



Gavia Defence

AUTONOMOUS UNDERWATER VEHICLE

Flexible Solutions for Defence Applications

The Gavia Autonomous Underwater Vehicle (AUV) is a self contained, two man portable, modular survey platform capable of delivering high quality data while operating from vessels of opportunity or from the shore. The Gavia AUV can carry a variety of sensors that are especially well suited for military and police applications.

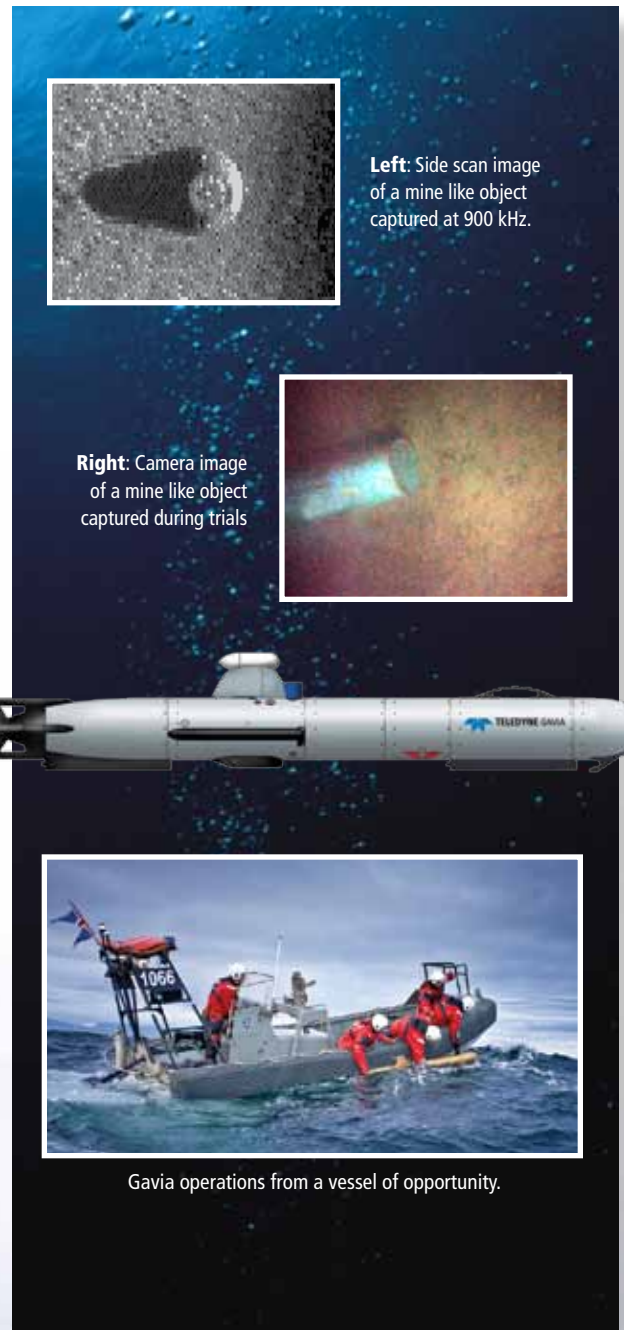
With field-changeable modules, the Gavia AUV is a powerful tool that can be configured to conduct varying types of missions as requirements change, where usability and ease of deployment is of the essence.

Features:

- 2-man deployable
- Compact, optimized for overnight shipping
- Modular construction, maximum flexibility
- Chart-based graphical user interface
- A wide array of additional sensors available
- No installation or calibration of peripherals required
- Over the horizon communications through Iridium

Applications

- Mine counter measures (MCM)
- Anti-submarine warfare (ASW)
- Rapid environmental assessment (REA)
- Surveillance
- Search & recovery
- Port security
- Specialized payloads & research



Left: Side scan image of a mine like object captured at 900 kHz.

Right: Camera image of a mine like object captured during trials

Gavia operations from a vessel of opportunity.



**TELEDYNE
GAVIA ehf.**

A Teledyne Technologies Company

INNOVATIVE UNDERSEA SYSTEMS TECHNOLOGY

TELEDYNE GAVIA AUV — DEFENCE

General Specifications

Length:	From 1.8m for base vehicle (Typical MCM 2.6m)
Weight in air:	From 49kg for base vehicle (Typical MCM 62kg)
Diameter:	200mm
Depth rating:	500m or 1000m
Battery module:	1.2 kW lithium ion rechargeable cells per module
Max speed:	> 5.5 knots
Endurance:	Dependent on speed and exact configuration. Typically around 7 hours with DVL INS, greater when using acoustic positioning. Vehicle can be operated with two batteries for increased endurance (roughly doubled) or batteries can be field swapped for continuous operations.

Communication

Wireless LAN:	IEEE 802.11g compliant
Satellite communications:	Full global coverage via Iridium link
Acoustic modem:	For tracking and status updates

Navigation

As standard GPS and Fluxgate Compass
Optional DVL aided Inertial Navigation System (INS)
Optional DVL aided Long Baseline (LBL)

Typical Defence / Police Configuration

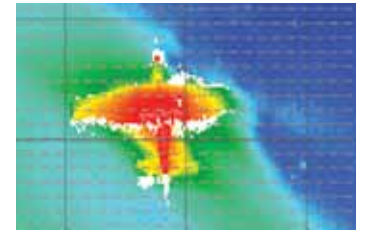
Gavia base vehicle (500m or 1000m depth rating)
DVL INS or LBL positioning
Side scan sonar
Camera
Sound velocity meter
Obstacle avoidance sonar
Typical options: Swath bathymetry module, sub-bottom profiler module, battery module(s), sonar training module, custom payload modules for user supplied instrumentation.

Northrop Data Sets

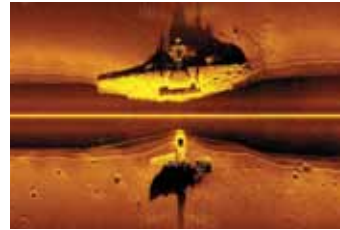
Crashed by Reykjavik Airport during WW2



Northrop N-3PB.



Binned GeoSwath MBES image of target.



1800 kHz Side Scan Sonar image of target



Detail of bottom hatch from the Gavia camera system.



The modular construction of the Gavia AUV allows the user to conduct a variety of missions with field-changeable modules. Additional Gavia AUV modules can be purchased at later dates to increase capability as mission requirements dictate.

The Gavia AUV began as a joint development effort between the University of Iceland and Hafmynd ehf (now Teledyne Gavia), in 1997. Since then, numerous Gavia vehicles have been sold to military, commercial, and scientific users in Iceland, Australia, Canada, Denmark, Japan, Portugal, Russia, the United Kingdom, and the United States.



Sonar Training Target Configuration

- The Sonar Transponder Module (STM), manufactured by Scanmatic AS, can be mounted on the Gavia AUV to transform the vehicle into a sonar training target (STT), simulating the echo responses and acoustic signatures of a range of underwater contacts for ASW training and practice.
- Control of the STM is fully integrated into the Gavia user interface and mission planning. Control is also possible during a mission using dedicated acoustic commands over an underwater telephone system (UWT/UQC).
- Features: target size to 20dB, frequency range 5 - 50kHz, noise transmit 3 - 20kHz, programmable target highlights and echo stretch, programmable target size, programmable Doppler.