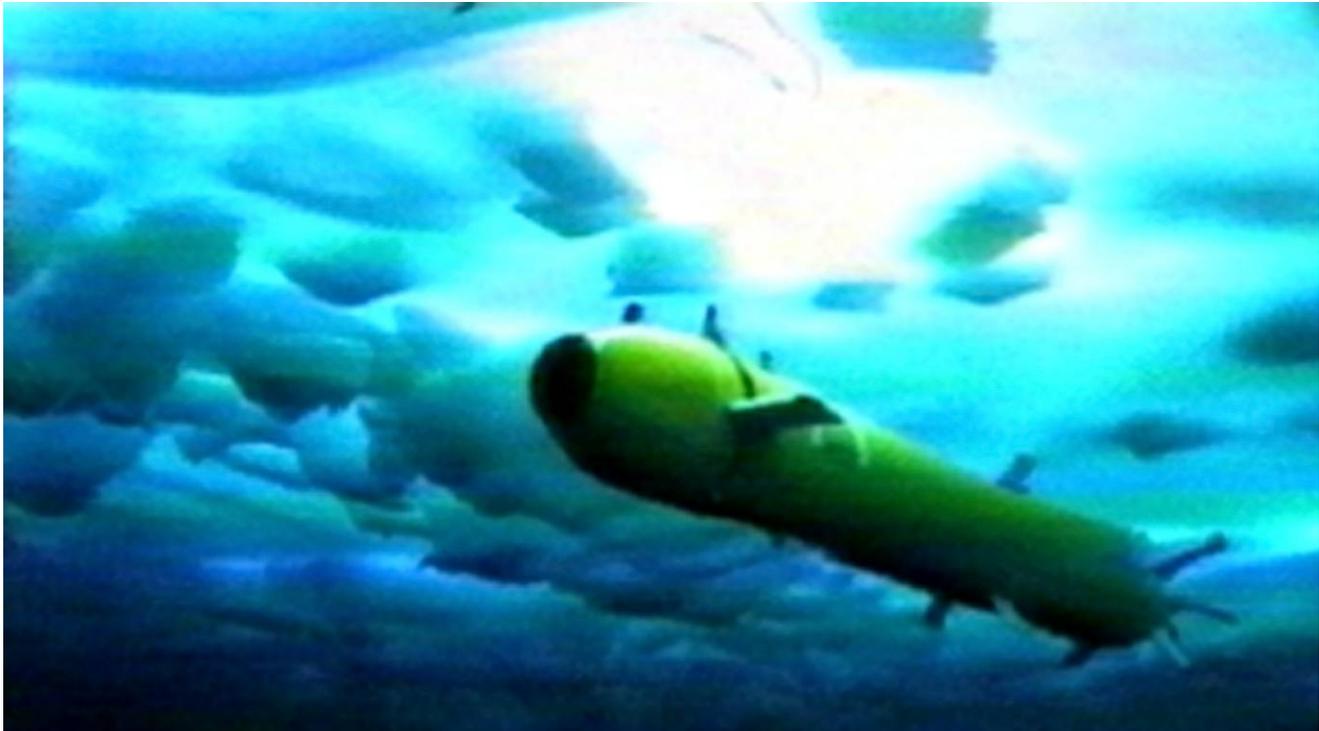


# **THESEUS** Cable Laying Autonomous Underwater Vehicle



International Submarine Engineering Ltd. commenced development of the Theseus AUV in 1992 under contract with the Canadian Department of National Defence as part of the joint US-Canada Spinnaker project.

Theseus was originally developed to lay long lengths of fibre-optic cable under the Arctic ice pack. The vehicle completed successful deployments to the Arctic in 1995 and 1996. During the 1996 deployment, several 220 km cables were laid in 600 m water depths under a 2.5 m thick ice pack, establishing an AUV endurance record of over 60 hours – all under ice.

The pressure hull payload bay and sensor suite of this AUV are configurable and can be adapted or replaced with new modules designed to support a wide variety of missions and tasks. The large payload bay of the vehicle suits it to carrying a number of smaller AUVs. The variable ballast system in the vehicle also enables it to be “parked” on the bottom for extended periods of time, and then re-activated.

The Theseus AUV is owned by The Canadian Department of National Defence. It is in storage at ISE and is available for charter.

## Principal Characteristics:

Length	10.7 m
Diameter	127 cm
Displacement	8600 kg
Cruising Speed	4 knots
Range	>1360 km
Depth	1000 m
Propulsion	6 HP brushless DC motor and gearbox driving single propeller
Power	up to 600 kWh Lithium Ion Battery (360 kWh fitted in 1995)
Hull	Pressure hull: Aluminum 7075-T6 Free-flooding section: GRP
Controller	CompactPCI
Navigation	Transit: Inertial Navigation Unit, Doppler Velocity Log Terminal: Low frequency acoustic homing Obstacle Avoidance: Marine Electronics 6201 (Fitted in 1995)
Navigational Accuracy	<0.08% of distance travelled
Payload Capacity	Dry: 550 kg Wet: 1910 kg



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