Acquisition Directorate

Research, Development, Test & Evaluation

Assessment of Unmanned Maritime Systems – Overview, Goals, & Expectations

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Study Overview

- Autonomous or remotely controlled unmanned air, surface, subsurface systems
- Provide maritime domain awareness
  - Ocean observation
  - Weather reporting
  - Vessel monitoring and identification
  - Intelligence, surveillance, and reconnaissance
- Examine
  - Affordability
  - Reliability
  - Versatility
  - Efficiency
  - Service life

Study Overview (cont.)

- **Analyze**
  - **Ability to carry out missions at lower cost**
  - **Expand the scope and range of maritime domain awareness**
  - **Allow more efficient use of manned assets**
  - **Identify necessary changes to policy and procedures**

Goals

- **Understand both *potential* and *limitations***
  - **Need to understand the true capability of these systems including readiness to be fielded now/near future**
  - **Need to understand the infrastructure that must be in place to operate these systems; ie, C2, comms/data links, PED (processing, exploitation & dissemination)**
  - **Concept of Operations, how it differs from DoD, challenges that imposes**
  - **Must be *lower cost* than manned systems and offer ability to replace manned systems or expand MDA beyond current capacity**

Characteristics of Unmanned System Solutions

- **Reliability: Low failure rate**
- **Networking: Ability of unmanned systems to coordinate and share data**
- **Bandwidth: Ability to control systems & transmit data**
- **Autonomy: Ability to operate without human intervention**
- **Capability: Endurance, range, speed, payload, & sensors**
- **Unrestricted operations: Meet sense and avoid (aircraft) or rules of the road (vessels) regulations**