



Missouri Target Industry Brief ADVANCED MANUFACTURING

Advanced Manufacturing Industry

The **Advanced Manufacturing** Target Industry Group refers to technology-intensive producers and the industries that support them. Advanced Manufacturing represents 8.6 percent of total private sector employment, employing 202,419 workers across 9,727 establishments in 29 industries.

Location quotient (LQ) compares the regional share of an industry to the national share so that a LQ over 1.0 indicates sectors of employment concentration. Missouri has particularly high employment concentrations in *HVAC/Commercial Refrigeration Equipment Manufacturing* with a LQ of 3.29, *Motor Vehicle Manufacturing* LQ of 2.82 and *Other Transportation Equipment Manufacturing* LQ of 2.47.

2017 Employment and Establishment Data for the Advanced Manufacturing Target Industry Group

NAICS	Industry	2017 Establishments	2017 Employment	2017 Average Annual Wage	2017 Employment Location Quotient
Total All Private Industry		196,379	2,367,217	\$47,810	
3169	Other leather product mfg.	16	ND	ND	ND
3259	Other chemical product and preparation mfg.	49	1,792	\$59,564	1.12
3261	Plastics product mfg.	226	13,406	\$48,638	1.20
3262	Rubber product mfg.	51	3,322	\$48,955	1.27
3313	Alumina and aluminum production	13	803	\$53,896	0.72
3314	Other nonferrous metal production	14	1,034	\$87,011	0.90
3315	Foundries	41	2,974	\$53,496	1.32
3323	Architectural and structural metals mfg.	242	8,711	\$46,012	1.21
3324	Boiler, tank, and shipping container mfg.	41	3,099	\$52,902	1.80
3329	Other fabricated metal product mfg.	134	7,594	\$58,569	1.47
3333	Commercial and service industry machinery	57	2,935	\$57,158	1.68
3334	Hvac and commercial refrigeration equipment mfg.	52	8,325	\$49,441	3.29
3335	Metalworking machinery mfg.	181	5,156	\$52,881	1.48
3336	Turbine and power transmission equipment mfg.	30	2,933	\$49,142	1.58
3339	Other general purpose machinery mfg.	116	4,373	\$61,315	0.87
3341	Computer and peripheral equipment mfg.	11	127	\$63,632	0.04
3344	Semiconductor and electronic component mfg.	52	6,221	\$78,375	0.89
3345	Electronic instrument mfg.	69	3,045	\$67,148	0.39
3353	Electrical equipment mfg.	59	3,887	\$62,568	1.46
3359	Other electrical equipment and component mfg.	60	5,472	\$50,317	2.08
3361	Motor vehicle mfg.	16	12,265	\$76,045	2.82
3362	Motor vehicle body and trailer mfg.	75	2,648	\$39,088	0.88
3363	Motor vehicle parts mfg.	142	10,146	\$45,948	0.89
3364	Aerospace product and parts mfg.	48	15,814	\$114,566	1.69
3369	Other transportation equipment mfg.	21	1,657	\$56,674	2.47
5413	Architectural and engineering services	2,230	23,011	\$85,834	0.83
5414	Specialized design services	542	2,187	\$55,575	0.81
5415	Computer systems design and related services	4,687	40,845	\$87,684	1.03
5417	Scientific research and development services	452	8,637	\$98,014	0.68
Total Advanced Manufacturing Industries		9,727	202,419	\$62,873	1.32

ND - Not Disclosed

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2017 Annual Data

Advanced Manufacturing Employment Trends

Employment Trends: 2012 - 2017

Employment in the **Advanced Manufacturing** Target Industry Group grew an average 3.5 percent per year from 2012 to 2017— adding a total 32,360 jobs. The largest industries in this group are *Computer Systems Design and Related Services*, *Architectural and Engineering Services*, and *Aerospace Parts and Product Manufacturing*. The average annual wage in **Advanced Manufacturing** is about \$62,900 —\$15,100 more than the state’s average annual private sector wage of about \$47,800. The highest average annual wages within this industry group were in *Aerospace Parts and Product Manufacturing* industry (\$114,566), and *Scientific Research and Development Services* industry (\$98,014).

Eighteen **Advanced Manufacturing** industries posted net employment gains. The *Computer Systems Design and Related Services* industry had the largest gain adding 10,673 jobs; *Semiconductor and Electronic Component Manufacturing* added 2,856 jobs; *Architectural and Engineering Services* added 2,582 jobs.

Nine **Advanced Manufacturing** industries posted a net loss. The largest employment losses, between 2012 and 2017, were in *Other Fabricated Metal Manufacturing*, which lost 2,252 jobs, *Scientific Research and Development Services* shows a loss of 1,394 jobs, and *HVAC and Commercial Refrigeration Equipment*, which lost 1,221 jobs.

2012 - 2017 Employment and Establishment Data for the Advanced Manufacturing Target Industr

NAICS	Industry	2012 Employment	2013 Employment	2014 Employment	2015 Employment	2016 Employment	2017 Employment	2012 -2017 Employment Change
3169	Other leather product mfg.	ND	ND	ND	ND	ND	ND	ND
3259	Other chemical product and preparation mfg.	1,542	1,442	1,405	1,644	1,777	1,792	250
3261	Plastics product mfg.	11,496	11,646	11,762	12,479	13,047	13,406	1,910
3262	Rubber product mfg.	3,316	3,326	3,532	3,529	3,361	3,322	6
3313	Alumina and aluminum production	1,785	1,767	1,714	1,689	971	803	-982
3314	Other nonferrous metal production	1,419	1,186	990	931	961	1,034	-385
3315	Foundries	2,681	2,858	2,958	3,090	3,096	2,974	293
3323	Architectural and structural metals mfg.	6,656	7,301	7,433	7,879	8,635	8,711	2,055
3324	Boiler, tank, and shipping container mfg.	2,436	2,331	3,093	3,102	2,966	3,099	663
3329	Other fabricated metal product mfg.	9,846	10,230	7,681	7,331	7,384	7,594	-2,252
3333	Commercial and service industry machinery	2,718	2,698	2,787	2,933	2,866	2,935	217
3334	Hvac and commercial refrigeration equipment	9,546	8,521	8,653	8,508	8,323	8,325	-1,221
3335	Metalworking machinery mfg.	5,013	5,011	5,113	5,247	5,305	5,156	143
3336	Turbine and power transmission equipment mfg.	2,940	2,843	2,771	2,854	2,938	2,933	-7
3339	Other general purpose machinery mfg.	3,837	3,819	3,855	4,005	4,049	4,373	536
3341	Computer and peripheral equipment mfg.	93	118	109	108	115	127	34
3344	Semiconductor and electronic component mfg.	3,365	3,347	5,789	5,782	5,985	6,221	2,856
3345	Electronic instrument mfg.	1,942	3,103	3,076	3,120	2,955	3,045	1,103
3353	Electrical equipment mfg.	4,660	4,638	4,509	4,284	4,067	3,887	-773
3359	Other electrical equipment and component mfg.	5,557	5,387	5,134	5,337	5,439	5,472	-85
3361	Motor vehicle mfg.	ND	ND	ND	ND	12,849	12,265	ND
3362	Motor vehicle body and trailer mfg.	3,268	2,731	2,777	2,855	2,394	2,648	-620
3363	Motor vehicle parts mfg.	8,088	7,997	8,590	9,062	10,383	10,146	2,058
3364	Aerospace product and parts mfg.	14,235	17,689	17,778	16,778	16,044	15,814	1,579
3369	Other transportation equipment mfg.	1,363	1,641	1,700	1,595	1,577	1,657	294
5413	Architectural and engineering services	20,429	21,118	21,596	23,019	23,032	23,011	2,582
5414	Specialized design services	1,625	1,720	1,834	1,938	2,063	2,187	562
5415	Computer systems design and related services	30,172	33,083	33,757	35,688	38,038	40,845	10,673
5417	Scientific research and development services	10,031	6,742	7,183	7,944	8,479	8,637	-1,394
TOTAL		170,059	174,293	177,579	182,731	199,099	202,419	32,360

ND – Not Disclosed

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Annual Data

Advanced Manufacturing Occupations

Advanced Manufacturing Occupations

Occupations in the **Advanced Manufacturing** Target Industry typically require some combination of training (i.e., education, experience, or on-the-job). The top employing occupations in this industry group that require long-term (Later) training include *Software Developers, Computer Systems Analyst, Computer Programmers, and General and Operations Managers*. Occupations requiring moderate (Next) training include *Computer User Support Specialists, First-Line Supervisor, Machinists, and Architectural and Civil Drafters*. Leading occupations requiring short-term (Now) training include *Team Assemblers, Inspectors, Testers, Samplers, and Administrative Assistants*.

Typically, *General and Operations Managers* earned over \$127,000 on average, followed by *Software Developers* with over \$98,800 and *Civil Engineers* at about \$92,400.

2017 Top Occupations in Advanced Manufacturing

Now Next Later	Occupation Code	Occupation Title	2017 Estimated Employment	2017 Average Wage
NOW	51-2098	Assemblers and Fabricators, all other, including Team Assemblers	14,030	\$39,481
NOW	51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	3,820	\$29,307
NOW	51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	3,270	\$32,472
NOW	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	3,220	\$44,800
NOW	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	3,040	\$37,236
NEXT	15-1151	Computer User Support Specialists	3,860	\$47,001
NEXT	51-1011	First-Line Supervisors of Production and Operating Workers	3,330	\$60,422
NEXT	51-4041	Machinists	1,790	\$45,118
NEXT	17-3011	Architectural and Civil Drafters	1,600	\$50,517
NEXT	15-1152	Computer Network Support Specialists	1,450	\$56,093
LATER	15-1132	Software Developers, Applications	7,350	\$98,860
LATER	15-1121	Computer Systems Analysts	5,160	\$90,977
LATER	15-1131	Computer Programmers	3,460	\$83,078
LATER	17-2051	Civil Engineers	3,110	\$92,388
LATER	11-1021	General and Operations Managers	3,090	\$127,881

Source: Division of Occupational Employment Statistics
U.S. Bureau of Labor Statistics

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