LAVR

LAVR FLIGHTCORE™

MULTI-DOMAIN INTERCEPT SIMUALTION

ABOUT US

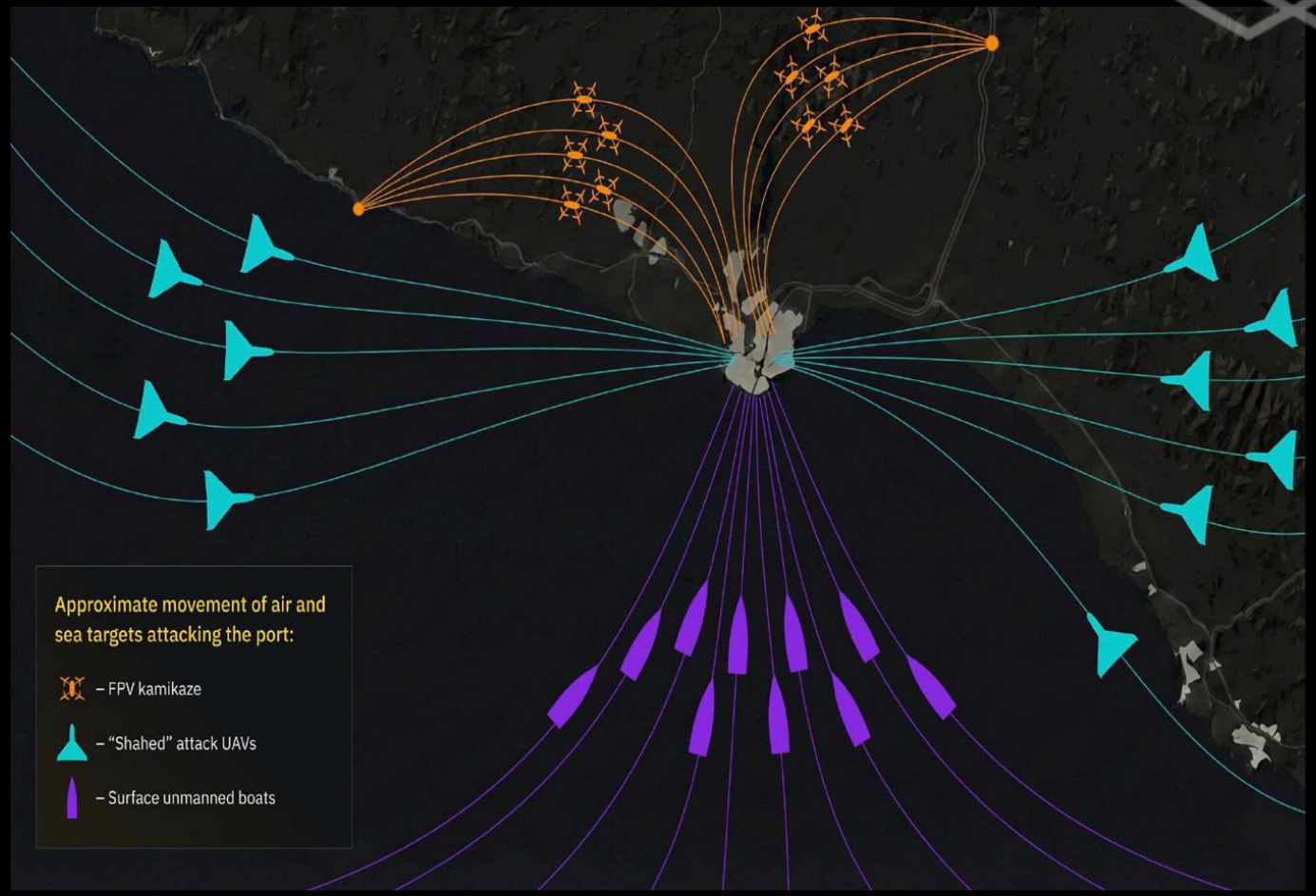
- LAVR UK are a privately owned, British, multi-national company and authorised importer and exporter of military grade goods.
- LAVR UK was established to bring you tailor made and revolutionary solutions to meet your strategic needs.
- We specialize in a range of services, including the manufacturing of multi-purpose drones, drone detection and protection systems, armoured special vehicles, shell and mine casings, ready-to-use ammunition, port security & ISPS compliance and artificial intelligence systems.

LAVR MARITIME GUARD

The LAVR Combat Experience for Port Infrastructure Protection

We propose the development of a specialised maritime security module based on LAVR's existing simulation technologies that has already trained more than 5,000 pilots. This is not just a game, but a proven architecture that has replicated over 100,000 successful combat missions in the most challenging electronic warfare (EW) conditions.

Building on these existing algorithms, we will deliver a tailored solution for port protection. The project includes adapting flight physics to maritime environments and developing unique interception scenarios, to be implemented within agreed timelines following the selection of the strategic package (Tier).



FPV swarms, long-range strike UAVs, and surface unmanned craft are creating multi-vector pressure on port infrastructure.

PORTS UNDER TARGET: A NEW REALITY

Lessons from Operation "Spiderweb" — Pearl Harbor 2025

The world changed after 1 June 2025. Operation "Spiderweb" demonstrated how a swarm of 117 FPV drones can bypass any air defence system and destroy $7 billion worth of strategic assets within minutes. Ports, with their dense infrastructure, are an ideal target for such asymmetric attacks.

Traditional radar systems often fail to detect low-altitude drones and launch points may be as close as 500 metres from the dock — for example, from a parked lorry.

Our LAVR solution will train your team to detect and neutralise such threats at the deployment stage, using advanced detection and interception methods.

FPV Launch — 0-30 seconds
A drone swarm launches from multiple points

Perimeter Breach — 30-90 seconds
Drone crosses the facility perimeter

Impact — 90-180 seconds
The swarm reaches the target, strike begins.

Cost Ratio — 1:20 000
A low-cost weapon versus high-value infrastructure.

OBJECTIVES: MULTI-DOMAIN SIMULATION

From FPV swarms to autonomous maritime threats

The product will cover the full spectrum of hostile platforms. Based on existing LAVR models, we will develop dedicated maritime threats, including surface kamikaze vessels (USVs) and, where required, underwater drones (UUVs) with acoustic navigation.

We simulate complex target behaviour: the use of civilian vessels as cover (Trojan Horse), night attacks along pre-programmed routes, and coordinated swarm logic.

Each threat type will feature realistic physical parameters — speed, manoeuvrability, and RF signature — enabling operators to train against true-to-life threat characteristics.

CATEGORY	CONTROL & NAVIGATION	OPERATIONAL TRAITS	DETECTION DIFFICULTY
FPV	RF Control (2.4/5.8 GHz, 433/868 MHz, LTE) + video / Physical cable (control/power)	RF + video link; low altitude; highly manoeuvrable; detectable	2/5
Tethered	Physical cable (control/power)	Visible tether; constant power; RF-immune	3/5
UAV (Autonomous)	GNSS + INS, pre-programmed route	Stable route; no active RF; RF-jam resistant (short-term)	4/5
USV / UUV	GNSS + INS	USV: no RF; UUV: submerged, acoustic nav	3/5
Surface FPV	RF-controlled surface craft	RF only; no AIS	4/5

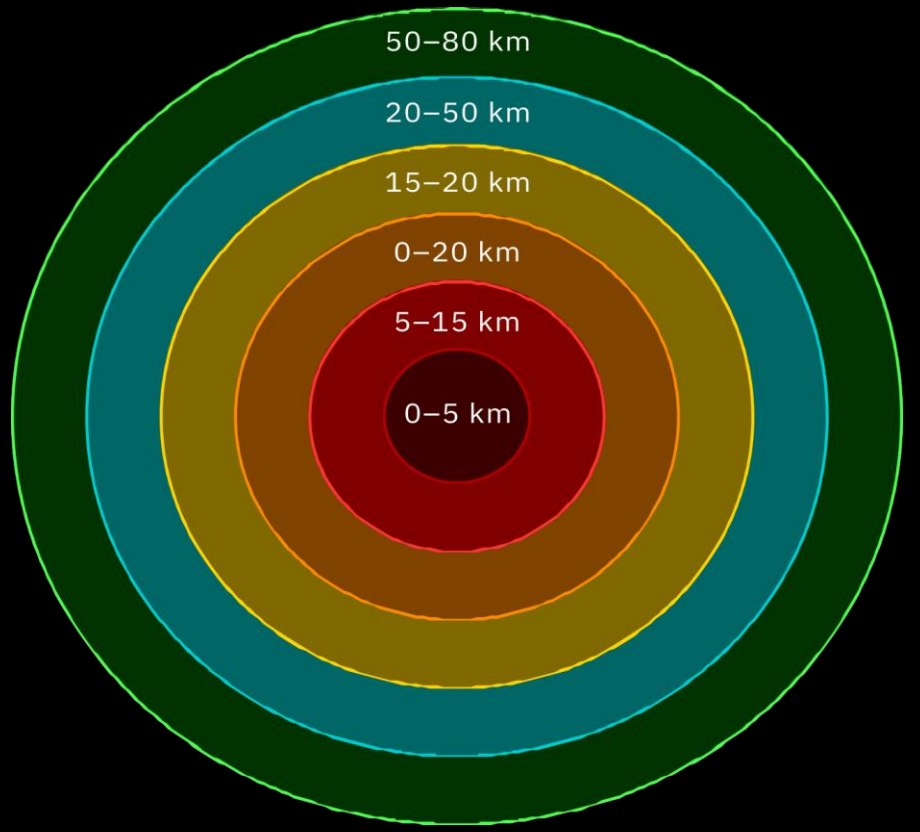
Operational characteristics and detectability level of modern unmanned platforms

STRATEGY: LAYERED DEFENCE ARCHITECTURE

Deep defence 0–80 km: Air + Sea

We propose integrating a six-layer defence model into the simulator. Your operators will train not in isolation, but as part of a unified port security ecosystem. This includes coordination with passive SIGINT systems (range up to 80 km) and active radar assets.

The primary focus is the "last mile" (0–15 km), where threats become critical. The simulator will replicate the operations of mobile response units and counter-drone teams operating under intensive electronic warfare (EW) conditions, including the impact of friendly EW systems. This approach enables seamless coordination and decision-making across multiple security units.



01	**STRATEGIC MONITORING 50–80 km** Passive SIGINT and long-range surveillance	04	**RADAR / EO-IR DETECTION 5–15 km** Precision tracking and targeting data
02	**ACTIVE MONITORING 20–50 km** Radar tracking and early warning systems	05	**ELECTRONIC WARFARE 1–5 km** Jamming, spoofing and signal disruption
03	**SURVEILLANCE ID 15–20 km** Visual identification and classification	06	**TERMINAL INTERCEPTION 0–5 km** Hard-kill and soft-kill neutralisation

INTERCEPTION TECHNOLOGIES

Precision interception for critical infrastructure protection

Building on LAVR's operational experience, we integrate realistic interception physics for both aerial and surface targets without detonation of the warhead.

This is critical for the protection of ports and fuel terminals, where even a nearby explosion can result in severe infrastructure damage.

Operators will train in non-explosive neutralisation methods, including net-based interception and controlled impact targeting vulnerable components such as propellers, antennas, or control systems. These scenarios ensure zero collateral damage to the client's facilities.

Effective interception without risk of damage to objects

METHODOLOGY: MULTI-LEVEL TRAINING PROGRAMME

From basic skills to coordination in complex combat conditions

The training program is built on a multi-level progression that has already proven its effectiveness with existing simulators developed by LAVR UK. The progression is adapted to the specifics of maritime security — from basic manoeuvring in a complex port environment to coordination of interceptors during large-scale drone attacks.

Special emphasis is placed on situational awareness and operations under electronic warfare conditions. Personnel are trained to operate in challenging weather and under constant operational pressure, meeting high standards of protection against modern threats.

A systematic approach to training based on LAVR UK's Academy standards.

INTEGRATION: DIGITAL TWIN & C2 SYSTEMS

A digital replica of your facility for analysis, testing, and command

We develop a high-precision Digital Twin of your critical infrastructure, accurately reflecting real-world geometry and operational constraints.

This enables Red Teaming exercises — simulating attacks to identify vulnerabilities and "blind spots" within the existing defence architecture.

The platform is compatible with military-grade C2 solutions and can integrate with live sensors, transforming the training system into a real-time decision-support tool during operational incidents.

Virtual environment for guaranteed physical security.

REALISM: VISUAL & PHYSICAL FIDELITY

A realistic physics model adapted to military scenarios

The new product is built on LAVR's proven technological foundation, combining realistic flight physics with high-fidelity visualisation to accurately replicate drone behaviour in complex operational environments.

The system models the maritime domain with dynamic waves, storms, fog, and water spray — all directly affecting the stability and controllability of interceptors.

Operators work through an interface identical to real control systems, ensuring immediate skill transfer from simulation to live operations.

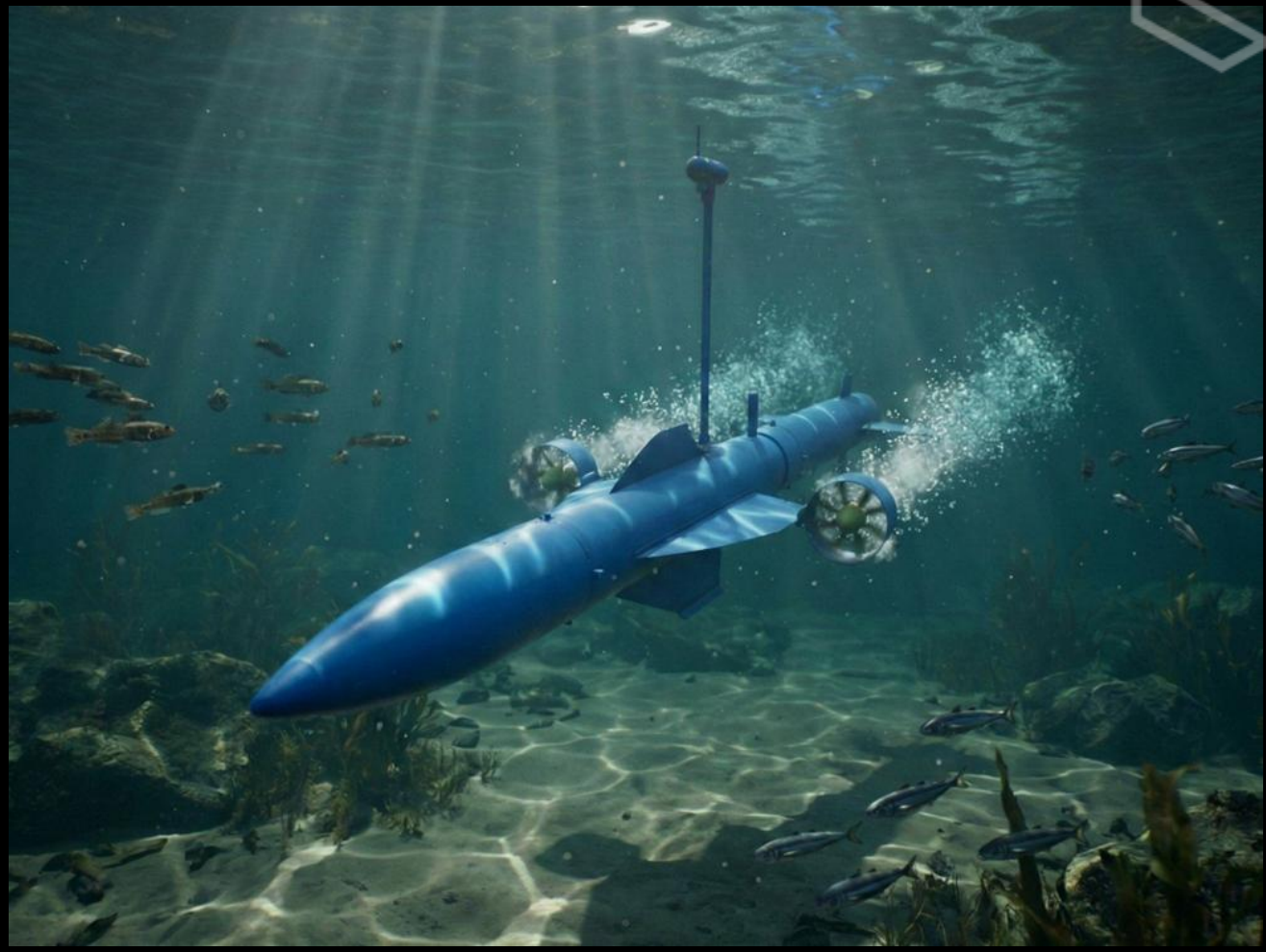
Realism that builds true pilot muscle memory.

UNDERWATER: AUTONOMOUS UNDERWATER INTERCEPTION SYSTEMS

Implementation of the underwater environment module

Autonomous underwater interception systems, based on platforms such as autonomous underwater interception systems based on technical solutions already developed by LAVR UK, expanding the defence architecture with a dedicated underwater protection module. The core concept is to introduce a new response layer without restructuring the existing security infrastructure.

The module integrates into current detection, alert, and targeting networks, forming a concealed underwater defence layer within a unified security framework.



Example of underwater drone visualisation.

AIR DEFENCE: SAM COMMAND POST & GUIDANCE TRAINER

Partial simulation of air defence operational algorithms in accordance with current protocols

Additionally, we can implement a simplified simulation of a SAM command post, including target detection, tracking, targeting, and engagement decision-making. The system can be used as a training simulator for air defence crews, enabling coordination and interaction under simulated aerial threat conditions.

The simulation is built in accordance with safety protocols and the general operational algorithm of air defence units. The module is adapted to the customer's existing radar systems and equipment, taking into account their technical specifications and operational conditions.

Integrated laser interception capability within an air defence system.

TRAINING FOR THE PROTECTION OF CRITICAL INFRASTRUCTURE

Specialised missions for ports, airports, urban areas and law enforcement agencies

Our platform enables the creation of scenarios tailored to the protection of critical infrastructure and public safety. Missions simulate threats in ports, airports and urban environments, taking into account real-world constraints and response protocols.

Scenarios combine air, ground and maritime elements, allowing teams to practice detection, coordination and interception in conditions closely aligned with real operational tasks of security services.

Protection of strategic facilities within a simulated environment.

MODEL: DEPLOYMENT AND SUPPORT MODEL

Long-term contracts and continuous technical support

Cooperation is based on long-term contracts that ensure stability of the training process and predictable system development. The partnership includes scaling of workstations, module updates, and functional expansion in accordance with the client's needs.

Within the contract framework, technical support, regular updates, and scenario adaptation to evolving requirements are provided. This guarantees the simulator's relevance and its integration into a permanent training system.

Training efficiency as a key to resource optimisation.

TIER 1: SERVICE PACKAGE #1 – TACTICAL READINESS

Rapid deployment based on proven scenarios

This package provides fast access to the training system without the need for additional customization. You receive the standard LAVR simulator version with a configuration designed for public order protection by security services.

The solution is based on a proven training methodology that enables efficient scaling of large numbers of pilots within short timeframes.

Estimated delivery timeline following technical specification approval: 6–12 weeks.

Team Allocation: 4–6 specialists.

Service Package Includes:

- Base platform with LAVR UK simulator branding and UI.
- Map featuring a real Ukrainian maritime port.
- Map featuring a real Ukrainian airport.
- Urban environment map.
- Radar system (standard LAVR).
- Alert system (standard LAVR).
- Hostile aerial drones.
- Hostile surface drones.
- Drone interceptors of the "net launcher" and "kinetic interaction" types.
- Technical support for your training centre regarding installation and simulator operation.

Final pricing subject to individual scope and requirements.

TIER 2: SERVICE PACKAGE #1 – SOVEREIGN DEFENCE

A fully customised system with complete integration for your facility

This tier provides a bespoke solution tailored to specific port environments. We create a Digital Twin of the territory and infrastructure and configure the simulator to reflect real operational conditions.

The interface is adapted to departmental standards, with optional white-label branding. The simulation incorporates actual equipment characteristics, including electronic warfare (EW) systems and radar assets. The developed simulator is fully compliant with the Work Frame PORTS™ LAVR protocol.

Estimated delivery timeline following technical specification approval: 10–16 weeks. Team allocation: 8–15 specialists

Service Package Includes:

- UI adapted to LAVR branding
- Modified radar system
- Customized alert system
- 80×80 km maritime port map
- Free updates and fixes for 12 months
- 100 license keys valid for 12 months
- Additional keys available at wholesale pricing
- User documentation package
- Set of architectural assets and units tailored to the needs of custom maps
- Language support (localization into up to 5 languages if required)

Final pricing subject to individual scope and requirements.

EXTENSION: ADDITIONAL WORK AND CUSTOM DEVELOPMENT

Functionality expansion beyond standard Tier packages

In addition to defined levels (Tiers), LAVR UK provides custom development tailored to the client's operational needs.

This may include the creation of additional training maps (scope and cost depend on size and level of detail), integration of new platforms — air, ground, surface or underwater — as well as the development of specialized scenarios and missions. Implementation of counter-UAS modules, air defence systems and dedicated interception training environments is also possible.

MODULE	DESCRIPTION
Custom Map (e.g. Puerto Lázaro Cárdenas)	Environment creation based on operational terrain and infrastructure
Custom Air Drone Integration	3D model, flight physics, performance parameters, OSD integration
Custom Mission Integration	Mission logic development based on operational requirements
Counter-UAV / Air Defence Modules	Integration of SAM systems, underwater interception modules
Advanced Pilot Evaluation System	Structured performance tracking and scoring module

Each request is assessed individually, considering technical feasibility and defined objectives.