



PINAL COUNTY

Innovative Workforce Solutions

**Pinal County**  
**Manufacturing Industry**  
*2021 Asset Inventory*

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## **Introduction and Technical Notes**

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This document inventories the workforce-related assets that support the Manufacturing industry in Pinal County. It estimates both the incumbent workforce and the talent pipeline to provide perspective on the capacity of the region to support the human capital needs of an employer from within this sector.

### **The Employers**

The analysis of the incumbent workforce relies on public labor market data, specifically the United States Bureau of Labor Statistics' Quarterly Census of Employment and Wages. To provide the most targeted and most relevant labor market data possible, analysis of 73 types of manufacturing with a presence in Pinal County was conducted. Together, these manufacturers employ approximately 4,000 people in Pinal County and contribute more than \$8.4 billion to the county's economy. The largest manufacturing sectors in the county are:

- 3345: Navigational, Electromedical and Control Instruments
- 3115: Dairy Products
- 3273: Cement and Concrete Products

Manufacturers of Soap, Cleaning Compounds & Toilet Preparations; Glass & Glass Products and Non-metallic Mineral Products also have a larger presence than one would expect in a community this size.

### **The Incumbent Workforce**

Employers in the Manufacturing industry employ approximately 4,000 workers in Pinal County. Navigational, Electromedical and Control Instruments is the largest component of the industry with 851 jobs in the region's three establishments. Dairy Product Manufacturing (719 jobs) and Cement and Concrete Products Manufacturing (363) are also significant components of the industry.

### **The Emerging Workforce**

The education and workforce development systems are key to the success of this industry, and this document seeks to quantify the levels of talent emerging from relevant postsecondary programs of study, as well as other non-college training and development programs and targeted efforts of the business community that are contributing to the success of the manufacturing sector in Pinal County.

### **Infrastructure and Supply Chain**

Finally, the document looks at the distribution of the industry across the region and the proximity of businesses that are typically found in the supply chains of businesses within this sector.

It is hoped that this report will provide clear and practical perspective on the resources, partners and infrastructure that could support a regional employer from the manufacturing sector.

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## The Employers

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### Employment by Industry

Approximately 4,000 people are employed at one of Pinal County's 119 manufacturing establishments.

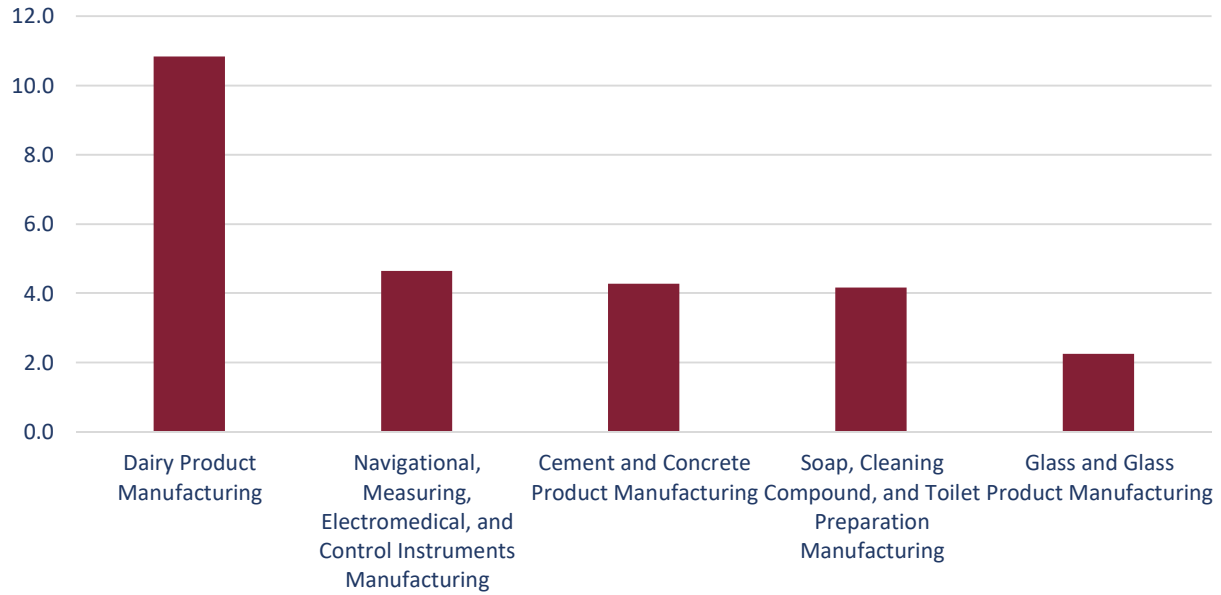
**Table 1: Manufacturing Industries, Pinal County**

| Description  | 2020 Establishments | 2020 Jobs | Average Wages |
|--|---------------------|-----------|---------------|
| Navigational, Measuring, Electromedical, and Control Instruments | 3                   | 851       | \$59,450      |
| Dairy Product  | 5                   | 719       | \$69,113      |
| Cement and Concrete Product                                      | 14                  | 363       | \$62,713      |
| Other Food   | 1                   | 343       | \$55,649      |
| Plastics Product   | 5                   | 229       | \$53,675      |
| Architectural and Structural Metals                              | 8                   | 207       | \$63,596      |
| Soap, Cleaning Compound, and Toilet Preparation                  | 1                   | 200       | \$35,568      |
| Pharmaceutical and Medicine                                      | 1                   | 151       | \$42,548      |
| Other Nonmetallic Mineral Product                                | 4                   | 115       | \$46,806      |
| Foundries  | 2                   | 82        | \$50,496      |
| Glass and Glass Product  | 3                   | 79        | \$57,741      |
| Basic Chemical   | 3                   | 53        | \$64,552      |
| Animal Food  | 1                   | 51        | \$73,153      |
| Other Miscellaneous Manufacturing                                | 7                   | 50        | \$41,666      |
| Total  | 119                 | 3,950     | \$58,464      |

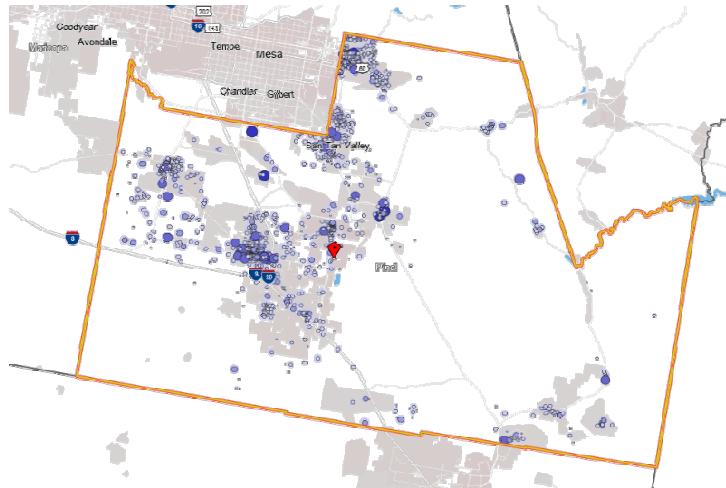
One method by which the scope of an industry is evaluated is an employment location quotient. This is a scaled value that measures the rate at which the population is employed in a certain industry to the national average. If the rate at which the population of the region works in the target industry is exactly equal to the national average, the location quotient would be 1.0. If it were double the national rate, it would be 2.0.

In Pinal County, a few industries from within the Manufacturing sector are unusually concentrated, employing significantly more than would be expected in a community of this size.

### Manufacturing Industries, by Location Quotient, Pinal County



Employers in the manufacturing sector are spread across the county, although concentrations can be found in the city of Casa Grande, as well as Coolidge and San Tan Valley.



## Employment by Occupation

**Table 2: Occupations Employed by the Manufacturing Industry, Pinal County**

| <b>Occupation</b>  | <b>% Jobs in Industry</b> | <b>Median Wages</b> | <b>Jobs</b>  |
|--|---------------------------|---------------------|--------------|
| <b>Production Occupations</b>                                | <b>N/A</b>                | <b>\$35,497</b>     | <b>2,616</b> |
| First-Line Supervisors of Production and Operating Workers   | 3.0%                      | \$56,678            | 205          |
| Electrical, Electronic, and Electromechanical Assemblers     | 2.1%                      | \$34,016            | 97           |
| Miscellaneous Assemblers and Fabricators                     | 4.7%                      | \$29,968            | 287          |
| Food Batchmakers   | 1.8%                      | \$34,332            | 83           |
| Metal & Plastic Molding/Coremaking/Casting Machine Operators | 1.2%                      | \$32,223            | 55           |
| Welders, Cutters, Solderers, and Brazers                     | 1.2%                      | \$41,123            | 150          |
| Mixing and Blending Machine Setters, Operators, and Tenders  | 1.9%                      | \$32,259            | 89           |
| Inspectors, Testers, Sorters, Samplers, and Weighers         | 2.5%                      | \$39,907            | 178          |
| Packaging and Filling Machine Operators and Tenders          | 4.1%                      | \$30,470            | 194          |
| Structural Metal Fabricators and Fitters                     | 0.4%                      | \$38,275            | 23           |
| Bakers   | 0.5%                      | \$29,884            | 77           |
| Machinists   | 0.8%                      | \$43,687            | 52           |
| Metal-Refining Furnace Operators and Tenders                 | 0.6%                      | \$38,750            | 42           |
| <b>Management Occupations</b>                                | <b>N/A</b>                | <b>\$77,706</b>     | <b>4,638</b> |
| General and Operations Managers                              | 2.0%                      | \$89,127            | 926          |
| Industrial Production Managers                               | 1.3%                      | \$99,465            | 74           |
| <b>Transportation and Material Moving Occupations</b>        | <b>N/A</b>                | <b>\$32,373</b>     | <b>6,368</b> |
| Heavy and Tractor-Trailer Truck Drivers                      | 2.8%                      | \$44,937            | 1,605        |
| Industrial Truck and Tractor Operators                       | 2.1%                      | \$35,607            | 204          |
| Laborers and Freight, Stock, and Material Movers, Hand       | 3.8%                      | \$29,939            | 995          |
| Packers and Packagers, Hand                                  | 1.6%                      | \$26,365            | 225          |
| <b>Installation, Maintenance and Repair Occupations</b>      | <b>N/A</b>                | <b>\$48,563</b>     | <b>3,105</b> |
| Industrial Machinery Mechanics                               | 1.5%                      | \$48,563            | 176          |

Employers who have posted large numbers of openings for these jobs in recent years include:

- Lucid Motors
- Abbott Laboratories
- Boeing
- Cemex
- Raytheon Technologies
- Republic Plastics
- Centria
- Steel Girder, LLC
- PDMA Corporation

### The Supply Chain

Physical proximity to the supply chain on which a business relies is more important in some industries than others. For example, manufacturers often incur high costs when raw materials must be transported across significant distances. The industries which most often support a business in the manufacturing sector can definitely be found in abundance in Pinal County.

**Table 3: Manufacturing Supply Chain, by Dollars Spent In-Region, Pinal County**

| Description  | In-Region Purchases | Establishments | Location Quotient |
|--|---------------------|----------------|-------------------|
| Animal Production  | \$26,346,427        | 35             | 6.9               |
| Fluid Milk Manufacturing                                     | \$6,715,170         | 4              | 17.2              |
| General Freight Trucking, Long-Distance, Truckload           | \$4,909,367         | 1              | 31.8              |
| Dry, Condensed, Evaporated Dairy Product Manufacturing       | \$4,350,177         | 8              | 0.9               |
| Other Grocery Merchant Wholesalers                           | \$3,685,843         | 17             | 2.6               |
| General Freight Trucking, Local                              | \$1,929,336         | 19             | 0.7               |
| All Other Professional, Scientific, and Technical Services   | \$1,158,525         | 0              | 0.2               |
| General Freight Trucking, Long-Distance, Less Than Truckload | \$994,673           | 14             | 1.0               |
| Specialized Freight (except Used Goods) Trucking, Local      | \$881,290           | 10             | 0.6               |
| Corporate, Subsidiary, and Regional Managing Offices         | \$730,614           | 8              | 0.2               |
| <b>Total</b>   | <b>\$51,701,422</b> |                |                   |

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## The Talent Pipeline

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### Overview

The talent development ecosystem in Pinal County provides a steady pipeline of trained workers for the highest-demand occupations in the manufacturing sector. The educational system includes a robust suite of Career and Technical Education (CTE) programs delivered by the Central Arizona Valley Institute of Technology at the secondary level. A number of community colleges contribute to the region's talent pipeline with programs ranging from Precision Production to Mechanic and Repair Technologies. ARIZONA@WORK Pinal County provides career services and training programs to eligible jobseekers via training partners in the community.

### ARIZONA@WORK

Arizona's *Eligible Training Provider List* identifies providers who offer programs related to the manufacturing sector and who are approved for funding under the Workforce Innovation and Opportunity Act:

- Central Arizona College-Automated Industrial Technology
- Central Arizona College-Heavy Equipment Operator
- Central Arizona College-Diesel Technology
- Central Arizona College-Pipe Welding
- Central Arizona College-Welding Technology
- Central Arizona College-Structural Welding
- Central Arizona College-Industrial Maintenance
- Central Arizona Vocational Institute of Technology-Automated Industrial Technology

## Postsecondary Education

Thirteen institutions of higher learning are in the proximity of Pinal County, and seven of them offer Precision Production or Mechanic and Repair programs.

**Table 4: Awards, Precision Production and Mechanic/Repair Programs, by Institution, 2019**

| Institution                        | All Programs                           |                    | Precision Production Programs          |                    | Mechanic and Repair Technologies       |                    |
|------------------------------------|--|--------------------|--|--------------------|--|--------------------|
|                                    | Certificates Below a Bachelor's Degree | Associate's Degree | Certificates Below a Bachelor's Degree | Associate's Degree | Certificates Below a Bachelor's Degree | Associate's Degree |
| Central Arizona College            | 804                                    | 523                | 36                                     | 5                  | 1                                      | 6                  |
| Chandler-Gilbert Community College | 1,395                                  | 1,271              | -                                      | -                  | 186                                    | 9                  |
| Mesa Community College             | 2,230                                  | 2,131              | 40                                     | 8                  | 73                                     | 29                 |
| Pima Community College             | 3,005                                  | 2,257              | 21                                     | 25                 | 337                                    | 41                 |
| Eastern Arizona College            | 799                                    | 551                | 14                                     | 4                  | 216                                    | 20                 |

*National Center for Education Statistics  
Integrated Postsecondary Educational Data System*

### **Central Arizona College Industrial Technology and Skilled Trades Program**

Central Arizona College offers eleven certificates in its ITST program:

- Advanced Structural Welding and Fabrication
- Automated Industrial Technology I
- Automated Industrial Technology II
- Commercial Electrician-Installer
- Diesel Technology I
- Diesel Technology II
- Fundamentals of Pipe Welding
- Fundamentals of Structural Welding
- Heavy Equipment Operator Level I
- Heavy Equipment Operator Level II
- Pipefitting/Pipe Welding



## Drive 48<sup>1</sup>

In January 2021, Central Arizona College, in partnership with The State of Arizona, Pinal County, and City of Casa Grande officially opened Drive48, a new state-of-the-art advanced manufacturing training center located at the College's Signal Peak Campus.

Drive48 features cutting-edge robots and multiple hands-on training rooms where technicians will train for jobs in automotive and advanced manufacturing. The main training room features a large open area with multiple assembly robots used for training technicians in programming, maintenance, problem solving, troubleshooting, safety, general system requirements and more. The 13,000 square foot facility can train upwards of 100 students at any given time.



Since the opening of Drive48, over 400 new hires have been trained in the facility.

## The Central Arizona Valley Institute of Technology

CAVIT is a part of a network of 14 Career Technical Education Districts (CTEDs) across the state. High school students in the 11th and 12th grades may attend CAVIT central campus programs and receive high school and dual enrollment credits while enrolled in CAVIT classes. Career technology education prepares students to enter the workforce immediately after graduation or to pursue further education at a community college or university.<sup>2</sup>

What do Pinal County high school students learn about industrial technology?

### **CAVIT Automated Industrial Technology Program**

#### Program Highlights

- Invent, design, and produce solutions for complex engineering challenges using mathematics, science, and technology.
- Maintain, troubleshoot, and repair motor controls, programmable logic controllers, and power fluid systems.
- Problem-solve with advanced electrical and fluid power diagnostic equipment

#### Program Length

The automated industrial technology program is two years in length. Students have the opportunity to obtain NCCER production technician industry certification, as well as, OSHA 10-hour general industry and CPR instruction.

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<sup>1</sup> <https://centralaz.edu/news-announcements/open-house-to-be-held-at-new-drive48-training-center/>

<sup>2</sup> [https://www.cavitschools.com/About\\_Us](https://www.cavitschools.com/About_Us)

Students successfully completing the program have the opportunity to earn free dual enrollment college credit providing all requirements are met.

#### Instructional Topics

- CNC Interfacing
- Data Communications
- Drafting
- Ethics of Robotics
- Electrical Systems
- Industrial Safety
- Industrial Robotic Tasks
- Laboratory Equipment
- Maintenance Operations
- Mechanical Systems
- Pneumatic Systems
- Process Control Systems
- Robotic Assemblies

**Appendix One: Manufacturers with Job Postings, July 2020-June 2021, Pinal County**

| <b>Manufacturer</b>          | <b>Unique Job Postings</b> | <b>Manufacturer</b>                 | <b>Unique Job Postings</b> |
|------------------------------|----------------------------|-------------------------------------|----------------------------|
| Lucid Motors                 | 390                        | Hasa, Inc.                          | 13                         |
| Abbott Laboratories          | 172                        | Daisy Brand                         | 13                         |
| Boeing                       | 112                        | Dell                                | 12                         |
| Cemex                        | 73                         | Mark Berry                          | 13                         |
| Raytheon Technologies        | 55                         | The Goodyear Tire & Rubber Company  | 13                         |
| Republic Plastics            | 47                         | Serta Simmons Bedding               | 12                         |
| Centria                      | 44                         | Amphenol Borisch Technologies       | 12                         |
| Steel Girder                 | 43                         | General Motors Company              | 11                         |
| Pdma Corporation             | 37                         | Grifols Biologicals                 | 11                         |
| Schuff Steel Company         | 32                         | Roadmaster                          | 10                         |
| Price Industries             | 27                         | Under Armour                        | 10                         |
| Frito-Lay North America      | 24                         | Shippers Preferred Express          | 10                         |
| Cummins Inc.                 | 24                         | Onsite Services                     | 9                          |
| Bright International Corp    | 24                         | Hexcel Corporation                  | 9                          |
| Graham Packaging Company     | 20                         | Nutrien                             | 8                          |
| Pepsico                      | 20                         | Carrier Corporation                 | 8                          |
| Hewlett-Packard Company      | 19                         | Scotts Miracle-Gro Company          | 7                          |
| Bayer Corporation            | 18                         | Fairchild Semiconductor Corporation | 7                          |
| Cisco Systems                | 18                         | Overview Limited                    | 6                          |
| Bridgestone Corporation      | 18                         | Smiling Dogs LLC                    | 6                          |
| Correct                      | 17                         | Surg Tech                           | 6                          |
| Bull Moose Tube Company      | 16                         | Vivint                              | 6                          |
| Air Products and Chemicals   | 14                         | Artistic Paver Manufacturing        | 5                          |
| Hobby Lobby Stores           | 14                         | Talon                               | 5                          |
| The Sherwin-Williams Company | 13                         |                                     |                            |

*Economic Modelling Specialists International*