



HYDRA

Hybrid Unified Deployable and Replicable
Autonomous Multi-Domain System

*Modular family of autonomous USVs for surveillance, critical
infrastructure protection and defence | SeaPower
Technologies (PT)*





ORGANISATION PROFILE

SeaPower Technologies, Lda. — Portuguese SME [city / region] developing unmanned maritime systems for surveillance, critical infrastructure protection and defence, strengthening European sovereignty.

Personnel / size: [no. of employees] staff · turnover [€ annual turnover]

Products / services

- HYDRA — modular range of autonomous USVs: HYDRA 3.8 (monohull), HYDRA 3.8 with lateral floats, HYDRA 6 (multi-mission) and HYDRA 9 (autonomous mothership)
- Underwater vehicle (UUV, ~3 m) for underwater surveillance, inspection and defence missions

Technical areas

- Naval architecture and hull design, electric / hybrid marine propulsion (waterjets, pods)
- Integration of mission payloads: ISR sensors, communications relay, electronic warfare
- Multi-domain operations: launch and recovery of USV, UUV and UAV

R&D project expertise

- [previous national / EU R&D projects and funding programmes]



PROPOSAL INTRODUCTION (I)

Vision

Develop and industrialise HYDRA, a modular and scalable family of European autonomous surface vessels (USVs) that operates with UUVs and UAVs as a single multi-domain system for maritime surveillance, offshore infrastructure protection, environmental monitoring and defence.

Motivation

- Rising threats to offshore critical infrastructure: subsea cables, pipelines, offshore wind, energy platforms, ports
- Need for persistent, crewless monitoring of large maritime areas: security, marine life and ocean health
- Europe depends on non-European suppliers of unmanned maritime systems

Content

- One modular platform in 4 configurations (3.8 m, 3.8 m with floats, 6 m, 9 m)
- Electric and hybrid/thermal propulsion (15 kW to 2 × 150 kW)
- Plug-and-play payloads (150-2,500 kg): ISR, EW, comms, environmental sensors
- 9 m mothership: launch and recovery of USV, UUV and UAV; energy and C2 hub
- Autonomy and cooperative / swarm operation; prototyping and sea trials



HYDRA family: modular scale from 3.8 m to 9 m

PROPOSAL INTRODUCTION (II)

Expected outcome

- Validated prototypes of the HYDRA configurations, with target performance shown in the table
- Common modular hull, propulsion and payload architecture for the whole family
- Demonstrations at sea: offshore platform / wind farm inspection and security, marine-life and water-quality monitoring, multi-domain missions (USV + UUV + UAV)

Impacts

- Sovereign European supplier of affordable, modular USVs for navies, coast guards, port authorities and offshore energy operators
- Dual-use market: defence and blue economy (offshore wind, oil & gas and hydrogen platforms, aquaculture, marine research)
- Lower cost per monitoring hour than crewed vessels
- New defence and maritime business for Portuguese industrial partners

Schedule

Start: [mm/yyyy] · End: [mm/yyyy] · Duration: [xx months]

HYDRA family — target performance

Model	Max speed	Range	Payload
HYDRA 3.8	22-28 kn	30-50 nm (E) 90-150 nm (H)	150-250 kg
HYDRA 3.8 floats	18-24 kn	35-60 nm (E) 100-170 nm (H)	250-400 kg
HYDRA 6	25-32 kn	80-140 nm (E) 250-400 nm (H)	600-1,000 kg
HYDRA 9	28-35 kn	500-900 nm (H) 3-5 days	1,500-2,500 kg

E = electric, H = hybrid/thermal. Preliminary reference values (HYDRA technical sheet v2.26).

PARTNERS

Current consortium (Portugal)

- **SeaPower Technologies** — coordinator; naval design, platform development and system integration
- **Moldetipo Group** — moulds and industrial tooling
- **Tecponte** — lifting / elevation technology
- **SOCEM** — moulds and precision manufacturing
- **INOV** — R&D institute: electronics, communications and sensing
- **Sound Particles** — advanced audio / acoustic software

[confirm each partner's role in the project]

Partner search

- Autonomy, navigation and C2 software; swarm / cooperative control
- Mission payloads: radar, EO/IR, sonar, EW, communications, environmental and passive-acoustic sensors
- UUV and UAV developers for multi-domain integration
- End users and test sites: navies, coast guards, ports, offshore energy operators, marine research institutes
- Countries: any EUREKA member country [preferred countries, if any]



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