

Production

Advanced manufacturing is a family of activities that (a) depend on the use and coordination of information, automation, computation, software, sensing, and networking, and/or (b) make use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences, for example nanotechnology, chemistry, and biology. It involves both new ways to manufacture existing products, and the manufacture of new products emerging from new advanced technologies.”

President’s Council of Advisors and Science and Technology, “Report to the President on Ensuring American Leadership in Advanced Manufacturing,” page ii. June 2011.
www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-advanced-manufacturing-june2011.pdf

Advanced Manufacturing Machines

Manufacturing has long been the backbone of the American economy. More recently, “advanced” manufacturing has been in the spotlight. What makes advanced manufacturing different? Companies using advanced manufacturing processes need workers who are capable of operating equipment that is highly technical, automated, computerized — and expensive. Employers are looking for workers with education beyond a high school diploma, as well as some experience in working with machinery.

What are some of the advanced manufacturing jobs in New Hampshire? Though not new occupations, five machine operator occupations that may use advanced manufacturing machinery, and have the best employment prospects for 2010 through 2020, are highlighted below.

Computer-Controlled Machine Tool Operators, Metal and Plastic

These workers operate computer numerical control (CNC) machines or robots to make or refine work pieces made of metal or plastic. There are several types of CNC machines, such as lathes, press brakes, and mill machines.

2010 NH Employment¹ 982
 NH Employment Prospects¹ Very Favorable
 NH Hourly Wage Range² \$13.04 - \$19.88



“CNC Lathe”
 Image source: www.tryax.com

¹. New Hampshire Occupational Employment Projections, 2010 to 2020, NH Employment Security, ELMI

². New Hampshire Occupational Employment and Wages, NH Employment Security, ELMI. Wages are from the May 2012 survey aged to June 2013. Wage range represents entry level wage, the average of the lower third of the workers in the occupation, to experienced wage, the average of the upper two-thirds of the workers in the occupation.

Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic

These workers set up, operate, and/or tend machines that extrude or draw thermoplastic or metal materials into tubes, rods, hoses, wire, bars, or structural shapes. These workers may be called extrusion mechanics, wire mill rovers, or jacket line operators.

2010 NH Employment³ 424
 NH Employment Prospects³ Favorable
 NH Hourly Wage Range⁴ \$13.84 - \$19.42



"Rough Lap Station"
 Image source: www.machinio.com

Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber. These workers are also known as millers or grinder operators.

2010 NH Employment³ 975
 NH Employment Prospects³ Favorable
 NH Hourly Wage Range⁴ \$12.81 - \$19.43

Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

These workers set up, operate, and/or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products, components, or assemblies. Workers who operate laser cutters or laser-beam machines are included.

2010 NH Employment³ 298
 NH Employment Prospects³ Favorable
 NH Hourly Wage Range⁴ \$11.44 - \$18.55



"Wave Solder Machine"
 Image source:
www.stencilsunlimited.com



Welders, Cutters, Solderers, and Brazers

Welders use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. These workers may use welding equipment such as mig welders or sub-arc welders.

2010 NH Employment³ 880
 NH Employment Prospects³ . . . Very Favorable
 NH Hourly Wage Range⁴ \$15.15 - \$23.50

³. New Hampshire Occupational Employment Projections, 2010 to 2020, NH Employment Security, ELMI

⁴. New Hampshire Occupational Employment and Wages, NH Employment Security, ELMI. Wages are from the May 2012 survey aged to June 2013. Wage range represents entry level wage, the average of the lower third of the workers in the occupation, to experienced wage, the average of the upper two-thirds of the workers in the occupation.

Vital Signs Readings discuss topics relevant to one of the 18 sections of *Vital Signs*, a compilation of social and economic indicators for New Hampshire. *Vital Signs* may be accessed at www.nhes.nh.gov/elmi/products/vs.htm.