



# *Program Update*

## *NAVSEA Small Business Industry Day*

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**PEO LCS**



# PEO LCS Portfolio



IN SERVICE SUPPORT (SHIPS & MISSION PACKAGES)



LCS TRAINING



AQS-20



RMMV



KNIFEFISH



MHUs



LDUUV



UISS



Frigate (FF)



LCS 1



LCS 2



## PEO LCS SUMMARY

- 3 – ACAT I
- 4 – ACAT II
- 4 – ACAT III
- 5 – ACAT IV
- 7 – Non ACAT

## LEGACY SYSTEMS



ALMDS



MEDAL



AMNS



ASW MISSION PKG



MPCE



MCM MISSION PKG



SUW MISSION PKG



MVCS



# Littoral Combat Ship



Two different ship variants that meet the same requirements:

- Lockheed Martin Monohull
- Austal Trimaran
- 52 Small Surface Combatants Planned
  - Ships 1-32 Modular LCS (MCM, SUW, ASW)
  - Ships 33-52 Frigate (FF) (Multi-mission SUW/ASW)
- Common MP to Seaframe Interface; governed by an Interface Control Document (ICD)

## Modular Mission Packages

- Mine Countermeasure (MCM), Surface Warfare (SUW), Anti Submarine Warfare (ASW)
- Acquired from multiple sources (gov't/industry)
- Advanced manned /unmanned vehicles & sensors
- Embarked for single, focused missions
- Conformance to ICD provides for embarkation of any Mission Capability

## Fleet Introduction and Sustainment

- Readiness; Manpower, Personnel, and Training; Fleet Introduction; Logistics; Mission Package Support





# Program Status



- Littoral Combat Ships
  - Four ships in Service (LCS 1-4)
  - LCS 3 deployed to SE Asia
  - Four ships to deliver 2015 (LCS 5-8)
  - 15 ships under construction (LCS 9-23)
- LCS Mission Packages (MP)
  - Surface Warfare (SUW) MP Initial Operational Capability (IOC) declared 2014
  - Mine Countermeasures (MCM) MP IOC planned 2015
  - Anti-Submarine Warfare (ASW) MP Advanced Development Model (ADM) currently under test
- Modified LCS / Frigate (FF)
  - Beyond LCS 32
  - FY19 Start Production
  - Multi-mission (ASW/SUW) capability
    - Lethality, survivability





# Ship Small Business Opportunities



## S&T (non-SBIR)

- Current: Stern Tube Seals, Bulkhead Seals, Fuel Management System, Navy Pressure Actuated Door, HTS Degaussing, Cryocooler Manufacturing Improvements, SeaRAM 11 Round Canister
- Future (Proposed): Waste Heat Recovery, Structural Health Monitoring (SHM), Icephobic Coatings (de-icing Technology)

## S&T (SBIRs)

- Live Fire Test and Evaluation Modeling
- Aluminum Corrosion/Stress Cracking Prevention Coatings
- Aluminum Corrosion/Sensitization Detection
- High Temperature Superconducting Degaussing Technologies
- Structural Health Monitoring
- Advanced Mission Module Handling Systems

## Future Opportunities:

- Supporting shipyards and sub-vendors building the FREEDOM/INDEPENDENCE variants and Future Frigate
- Follow-on Professional Support Services (PSS) Small Business Set Asides
- Follow-on PSS unrestricted solicitations (with established small business goals)
- Support for potential FMS cases



# LCS Modules, Vehicles, Sensors Small Business Opportunities



- **SBIR Technology**
  - Launch, handling, and recovery of unmanned systems on LCS
  - Unmanned systems autonomy, endurance, power, communications
  - Improved algorithms and sensors
  - Test and evaluation modeling
  - Mission support and maintenance
- **Compete as a prime**
  - Near-surface mine neutralization
  - Program Support
  - Mission Package Computer Environment
  - Common Mission Package Trainer
  - Multi-Vehicle Communication System
- **Warfare Center In-Service Engineering support**
  - Revised maintenance activities to improve system reliability and availability
  - Maintenance and operator training



# PEO LCS Takeaways



- LCS deliveries proceed apace; Frigate design upgrades in progress to support FY19 award
- Mission package testing allows fielding to the Fleet
- Validation of sustainment concepts via extended Southeast Asia deployments



*Disruptive LCS Concepts Becoming An Enduring Fleet Reality*