



Cyber (In)security
**Securing the Internet of Things
and
Industrial Control Systems**

Presented by:

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What is GENEDGE?



MEP • MANUFACTURING
EXTENSION PARTNERSHIP

NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

GENEDGE

We are the Manufacturing Extension Program of Virginia

An Economic Development unit of the Commonwealth of Virginia

**Part of the Department of Commerce / NIST network of Centers across the country
(60 centers, 1500 staff nationally)**

20 years of success supporting Virginia businesses

**Since 2000, the #1 Bottom-Line and Top-Line Impact Producer in the system – over
\$3.5 Billion of business impact reported**

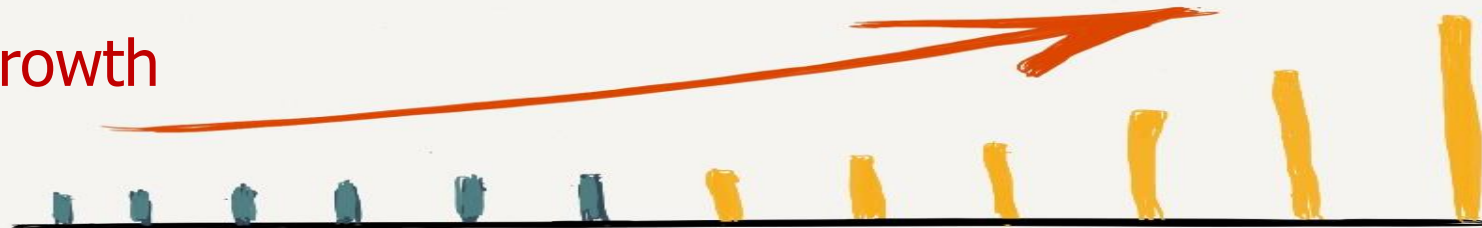
Over 10,500 industrial jobs created / retained

**32 staff including two sub-recipient partners, The Manufacturing Technology Center
in SW VA and Old Dominion University in Hampton Roads**

What Does GENEDGE Do?

Strategic Innovation and Growth
Continuous Process Improvement
Sustainability
Supply Chain Optimization
Technology Acceleration
Export Assistance
Market Commercialization

Growth



What Is "Cybersecurity" Anyway?

Confidentiality

Integrity

Availability

Non-repudiation

Authentication

Security is a Combination of Things



Behaviors
(social media, email)

What Is The Internet of Things?

- **Internet of Things**: A network of internet-connected objects able to collect and exchange data using embedded sensors.
- **Internet of Things device**: Any stand-alone internet-connected device that can be monitored and/or controlled from a remote location.
- **Internet of Things ecosystem**: All the components that enable connection to IoT devices, including remotes, dashboards, networks, gateways, analytics, data storage, and security.

How Big Is IOT?

24 BILLION

Business Insider expects there will be more than [24 billion](#) IoT devices on Earth by 2020. That's approximately four devices for every human being on the planet.

What Is An Industrial Control System?

- **ICS systems** control and monitor industrial and infrastructure processes that produce products and deliver services and are referred to in various settings as:
 - supervisory control and data acquisition (SCADA) systems
 - distributed control systems (DCS)
 - process control systems (PCS)
 - process control domains (PCN)
 - programmable logic controller and programmable automation controller systems (PLC/PAC)
 - and building automation and control systems (BACS).

Related terms include IIoT, the Industrial Internet, Industry 4.0 and the Connected Enterprise.

Source SANS Institute: <https://www.sans.org/reading-room/whitepapers/ICS/securing-industrial-control-systems-2017-37860>

Dr. Leigh Armistead, Peregrine



Downloadable Self-Assessment

<http://www.genedge.org/cybersecurity-assessment-request>

Summary of Support:

- **GENEDGE services can help identify your weak spots, decrease the costs of increasing your security**
- **We work with technical firms to conduct a vulnerability assessment**
- **Provide you with a gap analysis**
- **Work with you to prioritize the gaps and target spending to protect “Crown Jewels”**
- **Help develop an implementation plan to close the gaps**
- **Provide guidance on completing an Information Security Plan**

Thank You For Attending

Contact GENEDGE

To Help Improve Your Security Posture

And Reduce Cyber Risks

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