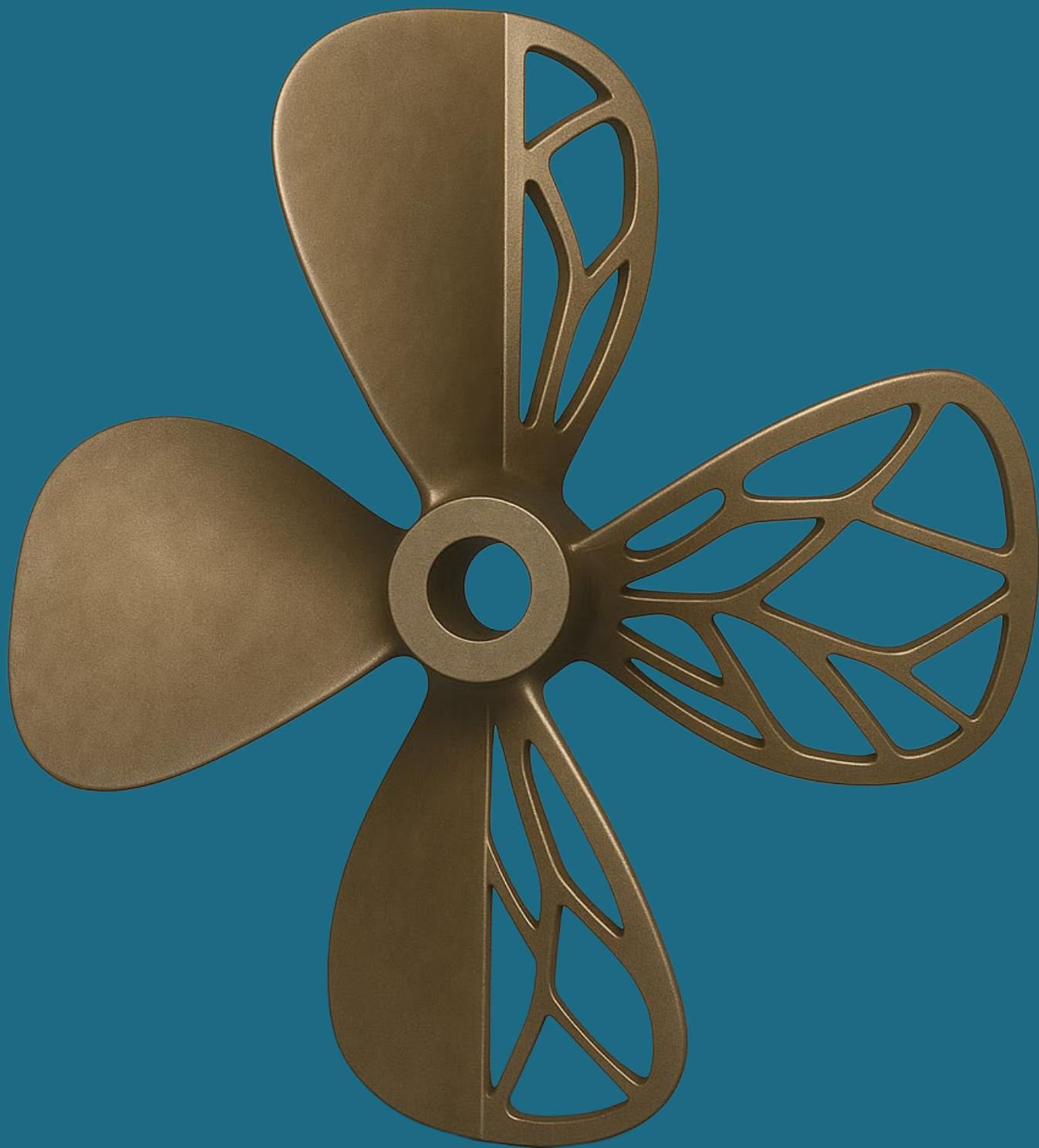




DEEP





Digitally Enabled Efficient Propeller (DEEP)

Product Overview

DEEP is redefining naval propulsion through a new generation of **smart and stealth marine propellers** that combine structural optimisation, additive manufacturing (AM), and real-time monitoring capabilities.

Customer Benefits

- **~30-50% smaller sonar detection radius** through increased blade stiffness and real-time cavitation control.
- **~5,000 nm range increase** (for OPV) through 10% reduction in fuel consumption due to lighter hollow blades and optimised operation.
- **Up to 80% increase in mission readiness** by slashing manufacturing and repair time and eliminating certification bottlenecks.
- **Supply-Chain sovereignty** local manufacturing and repair capability reduce dependency and national security risk.
- **Digital twins to autonomous control**, DEEP is engineered for the cyber era, enabling predictive mission-readiness monitoring and vessel autonomy.

Target Market

New build or retrofit

Vessel Category	LOA (m)	Shaft Power (kW)
Fast Patrol Boat (FPB)	25 - 40	2,000 - 5,000
Offshore Patrol Vessel (OPV)	40 - 80	4,000 - 8,000
Corvette / Light Frigate	80 - 120	8,000 - 12,000
Frigate / Destroyer	120 - 160	12,000 - 20,000
Submarine (Conventional / AIP)	60 - 90	2,000 - 5,000
Support & Auxiliary Vessels	70 - 130	5,000 - 10,000

How DEEP Delivers It

- **Hollow lattice blades** reduce mass inertia and increase stiffness.
- **Precision AM manufacturing** allows supply-chain sovereignty, minimises manufacturing defects and removes bottlenecks.
 - **Digital twin-enabled Quality Assurance (QA)** ensures every propeller is certifiable and traceable.
 - **Modular AM cells** allow field-deployable repair and reproduction.

DEEP in a Glance

 Real-Time Performance Insights	 Hollow, Lightweight Propeller Design	 Autonomy-Ready Propulsion Platform
 Reduced Carbon, Verified Efficiency	 Enhanced stealth and acoustic control	 Predictive mission-readiness
 Digitally Enabled Smart Propulsion	 Supply-chain Sovereignty	 Full Manufacturing Process Digital Twin

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