SIMULATORS JOURNAL

SHARPENING THE WARFIGHTERS BITE | 2024-2025

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WELCOME

Welcome to I/ITSEC 2024! I cannot think of a better theme than “Assuring Deterrence Through Integrated Training and Readiness” for this year’s conference as we witness the historic events happening around the world. From the ongoing Russia-Ukraine war along with conflicts and rising tensions in the Middle East to the repeated Chinese provocations in the Western Pacific, we must ensure training and readiness create a competitive advantage for U.S. and coalition forces. The outstanding professionals within the Simulators Division are up to the challenge!

In February 2024, Secretary Kendall announced the Air Force’s Re-optimization for Great Power of Competition in response to China’s rising military power. As part of the re-optimization effort, the Air Force established a new Program Executive Office (PEO) for Training to focus on integrated training as a global deterrent. Within the new PEO, the Simulators Division will play a critical role in continuing to develop, deliver and sustain platform-specific training systems to warfighters across eight Major Commands, the Air National Guard, Air Force Reserves, and the Department of the Navy.

Despite the ongoing organizational changes, the Simulators Division has maintained its intensity by enabling our warfighters to train like they fight. Our Air Combat Branch has been busy upgrading simulators and training systems for almost every Air Combat platform, to include visual system and software concurrency upgrades. The branch has delivered three new devices this year including AWACS DRAGON aircrew trainers, F-15EX trainers, and F-16 Consolidated Unit Trainers. Additionally, they are demonstrating open architecture solutions by leveraging OFP virtualization in developing both the B-1 Reconfigurable Cockpit Procedures Trainer and the B-52 medium-fidelity Mission Employment Trainer.

Our SOF & AETC Branch helped to train over 1,500 aircrew members by maintaining and upgrading training devices for more than a dozen special operations and training weapons systems. In addition, the SOF team kick-started “Project Jericho”—a plug-and-play architecture that will integrate operational kits into JTAC training systems to resolve secure communication and advanced situational awareness training gaps for ACC and USSOCOM. The T-38C team also developed the Training Agnostic Non-proprietary Immersive Simulator (TANIS), which will improve training for future pilots with the goal of open architecture and re-configurable, platform-agnostic training solutions.

Our Mobility Branch provided training systems support for over 430 major aircrew and maintenance devices, supporting 7 aircraft platforms. The team delivered two new C-17 WSTs to Charlotte ANG and Pittsburgh ARB, a KC-46 WST, Fuselage Trainer, and Boom Operator Trainer to Travis AFB, CA, and four new C-130J training devices across the globe. In addition, we awarded a KC-135 contract to begin visual system modifications with the intent of incorporating a common visual database capability for all mobility platforms, with the goal of expanding to the entire Simulators enterprise.

Our Foreign Military Sales Branch delivered the NATO Airlift Management Program C-17 Weapon System Trainer to Papa Air Base in Hungary and the Virtual Integrated Maintenance Trainer to Qatar as part of their F-16 Program. The team completed the Pakistani F-16 training device effort in June 2024, and added several new training device initiatives this year, to include Egypt Aeromedical, Türkiye F-16 Block 70, and the Sweden Joint Terminal Control Training Rehearsal System.

In addition, our Innovation Cell has continued to foster collaborative ways to get novel technologies in the hands of our warfighters! This year, they conducted quarterly Science Fairs in which industry partners showcased new capabilities and engaged directly with program teams throughout the Simulators Division. We plan to continue these fairs in 2025 and beyond and hope to expand industry and government participation. The Innovation Cell also kicked off its Extended Reality (XR) Guideline 2.0, a collaboration between more than a dozen offices across the USAF enterprise to generate an easy-to-follow reference handbook detailing all current XR approaches and practices. If you have XR requirements or just want to know more about the forthcoming XR Guideline 2.0, please stop by our PEO Training booth. Also, be sure to reach out to the Sims Innovation Cell for more information at AFLCMC.WNS.Sims_Innovate@us.af.mil.

In closing, I am excited to attend my first I/ITSEC! At your convenience, please find me on the floor and introduce yourself. I also invite you to our Air Force Signature Events—you will gain valuable insights into our Senior Leaders’ perspectives. I look forward to continuing to strengthen our industry partnerships, and to collaboratively find adaptive solutions to solve our future training needs.

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
Ms. Kelly Navarra

Currently Vacant

CHIEF OF FINANCE
Mr. Steve Heyl
(Acting)

CHIEF OF LOGISTICS
Mr. Richard Swain

CHIEF OF TEST
Mr. Christopher Lowe

AIR COMBAT BRANCH
Ms. Renee Sauerland
Materiel Leader

AIR MOBILITY BRANCH
Ms. Monika Mapley
Materiel Leader

SPECIAL OPS & AETC TRAINING SYSTEMS BRANCH
Lt Col Joshua Trantham
Materiel Leader

INTERNATIONAL PROGRAMS BRANCH
Mr. Kevin Hamlin
Materiel Leader

ANALYSIS & INTEGRATION BRANCH
Mr. Scott Cummings

SIMS ORG CHART

DIVISION CHIEF (SML)

DEPUTY

AIR COMBAT (ML)

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- B-2 TS
- B-52 TS
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SOF/AETC (ML)

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INNOVATION CELL

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FMS (ML)

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FMS New Business

ANALYSIS & INTEGRATION

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- 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
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- SIMS University

SIMULATORS SNAPSHOT

SUPPORTING

75 PROGRAMS

8
MAJCOMS

29
PROGRAM OFFICES

23
COUNTRIES

452 MEMBERS STRONG

2,300+ TRAINING DEVICES

Over 93% of the Air Force inventory

FY24

629
Funding Documents

$998.7M
Expiring Funds Executed

537
Contract Actions

TSA III 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 Division, or upon approval to use, other Air Force organizations within the Life Cycle Management Center (LCMC). 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 III/IV is established as a multiple award, ID/IQ contract off 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 III/IV source selection that they have solid training system practices and procedures, and demonstrated performance.

TSA III/IV 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 III/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 14)

TSA III has an ordering period ending 31 Aug 2025, now that TSA IV has been awarded because of the benefits listed above it 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. 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 III/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 WTSs 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 a RCPT. This modification will bring 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 a common architecture, software, and computational system across all operational flight trainers. The current WSTs and MTs also require a technology refresh.

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.

B-1 Training Systems Avionics and Armament Maintenance Training Systems

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

Recently the B-1 Agile Software Release (ASR) 19, 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 FY24 were Input/Output (I/O) visual upgrades to 2 of 6 WSTs, resolving obsolescence issues, improving reliability, increasing availability and increasing stability.

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B-52 TRAINING SYSTEMS

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

The B-52 Training System program provides total maintenance, logistics, and modification support for the entire Aircrew Training System. In addition to the major components identified above, the system includes a Support Center System, 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 comprised 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 aircrew members, including aircraft commanders, pilots, radar navigators, navigators, and electronic warfare officers (EWOs).

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 with a 1-year base and 8 option years.

B-52 Offensive Station Mission Trainer (OSMT)

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B-2 Aircrew Training System (ATS)

B-2 TRAINING SYSTEMS

The B-2 Training System (TS) 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 66 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 Cockpit Procedure Trainers, Weapon System Trainers, and Mission Trainers. Maintenance Training devices include Cockpit Procedure Trainers, Computerized Maintenance Training Systems, Weapon System Training Aids, Crew Escape System Maintenance Trainer, Weapons Loading Trainer, Flight Control System Trainer, and two virtual reality maintenance classrooms.

The B-2 (TS) 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 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 fifth option year. The

B-2 Maintenance Training System (MTS)

B-2 Weapons Loading Trainer (WLT)

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 10 Engineering Change Plans (ECPs) in work including multiple concurrency and obsolescence efforts.

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E-3 AWACS FLIGHT CREW TRAINING SYSTEM (E-3 AWACS FCT)

The E-3 Sentry is an Airborne Warning and Control System (AWACS) aircraft that provides all-weather surveillance, command, control, and communications needed by US, NATO, and other allied air defense forces. It is the premier air battle command and control aircraft in the world today.

The E-3 Flight Crew Trainer (FCT) is supported by a Commercial Training and Simulation Services (CTSS) contract, which provides Aircrew Training for all flight crew positions to meet US Air Force performance standards. The training encompasses the full spectrum of E-3 pilot, copilot, flight engineer, and navigator instruction, including

initial, difference, upgrade, continuation, senior staff, and requalification training.

High-fidelity, contractor-owned, training devices and a government-owned Navigation Part Task Trainer (NPTT) are utilized to meet Air Force training requirements. The contractor-owned devices consist of two Federal Aviation Agency (FAA) Level D-equivalent Operational Flight Trainers (OFT) and one FAA Level 7-equivalent Flight Training Device (FTD). The Navigation Part Task Trainer is government-owned and contractor-supported through Contractor Logistics Support (CLS). All training devices under this program are located at the contractor-owned facility in Oklahoma City, OK.

Training services and support for this program are provided under contract to Link Simulation and Training, a division of CAE (formerly L3Harris Inc.). The contract was awarded in March 2015 with a period of performance beginning in March 2015 and including one base year and nine option years. As this program sunsets, it will be replaced by the future government-owned Diminishing manufacturing sources Replacement of Avionics for Global Operations Navigation (DRAGON) Flight Crew Training System (FCTS). The objective of the DRAGON program is to replace aging, predominantly analog, non-sustainable equipment with modern, digital avionics systems that provide for future growth and enhanced operation, safety and reliability while reducing lifecycle costs.

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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, 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.

E-3 AWACS DRAGON Cockpit Interior

A 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 twelve 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 has one base year and seven option years. 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 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 beginning in July 2016 and including the basic year and seven option years. While a final decision has not been confirmed, the notional timeline plans for the E-3G DRAGON platform to sunset in 2030 and be replaced by the E-7A. The DRAGON FCTS will operate accordingly.

The first training device under this program is located at the contractor-owned facility next to Tinker Air Force Base (AFB) in Oklahoma City, OK. Subsequently, this and both FFS devices will ultimately be located at the Consolidated Sims Building (CSB) at Tinker AFB.

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E-4B TRAINING SYSTEM

The E-4B training system is the first of its kind within the USAF portfolio. The Air Force contracted the procurement of a single trainer for E-4B, which no longer requires the need for a civilian training service in Miami, FL. The fleet of jets are stationed at Offutt AFB, NE. The inclusion of a trainer near the base allows for crews to train more often, provide capability to increase aircraft availability for maintenance training and operational tasks, as well as being able to complete E-4B specific training goals, such as aerial refueling. The visual system, as well as the cockpit layout mirror the aircraft layout and allow for a FAA level C equivalent rating for the crews. The device has been in service since April of 2022.

Development and installation of this device was awarded to CymSTAR, LLC in September 2020. The training system is

supported through Contractor Logistics Support (CLS) and Training System Support (TSS) by CymSTAR, LLC.

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A-10 AIRCREW TRAINING SYSTEM

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), comprised 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. 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 DEVICE ACQUISITION AND SUPPORT (TDAS)

The F-15E Training Device Acquisition and Support (TDAS) program has been managed by the Air Force Life Cycle Management Center's Simulators Division since 2011. In 2018, a follow-on 7-year contract was also awarded to The Boeing Company.

The F-15E TDAS program consists of the Aircrew Training Devices (ATD) and the Maintenance Training Devices (MTD). The ATDs consist of 8 Integrated Avionics Trainers (IAT) located at Seymour Johnson AFB. The MTDs consist of 26 Trainer Field Equipment (TFEs), 9 simulated/virtual trainers and 17 physical maintenance trainers located across 6 sites representing ACC, USAFE, PACAF, and AETC.

The F-15E IAT is a squadron- level, PC-based aircrew training device capable of simulating one F-15E Strike Eagle aircraft during ground and in-flight operations, including full weapons systems employment. Day-to-day operation of the F-15E IAT Trainer is supported by on-site contractor technicians. Each F-15E IAT device consists of one pilot station and one Weapon System Officer (WSO) station. The two stations are normally both occupied to provide integrated pilot and WSO training; however, it is also possible to perform pilot-only and WSO-only training. The Pilot Station consists of two high-performance PCs plus a PC-based communication system. The WSO Station consists of a single high-performance PC to provide the cockpit displays to support realistic WSO training. The IAT is capable of standalone or local area networked operation with other IAT devices. It accurately represents the weapons systems capabilities of the F-15E aircraft.

F-15 MTDs provide students with the ability to become proficient in the maintenance of the aircraft using hardware and virtualized avionics devices that replicate actual aircraft equipment and functions. The TFE-21 F-15E trainer consists of high-fidelity cockpits connected to a computational system that provides high-fidelity aircraft component operational simulations that support normal operation, as well as malfunction simulations. Additionally, the TFE-21 provides training in the Integrated Avionics System, Electrical Power and Lighting System, and Power Plant System. The TFE-24, F-15E Armament Load Trainer, supports armament technical training and consists of a simulated, full-size, highly realistic F-15E aircraft built from salvaged parts. TFE-24 has a high-fidelity forward cockpit attached to a computational system that provides high-fidelity aircraft component simulations. The TFE-21 and TFE-24 use the same computer architecture and run a common software baseline. The TFE-25 F-15E Seat and Canopy Trainer consists of an actual F-15B forward fuselage made up of 95 percent aircraft components. The student can be trained in ejection seat and canopy systems, egress training, egress maintenance inspection, seat and canopy removal and installation, and cockpit familiarization.

The F-15C/D (TFE-2, TFE-6, TFE-7) trainers, consists of aircraft components, support frames, and wiring necessary to connect them into a working system. The student can be trained in Automatic Flight Control System Surface Control, Armament Systems, Landing Gear and Arresting Hook Systems, Ejection Seat and Canopy Systems, and Engine Air Induction Systems.

The TFE-20 F-15C Armament System Trainers (AST) supports classroom training for checkout of the F-15C Armament system using flightline Support Equipment. The AST devices are configured with Operational Flight Program (OFP) capability using actual OFPs.

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F-15C/E/EX T2 TRAINING SYSTEMS

The F-15 T2 program consists of F-15E Personal Computer Aircrew Training Devices (PCATD), six F-15E Deployable PCATDs (D/PCATD), F-15C and EX Weapons Tactics Trainers (WTT), and F-15C and EX Full Mission Trainers (FMT) with multiple configurations. These devices are managed across 14 locations within five MAJCOMs (CONUS & OCONUS). The F-15 T2 simulators program is instrumental in providing support for three F-15 training locations: the F-15E 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.

All PCATDs are squadron/wing-level devices capable of simulating the F-15E Strike Eagle aircraft during Pilot/Weapon Systems Officer ground and in-flight operations, including full weapons employment. The F-15C & EX T2 training devices serve the same purpose for F-15C and EX units along with providing schoolhouse support. The FMTs are high-fidelity aircrew training cockpits, while the WTTs are robust trainers used for Emergency Procedures training, take offs and landings. Currently F-15C FMTs are being refurbished and upgraded to the F-15EX configuration, which started as part of the transition from F-15C to F-15EX aircraft. Future F-15EX trainers will be derivatives of the Qatar F-15 trainers allowing for future capabilities as needed.

The day-to day operation of F-15 T2 trainer fleet is centrally managed at the Boeing Training System Support Center (TSSC) in St. Louis, MO.

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F-15C AND F-15E MISSION TRAINING CENTER (MTC)

The Boeing Company was awarded commercial services contracts under the Distributed Missions Operations (DMO) branch to provide training services for F-15C Eagle and F-15E Strike Eagle aircrews. Mission and procedures training for the F-15C and F-15E MTCs can be conducted as a single or multiple-ship formation, as well as operate with other DMO Network (DMON) sites and weapons system simulators.

The first F-15C MTC contract was awarded November 1997 and was the first fighter program to use a commercial training simulation services approach, whereas the contractor builds and owns the simulators while the Air Force buys training services. In late 2022, F-15C MTC services were discontinued at RAF Lakenheath. Boeing continues to provide services at Kadena Air Base, Japan for operational pilot training and maintenance engine run training. Each F-15C Mission Training Center includes four high-fidelity cockpits, 360-degree Constant Resolution Visual System (CRVS), four instructor operating stations, threat stations, brief/debrief systems, and a synthetic combat environment. Since first contract award, F-15C MTC services have surpassed 113,849 sorties flown by the Air Force, of which over 6,000 distributed missions were accomplished via the DMON since Oct 2007.

The first F-15E MTC contract was awarded August 2003. F-15E MTCs are operating at Mountain Home AFB, ID; Seymour Johnson AFB, NC; Nellis, AFB, NV; and RAF Lakenheath United Kingdom with the capability to support formal training unit (FTU) qualification, operational unit training, and maintenance engine run training. Each F-15E location includes four pilot and four weapon system operator high-fidelity cockpits in a split configuration, 360-degree CRVS, two instructor operating stations, and two brief/debrief systems, and a synthetic combat environment. Since first contract award, F-15E MTC services have surpassed 80,225 sorties flown by the Air Force, of which over 4,000 distributed missions were accomplished via the DMON since October 2007.

The Simulators Division transitioned the F-15C MTC and F-15E MTC programs into one combined contract for F-15 MTC follow-on services in June 2016. The latest 2021

F-15 Mission Training Center (MTC)

contract award to Boeing is expected to carry MTC services to December 2026. The F-15 MTC services combined approach is intended to provide overall benefit to the warfighter by further maximizing training effectiveness, training continuity, system stability, and capture Air Force initiatives that will advance DMO training capability. The F-15C and F-15E MTCs remain the foundation for the future of proven Air Force mission training, and the F-15 operational community recognizes the value of training in a DMO environment. Starting in 2021 at the Nellis AFB, NV Virtual Test and Training Center (VTTC) site, the MTC connected devices have a local network called the Nellis Mission Operations Network (NMON) with the ability to provide training and simulations at multiple security levels. Future efforts will connect F-15E simulators into the Joint Simulation Environment (JSE).

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F-16 SIMULATORS TRAINING PROGRAM (STP)

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. STP also includes sustainment and modification for 13 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 12 in the field at 4 CONUS locations while 61 legacy devices including 35 Unit Training Devices (UTD) and Weapon Systems Trainers (WST), with 26 Weapons & Tactics Trainer (WTT) Advanced Sustainment Program (WASP) trainers remaining in the field. Currently, there are 98 MTDs in the field. CUT installations will be completed by 2025, with 5 CONUS and 5 OCONUS locations. STP provides a mix of on-call and on-site support to 26 United States Air Force locations world-wide.

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F-16 Egress Trainer

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C-130 AIRCREW TRAINING SYSTEM (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 sixth option year will be awarded on 1 Jan 2025. Overall, the C-130 Aircrew Training System (ATS) consists of forty-five devices supporting nine primary Weapon System Trainers (WSTs), geographically located at four ATS sites (with two future sites planned), a learning center, and one technical support system center (TSSC). It includes initial qualification, mission qualification, upgrade, and continuation training with guaranteed student training and student throughput. In addition, the C-130H ATS accomplishes maintenance and training on two Landing Gear Trainers (LGT) which supports advanced troubleshooting and hydraulics courses. The two landing gear trainers are located at Cannon AFB, NM and Little Rock AFB, AR.

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

Major modifications ongoing are: Visual Fleet Upgrade (VFU), Electric Propeller Control System (EPCS), Propulsion Modification and Cybersecurity Obsolescence Phase I. The Visual Fleet System upgrade will increase visual system capability by replacing/upgrading existing visual systems (to include projectors, image generators (IG), mylar) with latest visual system technologies, ensuring aircrew training is realistic as possible. EPCS will upgrade the ATS fleet with the Electric Propeller Control System. The Propulsion modification will modify the fleet for NP2000 (8-Blade Propeller) and Enhanced (3.5) Engine system. These modifications are currently active, and the program is working ongoing execution along with additional modification requests.

C-130H Weapon System Trainer (WST)

FY24 contracts that have been awarded are the Satellite Navigation Station 11 conversion, WST 8 Electric Motion System (EMS) in St. Joe, and Cybersecurity Phase II. WST-8 EMS, Satellite Navigation System (SNS) 11, and I and II. The WST-8 EMS will replace hydraulic legs to electric and relocate the WST to St. Joe. The SNS 11 mod will convert SNS-05 device to an H3 configuration and be placed at Cheyenne. Cybersecurity Obsolescence Phase I began updates and Phase II will update hardware updates across all remaining Air Training Devices (ATD)s. These modifications are currently active, and the program is working ongoing execution along with additional modification requests.

The program office is also working closely with the Avionics Modernization Program (AMP) 2 program, which recently completed a modification to WST-8. WST-1, WST-6 and CPT -1 will all undergo AMP 2 modifications this fall.

In addition, the program has utilized the SURGE CLIN for minor modifications throughout the year. The program has used this CLIN to award mods for JIRA software upgrade, Joint Mission Planning System (JMPS) computers, WST-10 Radar displays, Pacific Air Forces – Modular Airborne Fire Fighting Systems (PACAF-MAFF) Radar Database creation, and a Tech Insertion, to update hardware and software on the program.

FY25 modifications planned are the Fuselage Trainer (FuT) Integration effort, which will integrate the current FuTs into the new facility and any support equipment will be moved into a new building to support these devices. These modifications will be in the execution phase once awarded over the next several years.

The C-130H program will award the final option year in 2026 and will end on 28 Aug 2026. The program will begin Source Selection activities in Fall 2024 and should award in May of 2026 (to include a 3-month transition period).

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C-130J MAINTENANCE AND AIRCREW TRAINING SYSTEM (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 C-130J MATS program is unique because it is the first known government-owned, contractor-operated training system initially procured as a commercial item under Federal Acquisition Regulation (FAR) Part 12 by the U.S. Air Force. The procurement contract itself utilizes the TSA III vehicle and is a firm, fixed-price effort and in June 2006 was converted from a FAR Part 12 commercial contract to a FAR Part 15 contract. The ordering period of the current production contract runs through 2025. The prime contractor for the production and modifications contract is Lockheed Martin Rotary and Mission Systems (LM-RMS). Major subcontractors include CAE USA and Flight Safety International. The Program Office is currently working a follow-on sole source contract to LM RMS for another 10-year period of performance.

C-130J MATS Enhanced Integrated Cockpit Systems Trainer

Within the JMATS program, 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, and Ramstein Air Force Bases and at Yokota Air Base Japan, and to Air National Guard (ANG) crews at Quonset Point Rhode Island. The JMATS AMC CLS contractor is providing 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. 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 also under the 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.

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 Federal Aviation Administration Level D certified U.S. Air Force Weapon System Trainers (WST), Aircrew Courseware, Avionics System Management Trainers, Cockpit Procedures Trainers, Integrated Cockpit Systems Trainers, Fuselage Trainers, Engine and Propeller Trainers, Flight Control Trainers, Loadmaster Part Task Trainers (LMPTT), and local Little Rock AFB networking of WSTs. Contractor Logistic Support (CLS) and Aircrew Instruction are currently contracted on an annual basis dependent upon user community requirements (e.g., student throughput). Four KC-130J WSTs and 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 two more of each currently in production. NAVAIR has also purchased multiple Cockpit Procedure Trainers (CPTs) and Observer Training Aids (OTA). These efforts are also being managed by the Air Force Life Cycle Management Center in support of NAVAIR/USMC. The contract was recently

C-130J MATS Weapon System Trainer, Exterior

C-130J MATS Loadmaster Fuselage Trainer (interior)

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 bases both CONUS and OCONUS. The program operates a Systems Integration Laboratory as well as a classified laboratory used to facilitate the incorporation of modifications into the fielded device baselines.

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

PROGRAM DOCUMENTATION

The C-130J MATS is covered under the aircraft’s C-130J Program Management Directive (PMD) that was approved in May 2006 and the HC/MC-130 Recapitalization that was approved Mar 2011. The current operational requirements are captured in the C-130J Operational Requirements Document (ORD) approved Jan 2005 and the HC/MC-130J Capability Production Document (CPD) approved Aug 2009. The Logistics Product Support Guide was updated in Sep 2020.

PROGRAM CONFIGURATION BASELINE

The C-130J MATS maintains a trainer device baseline for AMC of all C-130J Weapon System Trainers (WSTs), Integrated Cockpit Systems Trainers (ICSTs), Cockpit Procedures Trainer (CPT), Fuselage Trainers (FuT), Loadmaster Part Task Trainers (LMPTTs), Avionics Systems

Management Trainer (ASMT), Flight Control Trainer, and Engine Propeller Trainer. JMATS also maintains the baseline for each of the USMC's trainers (WSTs, CPTs, FuTs, and OTAs). Trainer baselines for the HC/MC/AC devices are maintained by a separate TSSC under the Air Commando Training System (ACTS) contract also managed from Wright-Patterson AFB by a separate team (not JMATS).

C-130J MATS Multi-Function Training Aid

PROGRAM OFFICE COMMENTS

The JMATS team continues to maintain a very high operations tempo to provide first class service to multiple Major Command customers. Acquisition for AMC, AFSOC, ACC, NAVAIR, ANG, AFRC, and AETC provides economies of scale within the acquisition community. The JMATS team is responsible for new procurement for all customers, and for modifications for the AMC and NAVAIR devices customers, and for CLS plus instruction for the AMC customer only. The ACTS team is responsible for modification, CLS, and instruction for the AFSOC and ACC devices/locations.

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C-17 TRAINING SYSTEM

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 15 regional USAF sites. The C-17 TS trained 2,589 pilots and 1,645 loadmasters through Ordering Period 4(OP 4 12-month period). Additionally, through calendar year 23, the C-17 TS provided training culminating in simulator device usage for a total of 66,213 hours and loadmaster devices for a total of 16,165 hours. The TS contract services include the following:

- Operation, maintenance, sustainment, and support of 49, expanding to 55 C-17 aircrew Training Devices (ATD) and 37 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

C-17 Training System, Cockpit

The ATS provides initial training to pilots and loadmasters through individual instruction to aircrews and guarantee 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 supporting operational aircraft and affords the warfighter the tools necessary to meet the challenges of an ever-changing wartime effort.

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 27 Weapon Systems Trainers (WST) and associated learning centers. The Boeing Company currently provides aircrew training and MTS CLS on 15 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.

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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 comprised of Aircrew Training System (ATS) and Maintenance and Aircrew Training System (MATS) which are currently owned by CymSTAR LLC and CTE-JV, respectively, 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. CymSTAR also provides operation, maintenance, engineering, and modification support for:

five C-5M Weapons System Trainers (WST); two Part Task Trainers (i.e., one Cargo Loading Trainer (CLT), and one Cargo Door and Ramp Trainer (CD&RT)); Desktop Trainers/ Computer Aided Instruction student stations (Electronic Diagnostic System (EDS); Computer Based Training (CBT) stations; and Air Force Mission Support System (AFMSS) stations. Additionally, CTE-JV provides support for 22 Maintenance Training Devices and one Air Refueling Part Task Trainer. Training sites are located at Dover AFB, DE; Travis AFB, CA; Westover ARB, MA; and Joint Base San Antonio (Lackland), TX. Additionally, there is a WST to be utilized as a System Integration Lab (SIL) located in Broken Arrow, OK at CymSTAR Headquarters.

The latest C-5 Aircrew Training System simulator modifications include the Host Computer replacement, Instructor Operator Station (IOS) and Sound upgrades, and Air Refueling Aircraft Simulator Qualification (ARASQ) refinement bringing the C-5 Aircrew Training System up to the latest concurrency standards. Recent successes include Core Mission Computer/Weather Radar (CMC/ WxR), and Communication, Navigation, and Surveillance/ Air Traffic Management (CNS/ATM) upgrades and a new commercial off-the-shelf (COTS) Graduate Training Integration Management System (GTIMS). Future modifications will include Distributed Mission Operations (DMO), a stall-recognition software enhancement and a Flight Management System (FMS) web-based training application. The FMS trainer will allow opportunities outside of the Weapons System Trainer (WST) and enable self-paced, on-demand training options through significantly increased trainer accessibility. Additionally, the C-5 Training System team is incorporating the Large Aircraft Infrared Countermeasures (LAIRCM) Block 30 configuration into the Training System baselines.

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KC-10 TRAINING SYSTEM (TS)

The KC-10 Training System (TS) provides all aspects of ground-based aircrew training, logistics support, and maintenance for one KC-10 full-motion Weapons Systems Trainer (WST), one Flight Training Device (FTD), one Boom Operator Trainer (BOT), and Computer Based Training (CBT). The KC-10 TS contract provides for operation and maintenance of the training devices, modification development of hardware and software, system baseline configuration management and Technical Data Package (TDP) development at the Training System Support Center (TSSC) located in Fairfield, California near Travis AFB. The TSSC responsibilities include training syllabus courseware development/review, system updates, and distribution, as well as other administrative functions to include engineering and scheduling. The KC-10 TS Program will be sunsetting at the end of CY24. All trainings will complete at the end of Sept 2024.

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KC-10 Weapon Systems Trainer (WST)

KC-135 TRAINING SYSTEM

The KC-135 Simulator System is comprised 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-8000 Image Generator to meet Federal Aviation Administration (FAA) level C+ certification. The projectors are being replaced by Norxe P10 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. BOWSTs provide realistic control forces in the controls used by the boom operator during refueling.

KC-135 OFTs at Altus

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 View

KC-135 BOOM OPERATOR SIMULATION SYSTEM (BOSS)

The KC-135 Boom Operator Simulation System (BOSS) program's primary objective is to provide a 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 comprised 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 comprised 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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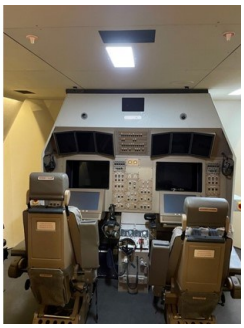
KC-46 AIRCREW TRAINING SYSTEM (ATS) PROGRAM

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 to provide student instruction. The Contract is a fixed-price incentive (firm target) contract, with firm-fixed price options, to support the KC-46 Aircraft Program by furnishing an integrated contractor operated and supported aircrew training system that provides total KC-46 aircrew training. 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

KC-46 MTS AHTD Engine APU Trainer

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 Dec 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. Air Mobility Command has directed no additional Part Task Trainers be ordered. Aircrew training started in 2019 after the delivery of initial devices.



KC-46 ATS Boom Operator Trainer

Current fielded devices include:

- 13 WSTs
- 12 BOTs
- 6 FuTs
- 11 P-PTTs
- 4 BO-PTTs

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.

KC-46 ATS FuT #2

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 a 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.

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-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. At present, the program is working to close out the remaining Increment 1 and Increment 2 requirements.

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KC-46 ATS Weapon System Trainer

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 the KC-46 Aircraft Program (AFLCMC/WLC) Capabilities Development Document (CDD).

KC-46 ATS Pilot Part Task Trainer

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 December 2018 and will complete with the Flight Controls Trainer delivery by September 2025 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 has a projected RFT date of September 2024 for IMI Classrooms.

The third suite of training devices and IMI/VMTS classrooms will be delivered and ready for stand-up in August 2026 to Travis AFB, CA. RFT for the IMI courseware is scheduled for November 2026. A separate contract action will be performed to cover installation of a Local Area 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 AHTD Engine APU Trainer #2

KC-46 MTS AHTD Flight Deck Avionics Trainer

KC-46 MTS AHTD Flight Controls Trainer

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SPECIAL OPS AND AETC TRAINING SYSTEMS BRANCH

LT COL JOSHUA TRANTHAM

SPECIAL OPS & AETC TRAINING SYSTEMS BRANCH

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

The AFSOC ACTS program was awarded on 08 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.

CV-22 Flight Training Device (FTD)

The AFSOC ACTS program supports 83 training devices for six different aircraft Mission Design Series platforms, at eleven 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 it's 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.

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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

JTC TRS Virtual Training

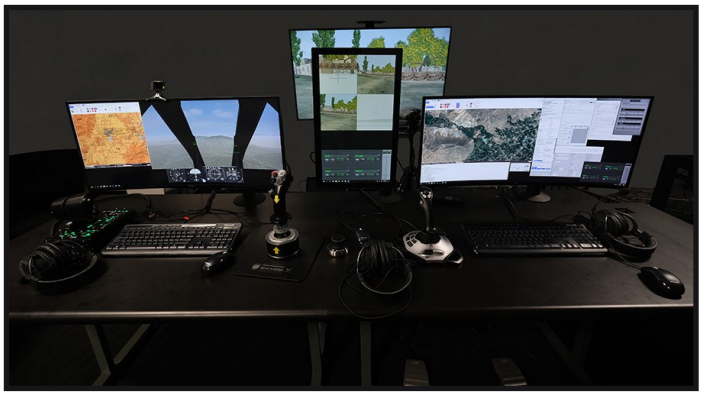
the capability to support time-critical targeting.

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 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 comprised 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.

JTAGSS Diagram

CAE USA was awarded an 8-year production and sustainment contract in June 2021. The program is currently in full-rate production. 37 Dome systems, 41 Desktop Systems, and 17 JTAGSS have been fielded, with



JTC TRS Workstation Setup

an additional 2 Dome systems and 5 Desktop Systems scheduled for delivery in 2024.

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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 1 Apr 24. 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 six Mission Design Series (MDS) aircraft, to include the CV-22, HC-130J, MC-130J, AC-130J, HH-60G, 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 baseline requirements are for courseware development, aircrew instruction (initial/mission qualification, refresher, upgrade, and currency), student services, and physical building security.

The contract's primary objective is to provide a total training solution that provides excellence in courseware, instruction, and training aids to produce high-quality combat ready professional military aviators at Kirtland AFB, Davis-Monthan AFB, Joint Base Andrews, and Moody AFB.

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

The RATS CLS/TSSC contract was awarded on 18 Jan 24 and consists of management and execution of CLS/TSSC requirements to maintain, support, and operate the HH-60G and UH-1N Aircrew Training Devices (ATDs) at Kirtland AFB, NM and UH-1N ATD at Joint Base Andrews, MD. This program supports the Air Education and Training Command's (AETC) Field Training Unit (FTU) pipelines required to meet AETC pilot production thresholds. The program's primary objectives are to 1) provide highly trained CLS/TSSC personnel; 2) maintain or exceed ATD availability requirements; and 3) execute management, engineering, and sustainment activities in accordance with (IAW) the requirements listed in the RATS CLS/TSSC Performance Work Statement (PWS).

The baseline requirements are for CLS, TSSC, Cybersecurity, Database Generation Services (DBGS), and Concurrency Modifications.

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AEROSPACE & OPERATIONAL PHYSIOLOGY (A&OP) TRAINING SYSTEM

A&OP Training System is comprised 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.

Spatial Disorientation Device

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

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.

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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).

T-38C Operational Flight Trainer, Cockpit

The T-38C ATDs support a building-block approach to pilot production by providing students 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.

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VISUAL THREAT RECOGNITION AND AVOIDANCE TRAINER (VTRAT)

The 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 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 Air Mobility Command, and in June 2011 Air Combat Command. 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 annual refresher courses 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.

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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.

The T25 SECT leverages high fidelity physics-based simulation and representative models to provide Air Force CSO student aircrew members 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 protect, 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.

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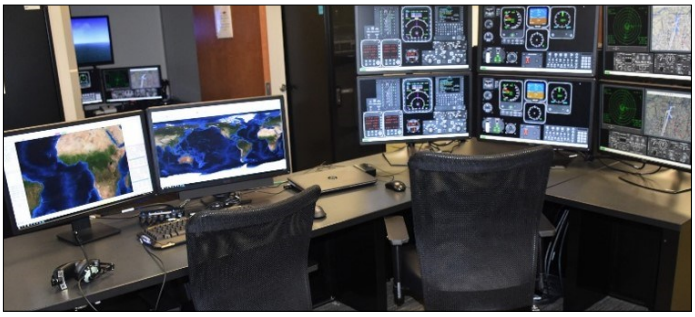


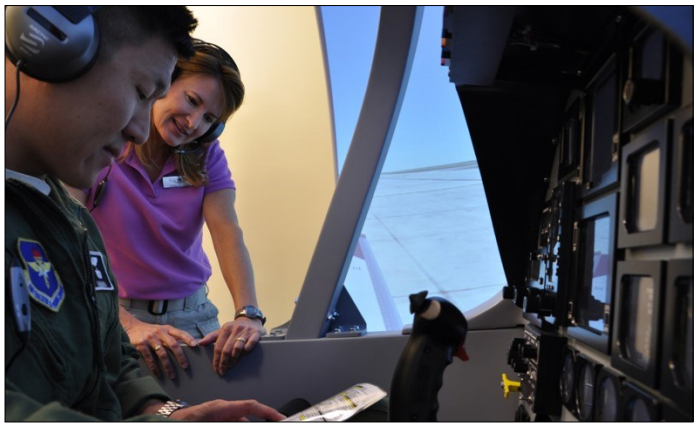
T25 SECT Instructor Station

T25 SECT Student Station

T25 SECT Radar VTT

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 21 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.

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T-1A GROUND BASED TRAINING SYSTEMS (GBTS)

The T-1A GBTS program is in sustainment managing 16 Operational Flight Trainers (OFTs) and 14 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

T-1A Jayhawk Flight Simulator

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. 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 aircraft upgrades have been incorporated into the T-1A GBTS OFTs and PTTs in support of the Air Force's Avionics Modernization Program (AMP). The updates include Pro-Line 21 avionics panel installation, equipment cabinets and raised flooring in the OFT cockpits to support the new avionics hardware. Additionally, the CSO OFT and CSO PTT will reflect the aircraft CSO configuration.

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

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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

T-6A Operational Flight Trainer (OFT) Display

T-6A Egress Procedures Trainer (EPT)

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 Officer Training programs.

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

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).

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SIMULATORS INNOVATION TEAM

Meet the “Sims 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 WNS? Shoot us a message and we’ll get that ball rolling! Not sure how you can help WNS 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

Innovation Lab

Sims Innovation Cell Chief presenting innovative simulation to an audience

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

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 platforms. The database isn't just theoretical, the WNS Sims 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 WNS 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 WNS Innovation Cell Science Fairs – Quarterly events where we bring industry directly to WPAFB and the WNS offices. Aechelon, Vertex, Varjo, CymSTAR, HII, 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 WNS doorstep.

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

And we aren't even close to being finished by just conducting vendor engagements and developing databases, the Innovation Cell recently kicked off the Extended Reality (XR) Guideline 2.0 effort. Last year we worked to develop the SCARS XR Guideline on secured environment usage, and we wanted to expand on that. Now, the 2.0 effort is way bigger than anything imagined! Combining all current XR efforts across the USAF, working with any groups who have an XR requirement or project, we're in the beginning 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 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 2025 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!

Innovation Cell Chief:
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Remote Simulator Instructor (RSI)

The Remote Simulator Instructor (RSI) is a hardware/ software platform that connects Air Education and Training Command (AETC) Aircrew Training Devices (ATDs) to a Remote Instructor Station (RIS) operating from a commercial facility at an off-base location. In 2024, 19AF partnered with the Simulators Division (AFLCMC/WNS) to provide acquisition support for sustainment of an RSI solution with inclusion into the T-6 Ground Based Training Systems portfolio. The RSI modification has been performed on T-6A Air Force (AF) Instrument Flight Trainers (IFTs) and included the addition of RISs. RSI directly addresses the onsite Civilian Simulator Instructor (CSI) manning shortfall across all Undergraduate Pilot Training locations. Connecting ATDs via remote locations provides flexible options to deliver instruction for syllabus-directed simulator events.

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INTERNATIONAL PROGRAMS BRANCH

MR KEVIN HAMLIN

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SIMULATORS DIVISION EXECUTES OVER 23 FMS CASES FOR 23 COUNTRIES VALUED AT $1.3B+; FURTHER, THERE ARE 10+ ADDITIONAL CASES IN VARYING STAGES OF IMPLEMENTATION WHICH WILL ADD TO THE FMS PORTFOLIO.

SAUDI F-15 PROGRAM

The F-15SA Fleet Modernization Program, the largest Foreign Military Sales program in USAF history, is upgrading the Royal Saudi Air Force (RSAF) F-15 fleet. The Air Force Life Cycle Management Center Simulators Division is responsible for the acquisition management of all training devices to support the fleet modernization effort. The program incorporates six types of training devices. Simulators will be located at six in-Kingdom locations.

Aircrew training device support consists of six Full Mission Trainers (FMT), six Egress Procedural Trainers (EPT), and two Integrated Avionics Trainers (IAT).

The FMTs and IATs will incorporate an advanced technology visual system. The FMTs will also incorporate a dual cockpit configuration and digital Joint Helmet Mounted Cueing Systems for both the pilot and the Weapons System Officer. A Database Generation System (DBGS), also being acquired under this contract, will allow the RSAF to develop realistic scenarios for the F-15SA FMTs and IATs. The DBGS will be located at RSAF Headquarters, Riyadh.

F-15 Mission Training Center (MTC)

The IATs will supplement FMT training by providing built-in test functionality, avionics systems check, operational procedures for attack instrument and flight control, and communication, navigation, and penetration aids. The six EPTs will provide egress emergency procedures, fire and engine fire on take-off, ejection seat replication with operable ejection seat handle in a static environment, and a fully functional canopy. The Aircrew Training Devices are currently being acquired under contract with Boeing Training and Professional Services.

Maintenance training support consists of one Virtual Maintenance Trainer (VMT), comprising ten Student Stations and two Instructor/Operator Stations, two physical Armament System Trainers, and two physical Jet Fuel Starter trainers. The VMT utilizes desktop stations for instructor and RSAF student interaction in a classroom environment. The student can fault isolate, analyze Fighter Data Link failures, simulate Line Replaceable Unit change-out, and perform other simulated major maintenance events on the aircraft. The RSAF student also learns aircraft locations and proper maintenance practices through 3D modeling scenarios, to augment on-the-job training. The physical trainers provide the RSAF students with hands-on training for armament load stations and additional 3D instructional and hands-on experience for intermediate level repair of the Jet Fuel Starter. The RSAF selected Lockheed Martin Rotary and Mission Systems as the Directed Sole Source for F-15SA Maintenance Training Systems.

All Aircrew and Maintenance training devices are supported by a five-year Contractor Logistics Support effort consisting of on-site and on-call Contractor Field Service Representative support.

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JAPAN F-15 TRAINING DEVICES

PRIME CONTRACTOR:
Boeing

MISSION AND ORGANIZATION:
The United States Air Force Life Cycle Management Center, Simulators Division will assist the Japanese Air Self Defense Force (JASDF) with delivering new training systems to the F-15 Japan Super Interceptor (JSI) Weapon System.

At the JASDF enterprise level, the F-15 JSI Program is a hybrid program that includes coordinated activities from both Foreign Military Sales (FMS) and Direct Commercial Sales (DCS) sources. To that end, the USG will manage the procurement of capabilities on behalf of the JASDF using the FMS process by providing the Japan Air Self-Defense Force:

- Four Weapon System Trainers (WST)
- Four Instructor Operator Station
- Four brief/debrief station,
- One Japan Integration Asset
- One Database Generation System,
- Training at Chitose, Naha and Komatsu AB

Boeing is the sole Contractor to meet all program requirements. The JIA will remain at Boeing CONUS facility indefinitely along with 1 WST, with the WST going to OCONUS after completion of differences training.

The Weapon System Trainer is a fully immersed simulator engulfed in a simulation dome while the JIA is much less immersive with only a cockpit, screen and without the dome. The JIA has been installed in the contractor's facility currently going through testing and software/hardware integration. The WST hardware is 90 percent procured and we have started procurement of spare parts for WST. The SIM facility is projecting to be complete Jul 2027 with Ready for Training to occur Aug 2027.

ACCOMPLISHMENTS/ACTIVITIES:

- 90 percent of WST HW has been procured
- Critical Design Review Completed 13 Aug 2024
- JIA HW/SW Integration has started
- JIA Lab Installation 4 Apr 2024
- UCA awarded Dec 2021 for NREs + Long Lead items

Program Manager:
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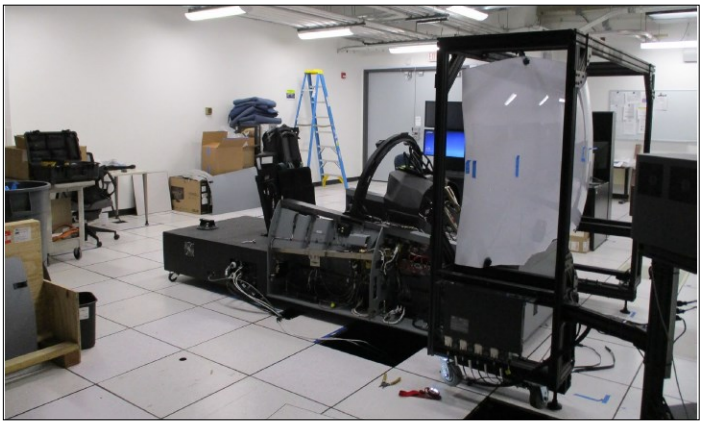

F-15 Trainers for Japan

QATAR F-15 TRAINING DEVICES

PRIME CONTRACTOR:
Boeing

MISSION AND ORGANIZATION:

Provide Qatari Emiri Air Force three Weapon System Trainers, two Cockpit Procedural Trainers, one Emergency Procedures Trainer, one Database Generation System, two Integrated Virtual Maintenance Trainers (IVMT) and five years of logistics support.

ACCOMPLISHMENTS/ACTIVITIES:
Ready for Training (RFT) for WST 1 and 2 complete in-country. RFT for IVMT 1 complete in-country

Program Manager:
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F-16 Weapons System Trainer (WST), Exterior

F-16 Weapons System Trainer (WST), Interior

F-16 SIMULATORS

The F-16 Foreign Military Sales (FMS) Simulators efforts cover the training requirements for 13+ FMS countries. Customers include Egypt, Iraq, Bahrain, Bulgaria, Slovakia, Greece, Jordan, Korea, Morocco, Pakistan, Romania, Taiwan, and Singapore with additional potential case in-work to address the updates and requirements driven by the worldwide demand for F-16 aircraft.

Our foreign partners order a variety of F-16 maintenance and aircrew training devices to include Full Mission Trainers (FMT) with varying fidelity of Visuals, Instructor/Operator Stations, Brief/Debrief Stations, Initial Spares, Support/Test Equipment, Technical Data, and Contractor Logistic Support. These trainers support the F-16 aircraft block 15, 20, 40/42, 50/52, and F-16V/Blk 70/72 configurations.

CAE, Boeing, Lockheed Martin, and the 309th Software Maintenance Group have been instrumental in developing and delivering the capability for the F-16 FMS countries.

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REPUBLIC OF KOREA F-16 TRAINING DEVICES

PRIME CONTRACTOR:
Lockheed Martin Rotary Mission Systems

MISSION AND ORGANIZATION:
Support the upgrade of the existing Republic of Korea Air Force (ROKAF) F-16 Block 52 training devices to the F-16 Block 52 Viper Configuration (KF-16U). The training devices consist of three (3) Full Mission Trainers (FMTs) and seven (7) Cockpit Procedure Trainers (CPTs) across three Air Bases (AB). The training devices will provide full capability to accomplish new pilot training, pilot conversion training, upgrade training, tactics training, advanced skills training (e.g., flight lead, instructor pilot, mission commander, etc.), emergency procedures, and networked capable training scenarios to meet all KF-16U training requirements. The ROKAF will have the opportunity to exercise options for one (1) Scenario Generation System (SGS), one (1) Database Generation System (DBGS), one (1) Tactical Environment Simulation (TES) Editor, two (2) Auditorium Mission Centers, and additional Instructor Operating Stations (IOSs) to support dual instructor monitoring. There will be three (3) years of on-call Contractor Logistics Support (CLS) with replenishment spares after Functional Mission Test/ Ready for Training (RFT).

ACCOMPLISHMENTS/ACTIVITIES:
Proposal receipt in May 2024

Program Manager:
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NATO C-17 TRAINING SYSTEM

The NATO C-17 Training System program will provide a Learning Center (LC) and associated C-17 training devices for North Atlantic Treaty Organization (NATO) Airlift Management Programme (NAMP). This effort is accomplished via a Foreign Military Sales case, with a directed sole source to The Boeing Company. Initial contract award was accomplished in May 2020. The NATO C-17 training system will provide continuation and refresher training to Strategic Airlift Capability (SAC) aircrews. This SIM facility is approximately 40% complete and is due for completion late March 2025. Ready for Training (RFT) is scheduled to occur in last quarter CY2025. The USG SIM SPO is working a sole source CLS/Instructor

C-17 NATO Weapon Systems Trainer (WST)

Training/Upgrade effort for base period, plus 2 Option Periods as a directed sole source with the Boeing Company, with estimated award 1 Apr 2025. The training devices to be used within this program include:

- Weapon System Trainer (WST), with Aircrew Vehicle Station (AVS) and Loadmaster Station (LS)
- Core Integrated Processor Task Trainer (CIP)
- Computer Based Training System (CBT)
- Spares

Program Manager:
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RAAF C-17 TRAINING SYSTEM

The principal function of the Royal Australian Air Force (RAAF) C-17 Aircrew Training System (ATS), is to instruct pilots, copilots, and loadmasters on the procedures and techniques to operate the C-17 aircraft safely and effectively. The C-17 TS includes initial, difference, upgrade, continuation, senior staff, and requalification training. The main training devices used within this program include:

- Core Integrated Processor (CIP) Trainer
- Computer Based Training (CBT) System
- Visual Threat Recognition and Avoidance Trainer (VTRAT)
- Cargo Compartment Trainer (CCT)
- Virtual Cargo Load Model (VCLM)
- Training Evaluation Performance Aircraft Test Set (TEPATS)

The RAAF C-17 Training Systems (TS) Contractor Logistics Support (CLS) contract is shared with the USAF C-17 TS program. The Boeing Company is the current contractor providing training for pilots, loadmasters and engine runners. Contract Management requirements that mirror the USAF are audits, monthly reports, contractor performance reporting against contract clauses, payment of contract, etc. Heavy Air Lift Systems Program Office (HALSPO), Defence Materiel Organisation, contract management requirements are Annual Training Plans, budget planning, monitoring and forecast, In-Service Fleet Reporting, etc.

The USAF and RAAF C-17 TS programs are currently working an 8-year new contract effort under the TSA IV MAC ID/IQ contract, with anticipated award fourth quarter CY2024. The USAF and RAAF teams are currently in source selection for this effort.

Australia is effectively an out-posted USAF training site and operates in the same manner as any USAF C-17 training site. All training courses have been developed and approved in the US and are conducted in accordance with the USAF syllabus. Australia has adopted the complete USAF training package, including:

- Guaranteed student
- Based around an Ordering Period

- Contracting Officer Representative (COR) Requirement; Authorized by the USAF to manage the contract

The Weapon System Trainer (WST) is a full flight simulator manufactured by Flight Safety International and accredited by the USAF. It provides an artificial training and tactics environment for pilots to learn, improve, and integrate mission skills associated with their crew position. The WST includes motion and a high-resolution day/night visual system. It includes:

- High fidelity cockpit
- 6 Degree of Freedom (DOF) electric motion base
- High fidelity, collimated, wide field of view visual system, including worldwide databases, and On-board Instructor/Operator Station

The Loadmaster Station (LS) is a replica of the aircraft forward LS, which includes a visual simulation of aircraft loading and extraction, and an 'over-the-shoulder instructor station. It is electronically linked to the WST to support integrated crew training. It includes a stationary mock-up of the LS and a simulated visual display of the cargo compartment.

The Cargo Compartment Trainer (CCT) is a full-scale replica of the C–17 cargo compartment including an operational cargo door, ramp, and ramp toes allowing training in the loading and off-loading of cargo loads. It provides high fidelity training for loadmasters and other personnel who are required to work in the cargo compartment.

The Virtual Cargo Load Model (VCLM) is a computer-based model of the C–17 cargo compartment including simulated cargo (pallets, vehicles and aircraft). It provides a blend of 'Three Dimensional' (3D) and 'Two Dimensional' (2D) simulations. The 3D encompasses the cargo compartment and external staging area, with sufficient accuracy to allow users to place load items and inspect fit/clearance between cargo load models and the virtual aircraft. Loadmaster control panels are 2D replicas with functional controls required for the conduct of training.

While maximum commonality with the USAF C–17 TS exists, some tailoring of the USAF courseware is necessary to meet the Australian legislative, regulatory, and procedural requirements, as well as USG-determined exportability. Where possible, this tailoring will be approved by USAF and included in USAF-approved courseware to prevent RAAF tailored courses being 'orphaned' from the USAF baseline.

Program Manager:
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NEW ZEALAND C-130J TRAINING DEVICE

PRIME CONTRACTOR:
Lockheed Martin Rotary Mission Systems

MISSION AND ORGANIZATION:
Provide the New Zealand Air Force One C-130J Weapons System Trainer to include Flight Deck, Augmented Crew Station, Load Master Station, Virtual Cargo Compartment Screen, Instructor Operator Station, Brief/Debrief Station and 3 years of Initial Spare Parts

ACCOMPLISHMENTS/ACTIVITIES:
Critical Design Review – 15 Jun 23

Program Manager:
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AUSTRALIA C-130J TRAINING DEVICE

PRIME CONTRACTOR:
Lockheed Martin Rotary Mission Systems

MISSION AND ORGANIZATION:
Provide the Royal Australian Air Force (RAAF) with the purchase of two (2) Weapon System Trainers (WSTs) one (1) Database Generation System (DBGS), one (1) Enhanced – Integrated Cockpit Systems Trainer (E-ICST), one (1) Loadmaster Part Task Trainer, to include all simulator components, three (3) years of initial spares, support equipment, test equipment, familiarization, and publications. This includes Installation, Checkout, and Demonstration (IC&D) of the Training Devices. This program will also provide the upgrade of one (1) Virtual Simulator and one (1) Virtual Maintenance Trainer, to include all simulator components, three (3) years of initial spares, support equipment, test equipment, familiarization, and publications. This includes Installation, Checkout, and Demonstration (IC&D) of the Training Devices.

ACCOMPLISHMENTS/ACTIVITIES:
Request For Proposal (RFP) sent to Contractor 29 May 2024

Program Manager:
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VIETNAM T-6 TRAINING DEVICES

PRIME CONTRACTOR:
Textron Aviation Defense

MISSION AND ORGANIZATION:
Provide the Vietnam Air Defense Air Force one ground Based Training System (GBTS), one Operational Flight Trainer (OFT), One Computer Based Training Lab with twelve student stations, Three years of initial spares, Three years Operations & Maintenance Training, Thirty months on -site Contractor Logistics Support, and R&R/Replenishment Spares.

ACCOMPLISHMENTS/ACTIVITIES:
Proposal Received

Program Manager:
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JAPAN KC-46 TRAINING DEVICES

PRIME CONTRACTOR:
Flight Safety International

MISSION AND ORGANIZATION:
Provide the Japan Air Self-Defense Force: one Weapon System Trainer, one Boom Operator Trainer, initial spares, familiarization training and support equipment.

ACCOMPLISHMENTS/ACTIVITIES:

Contract Effective Date – 11 Jul 2023

Contract Award - 11 Sep 2023

Devices 45% completed

Many milestones accomplished (PAC, SRR, EDR, VDBWG 1 -3, PMRs, Logistics and Testing Reviews)

Program Manager:
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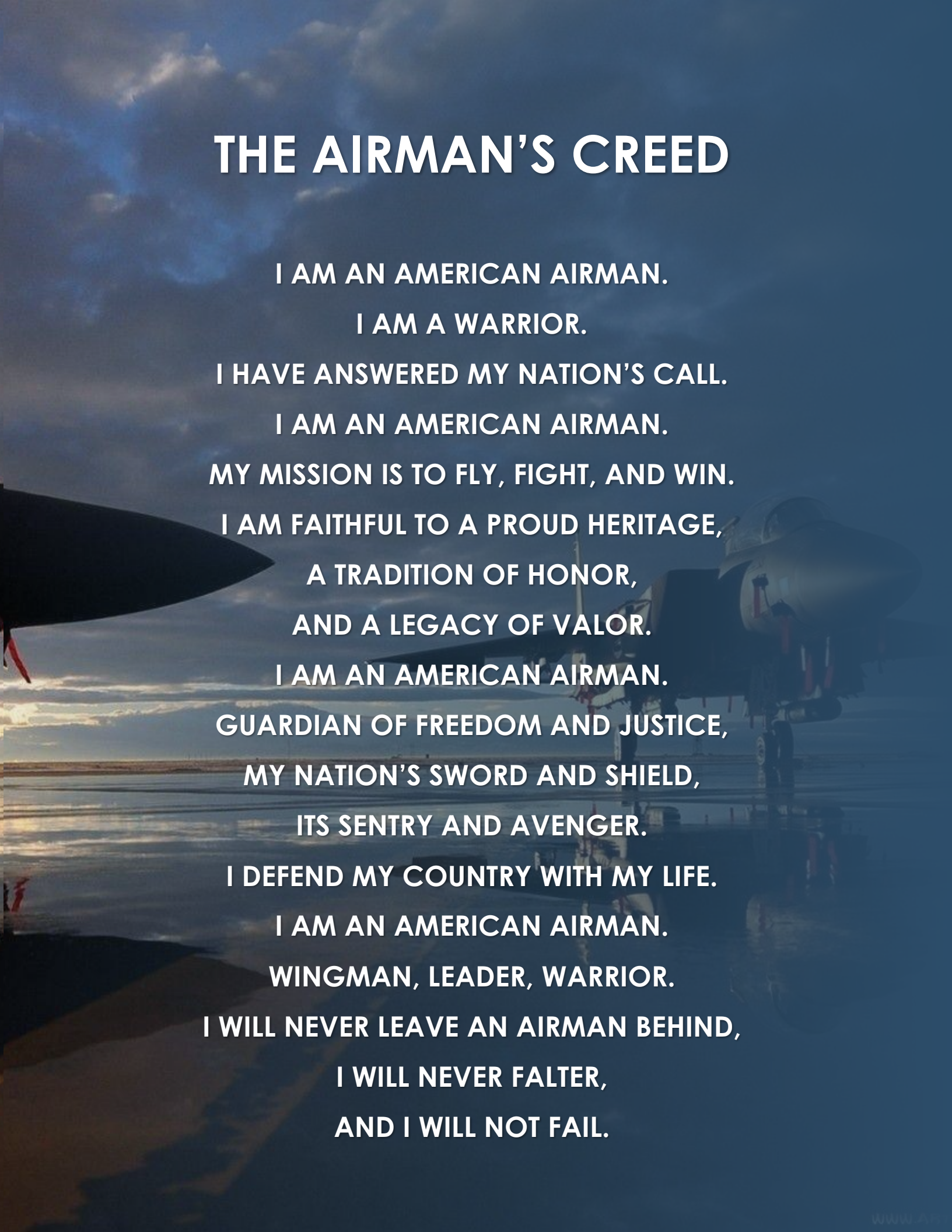

THE AIRMAN'S CREED

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.

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