

Engineering and Science Technologies Career Field In-Demand Jobs Data

The Engineering and Science Technologies Career Field prepares students for careers in design, operations, manufacturing and STEM (Science, Technology, Engineering and Math). The list of careers used in the figures below can be found in the Appendix. The data presented below does not account for the economic impacts of Intel’s upcoming \$20 billion investment in Central Ohio.

Figure 1.

Projected Growth of Engineering and Science Technologies Jobs in Ohio (2031)

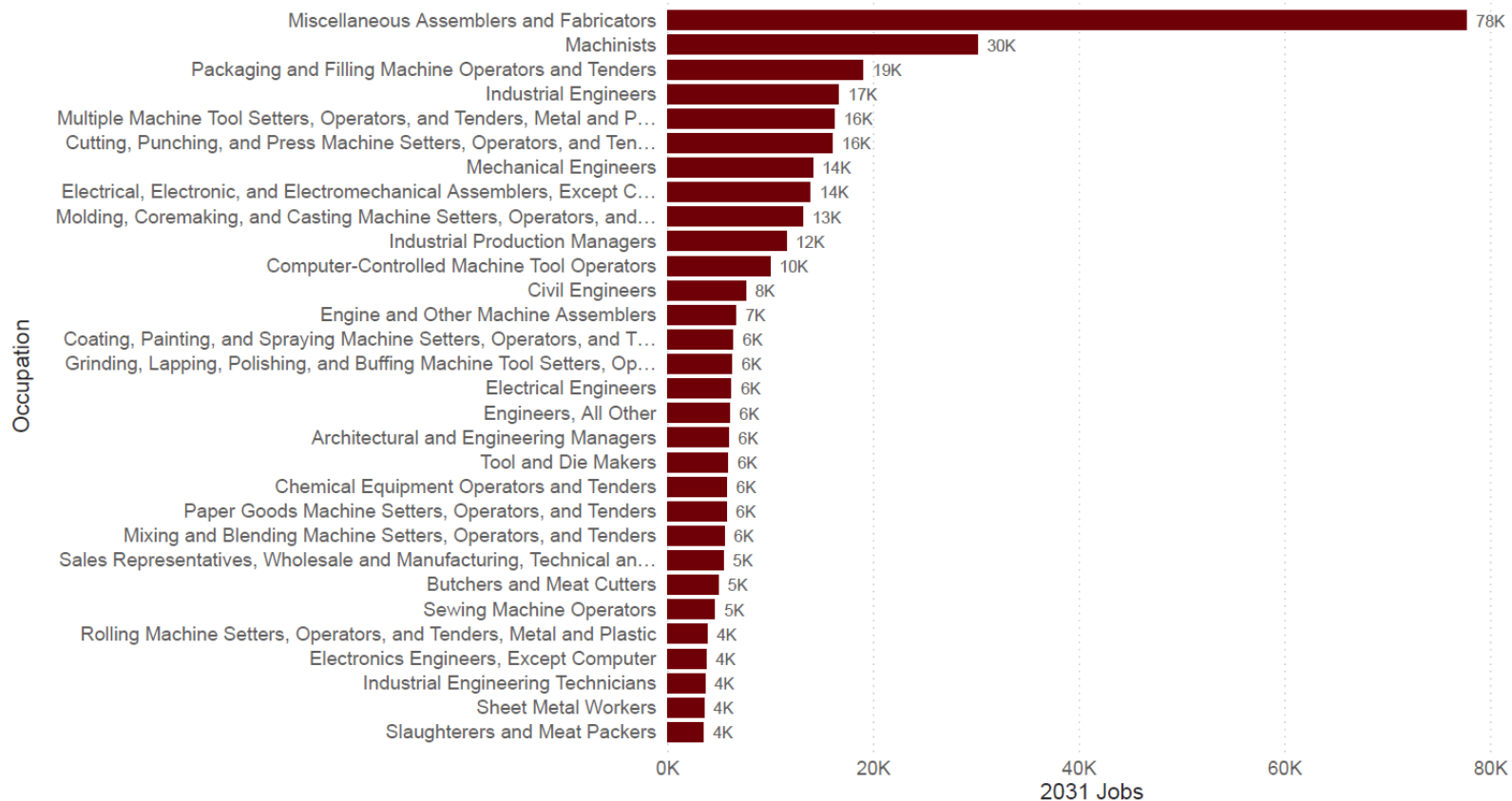


Figure 1 shows the highest in-demand occupations projected for 2031 in the Engineering and Science Technologies career field, with Miscellaneous Assemblers and Fabricators topping the list with almost 78,000 jobs in Ohio in 2031.

Figure 2.

Projected Growth of Engineering and Science Technologies Jobs in Ohio (2021-2031)

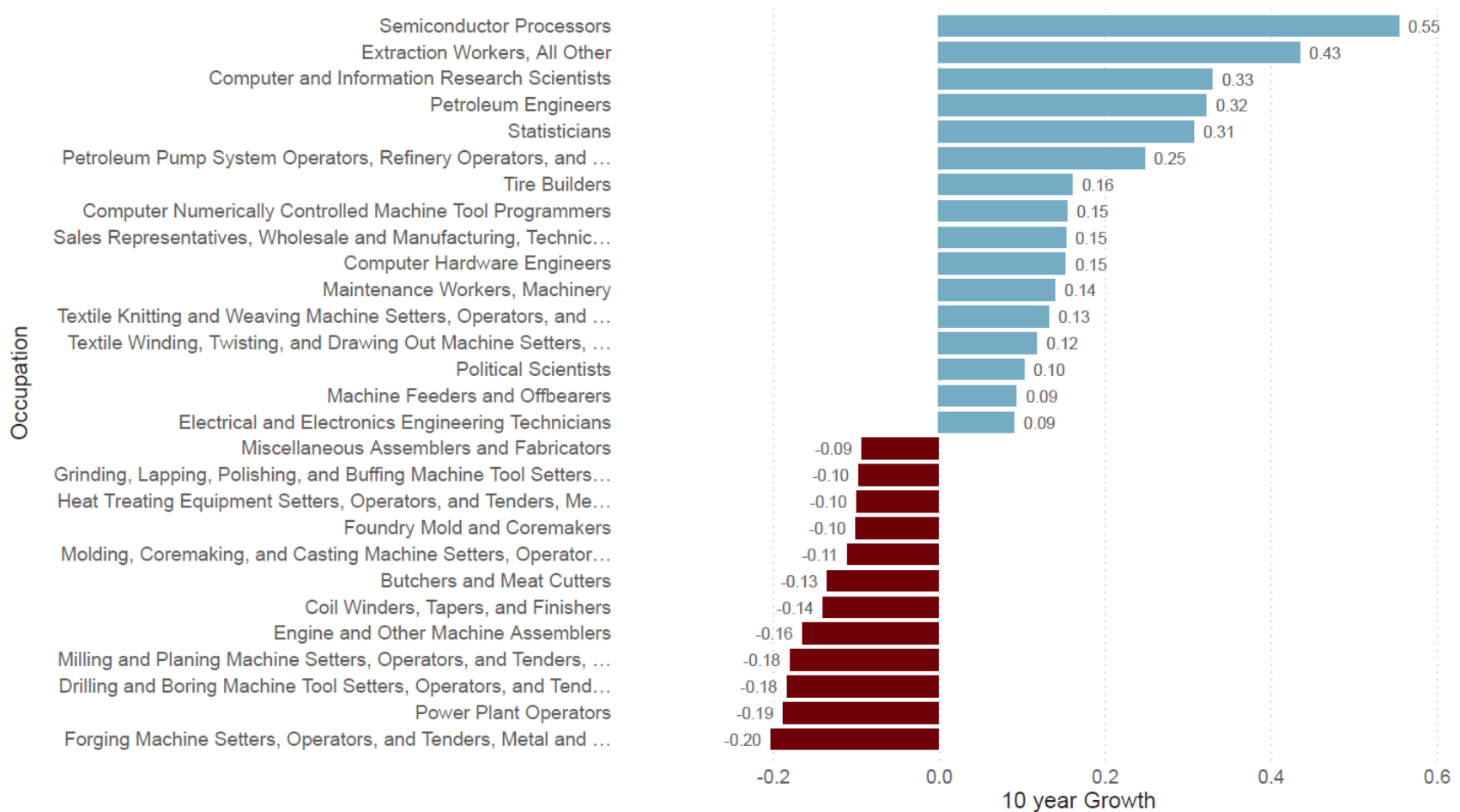


Figure 2 demonstrates the projected growth over the next ten years as a percentage. The blue represents positive growth, with the highest projected growth of 55% in Semiconductor Processors. The red represents negative growth or a decrease in the number of jobs, with the greatest expected decrease in Forging Machine Setters, Operators, and Tenders, Metal and Plastic.

Figure 3.

Top Companies for Engineering and Science Technologies Jobs in Ohio

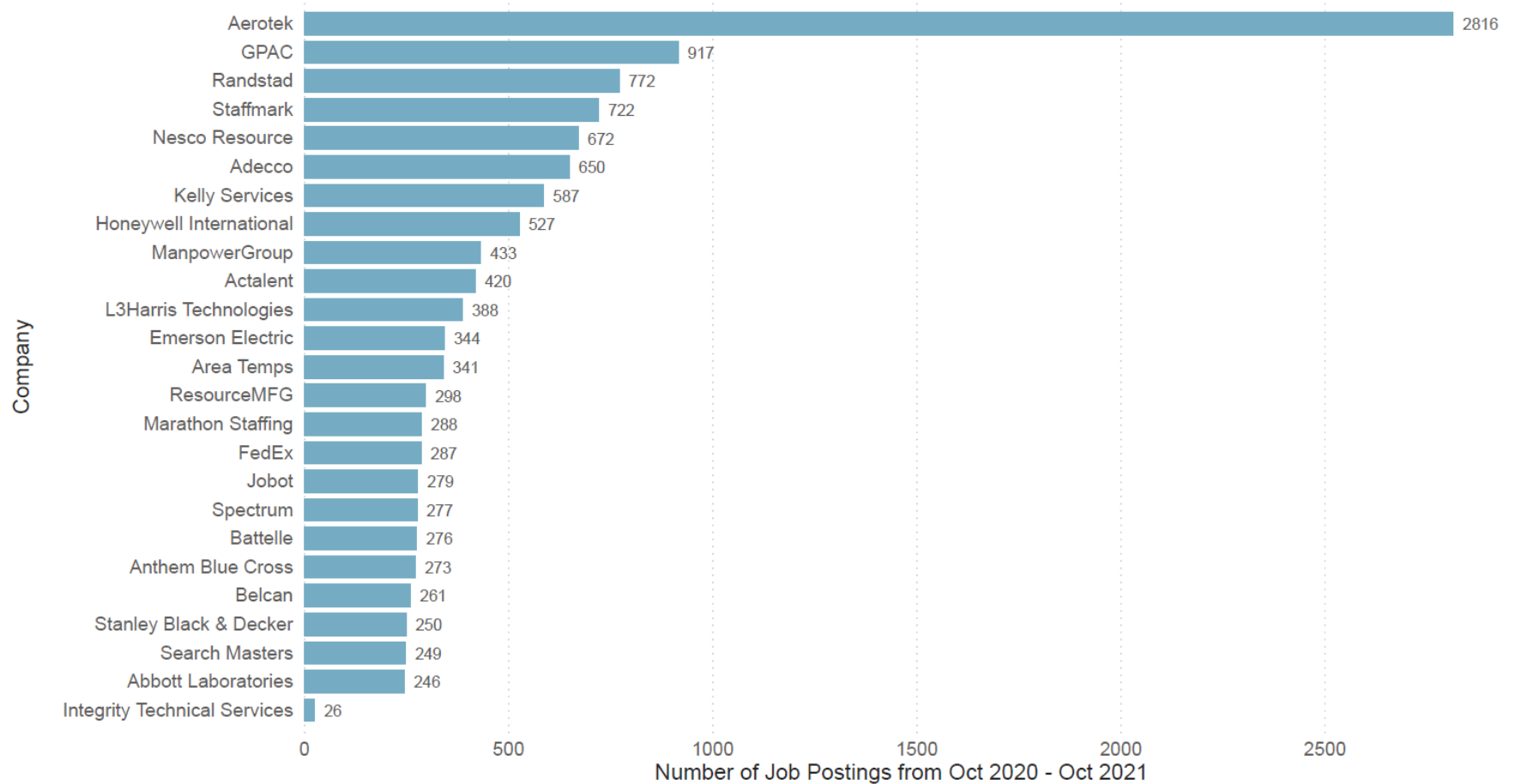


Figure 3 shows the top companies hiring in the Engineering and Science Technologies career field over a one-year period (October 2020-October 2021). There was a total of 82,341 engineering and science technologies job postings during this time period, with the highest number from Aerotek at 2,816.

Figure 4.

Demand and Supply of Engineering and Science Technologies Jobs in Ohio

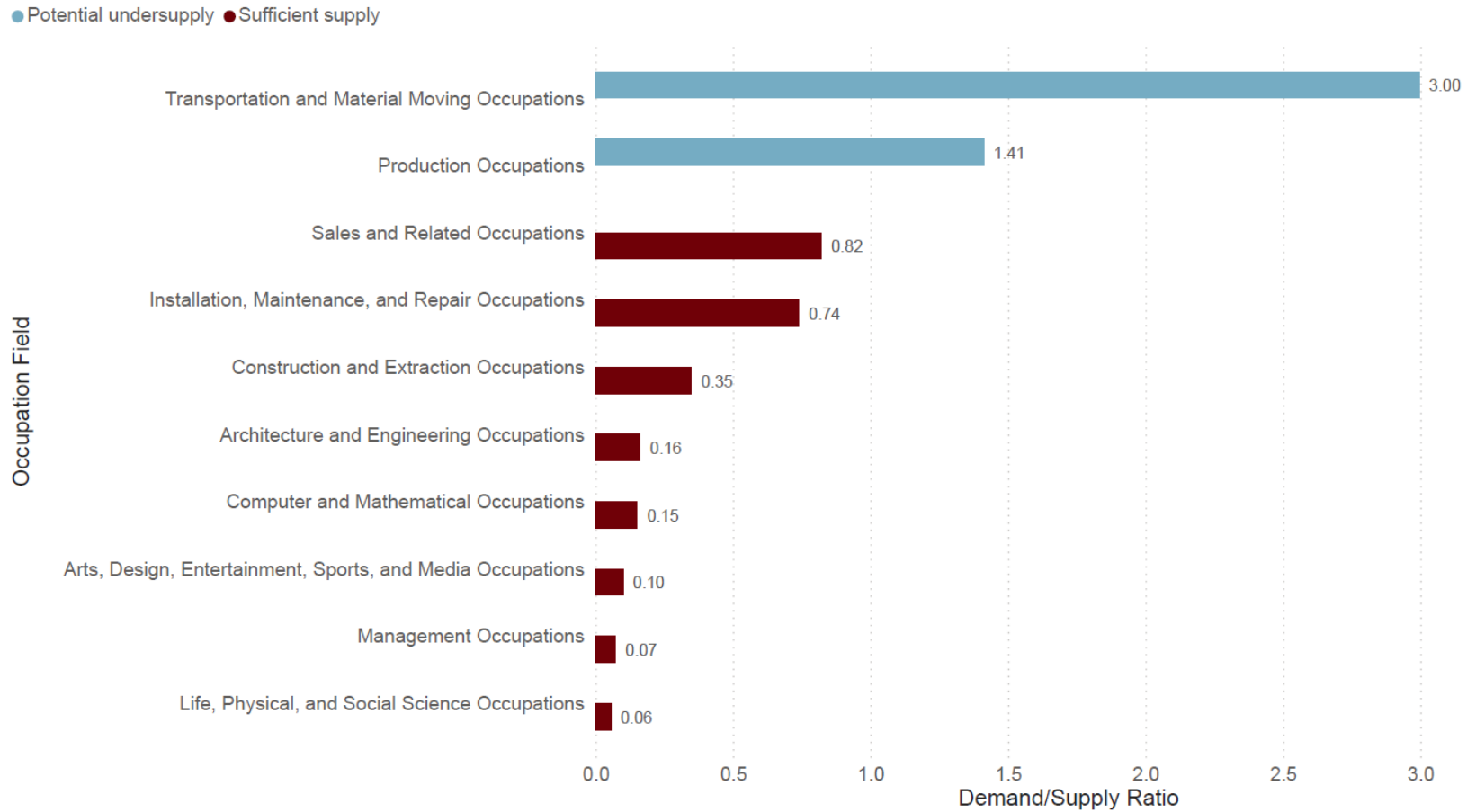


Figure 4 shows the demand and supply ratio for different areas in the career field. The ratio is calculated using the formula, job openings divided by the sum of graduates and those unemployed in the field [Ratio= Openings/(Graduates+Unemployed)]. A ratio of one or greater demonstrates a potential undersupply and less than one shows a sufficient supply. Transportation and Material Moving Occupations and Production Occupations are in potential undersupply.

Figure 5.

Demand for Hard Skills in Engineering and Science Technologies Jobs in Ohio

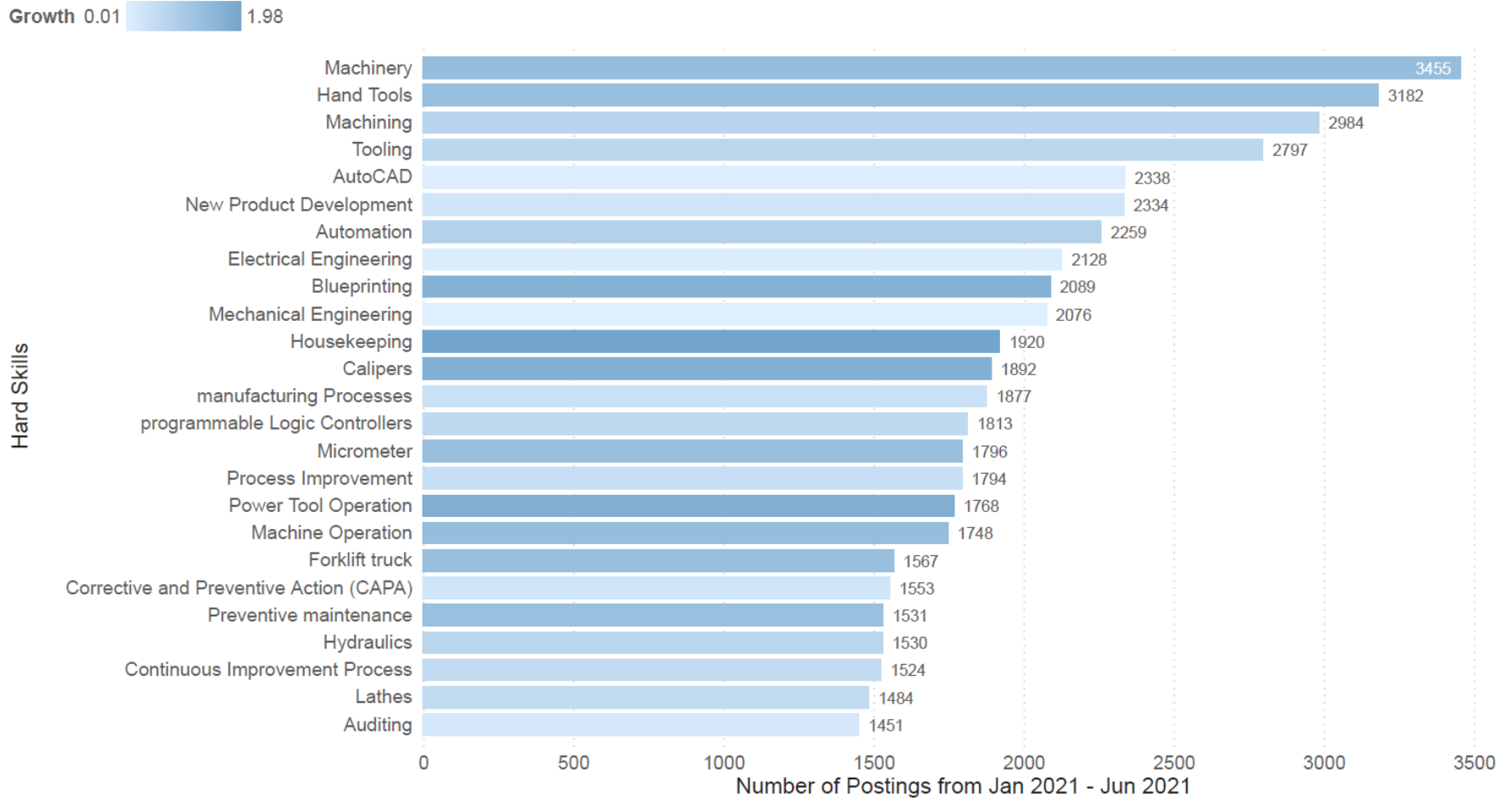


Figure 5 shows the top 25 in-demand hard skills employers are looking for in engineering and science technologies jobs, with the top skill being machinery. Additionally, the darker blue demonstrates skills that have seen a greater increase in demand from 2017 to 2021. The greatest increase in demand is in Housekeeping and Power Tool Operation at 198% and 173%, respectively.

Figure 6.

Demand for Soft Skills in Engineering and Science Technologies Jobs in Ohio

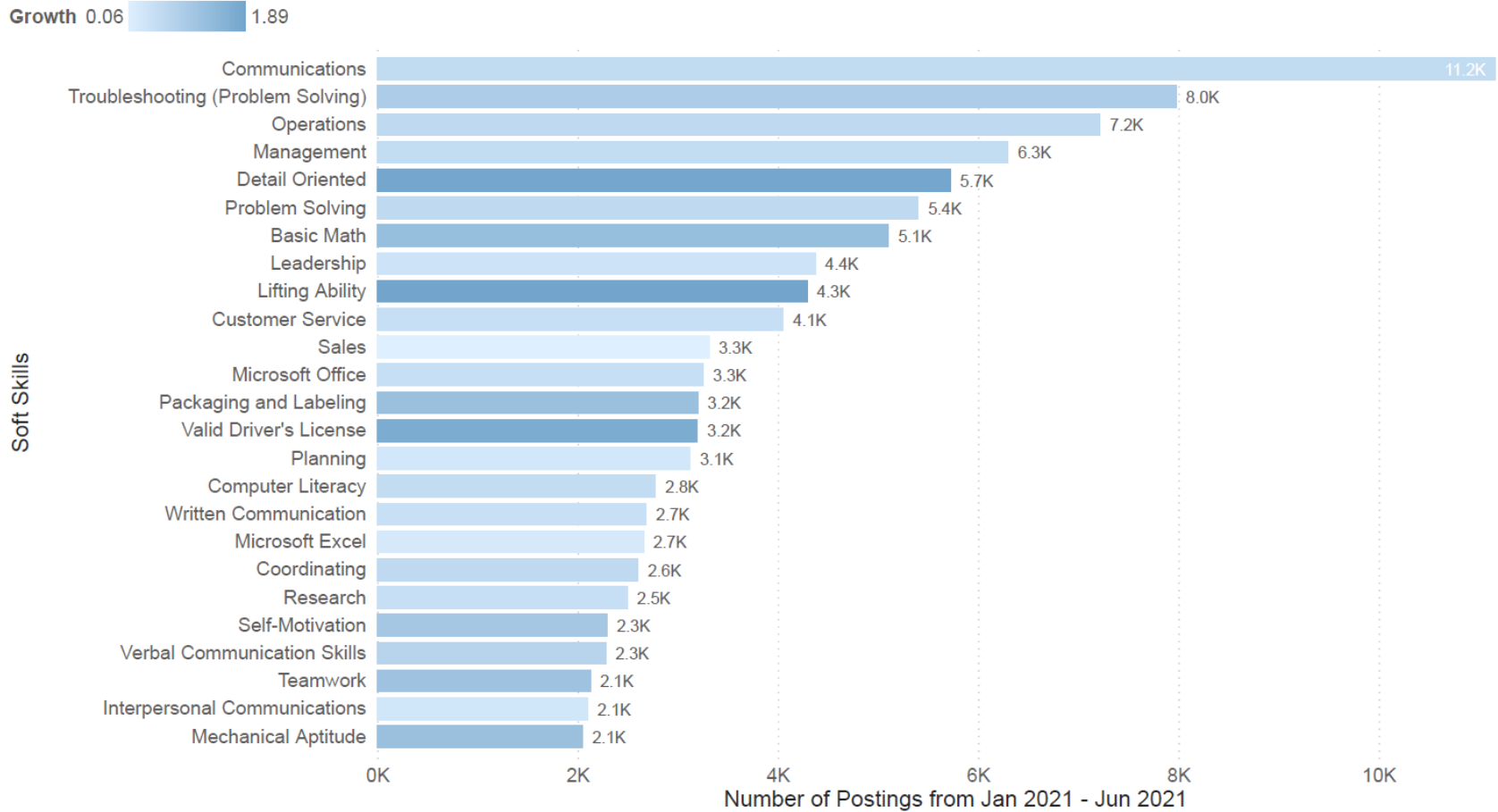


Figure 6 shows the top 25 in-demand soft skills employers are looking for in engineering and science technologies jobs. The top skill is communications, which appeared in over 11,000 job postings between January 2021 and June 2021. Additionally, the darker blue demonstrates skills that have seen a greater increase in demand from 2017 to 2021. The greatest increase in demand is in Lifting Ability and Detail Oriented at 189% and 186%, respectively.

Appendix.

Standard Occupational Classification (SOC)	Occupation
11-3051	Industrial Production Managers
11-9041	Architectural and Engineering Managers
15-1221	Computer and Information Research Scientists
15-2021	Mathematicians
15-2041	Statisticians
17-1011	Architects, Except Landscape and Naval
17-1021	Cartographers and Photogrammetrists
17-2011	Aerospace Engineers
17-2031	Biomedical Engineers
17-2041	Chemical Engineers
17-2051	Civil Engineers
17-2061	Computer Hardware Engineers
17-2071	Electrical Engineers
17-2072	Electronics Engineers, Except Computer
17-2081	Environmental Engineers
17-2112	Industrial Engineers
17-2121	Marine Engineers and Naval Architects
17-2131	Materials Engineers
17-2141	Mechanical Engineers
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers
17-2161	Nuclear Engineers
17-2171	Petroleum Engineers
17-2199	Engineers, All Other
17-3011	Architectural and Civil Drafters
17-3012	Electrical and Electronics Drafters
17-3013	Mechanical Drafters
17-3021	Aerospace Engineering and Operations Technicians

17-3022	Civil Engineering Technicians
17-3023	Electrical and Electronics Engineering Technicians
17-3024	Electro-Mechanical Technicians
17-3025	Environmental Engineering Technicians
17-3026	Industrial Engineering Technicians
17-3027	Mechanical Engineering Technicians
17-3029	Engineering Technicians, Except Drafters, All Other
19-1021	Biochemists and Biophysicists
19-1022	Microbiologists
19-2012	Physicists
19-2021	Atmospheric and Space Scientists
19-2031	Chemists
19-2032	Materials Scientists
19-2041	Environmental Scientists and Specialists, Including Health
19-2042	Geoscientists, Except Hydrologists and Geographers
19-2043	Hydrologists
19-2099	Physical Scientists, All Other
19-3011	Economists
19-3022	Survey Researchers
19-3094	Political Scientists
19-4031	Chemical Technicians
19-4051	Nuclear Technicians
19-4061	Social Science Research Assistants
27-1021	Commercial and Industrial Designers
27-1029	Designers, All Other
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
47-2211	Sheet Metal Workers
47-5099	Extraction Workers, All Other
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-9043	Maintenance Workers, Machinery

51-2021	Coil Winders, Tapers, and Finishers
51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers
51-2031	Engine and Other Machine Assemblers
51-2051	Fiberglass Laminators and Fabricators
51-2098	Miscellaneous Assemblers and Fabricators
51-3021	Butchers and Meat Cutters
51-3022	Meat, Poultry, and Fish Cutters and Trimmers
51-3023	Slaughterers and Meat Packers
51-3099	Food Processing Workers, All Other
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4041	Machinists
51-4052	Pourers and Casters, Metal
51-4061	Model Makers, Metal and Plastic
51-4071	Foundry Mold and Coremakers
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4111	Tool and Die Makers
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
51-4194	Tool Grinders, Filers, and Sharpeners
51-6031	Sewing Machine Operators
51-6062	Textile Cutting Machine Setters, Operators, and Tenders
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders
51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders
51-6099	Textile, Apparel, and Furnishings Workers, All Other

51-7021	Furniture Finishers
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing
51-8011	Nuclear Power Reactor Operators
51-8013	Power Plant Operators
51-8091	Chemical Plant and System Operators
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers
51-8099	Plant and System Operators, All Other
51-9011	Chemical Equipment Operators and Tenders
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
51-9111	Packaging and Filling Machine Operators and Tenders
51-9123	Painting, Coating, and Decorating Workers
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders
51-9141	Semiconductor Processors
51-9161	Computer-Controlled Machine Tool Operators
51-9162	Computer Numerically Controlled Machine Tool Programmers
51-9196	Paper Goods Machine Setters, Operators, and Tenders
51-9197	Tire Builders
53-7063	Machine Feeders and Offbearers