

Boeing Defense, Space & Security
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Training Systems and Government Services



Description and Purpose:

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Training Systems and Government Services (TSGS), headquartered in St. Louis, provides a full range of training capabilities and customer-focused solutions to directly enable mission readiness. Worldwide, our division has more than 2,000 employees dedicated to delivering cutting-edge training solutions, custom software development, engineering and technical services. Our years of expertise, global infrastructure, research facilities and customer knowledge help ensure the very highest levels of readiness for our customers.

TSGS specializes in the development, production and integration of high-fidelity cockpits, visual systems, instructor operating stations, mission rehearsal systems, detailed software and instructional system design courseware for aircrew and maintenance training, for a variety of platforms, including Apache, AWACS, AEW&C, P-8A, EA-18G and F-15 two-seat variants.. TSGS provides electronic classrooms, supplies highly skilled simulator instructors and delivers and operates training centers around the globe, bringing high levels of realism to users and maintainers to help them prepare for tomorrow's challenges.

Boeing's **Constant Resolution Visual System** is the centerpiece of a complete training suite, providing 360 degrees of immersive, low-cost and highly effective training. Unlike traditional visual systems, CRVS provides the warfighter with constant target visibility throughout the entire field of vision. The CRVS solution provides near eye-limiting performance everywhere, using one-third to one-half the number of projectors of other approaches. Fewer projectors equates to lower acquisition, maintenance and operating costs and CRVS is fully compatible with a wide range of fast jet and rotor-wing cockpits.

Pushing the frontiers of how training is conducted and procured, TSGS is a leader in **Distributed Mission Operations (DMO)**. The division is applying local and distance networking of devices with Distributed Interactive Simulation and High-Level Architecture that allow aircrews to train together from their home bases in various parts of the U.S. or around the world, and even at sea using deployable devices. The success of the F-15C DMO program has allowed Boeing to be a "repeat" provider of networking capability solutions for DMO training on existing U.S. Air Force devices, including the F-15E, F-16, C-5 and C-17 aircrew training systems. Boeing's advances in deployable

and distributed training provide real benefits in maximizing operational readiness and reducing total ownership costs for military services.

Adopting new and innovative training approaches has led to a joint venture with Agusta Westland Helicopters Ltd. (Aviation Training International Ltd.) to provide **Apache helicopter training** in the United Kingdom under a Private Financing Initiative concept with warranted results. Boeing's DMO experience is also being used by the United Kingdom's **Distributed Synthetic Air Land Training (DSALT)** program, which is being delivered with QinetiQ.

The TSGS **Integrated Immersive Training Environment (I2TE)** provides innovative tools that increase training preparedness, generate positive training and build the confidence of soldiers and Marines for full-spectrum operations. The I2TE enhancements enable a more immersive training environment than has ever been delivered for ground forces. I2TE products are seamlessly integrated into existing facilities and readily scalable – they can be incrementally implemented to meet specific customer training needs.

The Boeing-developed **Virtual Mission Board** controls the exercises, provides mission planning and rehearsal and after-action review capabilities, and features video capture and entity tracking for video/virtual monitoring with timeline controls.

International training systems have been provided for the United Kingdom AH Mk1, Finnish Air Force F-18, Kuwait Air Force F /A-18, Royal Netherlands Air Force AH-64, and Korean Air Force F-15K. Boeing is leveraging its broad experience in design, development and fielding of integrated training system solutions as it delivers the DSALT program with partner and program-lead QinetiQ.

Boeing also supports additional International Apache Training Systems, Live Virtual Constructive Interoperability Architecture, and the U.S. Joint National Training Capability.

TSGS provides integrated mission planning solutions to U.S. Department of Defense and foreign military customers. It has more than 30 years of experience in development, integration and sustainment of automated mission planning capabilities supporting a broad spectrum of military aircraft platforms, weapon systems and avionics programs. MPS products are integrated with a wide variety of standard mission planning frameworks including the Air Force Mission Support System – Mission Planning System (AFMSS MPS), the Navy's Tactical Aircraft Mission Planning System (TAMPS), the multi-service Portable Flight Planning Software (PFPS) and the Joint Mission Planning System (JMPS). MPS has led the U.S Air Force and U.S. Navy migration to JMPS by providing the first JMPS-based Mission Planning Environments to successfully complete operational testing and be used in combat with the F-15 and F/A-18 platforms. The organization also provided the first JMPS-based products approved for release to several foreign militaries.

TSGS **research and development programs** focus on customer needs and program requirements. The division has been recognized as industry leading in the design and establishment of training systems standards. Next-generation technology, such as

Integrated Live, Virtual and Constructive (I-LVC) training, is not only being developed, it is being demonstrated by TSGS today.

Major Programs:

Training Systems

- F-15 C/E Training Systems
- F-15 C/E, F-16 Mission Training Center
- F/A-18 Training System
- F-22 Training System
- F-16C Trainers
- U.S. Army Apache Longbow Training System
- F/A-18, Apache Longbow, and MV-22 Instructional Media
- UK Mk1-AH-1 Apache Training System
- U.S. Air Force AETC & ACC Pilot Training Instruction
- F/A-18 Aircrew and Maintenance Instruction
- Commercial Apache Longbow Training System
- U.S. Navy EA-6B Integrated Avionics Trainer
- MV-22 and CV-22 Training Systems
- T-45 Undergraduate Military Flight Officer training
- International Apache Training Systems
- P-8A Training System

Infrastructure & Range Services

I&RS, based in Richardson, Texas, manages the Boeing Broadband SatCom Network and provides services and support to other Boeing organizations for the Intercontinental Ballistic Missile program, the Ground-based Midcourse Defense system and the Secure Border Initiative program. I&RS also provides facilities operations, maintenance and support services for selected government agencies.

I&RS leverages Boeing's 40 years of experience as a provider of a broad range of engineering and technical services, including feasibility studies and requirements definition, site construction and system integration, operations and maintenance, integrated logistics support, managed network systems and privatization support.

Logistics Command and Control (LogC2)

Tapestry Solutions, Inc. of San Diego is a wholly owned subsidiary of Boeing. Acquired by Boeing in 2008, Tapestry provides custom software development, system engineering, geographic information systems (GIS), field support, training, consulting, support services and modeling & simulation to the U.S. military, other government customers and the private sector.

A leading systems integrator and designer, Tapestry has more than 17 years of documented experience designing enterprise and tactical logistics information systems with more than 50,000 worldwide users.

In 2010, Tapestry acquired CDM Technologies, a software engineering company that specializes in real-time transportation and logistics planning systems for the U.S. military. Whether by air, sea, rail or road, CDM's routing and load-planning optimization software provides customers with in-transit visibility and rapid re-planning capabilities.

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