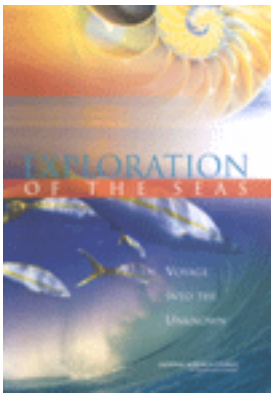

Exploration of the Seas: Voyage into the Unknown

Committee on Exploration of the Seas, National Research Council

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International Autonomous Underwater Vehicle Listing

Institution	Major Topics	Vehicles
University of Aberdeen Ocean Research Lab Scotland	Autonomous landers and acoustics	Aberdeen University Deep Ocean Submersible
Alfred Wegener Institute Deepsea Research Bremerhaven, Germany	Autonomous landers	Autonomous underwater vehicle (AUV) payload modules
Autonomous Undersea Systems Institute Marine Systems Engineering Laboratory Lee, New Hampshire	Environmental monitoring, generic behaviors, and control	AUVs
Australian National University Robotics Systems Laboratory Canberra	Underwater exploration and observation	*Kambara*
Bluefin Robotics Corp. Cambridge, Massachusetts	AUVs	*Odyssey I*, *Odyssey II B*, *Odyssey III*, and *Seasquirt*
C & C Technologies, Inc. Lafayette, Louisiana	AUVs and survey services	*Hugin 3000*
Instituto Automazione Navale Consiglio Nazionale delle Ricerche Robot Lab Genova, Italy	Control, navigation, and manipulation	*Romeo* and *Aramis*
Technical University of Denmark Department of Automation Lyngby, Denmark	Sonar for underwater inspection	*Martin*
Instituto Superior Tecnico Dynamical Systems and Ocean Robotics Laboratory Lisbon, Portugal	Installations, long range missions, exploration, and control	*Caravela*, Marine Utility Vehicle System, and *Sirene*

continued

Institution	Major Topics	Vehicles
University of Florida Machine Intelligence Laboratory Gainesville	AUVs for competitions	*SubjuGator*
Florida Atlantic University Advanced Marine Systems Laboratory Boca Raton		*Ocean Voyager II*, *Ocean Explorer*, and Bottom Classification and Albedo Package
Hafmynd Ltd. Reykjavik, Iceland	AUVs	*Gavia*
Harbor Branch Oceanographic Institution Ocean Engineering and Production Division Fort Pierce, Florida	AUVs	*Ocean Voyager*
University of Hawaii Autonomous Systems Laboratory Honolulu	Navigation, search, and recognition	*Omni-Directional Intelligent Navigator*
Heriot-Watt University Ocean Systems Laboratory Edinburgh, Scotland	Vision, sonar, manipulation, simulation, acoustics, electromagnetic and optical communication, positioning, navigation, and sampling	*Autonomous Light Intervention Vehicle*, *Aramis*, and *Rauver*
Hyland Underwater Vehicles Edinburgh, Scotland	Simple, small, proof-of-concept AUV	*MicroSeeker*
French Institute of Research and Exploration of the Seas Data Processing Systems Toulon	Control and navigation and control architectures	Open and Reconfigurable Vehicle for Experimental Techniques
International Submarine Engineering Ltd. Port Coquitlam, Vancouver, Canada	Cable laying, autonomy, and communications	*Autonomous Remotely Controlled Submersible*, Deep Ocean Logging Platform with Hydrographic Instrumentation and Navigation, *Theseus*, and *Aurora*
Japan Marine Science and Technology Center Marine Technology Department Yokosuka	Long distance inertial navigation	Long distance AUV
KDD Marine Engineering Laboratory Tokyo, Japan	Vision, cable tracking, and communications	*Aqua Explorer 2* and *Aqua Explorer 1000*

Institution	Major Topics	Vehicles
KISS Institute for Practical Robotics Norman, Oklahoma		*Dinky Robot in Pool*
University of Louisiana Apparel Computer Integrated Manufacturing Center Lafayette	Autonomous vehicle for underwater exploration	*Phantom S2*
Maridan Horsholm, Denmark	Design and manufacturing of AUVs	*Maridan*
Massachusetts Institute of Technology AUV Laboratory at the Massachusetts Institute of Technology Sea Grant Cambridge	Small, high performance vehicles; nonacoustic sensors; energy management; docking; adaptive sampling; multiple vehicle operations; coastal modeling; object mapping; and under-ice, autonomous ocean sampling	*Odyssey II B*, *Composite Endoskeleton Testbed Untethered Underwater Vehicle System*, and *Altex*
Monterey Bay Aquarium Research Institute Moss Landing, California		*Dorado*
John C. Stennis Space Center Naval Oceanographic Office AUV Program Mississippi	AUVs	*Seahorse*
Naval Postgraduate School Center for AUV Research Monterey, California	Shallow water applications	*Phoenix*
National Research Council of Canada Institute for Marine Dynamics Ottawa, Ontario	*Canadian Self-Contained Off-the-shelf Underwater Testbed* (C-SCOUT)	*C-SCOUT*
Memorial University of Newfoundland Ocean Engineering Research Centre St. John's, Canada	*C-SCOUT*	*C-SCOUT*
Norwegian Underwater Intervention Bergen, Norway	Route and area surveys, search, and logging	*Hugin*
University of Port Laboratory of Systems and Subaqueous Technology Portugal	Autonomous and remote vehicles and control	*Isurus* and remote operated vehicles

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Institution	Major Topics	Vehicles
Russian Academy of Sciences Institute of Marine Technology Problems Moscow	Solar powered AUVs	
Scripps Institution of Oceanography La Jolla, California	Passive synthetic aperture sonar; quiet propulsion, gravity, seafloor deformation (1 cm), multibeam, chirp sonar	*Bluefin Odyssey II B* and *Bluefin 21*
Sias Patterson Incorporated Gloucester Point, Virginia	AUVs	*Fetch2*
Simon Fraser University Underwater Research Laboratory Burnaby, British Columbia, Canada	Underwater acoustics, light-seeking AUVs, and autonomous sampling	*Purl* and *Purl II*
Southampton Oceanography Centre Ocean Engineering Division United Kingdom	Autonomous sampling and long-range missions	*Autosub*
University of Southampton Image, Speech, and Intelligent Systems Highfield, United Kingdom		*Neptune*
University of South Florida Center for Ocean Technology St. Petersburg	Sensors (optical, chemical, and acoustical) and seafloor classification	Bottom Classification and Albedo Package
Stanford University Aerospace Robotics Laboratory California	Dynamics, control, high-level command-interface, and autonomy	Ocean Technology Testbed for Engineering Research
University of Sydney Australian Centre for Field Robotics	Position and attitude estimation and control	*Oberon*
Texas A&M University AUV Laboratory College Station		
Tokai University Kato Underwater Robotics Lab Shizuoka, Japan	Control, docking, and cable inspection	*Aqua Explorer 2* and *Aqua Explorer 1000*
University of Tokyo Ura Lab Japan	Autonomy, learning, long-range operations, and gliding vehicles	*R1* (long-range autonomous operation), *Albac*, *Twin-Burger 2*, and *Manta-Ceresia*

Institution	Major Topics	Vehicles
Woods Hole Oceanographic Institution Deep Submergence Laboratory Massachusetts	Long-term seafloor monitoring, All kinds of marine operations	*Autonomous Benthic Explorer*, *Jason/Medea*, and *Remus*

SOURCE: modified from Institute of Electrical and Electronics Engineers, Inc., 2002