



## 1) AUV Committee becomes UMV Committee

The Marine Technology Society Autonomous Underwater Vehicle Committee is changing its name. The unmanned vehicles community has seen tremendous growth over recent years. In addition to strides in undersea vehicles there is a growing volume of surface vessels that operate in an “unmanned” fashion. This community has also used a variety of acronyms including: autonomous underwater vehicle (AUV), unmanned undersea vehicle (UUV) and unmanned surface vessel (USV). Given the similarities in technical and business challenges across the field the MTS AUV Committee has chosen to update its name to reflect its service to this entire range of developers and users. The new name, voted upon at a live meeting at OCEANS 2007, will be Unmanned Maritime Vehicles (UMV) Committee. This nomenclature is in agreement with the trends in the field and name changes by other professional society committees working in this area. This name change does NOT bring remotely operated vehicles (ROVs) into the space of this committee; they remain under the leadership of the MTS ROV Committee, led by Drew Michel. Individuals interested in engaging the committee are welcome to contact the committee chair at [manleyj@battelle.org](mailto:manleyj@battelle.org).

## 2) Unmanned Marine Vehicles Wiki

The Marine Technology Society has established a wiki site for enhanced community interaction. A focused UMV page provides a hub for discussions of technology business and career opportunities. The site will be monitored by both MTS staff and committee leadership to ensure professional standards are maintained. Log on and post your ideas or respond to a post. Check it out by clicking “all pages” and then selecting the UMV page at: <http://wiki.mtsociety.org/>

## 3) Vehicles in the News

Various vehicles have been in the news lately. January saw a mixed fleet of AUVs supporting a NOAA expedition in Bonaire. The expedition included 3 vehicles, one Fetch vehicle and two Gavia. Click on Bonaire 2008 expedition at <http://oceanexplorer.noaa.gov> to learn more.



**Gavia AUVs prepare to explore reefs off Bonaire:**  
*Image courtesy of Bonaire 2008: Exploring Coral Reef Sustainability with New Technologies.*

Congratulations to Webb Research Corporation, and their successful demonstration a thermal engine glider. The February 25<sup>th</sup> issue of BusinessWeek magazine carried a vignette on this vehicle on page 68. More traditional marine technology coverage is online: (<http://www.seadiscovery.com:80/mt/mtStories.aspx?ShowStory=1017162081>)

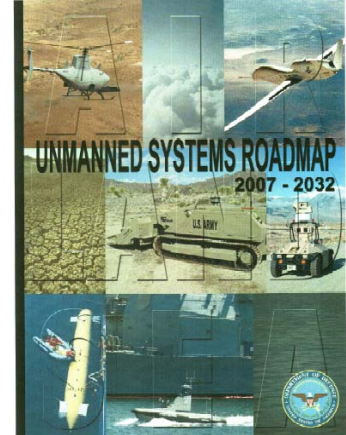
While it is not technically a UMV a recent press report about a ROV may indicate a future market. In January Sub-Atlantic announced that it was using a ROV to survey a pipeline route in the Baltic Sea for unexploded and lost WWII munitions. With targets as



small as 10 cm and a 4,000 km survey the task might some day be a challenge for AUVs.  
See: <http://www.oilonline.com/news/headlines/internet/20080121.Sub-Atla.25123.asp>

#### 4) Unmanned Systems Roadmap from DoD

In late 2007 the Department of Defense released its unmanned systems roadmap. Officially Titled, “Unmanned Systems Roadmap: 2007-2032,” the report looks at how the U.S. military should proceed in developing, acquiring and integrating air-, land- and sea-based unmanned technology over the next 25 years. With a focus on the entire spectrum of unmanned systems this plan should help large and small organizations in the field better understand the needs and plans of the U.S. military. It also includes a useful Appendix that identifies the many systems already in service while decoding the alphabet soup of acronyms in use.



The plan can be downloaded from:

<http://www.acq.osd.mil/usd/Unmanned%20Systems%20Roadmap.2007-2032.pdf>

#### 5) Recent News and Events – reporting by Justin Manley

**Underwater Intervention 2008** was held January 29 through 31 in New Orleans. As with recent years it was a very busy show. Robust numbers were seen in both conference attendees and exhibitors. While this event does not traditionally focus on the AUV community some broad trends impacting the entire marine community were apparent. The MTS Manned Submersibles Committee organized a robust track of conference presentations. Graham Hawkes of Hawkes Ocean Technologies (<http://deepflight.com/>) provided an update on the submersible capable of reaching 36,000 feet and intended to carry renowned adventurer Steve Fossett on a dive to the deepest reaches of our ocean planet. While the technology is focused on the human in the loop, the sponsors represent personal rather than public funding. The growing volume of personal wealth and private philanthropy may be a new influence in unmanned vehicles too. Another well attended brief was offered by Dr. Anatoly Sagalevich who described recent MIR dives under the arctic ice. Clearly there is also a role for unmanned vehicles in similar ocean explorations, and perhaps law of the sea claims, in ice covered waters.

The **Office of Naval Research Unmanned Systems Technology Review** was held in Orlando February 11-14. As with past events, 15 minute presentation slots ensured all relevant technologies were briefed (briefly). With four days of content the event attracted all the major vendors, sponsors, users and researchers in the field. High level topics of broad interest included plans for AUV Fest 2008 co-sponsored by ONR and NOAA, which will see experimental mine hunting vehicles tested against both simulated mines and shipwreck sites in Narragansett Bay. Scheduled for May, 2008 future issues of UMV News will provide more information on this event. ASTM's efforts to develop UMV standards were discussed and a new sub-committee focused on rules and regulations was



introduced. This should yield progress on the “status” of UMVs operating in the vicinity of other marine traffic. Individuals interested in joining this sub-committee should contact [manleyj@battelle.org](mailto:manleyj@battelle.org). Chris von Alt, President of Hydroid, offered an interesting commentary on the overall AUV market. He showed a chart of proposals bid, but not necessarily won, by Hydroid in 2007. With over 200 bids representing over \$100M in work the demand for traditional survey type vehicles is clearly strong. As this was an invitation only event individuals interested in a copy of the presentations should contact an ONR Program Manager in their technical area.

**Oceanology International 2008** was held March 11-13, 2008 at Excel in London. As always the event attracted a large number of attendees and exhibitors. The UMV community was well represented. Based on booth size and numbers business is booming. Hydroid Inc. rolled out a larger booth than last year and proudly displayed their REMUS 100 vehicle with a new swath bathymetry system (SWATHplus-RS100). Models of the larger Hydroid vehicles were also on display. In fact models seemed to be the preferred display for any large AUV. AtlasElektronik (SeaOtter), IFREMER (ISE Explorer Class ) and BAE Systems (Talisman) all used models in place of actual vehicles on the show floor. In most cases this was because the vehicles were out doing work, a good sign!



**London's Excel hosted OI 08:**  
*Image Courtesy Reed Exhibitions*

Hafmynd was also inhabiting a larger than usual booth to display their Gavia AUV. They were pleased to report that they had secured six contracts for vehicles since November 2007, better than one per month. In a site rarely seen on show floors Bluefin Robotics squeezed in a booth and displayed their Bluefin-9 system. Booth staff said vehicles had been sold that week but held back on details. Also hailing from Massachusetts OceanServer and YSI both displayed their small (common platform) AUVs. OceanServer were proud to announce delivery of 25 units so far with six more on order. Rumor has it a demonstration unit may have been lost under the London docks but at the low price point for these vehicles one rapidly starts to wonder how much searching is “worth it.” Those in the know are welcome to confirm or deny this AUV sea story.

As a European event, many companies less familiar to the American community were also present. SAAB had a large booth with their ROV and AUV systems on display. Their 21 inch diameter AUV carries a proprietary synthetic aperture sonar and has supported searches for drowning victims in the region as well as military applications. DBM Geosurvey is the commercial survey arm of DeBeers (the diamond company). After several years perfecting their geophysical survey capabilities for internal requirements they now offer their systems, and expertise, for hire.

With over 500 exhibitors Oceanology was a large show. There were many sensor vendors and other companies that might be of interest to the UMV community. Check



out <http://www.oceanologyinternational.com/> for a list of all exhibitors and a novel show planner tool that lets you sort exhibitors by interest area.

## Fetch! chasing opportunities independently

With the recent acquisition of Prizm Inc. by Moog Components Group (<http://www.polysci.com/docs/PR240.pdf>) the Fetch AUV is now once again available through an independent corporation. Fetch AUV LLC ([www.fetchauv.com](http://www.fetchauv.com)) is now the source for Fetch vehicles. They have three units available for demonstrations from their Yorktown, VA location.



**Fetch AUV exploring in Bonaire: Image courtesy of Bonaire 2008: Exploring Coral Reef Sustainability with New Technologies.**

For more information contact David Clifford at [dclifford@fetchauv.com](mailto:dclifford@fetchauv.com).

**AUVs making a splash in fiction.** While one of the many Clive Cussler thrillers once mentioned an AUV they are finally becoming elements in stories written by an actual unmanned vehicles developer. Bob Wernli, a longtime member of the UMV community at SPAWAR, has taken to writing fiction (and consulting) in his very active retirement. His second novel, Sunrise Cartel, is now available. If you are interested in a good techno-thriller with real technology concepts head over to [www.wernlibooks.com](http://www.wernlibooks.com).

## 6) Upcoming Events

**Oceans 2008 Quebec City** has released its call for papers. For details on the event and venue see: <http://www.oceans08mtsieequebec.org/>. The call for papers is also online at: <http://www.oceans08mtsieequebec.org/docs/CallForPapers.pdf>. **Abstracts are due May 15, 2008.** Unmanned vehicles papers are encouraged and should select autonomous underwater vehicles category 10.4 as their primary technical area. In the “I was asked to submit this abstract by” box please enter J. Manley MTS UMV Committee Chair for priority review of your abstract.

**Ocean Innovation 2008** is being planned for October 19-22, 2008 in St. Johns Newfoundland, Canada. The Conference Chair is Dr. Philip Bogden, CEO Gulf of Maine Ocean Observing System (GoMOOS) and Acting Director, SURA Coastal Ocean Observing and Prediction (SCOOP) Program. Conference sessions are planned around the conference theme of Ocean Observing Systems (OOS). The agenda will ensure that a wide range of issues related to OOS operations (*technologies, robustness, liability*), interoperability (*standards and protocols*), sustainability (*financing, business models*) and governance (*policy*) are fully explored. While UMVs are not an explicit topic they are clearly a key contributor and should be represented at the event. For more information see: [www.oceaninnovation.ca](http://www.oceaninnovation.ca)

## 7) Vehicles sold

**K-Ster Sales:** a news posting from ECA

K-Ster is a self-powered ROV<sup>1</sup> (embedded batteries) linked to the surface for real-time control with a thin fibre optic. K-Ster has initially been designed as a low-cost mine-killer for clearing mine fields. It is also available in an inspection version for oil & gas applications particularly adapted to limited access areas. K-Ster is featuring a patented tiltable head with a payload of up to 5 kg, carrying camera, light and sonar or other types of sensors.

K-Ster's low weight (50 kg) allows an easy deployment of the vehicle and gives a light and portable solution for short inspection tasks in water depth down to 300 metres, up to 1000 m from its launching point. K-Ster is a powerful vehicle able to hover even when facing strong current. Its operational speed is over 6 knots.



ECA Recently sold more than 100 K-Ster to an Asian Navy, *Image Courtesy ECA*

## 8) Jobs, Jobs, Jobs . . . Unmanned vehicles still need good people!

At many recent conferences MTS UMV Committee leaders have been approached about a strong demand for new talent and recruiters have been making calls. There are currently good job opportunities for software/algorithm developers and program managers in the Boston area. Unmanned surface vehicle programs are looking for help with engineering and business development in the Silicon Valley area. Interested parties should contact the chair at [manleyj@battelle.org](mailto:manleyj@battelle.org) for more information. Job postings are also welcomed for distribution in this newsletter, which reaches several hundred individuals with an identified interest in the field.

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<sup>1</sup> Editor's note: With the new focus on UMVs this newsletter will be covering a wider variety of technologies. Traditional ROVs powered through tethers will not be followed but hybrid systems such as K-Ster will be covered.