The Virtual Marshalling Simulator (VMS) is an innovative stand-alone training system, as well as an important complement to the VSS Complete Aircrew Training System (CATS).

Aircraft Marshalling is a crucial skill for both land and sea operations, and one that can be costly to train with any amount of realism. VMS bridges the gap between resource-hungry live training and classroom learning by using a synthetic apparatus that can place trainees in any situation imaginable to bolster their real-life judgment and skills.

The virtual world of VMS, using COTS simulation software with custom modifications, presents a wealth of scenarios, environments and conditions to the trainee. From ship landings in stormy weather to sun-blind airstrips and foggy helo pads, environmental customisation is limitless - in any part of the world at any time of day or night.

Realistic lighting and water effects, dust particles and NVG are all catered for. Helicopters can perform underslung loads and faults can be scripted or triggered dynamically.

Complex training scenarios can be quickly developed, from routine procedures to emergency situations. After Action Review capabilities allow all virtual sessions to be recorded for immediate feedback or archived for later retrieval.
With VMS, the Marshaller’s gloves/hands or replica wands are tracked realistically in 6-Degree-of-Freedom virtual space, which the student sees through High-Definition Virtual Reality Goggles. Marshallers can turn and move freely in any direction, in 360°.

An instructor at an operator station sees these movements in the virtual world from a pilot’s or FLYCO’s viewpoint, and controls the aircraft dynamically or issues commands based on the student’s signals, which the aircraft follows automatically.

Multiple marshallsers can be linked in the same scenario and operate simultaneously, including hand-offs or marshalling of multiple aircraft.

VMS Features Include:

- Wireless version with 4 x Marshallers in 6DOF free-roaming 360° space
- Dynamic weather effects with a range of settings, including wind, rain, fog, lightning
- High-fidelity virtual simulation with authentic graphics and sound
- After Action Review capabilities to record and play back virtual scenarios
- Real-time scenario editor with vast control
- Trigger aircraft emergencies such as engine fires, hydraulic leaks, hotbrakes on fighter planes, and tarmac incursions by personnel or vehicles
- Stand-alone training or link into a wider simulated environment such as an aircrew, convoy, or ship training system
- Aircraft can be controlled manually or in a semi-automated system
- Simulated procedures include pilot signals, refueling, HIFR, deck lashing, power, take-off and landing, and many others

The VMS system allows ground and deck crews to learn, practise and be assessed in the skills required to marshal aircraft whilst dramatically reducing the time and cost of training.

VMS in use by RAN to train up to 4 simultaneous marshallsers directing multiple aircraft on an LHD. This system also links directly with the RAN’s VSS deck officer simulator for FLYCO, FDO and POD.

VMS Reduces:

- Rate of effort on already scarce resources
- Reliance on pilot availability
- Expenditure on fuel and other consumables
- Logistic setup for FARP marshalling exercises