

**HELMUT H. PORTMANN**  
**Director**  
**National Data Buoy Center**

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Mr. Portmann is the Director of the NOAA National Weather Service's National Data Buoy Center since 14 September 2009. He is responsible for directing the operation and maintenance of the U.S. Weather Buoy Network, Hurricane Buoy Network, Tsunami (DART) Network, and the TAO Network that measures El Nino and La Nina. He is a member of the Senior Executive Service.

Previously, Mr. Portmann was head of the Customer Advocate Office at Naval Surface Warfare Center Panama City Division, and the Navy's Technical Lead for Expeditionary Warfare laboratory oversight and work assignment. From January 2006 to May 2007 Mr. Portmann was the Deputy Product Area Director for Littoral Warfare Systems. The Product Area office provided oversight and work assignment for over \$800M of work performed for a broad range of sponsors across four NAVSEA warfare centers. One of Mr. Portmann's major technical contributions completed during this tenure was leadership of a Navy-wide team that developed a strategy and plan for applying Unmanned Systems Common Control and Standards to all aspects of the Navy's emergent Littoral Combat Ship Mission Packages. This effort culminated in a report detailing the Navy's officially approved approach and architectural construct for achieving a common architecture and standards for Navy unmanned systems.

Mr. Portmann served as the Technical Manager of the Joint Unmanned Systems Common Control (JUSC2) Advanced Concept Technology Demonstration (ACTD) from 2003 to 2006, having conceived the JUSC2 concept and championing the adoption of joint interoperability standards and common architectures for unmanned systems within the Navy.

Upon starting his government career in 2000 at Panama City, Mr. Portmann was instrumental in the development of a vision for adaptive and scaleable modular force packaging constructs and standardized deployment schemes for unmanned systems – as co-author of a report titled *Shaping the Future of Naval Warfare with Unmanned Systems* (CSS/TR-01/09). This work also produced a number of US Patents including 6622063, 6655636, 6665582, 6704618, 6779475, and 6853875 related to modular innovative employment concepts for unmanned systems.

Prior to joining the government, Mr. Portmann had over 18 years experience in Navy RDT&E at the Johns Hopkins University Applied Physics Laboratory (JHU/APL), where his many assignments included management of the SSN Security Program and SSBN Survivability Program. Mr. Portmann's experience in private industry both before and after JHU/APL includes four years with Schlumberger Offshore Services, two years with SAIC, and two years with Applied Mathematics, Inc. Mr. Portmann holds a BSEE degree from the Georgia Institute of Technology and an MSEE from Johns Hopkins University. He is the recipient of the AUVSI (Association of Unmanned Vehicles International) Pioneer Award for 2004, and the NSWC Panama City Commanding Officer/Executive Director 2003 Guy C. Dilworth Award.

# Pioneer award

*Portmann impresses AUVSI with innovative ideas, programs*

**Candace Robertson**  
Littoral Warfare Technology  
and Systems Department

**Dan Broadstreet**  
Naval Surface Warfare Center - Panama City PAO

Helmut Portmann, head of Unmanned Systems Office at Naval Surface Warfare Center-Panama City, Fla., was presented the Pioneer Award at the Autonomous Unmanned Vehicle Systems International Conference, Aug. 5 in Anaheim, Calif.

The Pioneer Award is presented to a member, or non-member, responsible for the initiation or sponsorship of programs leading to a demonstration of advanced concepts and innovative ideas in the development of unmanned vehicle systems.

Portmann — who also leads the unmanned system strategic thrust initiative at NSWC-PC — currently serves as Technical Manager of the Joint Unmanned Systems Common Control Advanced Concept Technical Demonstration.

The JUSC2 ACTD will develop key enabling technologies and an open architecture foundation that will provide a capability to concurrently manage large numbers of unmanned systems of all types (air, undersea, ground, and sea surface).

"It is focused on joint interoperability so that the services can use each other's unmanned vehicles, and it is a key enabling technology for the Navy's Littoral Combat Ship," Portmann said, further detailing JUSC2's future objectives.

According to Portmann, a fully mature JUSC2 system will allow a few operators to literally do the job of dozens of individuals. His JUSC2 ACTD concept received strong endorsement from the Department of the Navy, Office of the Secretary of Defense, regional commanders, and others. This concept, a critical capability for LCS, is now a funded program of record.

Additionally, in his "letter of nomination" for the Pioneer Award, Portmann was cited for serving Navy leadership and being a definite contributor in the Nation's fight against terror:

"...Mr. Portmann was a key formulator of several Advanced Concept Technology Demonstration (ACTD) proposals including the Joint Unmanned Systems Common Control (JUSC2) concept. Several proposals that evolved from these ACTD initiatives were the basis for new programs within the DON and defense agencies; for example his concept proved to be a central element in a Defense Threat Reduction Agency unmanned systems demonstration program for combating terrorism..."

Mr. Portmann came to NSWC-PC in December 2000 and has been integral to the Unmanned Systems effort since his arrival. Together with NSWC-PC's head of Net Assessment Of-

fice, Dr. Elan Moritz, they hold four patents and have a number of additional patents pending for transformational concepts employing and deploying unmanned systems.

"I am deeply grateful to AUVSI for this honor, and the privilege to work with so many talented colleagues in unmanned systems areas across the other government labs, industry, and academia," Portmann said of receiving the award. "It is also a privilege to be able to contribute in a small way to an exciting transformational program such as the LCS."



Courtesy photo by Ramon Lopez

Naval Surface Warfare Center-Panama City's Helmut Portmann accepts his award at the Autonomous Underwater Vehicle Systems International annual conference.

## SUMMARY OF MAJOR ACCOMPLISHMENTS

- **Director, National Data Buoy Center (2009-Present)**

A 2008 Inspector General Report on NDBC found that the center was deficient in its industrial plant and field operations, the reliability and success rate of its buoy network operations and maintenance, and also in its oversight of a major technical support contract that supports the government force at NDBC. Direction from NOAA and National Weather Service when I became director in September 2009 was to “fix” the problems and restore NDBC to a broadly recognized leadership position in operational ocean observations.

By 2012, NDBC had been reorganized into a more streamlined functional organization, quality and reliability processes were put in place that showed significant improvements in quality and reliability, the organization had a new strategic vision and direction that energized all hands, and NDBC’s managers were empowered by me to assume major responsibility and move us towards the vision. In January 2012, Jack Hayes, the Director of the National Weather Service, toured the “new” NDBC and remarked to me as follows: *“I read the IG report cover to cover – and you have addressed and repaired every problem it described. You have made this a flagship operation and example of how National Weather Service operations and centers should be directed.”*

- **Senior Leader and Manager, Naval Surface Warfare Center Panama City (2000-2009)**

NSWC Panama City, the Navy’s mine warfare laboratory, had been working in development and deployment of unmanned systems before they became popular – to replace humans in the dirty, dull, and dangerous jobs involved in mine warfare. By early 2000, the laboratory had conducted a thorough systems engineering analysis of all Navy missions, decomposed each mission into a functional activity, and identified those functions that could be performed by unmanned systems. After my arrival in December 2000, I was brought into a team that was charged with building on this work to develop a strategic unmanned systems vision and roadmap for the Navy and to establish NSWC Panama City as the Navy Lab leader in this emerging area. Within a year, I was placed in charge of this team, and a Technical Report, *Shaping the Future of Naval Warfare with Unmanned Systems* (CSS/TR-01/09), was published, disseminated across the Navy, and briefed to the Chief of Naval Operations and the Commandant of the Marine Corps. The Program Executive Officer for Littoral and Mine Warfare, Rear Admiral William Landay, the lead for Naval unmanned systems at that time and later for development of Littoral Combat Ship Mission Packages, declared that this report would be the “bible” of unmanned systems and mission package development in the Navy and directed his entire staff to read it. The report helped shape many of the modular unmanned systems approaches that found their way into the Littoral Combat Ship construct.

Along the way during my tenure at NSWC Panama City, I successfully captured a \$2.0M project from the Defense Treat Reduction Agency to team with Tyndall AFB to integrate and demonstrate a joint service unmanned systems deployment package for terrorist response, successfully captured and managed a \$35M/3 Year Joint Advanced Concept Technology Development Project titled “Joint Unmanned Systems Command and Control”, and successfully received numerous patents related to unmanned systems applications.

- **Business Development Lead, Applied Mathematics, Inc. (1998-2000)**

AMI was a small business that had made several attempts to win SBIR contracts, but had no success. When I joined in the fall of 1998, I had never heard of an SBIR. In less than 2 years, I wrote 5 SBIR proposals, won 2 of them for Phase 1 (Navy, DARPA), and successfully put one of them through Phase 2 (DARPA). Total revenue generated by these efforts in less than 2 years was near \$1.2M. During my brief tenure, I also conceived of and in partnership with Falmouth Scientific, successfully developed a new acoustic sound velocity measurement system that could replace legacy analog systems onboard submarines without any modifications to the combat system or control room (low cost), while providing conductivity, temperature, and salinity measurements via a novel use of digital to analog conversion and telemetry.

- **Program Manager, Johns Hopkins University/Applied Physics Laboratory (1981-1998)**

Initially serving as assistant supervisor of JHU/APL's European Field Office, I oversaw the development of analysis techniques and conduct of field exercises to reduce the detectability and vulnerability of the Army's Pershing Tactical Nuclear Missile System then on Combat Alert Status in West Germany. After returning to the US in 1986, I entered the Submarine Technology world at JHU/APL by becoming an acoustic signature analyst in the Navy's Sonar Evaluation Program. Most significant accomplishment was leading a small team of analysts that identified and characterized a significant acoustic signature issue. The director of the Sonar Evaluation Program declared that our classified analysis and report was a "standard" for how all their technical efforts should emulate.

After that, I was successively placed in charge of a number of increasingly larger projects that had customer, technical, and managerial issues, given about a year to fix one, then moved into another. This culminated in concurrently managing the Navy's SSBN (Missile Sub) Survivability Program and SSN (Attack Sub) Security Program. In both, this involved the technical management and supervision of 10 to 40 scientists and engineers in the development of scientific measurement and countermeasure systems that we deployed and tested on submarines at sea. One major accomplishment during this timeframe was the development and very successful deployment of the Electronic Deck Log (EDL), a tablet device that has now replaced paper ships logs on all US nuclear submarines. The devices record all deck log entries electronically, and then automatically perform algorithm routines that analyze ship operations to detect patterns that could be exploitable from a submarine security perspective.

## **SPECIALTY**

Leading change in organizations that have to take a new direction, transforming cultures at legacy organizations, and creating new organizations and successful business plans, innovative technology solutions, and game changing operational concepts.