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# The Hidden Innovation Infrastructure: Insights from Mesa Community College

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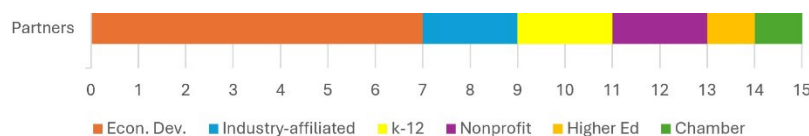
Community colleges and their technician programs play an important and sometimes overlooked role in supporting regional economic development. In this five-year research study funded by the US National Science Foundation Advanced Technological Education (NSF ATE) program, Rutgers' Education and Employment Research Center (EERC) sought to examine how eight leading colleges engaged in economic development through innovations in technician education programs and to better understand and highlight these models. In addition to the eight college case studies, the project included interviews of 23 NSF ATE awardees, a survey of technician employers, and related labor market research. This brief describes the approach of Mesa Community College, one of eight community colleges to participate in this study.

**PROGRAMS** | The study focused on two of Mesa's technical education programs:

*Program 1: Welding Program*      *Program 2: Automated Industrial Technology (AIT)*

**PARTNERS** | Mesa's programs of focus benefit from partnerships with many regional employers and a diverse set of regional economic development organizations.

## REGIONAL ECONOMIC DEVELOPMENT PARTNERS



This figure shows the breakdown of Mesa's partners by organizational type. It offers a glimpse into the composition of

actors in Mesa's regional economic development ecosystem. Fifteen economic development partners were identified for the survey. One interview was conducted with a regional economic development partner: the Arizona Commerce Authority.

## EMPLOYER PARTNERS

Four employer partners were interviewed, representing the semiconductor industry, the aerospace industry, and the metal industry. Mesa's employer partners indicated a notable interest in developing national and regional industry capacities.

## EMPLOYER PARTNERS, CONTINUED

***The Quick Start program: A regional skill-building asset for the AZ semiconductor industry.*** Mesa helped create the Quick Start program as a baseline for semiconductor skills training in partnership with local employers; it was intentionally designed to serve the regional industry. Mesa’s strong partnership with a particular employer and a mutual sense of trust were cited as important for the unique participation of firms in the creation of this skill-building regional asset.

“A respondent from a large manufacturer, who considered their relationship with Mesa a “*true partnership*,” described having relied on their work with Mesa “*for decades just because of the need for the talent that comes out of there.*”

### PROGRAM HIGHLIGHTS | A ‘front door’ for industry.

Mesa’s programs stood out for their high-level coordination of skill demands across the regional industry and their collaborative response to them. A member of the Arizona Advanced Technology Network, Mesa houses the Arizona Advanced Manufacturing Institute (AzAMI), which, alongside other similar institutions, functions as a ‘front door’ for the regional industry to engage colleges.

***Partnering with the state.*** Mesa has a strong partnership with the state-level ED organization, the Arizona Commerce Authority (ACA). The ACA provided Maricopa County colleges with seed funding for industry-relevant equipment as an incentive to align industry-informed curricula across its system’s schools in the absence of a statewide curricular catalog. The ACA has directly supported the Quick Start and AIT programs at Mesa, helping make it cost-neutral.

***Coordinating at the industry level.*** With the ACA’s support, Mesa and other Maricopa County colleges coordinated to equip workers with an industry-recognized credential that would meet ~80% of any one firm’s skill requirements for new employees. Through these collaborations, Mesa addresses the needs of its employer partners at the regional level and prioritizes transferable skills for workers, avoiding redundancies among regional college strategies.

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### PROGRAM STRENGTHS | Mesa reflected some best practices for institutionalizing partnerships, coordinating regional industry needs through community college collaboration and inclusive programmatic structure.



#### **INSTITUTIONALIZED PARTNERSHIP**

Mesa’s strong partnerships with industry, ED organizations, and other colleges are institutionalized through physical spaces and branded networks.



#### **COMMUNITY COLLEGE COLLABORATION**

Mesa is part of the Arizona Advanced Technology Network, which facilitates collaboration among Maricopa County Community Colleges in their coordinated response to industry needs..



#### **INCLUSIVE PROGRAM DESIGN**

Mesa adjusts the structure of its programs (e.g., by night/weekend classes and tuition subsidies) to make them more accessible to students from underrepresented groups, including women.

**KEY ROLES AT MESA** | Mesa has developed specialized workforce-related functions within the college with specifically dedicated funds; for example, Mesa’s AzAMI employs its own director and staff.

The AzAMI director and staff provide services specific to manufacturing for students and employers. Career navigators help students obtain eligible financial aid, and they follow up to track the labor market outcomes of locally employed graduates.

***Program-Related Roles***

1. AIT Director
2. AIT Instructor
3. Welding Director
4. Adjunct faculty
5. Executive Director of the Arizona Advanced Manufacturing Institute
6. Director, Maricopa IT Institute

***Institutional & Advisory Roles***

1. Career Navigator
2. Student Navigator
3. District Deputy Chief Director for Workforce and Economic Development

**ECONOMIC DEVELOPMENT ACTIVITIES** | Mesa implements, through its technical education programs, many of the activities identified as important for community college engagement in economic development. Strength was demonstrated in education and training activities and regional engagement activities.

***Education & Training Activities***

- Hands-on learning
- Work-based learning (Paid internships/program requirements, apprenticeships)
- Grants for equipment
- Dual enrollment
- BA pathway
- Credit for prior learning
- Short-term training/bootcamp
- Updated curriculum aligned with jobs
- Regionally aligned program with local workforce needs
- Industry advisory boards
- Hiring program job fairs/online matching with employers
- Hiring faculty from industry
- National credentialing/industry certification
- On-site employer visits

***Business Support Activities***

- Incumbent worker/customized training

***Regional Engagement Activities***

- Participates in local economic planning/policymaking
- Leading/coordinating other colleges on industry needs
- Leads regional organizations or convenes regional stakeholders
- Assists in attracting employers to region

**DATA SOURCES** | These findings are based on a four-year study conducted by the Rutgers University Education and Employment Research Center in partnership with the National Science Foundation. As part of that study, the EERC team:

<i>Selected</i>	<i>Conducted</i>	<i>Conducted</i>	<i>Surveyed</i>
<b>8</b>	<b>79</b>	<b>31</b>	<b>84</b>
Best-in-class community colleges for intensive study	Interviews with college administrators, faculty, and staff	Interviews with colleges' employer & regional ED partners	Regional ED partners of the colleges, with a 37% response rate

## About the Authors

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## The Education and Employment Research Center

Rutgers' Education and Employment Research Center (EERC) is housed within the School of Management and Labor Relations. EERC conducts research and evaluation on programs and policies at the intersection of education and employment. Our work strives to improve policy and practice so that institutions may provide educational programs and pathways that ensure individuals obtain the education needed for success in the workplace, and employers have a skilled workforce to meet their human resource needs. For more information on our mission and current research, visit [smlr.rutgers.edu/eerc](http://smlr.rutgers.edu/eerc).

### EERC Areas of Focus

Community College  
Innovation



Student Choices  
and Pathways



STEM and Technician  
Education



Noncredit Education and  
Non-Degree Credentials



Education and Labor  
Market Connections



## Rutgers School of Management and Labor Relations

Rutgers School of Management and Labor Relations (SMLR) is the leading source of expertise on the world of work, building effective and sustainable organizations, and the changing employment relationship. The school consists of two departments—one focused on all aspects of strategic human resource management and the other dedicated to the social science specialties related to labor studies and employment relations. In addition, SMLR provides many continuing education and certificate programs taught by world-class researchers and expert practitioners. For more information, visit [smlr.rutgers.edu](http://smlr.rutgers.edu).

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