Unmanned Maritime Systems Community of Interest and Technology Consortium

Briefing for “A Washington Conversation on Unmanned Systems”
AUVSI-DC Capitol Chapter

21 March 2013
Bottom Line Up Front

- Navy S&T has formulated an Unmanned Maritime Systems Community of Interest (UMS COI) using the process of an Unmanned Maritime Systems Technology Consortium (UMSTC)
- The UMSTC will help enable a Rapid Technology Insertion process
- The TC concept is a proven, accepted, legal process using Section 845 (Other Transaction Authority) for rapid contracting to:
  1) Draw upon technology innovation and levels of maturity from early development through prototyping from academia, not-for-profits, non-traditional and traditional industry participation;
  2) Involve the participants in a structured process to thoroughly understand the requirements and capability gaps presented by the warfighters, e.g. COCOMS, numbered fleets, NWDC, NMAWC and other potential users, e.g. DHS, NOAA, ONI, DARPA, ONR, CRUSER (NPS), NRL and Warfare Centers;
3) Provide the TC participants a means to influence the technology requirements and better focus their own independent research and development (IRAD) investments;

4) Support Congressional action to help small and medium size companies receive more DOD contracts;

5) Incorporate the best features and lessons learned from existing consortia, e.g. RTC, DOTC, BSTC, ISRTC, NSRP, others;

6) Leverage contracts and legal support from the Army’s contract and legal offices at Picatinny Arsenal in New Jersey.
Consortium Vision and Mission

• Vision:
  – A DoD (and other Government Agencies) and Industry Consortium to partner in the development and execution of the UMS Technology Research Plan.

• Mission:
  – Industry, Academia and not-for-profits working together with PEO XXX to accelerate the development and integration of unmanned maritime technologies for warfighter capability needs, and assess/mature selected maritime technologies to meet identified capability gaps.
Potential Benefits of a Consortium

Benefits to PEO XXX:

- **Increased visibility** of industry innovations and potential leap-ahead technologies
- **Increased interoperability**
- **Improved technology readiness** through leveraging of technical and operational “lessons learned”
- **Reduced systems cost and sustainability** through re-use and commonality – facilitate ease of integration, upgrade and support
- **Reduced Development Risk** by identifying common components or the development of those that do not exist
- **Improved Effectiveness** through new, more focused development of key enablers and technologies to address specific technology gaps
- **Eliminate redundancy** and duplication of efforts
- **Accelerated transitioning** of unmanned maritime innovations to/from commercial technologies.
Benefits to Industry:

- Opportunity to participate in DoD research planning via the UMS Technology Roadmap.
- Better investment of IRAD funding
- Access to cutting-edge research in diverse unmanned maritime technologies
- A forum for Subject Matter Experts to collaborate
- Opportunities to collaborate with other government and/or other industry members
- Knowledge of DoD development efforts for unmanned maritime technologies.
- Opportunity to compete for substantial peer reviewed funding (6.2/6.3)
- Accelerated transitioning of unmanned maritime innovations to/from commercial technologies.
UMSTC Collaboration

Participants

PEO XXX

- Department of the Navy
- PEO LCS
- PMS-406
- ONR
- PEO Subs
- PEO IWS
- Other Agencies and Departments

Section 845 Other Transaction

UMS Technology Consortium (UMSTC)

- Defense Contractors
- Small Businesses
- Academic Institutions
- Non-Profit Organizations
- Not-for-Profits Organizations

Task Order Sub Agreements
CRADAs
DEAs
Contracts
Test Service Agreements

PEO XXX and UMSTC … Partnering to Leverage Capabilities and Investment
UMSTC Collaboration

Roles and Responsibilities

• PEO XXX
  – Oversight
  – Planning and Budgeting
  – Policy & Standards Development
  – Acquisition Process
  – Liaison with Other Organizations
  – Development of Annual Research Plan, Requirements and Source Selection Plan
  – Source Selection

• UMSTC
  – Liaison among Industry and with PEOs, PMSs
  – Participate in development of Annual Research Plan
  – Issue Request for Proposals to execute Annual Research Plan
  – Negotiate Task Order Contracts with Industry
  – Co-Manage Research Sub-Committees
UMSTC Concept of Operation
Roles and Responsibilities

Front End:
• **Warfighter** communicates capability shortfalls
• **Government** translates capability shortfalls into requirements
• **Industry** develops and submits technical concepts, and joins with Government to vet technology readiness and applicability (which serve as critical inputs for Government planning and decision-making)

Back End:
• **Government** solicits proposals from Consortium members on prioritized projects to mature, transition and/or integrate technology to produce prototype solutions
• **Industry** dynamically forms teams as appropriate to submit responses
• **Government** competitively selects teams best suited to perform the work under an OTA
• **Industry** delivers solutions to the warfighter
Notional UMSTC Management Structure

Executive Committee
Govt Co-Chair / USMTC Co-Chair

Research Program Director

Research Sub-Committees

Communications & Navigation
Govt Co-Chair
UMSTC Co-Chair

Energy & Propulsion
Govt Co-Chair
UMSTC Co-Chair

DOTMILPF
Govt Co-Chair
UMSTC Co-Chair

Mission Equipment
Govt Co-Chair
UMSTC Co-Chair

Sensors & Processing
Govt Co-Chair
UMSTC Co-Chair

Autonomy
Govt Co-Chair
UMSTC Co-Chair

Launch & Recovery
Govt Co-Chair
UMSTC Co-Chair
UMSTC Metrics (Costs)  
*Notional*

- **Government funds TC Management Organization**
  - Competitively selected not-for-profit
  - Fee of 2.5% ($\pm$ 0.5%) of the contract value awarded through UMSTC
  - Estimate $250K or $300K annually for Consortium management

- **Fees**

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<th>Initiation Fee</th>
<th>Annual Fee</th>
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<td>Academia</td>
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<tr>
<td>Not-for-Profit</td>
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- **Benefits to Members**
  - Members can join at any time and can leave at any time
  - Knowing the government requirements gives industry direction on how to better invest IR&D
  - Contracting for non-traditional companies is faster and much less complicated than traditional FAR-like contracts
UMSTC

- Determines membership process / selection
- Competition among members
- Teams/subcontracts may include non-members (e.g. Navy and Other Agency Labs, Warfare Centers)
- Government performs source selection process
- Cost sharing (can be evaluated on case by case basis)
  - Not required if bidding team has at least one non-traditional member
- Establish publication guidance
- Establish dispute resolution process
ONR

• Role and Responsibility
  – Provide yearly update to UMS Technology Roadmaps
  – Participate as a full member of the Technology Advisory Board
  – Participate on Senior Advisory Board (CNR)
  – Fund the Navy portion of the yearly bill
    – FY13 (TBD)
    – FY14 (TBD ≤ $5M)
  – Use the UMSTC to contract for:
    – UMS related FNCs
    – UMS related INPs
    – UMS related NRIF (Navy Rapid Innovation Fund)
ONR

• Benefits to ONR
  – Bring in technology not accessible today due to acquisition rule constraints on small businesses, academia, non-traditional industry and not-for-profits
  – Accelerates contracting to get products faster from winners of proposed tasks
  – Helps to focus ONR S&T objectives by gaining knowledge of maturity of technology not currently in the S&T portfolio from non-traditional and small industry (non SBIR recipients) players, especially commercial industries
  – Improves the ability to transition technologies to acquisition, particularly to LCS Mission Modules with implementation of the Rapid Technology Insertion process
NMAWC

- Warfighting Center of Excellence (WCOE) for Mine Warfare (MIW) and Anti-Submarine Warfare (ASW)
- Focuses efforts across numerous resource sponsors, systems commands, research laboratories, training organizations, and operational commands to ensure Navy-wide competency in the MIW and ASW mission areas.
- NMAWC is primary command through which issues related to MIW and ASW are coordinated with tactical development agencies and commands
NMAWC

• **Roles and Responsibilities**
  – Support operational Commanders in MIW and Theater ASW (TASW)
  – Support USW integrated training and certification
  – Conduct USW performance assessment
  – Develop USW doctrine and TTP
  – Provide USW program planning recommendations, research, development, and training priorities to CNO
  – Articulate USW fleet requirements

• **UMS COI/TC Benefit to NMAWC**
  – Synchronizing Fleet capability gaps with S&T initiatives
  – Expediting and leveraging S&T initiatives to meet near term fleet requirements
  – Enhanced Fleet, Resource Sponsor, Program Office, and S&T Community alignment
CRUSER

Responsibilities

As CRUSER is a government based consortium, focusing on unmanned system employment education and research, with no authority to contract, it can complement a UMS COI with a consortium by providing:

- A source of concept generation for employment of emerging technologies from industry
- A “no foul” experimentation program to test technologies to test new unmanned systems technologies in a non-programmatic environment.
- Exposure to junior military officers for industry
- A source of independent red team capability for the PEO
- A source of long term research in operational employment for the PEO
- Provide a larger audience across academia for the PEO through symposia and CRUSER NEWS
CRUSER

Benefits for CRUSER:

• Expose junior officers to emerging technologies from industry
• Allow more opportunities for officers to attend industry based experimentation and lab exploration.
• Provide CRUSER a larger industry audience.
Responsibilities

• Participate as member of Requirements Group
  • Identify science needs for unmanned vehicles
• Participate as member of Technology Advisory Board
• Provide funding for studies and technologies that support NOAA’s mission (per NOAA choosing)
Benefits for NOAA:

- No cost to NOAA
- Insight into Navy development in unmanned maritime vehicles
- Can influence technologies for NOAA’s needs
- Use the TC to perform concept development and purchase of small numbers of unmanned systems
- NOAA’s partners (e.g. Cooperative Institutes, Academia, IOOS Regional Associations) might join and take advantage of technology
- Aligns with NOAA’s look at innovation and new ways to perform our mission
- Process allows NOAA to discuss future requirements and help shape Industry Internal Research and Development (IRAD)
- Can take advantage of a proven DOD model
- Can take advantage of the CRUSER program
Related Navy Investments

• Innovative Naval Prototypes (Navy funds already planned for UUVs)
  – Large Displacement UUV
  – Persistent Littoral Undersea Surveillance (PLUS)
• ONR’s Swampworks
• SBIR Focus Topics
• Rapid Innovation Fund (new)
• ONR’s Future Naval Capabilities
  – Sea Shield, Sea Strike, Sea Basing, FORCEnet, Naval Expeditionary Maneuver Warfare, Capable Manpower, Enterprise and Platform Enablers, Power & Energy
• ONR’s Rapid Technology Transition (RTT) and Technology Insertion Program for Savings (TIPS)