Naval Information Warfare Center Atlantic

AFCEA Hampton Roads Luncheon
17 December 2019

CDR Tim Householder, USN
NIWC Atlantic
Officer in Charge, Hampton Roads detachment
Naval Information Warfare Center Atlantic

“n-EYE-wick”

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CDR Tim Householder, USN
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“We used to be called SPAWAR”

▼ Old
- Space and Naval Warfare Systems Command (SPAWAR)
  - Space and Naval Warfare Systems Center, Atlantic (SSC Atlantic)

▼ New
- Naval Information Warfare Systems Command (NAVWAR)
  - Naval Information Warfare Center, Atlantic (NIWC Atlantic)

▼ Information, not Space, is the mission. Space is an enabler

▼ More aligned with NAVSEA & NAVAIR
- Naval Sea Systems Command (NAVSEA)
  - Naval Undersea Warfare Center (NUWC)
  - Naval Surface Warfare Center (NSWC)
- Naval Air Systems Command (NAVAIR)
  - Naval Air Warfare Center (NAWC)
NAVWAR
Naval Information Warfare Systems Command

▼ Lead
  – Sets polices, designates funding and oversees all aspects of the Navy cyber mission.

▼ Acquire
  – Develops, delivers and sustains cyber warfighting capabilities from seabed to space.

▼ Prepare
  – Mans trains and equips cyber technical experts to dominate the cyber realm.

▼ Fight
  – Actively engages the cyber battlespace to counter and fight cyber treats worldwide.
Rapidly Delivering Cyber Warfighting Capability from Seabed to Space

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Vision: rapidly delivering cyber warfighting capability from seabed to space
Program Executive Offices

▼ PEO C4I
- Five program offices focused on capability development (100’s)
- Five program offices focused on platform integration (700’s)
- Command and control, intelligence sharing, terminals, etc (CANES, NMT, GCCS-M, DCGS-N, …)

▼ PEO Enterprise Information Systems
- NMCI → Next Generation Enterprise Network (NGEN)
- Enterprise Resource Planning (ERP)
- Sea Warrior and Enterprise Software Licensing

▼ PEO SPACE SYSTEMS
- Responsible for DoD’s Narrowband SATCOM
- Legacy Ultra High Frequency Follow-on Program
- Mobile User Objective System (MUOS)

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More than 10,000 employees deployed globally and near fleet concentration areas.
NIWC Atlantic — Global Presence

NIWC Atlantic

FY19 Total Obligation Authority $3.35B
- 47% supports 400+ Small Business firms
- 93% competition
- Primarily a Navy Working Capital Fund (NWCF) Organization. Relying on sales revenue rather than direct Congressional appropriations to finance its operations

Technical Leadership
- 4,967 (4,853 Gov’t, 114 Mil); ~9,000 from Industry
  - 53% in Science and Engr. Occupational Series
  - 13 Senior Science and Technical Managers (SSTMs)
  - 271 New Professionals
  - 119 Student Interns (FY19)
  - 57 PhD; 1,289 Masters; 2,135 Bachelors

Strategically located to support Naval forces

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Mission: Serving our Nation by delivering information warfare solutions that protect national security. Includes: communication systems (radios), networking systems (routers/switches), cyber operations (red team/forensics/ network defense), intelligence, surveillance, reconnaissance (sensors/decision support applications), business systems (benefits/personnel) and information security.
Technology Focus Areas

On-Demand Manufacturing: Produce products and/or components, when or as they are required at the point of use, using additive and/or traditional manufacturing methods. (Steve Lariviere)

Model-Based Systems Engineering (MBSE): Technologies used to support the development, management and application of virtual constructs of varying fidelity across the spectrum of systems engineering. (David Smoak)

DevSecOps: Refers to replacing siloed Development, Security and Operations to create multidisciplinary teams that collaborate with shared and efficient practices and tools. (Kathryn Murphy)

Enterprise Resource Tools: Aims to improve enterprise's productivity and efficiency by providing business logic support functionality. (Kathryn Murphy)

Assured Communications: Addresses the demand for resilient, and sometimes covert, wired and wireless communications in degraded and/or denied environments. (Ann Rideout)

Cloud Computing: IT modernization and digital transformation for resilient infrastructure, platform and software services. (Ann Rideout)

Mobility: Provide Wireless Technology and enterprise access for the warfighter to engage with a mobile environment and applications, anytime, anyplace (Ann Rideout)

Data Science and Analytics: Provide warfighters with disruptive analytics-driven, data-informed, and technology-empowered capabilities to drive decision advantages and optimal mission outcomes. (Rob Keisler)

Internet of Things (IoT) and Embedded Systems: Provide awareness to the warfighter at the edge by connecting devices embedded with state-of-the-art sensors, software, and electronics. (Rob Keisler)

Cyber Warfare: Ensures availability, integrity, authentication, confidentiality and nonrepudiation of data sources. (Erick Fry)

Autonomy: Enabling systems to adapt their actions to changes in their mission and operating environment without the intervention of a human operator. (Dr. Suzanne Huerth)
Hampton Roads, VA
Key Facilities and Technical Capabilities

Personnel: 934 Gov’t, 85 Mil

- 33 buildings (662k sq ft)
- Fleet Operations & support
- Co-located with Fleet Forces Command and NAVIFOR
- Communication systems integration & maintenance
- Navigation systems
- Navy Tactical Command Support System (NTCSS)
- Integrated Undersea Surveillance System
- Fleet Installations and Upgrades, CANES/NTCSS
- USMC IT Strategic Sourcing
Other NIWC Atlantic Major Locations

<table>
<thead>
<tr>
<th>HQ Charleston, SC</th>
<th>New Orleans, LA</th>
<th>National Capital Region</th>
<th>Other CONUS/OCONUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,259 Gov’t, 18 Mil</td>
<td>224 Gov’t, 8 Mil</td>
<td>171 Gov’t, 1 Mil</td>
<td>265 Gov’t, 2 Mil</td>
</tr>
<tr>
<td>Tactical network systems and end-to-end testing</td>
<td>Center of DON manpower &amp; personnel software design &amp; support</td>
<td>FLTCYBERCOM / C10F</td>
<td>Expeditionary and USSOCOM C4I systems</td>
</tr>
<tr>
<td>Cyber Forensics and Data Recovery Labs</td>
<td>DON Global Distance Support (Help Desk)</td>
<td>NAVSEA &amp; NAVAIR Platform C4I/Cyber / ID support</td>
<td>USCENTCOM</td>
</tr>
<tr>
<td>Vehicle, Surface Ship, and Submarine C4I test and integration</td>
<td>DOD Component Enterprise Data Center</td>
<td>USCYBERCOM (USCC)</td>
<td>CNE / C6F</td>
</tr>
<tr>
<td>DoD Component Enterprise Data Center</td>
<td>Veterans Benefits Mgmt. IT Systems, web portal &amp; software development</td>
<td>IESS (Secret Service protected facilities)</td>
<td>Ballistic Missile Defense/Aegis ashore</td>
</tr>
<tr>
<td>Air Traffic Control engr. &amp; technical services</td>
<td>Logistics &amp; IT support</td>
<td>PEO-EIS / NGEN</td>
<td>USEUCOM</td>
</tr>
<tr>
<td>Electromagnetic &amp; Environmental test labs</td>
<td>GCSS MC Service Desk</td>
<td>DCGS-N / DCGS-MC</td>
<td>USAFRICOM</td>
</tr>
<tr>
<td>Commercial &amp; DoD Satellite Communications</td>
<td>Defense Health</td>
<td>MARCORSYSCOM</td>
<td>MILCON C4I support</td>
</tr>
</tbody>
</table>

Driving integration and interoperability into the Navy’s IW Capabilities
Primarily a Navy Working Capital Fund (NWCF) Organization, relying on sales revenue rather than direct Congressional appropriations to finance its operations

- NWCF improves cost awareness, promotes cost management & increases flexibility
  - Generates adequate revenue to cover cost of operations
  - Operates on a break-even basis

Optimizing our people, processes and tools to rapidly deliver IW solutions
Organized Around Teams

Integrated Product Team (IPT) competencies cooperatively functioning together to produce goods and services

- **Fleet C4I and Readiness**
  - Charlie Adams, SSTM

- **Expeditionary Warfare**
  - Kevin Charlow, SSTM

- **Enterprise Systems**
  - Patrick Fitzgerald, SSTM

- **Shore C2ISR and Integration**
  - Bruce Carter, SSTM

- **Science and Technology Department**
  - Dr. Suzanne Huerth, SSTM

5 Depts — 120 IPTs — 436 Projs

Top Occupational Series (60%)
- IT Specialist (20%)
- Electronics Engineer (12%)
- Computer Scientist (11%)
- Electronics Tech (9%)
- Management & Program Analyst (8%)

Competencies (people, processes and tools)

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10 U.S.C. § 2371b authorizes DoD to carry out transactions for prototype projects other than a procurement contract, or cooperative agreement

Authorizes "Other Transaction for Prototype Projects"

Prototype projects directly relevant to enhancing the mission effectiveness of military personnel and the supporting platforms, systems, components, or materials proposed to be acquired or developed by the DoD, or for the improvement of platforms, systems, components, or materials in use by the armed forces

IWRP:
- Enables rapid research for IW
- Prototype projects in the area of IW
- Increases access to innovative commercial solutions for defense requirements
- Fosters innovation with non-traditional industry partners
- Allows Prototype consideration through Industry initiated Ideas

OTA:
- Greatly increase speed to award
- Reduce barriers to competition
- Increase access to innovative commercial solutions
- Leverage advanced commercial technologies

Advancing Naval IW through rapid prototyping on a global scale
Focusing on underlying technologies that advance Naval IW capabilities through a consortium that can support research, development and prototyping
Dashboard as of 14 Nov. 2019

Members
- Traditional: 338
- Nontraditional: 105
Total: 443

Workflow by Customer
- LANT: 12
- PAC: 30
- Other: 3
Total: 45

Members by Technology Area
- Battlespace Awareness: 278
- Integrated Fires: 187
- Assured Command and Control: 176
- On-Demand Manufacturing: 157
- Model Based Systems Engineering (MBSE): 157
- Mobility: 189
- Internet of Things: 228
- Autonomy: 215
- Collaboration and Networking: 215
- Enterprise Resource Tools: 200
- Cloud Computing: 178
- Assured Communications: 318
- Data Science / Analytics Technologies: 292
- Cyber Warfare: 278

Prototype Requests by Technology Area
- On-Demand Manufacturing: 5
- Model Based Systems Engineering (MBSE): 5
- Mobility: 3
- Integrated Fires (IF): 1
- Enterprise Resource Tools: 13
- Data Science/Analytics Technologies: 9
- Cyber Warfare: 13
- Cloud Computing: 15
- Battlespace Awareness (BA): 2
- Autonomy: 12
- Assured Communications: 4
- Assured Command and Control (AC2): 16

Cutoff for QID 6 is 5 February

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FY19 IWRP Execution

64 Total FY19 Prototypes opportunities offered
8 Number of Non-NAVWAR Navy organizations using IWRP
3 Awards made
6 Awards currently in progress
56 Proposals placed in the Basket (2 awards from the basket in FY19)
$35 M In awarded prototype ceiling
$1.1 M Average dollar amount per prototype award
157 Average number of days for a prototype award from inception
42 Days for the fastest award

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FY20 Forecasting

- Forecasting a 100% increase in workflow over FY19
- Forecasting $50-60M in prototype awards
- Forecasting 1-2 successful prototypes from FY19 moving to production
Points of Contact
To become a member of the IWRP consortium go to https://www.theiwrp.org

NIWC Atlantic
- Don Sallee – Program Manager
  - donald.sallee@navy.mil
- Lisa Rosenbaum – Agreement Officer
  - lisa.rosenbaum@navy.mil

NIWC Pacific
- Vince Squitieri – IWRP IPT Lead
  - vincent.squitieri@navy.mil
- Sharon Pritchard – Agreement Officer
  - sharon.pritchard@navy.mil

FY20 Schedule

1st QID
Charleston SC
30 October

GMM
Charleston SC
29 October

December 11/12
CDCA
Annual Mtg

2nd QID
San Diego, CA
5 March

Virtual
Collaboration
April 28-30

3rd QID
(TBD)

Virtual
Collaboration
August 18-20

FY20

Jun Jul Aug Sep

Oct Nov Dec Jan

Feb Mar Apr May Jun Jul Aug Sep

Oct Nov Dec

FY21

*Note: Align FY21 1st QID with SBIOI in October
Engagements with Industry and Academia

▼ Formal Initiatives with Industry

- Contracts Industry Council: CHAS (bimonthly)
- **Industry Days CHS/HR (As Required)**
- IWRP Industry Days (Qtr)
- Technology Exchanges CHS/HR (Qtr)
- Small Business Industry Outreach Initiatives (SBIOI): CHAS (Qtr)
- Women in Defense Speed Networking: CHAS (Qtr)
- NOLA Small Business Event: NOLA (Annually)
- **Tidewater Assoc. of Service Contractors: HR (Annually)**
- AFCEA WEST: SD (Annually)
- **DON IT Conference East Coast: HR (annually)**
- DoN Gold Coast: SD (Annually)
- **Sea Air Space: DC (Annually)**
- Salute to Small Business (SBA): Columbia, SC (Annually)
- **ONR S&T: DC (Annually)**
- C5ISR: CHAS (Annually)
- Society of Military Engineers (SAME) SB Conference CHAS (Annually)
- SC Research Authority (SCRA) SB Outreach: CHAS (As Requested)
- Small Business Dev. Center Training: CHS/NOLA (Qtr)
- Monthly Industry Luncheons (As Requested)

▼ Informal Initiatives with Industry

- Weekly one-on-one meetings (as requested) in conjunction with the Small Business Development Center: CHS/NOLA/HR
- Daily emails/calls

Industry Resources

For the innovators
http://www.defenseinnovationmarketplace.mil/navy.html

Doing Business with NAVWAR
NAVWAR e-Commerce Central (E-CC)
https://e-commerce.sscno.nmci.navy.mil

NIWC Atlantic Public Page
http://www.public.navy.mil/navwar/Atlantic/Pages/ForIndustry.aspx

▼ Formal Initiatives with Academia

- Cooperative Research and Development Agreements (as required)
- Partnership Intermediary Agreements (as required)
- Patent License Agreements (as required)
- Commercial Service Agreements (As required)
- Educational Partnership Agreements
Hampton Roads
Cultivating the Next Workforce

Our volunteers “Making a difference in student's lives”

and “Making a difference in our community”
Combined Federal Campaign — Toys for Tots — Clean the Bay — Food Drives — Blood Drives — Community Information briefs — Regional economic development group engagements
Serve our Nation by delivering information warfare solutions that protect national security.

WIN THE INFORMATION WAR.
Addition Information

Backup
Fleet C4I and Readiness Division

Ensuring Information Warfare superiority through collaboration, alignment and engineering excellence.

- Battlespace Awareness (PMW 120)
- Information Assurance and Navy Cybersecurity (PMW 130)
- Command and Control and Afloat Applications (PMW 150)
- Navy Afloat Networks (PMW 160)
- Navy Afloat Transport and Navigation (PMW 170)
- Foreign Military Sales / Air Integration / Coast Guard (PMW 740)
- Surface Ship Integration (PMW 750/760)
- Submarine Integration (PMW 770)
- Shore C4I Integration (PMW 790)
- Fleet Installations and Response

Major Sponsors
- PMW 120
- PMW 130
- PMW 150
- PMW 160
- PMW 170
- PMW 740
- PMW 750/760
- PMW 770
- PMW 790
- FRD
- NAVSEA
- NAVAIR
- USCG
- Fleet Cyber
- Numbered Fleets

Fleet C4I and Readiness Department

FY19: 1,677 FTEs
150 Programs / Projects

- Engineer (design, develop and test) new C4ISR capabilities that give our Fleet an advantage over adversaries.
- Integrate C4ISR systems into the U.S. Navy’s newest and most advanced ships and submarines.
- Install C2, intel, communications, networks and applications for the Fleet.
- Support Fleet C4ISR systems to maintain operational availability and complete lifecycle engineering.

July 9
CENTRIX Support for COMSUBPAC – RIMPAC 2018

November 2019
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Expeditionary Warfare Department

ExW Department
FY19: 573 FTEs
62 Programs / Projects
- Deliver Information Warfare capabilities to the Marine Corps and Special Operations Command
- Provide full spectrum C4ISR systems and services to Marines and Special Forces
- Engineer end-to-end C4ISR systems in tactical vehicles
- Develop and sustain Enterprise IT system capabilities and solutions

Expeditionary Warfare Divisions
Rapidly delivering C4ISR, Cyber and IT systems and engineering services to meet the Information Warfare needs of the Marine Corps and Special Operations Command.
- Expeditionary Enterprise Systems and Services Division
- Expeditionary Intelligence Solutions Division
- Marine Air Ground Task Force (MAGTF) Command, Control and Communication Solutions Division
- Land Systems Integration Division

Major Sponsors
- MARCORSYSCOM
- SOCOM
- HQMC
- PEO Land Systems

Supporting Modular Open Systems Approaches for Weapon Systems, a Warfighting Imperative.

Nov 2019
Enterprise Systems Department

ES Department

FY19: 475 FTEs
44 Programs / Projects

- Provide automation through development and deployment of modern software-intensive solutions
- Local, Base and Wide Area network solutions
- Networks and Satellite Communication Gateways
- Hosting for software application and services including private and commercial Cloud services
- Provide software engineering solutions for MPT&E

Enterprise Systems Divisions

Rapidly identify and implement affordable Enterprise IT solutions by promoting innovation, developing our personnel, and forming strategic partnerships across NIWC Atlantic and with our customers.

- Data Center and Cloud Hosting Services (DC2HS)
- Manpower, Personnel, Training and Education (MPT&E) Systems
- Enterprise Business Systems (EBS)
- Infrastructure Systems (IS)

Major Sponsors

- PMW 205
- PMW 220
- PMW 240
- PMW 250
- PMW 260
- PMW 270
- PMW 280
- PMS 444
- NAVSEA 04
- Defense Information Systems Agency
- Navy Reserves
- Department of Homeland Security

DC2HS designated Navy Cloud Broker—brokering services to Amazon Web Services (AWS) today and piloting efforts. Assists the Navy in their cloud acceleration efforts.

Nov 2019
Shore C2ISR and Integration Department

Shore C2ISR and Integration Department

FY19: 704 FTEs

254 Programs / Projects

- Engineer, deliver and sustain Naval Air Traffic Control and meteorology systems worldwide
- Design, engineer and sustain IW solutions for command and control, intelligence customers
- Provide and sustain cyber-hardened electronic security and shore industrial controls systems
- Engineer, integrate and deploy advanced networking, cyber resiliency and data analytics for military health systems modernization

▼ Shore C2ISR and Integration Divisions

Engineering and fielding systems supporting operational forces overseas and readiness missions stateside.

- Defense Health Information Technology
  - Cyber Security Service Provider (CSSP)
- Industrial Controls Systems and Applications
- Special Reconnaissance, Surveillance and Exploitation
- Force Protection Solutions
  - Electronic Security Systems
- Command and Operations Centers
- Air Traffic Control Engineering
  - Provides all shore-based ATC systems (more than 72 Navy and Marine Corps facilities)

Major Sponsors

- Commander, Navy Installations Command
- Marine Corps Installations Command
- Naval Air Systems Command
- Naval Facilities Engineering Command
- Defense Health Agency
- Defense Logistics Agency Energy

NIWC Atlantic joined NAVSUP Defense Fuel Support Point (DFSP) team to celebrate the completion of the Automated Fuel Handling Equipment (AFHE) upgrade.

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Science and Technology Department

FY18: 59 FTEs

52 Programs / Projects

- Technical mgmt., research and development, and integration support to develop advanced technologies that ensure technological superiority for the Navy, Marine Corps and Joint Warfighters.

- Develop, motivate and sustain partnerships with industry and academia to expand research opportunities, recruitment and promote technology transfer to/from the private sector.

- Analyze C4ISR and Space systems to identify gaps in capability; assist in strategic roadmaps to future technology development.

- Rapidly prototype and demonstrate capabilities that address emergent Naval technology needs.

Science and Technology Lead Managers

- Researching, prototyping and managing advanced technology development ensuring technical superiority
  - Defense Advanced Research Project Agency (DARPA)
  - The Office of Naval Research (ONR)
  - Naval Innovative Science and Technology Program
  - Joint Capability Technology Demonstrations

Major Sponsors

- Defense Advanced Research Projects Agency (DARPA)
- Office of Naval Research (ONR)
- Office of the Secretary of Defense (OSD)
- Navy Tactical Exploitation of National Capabilities (TENCAP)

Advanced Naval Technology Exercise (ANTX) East.
Demonstrated nine exploratory technologies