



COMPLETE AIRCREW TRAINING SYSTEM(CATS)

The CATS is a cost-effective solution to all aspects of synthetic and procedural training for helicopter crews. From the basic training of Crewmen conducting clearances, underslung loads, hoisting to full crew coordination including door gunnery both by day and NVG operations.

The CATS is a training solution that is flexible and features a modular design, able to be easily re-configured to suit multiple helicopter types, or can be designed to suit a specific helicopter type.

The CATS also features HLA / DIS protocols, opening up linkage functionality to other simulation environments.



MAIN FEATURES

- Crew members are equipped with Virtual Reality headsets and their positions are tracked in 6 DoF in 3D space.
- Trainees view a high-fidelity representation of the aircraft and the surrounding environment that is completely immersive.
- Trainees are free to move about the cabin and operate as they would in the real aircraft, including lying down to view the underside of the aircraft.
- The Internal Communication System (ICS) allows crew members to develop and practice effective crew coordination.
- CATS presents a full crew mission environment, either by the CATS instructor acting as the pilot, by incorporating a VSS cockpit module, or by linking into an existing pilot simulator via HLA/DIS.
- Door gunnery is fully immersive with the VR HMD providing the gunner with 360° views, increasing the gunners capability by providing greater situational awareness.
- VSS also creates replica weapons, such as the M134 Minigun, M240 and GAU21 to conduct high fidelity door gunnery training.

GLOBAL OPERATORS

- Australian Army Aviation (Oakey, Townsville, Holsworthy)
- Royal Australian Navy (Nowra)
- UK Army Air Corp 671 Sqn (Middle Wallop, England)
- European Defence Agency, (RAF Linton-on-Ouse, York England)
- Colombian National Police (Mariquita, Colombia)
- Priority1 Air Rescue (Arizona, USA & Garons, France)
- AgustaWestland (Yeovil, England)
- Qatar Emiri Air Force (Doha)
- Toll Helicopters (Bankstown, NSW)
- NSW Air Ambulance (Bankstown, NSW)
- Royal New Zealand Air Force (Ohakea)
- Government Flying Service (Hong Kong)



MODULAR OPTIONS

- **Door Gunnery Module** - This module offers a rear crew 'part-tasking' VR environment for door gunnery, whilst operating various weapon platforms. The door gunnery module supports the use of either the Head Mounted Displays (VR) or optional Projection Dome visuals.
- **Hoisting / Winching Module** - Provides a generic procedural training capability for hoisting operations. Supports advanced SAR techniques, with operator specific mission equipment and modeling. Titan provides an immersive hoisting environment with realistic forces acting on the cable, survivor and objects. Can be operated with either a generic pendant control or a hoist/acft specific pendant control, including crew hover functionality if required.
- **Cockpit Module** - Provides CRM training environments thus adding complexity to Rear Crew operations and internal ICS crew coordination. The cockpit can be fitted with either generic or type specific flight controls and instruments for increased functionality.
- **Marshalling Module** - Supporting ground crew training this module incorporates the VSS Virtual Marshalling Simulator (VMS) used by the RAAF, RAN and AAvn. This training capability can be used individually or combined with the above modules for complex and immersive scenarios.
- **Airborne Sniping Module** - Adding to rear crew operations and offering a 'force multiplier' to commanders, the MK2 sniper module incorporates the combination of aircrew and special forces elements.



TRAINING CAPABILITIES

- Obstacle Awareness
- Crew Coordination
- Hoist Operations
- External Load Operations
- Mission Equipment Malfunctions
- Inflight Emergencies
- Formation Flying
- Fast Roping / Rappelling
- Ship Operations/Deck Landing
- Airborne Sniping
- NVG Training
- Cabin Security Training



LIVE HOIST TRAINING TOWER (LHTT)

The VSS Live Hoist Training Tower (LHTT) utilises both industry proven techniques and current state of the art technologies to deliver enhanced aircrew training on a live platform that saves airframe hours and keeps valuable aircraft operational instead of supporting training tasks.

MAIN FEATURES

- With safety at the forefront of design, VSS incorporates a personnel approved hoist system in conjunction with a fit for purpose cabin layout to enable efficient and effective training for both current and future hoisting practices.
- The LHTT features a multi-stage cut-off safety system for inadvertent cable runaway, a hoist monitoring system for maintenance control, a multi-position instructor pendant control for variable hoist practices and an industry standard hoist attachment system.
- The framework has been designed to be a free standing unit, enabling the LHTT to be installed with minimal modifications to any existing structures and allows for its relocation if required. The mezzanine access module is constructed of structural galvanised iron to resist corrosion and provide high levels of durability.

LHTT OFFERS:

- External doors
- Internal floor (recessed tracking to facilitate the movement of seating)
- Seating for forward and rear cabin
- Seat belts
- Live digital recording of events via 4 internal cabin cameras
- Internal ICS
- Internal roof mounted personal safety line hard points
- Rear cabin will also accommodate replicated stowage areas if required
- SAR internal stretcher assembly for live patient handling
- Combine the LHTT with VSS's CATS virtual reality simulator (supporting hoisting, gunnery and many other features) and live training for a full crawl-walk-run aircrew training continuum.

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