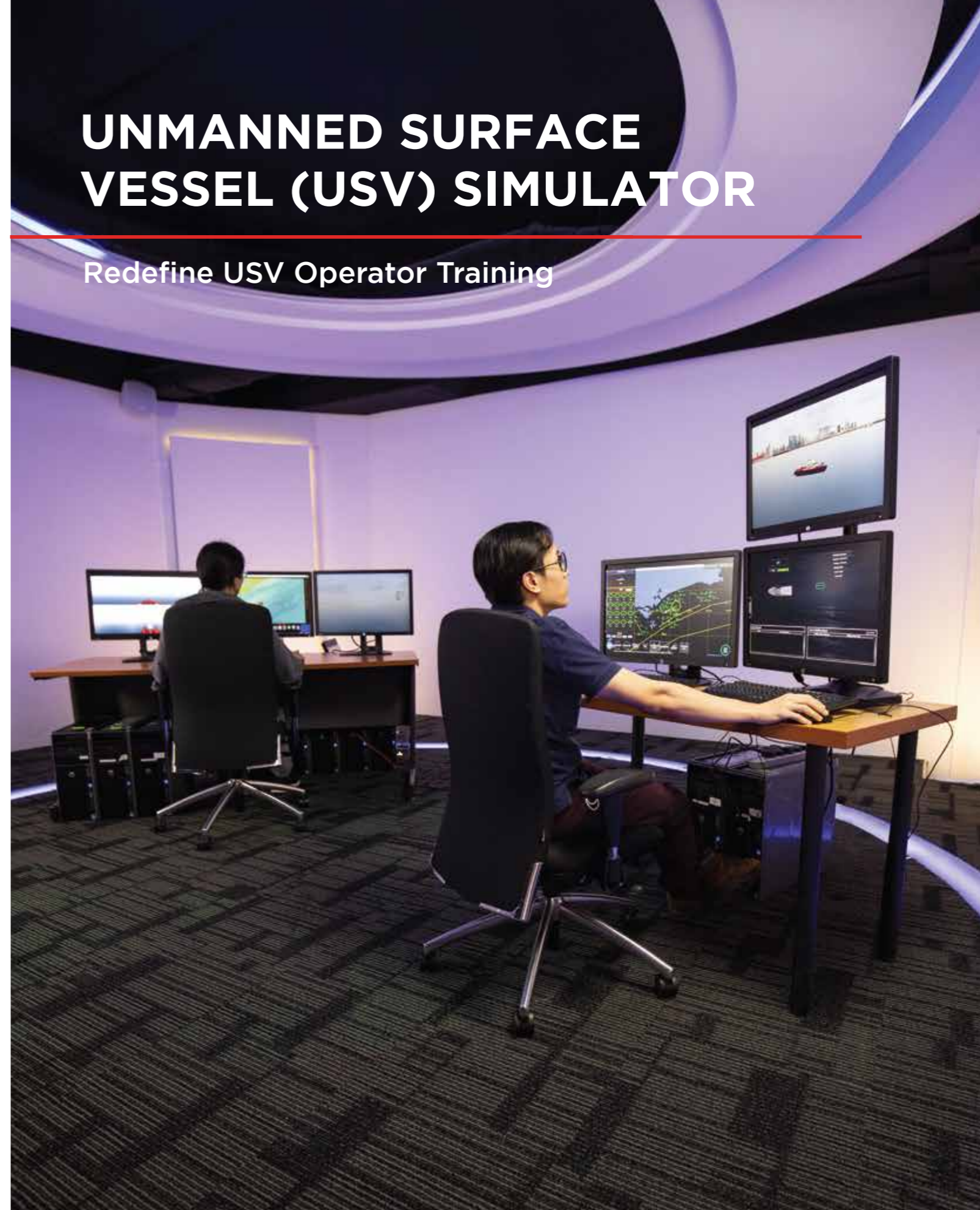# UNMANNED SURFACE VESSEL (USV) SIMULATOR

Redefine USV Operator Training

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ST Engineering

LEADING-EDGE
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TRAINING

Taking on missions that range from patrolling, force protection, search and rescue and even fire-fighting, the unmanned surface vessel is highly manoeuvrable, responsive and versatile.

Learning the command procedures of a USV console requires hours of training with an actual USV platform, which may be risky to the asset and other maritime traffic in the hands of inexperienced crew. Overcoming these challenges, the USV simulator comes packed with realistic simulated environments and training scenarios, with customised configurations that ensure USV operators can rise to any challenge at sea.

Designed and built to meet the initial and recurrent training needs of USV operators, the USV simulator offers both platform training as well as mission specific training.

Replicating and simulating USV system, the simulator integrates customisable visual scenarios with extreme visual realism, realistic sensor simulation such as Electro Optic / Infrared Red Sensor and Automatic Identification System (AIS) simulation, high-fidelity Computer Generated Forces (CGF), and a comprehensive Instructor Operating System (IOS) with After Action Review (AAR).

EO Sensor

IR Sensor

Simulated Sensor Views

360 camera views

The USV Simulator

familiarises operators with the system operations and command procedures for a single USV. Training includes how to deploy the USV for autonomous operations, navigating under different weather conditions and emergency handling.

Platform Training

Operator Station

Mission Specific Training

Training scenarios can be customised to fit the mission objective. Operators rehearse standard operating procedures with the simulator so they will be proficient at handling situations as they arise.

Training Applications
- **Surveillance**
- **Autonomous Patrolling**
- **Target vessel interception**
- **Search and Rescue**
- **Fire-fighting**

TRAINING Applications

- Surveillance
- Autonomous Patrolling
- Target vessel interception
- Search and Rescue
- Fire-fighting

Instructor Operator Station

The Instructor Operating Station (IOS) enables the instructor to plan and monitor all training exercises. Functions include recording and playback to support detailed after action reviews, management of training scenarios with injects of maritime traffic or malfunctions in the simulated console equipment.

Instructor Operator Station

SPECIFICATIONS

USV Simulator Trainee Console

- Replicates the functions and features of the actual USV operator console.
- Simulated 360 USV camera views and electro-optical tracking systems with infrared vision.
- Health monitoring system to aid system maintenance and recovery from failures.
- Optional: Sound system that simulates Long Range Acoustic Device (LRAD)..

Instructor Operating Station (IOS)

- Fully integrated and embedded suites for lesson plan, mission preparation and management.
- Computer-Generated Forces (CGF) for maritime traffic simulation injects, configured based on instructor's preference.
- After Action Review (AAR) to review operator's performance.