

# NUWC DIVISION, KEYPORT COMMAND OVERVIEW



**CAPT CLINT HOSKINS, USN – COMMANDING OFFICER**  
**JIM BLEICH, SSTM – ACTING TECHNICAL DIRECTOR**



DISTRIBUTION STATEMENT A: Cleared for public release

# WHO WE ARE



- **Over 100 years of undersea expertise**
- **Undersea weapons**
  - Navy's only lightweight torpedo production facility
  - Two heavyweight torpedo production facilities
  - Navy's only torpedo component level depot
- **Undersea warfare test and evaluation**
  - Weapons engineering
  - Unmanned and Theater Warfare Systems
- **Sustainment engineering**
  - DoD experts in obsolescence management
  - Custom engineered solutions
  - Shipyard innovation
- **NAVSEA Logistics Center**
  - Logistics and Material Management
  - Engineering and IT Management
  - Mechanicsburg, PA
- **Global partnerships**
  - Internationally connected (Canadian range)
  - International weapons training courses
  - Torpedo Intermediate Maintenance Activities
- **Strategically located to support the fleet**
  - Hawaii, Japan, Guam and San Diego

# WHERE WE ARE



YOKOSUKA, JAPAN



PEARL HARBOR, HI



APRA HARBOR, GUAM



KEYPORT, WA



RANGE COMPLEX  
NANOOSE, CANADA



BANGOR, WA



HAWTHORNE, NV



SAN DIEGO, CA



MECHANICSBURG, PA



PORTSMOUTH, NH



INDIAN HEAD, MD



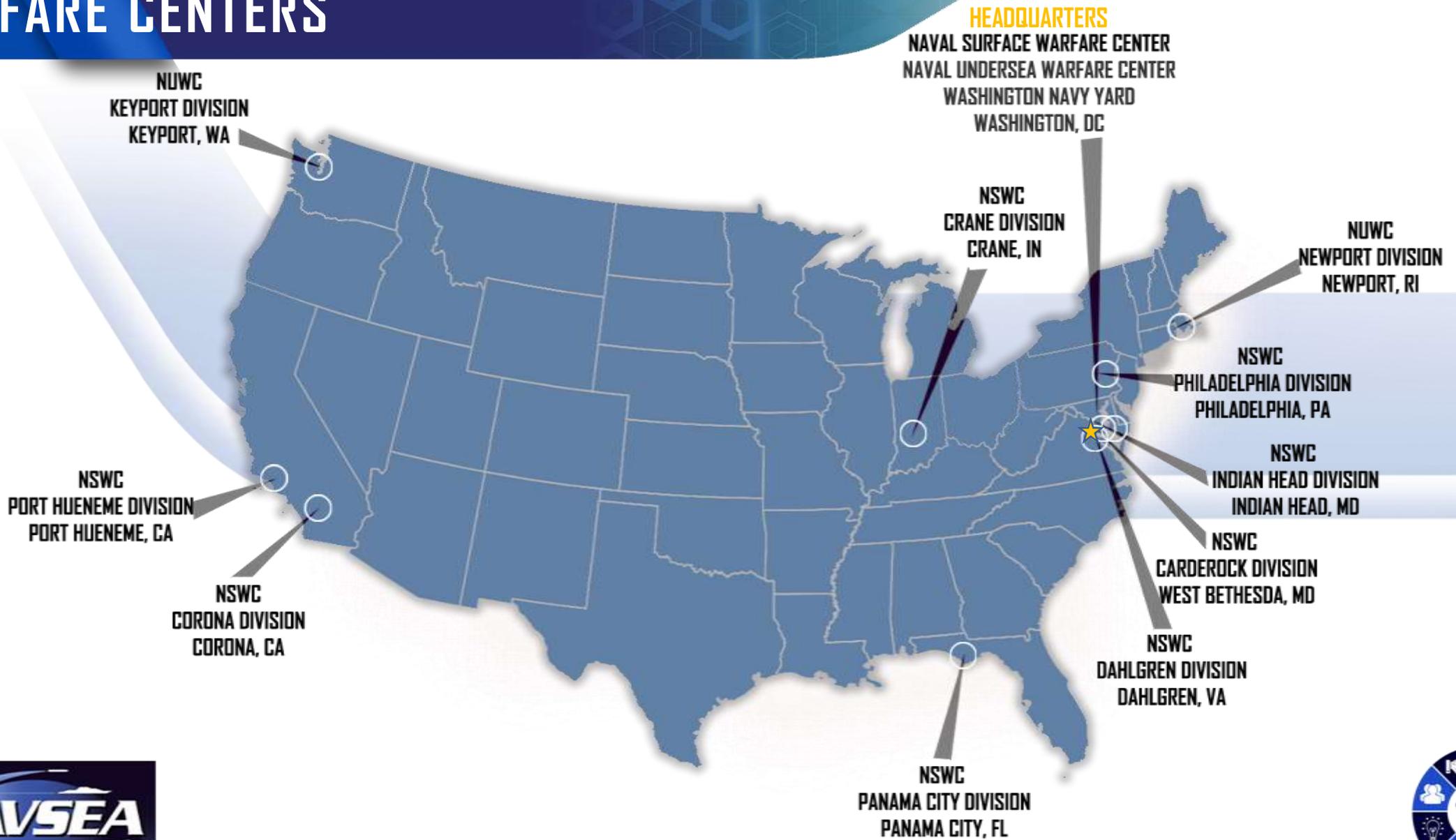
MAYPORT, FL



NORFOLK, VA



# WARFARE CENTERS



# WORKFORCE PROFILE

**Administrative: 1,388**  
**Blue Collar: 105**  
**Scientist/Engineers: 615**  
**Other Professionals: 82**  
**Technical: 521**  
**Clerical: 9**  
**Other: 9**  
**Military personnel: 31**

**Total Govt.  
Employees  
2,729**

**NAVSEA Logistics Center: 970 total**  
**Civilians: 688**  
**Contractors: 282**

# KEYPORT

**Bachelors 1,049**  
**Masters 445**  
**PhD 27**  
**55% College educated**

## Washington State – Local Employees

**Naval Undersea Warfare Center**  
**1,686 Civilian and 423 Contractor**

**NAVSEA Logistics Center**  
**88 Civilian and 31 Contractor**

# UNDERSEA WEAPONS

*“Delivering weapons to the fleet, range, and magazines to dominate the fight.”*

## **Warfighting: Deliver Decisive Combat Power**

- Warshot Weapons production
- Future Weapons technology development
- Ordnance handling, transportation, and storage
- Depot repair, maintenance & modernization

## **Warfighters: Strengthen the Navy Team**

- Exercise Weapons production
- Weapons lifecycle sustainment
- Fleet training and technical operations certification
- Empower a diverse & inclusive workforce

## **Foundation: Build Trust, Align Resources, Be Ready**

- Process optimization: Undersea Weapons Maintenance System
- Digital transformation: Integrated Data Management System
- Excellence through collaboration with NAVSEA Enterprise, DoN, DoD, Academia, & Industry
- Partnership with our Allies



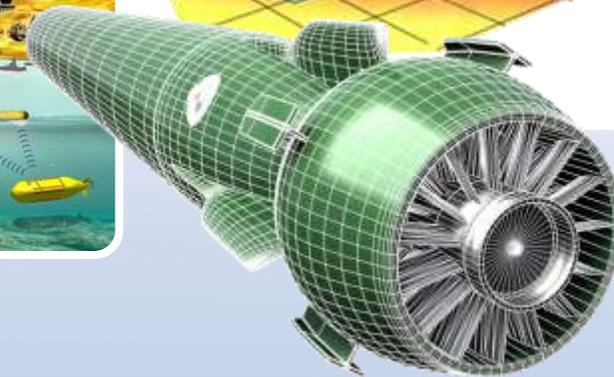
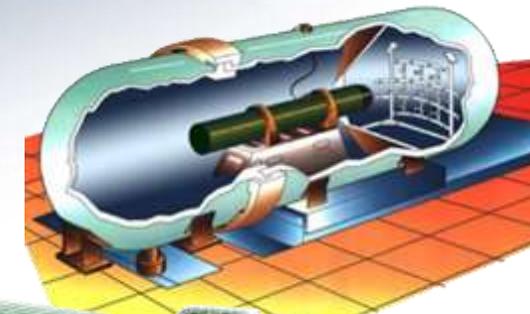
UNDERSEA WEAPONS



# TEST AND EVALUATION

## Core capabilities:

- Physics-based test and training (at sea and land-based)
- Performance and assessment
- Test and Evaluation Hardware and Software Design and Deployment
- System acquisition and procurement
- Modeling and simulation
- Data sciences
- Sensors
- Threat emulation
- Test and Evaluation of autonomous systems
- Live Virtual Constructed
- Warfighter- Engineer Partnership
- Cyber Systems Security Engineering



# TEST AND EVALUATION



# RANGES



# UNMANNED VEHICLES & PAYLOADS

## Dedicated Infrastructure:



Payload Development/Integration  
(B/1086)



UUV Operations  
Center

## Warfighter- Engineer Partnership:



UUV Group One



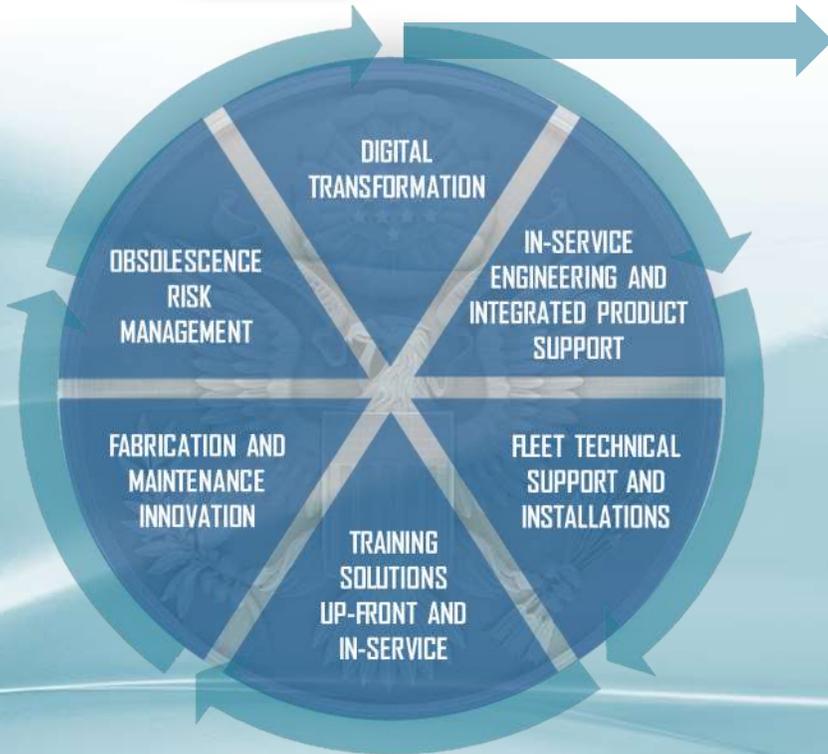
Special Operations  
Forces



Payload Integration  
Group



# UNMANNED VEHICLES

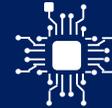


## SAILORS



- Front End Analysis for Manpower
- Personnel Training
- Training Material Design and Development
- State of the Art Technology Delivery
- Training Data Warehousing and Analysis

## SYSTEMS



- In Service Engineering
- Obsolescence Risk Management
- Data Management and Science – Visualization, Analysis Forecasting
- Maintenance and Material Solutions

## PLATFORMS



- Procurement and Installation
- Waterfront Technical Support
- Maintenance Technology Development and Deployment

# READINESS

*Mission: We develop, field, and sustain innovative solutions optimizing Warfighter readiness and effectiveness*  
*Vision: Transform capability, creating a self-sustaining Fleet to maximize Warfighter dominance at sea*

# BUSINESS INNOVATION

- **Property Management**

- PR Creator Pilot Program to support Torpedo Throughput
- RFID Pilot to support General Equipment Inventory

- **Contracts**

- Special Emergency Procurement Authority (SEPA)
- Small Business Outreach

- **Information Technology**

- KeyportOne Platform, one tool
  - All IT Requests
  - Facility Requests
  - Security Requests

- **Barrier Removals**

- 100,000 hours saved to date thru removing employee identified barriers

- **Comptroller**

- Electronic delegation of authority letters
- Leave Overtime Comp Time User System (LOCUS)
- Authorities Tracking Tool (ATT)
- Dashboard Driven Financial Reporting

- **People**

- Development of Propel training for supervisors
- Workforce Management System (WMS)

- **Command Assessment**

- Development of Propel training for Warfare Centers
- NAVSEA Enterprise Planning System (NEPS)
- Task Assignment & Acceptance Tool (TAAT)

# RELATIONSHIPS AND AUTHORITIES

- Strong recruiting relationships
- Outreach through senior design projects
- Collaborative research proposals
- Research supporting Intermediate Maintenance Activity modeling and simulation
- Small Business Outreach
- 14 Special Purpose Cooperate Research and Development Agreements
- 14 Educational Partnership Agreements
- 2 Partnership Intermediary Agreements
- Joint Naval Undersea Research Projects (NURP) with University of Washington and University of New Hampshire
- Naval Engineering Education Consortium collaborations on data analytics, robotics, autonomy and material science
- Collaboration on Modeling the Millennia and UUVs for range support
- Arctic Collaboration with Universities in Washington and Montana



University of New Hampshire



PennState



# COMMUNITY ENGAGEMENT

# COMMUNITY

- **K-12 STEM Events**

- 41 Keyport volunteers supported 191 student events
- 100 one-hour student STEM classes at local school districts
- Bridge Building Challenge had over 230 submissions
- Career mentoring and judges for state science fair
- 1st annual robotics competition had over 100 student participants

- **University Engagement**

- Pathways for students and recent graduates to federal careers
- STEM Student Employment Program (SSEP)
- Naval Research Enterprise Program (NREIP)
- Naval Undersea Research Project (NURP)
- Naval Engineering Education Consortium (NEEC)
  - \$860k to support 11 university undergraduate teams across 9 universities
  - Supports R&D and student engagement

- **Food Drives**

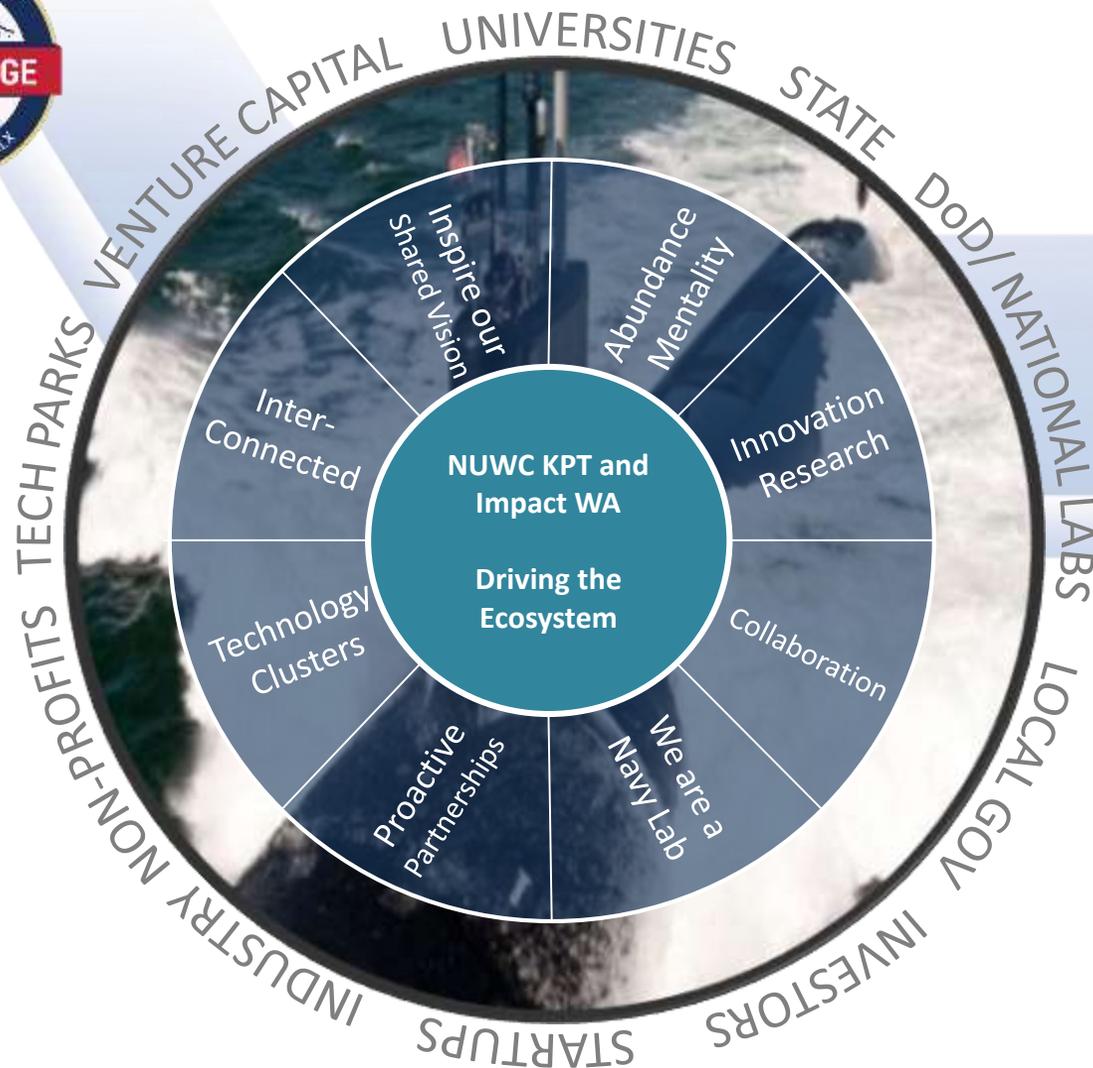
- **Armed Forces Day**

COLLISIONS

RELATIONSHIPS



# TECH BRIDGE MISSION AND NETWORK



The Northwest Tech Bridge serves as a 'super connector' throughout the Pacific Northwest

## Technical Areas: Autonomy and Sustainment

- Big Data with focus on Lifecycle Logistics AI/ML
- Advanced Manufacturing
- Adaptive Autonomy Technology
- Robotics

## Key Initiatives:

- Open AUV standards & interfaces
- Prize Challenges:
  - Whale Lookout Technology Challenge
  - Tank Inspection Challenge
  - UUV Behavior Challenge (planning)
- UUV Development with UUVGRU ONE
- Innovation Partnerships with NW DOD and DOE partners
- PNW DOD Innovation Team Mission Acceleration Center
- DON COVID-19 Advanced Manufacturing Response
- Naval Enterprise Sustainment Technologies Team (NESTT)

# CONCLUSION

*“Advancing undersea readiness through innovation and world-class partnerships”*

1

**WEAPONS TO THE FLEET**

2

**PLATFORM SUSTAINMENT**

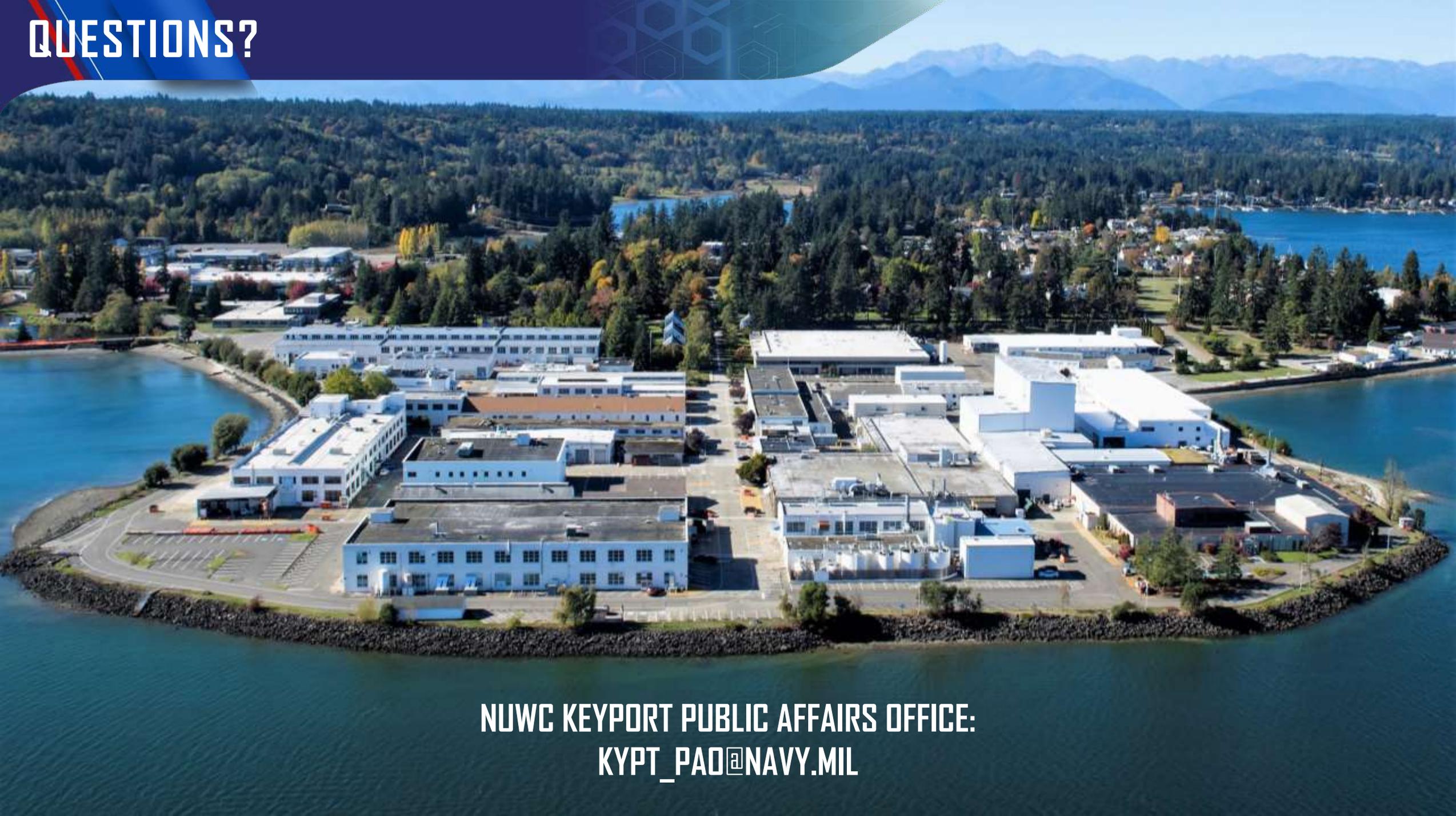
3

**SUBSEA/SEABED WARFARE**

4

**SYSTEM SECURITY**

**QUESTIONS?**



**NUWC KEYPORT PUBLIC AFFAIRS OFFICE:  
KYPT\_PAO@NAVY.MIL**

**BACK UP SLIDES**

# KEYPORT KEYSTONES



[kē-stōn: The central summit of an arch; the critical mission areas to which each action at NUWC Division, Keyport supports.]

## WEAPONS TO THE FLEET

We provide weapons to the fleet, in quantity, and on time to maximize warfighting capability

## PLATFORM SUSTAINMENT

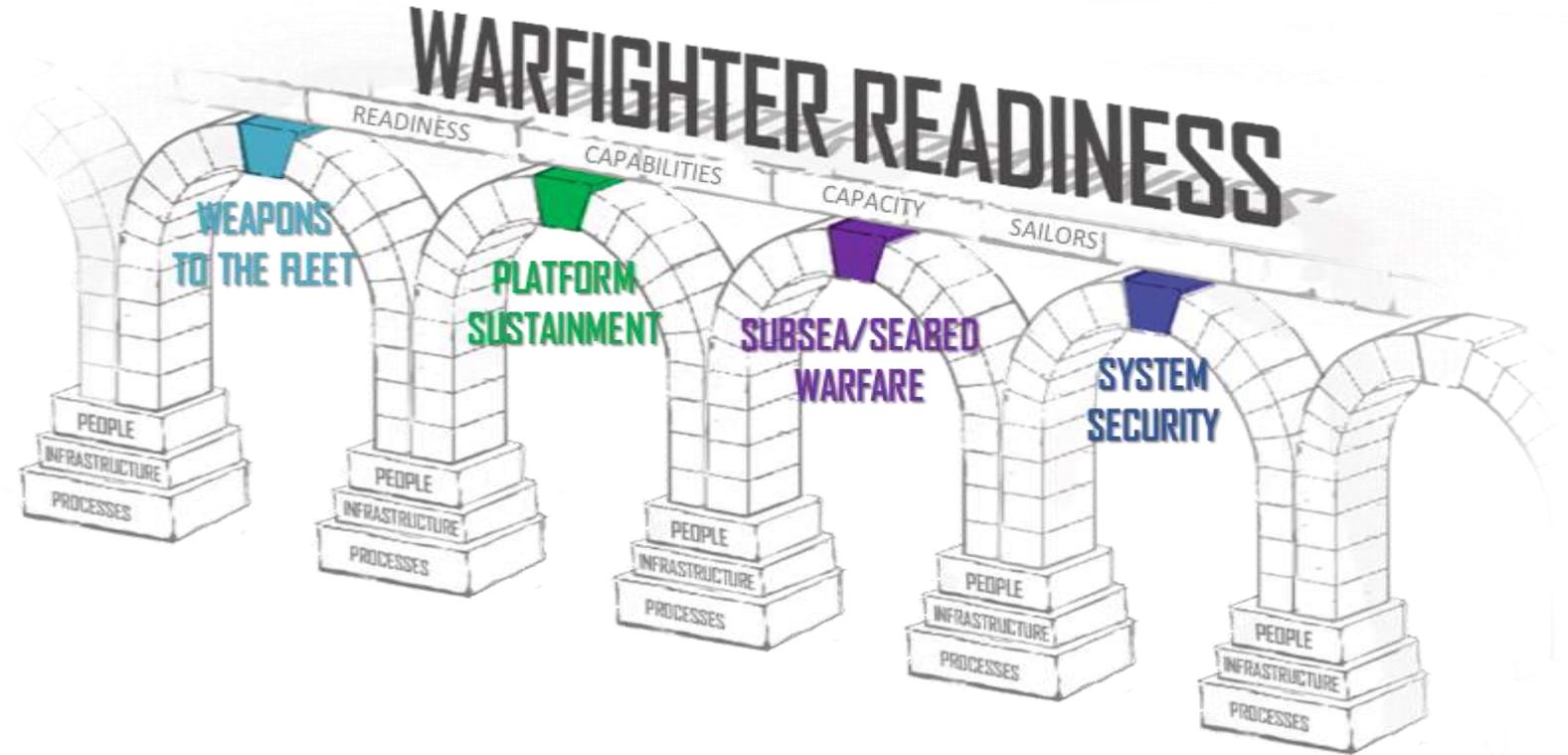
We test and deliver submarine and USW systems, technologies, parts, and components to maximize operational availability of ships, submarines, and UUVs

## SUBSEA/SEABED WARFARE

We maximize the use of unmanned technologies to the operational fleet to enable a decisive warfighting outcome

## SYSTEM SECURITY

We ensure cyber technology, hardware, software and firmware systems are protected from threats and exploitation



## OUR FOUNDATION

### PEOPLE

Foster adaptive leadership throughout the organization. Leadership is for everyone

### INFRASTRUCTURE

Invest in world class facilities and infrastructure to support Undersea Warfare; ensuring operational readiness that is adaptable to future Navy needs

### PROCESSES

Enhance our current processes through automation and advanced applications of data science and decision theory tools

# HISTORY AND FUTURE

## Mission:

To provide advanced technical capabilities for Test and Evaluation, In-Service Engineering, Maintenance and Industrial Base Support, Fleet Material Readiness, and Obsolescence Management for Undersea Warfare; and to execute other responsibilities as assigned by the Commander, Naval Undersea Warfare Centers. (New mission statement under revision)

## Vision:

We accelerate emerging and disruptive technology to the warfighter through innovation to expand America's undersea dominance.

## History:



Torpedo Repair  
Torpedo Ranging and Testing  
Torpedo School

**1914 –1930**

*Pacific Coast  
Torpedo Station*



Major Center of Torpedo  
Production and Testing  
WWII

1944

First Acoustic  
Testing Range

Torpedoes Used by  
Submarines, Aircraft, and  
Surface Ships

1956

First 3D Range

**1930-1978**

*Naval Torpedo  
Station*



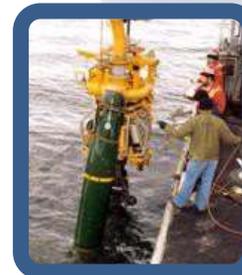
Tracking on  
Multiple Ranges  
Improved  
Recovery  
Techniques



Growth of Test  
and Evaluation  
Functions

**1978–1991**

*Naval Undersea  
Warfare  
Engineering  
Station*



Became Naval Undersea Warfare Center

1992

Test and Evaluation  
Engineering and Fleet Support  
Autonomous Underwater Systems  
Custom Engineered Solutions

**1992-Present**

*Naval Undersea  
Warfare Center  
Division, Keyport*

# DETACHMENTS, WHAT WE DO

## Anyplace, Anytime T&E(PAC, LANT, Worldwide)

- CSSQT (US & FMS)
- USW Combat Systems, Weapons & Sensors
- COMOPTEVFOR Trusted Agent
- Training & Exercise Operations Planning & Coordination
- Developmental Testing/Shipboard Support



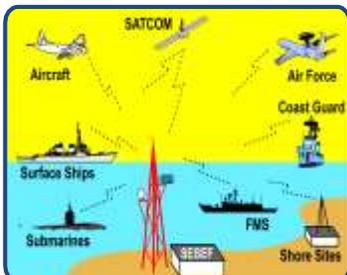
## Exercise Reconstruction, Analysis & Assessment



- Air PACER
- Surface Force Training, Proficiency & Certification Events
- Submarine SCORES, SCC & TACDEVEX Support
- VISTA Debrief & USW Tools
- Live, Virtual, & Constructive (LVC) Solutions

## Range Operations & Support

- MK 30 Mobile U/W Targets (HI, Guam)
- U/W Tracking Instrumentation
- FTEC – MDA Support Link/RCS
- SESEF – EW/Comm
- SSRNM
- MSF Measure & Deperm



## USW Weapons



## Submarine C5I, NPES, ISE & Modernization Support

- ISE Support Hawaii, Guam, SOCAL & WESTPAC
- Periscope, Sonar, Radio Room, EW, Combat Systems
- Modernization/AIT Support
- IT/IA Support
- VLS PSE Maintenance



- MK 48 Torpedo IMA
- Guam Technical Support
- Contract Oversight



## **Augmented and Virtual Reality**

The implementation of augmented and virtual reality technologies can revolutionize the way we perform many existing evolutions such as: training, performance support, mission rehearsal, maintenance rehearsal, and system design.

## **Data Sciences**

Adopt and develop data analytics best practices across an integrated suite of In-Service Engineering decision-making tools and processes by 2024 that will transform warfighter readiness and capability.

## **Cybersecurity**

Cyber immunity and cyber hygiene are key pillars in the face of insider and supply chain threats. Traditional compliance based security is important but no longer enough to meet an ever-evolving threat.

## **Sensor Aggregation**

Provide sailors using command and control and combat systems information necessary for threat assessment based on the platform and weapons characteristics of target platforms using threat data. Provide an independent, portable system to process sonobuoy data and support analysis in identifying, classifying, and localizing acoustic contacts based on proven government-owned technologies.

# THEATER USW SYSTEMS

## DEVELOPMENT CAPABILITES

Model-Based Systems Engineering  
Software Development & Testing  
Hardware/Software Integration  
Cybersecurity Engineering  
On-Site System Installation  
Underway Fleet Support  
Logistics Engineering

## Theater Undersea & Combat System Development

Undersea Warfare Decision Support System • UYQ-100 USW-DSS

Aircraft Carrier Tactical Support Center • SQQ-34C CV-TSC

Command & Control Aviation (C2AV)

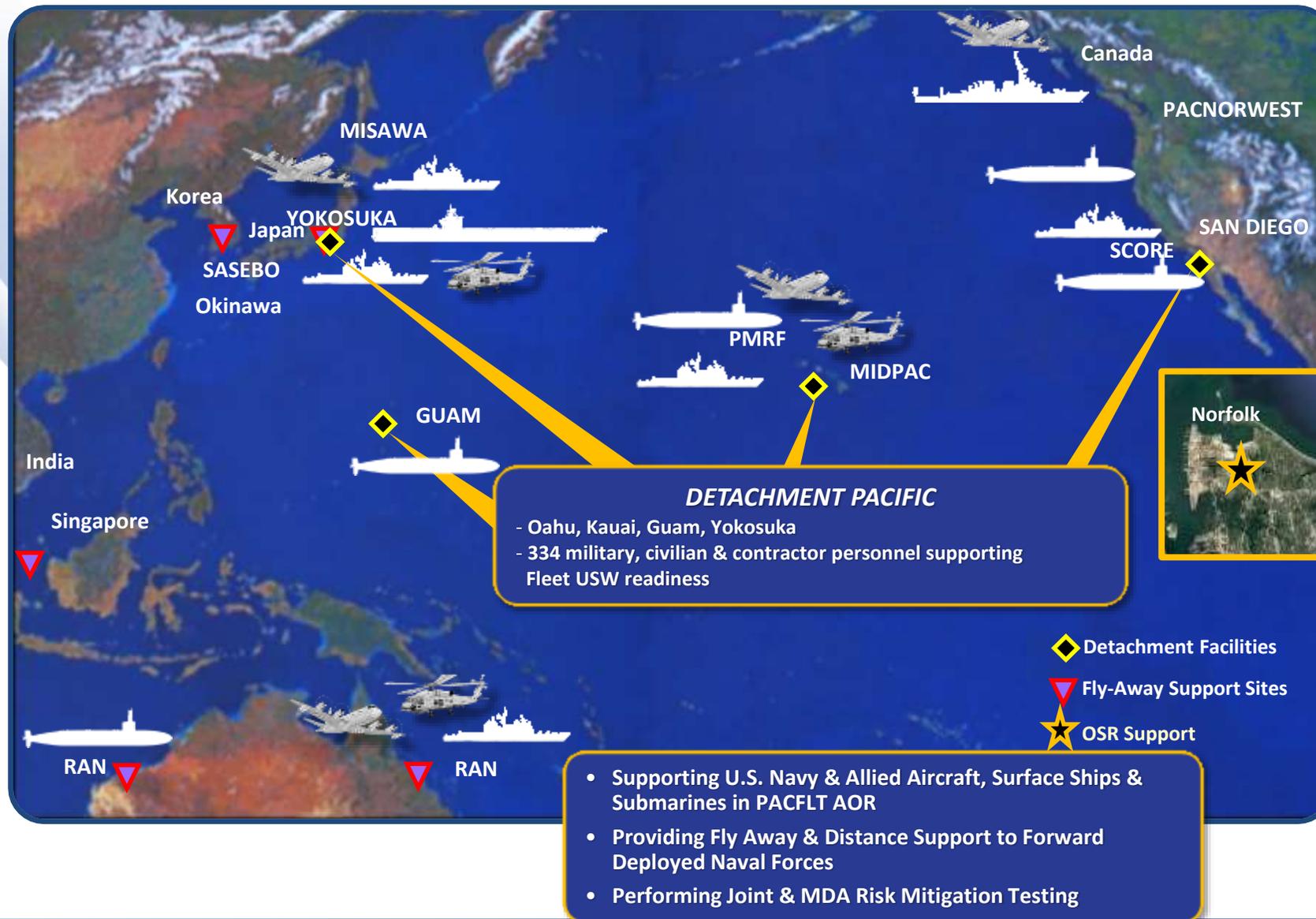
Vehicle Control Domain (VCD)

## FLEET CAPABILITES

Surface Fleet MH-60R Integration  
Track Management & Exchange  
Acoustic Sensor Processing  
Theater Watchfloor Systems  
Tactical Decision Aids  
Command & Control  
Video Processing



# DETACHMENTS, WHERE WE ARE



# DETACHMENT FACILITIES - OAHU



Magnetic Silencing Deperm Facility  
(Beckoning Point, PH)



Fleet Test & Evaluation Center  
(FTEC - Kapolei)

Shipboard Electronic Systems Evaluation Facility  
(SESEF)  
Tactical Network Analysis Center (TNAC)  
Surface Ship Radiated Noise Monitoring (SSRNM)



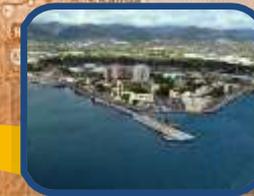
Detachment Headquarters  
Bldgs. 167 (Ford Island, PH)  
Support bldgs. 133, 170, 171, 459



Submarine Torpedo IMA  
(West Loch PH)

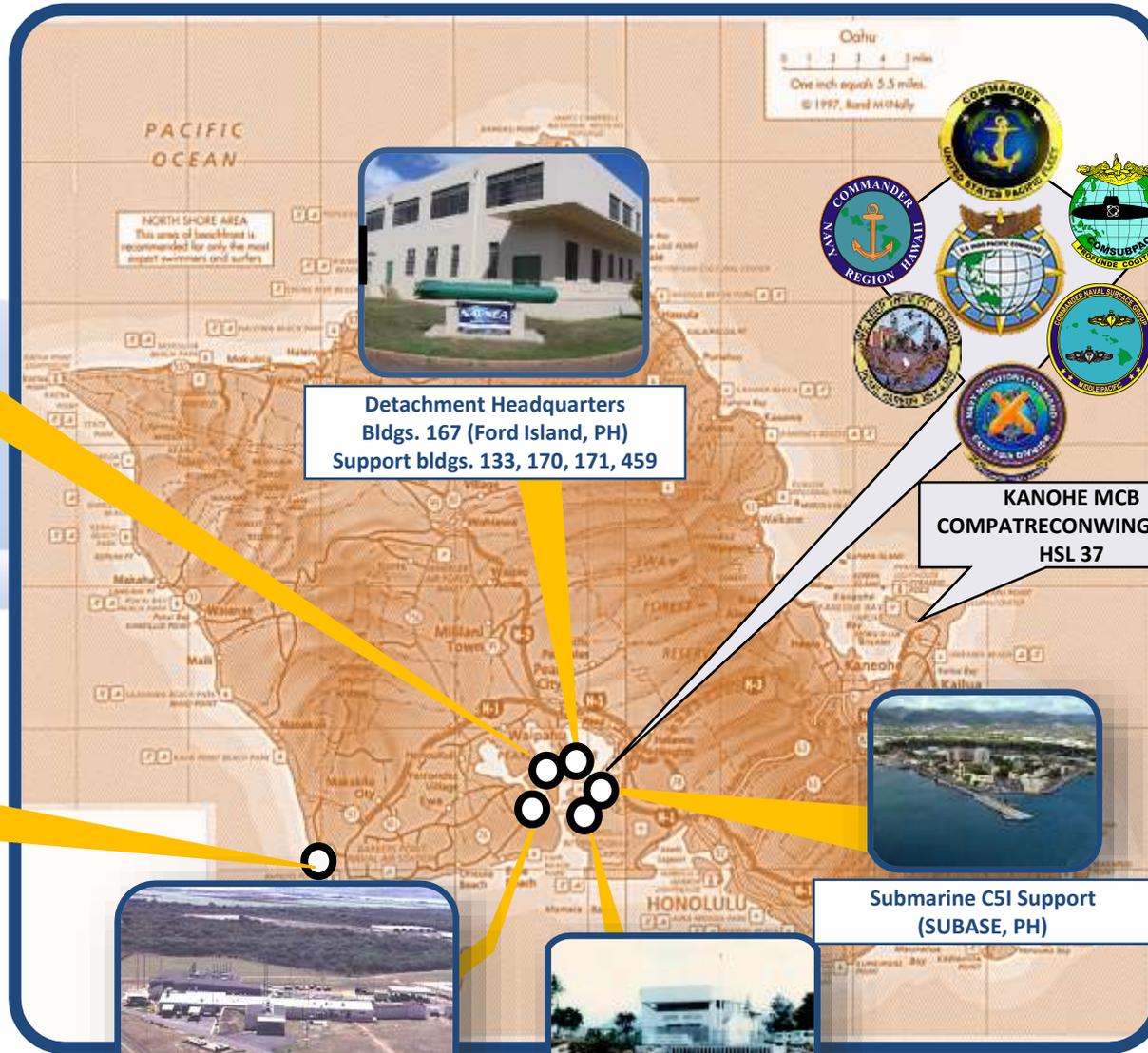


Magnetic Silencing Ranging Facility  
(Hospital Pt. PH)

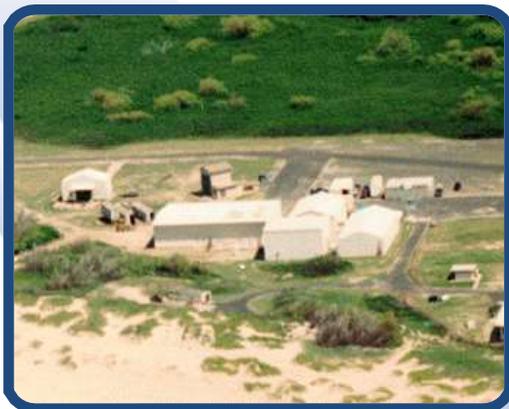


Submarine CSI Support  
(SUBBASE, PH)

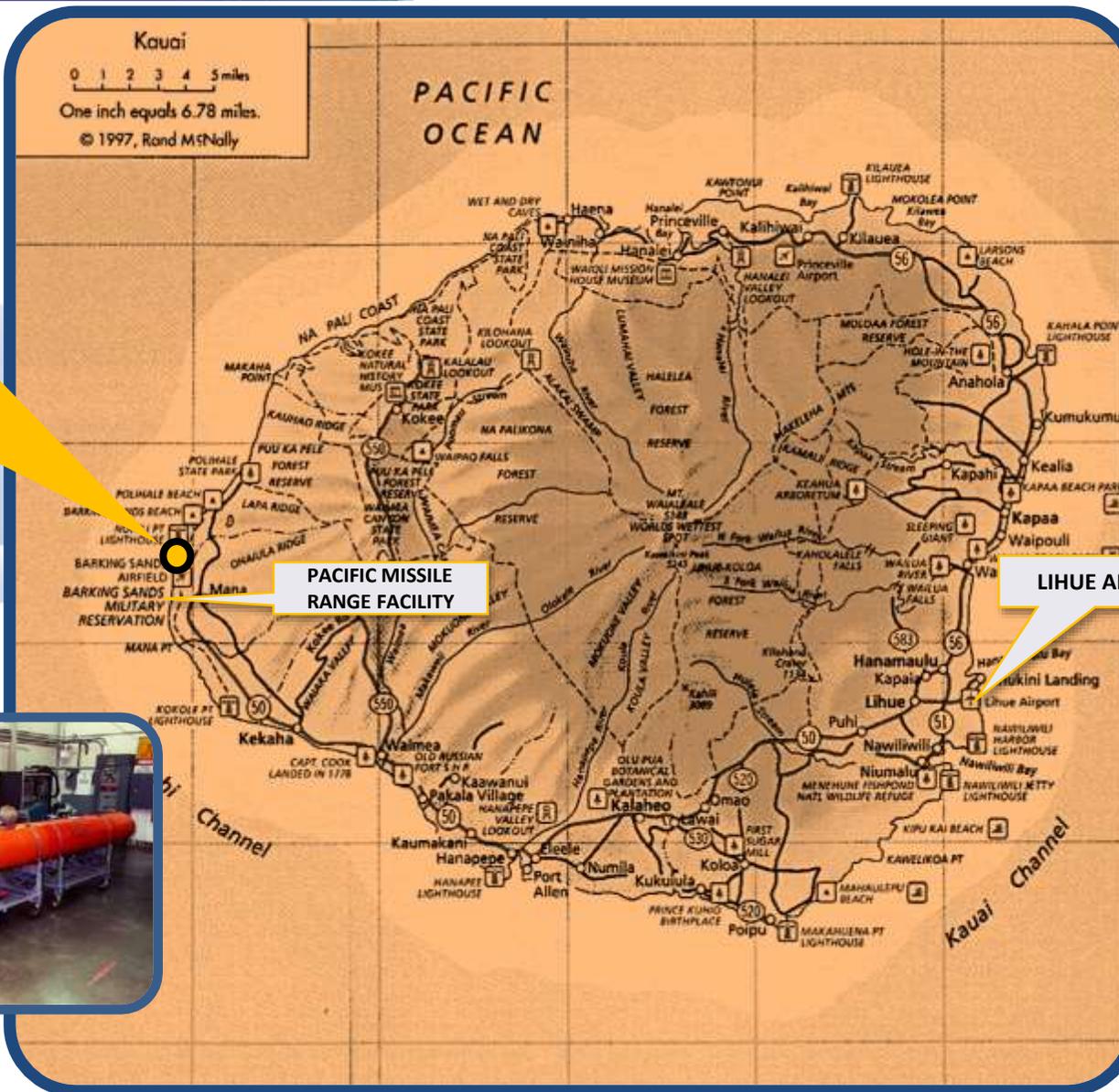
KANOHE MCB  
COMPATRECONWING TWO  
HSL 37



# DETACHMENT FACILITIES - KAUAI



**MK 30 Target Operational Site  
Located on PMRF**



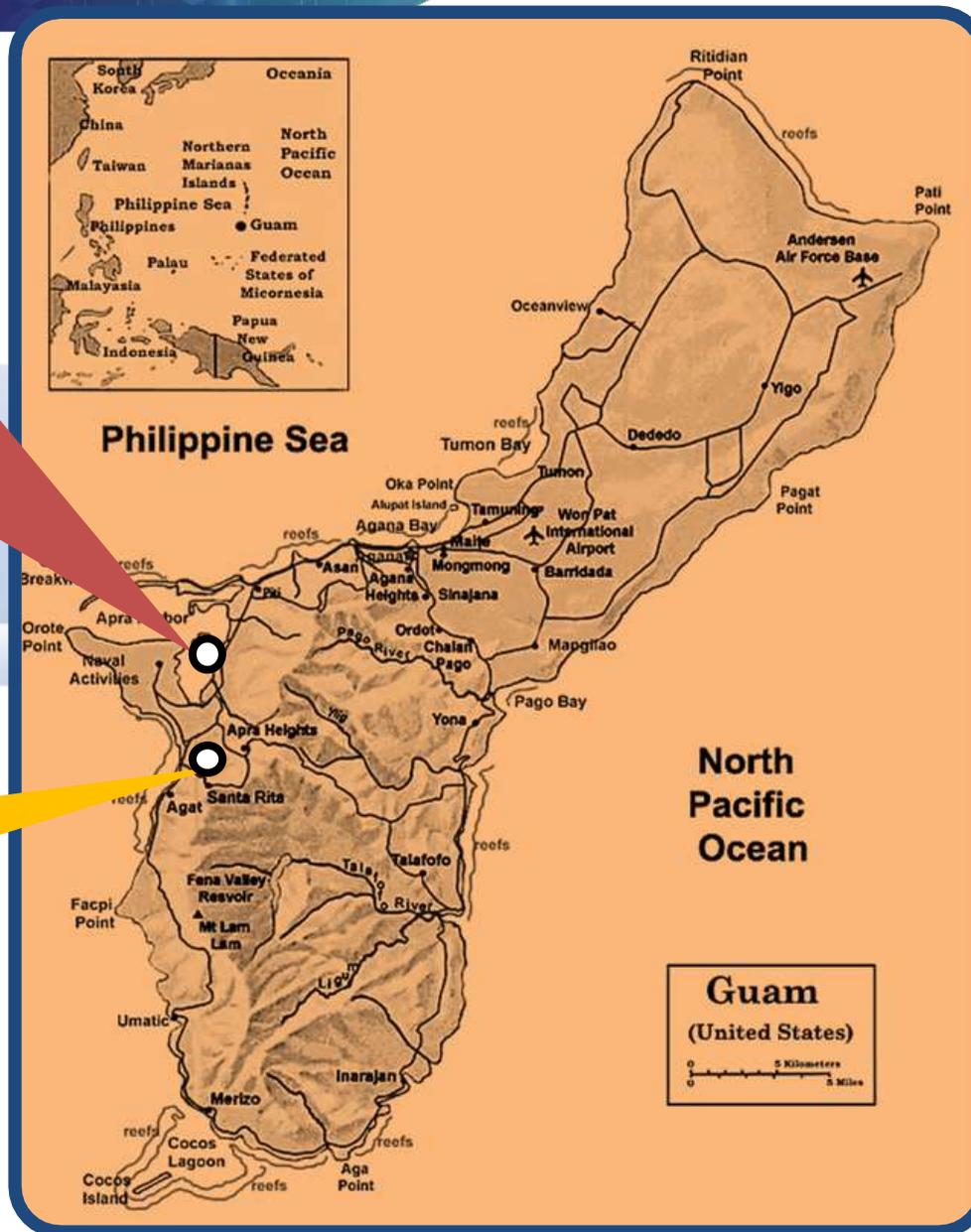
# DETACHMENT FACILITIES - GUAM



Torpedo Exercise Support Facility



• Shipboard Electronic Systems Evaluation Facility (SESEF)



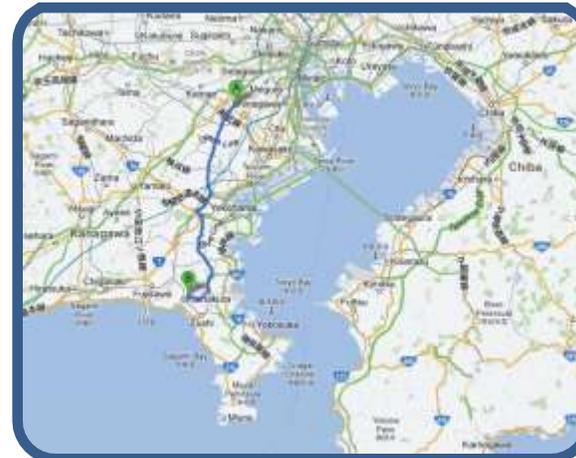
## COMSUBRON ELEVEN, Point Loma, CA

- In-Service Engineer Site Reps
  - Periscope (2)
  - SUBLAN/Network
- Sub Modernization Coordinator



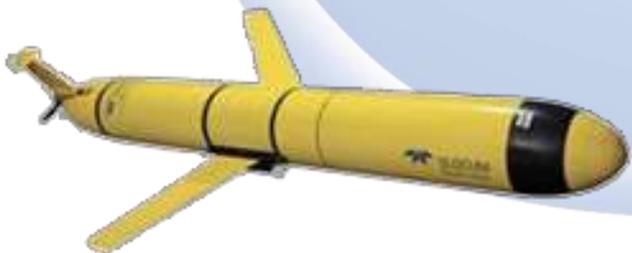
## COMDESRON FIFTEEN, Yokosuka

- CDS15 On-Site Rep
- ATG Contractor Rep
- Yokohama Office



# UNMANNED VEHICLES & PAYLOADS

## Programs Supported:



UNMANNED VEHICLES  
UNMANNED VEHICLES  
UNMANNED VEHICLES

# DETACHMENT TAKEAWAYS

- NUWC Keyport Detachment Pacific...
- NUWC's Forward Presence in the Pacific
- Delivering NUWC Support required by the Fleet on the Waterfront at the "Tip of Spear" in Pacific Fleet Homeports
- Leveraging our Reachback Capability to NSWC-NUWC Warfare Centers to Deliver Cost-Effective Support to the Fleet
- Narrowing the seams between the Navy's Engineering, Acquisition, R&D communities, and the Warfighter



# NAVAL RESEARCH ENTERPRISE (NRE)



*>1,000 Partners*



**ONR HQ**



**ONR Global**

- **Patents**

- Patent-sourcing workshops
- 49 patents in FY20

- **Pedigree**

- Growing pool of Science and Engineers with PhDs
- Key roles on NAVSEA / Navy wide technology initiatives

- **Technology transfer**

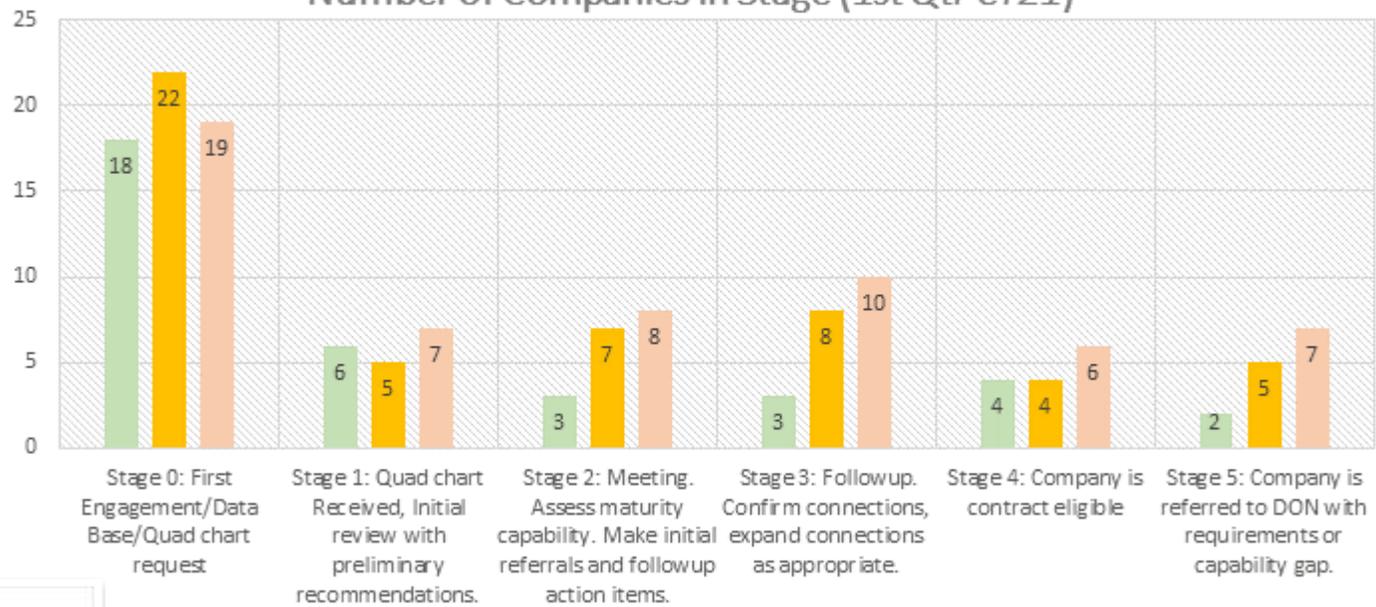
- Northwest Tech Bridge
- Local / regional / national relationships with industry, national labs and academia
- Patent Council / Office of Research and Technology Application
- Relationships with Manufacturing Extension Programs and TechLink



# TECH BRIDGE MISSION AND NETWORK



Northwest Tech Bridge Pipeline Quarterly Performance  
Number of Companies in Stage (1st Qtr CY21)

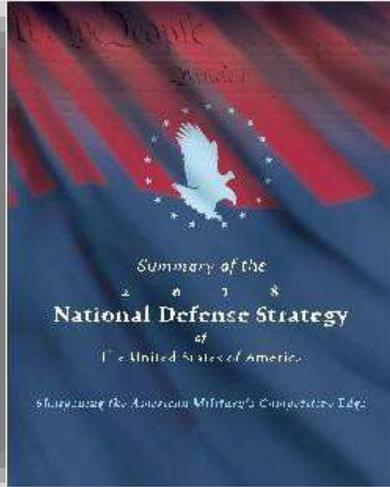


Northwest Tech Bridge Pipeline Status  
Number of Companies in Stage (to date)



## Outreach

# STRATEGIC ALIGNMENT

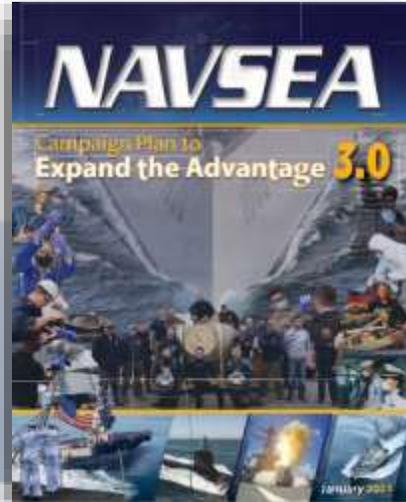
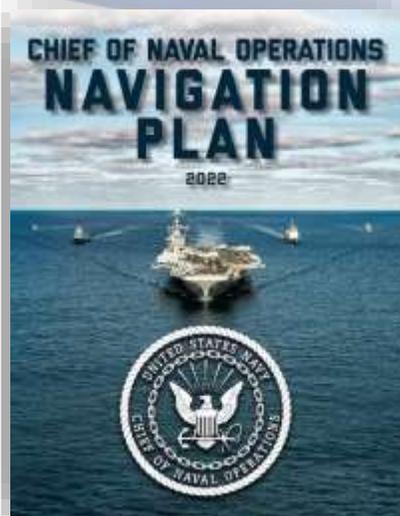


## NATIONAL DEFENSE STRATEGY

- Build a More Lethal Force
- Strengthen Alliances and Attract New Partners
- Reform the Department for Greater Performance and Affordability

## CNO NAVPLAN

- Readiness: Deliver a more ready Fleet.
- Capabilities: Deliver a more lethal, better connected Fleet
- Capacity: Deliver a larger, hybrid fleet.

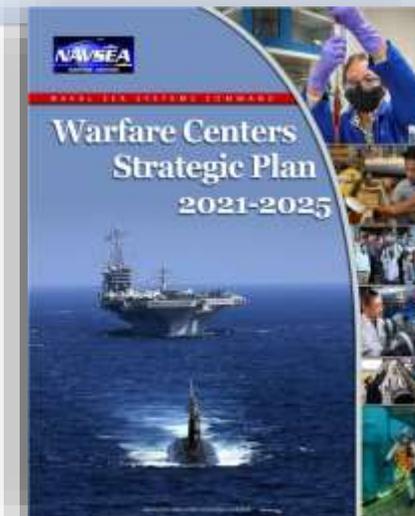


## NAVSEA CAMPAIGN PLAN 3.0

- Deliver Combat Power: On-time Delivery of Combat-Ready Ships, Submarines, and Systems
- Transform Digital Capability
- Build a Team to Compete and Win

## WARFARE CENTERS STRATEGIC PLAN

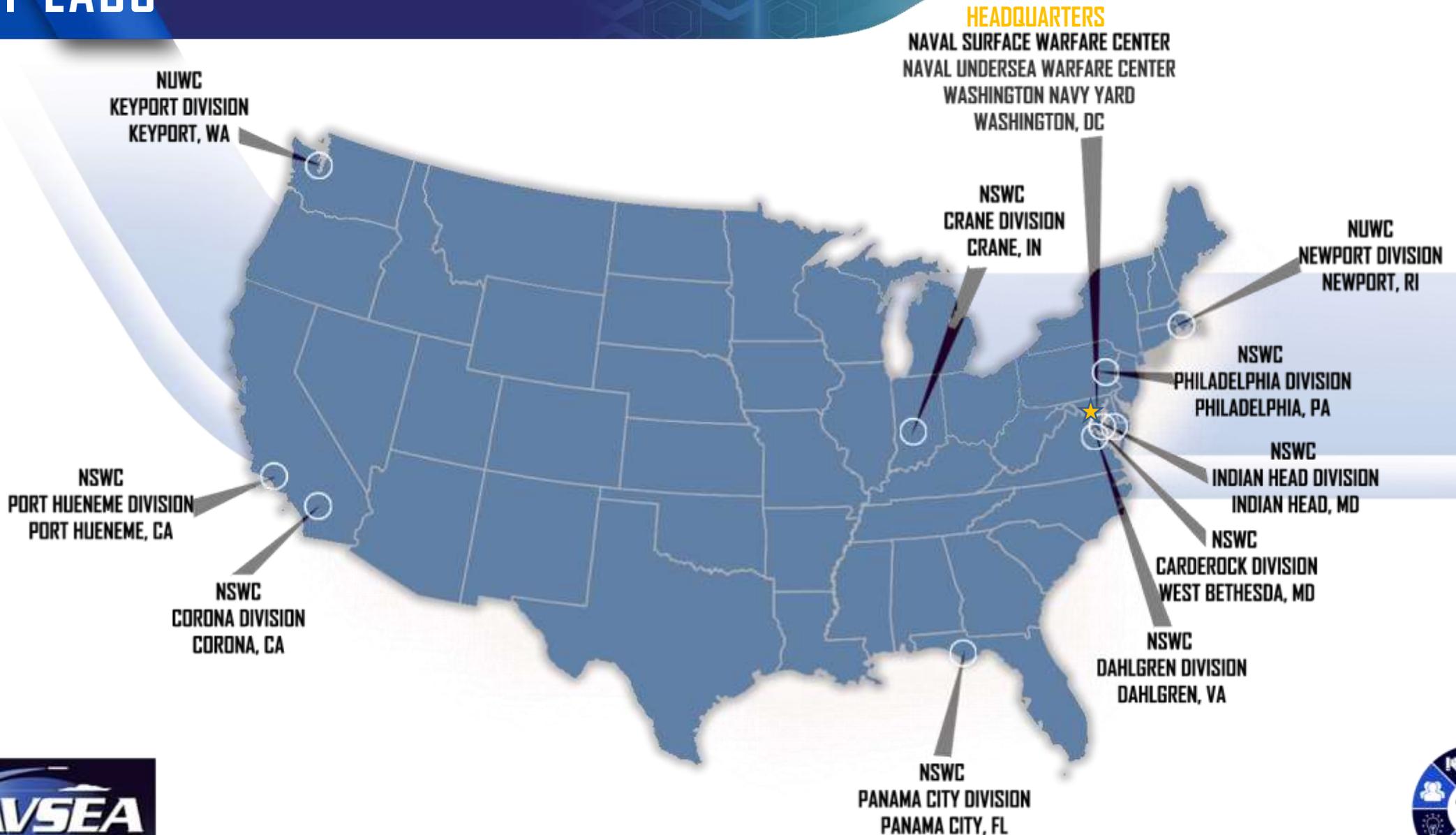
- Empowered workforce
- Technical and business excellence
- Enhanced partnerships
- Relevant innovation



## NUWC KEYPORT STRATEGIC PLAN

- Transform our People and Processes
- Transform our Products and Services
- Transform our Infrastructure

# NAVY LABS



\*Direct Report to 00

\*Direct Report to TD

# NUWC Division, Keyport Command Leadership



**Acting Technical Director**  
  
**Jim Bleich, SSTM**  
 TD

**Commanding Officer**  
  
**CAPT Clint Hoskins**  
 00

**Executive Officer**  
  
**CDR Christi Burgos**  
 XO

**Senior Enlisted Leader**  
  
**SCPO Bradley Stiner**  
 SEL

**Deputy Technical Director**  
  
**Jason Durst, SSTM**  
 TDB (Acting)

**Deputy Business Director**  
  
**Anna Long**  
 OBD

**Chief of Staff**  
  
**Lauren Peters**  
 COS (Acting)

## BUSINESS DEPARTMENTS

**Comptroller**  
  
**John Williams**  
 01

**Contracts**  
  
**Carrie Lawson**  
 02

**Corporate Operations**  
  
**Nichol Williams**  
 10 (Acting)

## TECHNICAL DEPARTMENTS

**Test & Evaluation**  
  
**John Kenney, SSTM**  
 20

**Undersea Weapons**  
  
**Jon Pentzer, SSTM**  
 30

**Undersea Systems & Sustainment Engineering**  
  
**David Coleman, SSTM**  
 40

**Unmanned & Theater USW**  
  
**Daniel Lowney**  
 50 (Acting)

## NAVAL SEA LOGISTICS CENTER

**Commanding Officer**  
  
**CAPT David Jones**  
 00

**Senior Civilian**  
  
**John Greener**  
 Senior Civilian (Acting)

## DETACHMENT PACIFIC

**Officer in Charge**  
  
**LCDR Nathan Battle**  
 OIC

**Site Director**  
  
**Vacant**  
 TDC

## DETACHMENT SAN DIEGO

**Officer in Charge**  
  
**Vacant**  
 OIC