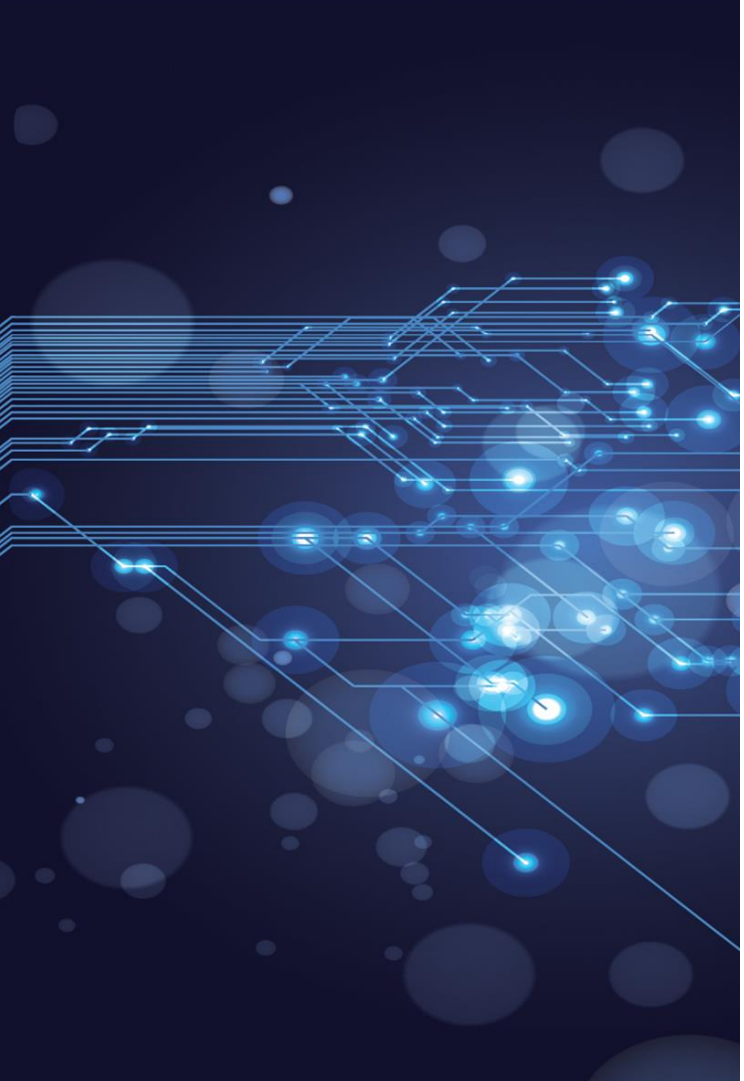
Manufacturing Technology Working Group

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

Meeting 07
Nov 17, 2021



Agenda

I. Welcome

II. Announcements / Roundtable
- Review schedule for i4.0 Provider features

III. Provider Spotlight: UCONN by Dr. Pamir Alpay

IV. Workstream Breakouts
- VSM: Value Stream Mapping
- Outreach & Resources

V. Adjourn

Next Meeting: Wed, Dec 8 @ 11a
Cadence: *weekly* December 8 & 15

Service Provider Feature Schedule

back-to-back weeks

Nov 17: University of Connecticut, Tech Park

Dec 8: NSF National Center for Next Generation Manufacturing as part of CSCU; and Small Business Administration

Dec 15: Value Stream Mapping Outbrief

Jan 6: Central Connecticut State University

Jan 20: Manufacturing Innovation Fund

Feb 3: Yale University

Feb 17: Connecticut Manufacturing Collaborative

Mar 3: Central Connecticut Chambers of Commerce

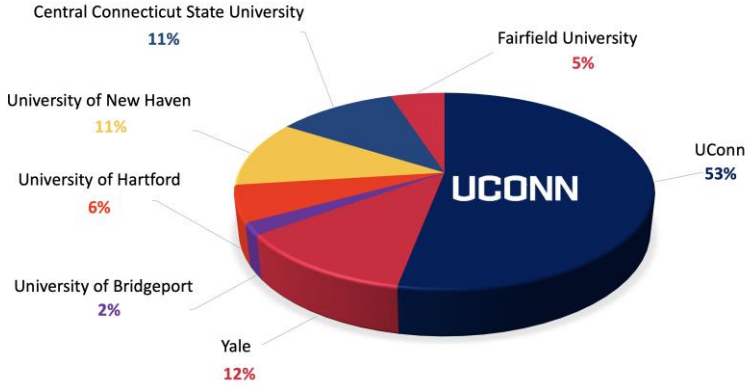
UCONN | SCHOOL OF ENGINEERING

Services Provided:

- ☑ Research
- ☑ Development
- ☑ Training
- Marketing
- Consulting
- Deploying

- **UConn: R1 University, >$375M external funding**
- **UConn Engineering: 7 Academic Departments…** Biomedical, Chemical, Civil & Environmental, Computer, Electrical, Mechanical, Materials
- 12 Majors, 16 Minors, i4.0 focused curriculum development
- 3400 Undergraduate, 840 Graduate Students
- 150 tenured/tenure track, 30 teaching Faculty
- ~$70M in research funding (%65 Federal, %17 Industry)
- **15 Professional Education (MS) programs, 9 Certificate programs, customized training and development**
- 800 Senior Design Students
- 220 Design Projects (2020)
- **120 Industry Sponsors (2020)**

ENGINEERS GRADUATING FROM CT UNIVERSITIES
ASEE data, 2019



UCONN
TECH PARK

Services Provided:

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

PARTNER WITH INDUSTRY

- Innovations that will define the future of their businesses
- Develop joint research grants
- Attract large corporations and SMEs in supply chain
- Shared equipment
- Advanced modeling
- Faculty expertise across disciplines

PARTNERSHIP OPPORTUNITIES

- Industry Contracts
- Joint Research Grants
- Internships for Students
- Scientific/Engineering Support
- Proof of Concept Space

ENERGY

- Utility Companies
- Energy Storage
- Water Filtration
- Clean Energy
- Sustainability

CYBER

- Cybersecurity
- Hardware Assurance
- Cyber-physical Security
- Big Data
- Info Technology

MATERIALS

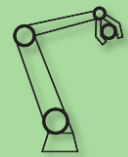
- Electron Microscopy
- X-Ray Tomography
- Custom Materials Design
- Aerospace Materials

MANUFACTURING

- Aerospace
- Naval
- Supply Chain
- Manufacturing Simulations

DATA SCIENCE

- Finance
- Insurance
- Engineering



AI/ROBOTICS

- Artificial Intelligence
- Robots
- Machine Learning
- Industry 4.0

Manufacturing Master of Engineering

UCONN
SCHOOL OF ENGINEERING
PROFESSIONAL EDUCATION

- 30-credit fully online graduate degree
- State-of the art education and skills to improve manufacturing efficiency featuring
- Synergistic blend of traditional manufacturing techniques and the recent, revolutionary progresses in the Industry 4.0 initiative.

IN ADDITION TO PROFESSIONAL DEVELOPMENT SKILLS, THE HIGHLIGHTS OF THE MANUFACTURING MENG PROGRAM INCLUDE:

- Concepts and techniques of real time statistical process control.
- Business communication objectives that develop and analyze written materials in various formats as well as plan and deliver presentations.
- Manufacturing decision making in production, process, and warehouse environments.
- Multiple manufacturing methods for various material types.
- Solving advanced engineering mathematical problems using linear algebra, differential equations, transformations, state variables and probability.
- Flexibility, bringing engineering professionals the classes they need via convenient online course delivery.

MENG CORE COURSES

ENGR 5311	Professional Communication and Information Management
ENGR 5321	Engineering Project Planning and Management
ENGR 5314	Advanced Engineering Mathematics
ENGR 5315	MENG Capstone Project

FOR MORE, PLEASE VISIT:

https://masterofengineering.uconn.edu/manufacturing/manufacturing-plan-of-study/

soeprofed@uconn.edu
Phone: (855) 740-4044

Workstreams

VSM: Value Stream Mapping

Map out current state value stream of provider network

CONNSTEP
a CBIA affiliate

Resources

Focus on SBIR / STTR; include other grant opportunities & resources

ctnext

Outreach

Awareness of manufacturers to provider network

CAT Connecticut Center for Advanced Technology, Inc.

Ecosystem Mapping

Cataloging comprehensive profiles of providers (Deliverable 1)

CONNSTEP
a CBIA affiliate

Connecticut

Partner w/ Manufacturing Innovation Fund Initiative

Outreach

Discuss → Develop → Decide → Deploy

ENGAGE.

EDUCATE.

ENABLE.

Structured process of education:

CT case studies of how i4.0 tech is used to solve a problem

Who is doing this well? State or Entity

1 pager

unified message

Communicate thru Manufacturing Associations

i4.0

What does a business need?
How to get there? Integration.
Best practices / case studies.

entry-level

Outcome of MTWG is to create a strategic plan.

ctnext

Equipping early-stage companies and entrepreneurs with resources, guidance and networks to accelerate growth and success.

Services Provided:

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

Cultivating a network of public-private partnerships and acting as a catalyst, supporting entrepreneurs from ideation and growth to exit.

SBIR Resources

- Generating awareness and combatting lack of awareness of SBIR/STTR opportunities in CT
- Humanizing the process of navigating the federal funding landscape
- Pre- and post-award services
- Success stories

Other Resources

- Access to talent
- University partnerships
- Alternate sources of financing