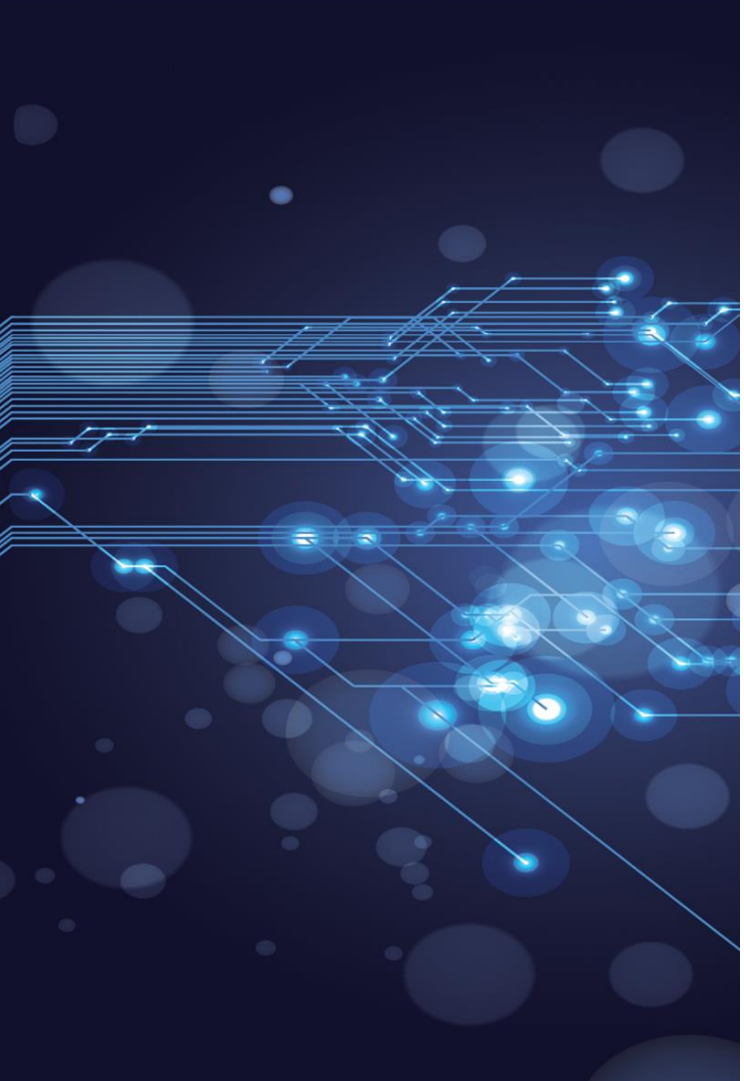
Manufacturing Technology Working Group

Substitute Senate Bill No. 1021
Special Act No 21-24

Meeting 02
Sept 15, 2021



Agenda

I. Welcome
   - Jackie Garofano, CTO, Connecticut Center for Advanced Technology
   - Jeff Orszak, Director, Strategic Growth & Technology, CONNSTEP

II. Overview of Industry 4.0

III. Focus Group Discussion on I4.0 Services

IV. Next Steps

IV. Adjourn

Meet the Team

I4.0 Providers

Connecticut Center for Advanced Technology, Inc.

CONNSTEP
a CBIA affiliate

UCONN
UNIVERSITY OF CONNECTICUT

CSCU

Central Connecticut State University

The Connecticut Conference of Independent Colleges
CCIC
Est. 1932

Yale

CMC
CONNECTICUT MANUFACTURERS' COLLABORATIVE

Central Connecticut Chambers of Commerce
one region. one voice.

ctnext

QUI TRANSTULIT SUSTINET

SBA
U.S. Small Business Administration

Manufacturers

MDI
MERCANTILE DEVELOPMENT, INC.
THE WIPER SPECIALISTS™

WP
WEPCO PLASTICS INC

Schwerdtle

microboard
brilliant together

HORST
ENGINEERING

HABCO

bead

OKAY

pta plastics

AGR
THE ARTHUR G RUSSELL COMPANY

CAREY

OPM

Collins Aerospace

Stanley Black & Decker

Medtronic

Overview of Industry 4.0

Objective for Mfg Tech Working Group is to create a roadmap / playbook for I4.0 for small and mid-sized manufacturers in CT

Oct 1
Milestone: strategic plan & complete

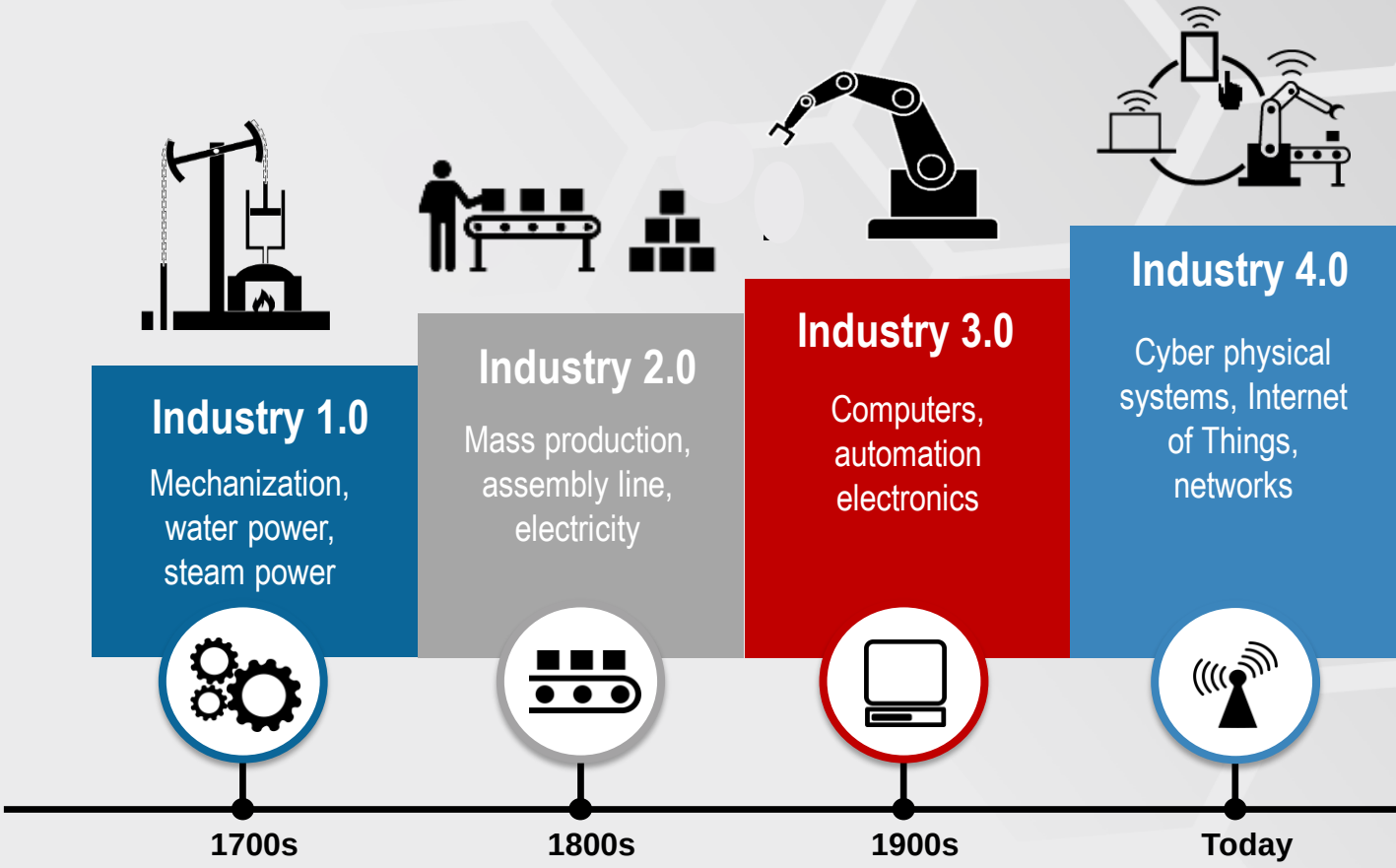
The Year Ahead

Mar 15
Milestone: submit a report

Aug 25
kickoff

Let's level-set …

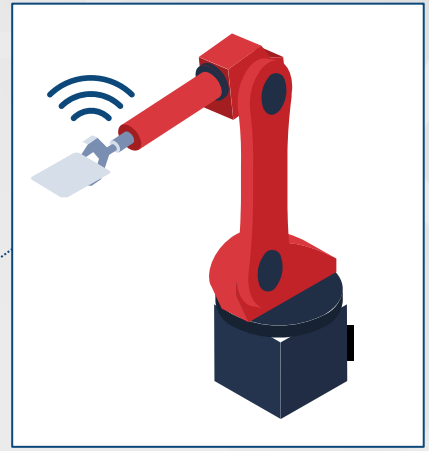
Industrial Revolutions



Industry 4.0

"refers to the fourth industrial revolution, which connects machines, people, and physical assets into an integrated digital ecosystem that seamlessly generates, analyzes and communicates data, and sometimes takes action based on that data without the need for human intervention."

Source: PwC's Insights



Industry 4.0 Optimizes Technologies

Nine Technologies Transforming Industrial Production

The Industrial Internet of Things

Cloud Computing

Cybersecurity

Automation

Robotics/ Cobots

Additive Manufacturing

Augmented Reality AR/VR

Simulation

Big Data/Artificial Intelligence AI

Benefits of Digital Manufacturing Implementation

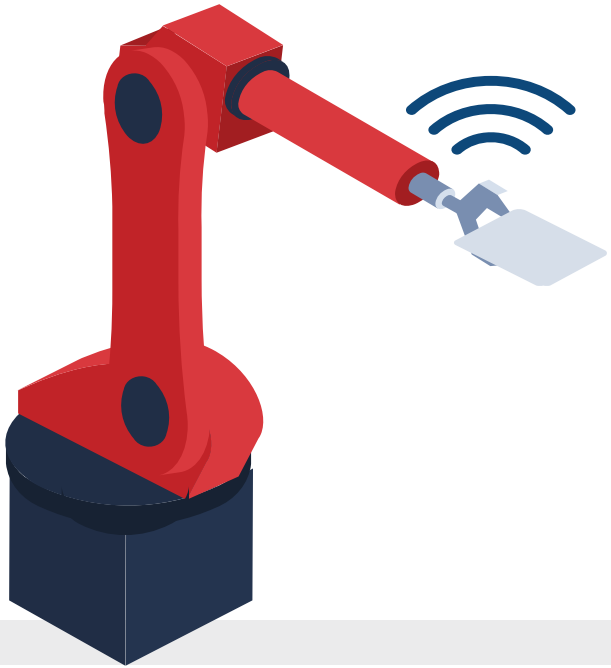
- **3-5%** Resource/process productivity increase
- **45-55%** Labor productivity increase in engineering
- **20-50%** Reduction in time to market
- **10-40%** Reduction in maintenance costs
- **10-20%** Quality costs reduction
- **20-50%** Inventory carrying costs reduction
- **30-50%** Machine downtime reduction

Challenges for Manufacturers

- What platform to choose
- Initial investment
- Lack of digital training/culture
- Cybersecurity to protect proprietary information and processes
- Intellectual property; defining ownership in a collaborative product development environment
- Data analytics integration — being able to complete and fully utilize the feedback loop
- Lack of coordination among departments and divisions

Industry 4.0: Building Your Digital Enterprise, pwc.com, April 2016

How to Approach Adoption



Take a measured approach

Start with a subsystem implementation to learn

Target specific problems with measurable impact

Experienced Support for Your Business

Start
by assessing your
company's situation

Make
recommendations for
opportunities where
technology solves
problems or generates
the greatest benefit

Help you develop a
business case

Rigorously
measure results

Where Advanced Manufacturing is Going

Connecticut Center for Advanced Technology, Inc.

Services Provided:

- Researching
- Developing
- Training
- Marketing
- Consulting
- Deploying
- ☑ All of the above

Technology demonstration projects are available for eligible CT manufacturers through the CT Manufacturing Supply Chain Integration and Industry 4.0 for the CT Manufacturing Supply Chain programs.

IIoT Integration Voucher Program (IVP) $20,000 to assist with the implementation of IoT solutions on your manufacturing floor. https://ctivp.ccat.us/

Manufacturing Innovation Fund Voucher Program (MVP) $49,000 to conduct a project aimed at improving your manufacturing productivity, efficiency and competitiveness. https://ctmvp.ccat.us/

Upskill Workforce ccat.us/education-workforce
Digital & I4.0 Workshops ccat.us/workshops
Identify & Train Highly-Motived Talent 180skills.ccat.us/rev-up

CONNSTEP

a CBIA affiliate

Services Provided:

- ☑ Researching
  Developing
  Training
  Marketing
- ☑ Consulting
- ☑ Deploying

Assess and Plan

Right and Ready Assessment

Smart Industry Readiness Index (SIRI)

Educate and Train

Webinars and Blogs supporting Advanced Manufacturing Technologies

Implement

Technology Scouting

Technology-Driven Market Intelligence

Project Management Support

Sustain

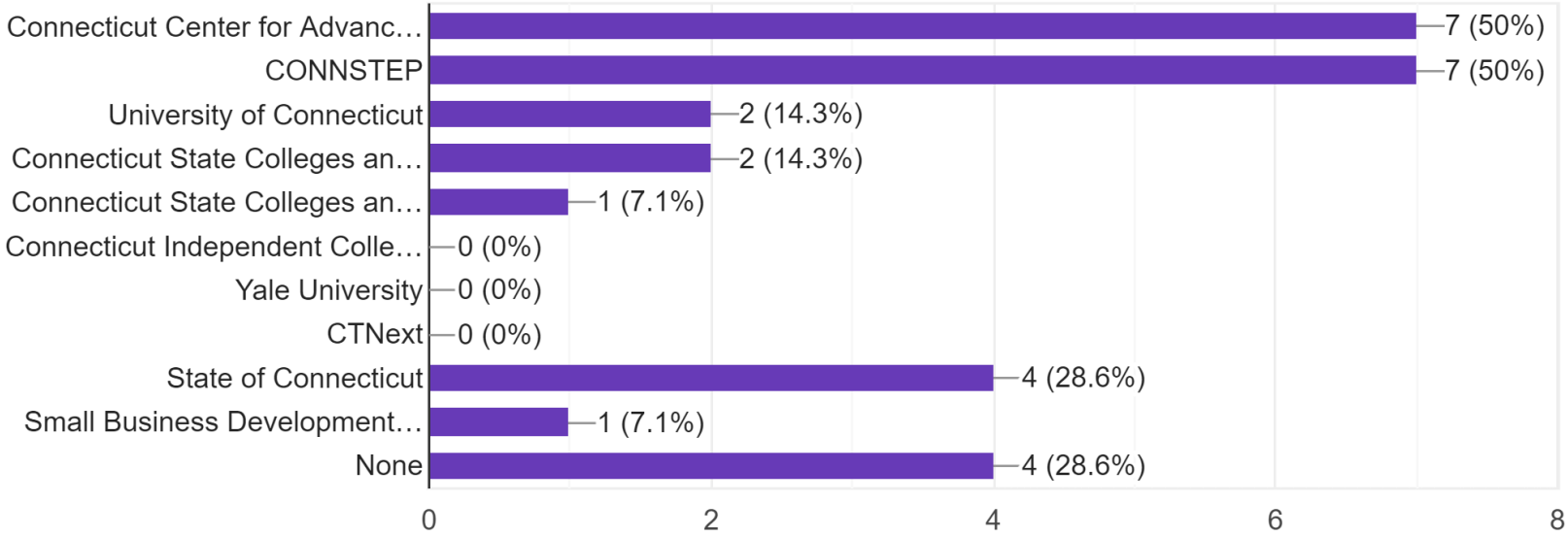
Business Process Improvement and Compliance Support

SURVEY RESULTS

Provider Usage

Have you used any of these providers that receive state or federal funding to support your Industry 4.0 implementations? (Check all that apply)

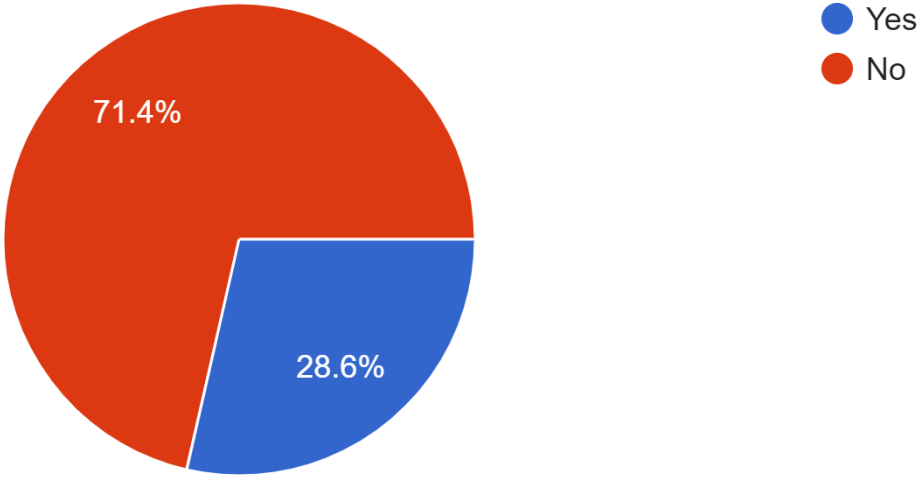
14 responses



Provider Awareness

Are you aware that all the providers in Question 4 support implementation (researching, developing, training, marketing, consulting or deploying) of Industry 4.0 technology?

14 responses



Comments on Gaps

in the services of providers that receive state and federal funding …

- There is really no where that tells mfgs who the providers are and what services they offer anywhere.
- Smaller businesses need to know what larger companies or other potential customers I'm CT need or value. This will help them position themselves to provide needed products and services.
- I do not fully understand what services any of them offer and what technology roadmaps, milestones and investment recommendations exist
- From my perspective, I need to make sure all i4.0 projects are compliant with CMMC and ITAR, as these projects typically run the risk of information/data breech or hacking.
- Unknown
- 1) Communication of specific services. 2) Partnership in supporting the state's tech ecosystem. Gap exists on both parts, must be driven by both Service Providers and Companies. 3) Unaware of most providers technological capabilities and potential gaps.
- I am still learning about the options and opportunities so at this point, I couldn't say.

SBIR/STTR Usage

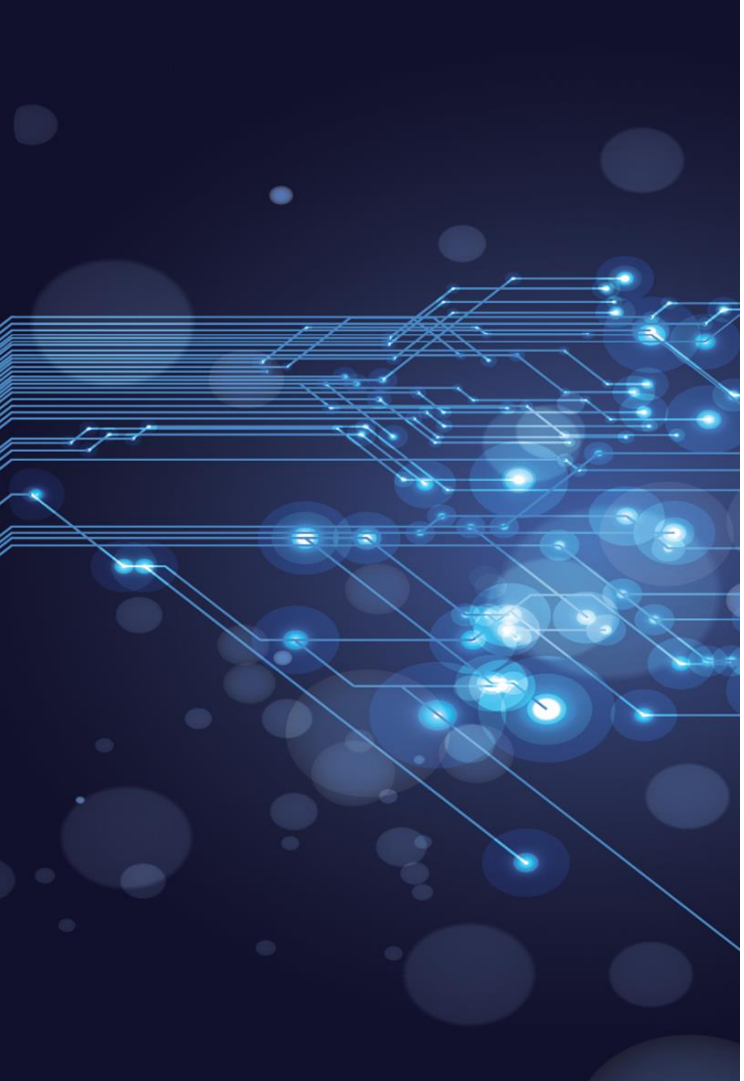
0% of manufacturers have taken advantage of SBIR/STTR programs

"Looking into SBIR, found it very difficult to navigate."

"Complex programs and difficult to navigate."

"I would like to take advantage of one of these programs but have found it very difficult, as a small business owner, to find the time to do the digging through the deluge of "opportunities" (both current and expired) to find one that could be related to our capabilities. It seems like there should be grad students with good research ability that could work with small businesses to find their needle in the haystack."

Take Away: opportunity to inform SMMs on resources to navigate SBIR/STTR



Next Steps

1. Identify Work Streams
2. Assign participation on Action Teams

See you again on **Wed, Sept 29** @ 11:00 am

Cadence: bi-weekly
Every Other Wednesday