# Ohio Semiconductor Collaboration Network

# **Represents All Ohio Community Colleges**



OHIO ASSOCIATION OF COMMUNITY COLLEGES





- Intel Groundbreaking event, September 9, 2022
- Semiconductor Education and Research Program Announcement

# **Working Together for One Purpose**

• September 2022 Intel announced the support of Ohio semiconductor education and research through grants totaling \$17.7M as part of a \$50M initiative

• 8 grants were awarded

Ohio Semiconductor
 Collaboration Network
 representing all 23 Ohio
 Community colleges
 awarded \$2.8M



#### **Regional Strategies**

# Northeast, Southeast, and Southwest:

- Addresses regional needs and builds regional student pipelines
- Strengthens regional transfer to universities: Associates, Bachelors, and beyond
- Localized access to equipment and resources

# **Statewide Collaboration Network**

#### **Statewide System for:**

- Short-term training and associates degree alignment
- Best practice replication
- DEI-centered recruiting and professional development
- Dual enrollment CCP
- Experiential and hands-on learning

#### Intel & Industry Engagement

- Primary channel for associate degree talent
- Navigate Ohio ecosystem
- Recognize and interpret state nuances
- Leverage existing partnerships i.e. OMA
- Mfg Industry Sector Partnerships / "Good Jobs Challenge"

# OACC Statewide Collaboration Network Structure

#### **Steering Committee**

• Builds a collaborative educational ecosystem for the semiconductor industry to maximize opportunity and talent.

#### Industry Partners

 The collaboration network serves as the state's primary liaison to semiconductor employers.

#### Curriculum Committee

 Works in collaboration and with Intel <u>SME's</u> to develop semiconductor content to be deployed across the state

# **Intel Ohio Talent Summary**

### 3,000 New Hi-Tech Intel Jobs

70% Technicians

25% Engineers

5% Support Hiring (starting now)

#### Targeting 50% hired by 2024



#### **Ohio Semiconductor Collaboration Network - Success Metrics**

Deliverable	Outcome		
<b>KT1: Curriculum Development</b> * Two certificate programs modified per college	<b>Certificate Programs</b> <b>Modified: 46</b> <i>Expected Start Date: Summer 2023</i>		
<b>KT1: Curriculum Development</b> *9 modules created with 80% adoption across 23 community colleges	Curriculum Modules Offered: 165 Expected start date: January 2023		
<b>KT1: Curriculum Development</b> *4 new/enhanced courses per college	<b>Enhanced Courses</b> <b>Offered: 90</b> <i>Expected start date: January 2023</i>		
<b>Total Number of Graduates:</b> Associate degree and certificate completions*	Degrees & Certificates Earned: 5,200		
<b>Female Student Completions:</b> <i>Completion of a bootcamp, certificate,</i> <i>or degree</i>	Female Completions: 1,200		
<b>URM Student Completions:</b> <i>Completion of a bootcamp, certificate, or degree</i>	URM Completions: 1,700		

### Manufacturing Technician: What It's Like To Work at Intel



#### **Network Steering Committee Members**

eadscolumbus State Community CollegeScot McLemore - Executive in Residencebio Association of Community CollegesMichael Evans - Director, SemiconductorCollaboration Network			
Ohio Manufacturers' Association	Sara Tracey - Managing Director, Workforce		
Intel Ohio Representative	TBD		
Jobs Ohio	John Sherwood - Manager, Talent Strategy		
Columbus State Community College	Dr. Rebecca Butler - Executive Vice President		
Central Ohio Technical College	Dr. John Berry - President		
Northeast Regional Consortium: Lorain County Community College	Terri Sandu - Director, Talent and Business Innovation		
Southeast Regional Consortium: Zane State College	Dr. Chad Brown - President		
Southwest Regional Consortium: Clark State College	Dr. Jo Blondin - President		
3 at Large College Representatives: Marion Technical College North Central State College Owens Community College	Dr. Ryan McCall - President Dr. Dorey Diab - President Dr. Dione Somerville - President		
Equity Focused Representative Ohio Association of Community Colleges	Laura Rittner – Executive Director, Success Center		

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# **Steering Committee Workstreams**

#### Workstreams

Each Workstream will have a Working Group Lead who will serve as a thought partner, co-develop draft content/hypotheses, and share recommendations with the Working Group during Steering Committee meetings.

	Workstream	Tentative Lead	
Value Proposition	<ul> <li>Through facilitated discussion, reflection on lessons learned from prior research, and an understanding of the broader ecosystem in which we operate, we will clarify the things OACC members can do to close the gap, including attracting women, underrepresented minorities, veterans &amp; military families to the semiconductor sector</li> </ul>	Jack, Caroline	
Opportunity Sizing	<ul> <li>Through facilitated discussion and research, we will define the 5-year semiconductor OACC member asset gap, spanning faculty/seats, curriculum, credentialing, recruiting, advocacy, facility &amp; equipment, and other</li> </ul>	Scot, Kaci, Caroline	
Funding	<ul> <li>Maximize the opportunity to successfully pursue and win funding available for semiconductor asset development</li> </ul>	Jack, Chris	
Engagement	<ul> <li>We will partner with a communications consultant to provide input into the branding, positioning and communications plan development</li> </ul>	Michael, Sara	
Governance	<ul> <li>Building on the Value Proposition and Implementation workstreams, we will align on the rules and guiding principles for implementation</li> </ul>	Jack, Chris, Caroline	
Implementa tion	<ul> <li>We will define the goals of the Strategic Plan, and create a description of the work to be done as well as a workplan that will serve as a roadmap for execution</li> </ul>	Michael, Caroline	5

# Semiconductor Equipment Technician Curriculum Core Knowledge & Skill Areas



**Blue** = 80% of the technician skillset reside in current statewide Engineering Technology Associate degree programs Yellow = Semiconductor specific skillsets, targeted for curriculum development

## Sample Advanced Manufacturing Pathway

	Associate of Applied					
One Year Certificate			Bachelor of Applied Science*			
Semiconductor 10	1					
Intro to Manufacturine	y	Robotics	Industrial			
Into to Vacuun	í I	Data Acquisition Systems	Instrumentation and Control			
Systems	s	Digital systems*	Smart Automation			
Electrica	/	Composition*	Systems			
Basics(AC/DC)	<sup>•</sup>   7	echnical Writing	Lean Six Sigma			
Digital and Compute Literac		Semiconductor	Industrial Internet of Things			
Hand Tool Basics	3	Manufacturing	Quality Systems			
Basic Schematic		Processing*	Solidworks*			
Fluid Mechanics		Engineering Materials*	Industrial Robotics Calculus			
Basic Matl	ן ר	Engineering	Gen-eds			
Mechanical System		Statistics*				
		Physics				
		Gen-eds				

CAD\*

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> \*Indicate existing TAG Courses

Courses in *Italics* indicate existing/prospective CCP Courses

## TAG Course Sequence Example

#### Introduction to Semi-Conductor TAG (Full Sequence)

Full Learning Outcome Embedded (A-H)	Introduction to Sequence 1: Learning Outcomes A and B	Semi-Conductor Introduction to Se Sequence 2: Learning Outcomes C and D	TAG (Sequence 1) emi-Conductor TAG (Sequence 2) Introduction to Semi-Conductor TAG (Sequence 3) Introduction to Semi- Conductor TAG (Sequence 4)	OHIO ASSOCIAT COMMUNITY CO	DCC TION OF DILLEGES
					*Indicate existing TAG Courses

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### **Marketing and Communications: Ohio Semiconductor Collaboration Network**

- Working towards a common enrollment and marketing vision
- Collective, cross-institutional collaboration: building a common community college brand platform
- **Opportunity**:
  - Increase the pipeline of students in advanced manufacturing pathways and Intel career pathways
  - o Address broader enrollment issues facing all Ohio community colleges
- Deliverables:
  - Develop a motivating brand position, narrative and story
  - Develop a collaborative messaging strategy
  - Develop a marketing communications plan
  - $\circ~$  Develop marketing assets for the colleges to deploy locally



## Marketing and Communication Directors Meeting: 1/24/2023



# Equity PD for OACC Semiconductor Network

### **Community of Practice**

Invitation for small team from each college to join a community of practice for deans, program directors and faculty in advanced manufacturing. Virtual kickoff in January 2023.

## **Culture of Belonging, Course Redesign & Active Learning Micro-Courses**

Cohorts of faculty and staff taking ACUE's 8-week micro-courses beginning in the spring and continuing throughout 2023.

## National Alliance for Partnerships in Equity (NAPE)

**Explore STEM Careers:** Provides a framework with lesson plans and activities to help counselors, teachers, and administrators to educate and inspire every student to consider a career in STEM. Interactive session designed to empower educators with effective messaging to communicate to a diverse group of students the breadth of opportunities and pathways in STEM careers and to introduce tools for students to explore STEM-related careers.

**Program Improvement Process for Equity (PIPE):** Five-Step Improvement Process that is based on practical yet rigorous methods and tools to guide state and local efforts to improve access, equity, and diversity in nontraditional occupations and STEM fields.

### **Alignment with Professional Development Mini-Grants**

Leveraging and aligning with the participation in content professional development and mini-grant funding to campuses



## **2023 Major Milestones: Ohio Semiconductor Collaboration Network**

• April 2023: Curriculum finalized and validated by the OSCN curriculum committee

• May 2023: Semiconductor curriculum modules will be widely disseminated via an online platform to faculty at Ohio's 23 community colleges

- June 2023 December 2023: Broad and targeted marketing of community college semiconductor programs for Intel technician career pathways
- Fall 2023: Semiconductor programs begin for early adopter community colleges