**Partnership:** RI Defense & Cybersecurity Partnership

**Synopsis:**

- Continue to convene, advance, and identify workforce challenges of RI defense sector with specialized focus on Undersea Technology and Cybersecurity.
- Early stage interventions in CTE and with STEM-focused Students and Job Seekers
- Parallel workforce and economic development investments and strategies
RI Defense Cluster

An Important Economic Engine for Rhode Island

Comprehensive Plan for Real Jobs RI

September 2016
RI Defense Cluster
The Economic Impact

• $3.7 Billion Annual Economic Benefit to the State
• Highest RI Wage Sector
  • Military Infrastructure - average salary $95K
  • Industry – average salary $72K
• Significant Multiplier – Every 100 Defense Jobs Create Another 151 RI Jobs

Catalyst for Thought Leadership and Innovation in Undersea Technology, Cybersecurity and Defense Technologies
RI Defense Cluster

Rhode Island is home to longstanding government-sponsored defense entities such as the Naval Station Newport, the Naval War College, the Naval Undersea Warfare Center, and the Rhode Island National Guard. These public sector assets are bolstered by a developed private sector industry of large defense manufacturing firms and smaller supply-chain companies. Taken together, these entities have contributed greatly to the state’s workforce development and economy.
RI Defense Cluster – Who We Are

- **Naval Undersea Warfare Center**
  - Provides the technical foundation that enables the conceptualization, research, development, fielding, modernization, and maintenance of systems that ensure our Navy’s undersea superiority.
  - Annual Revenue ~$1 Billion
  - Civilian Payroll - $463M
  - 2,960 civilian government employees
  - 2,390 contracted work years, most in RI

- **Naval War College**
  - Missions include: educating and developing leaders; supporting future Navy and associated roles and missions; supporting combat readiness; and strengthening global maritime partnerships.
  - Graduates approximately 600 students per year from its one-year resident program and 1,000 students per year from its distance education program, and supports two international programs for foreign military students that directly support developing robust global maritime partnerships.

- **The Naval Station (NAVSTA) Newport**
  - Navy’s predominant training location for officers, officer candidates, senior enlisted personnel and midshipman candidates. There are 50 various commands located on NAVSTA Newport and ~17,000 students annually pass through.

- **RI National Guard**
  - The GUARD is comprised of two major branches: Army and Air Force. The GUARD meets its dual mission to aid both the federal and state governments by preparing its forces to serve in a myriad of military specialties and providing assistance during local and statewide emergencies and disasters, among other roles.
  - Military and civilian activities associated with the GUARD generate significant economic benefits for the state of Rhode Island.
  - $307.7 million in output
  - Supports 4,791 full and part-time jobs in Rhode Island.
  - Each $1.00 provided by the Rhode Island government to support the GUARD generated $2.70 in tax revenues for the State and $2.00 in tax revenues for local cities and towns.
RI Defense Cluster – Who We Are

• **General Dynamics Electric Boat**
  - 2014: US Navy award of $17.6B contract for the construction of 10 additional Virginia class submarines

• **Raytheon Integrated Defense Systems – Seapower Capability**
  - Provides and integrates naval combat management, airborne anti-submarine and mine warfare, and integrated ship systems. Seapower is also a provider of sensors, maritime naval navigation systems, and torpedoes for the U.S. Navy. FY2015 & FY2016 $228M in funding to the Rhode Island location.
  - Prime contractor for the Navy’s Zumwalt-class destroyer program (DDG 1000 combat system).

• **Mid to Small Industry**
  - Rhode Island hosts an array of smaller, yet pivotal, supply chain companies. For example:
    - Propel LLC is a textile company based in Pawtucket, Rhode Island. A woman-owned small business founded in 2006, Propel is focused on the development, sales, and marketing of textile driven technologies and products. Propel’s primary customers are in fire service and military markets.
    - SEA CORP, based in Middletown, Rhode Island, offers systems engineering, advanced software services and products, test and evaluation services and innovative technology research and development to a broad range of clients within the defense and manufacturing industries.
    - PURVIS Systems, located in Middletown, Rhode Island, delivers high-quality technology and communications services and systems to public safety, U.S. defense, public sector and federal organizations to help them achieve and maintain high performance.
RI Defense Cluster - Importance

**Strategic Strength**

**Undersea Technology**

**Critical Enabler**

**Cybersecurity**

Catalyst for Thought Leadership and Innovation in Undersea Technology, Cybersecurity and Defense Technologies
Undersea Technology Importance
As noted by the Chief of Naval Operations

STRENGTHEN NAVAL POWER AT AND FROM SEA:
Maintain a fleet that is trained and ready to operate and fight decisively – from the deep ocean to the littorals, from the sea floor to space, and in the information domain. Align our organization to best support generating operational excellence.

1. Maintain and modernize the undersea leg of the strategic deterrent triad. This is foundational to our survival as a nation.
Undersea Technology
RI Competitive Advantage

Secretary of Defense Ash Carter – 25 May 2016

“Undersea dominance is where the U.S. enjoys clear dominance in this world over any other competitor. We need to retain that. We need to make sure they never catch up. (NUWC employees) are taking today’s undersea dominance and projecting it into the future.”

“It used to be that undersea warfare was a domain unto itself,” Carter said. “Now, the Navy is connecting it to the rest of the Navy, the surface Navy, and to the land and air forces, which is very important, creating an integrated domain to include, by the way, the sea bed as well as the sea itself.”

Secretary of Defense Chuck Hagel – September 2014

RI “is the Silicon Valley of undersea technology”.

Catalyst for Thought Leadership and Innovation in Undersea Technology, Cybersecurity and Defense Technologies
Undersea Technology
RI Competitive Advantage
Support for SENEDIA’s Undersea Technology Innovation Center

Governor Gina Raimondo

“As the Brookings report noted, our maritime sector is one of the Rhode Island economy’s true strengths, a competitive advantage, and an industry growth area that we should continue to invest in. SENEDIA is one of our Real Jobs RI job-training partners, our industry partner for the P-TECH cybersecurity program, and a recipient of a Commerce Corporation Industry Cluster Grant. SENEDIA’s Undersea Technology Innovation Center is an exciting and very promising development for Rhode Island defense industry employers and the prospect of creating high-value, high-wage STEM jobs.”

Senator Jack Reed

“I want to ensure Rhode Island remains at the forefront of undersea technology and this new center has the potential to bring top naval suppliers together with academic and government leaders to develop cutting-edge capabilities, concepts, and technologies for our forces. The Undersea Technology Innovation Center can also give Rhode Island companies a platform to collaborate and showcase their work.”

Congressman Jim Langevin

“Between our geographic advantage and the tremendous public and private resources we already possess in the national security and defense realms, Rhode Island is perfectly positioned to emerge as a leader in undersea technology and innovation. I applaud SENEDIA for their vision in making our state a center of excellence, and I look forward to working with the stakeholders involved in this initiative.”

Senator Sheldon Whitehouse

“There could be no better place than the Ocean State to host a national hub for the development of cutting-edge undersea technology. Thanks to SENEDIA and its Rhode Island partners for their commitment to excellence in this area,” said Senator Sheldon Whitehouse. “Your work will keep Rhode Island at the forefront of maritime innovation.”
Cybersecurity – Critical Enabler

Responsibility for protecting and defending U.S. critical infrastructure in cyberspace is a shared response across Federal, state and tribal governments and the private sector.

• At the Federal level, the primary responsibility is shared by Department of Homeland Security (DHS), Department of Justice through the Federal Bureau of Investigation (FBI), and Department of Defense (DoD):
  o DoD is responsible for:
    ➢ Operation and defense of DoD information networks, protection of DoD data, and assurance of DoD missions; and
    ➢ Defense of the U.S. homeland and vital interests from disruptive or destructive cyberattacks of significant consequence
  o DHS is responsible for the security of federal networks, promoting information sharing, and protection of U.S. critical infrastructure through preparedness and response measures.
  o The FBI is responsible for response to, and investigation of, cyber incidents.

• State governments are responsible for the public health and welfare of residents.
Cybersecurity – Critical Enabler

“While we in DoD are an attractive target, the cyber threat is one we all face as institutions and as individuals.” - Secretary of Defense Ash Carter

DoD has the largest network in the world and takes aggressive steps to defend its networks, secure its data, and mitigate risks to its missions.

Strategic Goals of DoD Cyber Strategy:

• Build and maintain ready forces and capabilities to conduct cyberspace operations.
• Defend the DoD information network, secure DoD data, and mitigate risks to DoD missions.
• Be prepared to defend the U.S. Homeland and U.S. vital interests from disruptive or destructive cyberattacks of significant consequence.
• Build and maintain viable cyber options and plan to use those options to control conflict escalation and to shape the conflict environment at all stages.
• Build and maintain robust international alliances and partnerships to deter shared threats and increase international security and stability.
Outlook – RI Defense Cluster

• 66% of RI companies doing business with the Department of Defense see expansion opportunities
• 91% of companies have difficulty hiring to support their workforce needs
• Largest workforce needs: supporting undersea technology and cybersecurity
  • Staffing undersea technology positions in the Defense Sector has become a challenge in the areas of technicians and engineers, along with the support positions in test and evaluation, logistics, and configuration management. Undersea Technology Needs: Software Development; Electronic Warfare; Submarine Specific knowledge/skills: Acoustics, Sonar, Sensors, Combat Control
  • DoD has thousands of military, civilian, and contractor support personnel supporting its cyber operations, and to build the force of the future, DoD must attract the best talent, the best ideas, and the best technology to public service. DoD continues to strengthen it’s partnership with the private sector as well as the research institutions that design and build the networks of cyberspace, provide cybersecurity services, and research and develop advanced capabilities. Cybersecurity Needs: recognized IT Certification(s); have or ability to get a security clearance
  • These are important and high paying jobs and the defense sector is the highest wage sector in RI.

From SENEDIA Member Survey of 76 RI Member Companies – May 2016
Needs of the RI Defense Cluster

• **Sector/Industry Partnership**
  • Provide support to grow the RI Defense Employer Partnership, develop career pathways, provide work readiness/experiential learning opportunities, and provide workforce intelligence and system integration.

• **Workforce Development**
  • Pipeline Awareness to Attract and Retain STEM-focused Students and Job Seekers
  • Internships for Experiential Learning
  • Incumbent Worker Training to Upskill for Certifications and Technical Knowledge/Skills

• **Economic Development**
  • Business Development/Intelligence
  • Innovation Enabler

A robust skilled workforce boosts the RI Defense Sector’s impact and may lessen the likelihood of a potential Base Realignment and Closure (BRAC) action.
## Needs of the RI Defense Cluster

### Workforce Projections

<table>
<thead>
<tr>
<th>Rhode Island Labor Market</th>
<th>2014 Average Employment</th>
<th>2024 Projected Employment</th>
<th>Projected Increase</th>
<th>Average Annual RI Mean Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, All Occupations</td>
<td>506,324</td>
<td>542,400</td>
<td>7%</td>
<td>$50,772</td>
</tr>
<tr>
<td>Computer/IT Occupations</td>
<td>14,337</td>
<td>16,608</td>
<td>16%</td>
<td>$89,190</td>
</tr>
<tr>
<td>Engineer and Engineering Technician Occupations</td>
<td>6,278</td>
<td>6,754</td>
<td>8%</td>
<td>$79,497</td>
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</tbody>
</table>

http://www.dlt.ri.gov/lmi/proj/occoutlook.htm
How SENEDIA Supports the RI Defense Cluster

• SENEDIA serves as the intermediary for the RI Defense Cluster with a mission is to enable the development of innovative technology, foster associated thought leadership, and facilitate required workforce development.

• We identify cluster needs and the most effective solutions.

• We manage public and private grants in support of the cluster needs.
How SENEDIA Supports the RI Defense Cluster

**Awareness and Education Outreach**

- Defense Industry Partnership
  - Real Jobs RI

  - For:
    - Industry/Sector Partnership and Advocacy
    - K-12 Career/Industry Awareness in Defense, Cybersecurity, and Undersea Technology
    - P-TECH Industry Liaison
    - High School Career Fairs
    - RI Skills for Youth Career Readiness
    - Industry-Academia Roundtable
    - Ed Programs Outreach & Support: CyberPatriot, SeaPerch, CS4RI, RIDE CTE Engineering/Robotics Subcommittee

**Workforce Development**

- Defense Industry Partnership
  - Real Jobs RI
  - van Beuren Foundation

  For:
  - Post-Secondary Industry Awareness
  - Internships
  - Certification Trainings
  - Undersea Environment Training for new and incumbent workers
  - Veterans Career and Job Fairs
  - Assessment and Placement

**Economic Development**

- Commerce RI
  - Real Jobs RI
  - van Beuren Foundation

  For:
  - Undersea Technology Innovation Center
  - Business Intelligence for Small Businesses
  - IP to Market Technical Assistance
Requested Support from RI to Ensure the Health of the Defense Cluster

• Defense Industry Partnership – RI Department of Labor and Training
  • Industry Outreach
  • Education Outreach

• Workforce Development – RI Department of Labor and Training
  • Cybersecurity
  • Undersea Technology
  • P-TECH Industry Liaison

• Economic Development – Commerce RI
  • Business Intelligence for Small Businesses
  • Undersea Technology Innovation Center
### RI Support Requested

<table>
<thead>
<tr>
<th>Need</th>
<th>FY2017 (Current Year)</th>
<th>FY2018</th>
<th>FY2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defense Industry Partnership (includes P-TECH Liaison) (RIDLT)</td>
<td>$109K</td>
<td>$150K</td>
<td>$150K</td>
</tr>
<tr>
<td>RJRI – Cyber (RIDLT)</td>
<td>$138K</td>
<td>$125K</td>
<td>$125K</td>
</tr>
<tr>
<td>RJRI – Undersea Technology (RIDLT)</td>
<td>$40K</td>
<td>$50K</td>
<td>$50K</td>
</tr>
<tr>
<td>Industry Cluster (Commerce RI)</td>
<td>$109K</td>
<td>$110K</td>
<td>$110K</td>
</tr>
<tr>
<td>Undersea Technology Innovation Center</td>
<td>$75K (currently private $)</td>
<td>TBD (Commerce RI &amp; Private)</td>
<td>TBD (Commerce RI &amp; Private)</td>
</tr>
</tbody>
</table>