

# 2015 Small Business Outreach and Industry Day

18 August 2015



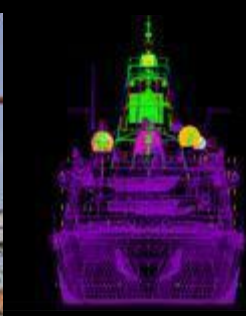
## Naval Surface Warfare Center, Carderock Division



Science  
and  
Technology



Research  
and  
Development



Design  
and  
Requirements



Acquisition  
and  
Construction



Fleet Training  
and  
Simulation



Modernization  
and  
Lifecycle Support



**CAPT Rich Blank**  
*Commanding Officer, NSWCCD*

**Dr. Joseph T. (Tim) Arcano, Jr.**  
*Technical Director*

## Our Mission



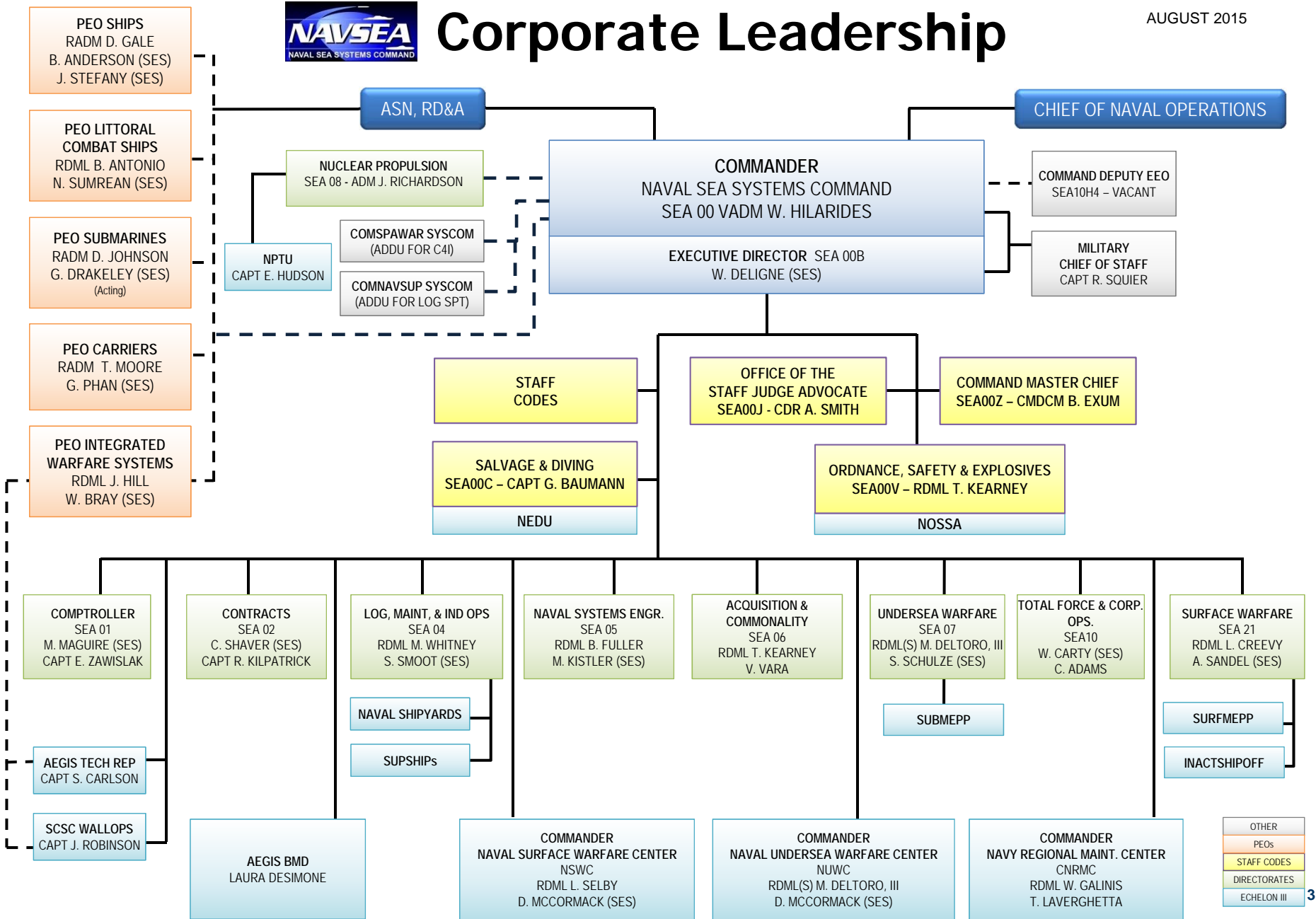
- **We are the Navy's principal provider of hull, mechanical and electrical expertise**
- **We deliver technical solutions in Naval Architecture and Marine Engineering to develop, build and maintain a dominant, ready and affordable fleet**
- **We provide people, facilities and tools across the full spectrum of the acquisition lifecycle**

***We do things for the war fighter that industry can't, won't, or shouldn't do***



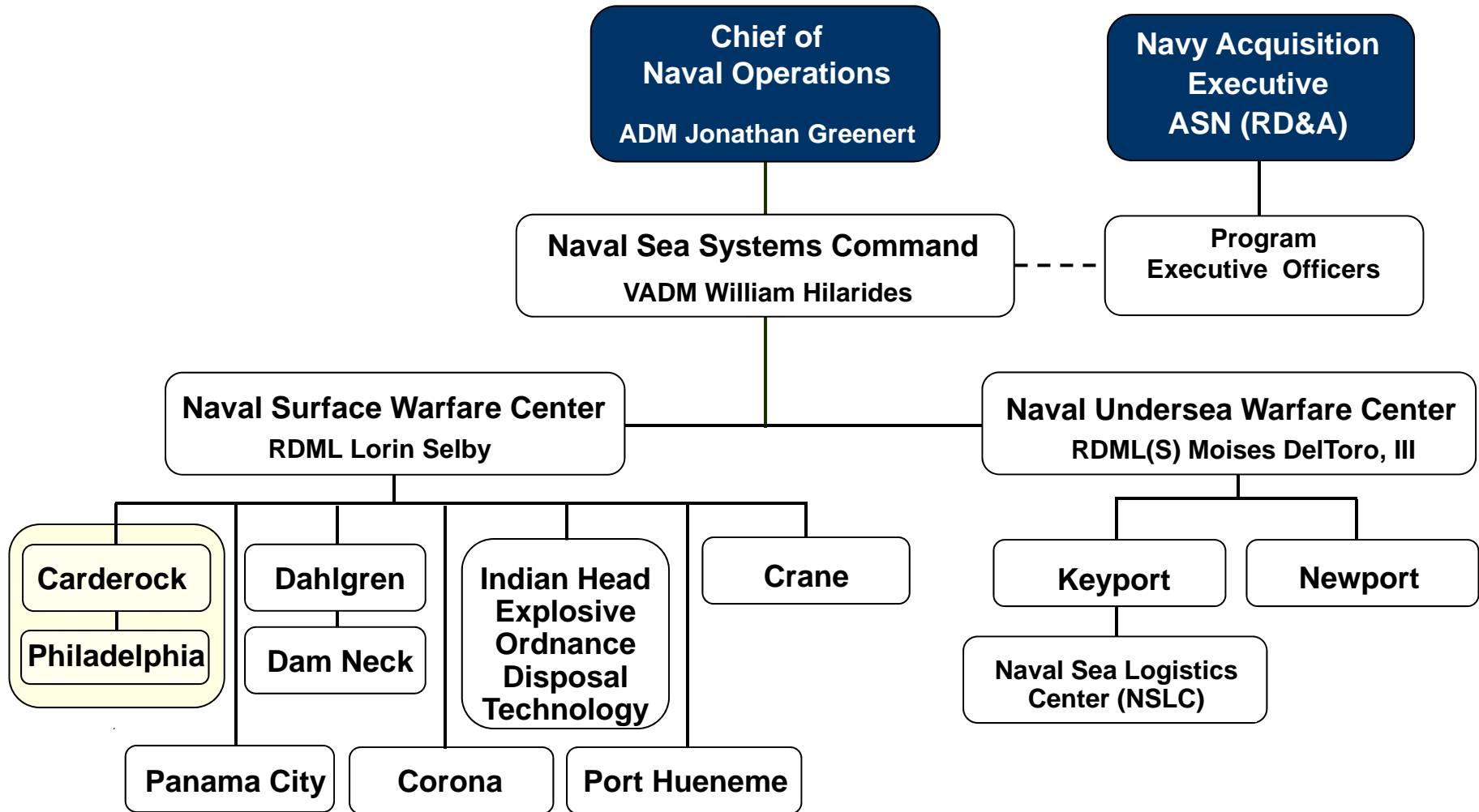
# Corporate Leadership

AUGUST 2015



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# Our Chain of Command



# CARDEROCK DIVISION SITES



Southeast Alaska Acoustic Measurement Facility (SEAFAC)  
KETCHIKAN • ALASKA



Puget Sound Detachment at Naval Submarine Base Bangor  
BANGOR • WASHINGTON



Acoustic Research Detachment  
BAYVIEW • IDAHO



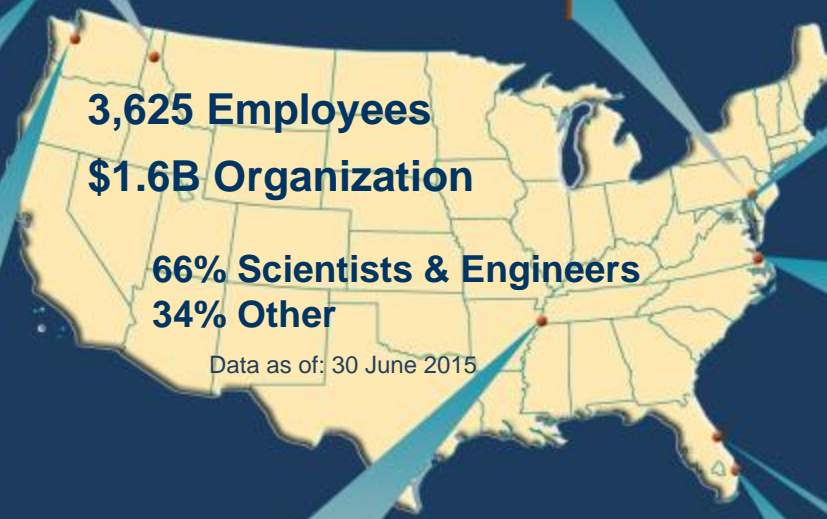
Naval Ship Systems Engineering Station  
PHILADELPHIA • PENNSYLVANIA



Carderock Division HEADQUARTERS  
WEST BETHESDA • MARYLAND



Norfolk Detachment  
Combatant Craft Division  
NORFOLK • VIRGINIA

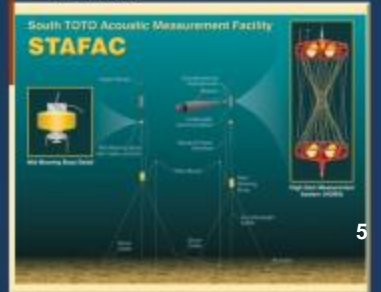


Acoustic Trails Detachment  
CAPE CANAVERAL • FLORIDA

South TOTO Acoustic Measurement Facility  
ANDROS ISLAND • BAHAMAS

South Florida Test Facility  
DANIA • FLORIDA

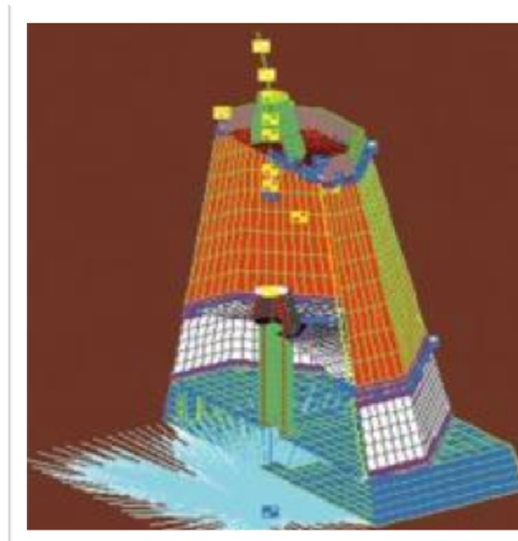
Memphis Detachment  
Dr. Wm. B. Morgan Large Cavitation Channel  
MEMPHIS • TENNESSEE



- **Survivability and recoverability expertise to provide combat-ready platforms able to sustain damage and continue the mission while fighting damaged**
- **Structural (including composites) design, analysis and physical scale modeling to ensure design criteria will meet operational and mission needs**
- **Metallic and non-metallic alloy selection, processing and repair techniques, corrosion mitigation to ensure cost-effective maintenance spanning the full operational life-cycle**
- **Regulatory compliance and pollution prevention, solid and liquid waste management and treatment, hazardous waste management and disposal, and system safety**



**Hull Pressure Testing**



**Finite Element Analysis**



**Explosives Test Pond**

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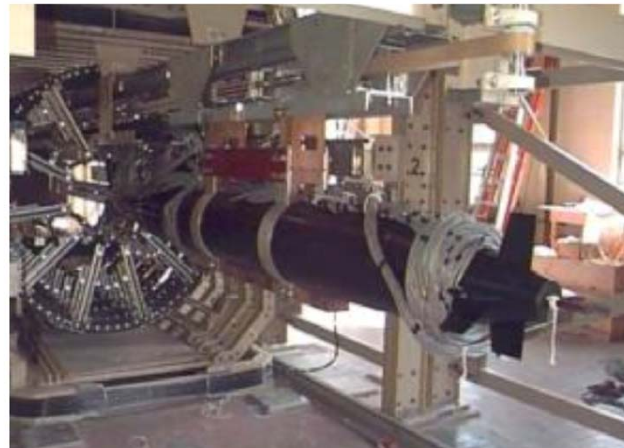
# Signatures Department



- Provide an advantage for the Navy's ships, submarines, craft, and vehicles in acoustics, electro-magnetics, radar, infra-red, and emerging threat signatures
- Conduct modeling & simulation and scale model & full scale testing using unique world class facilities
- Large, diverse and talented staff of scientists and engineers. Full spectrum of technical support from requirements setting and R&D through acquisition support and direct fleet support



Multi Band Radar



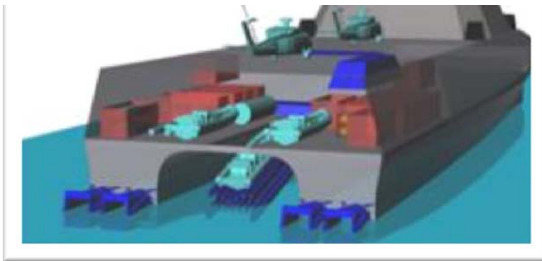
Magnetic Fields Lab



Buoyant Vehicle Acoustic Test

# Naval Architecture of Ships, Submarines, Boats & Craft, and other Naval Systems

- early concept/design development and trade-off studies through cost analysis, detailed hydrodynamic and propulsor design, maneuvering and ship control, model testing, internal arrangements, ship systems integration, full-scale trials and operations



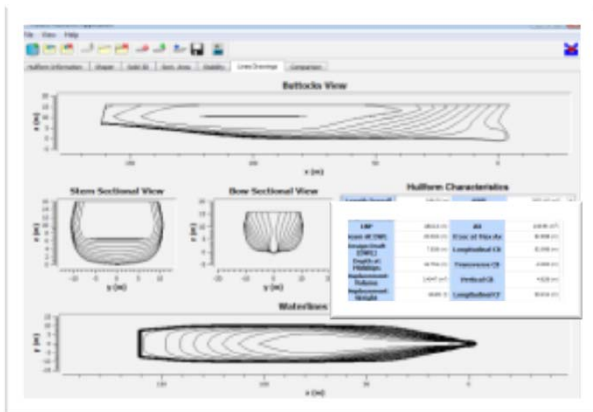
Concept development and early design



Small scale test and evaluation



Full scale tests, evaluation and trials



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- Provides full spectrum support for Science & Technology, Research & Development and Testing & Evaluation
- Provides Life Cycle Engineering Support
- Operates Labs and Test Facilities
  - Propulsion and Power Systems
  - Auxiliary and Life Support Systems
  - Machinery Network, Sensors, and Data Systems
  - Cargo, Weapons Handling and Hull Systems
  - Undersea Vehicle Sail and Deployed Systems



**DDG 51**  
**Land Based Engineering Site**



**Aircraft Carrier**  
**Elevator Test Site**



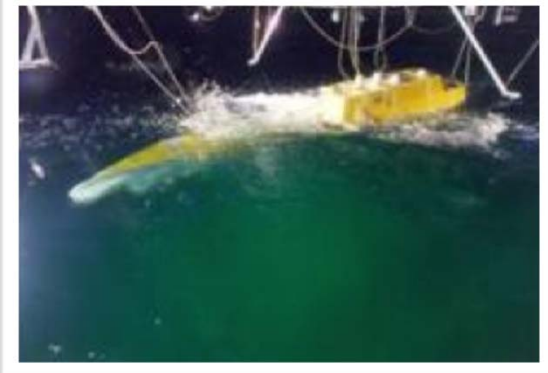
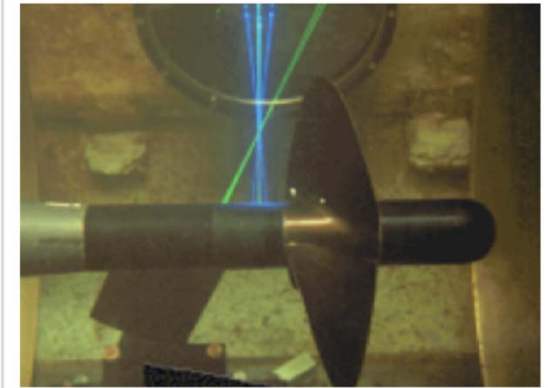
**DDG 1000**  
**Land Based Test Site**

# NSWCCD Summary



## Cradle to Grave Support

- **Hydrodynamics, Ship Control and Propulsors**
- **Survivability/Shock, Materials, Structures and Environmental Systems**
- **Signatures and Silencing Systems**
- **Electric Power & Propulsion , Auxiliaries, Machinery Controls and Networks, and Sail Systems**
- **Cost Engineering**
- **Talented people and world class facilities**
- **Center of Excellence for hull, mechanical and electrical systems**



Providing technical solutions for today's Navy

# Combatant Craft

# Boats & Unmanned Surface Vehicles



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