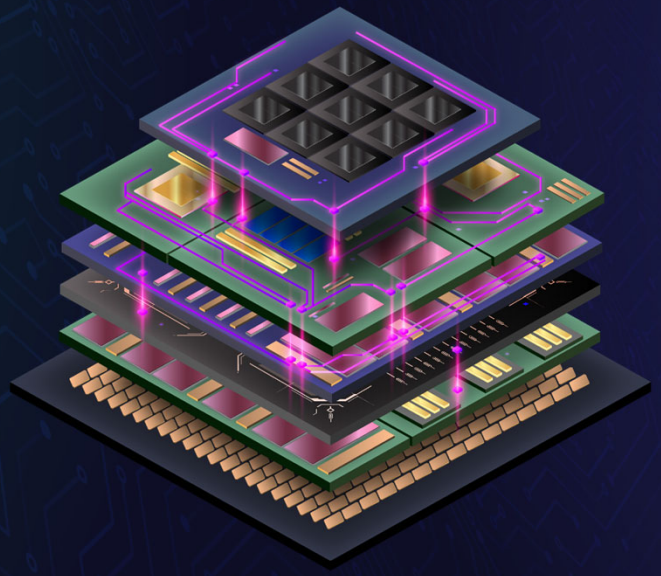
Next-Generation Microelectronics Manufacturing

NGMM Summit



TEXAS INSTITUTE FOR ELECTRONICS

The University of Texas at Austin

Workforce Development Overview

Alyssa Reinhart

DARPA NGMM Summit

October 27, 2025

TIE WFD Vision

While TIE's research efforts will focus on 3DHI, the workforce development strategy will cover the entire semiconductor value chain, with the intent of benefiting the State of Texas and United States more broadly. By 2030, TIE will…

WFD Strategy

K-12

Outreach activities, academic and research experiences, STEM teacher training with semiconductor-specific content, industry partnership support

Community College

Building curriculum, programs, research experiences and earn-and-learn opportunities

University

Academic and research experiences, workforce credentials, earn-and-learn opportunities

Continuous Education

Leverage TIE staff and industry partners to identify workforce needs and create a variety of training and education options to keep pace with innovation

Program Expansion and Sustainability

Working on a sustainable WFD strategy, leveraging state and federal funding opportunities, philanthropy, and industry scholarship investments

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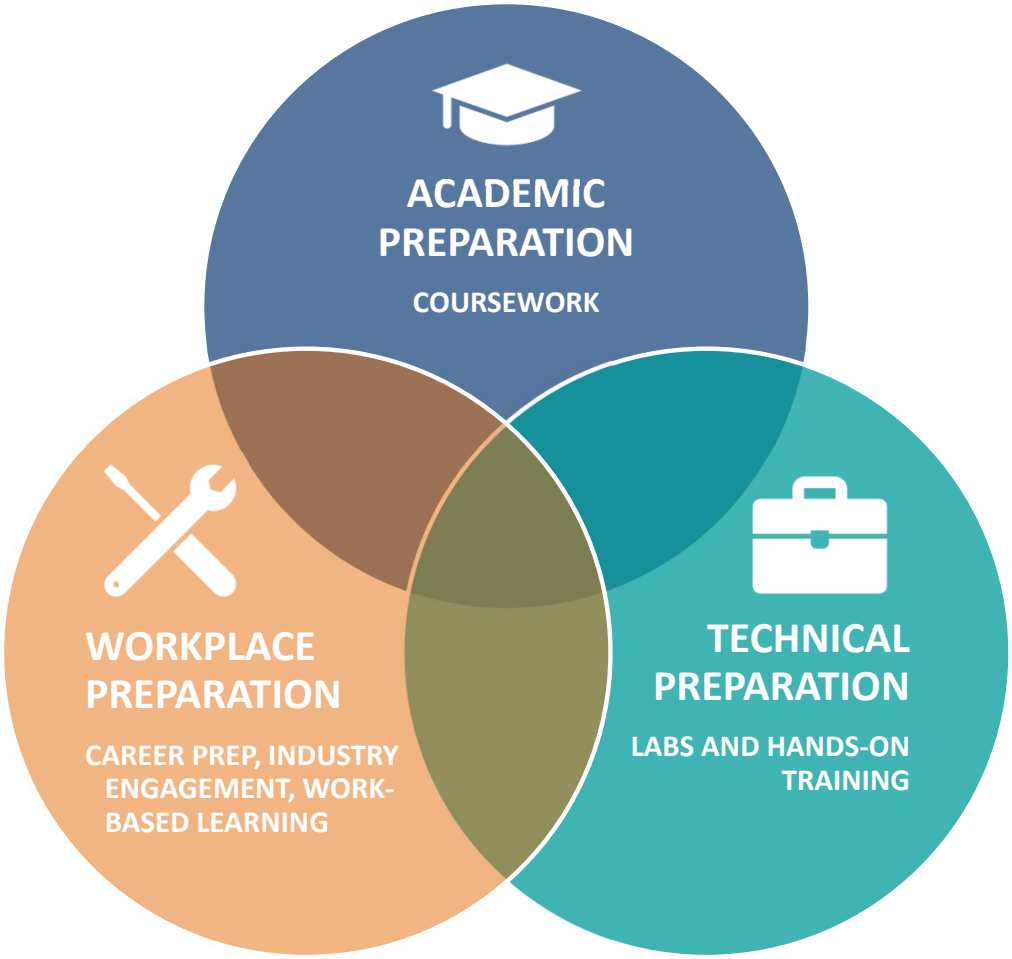
Creating a Job-Ready Workforce

The University of Texas at Austin



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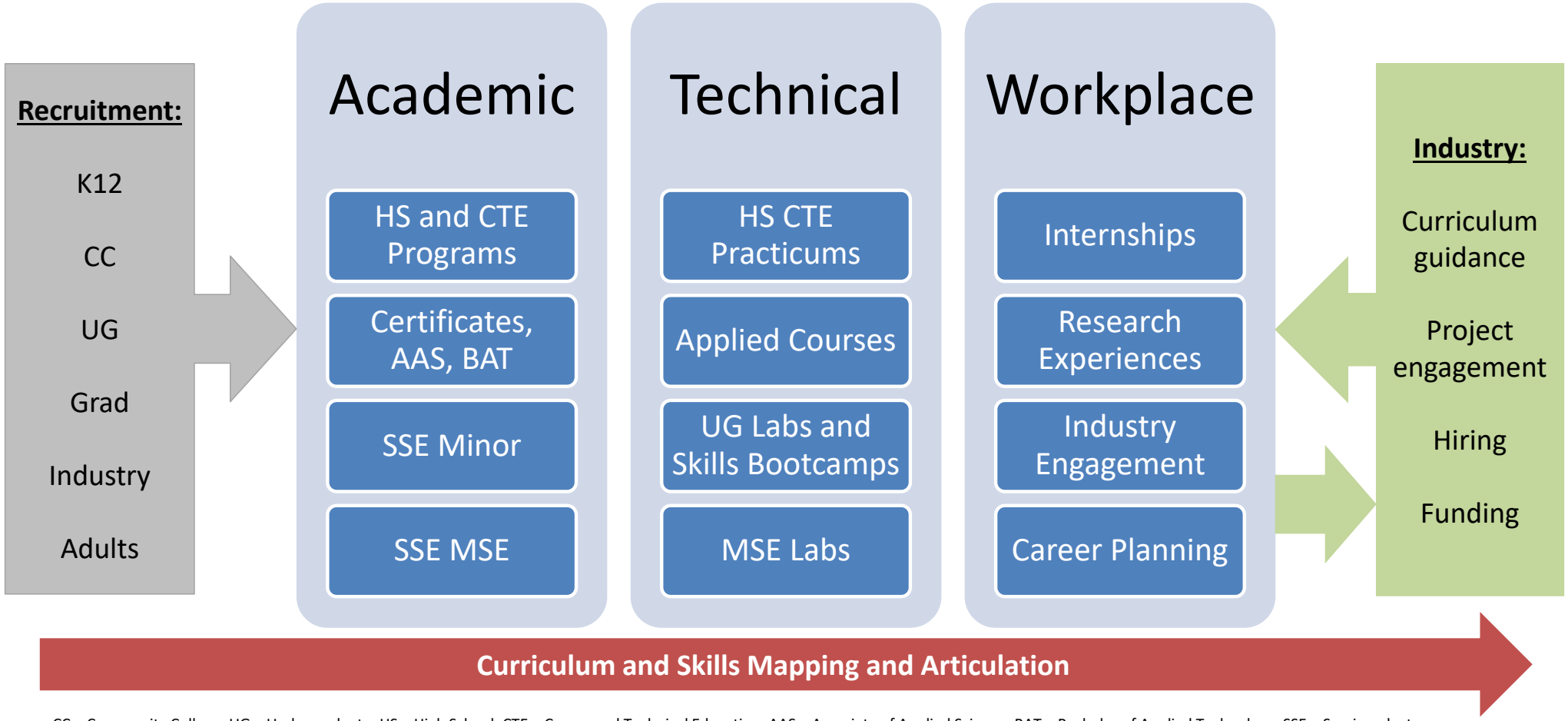
Planned Work

The University of Texas at Austin



CC = Community College; UG = Undergraduate; HS = High School; CTE = Career and Technical Education; AAS = Associate of Applied Science; BAT = Bachelor of Applied Technology; SSE = Semiconductor Science and Engineering; MSE = Master of Science in Engineering

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TIE Workforce Advisory Board

The University of Texas at Austin

Advisory Board Objectives

- Develop Semiconductor Manufacturing Curriculum and Training Roadmap with focus on 3DHI
  - Technician Training
  - University Training
  - National semiconductor training center (Montopolis site)
  - Workforce resiliency planning
- Partnering with Industry to Create and Improve Training and Career Pathways
- Enhance Outreach and Marketing for Semiconductor Careers
  - Branding and engagement for K-12 and college students
- Establish a Sustainable Business Model
  - Lab maintenance
  - Scholarship and funding pathways
  - Future curriculum expansion

Partial List of Members

AMD
Applied Materials
Boeing
cadence
GlobalFoundries
Lockheed Martin
Northrop Grumman
NXP
qorvo
Raytheon An RTX Business
Samsung Austin Semiconductor
Sandia National Laboratories
skywater
Synopsys
Teledyne Technologies Incorporated
TEL

NGMM WFD Program

- Goals and Deliverables:
  - Increase the pipeline of US persons pursuing graduate study in 3DHI-related fields
    - Funding 1-year MSE scholarships and related recruitment activities at 12 Texas universities
  - Create 3DHI training certificates for undergraduate engineers and technicians
    - Partnership with ACC that includes curriculum development, student stipends, outreach and marketing

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Spotlight: UG Workforce Training

The University of Texas at Austin

- Piloted a semiconductor technical training bootcamp based on ACC's STARS program
- Chemistry, Physics, Chemical Engineering, Electrical and Computer Engineering, Mechanical Engineering undergraduates
- Majority sophomores – potential pipeline into new semi minor
- Completed 4 weeks (176 hours!) of hands-on training with industry engagement lunches
- Students received stipend and Occupational Skills Award (OSA) upon completion*
- Next steps – revise for next cohort and start building Level 2

*Working with IEEE to turn this into an approved skills-based microcredential

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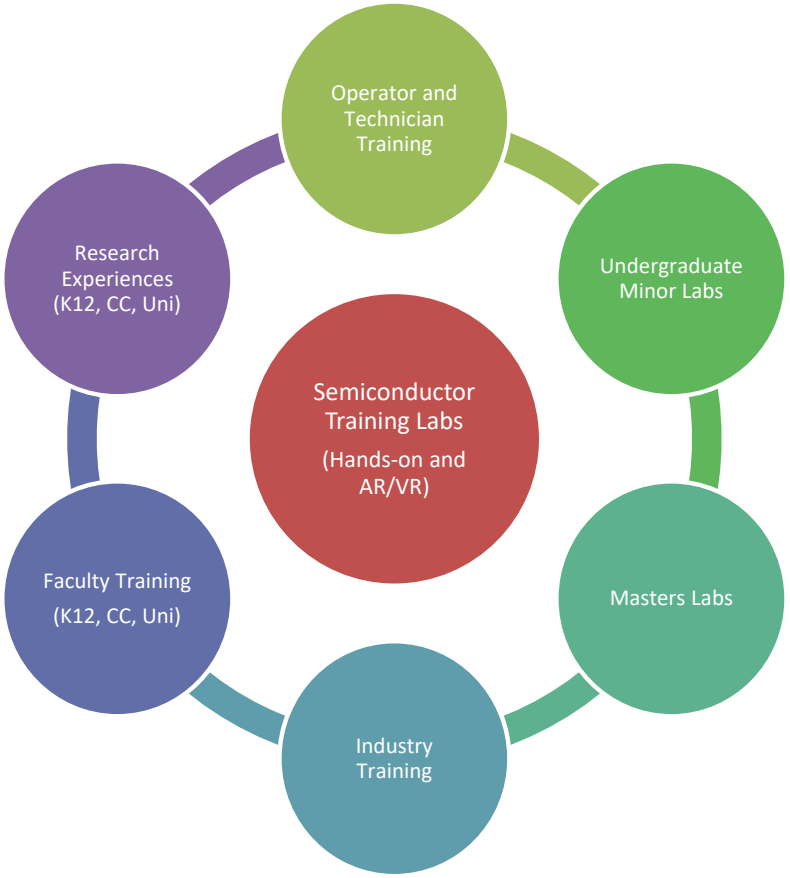
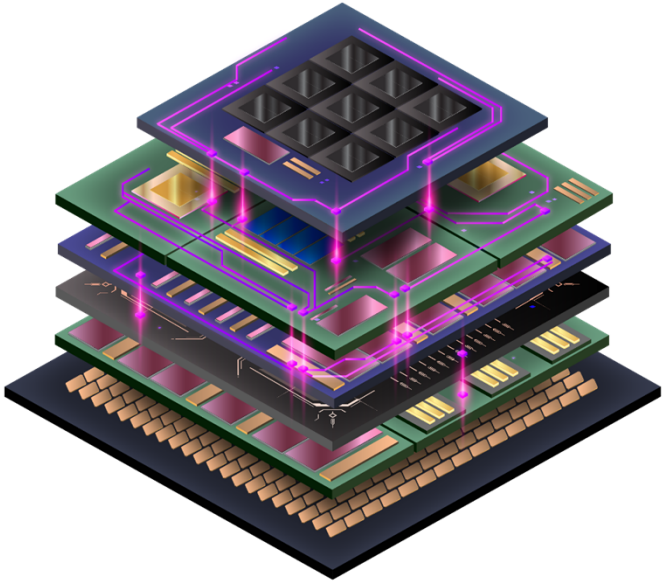
National Training Center

The University of Texas at Austin

- Located next to 66,000 square foot Pilot Fab at Montopolis
- 25,000 square foot training space
- Joint initiative between ACC, UT Austin, and TIE, with broader support for the region and state
- Allocating approximately $10,000,000 to develop this lab
- Hands-on training for equipment maintenance and repair, process technology, metrology, data analytics, and advanced packaging



THANK YOU



For more information, visit:
TXIE.ORG