

Naval Information
Warfare Center



ATLANTIC

Naval Information Warfare Center Atlantic

5.0 Engineering Overview

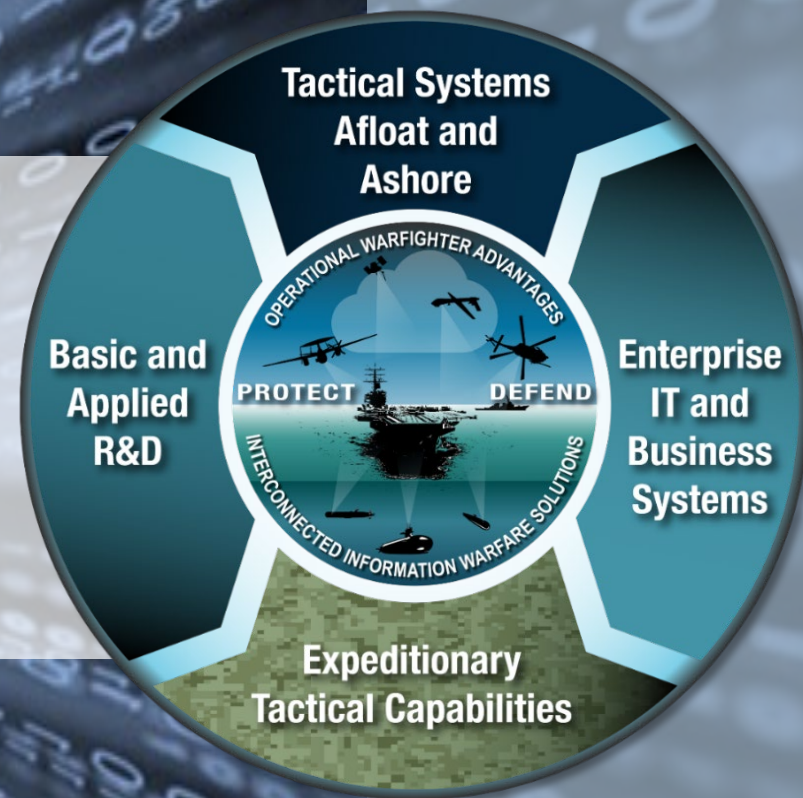
CDCA Strategic Business and Industry Outreach
Initiative (SBIOI) Symposium

11 March 2025

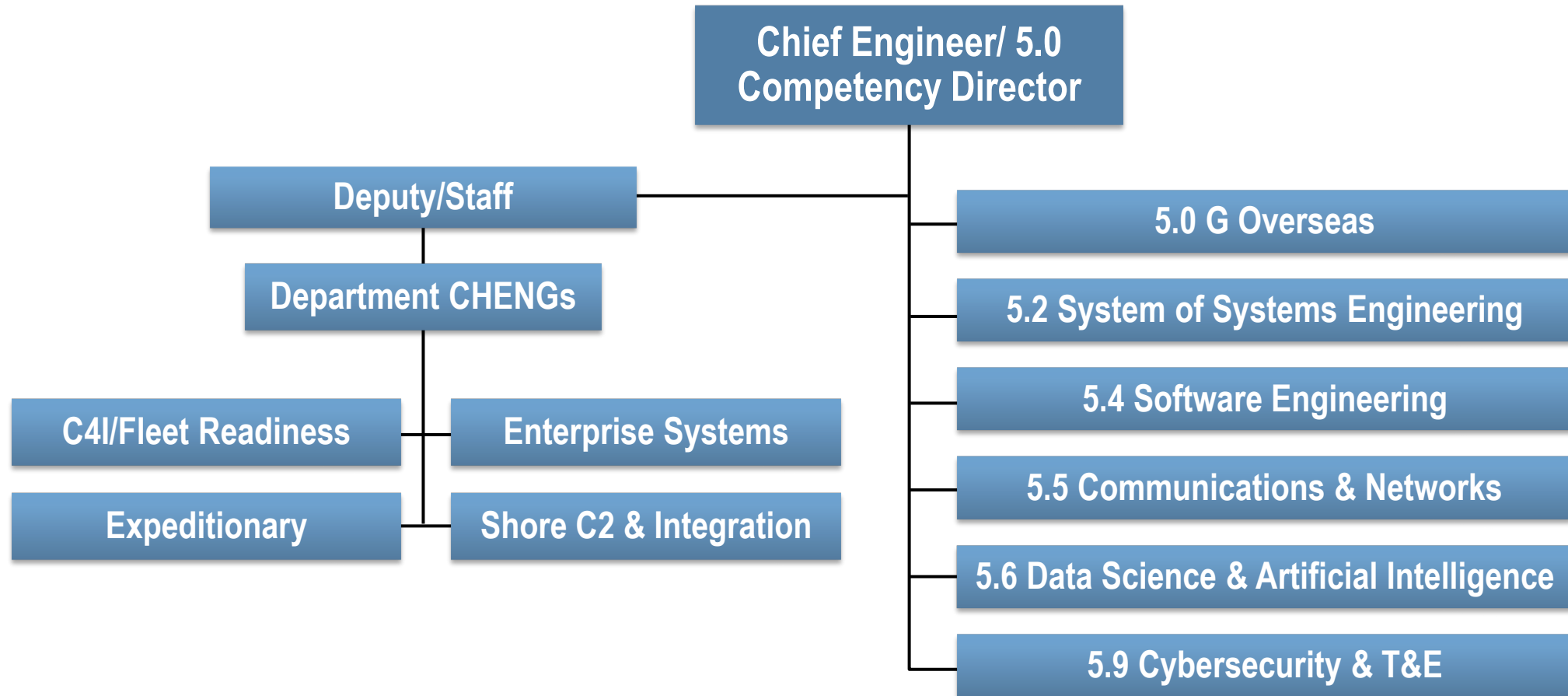
Mr. Erick Fry, SSTM

NIWC Atlantic

Engineering Competency Director/Chief Engineer

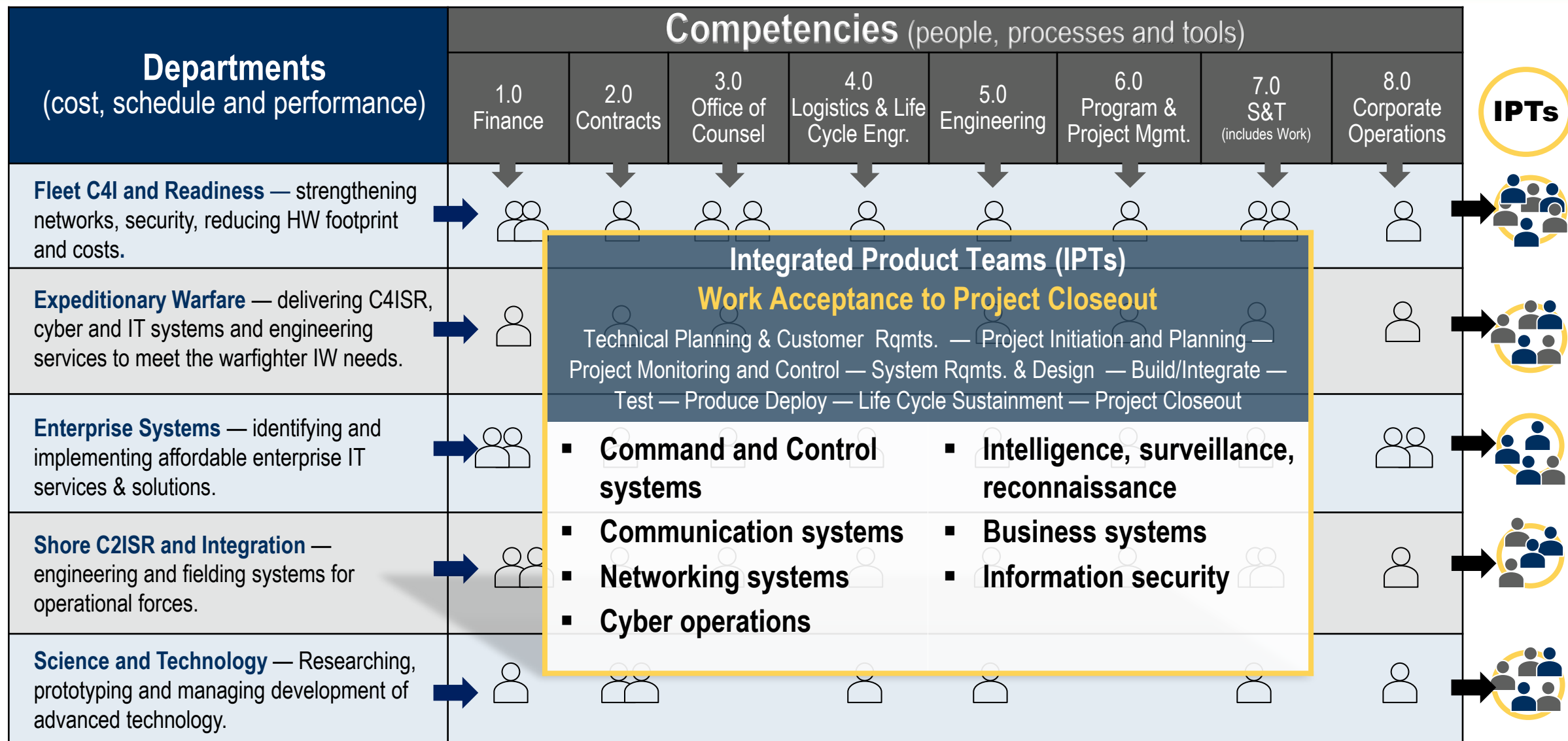


NIWC Atlantic Engineering Competency



What We Do

To ensure a competitive edge over our adversaries



Technology Focus Areas to Achieve Technology Goals

Technology Strategy and TFA analysis drives work acceptance and lab/facility infrastructure allocations and tools.



Artificial Intelligence: Provide warfighters with analytics-driven, data-informed, and technology-empowered capabilities to drive decision advantages and optimal mission outcomes.



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



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



Cybersecurity: Provides protection from unauthorized use of and/or defends electronic data, hardware, software from disruption or of the services they provide.



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



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

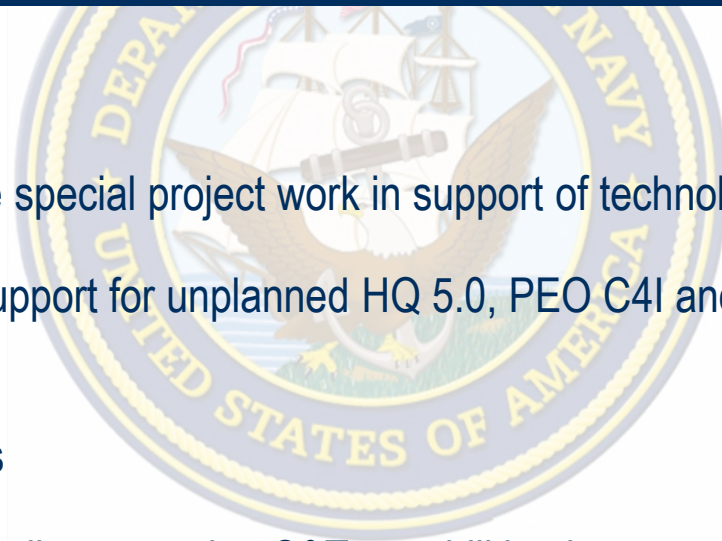
Direct Work IPT Overview

Scope:

- *Provides a project and financial framework to support execution of a variety of NAVWAR 5.0 and other sponsor enterprise-level IW initiatives.*
- *Efforts are focused on warfighter mission threads, requirements management, architecture, design, modeling and simulation, development, technology and process assessments, cybersecurity, test and evaluation, technical authority support, and enabling technical infrastructure*

Key Areas (Project Unit):

- **Digital Engineering Transformation Work** — Execute special project work in support of technology focus areas
- **NAVWAR Emergent Tasking** — Provide short duration support for unplanned HQ 5.0, PEO C4I and PEO Digital requirements & SETR event
- **HQ Support** — Provide SME support to support HQ TA efforts
- **Naval Research Lab** — Strategic partnership with NRL to realize emerging S&T capabilities into practical capability



52 System of Systems Engineering Competency

Advanced Warfighting Capabilities

- Advanced Capabilities Development
- Expeditionary C3 SE
- Expeditionary ISR SE
- Future Concept Development

Platform Engineering

- Expeditionary Vehicle Design and Integration
- Surface Ship C4I
- Large Deck C4I Engineering
- Navigation Engineering

Force Protection & Operations Systems Engineering

- Electronic Security Systems
- Geospatial & Public Safety Engineering
- Command Centers
- Audiovisual & Collaborative

Mission Critical Systems

- Naval and Joint C2
- Enterprise Systems Engineering
- ATC Systems Engineering
- ATC Operations & NAVFIG

Vision: Cultivate growth and an information sharing mindset that accelerates a digital engineering awakening and empowers our workforce with intellectual freedom to relentlessly innovate the naval warfighting digital competitive advantage

Key Initiatives

Overmatch IW Advisory Cell

- Provide a prioritized list of Fleet capabilities to improve the Navy's IW posture

Naval Operational Architecture Program Support

- Provide mission modeling for the Navy and USMC to inform POM and FYDP decisions

Fleet Kill Chain Program Support

- Provide mission modeling for the Navy and USMC to inform POM and FYDP decisions

Target Enterprise Architecture

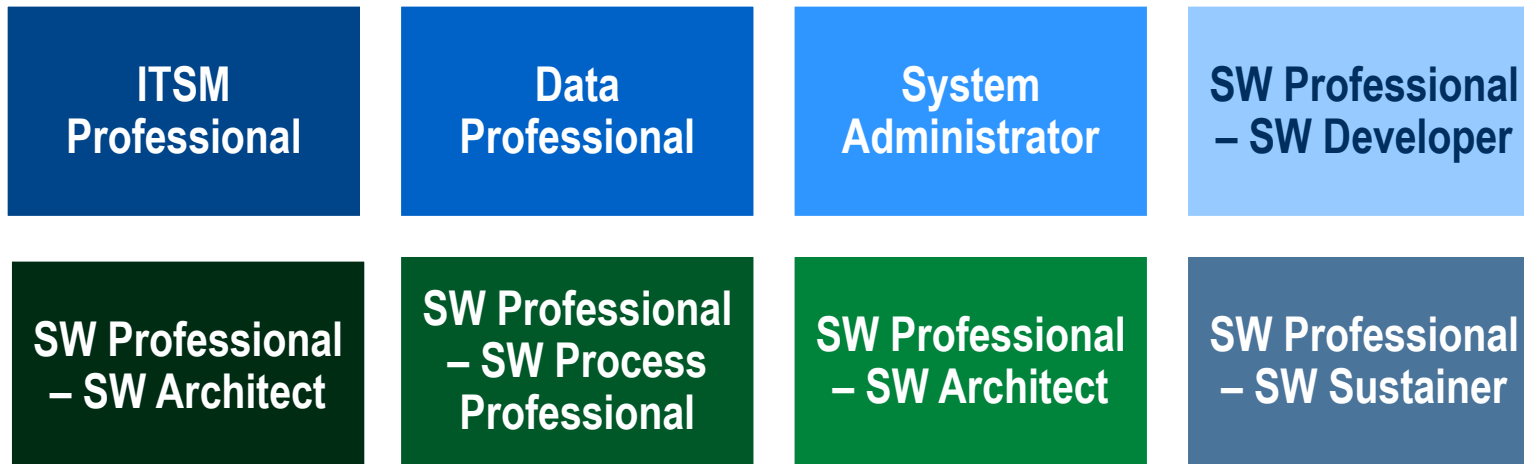
- Provide model-based framework that can be modified as needed to fit mission requirements.

54 Software Engineering Competency

▼ Mission

Successful coordination across all aspects of software and computer engineering to provide the right solutions to our customers.

Major Roles



Key Initiatives

Strategic Investment in Cyber, Cloud and DevSecOps practices and technologies

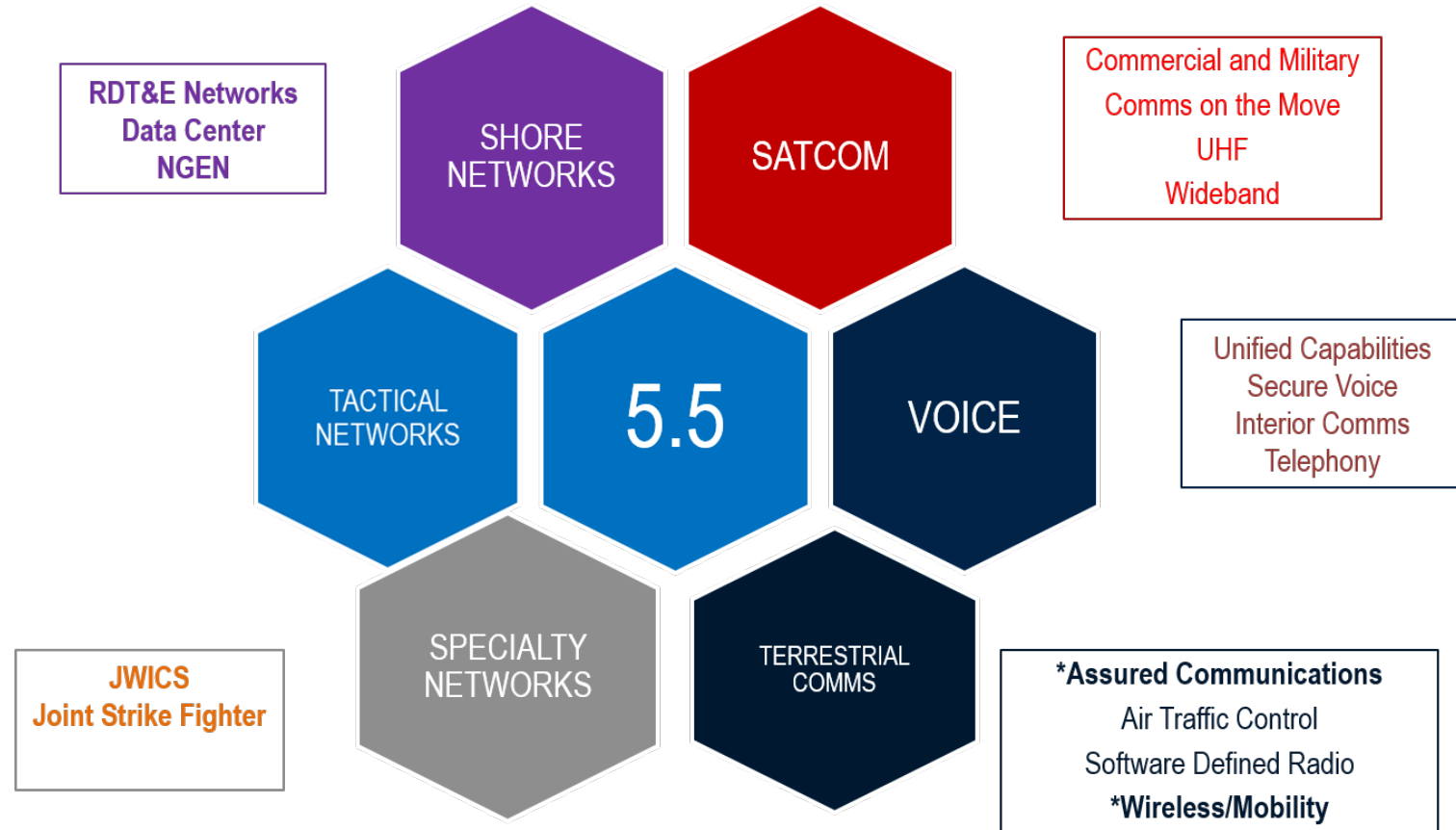
- Test automation
- User-Centered Design
- Lean IT management
- Cloud-based Defensive Cyber Ops Environment

DevSecOps and Cloud Communities of Practice DON Strategic Intent for Software Modernization

55 Communications and Networks Competency

- ▼ Our communications solutions include a full range of wired, wireless and unified capabilities products and services for mobile, fixed and enterprise level systems.

Our network solutions include network, systems and information design and services.



56 Data Science & Artificial Intelligence Competency



“Revolutionize Naval Decision-Making”

Internet/Network of Things

*Sensor Integration & Fusion
Smart, Connected Devices
Instrumentation/Monitoring/Observability*

Data Science-as-a-Service

*Pilots/Experiments/Design Thinking
Data Strategy/Governance/KPIs
Data “Site Surveys”
Agile/DataOps*

Enterprise Domain Applications

*Readiness & Healthcare
Business/Finance
Maintenance/Logistics/Safety*

(Big) Data Platforms

*Data Architecture/I&I
ETL & Data Pipelines
Digital Twin/M&S*

Applied Artificial Intelligence

*Algorithm Integration
Natural Language Processing (NLP)
Automated Decision Aids
Autonomy/Human-Machine Teaming*

Warfare Domain Applications

*C2/ISR/Cyber/EMW
Biometrics
Combat & Targeting*

Key Initiatives

Data/AI Workforce

- Partnering with CDAO, DON CIO, USN/USMC leadership to recruit, train, retain, and identify talent in critical data and AI skillsets from executives to operators

Data/AI Engineering Standards

- Working with DON CIO, NR&DE/NAVWAR, and PORs to add rigor to engineering/assessing data and AI systems

Data/AI Team & Service Standards

- Developing service models where customers come in with use cases and receive dedicated support from cohesive data/AI teams

5.9 Cybersecurity , Test & Evaluation Competency

▼ Mission

We ensure NIWC Atlantic delivers capability with the functionality and the security the warfighter and our customers need to execute their Mission

T&E: *Prove it Works* Cybersecurity: *Ensure it is Secure*

5.9 Skills

- **Secure Software Assessor**
- **Security Architect**
- **Cyber Defense Analyst**
- **Cyber Defense Infrastructure Support Specialist**
- **Vulnerability Assessment Analyst**
- Cyber Defense Forensics Analyst
- **Cyber Defense Incident Responder**
- Crypto Key Management/Public Key Infrastructure
- **Systems Security Analyst**
- **Information Systems Security Manager**
- Security Controls Assessor / Validator
- **SW Developmental Tester**
- **Human Systems Integration (HSI)**
- Electromagnetic/Environmental Testers
EMI, TEMPEST, PDS, RADHAZ, shock and vibration

Demographics (8/1/2024)

End Strength	Education
<ul style="list-style-type: none"> ▪ 689 Employees ▪ 534 Cybersecurity ▪ 155 T&E ▪ T&E 155 	<ul style="list-style-type: none"> ▪ 1% PhD ▪ 29% Masters ▪ 44% Bachelors ▪ Certification: Highly Certified workforce
Series	Location
<ul style="list-style-type: none"> ▪ 5% NM (Supervisors) ▪ 36% ND (Engineers/Scientists) ▪ 56% NO (IT Specialists) ▪ 3% NR (Technicians) 	<ul style="list-style-type: none"> ▪ 63% SC ▪ 21% VA ▪ 3% DC ▪ 4% LA ▪ 9% OTHER (CT, FL, Distant remote)

Vision

Service

- Provide the most capable, premier, and world-class Technical Services. We are here to Develop the careers (yours) that our Nation requires.

Community

- Strengthen Relationships – Companionship – Trust. We want a strong Team. Teams drive success.

Purpose

- Who we are. What we do. Where we're going. We want to ensure everyone understands the importance of our work/responsibilities. Increase Mission understanding.

59 Cybersecurity, Test & Evaluation Competency

Test, Cyber, and Forensics (TCF) Service Center

We offer unique Test and Evaluation and Cyber Security services that are uncommon in both government and private industry.

▼ EMI/EMC

Test and Evaluation services for identifying systems generating excessive emissions, susceptibility to RF signals, and provide design improvements

▼ Environmental

Test and Evaluation Services for hardening and verification of performance specifications

▼ RF Test Facility

Test and Evaluation services for vehicle integration and stand-alone transmitter/antenna systems

▼ TEMPEST

Study and control of unintended compromising emanations that bear intelligence for all DOD classified information processing systems and facilities

▼ E3 Analysis

Test and Evaluation services performing RADHAZ surveys, EMI/EMC site analyses, and RF occupancy studies, Spectrum Certification Reviews

▼ E3 Training

Formal Course Development (Class-Room) and Electronic Course Development (Joint Knowledge Online) for Fleet Spectrum Manager Courses

▼ Red Team

The NAVWAR USCYBERCOM Accredited Cyber Red Team. A certified RT is permitted to cross DODIN boundaries.

▼ Cyber Forensics

Fully Accredited Cyber Forensics and Data Recovery Laboratory

▼ RMF Validation

Independent third-party assessment and validation of security control procedures, threats, and vulnerabilities. RMF Step 4 Risk Assessment accountability

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ATLANTIC

Mission:

Conduct research, development, prototyping, engineering, test and evaluation, installation, and sustainment of integrated information warfare capabilities and services across all warfighting domains with an emphasis on Expeditionary Tactical Capabilities & Enterprise IT and Business Systems in order to drive innovation and warfighter information advantage.

Vision:

WIN THE INFORMATION WAR.

[Learn More https://www.niwcatlantic.navy.mil](https://www.niwcatlantic.navy.mil)

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NIWC Atlantic is part of the Naval Research & Development Establishment (NR&DE)