Training Breadth and Versatility from the Rotary-Wing Experts

Helicopter training demands a Total Tailored Training Solution in which pilots can learn to fly their aircraft and weapon system in difficult environments and perform to the highest standards.

Achieving these standards effectively and efficiently requires a training continuum that matches the expected operational performance of the aircraft and goes beyond the accurate replication of aircraft maneuverability, avionics, weapons and sensors.

By allocating the right training media (tablet, part-task or full-mission trainer) and supporting that training media—through high-fidelity simulation and a synthetic natural environment—L3 Link offers the Total Tailored Training Solution as the means to master aircraft operation, quickly and economically, in conditions that reflect the real-world challenges faced by every pilot.

From classroom computer-assisted instruction through part-task and full-mission training, commonality is crucial to a useful Total Tailored Training Solution. This can be accomplished through a single simulation of the aircraft and environment, resulting in faster learning, higher retention for the pilot and training repeatability for the instructor.

Since 1929, L3 Link has provided customers Total Tailored Training Solutions employing open and modular training system architectures that meet training objectives by supporting aircraft concurrency, training task achievement, mission evolution and future technology growth.

SCALABLE RELIABLE HIGH-FIDELITY OVER 8 DECADES OF EXPERIENCE *IMMERSIVE MISSIONS* NETWORKED REALISTIC AIRCRAFT & WORLD

TRAINING MISSIONS

Collective Training • **S**pecific Mission Training • **O**bservation • **U**tility • **D**irect Fire Support • **A**rmed Reconnaissance
Disaster relief • **S**earch & Rescue • **L**aw Enforcement • **N**atural Disasters • **M**edevac

FLIGHT AND COMMUNICATION MODELS

Flight dynamics and engine models respond to flight and power plant controls and simulated environmental conditions (such as temperature, pressure, winds and turbulence) in accordance with aircraft performance data. The high-fidelity blade element flight model includes modeling of variation in gross weight, inertias, center of gravity position, fuel, cargo load, sling load and personnel loading (when applicable).

The training device communication systems provide the functionality required to support all communication system training tasks, including the cockpit communication system controls, panels, switches, indicators, displays and helmet connections. All radio simulation is capable of communication across the real-time network to provide interoperability with any other networked simulator or Instructor Operator Station (IOS) role player containing compatible radio simulations.

VIRTUAL BATTLESPACE ENVIRONMENTS

The trainers provide their own Synthetic Environment (SE) for stand-alone operation and are able to interoperate with the SEs of other trainers, or compatible simulations, selected to be in the same exercise.

As required, Semi-Automated Forces (SAF) provides a realistic, tactically correct battlefield training environment. The SAF simulates friendly and opposing aerial and ground weapon systems in day, night, adverse weather, selectable environmental conditions (temperature, wind, visibility and ceiling), battlefield obscurants, dynamic terrain, obstacles and weapon flashes. Conducting training exercises in tactical, target-rich, interactive virtual environments, which are correlated to the visual system, provides experience required for minute one in the real aircraft.

INSTRUCTOR AND BRIEFING/DEBRIEFING CAPABILITIES

The IOS is a PC-based, network-connected component of the training system, controlling multiple devices in a distributed training environment designed for efficient and effective training scenario execution. It provides the capability to initialize, support, control and monitor all aspects of a training exercise. When combined with a scalable video wall consisting of displays, the IOS provides a state-of-the-art mission observation facility. The video wall (a scalable debrief system) comprises multiple wall-mounted flat screen color displays and interactive whiteboard technology.

These displays provide a crew station display repeater function, an overhead eye view of the mission replay over associated tactical maps or geographic terrain representations, and a variety of images, including a stealth viewer, an event timeline, 3-D or 2-D displays, and a pair of data displays that fully supports multi-ship tactical debriefing. Along with instruction, the IOS can also control friendly and non-friendly entities within the training task.

TRAINING DEVICES – OPERATIONAL FLIGHT TRAINER WITH MOTION

L3 Link's operational flight trainer (OFT) offers a high-fidelity environment that immerses aircrews in mission scenarios that support a robust training experience. The OFT accurately simulates the aircraft with a spatially accurate cockpit and functional features that physically allow the pilot and crew to become fully immersed in training tasks. The OFT is fully networkable for multi-ship training. The motion system and vibration platform provide accurate cueing as experienced in real flight operations.

TRAINING DEVICES – UNIT-LEVEL TRAINER WITHOUT MOTION

L3 Link's Unit-Level Trainer (ULT) contains a vibration cueing system (to enhance the motion cueing environment) in a containerized design, permitting transportation via trailer. The transportable module includes the simulator, IOS and Brief/Debrief Station. Our ULT provides an accurate replication of the aircraft and allows for complete aircrew training and mission execution, including system functionality, system emergencies, malfunctions and degraded system operations.

TRAINING DEVICES – RECONFIGURABLE TRAINERS

Reconfigurable Collective Training Devices (RCTDs) provide collective aircrew training to enable aviators to arrive at their units significantly more proficient in basic combat skills. These RCTDs provide terrain and threat environment-specific training for all aviation units as the last training and evaluation event prior to deployment to combat theaters. RCTDs are interoperable with the other tactical trainers and are integrated with instrument displays, physical fidelity modeling of critical switches, an acoustic seat shaker, and a visual display, providing aviators with a high field-of-regard. Each RCTD configuration simulates specific aircraft radio communications and digital messaging capabilities. Aircraft survivability equipment and weapon systems modeled for each aircraft are fully interoperable with the threat environment.

MAINTENANCE TRAINING

L3 Link's Maintenance Trainer Family (MTF) products provide training and development to the maintenance team and technicians. With a variety of tools to work with, students are able to undertake physical, hands-on learning supported by virtual courseware and instruction for constant real-time training on demand.Robust, high-fidelity physical and virtual environments build the maintenance and technician teams' competence in individual and team air vehicle support.

Our MTF supports the entire range of progressive learning and development, including avionics, electrical interface, fuselage, engine control, flight control, hydraulic and armament systems. The MTFs are air vehicle-specific, including weapon systems for fighter/attack platforms. These high-fidelity maintenance solutions can be applied to all air vehicles.

RealitySeven™ - OFT

FSXXI - RCTD

HELICOPTER TRAINING

INTEGRATED ENVIRONMENT

L3 Link's HD World® solution provides a realistic, high-fidelity synthetic environment simulation that immerses pilots and crews in high-definition, dynamic training scenarios. HD World supports day/night, low-altitude and all-weather mission training in addition to realistically simulating employment of a full range of weapons and sensors.

HD World significantly enhances the operational environment being simulated by adding rich, physics-based dynamic behaviors representative of indigenous civilian and insurgent populations. By adding increased realism and clutter within a simulated urban environment, the warfighter's ability to acquire targets is hampered. Highly interactive physics-based vehicle models offer movement that is more realistic, consistent collision detection and results.

Precision weapon effects with improved, more accurate battle damage assessment enhance training knowledge transfer. HD World allows game-based interactive role players to enter the simulation to perform in a variety of training scenarios.

TOTAL TAILORED TRAINING

Today's students are proficient in technology and they expect individualized information for their specific needs. Such students prefer an immersive "learn-by-doing" approach. L3 Link's Accelerated Learning training approach enables advanced learning by using the latest technology to tap into these student preferences.

L3 LINK'S ACCELERATED LEARNING APPROACH:

- Revolutionizes the entire training environment (including the structure and content of the curriculum)
- Delivers immersive media that delivers realistic training scenarios
- Enables measurement of student performance and the time each student spends in the training environment

L3 Link's Total Tailored Training Solution includes all content and material for advanced and efficient training delivery, required technology and personnel for training operations, and the strength and global presence for ongoing training support. Benefits of L3 Total Tailored Training

Lower cost • **I**mproved retention • **I**mproved Efficiency • **A**utomated training

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