

Naval Information
Warfare Center



ATLANTIC

Naval Information Warfare Center Atlantic

C5ISR Acquisition Engineering Integration (CAEI)

20 March 2024

Mr. John Oldfield

47000 Senior Competency Manager
Naval Information Warfare Center (NIWC)
Atlantic

INFORMATION WARFARE RESEARCH PROJECT
CONSORTIUM

What is C5ISR Acquisition Engineering Integration (CAEI)

- ▼ We are an organic production capability within NIWC Atlantic
- ▼ We provide Government customers with:
 - Prototyping/first article builds
 - Full rate production
 - Kitting
 - Cable fabrication
 - Rack-system integration services
 - Technical Development Package development support
- ▼ We do leverage industry partners to perform some material procurements, assembly, staging areas, and test and check out.
- ▼ We currently do not perform integration services into operational settings

Systems that CAEI Plays a role:

- ▼ Submarines
 - CSRR, CANES
- ▼ Surface Ships
 - CANES, DCGS-N, NTCSS, GCCS-M, FMS, GBS
- ▼ Expeditionary Vehicles
 - MTRV, LVSR, JLTV, MRAP, JCREW, CIED, NOTM, FoLAV
- ▼ Mobile C4ISR
 - SDN, GATR, ANTRC-214, TRSS
- ▼ Shore Sites
 - VIDS, CYS, ESS, Datacenters

Why are we talking about CAEI today?

NIWC Atlantic is looking to the future to reimagine how we perform a CAEI Capability

- ▼ CAEI's program management approach combines a robust management system with ongoing development and improvement, helping to mitigate significant risks to project execution
- ▼ CAEI Seeks
 - Project Standardization
 - Unique ability to provide design support that gives Gov't/Customers ownership of the technical data
 - Focus on detailed project planning minimizes future changes to cost, schedule, and scope
 - Institute common design and production practices across NIWC Atlantic
 - Supports Emergent and Surge production rqmts at both NIWC Atlantic locations
 - Able to store and ship material to ashore, surface and subsurface platforms as required
 - Leverage economies of scale in material and work execution
 - Support the development and improvement of production processes



Detailed Core Services from CAEI

▼ Design/Configuration Support:

- Using Government furnished information we provide engineering and technical support in the area of C5I Platform design including engineering analysis and evaluations for Environmental Qualification Testing (EQT) and optimal configuration baselines

▼ Cable Fabrication:

- In the past ten years, CAEI Cable Fabrication has produced over 700,000 custom cables

▼ Engineering Services:

- We shall provide engineering studies to analyze and report on best methods to meet the ever-evolving system build-up and integration workloads

▼ Integration:

- CAEI will build, inspect and/or repair as needed rack components and will provide comprehensive feedback regarding form fit and function

▼ Kitting:

- Procure, fabricate, and assemble parts, brackets, and cabling necessary to support components for proper system operation

▼ Production Support:

- Trained and vetted staff complete beginning to end production requirements on all our quality-controlled deliverables

▼ Additional Capabilities and Roles

- Project Oversight
- Production, Cost, Configuration, Quality, Logistics, and Risk Management
- Project Material Support
- Schedule, Material Status, Contract package status, Quality, and Document Controls
- Material Procurement
- NMAC/FIAR Compliant Material Management
- Real time status through the CAEI SharePoint web portal
- Assistance with contract package development
- Communication Planning
- Minimum weekly contractor status meetings
- Minimum weekly customer information meetings
- Implementation of a standard production management methodology on all of our projects
- Contractor Performance Tracking
- Contract Management

Samples of Current CAEI Projects

Common Submarine Radio Room (CSRR)

System Overview

CSRR provides a common communication system across all classes of submarines and is designed to support the steady infusion of new technology with incremental modernization and replacement of obsolete equipment.

Services Provided

- Integration
- Kitting
- Cable fabrication
- TDP Review & Design feedback
- Production and installation of test beds
- Dockside and ECS COATS installation
- Storage and shipping of kits to platform
- Configuration Verification/Bench Test (CV/BT)
- PITCO & SOVT Support



Consolidated Afloat Networks and Enterprise Services (CANES)

System Overview

CANES is the Navy's next generation tactical afloat network. CANES represents the consolidation and enhancement of five shipboard legacy network programs to provide the common computing environment for more than 40 command, control, intelligence and logistics applications.

Services Provided

- Integration
- Prototyping (Additive and subtractive)
- Cable fabrication
- Design support for mechanicals
- TDP development and sustainment
- Testing support
- Storage and shipping of systems to platform



Samples of Current CAEI Projects Continued

Fly Away Broadcast System (FABS)

System Overview

FABS is a transit case fly-away broadcast system that consists of a combination of AM, FM, SW, cellular, and TV transmitters. It is essentially a radio station in a box.

Services Provided

- Integration
- Cable fabrication
- TDP development
- Testing support
- Storage and shipping of systems to platform



Navy Tactical Command Support System (NTCSS)

System Overview

NTCSS is tactical command support information system for management of ships, submarines, aviation squadrons and intermediate maintenance activities (afloat and ashore). NTCSS provides the unit commanding officer and crew with the ability to manage maintenance of the ship/aircraft, parts inventory, finances, manuals and drawings.

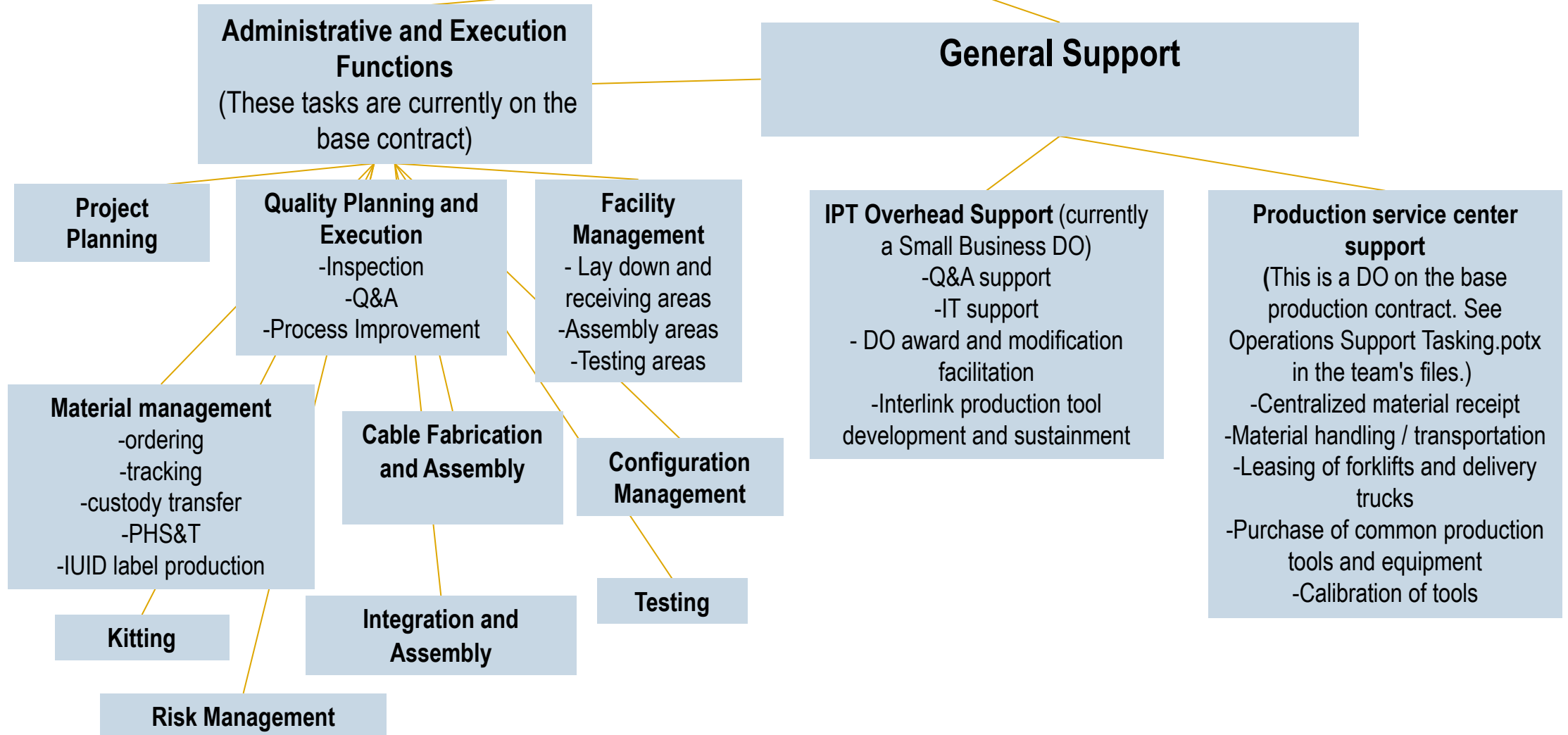
Services Provided

- Integration (rack, kitting & transit cases)
- Prototyping (Additive and Subtractive Manufacturing)
- Cable fabrication
- Design & sustainment support (cradle to grave)
- TDP development and sustainment
- Testing support
- Software pre-loading and PITCO
- Storage and shipping of systems to platform



Current

NIWC Atlantic Corporate Production



*Naval Information
Warfare Center*

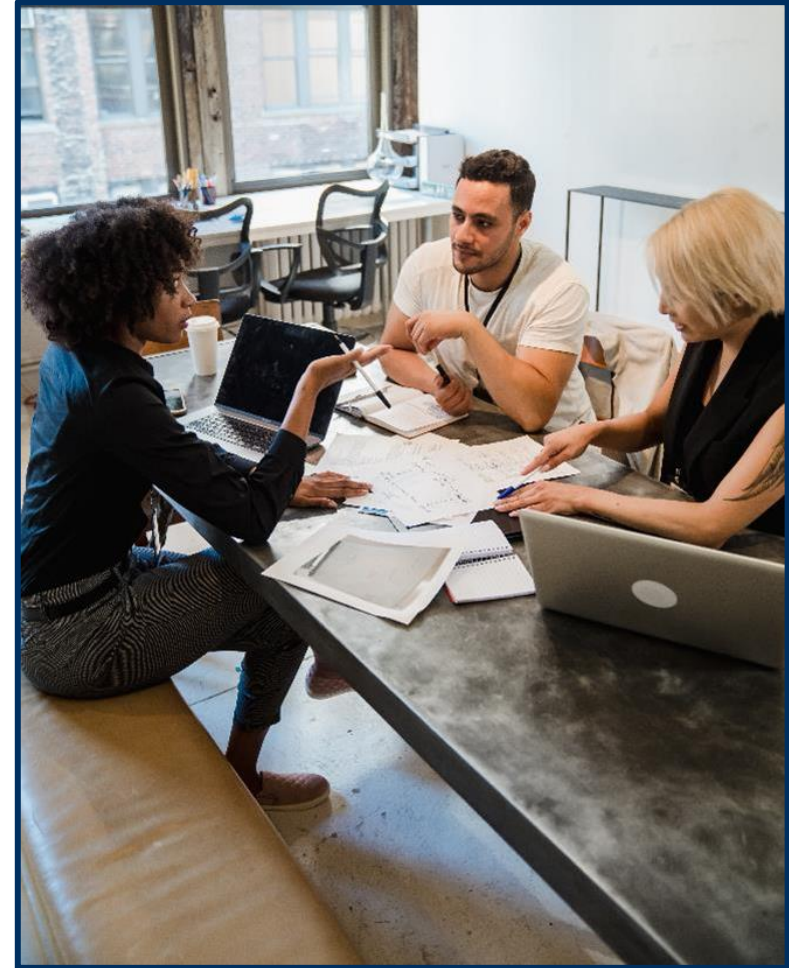


ATLANTIC

C5ISR Acquisition Engineering Integration (CAEI) Future State

CAEI Future State Capabilities

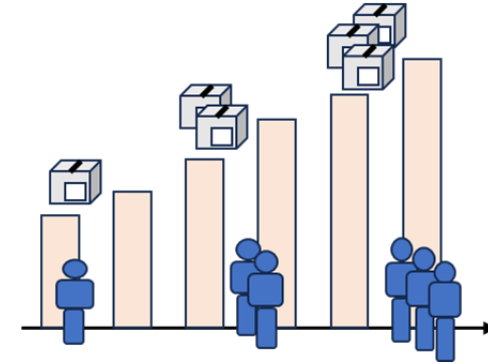
- ▼ OCONUS Work
- ▼ Top Secret (TS) Facility Security Clearance (FCL) capability
- ▼ On-Demand Manufacturing
- ▼ Prototyping
- ▼ Conformal Coatings / Silk Screening
- ▼ Quick Action / Technical Direction Letters
- ▼ Shift Changes
- ▼ Infrastructure Design



CAEI Future State Capabilities

▼ Need for Contract/ Acquisition Flexibility

- Allowance for surge and emergent capability deliverers
- Need to scale production capabilities rapidly
- Using on demand geographical positioned production capabilities to support a variety of NIWC Atlantic capabilities



▼ Space and Facilities

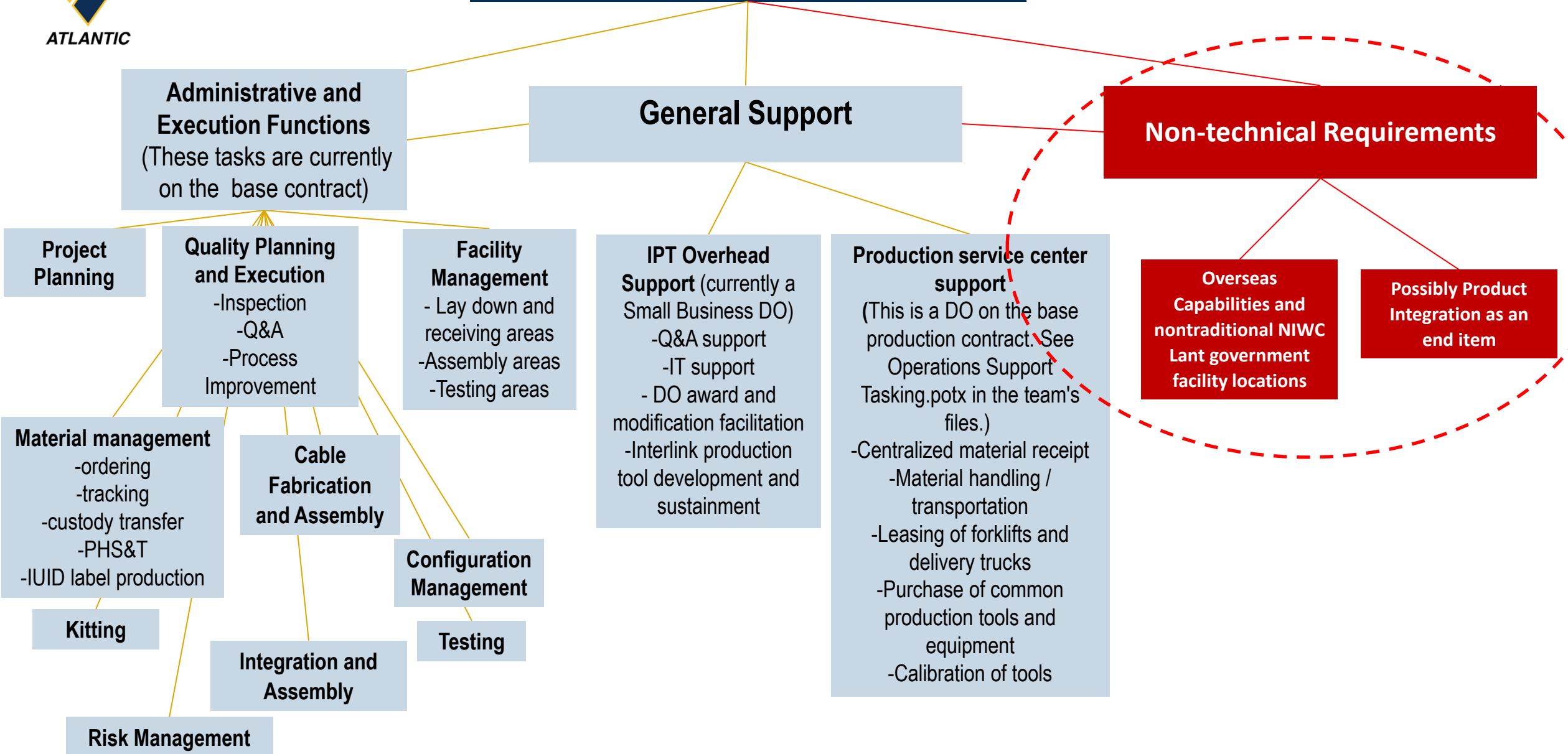
- Fabrication, assembly, assembly, and test and checkout capabilities up to a Top Secret Facility Clearance Level (FCL)
- Potential increase of current facilities spaces of 120,000 SQ FT. (mixture of both Secret and TS FCLs)
- Allowance for reconfiguration/retooling of production spaces to meet dynamic production requirements.
- Opportunities for secure outside laydown spaces

▼ Personnel

- Quick response to surge demand
- Highly-skilled production personnel available from outside CAEI through industry partnerships

NIWC Atlantic Corporate Production

Desired Future State



What are we asking from Industry through this engagement

- ▼ Need feedback on current capabilities at NIWC Atlantic Geographical Locations
- ▼ What ancillary CAEI activities should we be including/or considering into the future
- ▼ What are best practices for efforts similar to CAEI
- ▼ Support the forthcoming RFI
- ▼ Future postings will be on [eCommerce/sam.gov](https://www.eCommerce.gov)

*Naval Information
Warfare Center*



ATLANTIC

Questions?