

The logo for ICATT, consisting of the letters 'ICATT' in a bold, dark blue, sans-serif font. A vertical line is positioned to the right of the letters.

# ICATT

APPRENTICESHIP  
PROGRAM  
TRAIN.RETAIN.GROW.

A faded, light blue background image showing two men in a technical or industrial setting. One man is holding a large black folder or tablet, and the other is working on a piece of machinery or equipment.

**INDUSTRY CONSORTIUM FOR ADVANCED TECHNICAL TRAINING  
PROGRAM BASICS**

# ISSUES IN MANUFACTURING TODAY ...

Aging workforce  
& retirement  
concerns

Skills gap with  
new and existing  
employees

Younger workers  
& recruitment  
challenges

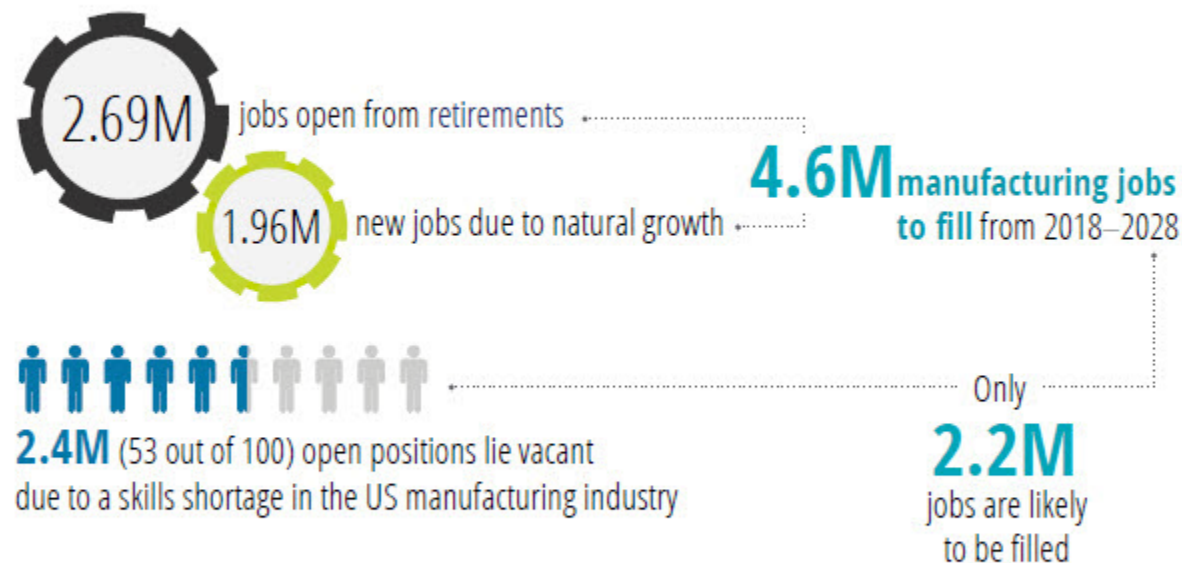
Low  
unemployment\*

October 2023: 3.9% = near a five-decade low

RETENTION!!!

FIGURE 1

## The skills gap may leave an estimated 2.4 million positions unfilled between 2018 and 2028



\*Calculated on the basis of 52.7% of the skilled manufacturing positions that are unfilled (per the 2018 survey)

\*\*Retirement age of 66

Source: BLS Data, OEM (Oxford Economics Model), Deloitte and Manufacturing Institute skills research initiative.

# THIS SKILLS GAP COSTS MORE THAN YOU THINK

## In Maintenance

- Overtime in maintenance
- Unplanned downtime
- Overtime in production



- Expedited shipping
- Late delivery
- Financial penalties
- Customer relationships jeopardized

## In production

- High scrap rates
- Broken machines
  - Service calls from OEM Manufacturer
  - Spare parts inventory ties up capital



## Overall company health

- Growth targets missed
- Frustration & Turnover in Sales Dept, HR, Maintenance, Production
- Ability to implement Industry 4.0 technologies



**INDUSTRY CONSORTIUM FOR  
ADVANCED TECHNICAL TRAINING  
- ICATT -**

# ICATT: THE TURNKEY SOLUTION DESIGNED TO...



- Help employers create a **sustainable pipeline of talent**
- **Increase retention**
- Invest in training to build **employee loyalty**
- Access **new applicant pools** that couldn't be tapped in before

As well as...

- Train *well-rounded* workforce
- Objectively measure the skills acquired by every single apprentice



82%

of ICATT Apprentices complete the program

~90%

\*based on 656 apprentices since 2014

of ICATT Apprentices remain in their sponsoring company after completing their training





# ICATT APPRENTICESHIP: EMPLOYER-SPONSORED TRAINING AND EDUCATION

- Employer selects and hires the apprentice; this is the primary relationship
- Employer provides on the job training (OJT). Active training and not job shadowing is an important aspect.
- Employer invests in the apprentice:
  - Tuition for associate degree
  - Stipend while in classes
  - Hourly wages while at work
- 3-year apprenticeship for most profiles; optional 2-year FTE commitment upon successful completion ensures return on investment

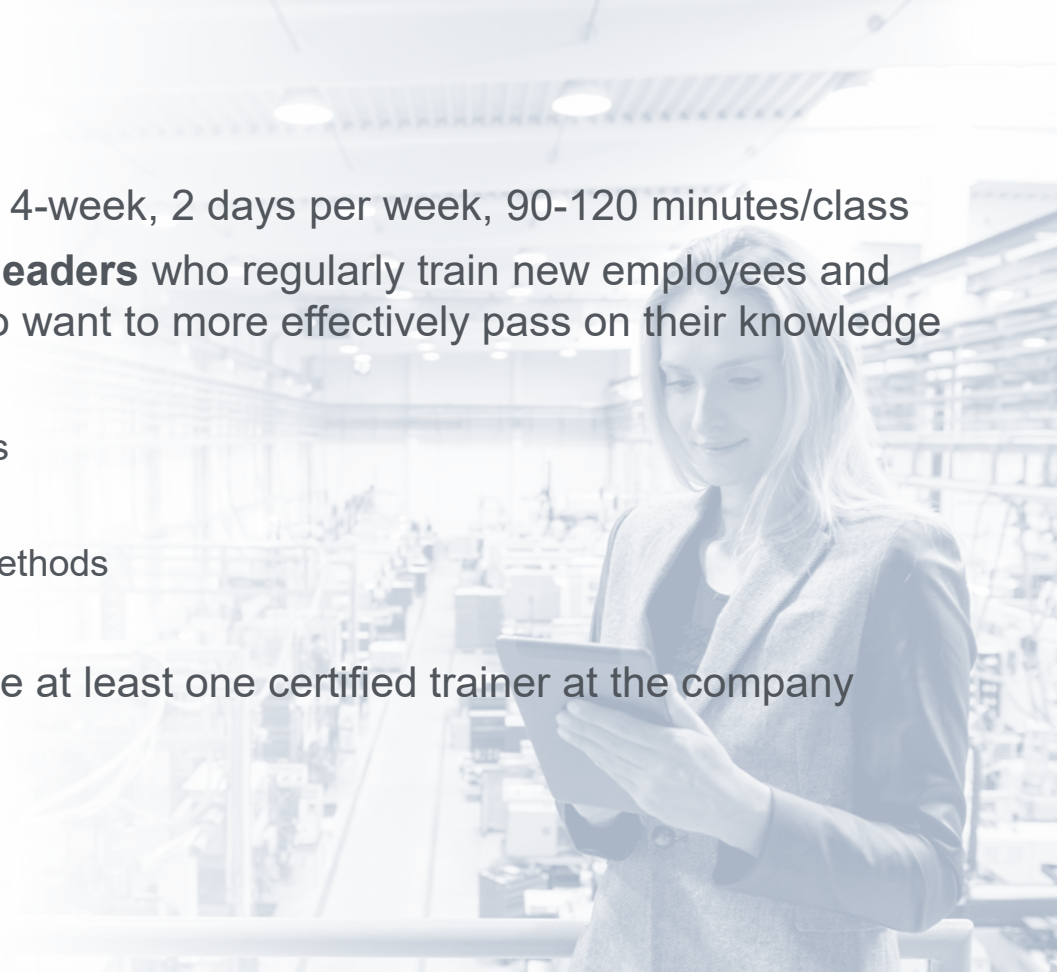


# COLLEGE COURSEWORK

- College courses align with OJT
- Candidates must place into college program
- Classes/Apprenticeships start in August
  - 2 days college - 3 days company
  - 1 day college - 4 days company
  - 8-week blocks
- Profiles
  - Advanced Manufacturing Technician (Ind. Maint)
  - Mechatronics Technician
  - CNC Machining Professional
  - Pharmaceutical Manufacturing Technician
  - Industrial Electronics Technician
  - Business Apprenticeship
- Apprentice earns Associate Degree in Applied Science
  - DOL Journeyman Card
  - DIHK Certificate

# TRAIN THE TRAINER

- In-person 4-day seminar **or** virtual class 4-week, 2 days per week, 90-120 minutes/class
- Designed for **Trainers/mentors**, **Team leaders** who regularly train new employees and **Subject matter experts** and others who want to more effectively pass on their knowledge
- Learn how to
  - evaluate training needs and learning styles
  - design training plans and training modules
  - select appropriate training and teaching methods
  - evaluate and motivate your apprentices
- Network Companies are required to have at least one certified trainer at the company



# ICATT TEAM SUPPORTS AT EVERY STEP



- Offers “Train the Trainer” programs
- Assists with recruiting and support company recruiting efforts
- Assists in development of customized company training plans based on industry-defined competencies
- Collaborates with community colleges for classroom training
- Provides program administration, management, and ongoing quality control of training
- Prepares and administers ICATT Apprenticeship Program Examinations
- US DoL registration and DIHK Certification



# TRAINING PROFILES

# ADVANCED MANUFACTURING TECHNICIAN

## Technology

- Set up, troubleshoot and repair mechanics, pneumatics and hydraulics, incl. reading technical diagrams and schematics
- Understand and repair motors and drives
- Choose or develop correct test procedures and use quality management systems
- Use manual and CNC machinery
- Understand properties of different materials and how they affect production processes
- Select and perform correct joining technology, e.g. welding, brazing
- Install and configure programs for hardware and software components
- Set up basic PLCs (with option to expand)

## Methodology

- Work systematically (Plan-Do-Check-Act)
- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Work safely, understand appropriate precautions and use PPE correctly
- Estimate manufacturing costs based on machine cost, material costs and labor costs
- Communicate effectively

## Potential Roles:

- Build, assemble, and/or set up production machinery
- Maintenance
- Service

# MECHATRONICS TECHNICIAN

## Technology

- Set up, troubleshoot and repair mechanics, pneumatics and hydraulics
- Wire up motors and drives
- Choose and carry out joining techniques
- Install and configure programs for hardware and software components
- Build, test, modify, and maintain industrial control systems
- Install, test, modify, and maintain electrical assemblies
- Read technical diagrams and schematics
- Choose or develop correct QA test procedures
- Assemble, disassemble, secure and transport machinery and systems

## Methodology

- Work systematically (Plan-Do-Check-Act)
- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Work safely, understand appropriate precautions and use PPE correctly
- Quality management
- Communicate effectively

## Potential Roles:

- Build, assemble, and/or set up production machinery
- Maintenance
- Automation

# INDUSTRIAL ELECTRONICS TECHNICIAN

## Technology

- Assembly and connection of electrical operating equipment
- Wire up motors and drives
- Measurement and analysis of electrical data, functions and systems
- Install and configure programs for hardware and software components
- Integrate IT systems into networks
- Program, test, modify, and maintain industrial control systems
- Install, test, modify, and maintain electrical assemblies
- Read electrical diagrams and schematics
- Choose or develop correct QA test procedures
- Maintain and repair decentralized energy supply systems

## Methodology

- Work systematically (Plan-Do-Check-Act)
- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Understand the importance of electrical services and maintenance
- Work safely, understand appropriate precautions and use PPE correctly
- Quality management
- Communicate effectively

## Potential Roles:

- Install, set up, and/or repair industrial electronic equipment
- Maintenance Technician
- Service Technician



# CNC MACHINING PROFESSIONAL

## Technology

- Program and operate manual and numerically controlled machine tools
- Use precision machining tools to produce components
- Analyze and prepare drawings
- Identify and use geometric data; metrology
- Understand properties of different materials and how they affect production processes
- Plan and organize computer-aided production
- Plan, monitor and improve production processes in discrete manufacturing

## Methodology

- Work systematically (Plan-Do-Check-Act)
- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Work safely, understand appropriate precautions and use PPE correctly
- Estimate manufacturing costs based on machine cost, material costs and labor costs
- Communicate effectively

## Potential Roles:

- Program CNC machines and production systems
- Set up machines and systems, conduct test runs, maintain and inspect machine tools
- Tool and die maker (with additional coursework)

# BUSINESS APPRENTICESHIP

## Training Areas

- Organize and coordinate office administration and procedures, in order to ensure organizational effectiveness, efficiency, and safety
- Partner with and support core business functions such as
  - HR
  - Accounting
  - Sales
  - Marketing
  - Events and moreto ensure smooth operation.
- Support in-house or off-site activities, like luncheons, celebrations and conferences
- Provide general support to visitors

## Methodology

- Work systematically (Plan-Do-Check-Act)
- Analyze problems for effective troubleshooting
- Understand the importance of correct documentation
- Quality and Time management
- Communicate effectively

## Potential Roles:

- Entry- and mid-level positions in Human Resource, Accounting, Marketing, Sales, Purchasing, Administration, Consulting

The background is a blurred industrial scene. On the left, a robotic arm is visible, extending from the top towards the center. Below it, a conveyor belt runs across the floor, with numerous white, spherical objects (possibly pills or capsules) being processed. The right side of the image shows a large window with a grid pattern, suggesting a factory or laboratory setting. The overall color palette is light and desaturated, with a blue tint.

# TIMELINE

# TIMELINE – AUGUST START

## ALL REGIONS AND PROFILES

- Fall / Winter:
  - Recruiting for cohort starting the following August: open houses, job fairs, presentations.
  - Train-The-Trainer Workshops.
- Spring:
  - Recruiting for August cohort continues.
  - Recommended internship/part-time work for HS seniors, Trainer-The-Trainer Workshops
  - Customization of company training plans
- May:
  - Window of opportunity closes for effectively reaching HS grads
- June 30:
  - Deadline for companies to join for the August cohort
- Approx. Mid/End August: College courses begin

# WHY ICATT?



Connecting with the next generation of manufacturing talents saving you time and money



Attracting younger employees to your organization alleviating retirement concerns



Closing the skills gap through OTJ training and college teaching with mechanically inclined hands-on learners



Bringing today's technology to yesterday's manufacturing processes through college educated apprentices



Customizing company-specific training plans focused on your needed skills while conforming to industry defined standards



Building long-term, loyal employees (sense of belonging) thru investment of time and financial resources while lowering employee turnover in the process



**LEARN MORE:**  
**[www.icattapprenticeships.com](http://www.icattapprenticeships.com)**

Sascha Alexander Kuhn  
Kuhn@gaccmidwest.org  
312-494-2167

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# **QUESTIONS, ANSWERS, & NEXT STEPS**