



HERE'S YOUR FUTURE - ADVANCED MANUFACTURING

The Advanced Manufacturing Industry offers job opportunities for people with a wide range of education and experience levels, from entry-level positions requiring a high school diploma, to high-skill fields such as engineering, which can require graduate level degrees. There exists a significant skills gap in New Jersey's Advanced Manufacturing Industry. Employers need workers with specific skills, but are finding those skills in short supply.

As manufacturers throughout New Jersey and throughout the country struggle to find and recruit talented and skilled workers, more and more are turning to apprenticeships to develop and grow the skills of their workforce. Apprenticeship programs combine on-the-job learning with related instruction in technical areas to produce qualified, highly-productive employees for careers requiring precision skills. Apprenticeship training ensures workers have the knowledge and competencies companies need for today and the future.

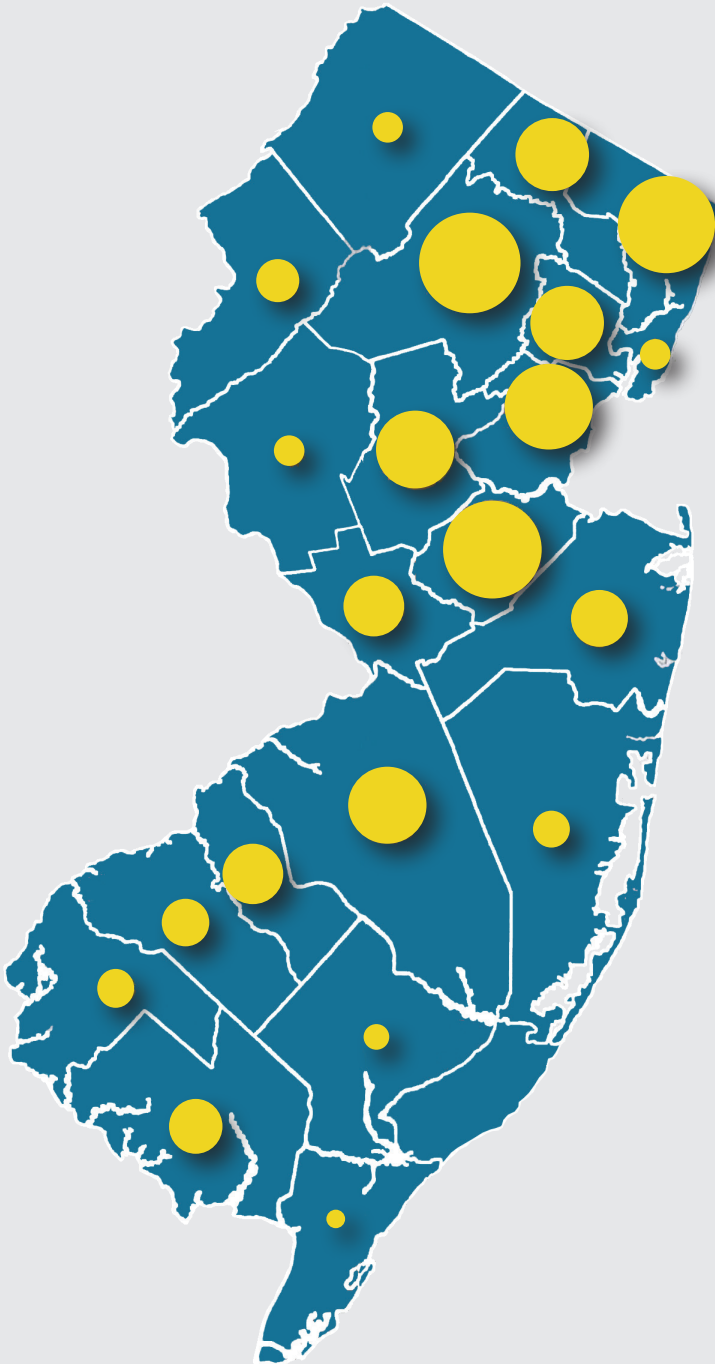


WHERE ARE THE JOBS?

New Jersey is home to more than 11,000 manufacturers and stem firms, employing over 350,000 individuals.

Chemical manufacturing employed almost 44,000 workers, by far New Jersey's biggest manufacturing sector.

The circle sizes on this map indicate the location and relative numbers of Advanced Manufacturers located throughout New Jersey.



MAKERS

Inspectors, Testers, Sorters, Samplers & Weighers	Workers in this area inspect, sort, or weigh products to ensure compliance with specifications, and discard rejected products. Workers may use precision measuring instruments and complex test equipment.	E High School Diploma or Equivalent S \$32,000 - \$55,100 O 1,490 J 12,320
Chemical Equipment Operators & Tenders	Workers in this area operate equipment used in the chemical processing of industrial or consumer products. Operators test product samples, monitor and adjust controls, and ensure the equipment is working properly.	E High School Diploma or Equivalent S \$56,000 - \$70,000 O 380 J 4,410
Electrical & Electronic Equipment Assemblers	Workers in this area must be able to interpret blueprints and schematic drawings. Assemblers install electronic systems using bolts, soldering or micro-welding equipment.	E High School Diploma or Equivalent S \$29,000 - \$46,000 O 830 J 5,230
Mixing & Blending Machine Operators	Operators in this area control machines that combine various materials according to product specifications. Workers also take samples of the product for laboratory testing.	E High School Diploma or Equivalent S \$35,000 - \$55,000 O 440 J 3,290
Machinists	Machinists operate basic or specialized machine tools. Workers in this area include precision instrument makers who create or repair mechanical instruments.	E High School Diploma or Equivalent S \$42,000 - \$63,000 O 520 J 4,280
Welders, Cutters, Solderers & Brazers	Safety is an essential function of this occupation since workers use hot welding torches and soldering irons. Workers assemble parts made of aluminum, stainless steel, cast iron, and other alloys.	E High School Diploma or Equivalent S \$40,000 - \$63,000 O 610 J 3,550

SELLERS

Wholesale Sales Representatives	These positions have a large amount of customer contact. Representatives demonstrate products to customers and answer questions. The ability to negotiate pricing and maintain accurate sales records are essential skills.	E High School Diploma or Equivalent S \$74,000 - \$119,000 O 420 J 5,030
Technical Writers	Computer systems software engineers use scientific, engineering and mathematical skills to create software for operating systems and applications, and may also repair systems.	E Bachelor's Degree S \$64,000 - \$105,000 O 220 J 2,280
Sales Managers	Sales managers coordinate the distribution of products or services. They analyze sales statistics to determine sales potential and inventory requirements. Although sales managers may have limited direct contact with customers, experience in direct sales is useful for this occupation.	E Bachelor's Degree S \$128,000 - \$184,000 O 1,430 J 14,470
Graphic Designers	Creative and artistic individuals may enjoy a career as a graphic designer. Designers create graphics for product illustrations, logos and websites.	E Bachelor's Degree S \$48,000 - \$79,000 O 760 J 5,410

DESIGNERS

Mechanical Engineers	Mechanical engineers design new machines and modify existing machines. They perform tests to evaluate efficiency and check for defects. Engineers ensure that machinery operates in accordance with required performance and safety specifications.	E High School Diploma or Equivalent
		S \$74,000 - \$119,000
		O 420
		J 5,030
Computer Systems Software Engineers	Computer systems software engineers use scientific, engineering and mathematical skills to create software for operating systems and applications, and may also repair systems.	E Bachelor's Degree
		S \$87,000 - \$137,000
		O 720
		J 49,070
Computer-Controlled Machine Tool Operators	Technology plays a big role since operators maneuver computer-controlled or robotic machinery. Workers listen to machines to detect and fix malfunctions, and use precision measurement tools to ensure finished products conform to specifications and blueprints.	E High School Diploma or Equivalent
		S \$33,000 - \$44,000
		O 360
		J 5,030
Electrical Engineers	Electrical engineers manage the installation and operation of electrical equipment. Engineers design and test equipment to ensure compliance with standards and requirements, and may recommend repairs or modifications.	E Bachelor's Degree
		S \$87,000 - \$138,000
		O 300
		J 3,900

IMPROVERS

Chemists	Chemists develop or improve products, equipment or formulas. Chemists conduct quality control tests and prepare written reports analyzing research projects or test results.	E Bachelor's Degree
		S \$74,200 - \$120,000
		O 770
		J 6,100
Chemical Technicians	Chemical technicians create or modify chemical formulas for products. They conduct experiments, analyze results and prepare written reports. Attention to detail is an essential skill.	E Associate Degree in Chemistry
		S \$43,000 - \$63,000
		O 410
		J 3,370
Industrial Engineers	Industrial engineers manage the design and operation of a manufacturing facility. They coordinate the layout of all equipment and recommend ways to use personnel, machinery or materials more efficiently.	E Bachelor's Degree
		S \$81,000 - \$122,000
		O 400
		J 5,060
Market Research Analysts	Market research analysts gather and interpret statistical data on consumer habits and competitor sales to develop a marketing plan for the company. Analysts measure the effectiveness of advertising campaigns and forecast sales trends.	E Bachelor's Degree
		S \$64,000 - \$113,000
		O 2,600
		J 19,830

ADMINISTRATION & MANAGEMENT

General & Operations Managers	General and operations managers supervise the operations of a facility and plan the use of materials and human resources. Managers review financial statements and prepare staff work schedules, and ensure the facility's smooth operation.	E Bachelor's Degree
		S \$100,000 - \$200,000
		O 4,340
		J 44,500
Purchasing Agents	Purchasing agents purchase goods and services for a company, research products and prices and negotiate contracts with vendors. Compliance with bidding and purchasing laws is required.	E High School Diploma or Equivalent
		S \$65,000 - \$106,000
		O 1,190
		J 11,200

DISTRIBUTORS

Packaging & Filling Machine Operators	These operators safely and accurately package products on an assembly line. Workers fill containers or package goods according to product specifications. Monitoring the production line for defective products is an important function of this occupation.	E High School Diploma or Equivalent
		S \$25,000 - \$40,000
		O 1,800
		J 11,420
Industrial Truck & Forklift Operators	Warehouses and factories require professional operators for their industrial equipment, including forklifts and industrial trucks. Operators conduct routine maintenance on the equipment, including cleaning, lubricating and refueling the vehicle.	E Less than High School
		S \$31,000 - \$49,000
		O 2,320
		J 16,620
Shipping & Receiving Traffic Clerks	Shipping, receiving and traffic clerks prepare items for shipment, arrange to transport products, and verify and maintain records for incoming and outgoing shipments. They also determine space available for products.	E High School Diploma or Equivalent
		S \$30,000 - \$47,000
		O 2,040
		J 21,220
Logisticians	Logisticians analyze and coordinate the flow of resources including both the physical materials and staff of an organization. Logisticians develop and maintain business relationships with customers and develop an understanding of the customer's needs.	E Bachelor's Degree
		S \$71,000 - \$106,000
		O 840
		J 7,780

SUPPORTERS

Industrial Machinery Mechanics	Industrial machinery mechanics observe and test the operation of machinery or equipment to diagnose malfunctions and repair as needed. Mechanics also monitor parts or materials used and order new parts or materials as needed.	E High School Diploma or Equivalent
		S \$49,000 - \$74,000
		O 800
		J 8,980
General Maintenance & Repair Workers	Repair workers perform routine maintenance on machinery. They conduct performance tests to diagnose problems and repair machines as needed. Repair workers must be able to read blueprints and product manuals.	E High School Diploma or Equivalent
		S \$35,000 - \$60,000
		O 3,420
		J 29,070
Customer Service Representatives	Customer service representatives interact with customers to provide information about products or services take orders, or obtain details about complaints.	E High School Diploma or Equivalent
		S \$31,000 - \$51,000
		O 9,030
		J 64,900
Electrical & Electronics Repairers	Repair workers in this area perform routine maintenance on the electrical components of machinery. They check for loose connections or frayed wires and make needed repairs. Workers keep equipment logs on all repairs and machine calibrations.	E Post-Secondary nondegree
		S \$48,000 - \$77,000
		O 180
		J 1,520

All employment, wage and projection information has been provided by the New Jersey Department of Labor and Workforce Development, Office of Research and Information.

LEGEND - The following information appears for each occupation in this brochure

- E** Typical education required
- S** Typical salary range, from entry level to experienced
- O** Average annual job openings
- J** Current number of jobs in New Jersey with this title



What are your plans *after* graduation?

Hands-on learning you can use to secure an amazing career!
This is a pathway program leading to great salaries and benefits.
A career in advanced manufacturing is waiting for you!

WHAT YOU GET...

- 120 Hours of Industry-Focused Education
- Leadership Training
- Team Building Training
- Preparation for the Certified Manufacturing Production Technician Apprenticeship Testing
- All at NO CHARGE

Manufacturing is an advanced industry that uses the latest technologies. It's cleaner, safer, and more exciting than ever before. New Jersey is the perfect place to begin a career in advanced manufacturing.

Learn what it means to be a pre-apprentice. See how you can take that next step forward after high school to lay a foundation to enter an industry with competitive and attractive salaries. NJMEP is here to help.

The Pre-Apprenticeship program trains recent high school graduates or people just about to graduate. It is designed to give individuals in-demand skills that lead to a successful career.

Four-year degrees aren't the *only* way to make a living.

Avoid student loans and *start* a career instead.

Learn skills that businesses all over the country *need!*

Interested in getting a headstart on life?

Contact NJMEP today and let's talk

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973-998-9801

