The NIST Hollings Manufacturing Extension Partnership (MEP) Program

MEP National Network Cybersecurity for Defense Manufacturing

NDIA Manufacturing Division Meeting
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MEP National Network

Non-federal assistance Centers located in all 50 US states and Puerto Rico, program managed by NIST

Public-private partnership with local flexibility

Federal funds, state investments, private sector fees cover services

- *$146M FY20 NIST MEP; matched by MEP Centers*

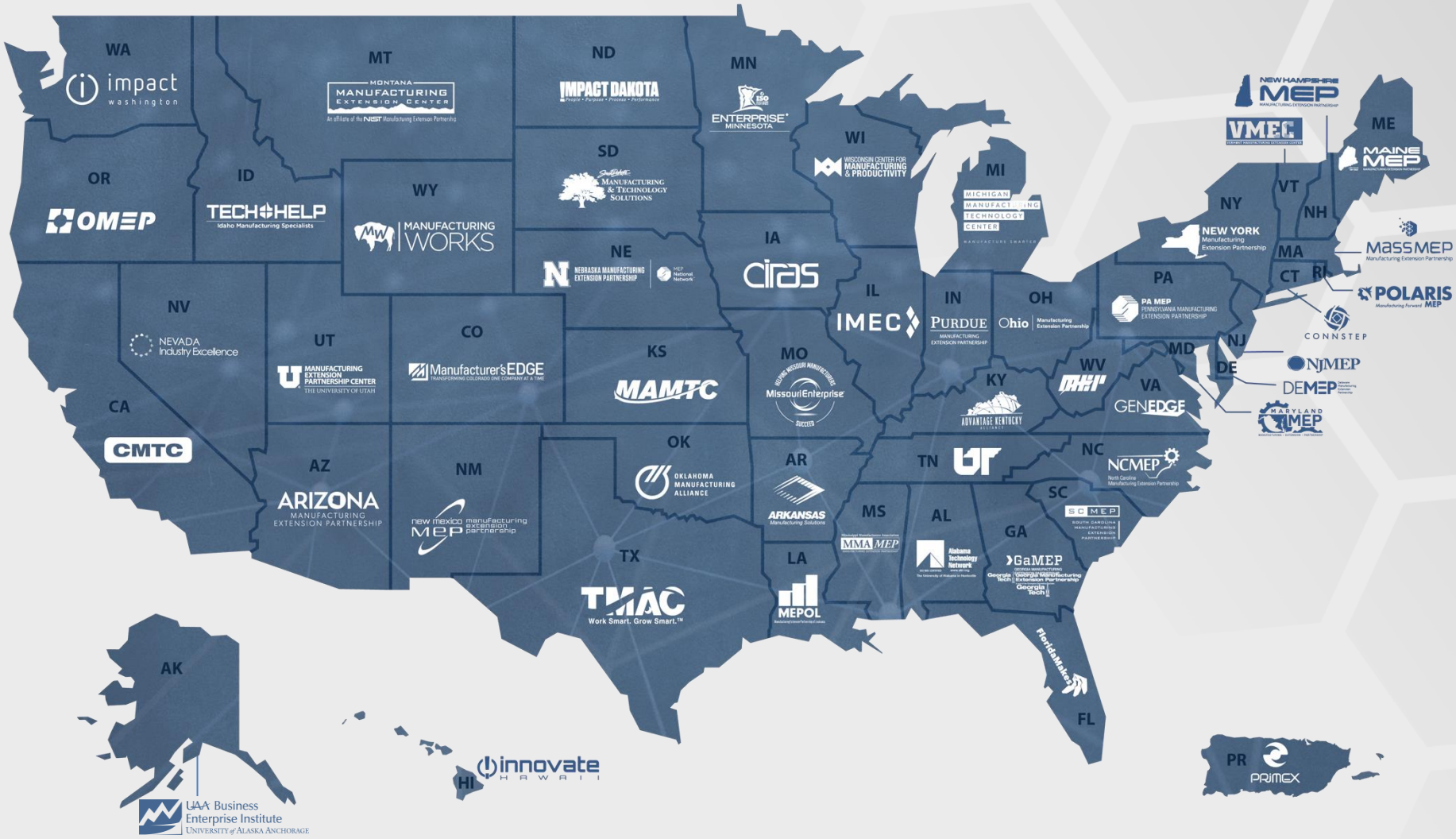
Market driven program that creates high value for manufacturers

Leverage partners to maximize service offerings

Extension-based program transfers technology and expertise to manufacturers

MEP National Network™

MEP National Network



NATIONAL NETWORK

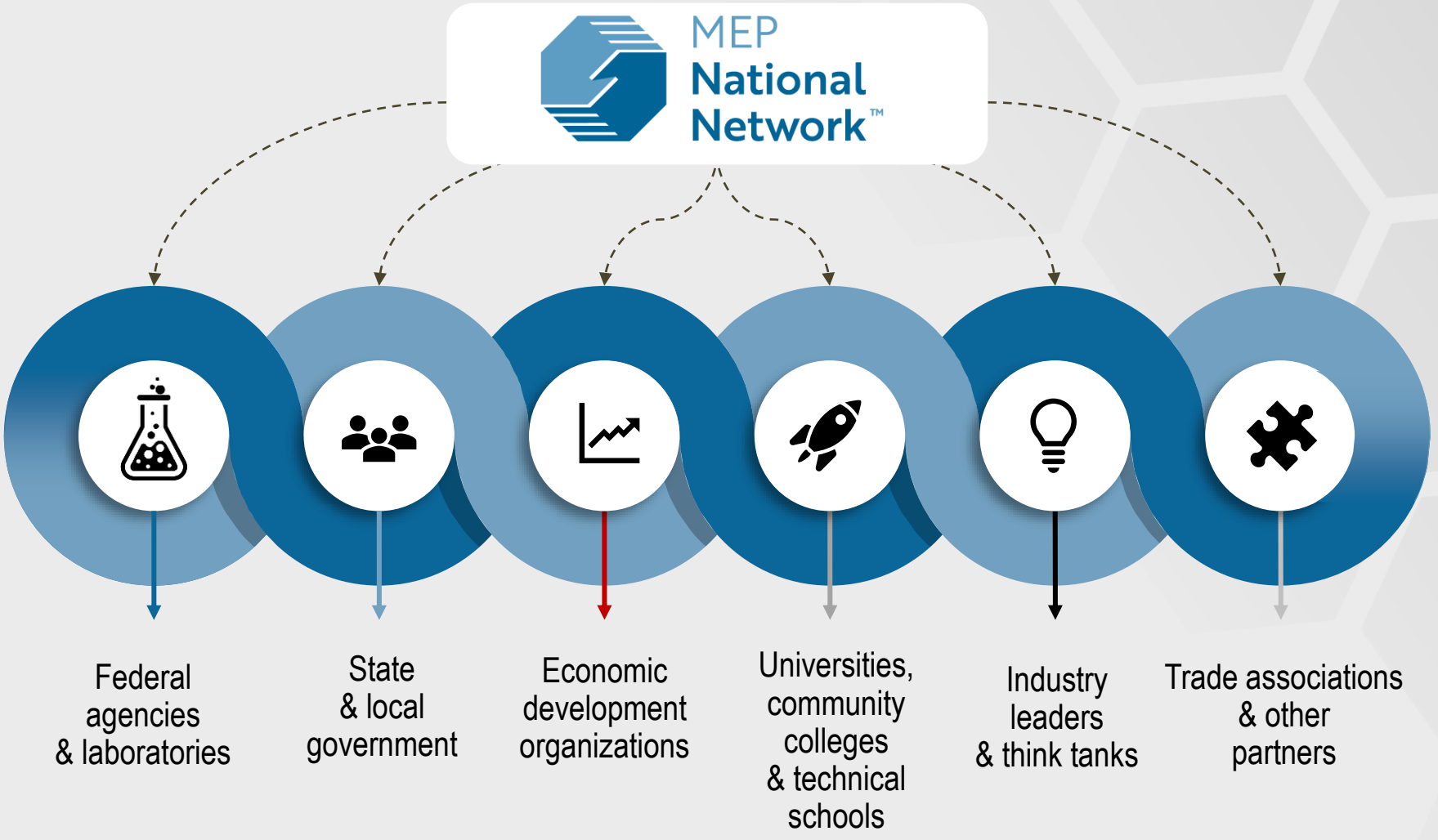
One Center in Every State and Puerto Rico

Nearly **2,100** Service Providers & Partners

Over **1,400** Manufacturing Experts

Approx. **375** Service Locations

Our Partners



In FY2019, the MEP National Network connected with 28,213 manufacturers, leading to:

114,650 JOBS Created or Retained

$15.7 BILLION in New and Retained Sales

$4.5 BILLION in Total Investment in U.S. Manufacturing

$1.5 BILLION in Cost Savings

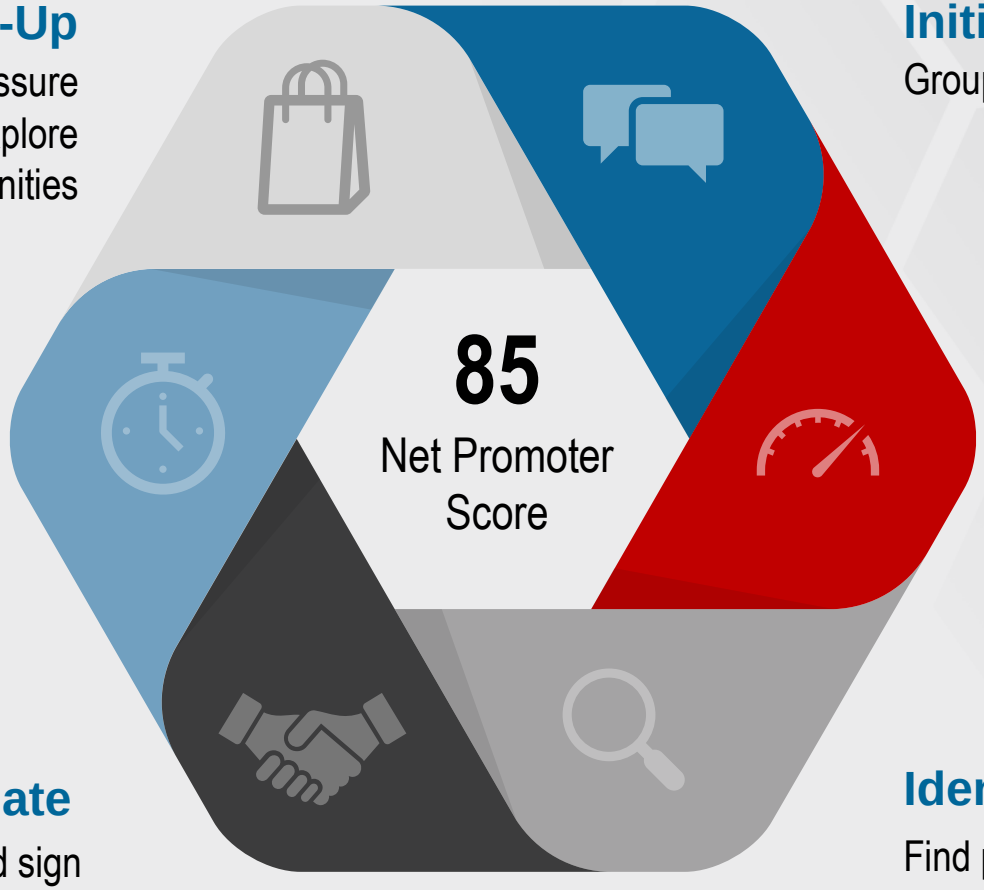
Numbers are based on survey results from MEP Center clients.

How Centers Work with Manufacturers

Initial Contact
Group sessions, referral

Assessment
Informal walk-through, detailed company analysis

Identify
Find potential issues, define proposed project and approach



Negotiate
Consult with company and sign contract with fee paid to Center

Project Execution
Center staff, partners, and/or 3rd party consultants

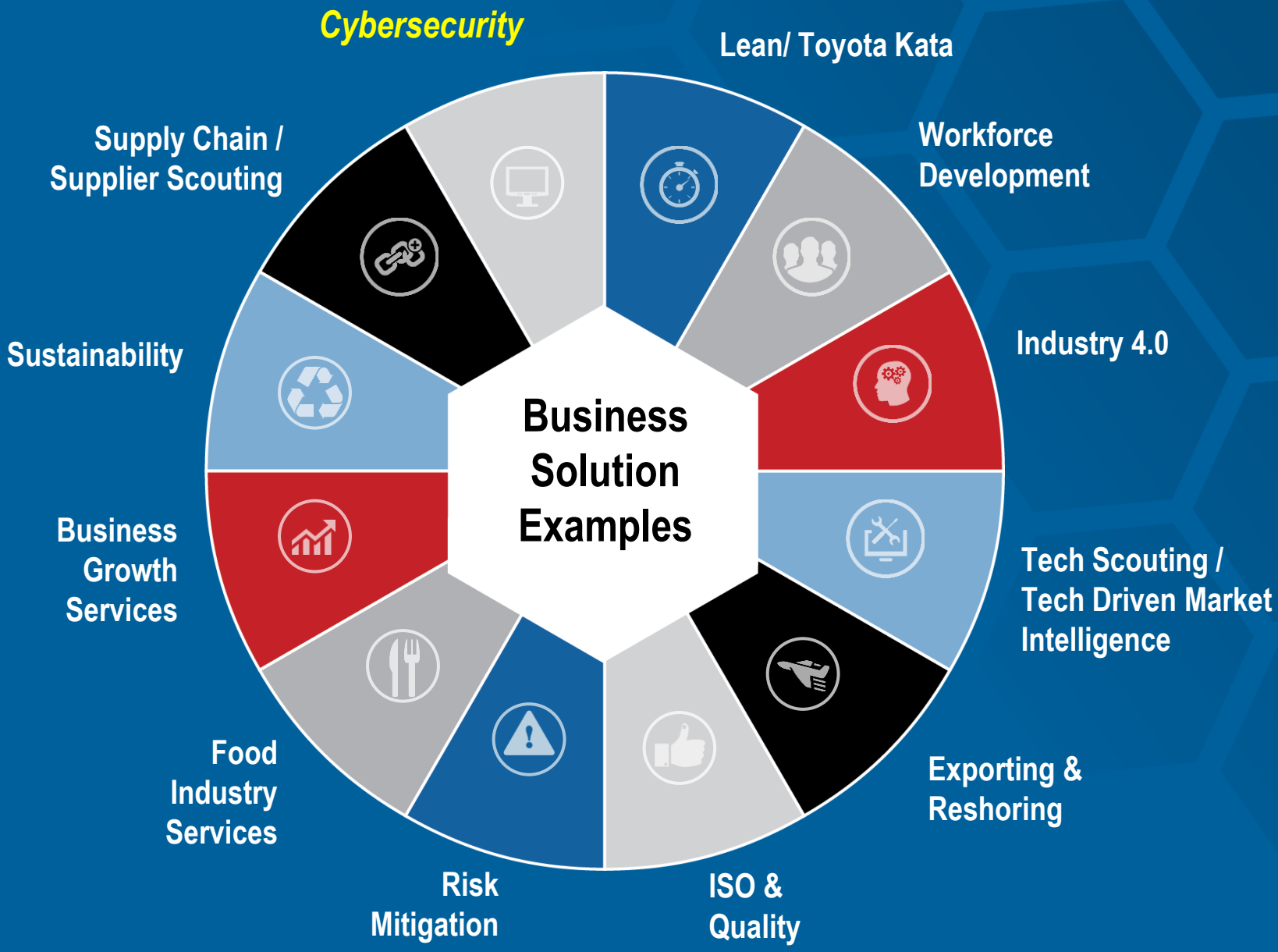
Follow-Up
Follow-up by Center to assure customer satisfaction and explore further opportunities

Project impact data collected by contractor for NIST approximately 6-12 months after project completion

Client Challenges

The share of MEP clients reporting **employee recruitment and retention** as a challenge **has nearly tripled**.

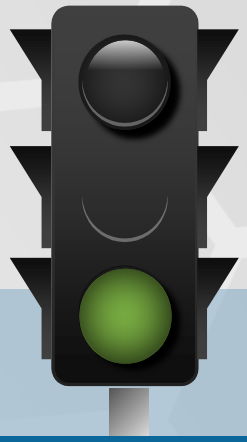
Information based on FY 2019 MEP National Network Client Impact Survey


Cybersecurity
Lean/ Toyota Kata
Workforce Development
Industry 4.0
Tech Scouting / Tech Driven Market Intelligence
Exporting & Reshoring
ISO & Quality
Risk Mitigation
Food Industry Services
Business Growth Services
Sustainability
Supply Chain / Supplier Scouting
Business Solution Examples

MEP NATIONAL NETWORK CYBERSECURITY

February 2020

Development of MEP National Network cybersecurity assistance for small manufacturers continues to develop nationwide capabilities



MEP Centers Nationwide Participating in MEP NN Cybersecurity WG

- *Continues to be spurred by strong partnerships with DoD*
- Continued MEP role with Defense Federal Acquisition Regulation Supplement (DFARS) requirements for defense sector
- Emerging MEP Center role with new DoD Cybersecurity Maturity Model Certification (CMMC) Program

78% in supply chain attacks last year

"Supply chain attacks are the type of cyber attack that looks for an opening into a network through the supply network, which is notorious for its lack of security. Malware statistics show that these are on the rise in all industries, so making sure your suppliers keep their online databases safe is a must."

Source: Symantec

Cyber Risk Assessments Need Improvement

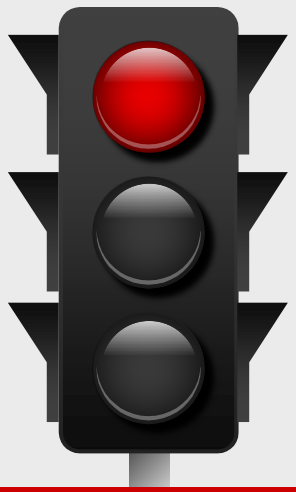
Almost one-third of manufacturers have not performed cyber risk assessments specifically focused on the industrial control systems operating on their shop floors, resulting in a potentially significant risk to their operations.

Source: Cyber risk in advanced manufacturing, Deloitte and MAPI

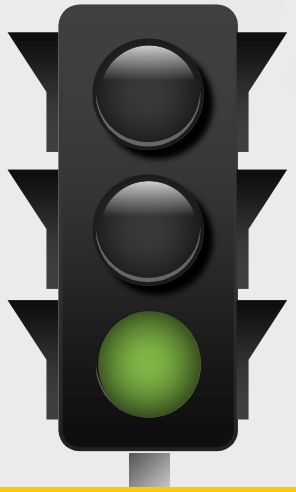
Every 39 Seconds

A Clark School study at the University of Maryland is one of the first to quantify the near-constant rate of hacker attacks of computers with Internet access— every 39 seconds on average, affecting one in three Americans every year —and the non-secure usernames and passwords we use that give attackers more chance of success.

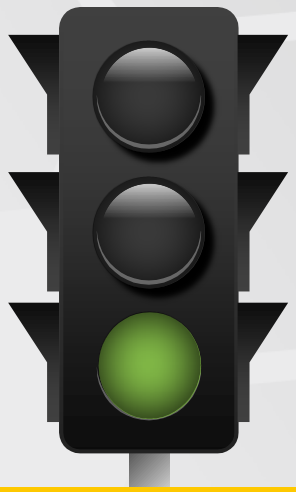
MEP National Network Cybersecurity Progress Summary – February 2020



Defense Contractor Cybersecurity Implementation Still Low



49 MEP Centers in Cybersecurity WG



48/51 MEP Centers with Cyber Practice

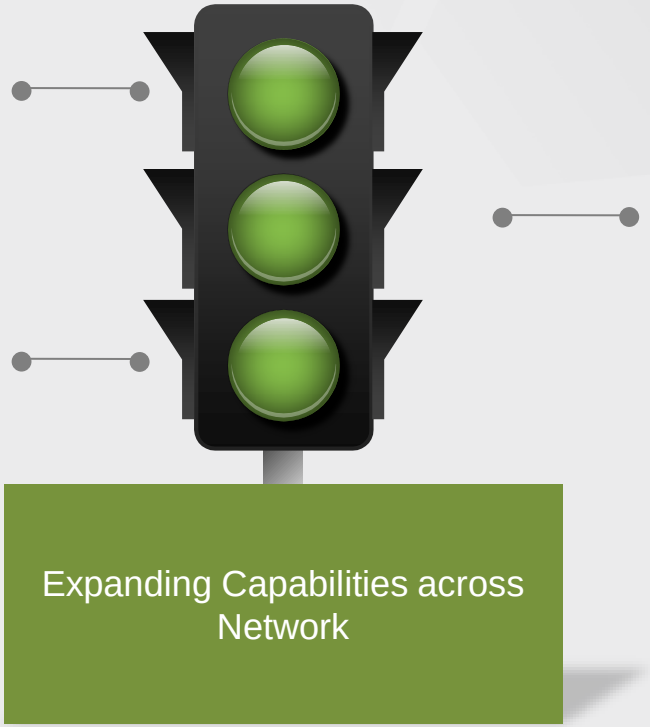
The MEP National Network has made significant progress … and continues to move forward addressing important needs

MEP National Network Progress: Cybersecurity Assistance Practice

February 2020

>3,400 Small Manufacturers served by MEP Centers Nationwide

~225 Awareness & Training Events conducted by MEP Centers Nationwide



958 cybersecurity projects conducted for U.S. manufacturers by MEP National Network since 2015

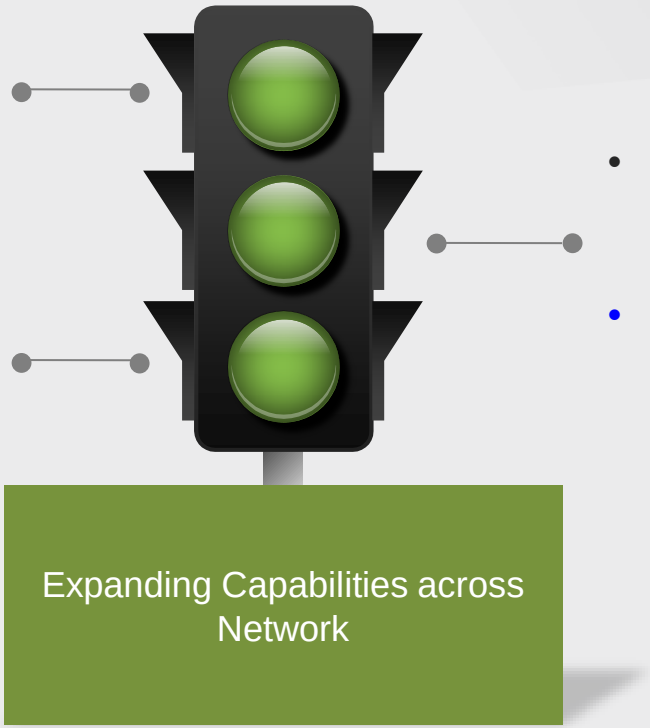
<u>NOTE:</u> NISTIR 7621 "Small Business Information Security: The Fundamentals," has also been downloaded over 163,000 times since publication by Pat Toth, NIST MEP, in Nov 2016.

MEP National Network Progress: Cybersecurity Assistance Practice

February 2020

- 12 MEP Centers have received ~$15M OEA funding, focused on working with state-based organizations
- Focus on cyber workforce training and education

- NIST Handbook 162 downloaded ~78,000 times since Nov 2017 NIST MEP publication
- Pat Toth, NIST MEP, author



- MEP NN Cybersecurity Working Group (WG) meets every 6 weeks
- WG face-to-face mtg in Orlando, May 2020

Highlights: MEP Cybersecurity and the DoD

- NIST MEP – OUSDR&E Interagency Agreement (IAA) funding MEP Centers to serve cyber needs of small defense mfg suppliers between Aug 1, 2019 - Dec 31, 2020

  - ✓ National Network award, led by MI MEP, to provide nationwide cybersecurity awareness, hands-on technical assistance, and pilot operational technology (OT) protections
    - Collaborating with NIST Labs
    - Also collaborating with MxD Manufacturing USA Institute in Chicago

  - ✓ MEP Center participation from >30 states, in addition to MI:

    AL, CA, CO, CT, DE, FL, GA, ID, IL, IN, KS, KY, LA
    MA, MD, MO, MS, NC, NJ, NY, OH, OK, OR, PA,
    RI, SC, TN, TX, WA, WI, WV

Highlights: MEP Cybersecurity and the DoD

- *National **awareness for defense contractors***

Event Schedule

Area	Region	Date
Michigan, Indiana, Ohio	MW	11/22/2019
Long Island, New York	NE	12/5/2019
Mass, CT, RI	NE	12/17/2019
Florida, Georgia	SE	1/30/2020
Texas, Oklahoma	SW	2/11/2020
Selfridge Base (Special Event)	MW	2/26/2020
Texas, Louisana	SE	3/10/2020
Ohio, Indiana, Kentucky	MW	3/10/2020
Webinar	Nat'l	3/16/2020
Michigan, Indiana, Ohio	MW	3/17/2020
DC, Maryland	East	3/24/2020
Alabama, Mississippi, Georgia	SE	3/26/2020
Southern California	West	3/31/2020
Florida, Georgia. Alabama, Mississippi	SE	4/2/2020
Nashville	SE	4/9/2020
Pennsylvania, Ohio, WVA	MW	4/16/2020
Virginia, North Carolina	SE	4/21/2020
Washington, Oregon, Idaho	NW	4/22-23/20
Pennsylvania, New Jersey, Delware	NE	4/30/2020
Webinar	Nat'l	5/15/2020
North Carolina, South Carolina	SE	5/20/2020
Cleveland	MW	6/9/2020
Kansas, Missouri	MW	6/17/2020
Webinar	Nat'l	7/15/2020
Illinois, Missouri	MW	7/15/2020
Washington, Oregon	NW	8/5/2020
Denver	Mountain	8/20/2020
Southern California	West	9/10/2020
Webinar	Nat'l	9/15/2020
Chicago, Wisconsin	MW	9/15/2020
Mississippi (Special event)	SE	4/00/20

Highlights: MEP Cybersecurity and the DoD

- Hands-on MEP Center ***technical assistance to defense contractors***
  - ✓ Defense contractors to receive comprehensive, hands-on technical assistance from MEP Centers to prepare for DFARS compliance; assistance underway
  - ✓ Companies located in ***CA, CO, CT, FL, IL, MD, NC, OR, PA, TX, VT***
  - ✓ DoD supply chains represented by these companies include: ***aerospace, air defense, satellite tracking, electronics, energy systems and batteries, energetics, solider systems, fire protection, nuclear propulsion, et.al.***
  - ✓ Manufacturing processes conducted by these companies include ***machining, additive manufacturing, electronics processing, composites manufacturing, optics manufacturing, packaging, industrial automation, et.al.***

Highlights: MEP Cybersecurity for Defense Manufacturing and the NIST Laboratories

- MEP Centers, NIST MEP working with NIST Labs to develop new NIST Cybersecurity Framework Manufacturing Profile Implementation Guidance

NIST Engineering Lab

NIST Information Technology Lab

MEP National Network™

- ✓ MEP Center clients from MI and IN have been assessed against NIST CSF Manufacturing Profile to generate Use Cases for NIST Labs to produce next iteration of Manufacturing Profile Implementation Guidance

- ✓ NIST Lab activities funded by NIST MEP under NIST MEP – OUSDR&E IAA

- ✓ Implementation Guidance from NIST Labs will:
  - Address operational technology (OT) vulnerabilities specific to manufacturing operations that are not covered by DFARS cybersecurity requirements
  - Be pilot implemented at the 2 participating manufacturers

New DoD Cybersecurity Maturity Model Certification (CMMC) Program

NIST MEP providing ongoing guidance to MEP Centers' approach

- Future DoD acquisitions will include required certification levels for contractors
- CMMC does not yet directly impact MEP Centers' engagements with small defense contractors
- CMMC oes not negate DFARS requirements

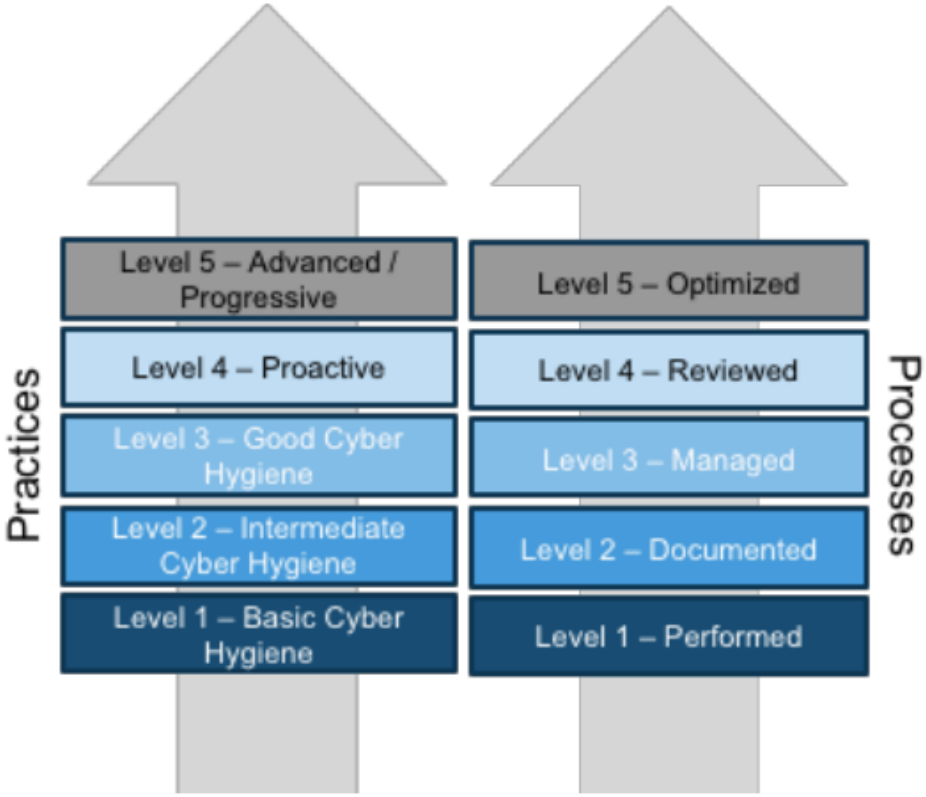


Figure 2. CMMC Level Descriptions

New DoD Cybersecurity Maturity Model Certification (CMMC) Program

- MEP working closely with DoD to understand program plans and position MEP Center role for assistance to defense contractors
- CMMC model released January 2020
- 15 member CMMC Advisory Board formed
- Certification of Assessment Orgs Summer 2020
- New DFARS rule on CMMC June 2020
- RFI for 10 “pathfinder” contracts June 2020
- RFPs for 10 “pathfinder” contracts September 2020
- Full implementation by 2026

Questions / Discussion

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