

### NDIA and DoD Joint Working Group

# Cybersecurity for Advanced Manufacturing (CFAM)

NDIA Systems Engineering Meeting February 17th, 2015





# **CFAM JWG Objective**

- Government and industry members of the CFAM JWG collaborate to build on recommendations in the 2014 NDIA white paper, Cybersecurity for Advanced Manufacturing
  - Identify cybersecurity vulnerabilities in the manufacturing environment and mitigations . . . types and boundaries, highest impact near-term actions, culture changes
  - Identify ways to incentivize and assist manufacturers to improve cybersecurity in manufacturing systems . . . policies and contract requirements, security practices, workforce cybersecurity training
  - Develop implementation plans . . . coordinated with government and industry groups





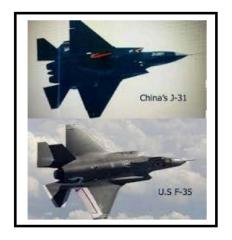
### Why This is Important



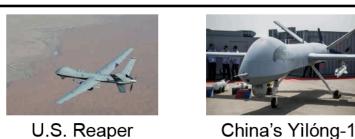
### These are Not Cooperative **R&D Efforts**



From Brian Hughes' presentation at **2015 NDIA Systems** Engineering Conference









U.S. HUMVEE



China's Dongfeng EQ2050

18th NDIA SE Conference October 26-29, 2015 | Page-2

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### **Work is Underway**

- 44 participants: 14 Government, 7 from membership or academic organizations, 23 company representatives
- Engaging discussion between Government and NDIA participants ...
   current situation, desired outcomes, barriers, opportunities
- Subtopics identified . . . teams formed
  - Terms of Reference Team Now "Integration Team"
  - Policy Planning and Impacts Team
  - Technology Solutions Team
  - Manufacturing Environment Team
- Encouraging level of interest and participation





### **Preliminary Questions to be Addressed**

#### Boundaries . . .

- What defines a manufacturing environment?
- What use cases are important across the life cycle of the manufacturing environment?

#### Mitigations . . .

- What actions and activities can improve cybersecurity in the manufacturing environment?
- What types of education, training and cultural changes are required?

#### Development . . .

 What technical solutions can increase cybersecurity in the manufacturing environment?

#### Resources . . .

- What existing policies regulations, and standards are applicable and what needs to be augmented, and by whom?
- What activities implemented outside the Department of Defense can be leveraged?





### **Steps Forward**

- Terms of reference have been developed and agreed upon . . . briefing to senior OSD leadership will be scheduled
- Each working group has elected a team leader and are developing
   their deliverables . . . deliverables descriptions are due on March 30th
- Team members may be added and subject matter experts being are identified to contribute to the work . . . opportunities to get involved
- Full working group meetings to share progress . . . plan to meet again in April
- Goal is to issue report by December 2016 . . . will then be coordinated within DoD





### **Terms of Reference and Integration Team**

- This group will create the charter and scope of the CFAM JWG, and will support other teams as needed.
- Team Lead: Catherine Ortiz, Defined Business Solutions, LLC

**Dawn Beyer Catherine Ortiz Larry John Lockheed Martin Corporation Defined Business Solutions ANSER Donald Davidson Chris Peters** Michael McGrath Office of the DoD CIO McGrath Analytics LLC The Lucrum Group James Godwin Michele Moss **James Poplin** BriteWerx, Inc Defined Business Solutions Booz Allen Hamilton





# **Policy Planning & Impacts Team**

- This group will assess existing policies and regulations for applicability to CFAM; will determine additional administrative actions that could strengthen manufacturing cybersecurity, and will assess breach reporting and communication processes for improvements.
- Team Lead: Sarah Stern, Boeing BCA Network Cyber Security

Megan Brewster OSTP	Daryl Haegley OASD (EI&E) IE	Joseph Spruill  Lockheed Martin Corporation
Martha Charles-Vickers Sandia National Laboratories	Thomas McDermott Georgia Tech Research Institute	<b>Sarah Stern</b> Boeing, BCA Network Cyber Security
<b>Donald Davidson</b> Office of the DoD CIO	<b>Michele Moss</b> Booz Allen Hamilton	<b>Bill Trautmann</b> JSJ4, KBLD
<b>Jason Gorey</b> Six O'Clock Ops	Melinda Reed ODASD(SE)	<b>Melinda Woods</b> AT&L MIBP



### **Technology Solutions Team**

- This group will assess existing technical solutions available or under development to impact cybersecurity in the manufacturing environment, and will recommend new technology development activities.
- Team Lead: Heather Moyer, Concurrent Technologies Corporation

#### Vicki Barbur

Concurrent Technologies Corp.

#### Dawn Beyer

Lockheed Martin Corporation

#### **Heather Moyer**

Concurrent Technologies Corp.

#### **Craig Rieger**

**Idaho National Laboratory** 

#### Frank Serna

Draper

#### Devu Shila

United Technologies Research Center

#### **Tim Shinbara**

The Association for Manufacturing Technology

#### **Janet Twomey**

Wichita State University





## **Manufacturing Environment Team**

- This group will identify actions and activities that can have the greatest impact to improve cybersecurity in the manufacturing environment, and will recommend implementation processes.
- Team Lead: Dr. Marilyn Gaska, Lockheed Martin Corporation

#### **Dean Bartles**

Digital Manufacturing and Design Innovation Institute

**Aman Gahoonia** 

**DMEA** 

Marilyn Gaska

Lockheed Martin Corporation

**Dan Green**SPAWAR

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**SCOPE** 

Mary Williams
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### **CFAM JWG Members**

As of February 11th, 2016

Vicki Barbur

Concurrent Technologies Corp.

**Dean Bartles** 

Digital Manufacturing and Design Innovation Institute

**Dawn Beyer** 

Lockheed Martin Corporation

**Brench Boden** 

**AFRL** 

**Megan Brewster** 

**OSTP** 

**Martha Charles-Vickers** 

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Jeffrey Wolske

Raytheon

**Melinda Woods** 

AT&L MIBP

Red: Government Black: Industry Green: Academia Blue: Member Organization









### **NDIA Division Representation**

#### **Manufacturing**

#### **Cyber**

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Jason Gorey Six O'Clock Ops

**Michele Moss** Booz Allen Hamilton

#### **Logistics**

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**Jeffrey Wolske** 

Raytheon

