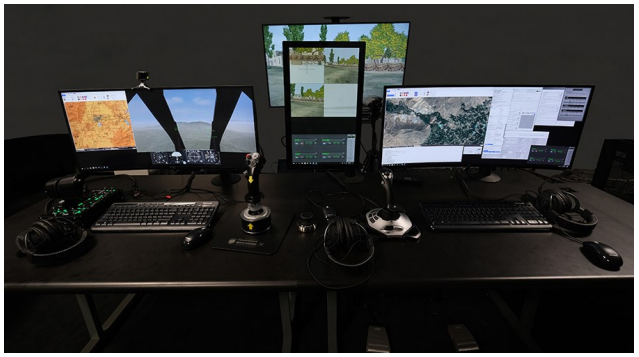
JTAC Ops Strike

The JTC TRS supplements field training to provide realistic introductory training, upgrade training, proficiency training, continuation training and mission rehearsal in a synthetic battlespace. The Joint Fire Support Executive Steering Committee (JFS ESC) accredited JTC TRS on 20 Jun 16 for Type I, II and III controls. This allows JTACs the ability to use the JTC TRS simulator to log controls for currency without the use of live-fly aircraft.

The JTC TRS is capable of processing and displaying



JTC TRS Virtual Training



JTC TRS Workstation Setup

JTAGSS Diagram

an accurate air and ground scene locally, or representing Joint Live, Virtual, and Constructive forces generated in the Distributed Mission Operations environment. The JTC TRS Family of Systems (FoS) is composed of fixed, partial dome systems immersing the trainee in a virtual environment with representative visual and aural cues (supports Type I, II, and III controls); desktop systems providing the ability to conduct training requiring less than dome system capabilities (supports Type II and III controls); and the Joint Theater Air Ground Simulation System (JTAGSS), simulating the Air Support Operations Center (ASOC) environment training for personnel. This complex distributed system of systems employs technologies such as intelligent agents with natural language interaction capability through speech, chat, and e-mail; intelligent agent control of semiautonomous forces (SAF) entities; and C2 data and system stimulation.

CAE USA was awarded an 8-year production and sustainment contract in June 2021. The program is currently in full-rate production and sustainment. 37 Dome systems, 42 Desktop Systems, and 13 JTAGSS have been fielded, with an additional 3 Desktop Systems scheduled for delivery in 2025.

JTC TRS is also pursuing an independent technical roadmap effort to support development of a next generation simulation system to support future training and mission rehearsals for JTACs, TACPs, and other special operators. Areas of emphasis include scenario and terrain generation, radio communications, support for LVC, utilization of artificial intelligence, and visualization technologies.

Program Manager:
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KIRTLAND, DAVIS-MONTHAN, ANDREWS, AND MOODY (KDAM) AIRCREW TRAINING AND REHEARSAL SUPPORT (ATARS)

KDAM ATARS Courseware & Instruction (C&I)

The KDAM ATARS C&I contract was awarded 19 January 2024. The users are represented by US Special Operations Command (USSOCOM), Air Force Special Operations Command (AFSOC), Air Education and Training Command (AETC), Air Combat Command (ACC), and Air Force Global Strike Command (AFGSC). The KDAM ATARS C&I mission is set to be the total comprehensive source for Formal Training Unit (FTU) schoolhouse operations for unique crew positions across five Mission Design Series (MDS) aircraft, to include the CV-22, HC-130J, MC-130J, AC-130J, and UH-1N. Training includes initial/mission qualification training for AFSOC Special Operations Forces (SOF) aircrews, all training for ACC Personnel Recovery (PR) aircrews, all training for

AFGSC Vertical Lift Aircrews in Nuclear Security Response, and all training for Convoy Support and AF District of Washington (AFDW) Vertical Lift Aircrews in Continuity of Government and Continuity of Operations.

The KDAM ATARS C&I contract, supports Formal Training Unit (FTU) schoolhouse operations for unique crew positions across five Mission Design Series (MDS) aircraft: CV-22, HC-130J, MC-130J, AC-130J, and UH-1N. The contract's users are US Special Operations Command (USSOCOM), Air Force Special Operations Command (AFSOC), Air Education and Training Command (AETC), Air Combat Command (ACC), and Air Force Global Strike Command (AFGSC). KDAM ATARS C&I provides comprehensive training, including initial/mission qualification, for AFSOC Special Operations Forces (SOF) aircrews, ACC Personnel Recovery (PR) aircrews, AFGSC Vertical Lift Aircrews in Nuclear Security Response, and Convoy Support/AFDW Vertical Lift Aircrews in Continuity of Government and Continuity of Operations. Core requirements include courseware development, aircrew instruction (initial/mission qualification, refresher, upgrade, and currency), student services, and physical building security. The contract aims to deliver a comprehensive training solution that produces highly qualified combat-ready aviators at Kirtland AFB, Davis-Monthan AFB, Joint Base Andrews, and Moody AFB.

Program Manager:
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Rotary Aircrew Training System (RATS) Contractor Logistics Support / Training System Support Center (CLS/TSSC)

The RATS CLS/TSSC contract, awarded on 18 January 2024, focuses on the management and execution of Contractor Logistics Support (CLS) and Training System Support Center (TSSC) requirements for the UH-1N Aircrew Training Devices (ATDs) located at Kirtland AFB, NM, and Joint Base Andrews, MD. The program directly supports Air Education and Training Command's (AETC) Field Training Unit (FTU) pipelines, which are critical for AETC to achieve its pilot production goals. The program's key objectives are to: 1) ensure the availability of highly skilled CLS/TSSC personnel; 2) meet or surpass established ATD availability targets; and 3) manage, engineer, and sustain the ATDs in accordance with (IAW) the specifications outlined in the RATS CLS/TSSC Performance Work Statement (PWS). Core requirements cover CLS, TSSC, Cybersecurity measures, Database Generation Services (DBGS), and Concurrency Modifications.

Program Manager:
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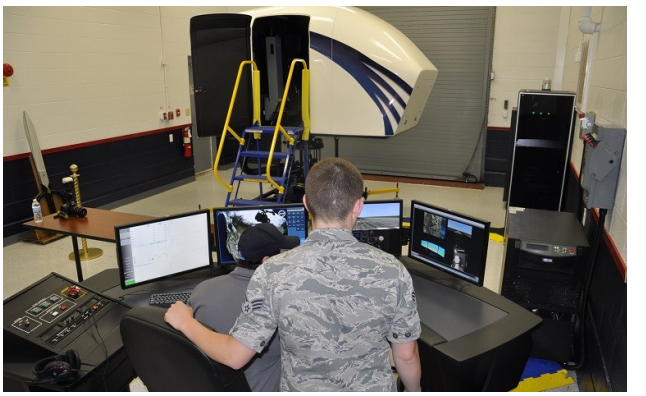
AEROSPACE & OPERATIONAL PHYSIOLOGY (A&OP) TRAINING SYSTEM

A&OP Training System is composed of two different devices – hypobaric altitude chambers and spatial disorientation devices. The chamber demonstrates an unpressurized flight environment, barometric pressure changes, decompression, hypoxia recognition, aircraft oxygen system recovery procedures, and altitude effects on night vision and perception. There are 12 chambers at 11 locations.

The spatial disorientation devices provoke spatial disorientation symptoms stemming from flight illusions. There are five devices Currently in use at five different locations.



Spatial Disorientation Device

These programs are Currently under a Contractor Logistics Support contract. The effort includes regular and emergency maintenance, establishing a baseline configuration, and updating Technical Orders and drawings.

Users include Air Education and Training Command, Air Combat Command, Air Mobility Command, Air Force District of Washington, and Air Force Materiel Command.

Program Manager:
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T-38C AIRCREW TRAINING DEVICES

The T-38C Aircrew Training Devices (ATD) are designed to fulfill requirements to prepare student pilots for U.S. Air Force fighters and bombers. The T-38C ATD fleet consists of 14 Unit Training Devices (UTD), 10 Operational Flight Trainers (OFT), and 12 Weapon System Trainers (WST) providing operational training at Columbus AFB, MS; Laughlin AFB, TX; Randolph AFB, TX; Vance AFB OK; and Sheppard AFB, TX. The ATDs at Sheppard AFB support the Euro NATO Joint Jet Pilot Training program. The T-38C ATD system is maintained by a Contractor Logistics Support (CLS) contract via Delaware Resource Group (DRG), which provides comprehensive ATD maintenance, logistics, and modification support and a Training System Support Center (TSSC).

The T-38C ATDs support a building-block approach to pilot production by providing students with incrementally more advanced simulated experiences. The UTDs are the most basic of the T-38C ATDs and are designed for instrument, normal and emergency procedures training. One UTD consists of a cockpit, instructor operator station (IOS), single channel, out-the-window, 40-degree field of view (FOV) visual system, and associated electronics and computational system. The OFTs have full-fidelity replication, simulated malfunctions, operational flight program commonality, dynamic cueing, aural cueing, a full 216-degree by 135-degree FOV, and an IOS. All OFTs within the same training site can be interconnected via a local area network, thus allowing simulated formation flight conditions. The WST expands upon the OFT design by providing a 360-degree FOV visual system which is used to provide training in Air Combat Maneuvering and Defensive Basic Fighter Maneuvers in addition to all OFT capabilities.

T-38C Operational Flight Trainer, Cockpit

Program Manager:
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VISUAL THREAT RECOGNITION AND AVOIDANCE TRAINER (VTRAT)

VTRAT is an automated virtual intelligent instructional training aid designed to introduce and refresh visual scanners on their duties during an anti-aircraft threat engagement. This is accomplished by a combination of software and hardware that displays realistic visual characteristics of anti-aircraft weaponry.

The VTRAT system was designed from the loadmaster concept for the AC-130. It was developed in the late 1990s by Air Force Special Operations Command (AFSOC) in coordination with the Air Force Research Laboratory at Brooks AFB, TX. In addition to AFSOC, the program grew to accommodate AMC, ACC, RAAF, and MPEP. The program trains aircrews in both Formal Training Units (FTUs) and Outside Continental US (OCONUS) units across multiple sites worldwide.

The VTRAT system employs a powerful, simulation-based platform utilizing intelligent tutoring and an Air Intelligence Agency certified threat database. The system provides lessons on Anti-Aircraft Artillery and Surface to Air Missiles, including unguided infrared and radar-guided threats. The target training population is crew members whose duties include visually detecting, initiating, and coordinating defensive and/or evasive maneuvers with and without

Night Vision Goggles (NVGs). This device identifies strong and weak performance areas of individual students and then emphasizes training on the weaker areas until mastery of the specific protocol is attained. VTRAT is a requirement for all crew members, from loadmasters to pilots, and requires refresher courses every 17 months, as well as training for all those about to deploy.

VTRAT is maintained and supported by Organic Logistics Support (OLS) through the 519th Software Engineering Squadron with Training System Support Center (TSSC) at Hill AFB, UT.

Program Manager:
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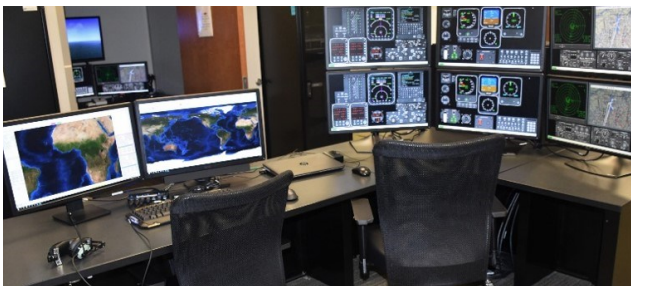
T25 SIMULATOR FOR ELECTRONIC COMBAT TRAINING (SECT)

The T25 SECT System includes ground mapping radar and air-to-air radar emulations, EO/IR sensor operations training simulation, and a radar virtual task trainer, is the core aircrew training device for primary to advanced Air Force, Undergraduate Combat Systems Officer (CSO) Training in the 479th Flying Training Group, at Naval Air Station Pensacola, FL. The T25 SECT consists of 18 aircrew student stations, nine instructor operator stations, and a systems integration laboratory. The T25 SECT is maintained and supported by on-site Organic Logistics Support (OLS) through the 555th Software Engineering Squadron.

T25 SECT Student Station



T25 SECT Instructor Station

T25 SECT Radar VTT

The T25 SECT leverages high fidelity physics-based simulation and representative models to provide Air Force CSO student aircrew members with the capability for a broad range of interactive electronic combat lab exercises, air combat, and combat support integrated mission scenarios. These include low altitude tactical penetration, standoff jamming, electronic support, electronic attack, electronic protection, and suppression of enemy air defenses. The integrated T25 SECT applications enable the building-block training approach for Air Force CSO aircrews to learn fundamental airmanship, position, navigation and timing, fundamental air-to-air intercept, time sensitive targeting, and introductory to advanced electronic combat concepts. This provides CSO aircrew visualization and interaction in electromagnetic spectrum operations and within realistic integrated mission scenarios.

Program Manager:
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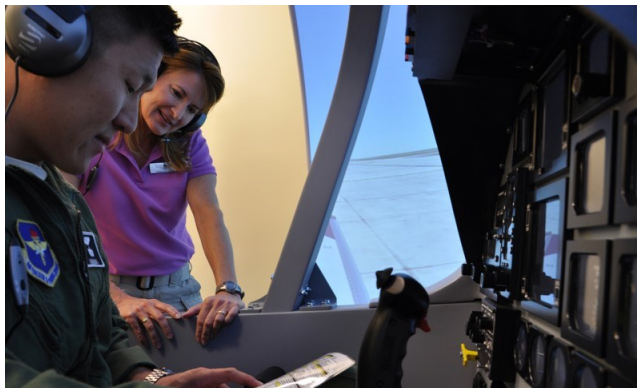
UNDERGRADUATE REMOTELY PILOTED AIRCRAFT (RPA) TRAINING (URT) GROUND BASED TRAINING SYSTEM (GBTS)

Air Education and Training Command (AETC) utilizes the URT-GBTS to train new Remotely Piloted Aircraft (RPA) pilots and sensors operators in the URT pipeline. URT-GBTS provides training environments for both RPA Pilot courses, RPA Instrument Qualification Course (RIQ) and RPA Fundamentals Course (RFC), and the Basic Sensor Operator Course (BSOC).



Undergraduate Remotely Piloted Aircraft Training Instrument Simulator (URTIS)

The RIQ is the undergraduate training program for all RPA pilots to teach basic principles of aircraft operations and USAF instrument flying procedures to qualify the RPA pilots to operate in National and International airspace. The Modular Training Device (MTD) is a non-motion, cockpit trainer, based on the T -6 Texan II airframe, used to conduct instrument, communication, and national airspace training. The system was developed for RPA pilot trainees to utilize in their second phase of training to prepare for entry into RFC and follow-on RPA training. There are 16 RIQ devices at the 558th Flying Training Squadron, Randolph AFB, TX.

The RFC and BSOC simulates the concepts, techniques, and procedures applicable to basic RPA operations. Curriculums utilize desktop trainers (classrooms) and labs (simulators) to train RPA pilots (officers) and sensor operators (enlisted). The pilot and sensor operator have initial interactions through crossflow near the end of RFC and BSOC curriculums, prior to reporting to Formal Training Units (FTUs). There are three classrooms (one instructor, 24 student desktop simulators each) and 23 cockpit simulator devices (one instructor, two student stations each) at 558th Flying Training Squadron (FTS), Randolph AFB, TX.

The URT GBTS is maintained and supported by Organic Logistics Support (OLS) through the 555th Software Engineering Squadron with Training System Support Center (TSSC) at Oklahoma City Air Logistics Complex, Tinker AFB, OK.

Program Manager:
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T-1A GROUND BASED TRAINING SYSTEMS (GBTS)

The T-1A GBTS program is in sustainment managing 12 Operational Flight Trainers (OFTs) and 10 Avionics Parts Task Trainers (PTTs). The T-1A GBTS provides direct, transferable pilot training in support of the T-1A aircraft. The student gains knowledge and experience with all controls and instruments during takeoff, landing, Visual Flight Rules and Instrument Flight Rules, flight, navigation and emergency conditions. The OFTs are supported by two Training System Support Centers (TSSCs). The TSSC at Joint Base San Antonio-Randolph, TX is responsible for providing maintenance, modifications, engineering support, and configuration/data management support for the undergraduate pilot training baseline configuration.

T-1A Jayhawk Flight Simulator

The TSSC at Naval Air Station Pensacola, FL is responsible for the Combat Systems Officer (CSO) baseline configuration. The Technical Data Package consists of software documentation, source code, hardware specifications, technical publications, Acceptance Test Procedures, engineering drawings, visual databases, maintenance and operation manuals/documentation, licenses, vendor documentation, and other related documentation required to maintain or enhance the training system.

Recently, T-1A GBTS has incorporated a technical refresh updating multiple systems to include a visual system upgrade and outdated computer equipment.

Currently, the program is maintained by Contractor Logistics Support via Aero Simulation Incorporated (ASI).

Program Manager:
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T-6 GROUND BASED TRAINING SYSTEMS (GBTS)

The principal mission of the T-6 GBTS is to train entry-level U. S. Navy (USN), U.S Marine Corps (USMC), U.S. Coast Guard (USCG) and U. S. Air Force (USAF) student pilots in primary and intermediate flying skills. T-6 GBTS also provides primary and intermediate training to entry-level USN Student Naval Flight Officers (SNFOs). Additionally, T-6 GBTS provides entry level USAF student navigators with a basic understanding of airmanship prior to their designation as USAF navigators. To meet these training needs, the USAF employs 90 T-6A Aircrew Training Devices (ATDs) while the USN employs 31 T-6B ATDs and nine T-6A ATDs.

The T-6 Air Vehicle (A/V) and GBTS, commonly known as the Joint Primary Aircraft Training System (JPATS), replaced the USAF's T-37B and the USN's T-34C aircraft and their associated ground-based systems in support of USAF and USN flight training programs. Three variants of the A/V are operated; T-6A (USAF & USN), T-6B (USN), and T-6D (U.S. Army, four test range aircraft, no undergraduate training conducted). The T-6 GBTS has common components to meet common USAF and USN requirements. The system procured brings entry-level flight students to a level of proficiency so they can transition to advanced USN and USAF flight training systems. Elements of the system are the AV and the GBTS which are necessary to perform operational flight instruction, instrument flight instruction, and pre-flight instruction. The system also includes an integrated package of courseware, syllabi, academic training courses, and an automated data management system.

The T-6 GBTS is fully integrated to support all training as defined by the Instructional System Development process. The T-6 GBTS functions as an integrated part of the USAF Undergraduate Primary Pilot Training, Undergraduate Student Naval Pilot Training, Specialized Undergraduate Pilot Training, USAF Undergraduate Navigator Training, Euro-NATO Joint Jet Pilot Training, and Undergraduate Naval Flight

T-6A Operational Flight Trainer (OFT) Display

T-6A Egress Procedures Trainer (EPT)

Officer Training programs.

Both services employ separate Contractor Operated Maintenance Services (COMS) contracts which provide both Contractor Logistics Support (CLS) and Contractor Operated and Maintained Base Supply (COMBS) services to meet all simulator maintenance and logistics needs.

The T-6 GBTS acts as a primary flight training platform. It possesses handling characteristics compatible with the primary student training environment. The T-6 GBTS possesses characteristics of reliability and maintainability that afford the student an opportunity to receive safe and effective training within the allocated period.

Currently, the program is maintained by Contractor Logistics Support via Delaware Resource Group (DRG).

T-6A Unit Training Device (UTD) with Instructor Operation Station (IOS)

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Deputy Program Manager
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INTERNATIONAL PROGRAMS BRANCH

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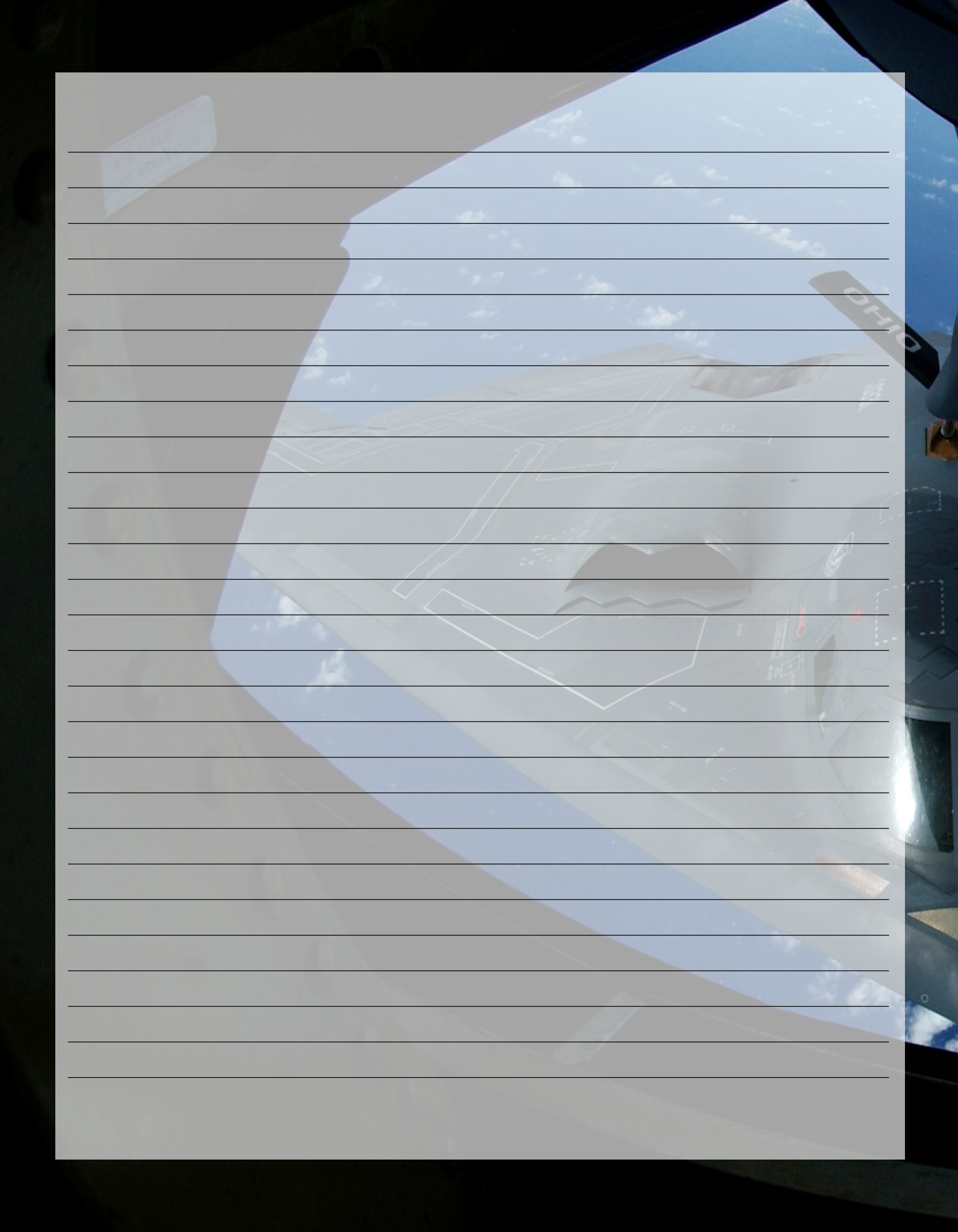
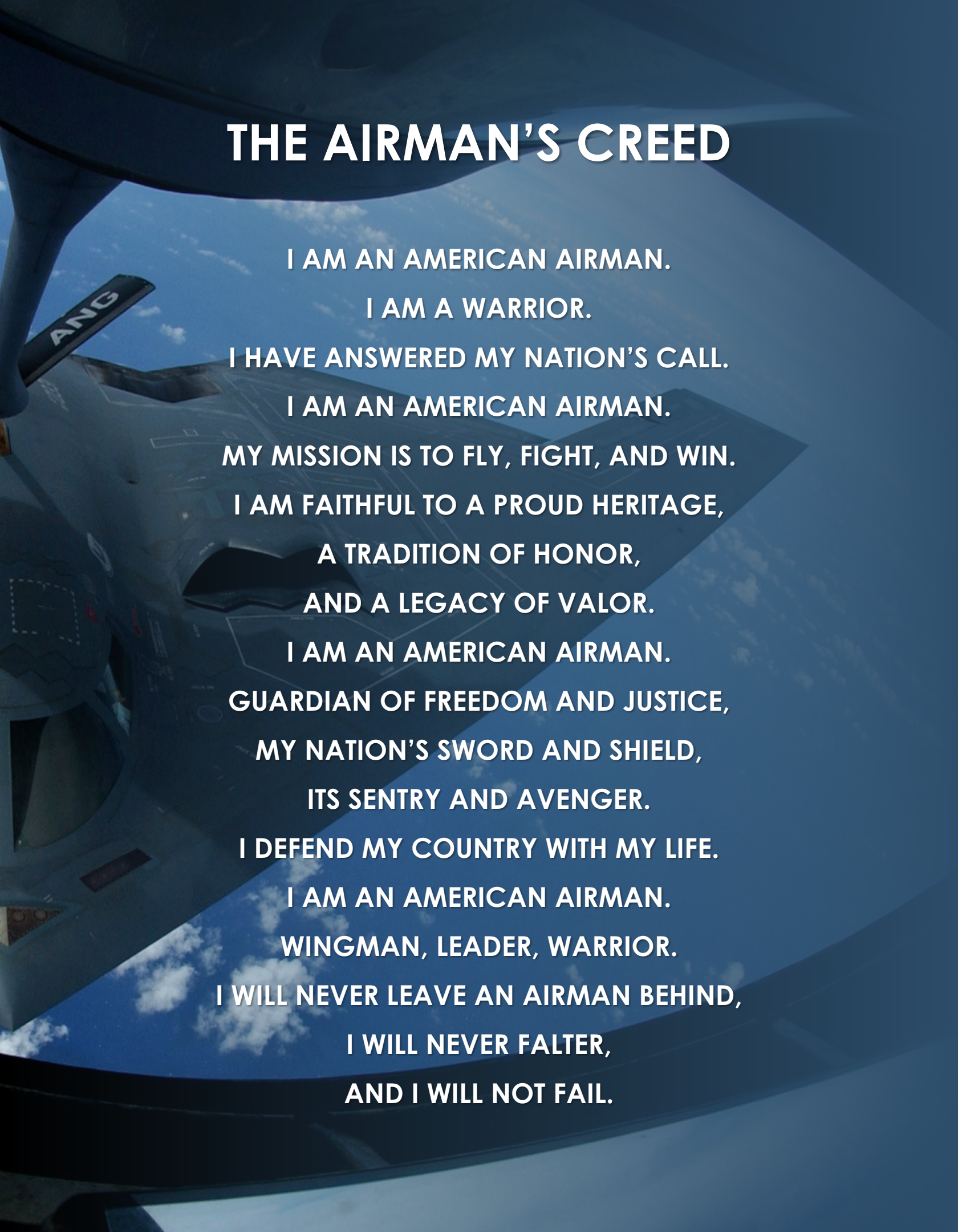
F-15 Mission Training Center (MTC)

SIMULATORS DIVISION EXECUTES OVER 29 FMS CASES FOR 24 COUNTRIES VALUED AT $3B+ SUPPORTING F-15, F-16, C-17, C-130, KC-46, T-6, AEROMEDICAL, HH-60, AND JTC TRS; FURTHER, THERE ARE 15+ ADDITIONAL CASES IN VARYING STAGES OF IMPLEMENTATION WHICH WILL ADD TO THE INTERNATIONAL PARTNER PORTFOLIO.





THE AIRMAN'S CREED

I AM AN AMERICAN AIRMAN.
I AM A WARRIOR.
I HAVE ANSWERED MY NATION'S CALL.
I AM AN AMERICAN AIRMAN.
MY MISSION IS TO FLY, FIGHT, AND WIN.
I AM FAITHFUL TO A PROUD HERITAGE,
A TRADITION OF HONOR,
AND A LEGACY OF VALOR.
I AM AN AMERICAN AIRMAN.
GUARDIAN OF FREEDOM AND JUSTICE,
MY NATION'S SWORD AND SHIELD,
ITS SENTRY AND AVENGER.
I DEFEND MY COUNTRY WITH MY LIFE.
I AM AN AMERICAN AIRMAN.
WINGMAN, LEADER, WARRIOR.
I WILL NEVER LEAVE AN AIRMAN BEHIND,
I WILL NEVER FALTER,
AND I WILL NOT FAIL.

DELIVERING THE SKILL TO KILL

ADVANCED TRAINING CAPABILITIES JOURNAL

2025 - 2026

AIR FORCE LCMC

U.S. AIR FORCE

TRAINING DIRECTORATE
AIR DOMINANCE BEGINS HERE

ADVANCED TRAINING CAPABILITIES DIVISION

DELIVERING THE SKILL TO KILL

1895 5TH STREET, BUILDING 46

WRIGHT-PATTERSON AFB, OH 45433

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Cleared for Public Release on 1 September 2025, Case Number AFLCMC-2025-0165

WELCOME

Welcome to I/ITSEC 2025. This year's theme is Optimizing Training, Ensuring Operational Dominance. Our theme is on point as geopolitical tensions remain high with ongoing conflicts in Ukraine and instability in the Middle East underscoring the need for constant vigilance and readiness. China's assertive posture in the Indo-Pacific region continues to raise concerns about regional security. Russia's actions in Ukraine have also highlighted the interconnectedness of global security and the potential for rapid escalation. The need to preserve operational readiness and effectiveness are crucial to maintain our nation's competitive edge. We must unequivocally demonstrate our ability to project power in contested environments and defend our interests within USINDOPACOM. The Advanced Training Capabilities Division, within the Training PEO, is at the forefront of our nation's ability to do just that. We are laser focused on arming our operational warfighters with advanced training capabilities and skills to dominate evolving global threats and conquer any adversary.

The Operational Training Infrastructure Branch had another busy year. The Simulators Common Architecture Requirements and Standards (SCARS) program is currently remotely scanning and patching, from the Security Operations Center, 9 sites, including 5 affiliate training systems. This year we expect to increase the number of sites and programs that complete enterprise testing, to include Special Access Programs, increase awareness and implementation of SCARS standards, continue developing the SCARS open systems architecture, and implement common data repositories for use and contribution by industry. Additionally, the Distributed Training System programs delivered a combined 39,000 hours of distributed training to 23,000 aircrew members across 15,000 training events. Combat Air Forces (CAF) Distributed Mission Operations saw an increase in 5th generation training, Mobility Air Forces Distributed Mission Operations brought on a new training system, and Air National Guard Operational Training Support continues to advance its Live-Virtual-Constructive (LVC) efforts. All programs will continue to bring on additional sites and platforms and develop new capabilities to provide a realistic virtual training environment meant to enhance operational effectiveness.

In the Operational Training Environment Branch, the Air Force Joint Simulation Environment (JSE) team received approval in June from the Acting Service Acquisition Executive, Mr. Bailey, for the JSE program to enter the Software Acquisition Pathway Execution Phase. This is the culmination of hard work and collaboration between the USAF and USN organizations involved in the JSE Enterprise, to develop the acquisition strategy, formal cost estimate, and required supporting documentation. This work was executed in parallel to continue fielding of the synthetic environment, and continuous efforts to more perfectly integrate development teams and processes across contributing USN and USAF organizations. This year has seen the establishment and formal assessment of an early operational capability at the Joint Integrated Test and Training Center, Nellis (JITTC-N), providing the first USAF JSE-based training capability for F-35 aircrews. The groundbreaking for the construction of the Joint Integrated Test and Training Center-Elmendorf (JITTC-E) began along with continued planning for the future standup of that facility. The JSE team has also been heavily engaged with platform program offices and their primes and subcontractors for platforms and systems to plan to integrate with JSE in order to realize the USAF and DoD vision for JSE to be the premier synthetic range to support multi-domain test and training.

The Air Combat Training Systems Branch is pursuing a USN-led competitive award for a production buy of the current Tactical Combat Training System (CTS) Increment II system as the next combat training pod for the Air Force. The P5CTS program began fielding the System Security Upgrade to provide an encrypted data link and is working on a block upgrade to re-enable bus connection. The team also continued maturing the Live Mission Operations Capability (LMOC), successfully starting the fielding of LMOC-P v1.6 with upgrades to conclude in April 2026. The LMOC team is pushing ahead with AI/ML integration, XR implementation, digital radio transcription, and other enhancements in FY26.

The Range Threat Systems Branch delivered over 100,000 hours of live flight training for the CAF last year. This training directly contributed to real world mission success such as Operation Midnight Hammer. The team delivered 90% mission availability of 197 threat trainers fielded on 22 training ranges across the globe. Work continues to integrate existing threat training systems with LMOC to more closely integrate LVC training. In addition to current operations, the branch achieved initial operational capability for Advanced Range Threat System (ARTS) Variant 1, expanding the modern threats the CAF flies against. The branch also completed critical design review for the ARTS Variant 3, which is a truly digital program designed to operate in the JSE and live flight operations. ARTS Variant 3 will anchor the JSE with live flight data when the system is fielded in 2027.

In FY25, the 425+ members of our Division worked diligently on 17 programs executing $2.2B across 7 congressional appropriations in support of 8 major commands, 44 program offices, 15 foreign partners and 22 worldwide training ranges.

I look forward to engaging with you on the I/ITSEC floor about the Advanced Training Capabilities Division. I hope you network with other participants, enjoy all of the Air Force signature events, and learn from the Senior Leader discussions and presentations.

COL RICARDO "RICK" JAMIE, USAF

Senior Materiel Leader,
Advanced Training Capabilities Division
PEO Training Directorate (AFLCMC/WNR)

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ADVANCED TRAINING CAPABILITIES DIVISION

SENIOR MATERIEL LEADER
Col Ricardo “Rick” Jamie

DEPUTY DIVISION CHIEF
Mr. Steven Rhodes

MISSION

Arming warfighters with advanced training capabilities to dominate evolving global threats.

VISION

Experience competition before crisis or conflict to conquer any adversary.

AFLCMC / WNR LEADERSHIP

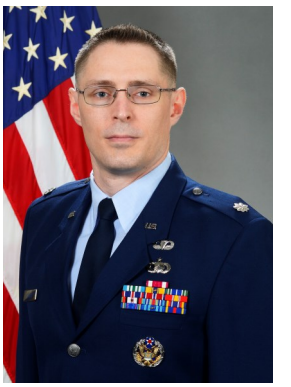
CHIEF OF TEST & EVAL
Mr. Tony Jarry

CHIEF OF ENGINEERING
Mr. Lynn Silver

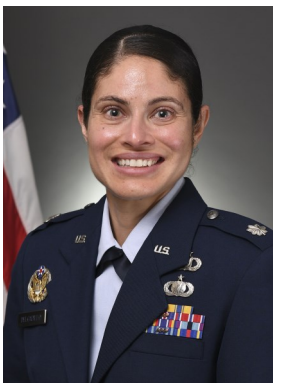
CHIEF OF CONTRACTING
Mr. Robert Hixenbaugh

CHIEF OF FINANCE
Mr. Bruce Comer

CHIEF OF CYBER & IT
VACANT



OPERATIONAL TRAINING ENVIRONMENT
Lt Col John Kovacic
Branch Chief



OPERATIONAL TRAINING INFRASTRUCTURE
Lt Col Virmil Delgadillo
Branch Chief

AIR COMBAT TRAINING SYSTEMS
Mr. Ryan Bruce
Branch Chief

RANGE SYSTEMS
Lt Col Timothy Shuck
Branch Chief

INTEGRATION
Mr. Jerrad Pullum
Branch Chief

PROGRAM ORG CHART

DIVISION CHIEF (SML)

DEPUTY

OTE - JSE (ML)

Blue Air

- Night One Blue Air
- In-A-Box Updates

Virtual Environment

- Night One Other Platforms
- Environment Development
- Environment Enhancements

Operations & Governance

- Enterprise Integration
- Operations & Sustainment
- JSE Program Governance

OTI (ML)

Distributed Training System

- CAF DMO
- MAF DMO
- ANG OTS
- LVC
- XCITE/NGTS

Common Architecture & Standards

- SCARS

Cybersecurity

INTEGRATION

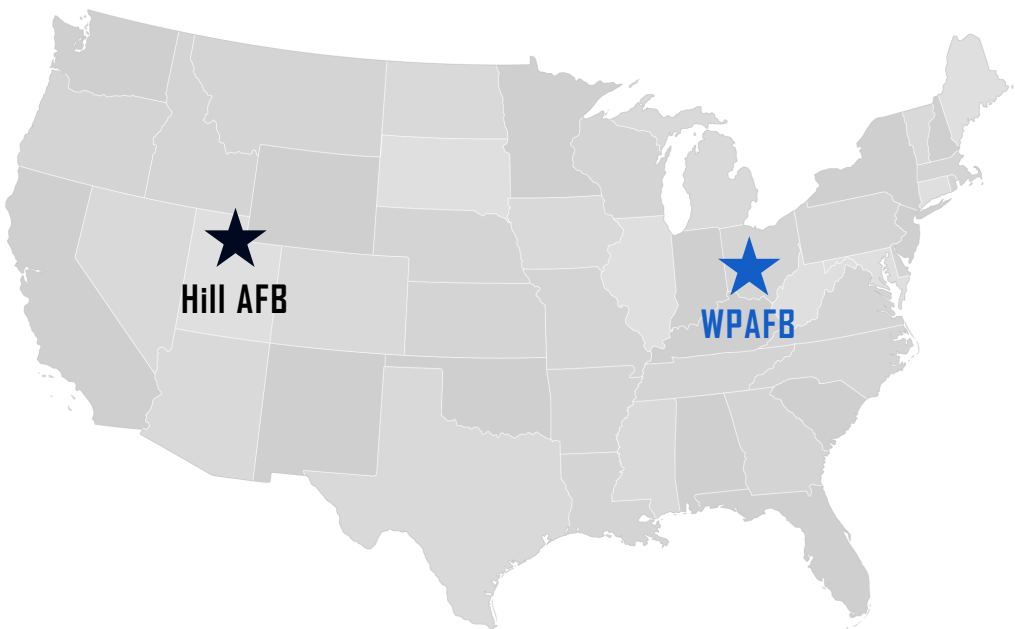
- Program Control
- Division Action Group

AIR COMBAT TRAINING SYSTEMS

- P-5 ACTS
- P-5 ACTS FMS
- P-6 ACTS
- Live Mission Operations Center

Range Threat Systems

- ARTS V1
- ARTS V3
- ARTS V4
- JTE
- UMTE
- Band Sim
- MTE
- TRTG
- MUTES
- Mini-MUTES



DELIEVERING THE SKILL TO KILL

WNR SNAPSHOT

SUPPORTING

17 PROGRAMS

8
MAJCOMS

44
PROGRAM OFFICES

15
COUNTRIES

449 MEMBERS STRONG

22
CONUS/OCONUS TRAINING RANGES

FY24

629
Funding Documents

$998.7M
Expiring Funds Executed

537
Contract Actions

OPERATIONAL TRAINING INFRASTRUCTURE

LT COL VIRMIL DELGADILLO

OPERATIONAL TRAINING INFRASTRUCTURE

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OPERATIONAL TRAINING INFRASTRUCTURE

SIMULATOR COMMON ARCHITECTURE REQUIREMENTS AND STANDARDS (SCARS)

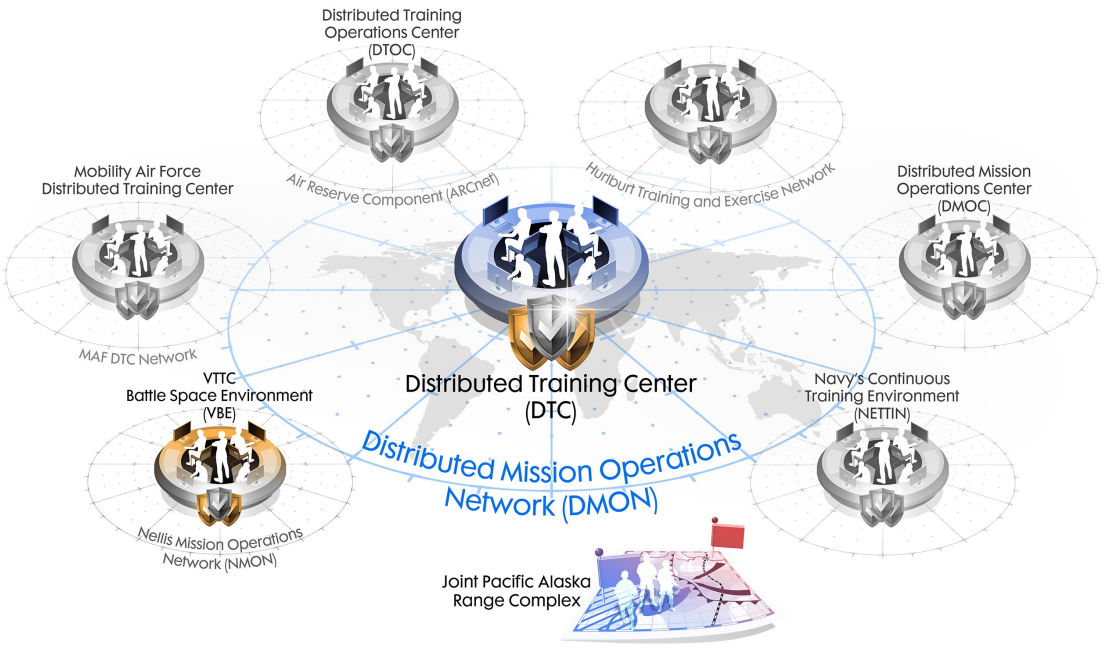
The Air Force Operational Training Infrastructure (OTI) 2035 Flight Plan lays out an ambitious future training enterprise built on a common operating environment to achieve and sustain full spectrum readiness while maintaining a thoughtful balance between readiness and affordability. Simply re-hosting the entire simulator enterprise would be prohibitively expensive, take years if not decades to complete, and still may not ensure the level of needed integration. Instead, the Air Force established a new, innovative sustainment approach called the Simulator Common Architecture Requirements and Standards (SCARS).

SCARS is a sustainment initiative to incrementally establish a Modular Open Systems Approach (MOSA) for Air Force training systems that leverages common applications, supports efficient and rapid updates to capabilities, evolves with cybersecurity threats and controls, and minimizes life cycle costs. The SCARS desired end-state is migration from legacy, unique architecture training systems towards a common one that mirrors operational goals for integration. With the common architecture, applications and models needed to achieve a common operating environment become easier to implement and sustain. Given the size, scope, and complexity of all the training devices in the enterprise, transitioning to a modular system will be a complex, long-term endeavor.

SCARS helps transition software components to a common environment while providing a secure baseline. SCARS implements a three-phased approach, with phase one and three intimately linked. The first phase focuses on efficient cybersecurity delivering centralized cyber-maintenance and common security controls at the Security Operation Center (SOC) through the On-Premise Equipment (OPE), located at the training sites, to the training system. The SOC will schedule and create connections over existing WAN(s) to sites as necessary to remotely manage OPE(s). The second phase focuses on the common architecture by migrating, or virtualizing, non-simulator unique software to the local OPE. The third phase focuses on delivering standard applications to the SCARS library, at the SOC, replacing repetitive custom applications with standard applications available to the training enterprise. Over time, ideally, the OPE will serve as standard platform for hosting simulator applications and hardware useful for both cybersecurity and the training mission. The key to a successful transition to common architecture is the SCARS standards.

The SCARS standards are developed incrementally to deliver functionality quickly and provide flexibility to address rapidly changing technology and training requirements. The primary goal of the SCARS standards is to establish standard subsystems and interfaces between subsystems within training simulators, applying MOSA for a more sustainable architecture. A government-chaired collaborative working group establishes the Government-owned standards. The SCARS Engineering Configuration Board includes current Air Force simulator support contractors, known as SCARS Affiliates, and simulator network providers, known as SCARS Partners. Both the SCARS Affiliates and Partners have contractual requirements to update their respective systems to new SCARS standards, as applicable. Initial changes to training systems are currently being undertaken, and designs will evolve as SCARS standards are incrementally applied to adapt the SCARS architecture. The ultimate objective for SCARS is to provide the training enterprise a common architecture, reducing the disparate configurations, increasing the cyber resiliency, and providing higher fidelity and greater interoperability to Air Force simulators.

On 26 June 2020, the SCARS team awarded a 10-year ID/IQ contract with 5 base years and 5, 1-year options to L3Harris, now CAE. Since then, both the contractor and government have been committed to establishing the infrastructure necessary to achieve a common architecture. This past year focused on delivering cybersecurity capability by integrating 4 training systems, remotely managing their connected OPEs



DMON Enables Realistic Training Mission Execution with Intra Air Force and Inter Service Simulator Connectivity and Interoperability.

from the SOC. The team will continue to work with training system program offices to integrate OPE according to established roadmaps. This year also continued the work on virtualization to determine the effectiveness of virtualized software onto the OPE. The team is also working on establishing a Government SOC (GovSOC) which will replace two interim SOCs. The GovSOC will be in the Dayton, OH area and is projected to be operational in Summer 2027.

Achieving the goal of SCARS will require continued focus and collaboration with training system program offices and contractors. SCARS brings an innovative approach to efficiently and effectively incrementally establishing a Modular Open Systems Approach (MOSA) for Air Force training systems.

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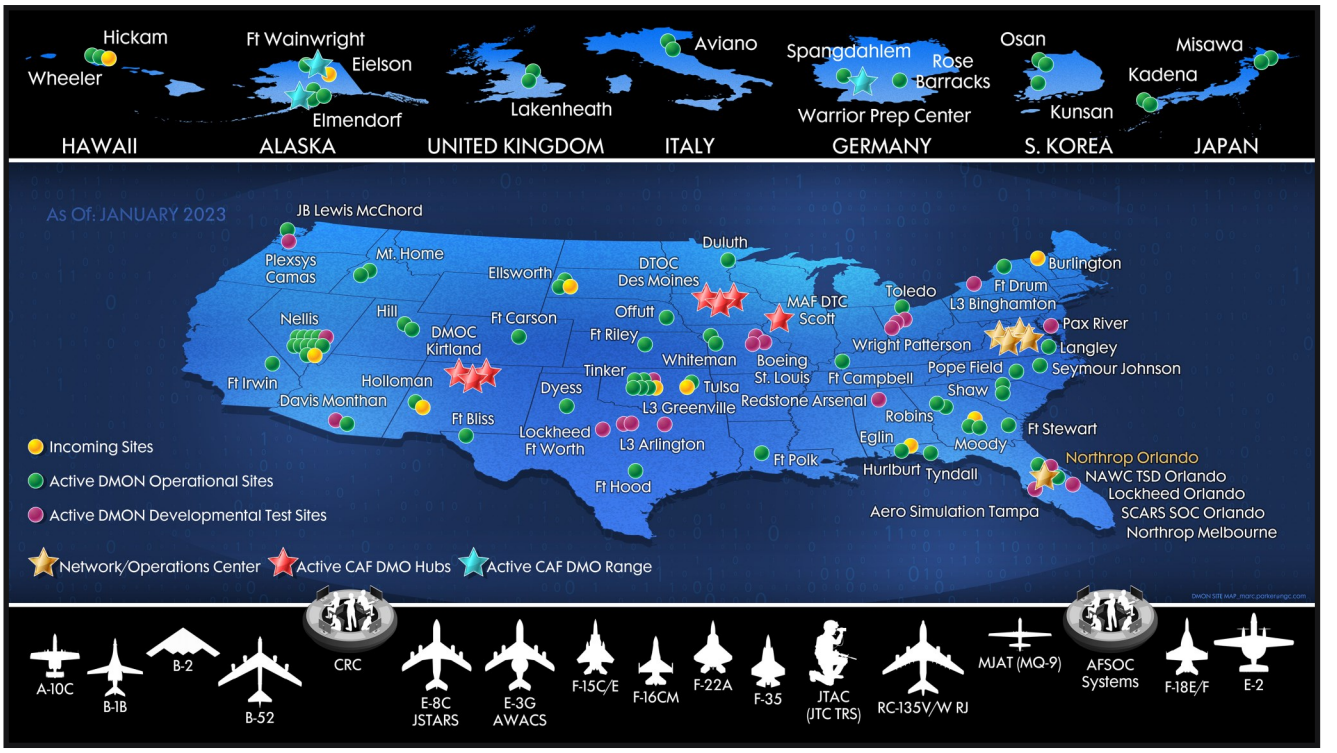
COMBAT AIR FORCES DISTRIBUTED MISSION OPERATIONS (CAF DMO)

The CAF DMO program is now entering its 26th year of delivering global distributed mission training to the warfighter. Northrop Grumman was awarded the CAF DMO 3.0 Indefinite-Delivery/Indefinite-Quantity (ID/IQ) services contract in December 2024, a follow-on to the CAF DMO bridge and 2.0 contracts. The program provides the technical, managerial, and network support services required to ensure that warfighters in geographically separated simulators can conduct daily training together in a real-time, synthetic environment.

The Distributed Mission Operations Network (DMON) has been installed in over 122 sites at over 71 separate locations. The DMON connects to other locations and sites through network-to-network connections with the Air Reserve Component Network (ARCNet), the Hurlburt Training and Exercise Network, and the Mobility Air Forces Distributed Training Center Network (DTCN). The DMON is also connected to the Distributed Mission Operations Center at Kirtland AFB, NM, the Combat Air Forces Distributed Training Center (DTC) at Joint Base Langley-Eustis, VA, the Joint Integrated Test and Training Center (JITTC) at Nellis AFB, NV, the Distributed Training Operations Center (DTOC) in Des



DMON 2.0 Site Map

Moines, IA, the USAFE-AFAFRICA Warrior Center (UAWC) and live ranges such as Joint Pacific Alaska Range Complex (JPARC) for Live, Virtual, and Constructive (LVC) training. Over the last calendar year, these sites conducted 4,745 training events totaling over 17,743 training hours over the DMON.

During the next year, the program will add 17 sites to the DMON, to include 2 F-35A FENIX sites, 1 HH-60W site, 5 F-35A FMS sites, 4 F-16 CUT II sites, 1 HC-130J site, 1 F-15EX site, and 3 DMON Access Portal (DAP) sites throughout the globe. The addition of 17 sites is the most ever added in a single year, dramatically expanding the diverse collection of operational training and development sites to the network.

Our current efforts provide the infrastructure and services to support distributed training for the following platforms: A-10 Full Mission Trainers (FMTs), B-1B Weapon System Trainers (WST), B-2 WST, Control and Reporting Centers (CRC), E-3G Mission Crew Training Systems (MCTS), E-8C MCTS, F-15C Mission Training Center (MTC), F-15E MTC, F-16CM MTC, F-22 MTC, F-35 FMS, HH-60W, MQ-9, RC-135V/W MCTSs, Joint Terminal Control Training & Rehearsal Systems (JTC TRS), MJATs, and DBEARS35 training systems. In addition, there are 15 developmental sites connected to DMON, which provide the technical support necessary to ensure that the operational sites can effectively train on the network. DMON enables multiple Large Force Exercises (LFE) per year, such as VIRTUAL FLAG, COALITION VIRTUAL FLAG, Command and Control, Electromagnetic Warfare (C2EW) LFEs, Bamboo Fox, Bamboo Eagle, and DMON Argonne. Each LFE offers valuable training scenarios often provided by personnel at JITTC-N and the DTC. For example, this year, the CAF DTC lead DMON Argonne 25-1, which hosted 42 sites, 103 cockpits, and trained 219 F-35, F-22, F-16, F-15, A-10, E-3G, MQ9, RC-135, CRC, JTAC and AWACS personnel over the course of 4 days.

The CAF DMO team's core mission includes focusing on collaborative efforts among DMO participants, both contractors and government, to establish, adopt, implement, and update common standards for Combat Air Forces simulation and interoperability. The program continues to address issues such as security considerations and systems interoperability through the unique collaborative technical integration team, known as the Standards Development Working Group (SDWG). Security constraints and Cross Domain Solution (CDS) operations are managed in the Rule Set Working Group (RSWG). The CAF DMO program continues to evolve and achieve the vision articulated from the program's inception, providing a persistent virtual training environment to enhance operational effectiveness by integrating DMO as an

increasingly capable training solution to meet the warfighter's needs.

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AIR NATIONAL GUARD OPERATIONAL TRAINING SUPPORT (ANG OTS)

ANG OTS is a 10-year program awarded in March 2025 to Huntington Ingalls Industries (HII) to support and expand the current capabilities at the Distributed Training Operations Center (DTOC) and the ANG distributed training enterprise. The principal mission is to provide expertise and staffing for the execution of Distributed Mission Operations (DMO) events and Interoperability integration, and to provide technical and analytical expertise in support of networked operations. This effort includes the expansion of technical and program management, scenario development, DMO mission execution, data collection, data reduction and analysis, technical and analytical support of networked operations, cybersecurity, test planning and reporting, requirements definitions, system engineering, system software Quality Assurance / Configuration Control (QA/QC) tasks, and Verification, Validation, and Accreditation (VV&A) tasks. This ensures warfighters in home station training system/environment simulators can train together in a real-time, synthetic environment daily.

United States Air Force (USAF) Distributed Training Centers (DTCs) have been established to provide technical, operational, security, and event support using Operational Training Infrastructure (OTI). The ANG's DTC is the DTOC, which has been established since 2003 as a primary DTC for ANG units and the USAF. ANG has established the DTOC as the 132nd Combat Training Squadron, Iowa ANG, located at the Des Moines ANG Base. There is an operating location in Duluth, MN, and planned expansion through additional operating locations.

The DTOC's primary customers are the ANG and Air Force Reserve Command (AFRC), commonly referred to as the ARC (Air Reserve Component). ARC DMO relies on the DTOC to network home station training systems and provide event control to meet warfighter training objectives.

The ANG OTS team continues to focus on collaborative efforts among DMO participants (both contractors and government) to develop, establish, adopt, implement, and adhere to DOD, Simulation Interoperability Standards Organization (SISO), and industry standards to provide interoperability. These standards, such as High-Level Architecture (HLA) and Distributed Interactive Simulation (DIS), provide a common interoperability interface, allowing participants to interface with other models and simulations. In addition, common standards provided by the Combat Air Forces (CAF) DMO Standards Development Working Group (SDWG), and the Air Force Agency for Modeling and Simulation (AFAMS) enable high fidelity modeling of real world, intelligence based, threat and friendly weapons systems. The ANG OTS program continues to evolve the ANG Live, Virtual, and Constructive vision to maximize ANG readiness to conduct current and projected federal and state missions through efficient, frequent, integrated training in networked live and virtual systems.

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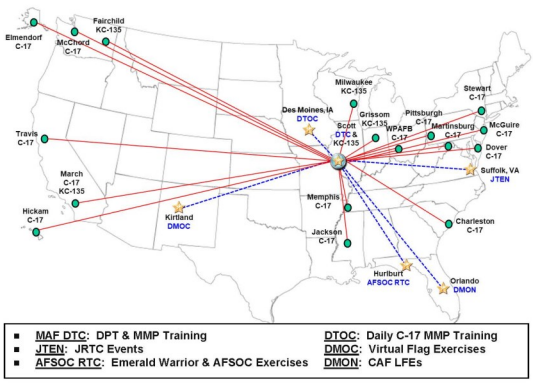

MAF DMO Network Connectivity (Current)

MAF DMO DTC Building

MOBILITY AIR FORCES DISTRIBUTED MISSION OPERATIONS (MAF DMO)

The mission statement for the MAF DMO Program is "To train in a secure, realistic networked environment while reducing risk and operating cost. MAF DMO capabilities will enable Live, Virtual, and Constructive (LVC) participation in a wide range of MAF, USAF, Joint and Combined exercises." The overall objective of this effort is to provide Operational and Infrastructure (O&I) support to facilitate persistent, distributed training for MAF Aircrew Training Systems (ATS) in support of Headquarters Air Force's LVC program.

Scope includes operating and maintaining the Distributed Training Center (DTC) and DTC Network (DTCN) in support of worldwide ATS training and maintaining connectivity and interoperability between other MAJCOMs and organizations i.e., Joint Training Enterprise Network (JTEN), Distributed Training Operations Center (DTOC), Distributed Mission Operations Center (DMOC), Distributed Mission Operations Network (DMON), and the AFSOC Readiness Training Center (RTC). Efforts under this Task Order span requirements development, site surveys, systems integration & test, operations sustainment, logistics, physical security, cybersecurity and network support, and defining interoperability standards.

The DTC is the "Hub" for the networked mobility training devices and is located at Scott AFB, IL. The DTC consists of multiple Distributed Training Center Operator Stations (DTCOS) comprised of equipment required to support the interfacing of the DTCN connected trainers and allows an operator to monitor, manage, and troubleshoot the DTCN and associated equipment. The DTCOS allows information to be processed in plain text so they can interface with the DTCN through the wide area network (WAN). The DTC also has Event Control Centers providing manned constructive white force capabilities used to enhance mission accomplishment across a range of mobility missions. The DTC facility on Scott AFB completed expansion in FY23, allowing for five times the number of Event Control Centers to support greater training throughput.

The DTC has maintained network reliability & availability of greater than 99% over the past 12 months while conducting daily MAF Mission Profile (MMP) events with the C-17, KC-135, and C-130J. The DTC also provides Daily Persistent Training at the local level for C-17s and KC-135s, and coalition training exercises at multiple times through the year.

A significant increase in activity is expected over the next few years (FY26-28) with increased MMPs, Virtual -to-Virtual Air Refueling (V-VAR) capability (by late FY27), and the connection of additional MAF Platforms and sites. Huntington Ingalls Industries (HII) is the MAF DMO O&I contractor, providing support towards achieving a full VAR capability as well as increasing DMO training capability across additional MAF ATS.

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INNOVATION TEAM

Meet the "Innovation Cell" – your go-to hub for all things tech and collaboration in the Simulator world! We're the first point of contact for connecting with the Simulator community, and our mission is to scout out cutting-edge technologies and capabilities in the commercial areas as well as discover inventive solutions to various training challenges. Think of us as your tech-savvy filter, evaluator, and distributor of game-changing innovations. Want to engage with WNR, WNS, or the Training Directorate at large? Shoot us a message and we'll get that ball rolling! Not sure how you can help WNR/WNS or PEO Training, but have a capability? Reach out and we can see how it fits best!

We strive to take the heavy lifting off the Sims Community's plate, serving as an in-house problem

solver. By teaming up with industry partners, tech developers, Air Force research organizations, and commercial innovators, we're building a dynamic database of groundbreaking technologies ready to revolutionize various USAF simulator training platforms. The database isn't just theoretical, the Innovation Cell has a vendor database that collects vendors and industry leads and acts as a central repository to the latest simulation technology and capabilities. As part of getting into the database we ask vendors to complete an engagement form and provide some short marketing material, then we set up a call to meet and learn more about them. Program offices within AFMC (and the rest of the USAF) are welcome to reach out to us to learn more about those vendors and attend engagement meetings. Are you interested in a certain vendor or a certain piece of tech? Reach out to us and we can help bridge those gaps. Curious about the challenges we've faced in WNR/WNS and PEO Training and the solutions we've discovered? We can help with that too. Want to develop an engagement process for your own office? We'd be glad to help!

You might have heard of the Innovation Cell Science Fairs – Quarterly events where we bring industry directly to WPAFB. Aechelon, Vertex, Varjo, CymSTAR, Mass Virtual, Unity, Bugeye, ASI and Specular Theory are only a handful of the vendors we've hosted at our Cell! Our Science Fairs aren't just another business development pitch though. In this forum we challenge vendors with solving problems and proving solutions and ask that the vendors show us interoperability while demonstrating their capabilities, or present how they are working with other industry vendors to increase capabilities. These are smaller events that focus on a certain capability or technology that can help the Sims community. We also host vendor Contractor Series events! These are one-day events devoted to a single vendor who hosts GOTS solutions. You might know of a prime contractor within the government, but do you know *everything* they do and have? We bring the capabilities and information to the training communities' doorstep.

And we aren't even close to being finished by just conducting vendor engagements and developing databases, the Innovation Cell recently reignited the Extended Reality (XR) Guideline 2.0 effort. Combining all current XR efforts across the USAF, working with any groups who have an XR requirement or project, we're in the crafting stages of creating an "All Things XR" guide. This guide will explain the differences between Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR), and XR, show use-cases currently

Innovation Cell Chief presenting innovative simulation to an audience

Innovation Lab

Innovation Cell presents Ms Evans 2nd Grade Science Fair, a roaring success!

within the USAF, explain procurement and sustainment approaches, and much, much more. There is a clear need and requirement for a better understanding of XR technology, and the Sims Innovation Cell is leading that charge! This XR approach will help government groups establish XR guidance and focuses and will help industry know where the focuses and requirements are for all things XR. It's going to take a village to craft, so feel free to reach out for more information or if you would like to get involved!

Join us in 2026 as we bring more Science Fairs and Contractor Series, way more XR work, new databases and engagement processes, as we work to bring new and innovative technologies into the USAF to help sharpen that warfighter's bite! Feel free to reach out to us for further information on anything above, or if you're interested in collaboration!

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Innovation Cell showing future pilots how to dominate using an F35 at the Oshkosh Air Show

OPERATIONAL TRAINING ENVIRONMENT

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JOINT SIMULATION ENVIRONMENT (JSE) AIR FORCE

The Joint Simulation Environment is a highly extensible, modular architecture that builds on a foundation of US Navy and USAF modeling and simulation technologies. JSE is Government-owned and enables Fifth Gen Operational Test and high-end tactics development at relevant threat densities.

JSE is comprised of 6 major building blocks:

- A modular and highly extensible software battlespace environment
- A physical computing infrastructure that implements the battlespace
- One or more high fidelity ownerships (OFP-based simulators) that constitute the system under test (SUT)
- Cockpits and visual display systems that provide the pilot interface
- Planning/control/briefing rooms that facilitate large force mission execution
- An overarching facility that securely contains the above components and the manpower to operate it at primary test and training super sites (JITTC-N, JITTC-E, DTTR-N, DITTR-E)

JSE provides unparalleled environment fidelity and threat density, paired with customizable scenarios. JSE supports fully integrated blue weapons flyout models, high fidelity authoritative Intelligence Community threat models, physics-based infrared (IR) and radio frequency (RF) propagation, and weather effects for highly realistic training experience and system-of-systems performance. The environment supports full mission data capture, playback and post processing for test and training debrief applications. JSE integrates with high-fidelity Operational Flight Program (OFP) based simulators with fully representative cockpit and pilot-vehicle-interface (PVI) components to support Test requirements and is exploring options to support scalable cockpit and visualization options to address a broad spectrum of training requirements and applications.

JSE-AF entered the planning phase of the Software Acquisition Pathway (SWP) in March of 2024, and, in partnership with Naval Air Warfare Center Aircraft Division (NAWCAD), and Air Force Sustainment Center Software Directorate (AFSC/SW), the Operational Training Environment (OTE) Branch, within Training Directorate's Advanced Training Capabilities Division, developed program documentation, structures and processes, continued development of the synthetic environment and establishment of JSE sites. These efforts culminated in establishment of an early operational capability to support F-35 aircrew training at Joint Integrated Test and Training Center, Nellis with the 29 TES' publication of a simulator capability assessment report, and successful entry into the SWP Execution Phase in June of 2025. Current efforts include implementing federated agile development processes between the Air Force and Navy development teams, continuing serialized releases of the JSE Technical Baseline (JTB), supporting planning, procurement and fielding of infrastructure & hardware to support hosting of the environment and OFP based simulators at JSE sites. Additionally, the JSE enterprise is supporting integration of F-22 with the environment and continues engagement with platform programs to both ensure their requirements of the environment are addressed and facilitate their contracting and development activities supporting production of JSE-compliant OFP-based simulators.

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AIR COMBAT TRAINING SYSTEMS

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P5 COMBAT TRAINING SYSTEM/TACTICAL COMBAT TRAINING SYSTEM (P5CTS/TCTS)

The P5 Combat Training System/Tactical Combat Training System (P5CTS/TCTS) is a US Air Force and Navy cooperative program that is used to enhance the training provided to US Air Force, US Navy, US Marine Corps, and FMS Aircrews across multiple aircraft platforms. The USAF Training sites include 25 major ranges worldwide and 16 additional sub locations supporting the Air National Guard (ANG)/Air Force Reserves (AFR).

The system provides state-of-the-art training for today's advanced threats to air combat operations with instrumentation solutions to support warfighter needs in air-to-air, air-to-ground, and surface-to-air combat training missions. The globally fielded P5CTS enhances real-time and post-mission training by displaying the live-air picture, recording mission data, and relaying time, space and positioning information (TSPI) between participating aircraft during training sorties.

Key components of the system are Airborne Subsystems, which are GPS-enabled, aircraft-mounted airborne instrumentation pods with encrypted datalink, and Ground Subsystems which enable aircrews to conduct, monitor and control air combat training and conduct post-flight debriefing.

The maintenance concept/sustainment design for the P5CTS program is a mix of contractor logistics support and 2-level (field and depot) maintenance. Field level workforce support is through service contracts issued by the using commands. Depot-level functions are provided by Cubic Defense Applications via a contractor logistics support (CLS) contract. P5CTS is currently executing a system block upgrade (Block 7) to re-enable data bus connection and transfer capability with aircraft platforms.

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P5 COMBAT TRAINING SYSTEM (P5CTS) INTERNATIONAL PROGRAMS

The P5 Combat Training System (P5CTS) International Programs Section manages 15 Foreign Military Sales (FMS) cases across nine partner nations, representing a total program value of $401.6 million. Current customers include Australia (F-18 & F-35), Egypt (F-16), Kuwait (F-18), Morocco (F-16), Oman (F-16), Poland (F-16), Qatar (F-15QA), Saudi Arabia (F-15SA), and Singapore (F-15SG).

The P5CTS delivers advanced real-time air-to-air and air-to-ground weapons simulation capabilities to international partners, enabling comprehensive pilot training operations in realistic combat scenarios. The system features high-fidelity, continuous transmission of time, space, and position information, coupled with instantaneous kill notifications through secure long-range data link technology. Enhanced situational awareness is further supported through integrated voice communications that provide real-time engagement notifications directly to aircrew.

This sophisticated training platform significantly enhances global operator readiness while fostering interoperability among coalition forces. By expanding the P5CTS user base internationally, the system strengthens critical partnerships and enables seamless, safe training operations between the United States and its allied nations, ultimately supporting strategic defense cooperation objectives and maintaining tactical proficiency across diverse operational environments.

Comprehensive support for international customers encompasses the full spectrum of P5CTS lifecycle management, including new system acquisition and production procurement, end-to-end Contractor Logistics Support (CLS) for both air and ground subsystem sustainment and modernization initiatives, advanced cryptographic and cross-domain solution upgrades to enhance ground subsystem security capabilities, expedited return and repair sustainment services to minimize operational downtime, and proactive Diminishing Manufacturing Sources and Material Shortages (DMSMS) management to ensure long-term system viability.

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P6 COMBAT TRAINING SYSTEM (P6CTS)

The P6 Combat Training System (P6CTS) was a new start ACAT III program in 2023. The US Air Force (USAF) will leverage the US Navy's (USN) Tactical Combat Training System Increment II (TCTS II) program to satisfy the P6CTS requirement to replace the aging P5CTS program. The TCTS II system which includes the Airborne Subsystem (AS), Ground Subsystem (GS), and Remote Range Unit (RRU) Subsystem. The AS is a captive carriage instrumentation pod to be carried primarily on 4th Generation fighters, F-15 and F-16. The GS consists of two subsystems: the Common Ground System (CGS) and the Portable Ground System (PGS). The GS family is the primary interface between the mission operators and the mission participants as well as all data brought in from external systems to inform the overall exercise picture. The RRU is a ground-based datalink network node that provides connectivity between multiple air and ground subsystems, extending the range of the system and supporting GPS denied capabilities.

The P6 AS pod is mounted on wing store stations of fighter aircraft and is connected through the weapons bus to provide real-time air combat training capability to the pilot. Like the P5CTS/ TCTS I system, the P6 pod maintains the same form factor as the Sidewinder air-to-air missile, utilizing the AIM-9 and AIM-120 connectors to interface with the aircraft.

Traditionally, air combat training has included a mix of live and simulated range training missions to prepare aircrews for real-world combat. As technology, adversaries, and threats have evolved, training requirements for modern combat scenarios have changed. Live, Virtual, and Constructive (LVC) is the future of combat training. LVC provides users with the ability to inject synthetic targets into training missions and allows aircraft to guise themselves in red vs blue training simulations. These capabilities will provide an authentic training experience for our users and maximize the cost effectiveness of training.

The P5CTS/ TCTS I system features real-time weapons simulations and live monitoring functions for air-to-air, air-to-ground and surface-to-air missions, with Real-Time Kill Notification (RTKN), No Drop Weapons Scoring (NDWS) and Electronic Warfare simulation capabilities. The new TCTS II/P6 pod integrates the features of the previous pod in an open architecture system that represents the first certified encrypted, Multiple Independent Levels of Security (MILS) training equipment in both airborne and ground equipment.

P6CTS is projected to include the addition of an Internal Mount System (IMS) for the Joint Strike Fighter (JSF) and will add compatibility with other USAF and USN platform systems to maintain interoperability and backwards compatibility. The P6CTS IMS technology will be Modular Open System Approach (MOSA) and Sensor Open Systems Architecture (SOSA) compliant and readily portable to other 5th and 6th generation aircraft.

The P6CTS will resolve existing critical training capability gaps by providing comprehensive and realistic training environments for 4th and 5th Generation aircraft systems; encrypted data transmission capabilities; and will provide a growth path for LVC training capabilities.

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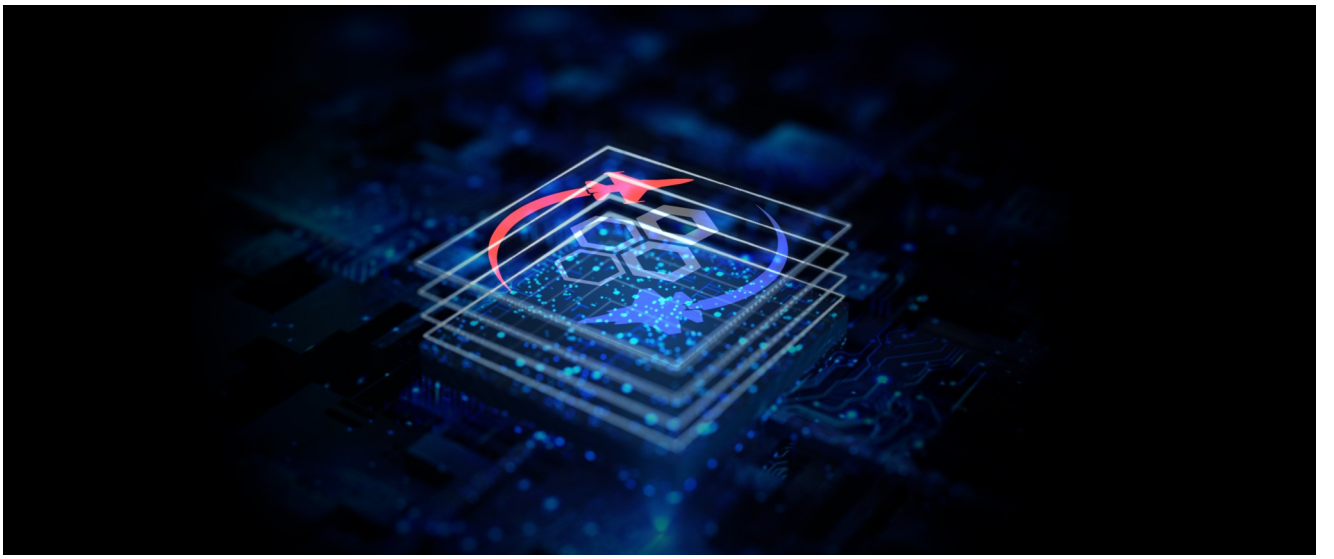
LIVE MISSION OPERATIONS CAPABILITY (LMOC)

The Live Mission Operations Capability (LMOC) System Program Office is focused on modernizing and enhancing Combat Air Forces (CAF) training in accordance with the ACC Enterprise Range Plan (ERP) and maximizing Operational Test and Training Infrastructure (OTTI) across the DOD. LMOC has adopted an Agile architecture in delivering its LMOC Platform, focused on delivering minimum viable products (MVPs) to the customer on a regular basis and integrating customer feedback directly into its prototyping requirements on a fast, recurring basis.

LMOC's strategic vision is to be seamlessly integrated within multiple environments across the DoD, covering such broad range topics as mission planning, scheduling, live execution, debriefing, training, academics, virtual environments, and data aggregation. LMOC's first MVPs centered around interconnecting legacy training range systems. LMOC developed a platform that takes multiple sources of information, translates it into a common architecture



language, and distributes it to the right user at the right location. Another key early MVP for LMOC was to improve the operability of the Range Training Officer (RTO), whose job is to referee a large force exercise to ensure participant training is maximized and optimized. LMOC integrated live missile flyout models into the common display RTOs use, easing their workload and providing more realistic results to provide accurate training information.

LMOC is currently deployed to 36 sites across the globe and is steadily being connected by the Live Mission Operations Network (LMON) SPO to bring all data to one consolidated hub. In the future, LMOC's DevSecOps pipeline will be interconnected and streamlined, allowing for true Agile sprints, releasing new features and capabilities to the warfighter in scales measured in days or weeks. Eventually, the vision of the LMOC SPO is to be integrated in such a manner to be the backbone of Air Force combat and training information, enabling our warfighters to focus on the things that only they can do.

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RANGE THREAT SYSTEMS

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ADVANCED RADAR THREAT SYSTEM – VARIANT 1 (ARTS-V1)

The ARTS-V1 training system, developed in partnership with Georgia Tech Research Institute (GTRI), supports training of 4th and 5th generation aircraft and aircrews to respond to long-range adversary Surface to Air Missile (SAM) threats. The ARTS-V1 consists of an Operator Unit (OU) and Radar Unit (RU). In the OU, radar operators track, acquire, and engage airborne assets with simulated missile flyouts with threat-representative radar engagement models. The OU is also where mission data is stored and processed. The RU is a Passive Electronically Scanned Array (PESA), which is a closed loop system capable of transmitting and receiving, and processing signals to and from aircraft to acquire and track targets. ARTS-V1 is a USAF variant of the Navy Anti-Aircraft Threat Simulator (AATS) deployed at China Lake Range. The USAF variant repackages the AATS hardware into a mobile system for USAF test and training ranges, developed under the Electronic Warfare Infrastructure Improvement Program (EWIIP) sponsored by Test Resource Management Center (TRMC).

AN/MST-T1V Mini-Multiple Threat Emitter Systcdem (Mini-MUTES)

A design upgrade to enhance the capabilities of the ARTS-V1 was awarded September 2023 to add an additional threat to the system, which will allow the Nevada Test and Training Range (NTTR) and Joint Pacific Alaskan Range Complex (JPARC) to reconfigure the system to replicate waveforms and signal processing of an additional high-priority adversary radar system to serve a broader customer base and expand pilot and aircrew training. Engineering Change Orders have also been issued to enhance the liquid heating and cooling system, threat

AN/MPS-T1 Band Simulator (Band Sim)

model fidelity, and clutter mitigation algorithms.

GTRI developed the AATS and ARTS-V1 under a joint USAF/Navy development contract and is manufacturing two additional ARTS-V1 production units. GTRI is also currently performing all range integration, maintenance, engineering support, supply chain management, and software support, under an Interim Contract Support contract, which is active through 2029.

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ADVANCED RADAR THREAT SYSTEMS VARIANT 3 (ARTS V3): VARIABLE APERTURE DIGITAL RADAR (VADR)

ARTS-V3 is a highly advanced radar system being developed to meet emerging and future test and training requirements against the latest developments in peer-adversary surface-to-air systems. It is equipped with a high-powered, multi-functional, fully digital Active Electronically Scanned Array (AESA) that provides extensive coverage in the X and C radar bands. Its operations can be managed remotely from a command-and-control application hosted at the Range Control Center. One of its key features is its adaptability, allowing for seamless transition between adversary threats, and ease of threat update as new data emerges. The antenna technology employed is modular and scalable with

line replacement units that can be tailored to individual user needs.

Development of the primary radar system was awarded to Lockheed Martin Rotary and Mission Systems following a competitively-sourced acquisition with contract options for production. Performance by Lockheed Martin commenced in March 2024 with the goal of delivering the first Production Representative Article by the end of calendar year 2027. Development of the Variable Aperture Digital Radar Application (VAPP) to serve the user interface and provide command-and-control (C2) of the radar was recently awarded to Georgia Tech Research Institute. The program also has contracted with Space Dynamics Laboratory to serve as the lead systems integrator, as well as stand-up of a government-owned software development environment for the C2 software and future threat packages for use with the ARTS V3 radar system.

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LEGACY RANGE EMITTERS

The Legacy Range Emitters Systems Portfolio is responsible for lifecycle sustainment of a diverse portfolio of range emitter systems. These emitter systems deliver realistic, high-fidelity Electronic Warfare (EW) threat emulation and density across CONUS and OCONUS training ranges, utilizing a diverse array of assets from low to high power and short to long range. There are more than 200+ fielded systems across six Major Commands: ACC, PACAF, USAFE, ANG, AFSOC, and AETC.

Legacy Range Emitter Systems includes:

- AN/MST-T1A Multiple Threat Emitter System (MUTES)
- AN/MST-T1V Mini-Multiple Threat Emitter System (Mini-MUTES)
- AN/TPT-T1 Unmanned Threat Emitter (UMTE)
- AN/VPQ-1 Tactical Radar Threat Generator (TRTG)
- AN/TSQ-T10 Joint Threat Emitter (JTE)
- AN/TSQ-T10 Joint Threat Emitter (JTE) Foreign Military Sales (FMS)

Recent evolutionary efforts include the deployment of "Agnostic" training databases for advanced EW threat emulation, and diversifying training capabilities for 4th/5th gen aircraft. The portfolio is further enhanced by the integration of advanced Low-Cost Threat Emitters (LCTE) like the Niner and CHEETA, as well as the virtualized LMOC capability for the JTE, UMTE, and Mini-MUTES. Lastly, there are various other sustainment and modernization projects ongoing and projected to ensure optimal operational usability and maintainability through 2045 and beyond.

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AN/VPQ-1 Tactical Radar Threat Generator (TRTG)

AN/MSQ-T43 Modular Threat Emitter (MTE)