



**IAAE**<sup>®</sup>

International Academy of  
Automation Engineering<sup>®</sup>

INTERNATIONAL ACADEMY OF  
AUTOMATION ENGINEERING

# Overview for manufacturers

The capability building partner of choice  
for manufacturers, working for a purpose, not  
for profit.



## IAAE was conceptualized in 2012 in response to a gap in the availability of the right people with the right capabilities needed to design, engineer, and maintain factory automation systems in the highly regulated Life Sciences industry.

Over time, a viable framework was developed to build and sustain the automation workforce of the future, including early pilots with academia and a partnership with the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL). This journey resulted in curriculum aligned with the special needs of manufacturers operating in FDA regulated industries. The credentialing provided by IAAE also represents a benefit to both learners and manufacturers, offering assurance of capabilities and skills that have been developed.

As a not for profit organization, IAAE is supported by subscriptions to online content/managed programs, and also through partnerships on advanced research with innovation centers such as MxD and MIT. Together, this community continues to generate new and relevant knowledge that can be applied in real-world manufacturing settings.

**“Our goals for growth require an educated workforce.** A strong common foundation built on standards expedites all steps of achieving the 4.0 vision and beyond.”

**Rachelle Howard, PhD**  
Engineering Fellow, Automation and Controls Vertex Pharmaceuticals, Inc

**“I will definitely recommend this training to all my colleagues** from the automation community and beyond.”

**Loubna El Kastali,**  
Global Automation Manager, GSK Vaccines

**“I founded the IAAE as a place where education and research so needed by our industry is accessible to anyone seeking an exciting and meaningful career. Good for them, good for our world.”**



**Mike Hourigan,**  
Founder and President

## Vision, Mission, Value Proposition

IAAE is at the forefront of delivering digital manufacturing education and providing programs in the face of unprecedented technological advancements and industry challenges playing out in diverse global manufacturing settings. A prepared workforce is your most important asset.

- IAAE believes in the power of intelligent automation to better humanity and is dedicated to enabling a workforce that excels in digital manufacturing careers. We provide vendor independent automation education and credentialing services, earning your trust as the ecosystem of choice for digital manufacturing pioneers.
- We serve growth minded learners who need accessible, quality content, and a community to thrive. Our goal is to help individuals reach their potential and in turn lift the world to a better economy.
- A properly enabled workforce, with the capabilities to engineer digital manufacturing solutions, is a critical asset for manufacturers who need to keep pace with the demands of society.
- Technological advancements are outstripping human capabilities and enterprises must be innovative to continue to meet these demands.
- The ability to manufacture high quality, affordable products also creates enterprises which offer life sustaining careers for people, thereby enriching their communities.

**Long-term success depends on foundational elements** that include a commitment to building capabilities and a dedicated team to manage the process.



IAAE work is steered by a Life Sciences Advisory Board comprised of top medical manufacturers across the world. Together, working on a collaboration to design Future Skills Pathways, the Board identified a needed focus on 6 key capabilities to support Digital Manufacturing objectives:

- OT Cybersecurity
- Digitalization of data/assets
- Use of Data
- Digitalization of process
- Increasing automation of the process
- Transformation

Our courses have been designed to harvest the underlying skills necessary to support these capabilities. More than 5 years of review and vetting have resulted in Life Sciences digital manufacturing education – created by industry for industry – specialized in the exacting standards of pharma and medical device manufacturing.

By way of example, let's explore the Digitalization of Data/Assets capability.

Digital manufacturing Capabilities:	This capability relies on Underlying Skills that include:	IAAE Courses designed to Build These Skills include:
<ul style="list-style-type: none"> <li>OT Cybersecurity</li> <li>Use of data</li> <li><b>Digitalization Of data/assets</b></li> <li>Digitalization of process</li> <li>Increasing automation of the process</li> <li>Transformation</li> </ul>	<ul style="list-style-type: none"> <li>Data capture</li> <li>Historians</li> <li>OEM equipment interfacing</li> <li>Integration of data flows</li> <li>Integration of both vertical and horizontal systems</li> </ul>	<ul style="list-style-type: none"> <li>Basic Process Instrumentation</li> <li>High performance sensors</li> <li>Network Configurations Principles</li> <li>Introduction to Industrial Digital Field Protocols</li> <li>Telecommunications</li> <li>Documentation for Automation Engineering</li> <li>Good Automated Manufacturing Practice</li> <li>Presenting digital technologies to stakeholders</li> <li>Communicating the value of digital technologies for bio-manufacturing</li> </ul>

To explore more Capabilities, Skills and Education opportunities, visit the Education page at MyIAAE.org

Over 5 years of delivering education to corporate members has created insight into the coursework chosen by learners in various roles.

By way of worked examples, these profiles are offered to help assist with proper sizing of subscription models. They are offered as tools to right-size your own subscription.

	Execs/Directors	Managers/Function leads	MS&T Personnel	Validation Personnel	Maintenance Engineer	Commissioning Qualification and Validation	Senior Automation Engineer	Junior Automation Engineer
# Modules Taken	7	10	15	10	25	35	20	35
# People in the role	5	10	5	9	5	5	10	20
Total Modules per role	35	100	75	90	125	175	200	700

**Total Modules Needed 1500** This organization's size positions them for the greatest value when enrolling in the **Unleash** package. Overall, they'll save more than 20% on course discounts along with other additional benefits.

	Execs/Directors	Managers/Function leads	MS&T Personnel	Validation Personnel	Maintenance Engineer	Commissioning Qualification and Validation	Senior Automation Engineer	Junior Automation Engineer
# Modules Needed	7	10	15	10	25	35	20	35
# People in the role								
# Modules Required								

Optionally use this table to estimate the number of modules you'll need to prepare your workforce to take on the digital manufacturing goals of your enterprise.

Hands on Labs for these modules are offered through partnering Universities including:



[https://www.btec.ncsu.edu/industry/short\\_courses/automation.php](https://www.btec.ncsu.edu/industry/short_courses/automation.php)

## Rewards to

### Enterprise

- Optimize performance for your Top Grade team
- Build enterprise cohesiveness
- Facilitate improved recruitment
- Benchmark and forge strategic partnerships with other lighthouse companies
- Gain insights into key market trends
- Be the destination workplace for young talent

### Research

- Early exposure to leading edge, publically funded research
- Access to curated library of knowledge assets
- Bridge the scholar-practitioner gap through direct engagement with the Scientific community
- Connect to and leverage the benefits from government funded research

### Community

- Co-create a shared understanding and language for advancing technology
- Promote a common platform definition & recognition
- Align with the mission of a socially conscience nonprofit to better humanity
- Be part of something greater than yourself
- Connect with a cadre of professionals motivated to enable a better economy
- Help to optimize workforce talent by reimagining the human value proposition for manufacturing

## Subscriptions

### Launch

300 Modules  
\$36,000/year or  
\$3,600/month

### Lift

750 Modules  
\$90,000/year or  
\$7,800/month

### Unleash

1500 Modules  
\$180,000/year or  
\$16,000/month

## The impact so far



8,500+ hours  
of online  
learning consumed



500+ credentials  
awarded



100+  
SME Presentations delivered



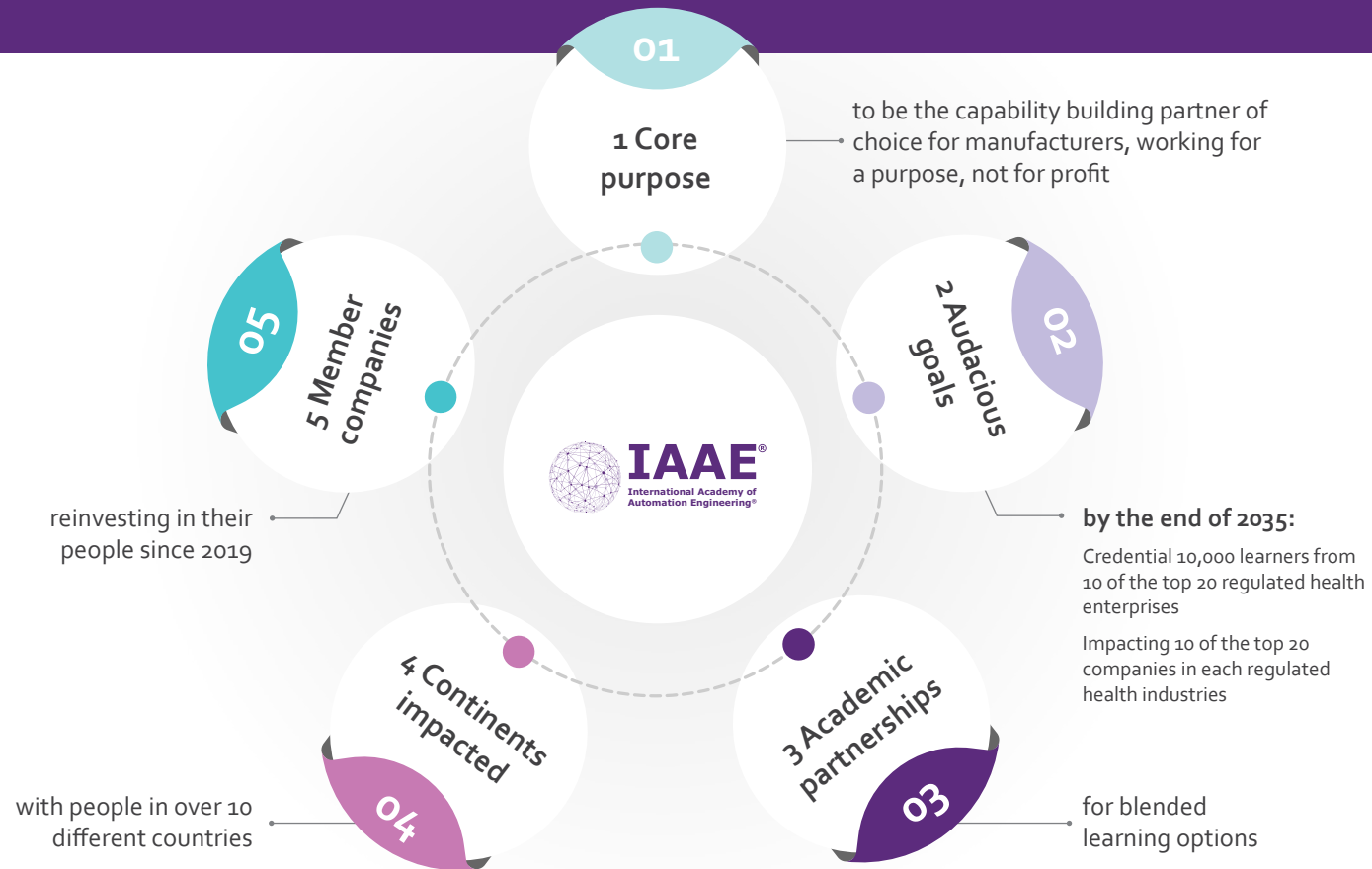
50+ Courses  
focused on digital  
manufacturing, vetted by  
industry and academia



40+  
Life Sciences Advisory Board  
meetings over 5 years



10+ companies  
represented on advisory board  
(including Merck, Lilly, BMS,  
Amgen, Sanofi, GSK, Vertex, Takeda,  
Biogen, Catalent, ThermoFisher,  
Roche, and Organon)





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### Our strategy story:

The Life Sciences industry is at an inflection point in being able to find, develop, and keep people who can lead the industry forward through innovative digital manufacturing, to ensure better medicines, devices, and diagnostics for patients.

IAAE is adept at helping manufacturers develop in their people both the growth and technology agnostic mindsets necessary to understand digital manufacturing concepts so that they can innovate solutions.

As a not-for-profit education and credentialing organization, the IAAE seeks to credential 10,000 learners globally, and to engage 10 of the top 20 companies in each regulated health industry, by the end of 2035.

### CONNECT WITH US

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