

VSD | Navy & Coast Guard Simulator & Instructor-led Training Solutions



VSD's Corporate Capabilities at a Glance

- In-depth technical advice and analysis of manpower, personnel, and training issues
- State-of-the-art training systems based on immersive simulation and advanced technologies
- Tailored curriculum packages and certified instructor teams
- Training solutions operating in 14 countries in North America, Europe, Asia, and the Pacific

VSD Ship Platform Experience



CARRIER



AMPHIBIOUS



CRUISER



DESTROYER



FRIGATE



CORVETTE



PATROL BOAT



LANDING CRAFT

Superior Learning Results Through Simulation and Advanced Instruction

The complexity and cost of today's military platforms requires that simulators be the principal tool a qualified instructor uses to teach and assess the ability of an individual or an operating team's ability to perform.

However, the acquisition of a simulator – no matter how advanced – is not part of an

There is no future navy anywhere in the world where simulators are not a cornerstone of force training.

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optimal solution if the simulator cannot be integrated into the new crew's overall training program – curriculum, classroom time and live training - and if the simulator itself is not a fully integrated learning system just as every ship or naval platform truly is.

VSD specializes in delivering high-impact integrated training solutions, especially where new technologies and simulation-based crew learning feature prominently.

Our experience includes delivering some of the world's most complex and demanding simulator-based training engagements imaginable. We build multi-mode training solutions that are better able to achieve targets for desired individual and team-level competencies.

What makes the VSD integrated simulators unique?

High Degree of Accuracy in the Simulation

Simulators come into play when new technologies, new processes, and new configurations are being introduced. What few outside of this industry realize is that the simulation models and training materials are often being developed while the new equipment's functionality and the user interface software has yet to be finalized. Without guru-level expertise in such new product development settings, it is nearly impossible to design an accurate simulation.

VSD is a new military equipment and process development expert in its own right. It is because of this in-house competency that VSD's simulators are significantly more accurate at depicting the full functionality of the new equipment.

Lean Production Approaches and Timelines

VSD can progress a simulator from concept through delivery in as much as 50% less time than the typical provider. How? VSD's lean production efficiency is a result of four very formidable engineering and production skill sets. First, VSD's capacity to rapidly grasp the intricacies of new technologies and their training implications. Second, our engineering team's strengths in component manufacturing logistics. Third, our design team's ability to provide detailed designs early in the production process thereby reducing integration uncertainties. Fourth, our ability to manage the parallel production of components, especially as design changes flow through the myriad of programmers, component manufacturers, and fabricators.

Superior Balance in the System Being Created

Simulators are systems with five primary components: the technology platform, the simulation model, the mission play, the user/team interfaces, and the user's mental models. Too often OEMs over emphasize the hardware and software, missing the mark on the users, the team learning, and training system components. VSD's engineers are total performance improvement experts; they delve into the intricacies of each of these components and the overall performance problem/solution equations so that a superior learning system is developed.

Realism of the Controls and Working Environment

VSD replicates a high fidelity bridge with out-of-window displays and emulations built around the ship's sensors. Our simulators run the same software and feature the same navigational, tactical and sensing equipment as on actual ships. We pay close attention to the physical environment of the interior, from bulkheads to overhead.

High Degrees of Integration

Simulators can be integrated to different degrees: physical integration, simulation integration, communications integration, and stimulus/response integration. The degree to which simulators are integrated defines their capability and efficacy as a crew trainer.

VSD's simulators integrate all of the specified shipboard systems into one complete operating framework, enabling a crew to train as a single unit on single mission at the same moment in time. In plain words: the simulation being run on the bridge matches the simulations in the engine room, on the weapons platform, and on any other battle station – in real time. With an integrated system, the new recruits operate as part of a unified whole (as they were meant to), with each crew member's performance contributing to a genuinely coordinated system whole.

High-Fidelity Simulators

- **Full Mission Bridge Trainer (FMBT)** - a multipurpose, highly-realistic OPV simulation for bridge team training and mission rehearsals utilizing actual or simulated bridge controls, instrumentation, and equipment
- **Engine Room Trainer (ERT)** - for training personnel in the operation and monitoring of instrumentation and controls of the vessel's engine room
- **Communications Trainer (CT)** - used to train on equipment used for communication within a ship or vehicle as well as used to simulate radios used in external communication between units
- **Deployable Electronic Warfare Environment Trainer (DEWET)** - a state-of-the-art, dynamic electronic warfare simulation training system
- **Helicopter Flight Deck Operations Trainer (FDOT)** - for helicopter controllers in approaches and landing on ship flight decks
- **Fire Control Trainer (FCT)** - weapons simulator used to train OSV and Fast Interceptor personnel on tactical gun systems (30mm)
- **Small Arms Trainer (SAT)** - weapons simulator used for tactics and defensive decisions
- **Firefighting Trainer (FFT)** - simulates Class-A and B-type fires; relevant for disaster, terrorist, and war fighting situations
- **INSIGHT™ Target Recognition & Combat Identification Trainer** - Realistic 3D simulation trainer used to reduce friendly fire and increase combat mission effectiveness with recognition training tools for predeployment training, intelligence training, and mission rehearsal

Instructor-Led Curricula

- **Orientation Courses**
 - Course Purpose
 - Course Overview
 - Administrative Requirements
 - Safety Information

- Operational Profile
- OSV Familiarization
- **Damage Control/Firefighting**
 - Basic Damage Control
 - Safety Precautions and Hazards
 - Damage Control Organization
 - Damage Control Communications
 - Firefighting Fundamentals
 - Portable Firefighting Equipment
 - Battle Damage Repair
 - Compartment and System Isolation
 - Portable Dewatering Equipment
 - Carbon Dioxide (CO2) Fixed Flooding System
 - Firemain System
 - Personnel Protective Equipment (PPE)
 - Fire Alarm and Detection System
 - Damage Control and Firefighting Familiarization
 - Firefighting (MFFT) Simulator
- **Officer Training Courses**
 - Command and Control Concepts
 - Watch Organization
 - Integrated Command and Control Operations Overview
 - Integrated Command and Control Engineering Overview
 - Underway Operations Preparation
 - Emergency Operations
 - Force Protection
- **Combat Systems Courses**
 - Gunnery Commands, Battle Damage Assessment, and Small Arms Deployment Tactics
 - Ships Weapons Doctrine
 - General Weapons/Ammunition Safety and Handling
 - Weapons Systems Operation and Maintenance: 30mm Gun
 - Weapons Systems Operation and Maintenance: .50-caliber machine gun

- Weapons Systems Operation and Maintenance: M240B Machine Gun
- 30mm Simulator Training/.50-caliber Machine Gun/M240B Machine Gun Simulator Training

• **Navigation Courses**

- Introduction to Navigation
- Compasses
- The Nautical Road
- Dead Reckoning, Piloting, and Electronic Navigation
- Ship's Bridge and Equipment
- Dynamic Positioning System
- Navigation Simulation
- Navigation Shipboard Familiarization Training

• **Communications Courses**

- Shipboard Communication Organization
- Preparing a Message
- Radio Procedures
- Distress Communications
- Communications Equipment and Functions
- Communications Simulator Training/ Operation
- OSV Familiarization

• **Radar Courses**

- Basic Radar Principles
- Radar Operation Characteristics and Target Tracking
- Radar Limitations
- Radar Simulator Training
- Radar Shipboard Familiarization Training

• **Engineering Plant Maintenance**

- Effective Engineering Maintenance
- Main and Emergency Generator Maintenance
- Marine Transmission Gearbox Maintenance
- Main Propulsion Diesel Engine (MPDE) Caterpillar Maintenance
- Auxiliary Plant Maintenance
- Deck Equipment Maintenance
- Engineering Plant Maintenance Familiarization Training

• **Engineering Plant Operations Courses**

- Engineering Plant Characteristics
- Electrical Plant Equipment
- Auxiliary Plant Equipment
- Deck Mechanical Equipment
- Engineering Equipment Alignment in Port
- Engineering Equipment Alignment Underway

- Engineering Equipment Alignment at Anchor
- Engineering Equipment Alignment During Casualty Conditions
- Engineering Plant Operations Simulator Training
- Engineering Plant Operations Familiarization Training

• **Deck Operations Courses**

- Basic Seamanship
- Rescue at Sea Operations
- 7M and 5M Rigid Hull Inflatable Boats
- Deck Machinery and Equipment
- Vertical Replenishment Operations
- Shipboard Deck Operations
- Shipboard Familiarization Training
- RHIB/Fast Assault Boat Training

• **Integrated Watch Team Training**

- Transiting from Homeport
- Normal Operations Scenario
- Casualty Control Ops Scenarios
- Emergency Ops Scenarios
- Combat Ops Scenarios
- Returning to Homeport



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The contents, descriptions, and information contained herein are subject to change without notice.

