“New England Regional Defense Supplier Network Readiness Facilitation”

Project Team

CCAT, Berkshire Innovation Center, University of Maine, Ergo Insight, The IMPACT Group/SphereGen, RAM Engineering, New England MEPs, NERDIC, other Stakeholders

Kick-off Meeting

November 19, 2020
Discussion Topics

1. Introduce project partners
2. Review top-level work scope
3. Review/discuss the 5 demonstration projects
4. Next Steps / Action Items
1. Introduce Project Partners

(2 minute introductions – more partner information during discussion of demonstration projects)

- CCAT
- Berkshire Innovation Center
- University of Maine
- Ergo Insight
- The IMPACT Group / SphereGen
- RAM Engineering

We gratefully acknowledge the collaboration with FutureIQ, NERDIC, MEPs, NE State Offices, NE Stakeholders (Companies, Associations, other)
2. Review Top-Level Work Scope

1. Convene partners and stakeholders

2. Create awareness of Industry 4.0 emerging manufacturing technologies; and introduce educational and informational components of Industry 4.0 (webinars and workshops)

3. Identify and share best practices across the regional ecosystem, including 5 pilot project demonstrations that include cross-state participants.

4. Devise Process to Sustain the Network
2. Review Top-Level Work Scope

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<th>Calendar Month</th>
<th>Nov '20</th>
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## 2. Review Top-Level Work Scope

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<th>Deliverable Title</th>
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<td>Summary Report and Cluster Map of Project Stakeholders - Draft</td>
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<td>Summary Report and Cluster Map of Project Stakeholders - Final</td>
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<td>2 I4.0 Preparedness</td>
<td>2-1</td>
<td>Schedule of I4.0 Webinars/Seminars (initial plus revisions)</td>
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<td>Summary of I4.0 Webinars and Participants</td>
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<td>Compilation of Archived I4.0 Webinars</td>
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<td>Presentation on Demonstration Project #1 – Model Based Definition</td>
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<td>Presentation on Demonstration Project #2 – Automated Inspection</td>
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<td>Presentation on Demonstration Project #3 – Generative Design</td>
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<td>Presentation on Demonstration Project #4 – Augmented Reality</td>
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<td>3-5</td>
<td>Presentation on Demonstration Project #5 – Applied AI Shop Floor</td>
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3. Review/Discuss 5 Demonstration Projects

This key task will identify and roll-out five Industry 4.0 technology demonstration projects with participants across New England.

Target participants are small and medium size defense supply chain companies, starting with NERDIC industry members.

Our projects address those areas highlight
3. Review/Discuss 5 Demonstration Projects

Project #1: Model Based Definition – RAM Engineering

(Source: www.solidworks.com)
3. Review/Discuss 5 Demonstration Projects

Project #2: Automated on-Machine Inspection – CCAT

(Source: www.renishaw.com)
3. Review/Discuss 5 Demonstration Projects

Project #3: Generative Design + Additive Mfg – CCAT/BIC/U.Maine

Lightweight Part, Minimal Material Used – Fabricated Using AM

(Source: Siemens)
3. Review/Discuss 5 Demonstration Projects

Project #4: Augmented/Virtual Reality – IMPACT Group/SphereGen

Work Instructions and Remote Maintenance

(Source: The Impact Group / SphereGen 28-May-2020)
3. Review/Discuss 5 Demonstration Projects

Project #5: Augmented/Virtual Reality – Ergo Insight

Dynamic AI in Action on Manufacturing Shop Floor

(Source: www.ergoinsight.com)
4. Next Steps / Action Items

A. Stakeholders (Task 1)
   Identify additional Stakeholders
   How do we engage with Stakeholders

   (e.g. ACM, Naval & Maritime Consortium, SENEDIA, NHADEC, many others etc.)
THANK YOU
New England Regional Defense Industry Collaborative
Cybersecurity Task

18 November 2020
Support the increase of cybersecurity resilience throughout New England defense industrial base

Each states’ Manufacturing Extension Partnership provides resources to:

• Increase awareness
• Assess cybersecurity risk at SME
• Assist SME in achieving compliance to DFARS 252.204-7012
• Train businesses
Sustainable Cybersecurity Support for DIB

- Capacity within each state MEP to support cybersecurity practice
- Market of cybersecurity business that supports practice
- Relationship with service providers
- Regional collaboration and expertise to enhance practice
Awareness Events
Awareness Events

- Fifteen (15) events held to date
  - Six held in-person before March 18, 2020
  - Nine events help remotely as a result of pandemic response
- In-person event held in every state except Maine before pandemic
- Events will be virtual through at least January 2021
  - It is important to continue events as they provide marketing and awareness of the assessment offering
- Content based on materials developed by MEP National Network (NN) as well as local partners
- Repeat of the December 2019 MEP NN Education event planned for Spring 2021 in Manchester, NH
## Awareness Event Results

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<thead>
<tr>
<th>State</th>
<th>Type</th>
<th>Date</th>
<th>Attendees</th>
<th>Companies</th>
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<td>In Person</td>
<td>February 28</td>
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<td>Massachusetts</td>
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<td>Massachusetts</td>
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<td>New Hampshire</td>
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<td>New Hampshire</td>
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Assessments
Assessment Framework

- Pre-assessment questionnaire
- Gap Analysis
- Plan of Actions with Milestones
- Assistance creating Policy & Procedure
- Assistance creating System Security Plan
- Assistance creating Incident Response Plan
- Follow-up

Assessment Delivery
- Each state MEP will be able to utilize the model they currently have
  - Build additional capability were needed
  - Allows for measureable impact to the company
Assessments

Connecticut
- Eight assessments underway
- Seven clients in pipeline

Maine
- Three clients in pipeline

Massachusetts
- Seven assessments underway
- Two clients in pipeline

New Hampshire
- Six assessments underway

Rhode Island
- Five assessments underway
- Two clients in pipeline

Vermont
- Four assessments underway
- Two clients in pipeline
Training of MEP Centers
Train MEP Staff

● Crucial to building sustainable capacity within regional MEP to support SME in cybersecurity awareness and resiliency
● Training provided virtually by Core Solutions
  ■ Mix of self-paced videos and scheduled meetings
  ■ Platform tracked participants progress
  ■ Completion of Advisor Group training resulted in Certificate
● Additional training to enhance regional expertise
  ■ Defense Acquisition University with MEP National Network
## Staff Trained

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<th>Description</th>
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<td>Executive Overview</td>
<td>High level overview training for MEP staff, including staff not directly engaged in cyber assessments</td>
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<tr>
<td>Advisor Group Training*</td>
<td>In-depth training consisting of:</td>
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<td>6 remote presentation/discussion sessions</td>
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<td>On-Line Video Training with PDF documentation</td>
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<td>Completed all modules</td>
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<td>Total On-line participation</td>
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*Completed Advisor Group training and received certificate:
- CT: 2
- ME: 3
- MA: 1
- RI: 2
- VT: 3

*Proprietary and Confidential*
Outcome of Training

Training Completed by a variety of Staff
• MEP Program Managers
• MEP IT Staff
• MSP affiliates of MEP

Staff gained new knowledge
• Learning more about NIST 800-171 and CMMC
• MEP Program Managers: learning how to guide and advise clients through a NIST 800-171 remediation project
• MEP IT staff & MSPs: learning about technical solutions for small manufacturers

Staff gained new skills
• Common framework for connecting with MEP staff in other NE states who work on cybersecurity projects
• Better able to engage with technical resources

“I thought the discussions on projects and managing remediations were the most helpful. The first helped frame what needed to be done -- the second helped cement some of the nitty gritty details.”

“I also found the technical discussions about technical applications and potential costs (SIEM, Lockbox, etc.) to be helpful. It is one thing to understand what the controls are requiring but quite another to understand how to implement. I see our center’s challenge being how we best advocate and assist with the most cost-effective solution for our clients.”

“Really appreciated that our service providers [MSPs] were able to attend.”

“Working with CONNSTEP/Core has enabled additional offerings /webinars in state”

“Beneficial to hear questions and discussions from other MEPs/vendors”
In-house Capacity
Assist Companies Building In-house Capacity

Cyber Resiliency Program
- Four half-day sessions over four or eight week period
- Multi-company
- Reinforcing activities to accomplish at office

Session 1
- Overview of cyber resiliency and requirements for executives

Session 2
- Hands-on session designed to create a cyber risk management plan

Session 3
- Policy and procedure development session

Session 4
- Hands-on for IT professionals
Rural Initiative
Rural Initiative

- Investigation of delivery methodologies that will enhance resiliency of SME in rural counties
About the New England Regional Defense Industry Collaboration (NERDIC): NERDIC is a partnership of the state economic development organizations of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, working to support Small and Medium-Sized Enterprises (SMEs) that provide parts, assemblies, to Tier One providers working with the U.S. Department of Defense. NERDIC has financial support from the Office of Economic Adjustment, US Department of Defense. The content reflects the views of the New England Collaborative and does not necessarily reflect the views of the Office of Economic Adjustment, the U.S. Department of Defense, or the participating states.
OEA New England Regional Defense Industry Collaboration
Quarterly Meeting

9:00 am – 11:00 am
November 19, 2020

Project Overview – key opportunity

1. The New England Region contains an important concentration of Defense Industry suppliers.
2. It contains the operations of many Tier One suppliers, but also a wide range of Small and Medium Sized Enterprises (SMEs) that provide parts, assemblies and services to support the deliveries of the Tier One providers.
3. The opportunity for DOD, the states, and the regional supply network, lies in establishing a framework that creates and enhances the functioning of the network across the entire region.
Creating the ‘Blended Systems’ future
There is deliberate investment in developing an integrated multi-disciplinary approach to industry technical solutions. Resources are shared between technical clusters, and issues are explored in a systems-wide approach.

Some organizational collaboration occurs, but it is primarily focused within narrow geographic boundaries and sectors. Agencies only participate and collaborate within states, and industry remains in tightly configured clusters and sector focused supply chains.

Key technical areas are dealt with separately, and within specific technical ecosystems. Deep investment is made in competence of each main area to develop excellence, but there is little significant overlap between disciplines.

There is an intentional focus on region-wide collaborative efforts. Agencies reach across state boundaries seeking larger scale collaboration. This encourages industry collaboration, both across sectors and within supply chains.

**FUTURE INSIGHTS:**

- In order for the states of the New England region to achieve their mutual goals in supporting their defense industries, critical resources and services must be made available on a regional basis.
- Clear communication and thought leadership will be required to show that regional collaboration with a multi-disciplinary approach will mean greater flexibility, resiliency, and ability to adapt to change across the New England defense industry and that this will bring greater power to the region.
Building Multidisciplinary and Collaborative Approach

Technical areas:
• Supplier Networks
• Cybersecurity
• Workforce

NERDIC approach – we need to....
• Build regional collaboration and multidisciplinary approach – ecosystem approach
• See a viable pathway to sustainability
• Address emergent critical need - preparedness for ‘future technology’ – industry 4.0; and workforce
• Deliver efforts that target and support small and medium manufacturers
Evolving our approach on supplier networks....

<table>
<thead>
<tr>
<th>Trusted Supplier Network</th>
<th>‘Future-ready’ Supplier Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tight focus on trusted certification</td>
<td>• Convene existing players into regional ecosystem collaboration</td>
</tr>
<tr>
<td>• Dominated by OEM / Prime engagement / endorsement</td>
<td>• Focus on future-ready capability; (Industry 4.0 elements) and building awareness and understanding across regional ecosystem</td>
</tr>
<tr>
<td>• Tied to a tool / website with limited access and value proposition</td>
<td>• Sharing and linking best practice across region</td>
</tr>
<tr>
<td>• Focused on transactional outcomes, but competes with commercial platforms and industry systems (OEM's / Thomas etc)</td>
<td>• Create unifying platform for information, company profiles and capability, emergent trends data, ‘business intelligence’ dashboard (NERDIC website)</td>
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<td></td>
<td>• Institutionalize work, and hand off to regional ecosystem</td>
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</tbody>
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‘Future-ready’ Regional Defense Supplier Network

Overarching Outcome:

Build a co-ordinated network of businesses, consultants and educators, that assist businesses to develop, and eventually certify, their capabilities in important Industry 4.0 focus areas.
OEA New England Regional Defense Industry Collaboration
Virtual Quarterly Regroup Meeting
9:00am – 11:00am
Thursday 19 November 2020

Attendees:

Brian Ward  Jewell Industries
Tina Kasim  NH Division of Economic Development
Adam Boltik  NH Division of Economic Development
Shawn Arbour  Kennebic Technologies
Cynthia Lobikis  General Dynamics @ Bath Iron Works
Allyson Coombs  General Dynamics @ Bath Iron Works
Denise Garland  Maine Department of Economic and Community Development
Nancy Martin  General Dynamics Electric Boat
Carmen Molina Rios  State of CT, Dept. of Economic and Community Development (DECD)
Colin Cooper  State of CT, Dept. of Economic and Community Development (DECD)
Matthew McSwain  UMass/Lowell
Bradley Mingels  UMass/Lowell
Sean Killam  UMass/Lowell
John Redman  Superior Technical Ceramics
Brett Long  VT Dept. of Economic Development
Paul Williams  VT Dept. of Economic Development
Joe Marino  Rite Solutions
John Riedenau  Rhode Island Commerce Corporation
Matthew Stevens  Dept. of Defense Office of Economic Adjustment
David Beurle  Future iQ
Celine Beurle  Future iQ
Jeff Orszack  CONNSTEP, Inc
Ron Angelo  Connecticut Center for Advanced Technology
Tom Maloney  Connecticut Center for Advanced Technology
John Glidden  Connecticut Center for Advanced Technology
Elinor Hargeaves  Connecticut Center for Advanced Technology
Patricia Giavara  Vermont Manufacturing Extension Center
Bob Zider  Vermont Manufacturing Extension Center
Chris Paulk  Vermont Manufacturing Extension Center
Joanne Spaulding  VT Procurement Technical Assistance Center
Beatrix Gutierrez  CONNSTEP, Inc
Bonnie Del Conte  CONNSTEP, Inc
Larry Robinson  Maine MEP
Ken Bloch  Maine PTAC
Kimberly Ingalls  Mass MEP
Kathie Mahoney  Polaris MEP
Zenagui Brahim  NH MEP
David Pease  NH PTAC
Tobin McGregor  VT-MC
Mike Prior  LM Associates/VT-MC
Steve Longpre  Berkshire Innovation Center
John Belding  University of Maine
Kevin Morris  The IMPACT Group
Rick Wilson  SphereGen
Ted Dinsmore  SphereGen
Ted Kaszuba  Ergo Insight
Jing Qu  Ergo Insight
Mitch Kaminski  RAM Engineering
Ben Sosne  Berkshire Innovation Center
Brian Montanari  HABCO
Nasir Mannan  M3DI
Patricia Moulton  Vermont Technical College
Denise Johns  Berkshire Innovation Centre
Recap of NERDIC focus and goals – building regional collaboration and a multi-disciplinary approach

- Brett Long welcomed the group and described that this was a different type of meeting, comprised of NERDIC steering committee, industry members, CCAT, MEPs, PTACs and education institutions
- David Beurle of Future iQ presented the progression of NERDIC to date via slide deck. He noted importance of including Northern States. Discussed the Think-Tank held in 2019 and its focus on regional collaboration and a multidisciplinary approach. He described the three focus areas – Supplier networks, Cybersecurity and Workforce.

Background to the Regional Defense Supplier Network Readiness RFP – an Evolution for Trusted Supplier approach to Industry 4.0 technologies ecosystem

- Brett described the evolution from Trusted Supplier network to ‘Future-Ready’ Supplier networks. Brett described the focus on Industry 4.0 technologies and how these technologies have evolved from ‘nice to have’ to ‘need to have’, hence the future supplier network RFP.

Presentation by Connecticut Center for Advanced Technology (CCAT)

- Ron Angelo, CEO of CCAT, gave an introduction describing CCAT’s facilities, what CCAT does and how they were totally industry driven. He noted how collaboration and partnership was very important and how they work from a ‘Top Down, Bottom UP’ approach and are deeply embedded in the supply chain.
- Tom Maloney of CCAT, gave a presentation outlining:
  - Partners for the project
    - Berkshire Innovation Center
    - University of Maine
    - Ergo Insight
    - SphereGen
    - RAM Engineering
    - The INSIGHT Group
  - Review top level scope of the project
  - 5 demonstration projects
    - Project #1: Model Based Definition – RAM Engineering
    - Project #2: Automated on-Machine Inspection – CCAT
    - Project #3: Generative Design & Additive Manufacturing – CCAT/BIC/U. Maine
    - Project #4: Augmented/Virtual Reality – IMPACT Group/SphereGen
    - Project #5: Augmented/Virtual Reality – Ergo Insight
  - Description of Industry 4.0
  - Next Steps:
- Identify additional stakeholders and ascertain how to work with them
  - Eg: ACM, Naval and Maritime Consortium, SENEDIA and NHADEC

Discussion on CCAT proposal
- Brett outlined and spoke through the Industry 4.0 Readiness System for Defense Manufacturing diagram

- There was discussion about the CCAT timeline finishing in June 2021
- David spoke about how trends have been accelerated and amplified due to Covid-19. Industry 4.0 is a good example for NERDIC to ‘jump in’ and work out solutions. This is a great opportunity for the collaboration, and need to work out where to put the pilot demonstration projects. David asked those assembled on the call, ‘Who wants to be involved’. He described how the next month will be about convening the ecosystem around locations for the demonstration projects and asked who would be interested in working with these projects.
- John Riendeau commended CCAT on the presentation and demonstration projects. John is on the Board of Directors at SENEDIA and said that he would take care of introductions between CCAT and SENEDIA.
- Ron discussed how the natural next step would be bringing together the MEPS, PTACs, Associations, etc. This would was not new to CCAT but reaching our across the 6 states was new.
• Brett noted that the next step was to follow up with CCAT and the MEPS and discuss what roles do people want to take.

NERDIC Industry 4.0 Disruption and Preparedness Survey
• David introduced the Industry 4.0 survey which was going to be sent out to the supply chain in New England. The survey is to ascertain how companies are viewing Industry 4.0. This survey will be sent out via email.

Update on Cybersecurity program – key objectives and lessons to date
• Jeff Orszack gave a presentation on the Cybersecurity program. He discussed:
  o Program Objectives
  o Sustainability Cybersecurity Support
  o Awareness Events
  o Assessments
  o Training of MEP staff virtually by Core Solutions
  o Outcomes of training
  o Assisting Companies to build in-house capacity
  o Rural Initiative.

Proposed application on innovation workforce solutions
• Brett provided an update that there has been a continued conversation with OEA regarding a new workforce grant. The NERDIC steering group will work on this and submit a grant application in the early 2021.

Next Steps
• David asked that people get involved with the Industry 4.0 package of work via CCAT and demonstration projects
• Industry 4.0 Disruption and Preparedness Survey will be sent out. David asked that everyone share the survey with their networks.
• There will be a follow up with PTACs, MEPs, associations and education institutions regarding their role in the Industry 4.0 package of work.
• Notes from the call, recording and slide decks will be sent out by Paul Williams.