

# Industry Snapshot

## Advanced Manufacturing

Emsi Q2 2018 Data Set

April 2018



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# Parameters

## Industries

64 items selected. See Appendix A for details.

## Regions

Code	Description
19100	Dallas-Fort Worth-Arlington, TX

## Timeframe

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## Datarun

2018.2 - Employees

# Advanced Manufacturing in Dallas-Fort Worth-Arlington, TX

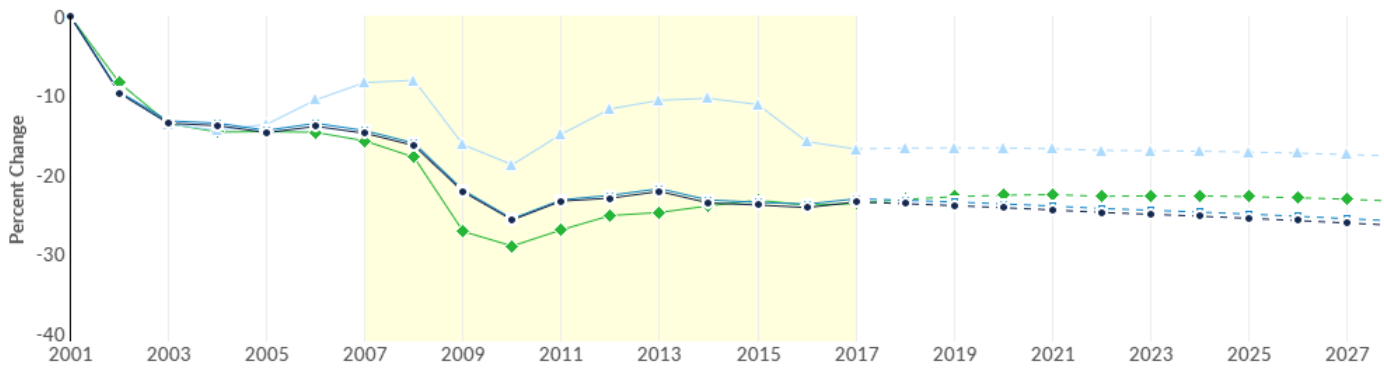
## Industry Summary for Advanced Manufacturing

128,515 Jobs (2017) 4% above National average	-10.2% % Change (2007-2017) Nation: -9.4%	\$126,057 Avg. Earnings Per Job (2017) Nation: \$107,041
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## Industry Detail

Payrolled Business Locations (2017)	1,877
Jobs Multiplier	Only Available for 6-Digit
Unemployed	Only Available for 2-Digit

## Regional Trends



Region	2007 Jobs	2017 Jobs	Change	% Change
● Region	143,055	128,515	-14,540	-10.2%
■ WSNCT Dallas and Tarrant	145,338	130,744	-14,594	-10.0%
▲ State	431,687	392,162	-39,525	-9.2%
◆ Nation	5,747,121	5,208,817	-538,304	-9.4%

## Occupations Employed by these Industries

Description	Employed in Industry Group (2017)	% of Total Jobs in Industry Group (2017)
Team Assemblers	7,854	6.1%
Electrical and Electronic Equipment Assemblers	5,605	4.4%
Inspectors, Testers, Sorters, Samplers, and Weighers	5,454	4.2%
First-Line Supervisors of Production and Operating Workers	3,984	3.1%
Industrial Engineers	3,434	2.7%

## Industry Gender Breakdown



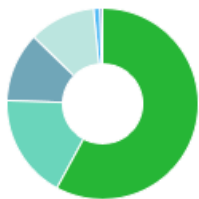
Gender	2017 Jobs	2017 Percent
● Males	92,979	72.3%
● Females	35,537	27.7%

## Industry Age Breakdown



Age	2017 Jobs	2017 Percent
● 14-18	130	0.1%
● 19-24	5,120	4.0%
● 25-34	21,553	16.8%
● 35-44	28,212	22.0%
● 45-54	36,677	28.5%
● 55-64	30,881	24.0%
● 65+	5,941	4.6%

## Industry Race/Ethnicity Breakdown



Race/Ethnicity	2017 Jobs	2017 Percent
White	74,421	57.9%
Hispanic or Latino	22,661	17.6%
Asian	15,055	11.7%
Black or African American	14,418	11.2%
Two or More Races	1,339	1.0%
American Indian or Alaska Native	496	0.4%
Native Hawaiian or Other Pacific Islander	125	0.1%

## Industry Requirements

Purchases from	In-region Purchases	Imported Purchases	Total Purchases
Corporate, Subsidiary, and Regional Managing Offices	\$1,753,633,515	\$1,419,669,012	\$3,173,302,527
Other Aircraft Parts and Auxiliary Equipment Manufacturing	\$815,089,877	\$274,027,706	\$1,089,117,583
Aircraft Engine and Engine Parts Manufacturing	\$160,983,250	\$872,774,757	\$1,033,758,007
Petrochemical Manufacturing	\$911,340,879	\$83,604,082	\$994,944,961
Semiconductor and Related Device Manufacturing	\$751,962,664	\$6,701,749	\$758,664,413

## Top Regional Businesses

Business Name	Industry Name	Business Size
Triumph Aerostructures-vought	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing (334511)	3,500
Avail Medical Products Inc	Surgical and Medical Instrument Manufacturing (339112)	2,100
Stmicroelectronics	Semiconductor and Related Device Manufacturing (334413)	1,725
Lone Star Steel Co	Other Motor Vehicle Parts Manufacturing (336390)	1,500
Motorola Mobility Inc	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing (334220)	1,380

*Business Data by DatabaseUSA.com is third-party data provided by Emsi to its customers as a convenience, and Emsi does not endorse or warrant its accuracy or consistency with other published Emsi data.*

# Appendix A - Industries

Code	Description
32411	Petroleum Refineries
32412	Asphalt Paving, Roofing, and Saturated Materials Manufacturing
32419	Other Petroleum and Coal Products Manufacturing
32511	Petrochemical Manufacturing
32512	Industrial Gas Manufacturing
32513	Synthetic Dye and Pigment Manufacturing
32518	Other Basic Inorganic Chemical Manufacturing
32519	Other Basic Organic Chemical Manufacturing
32521	Resin and Synthetic Rubber Manufacturing
32522	Artificial and Synthetic Fibers and Filaments Manufacturing
32531	Fertilizer Manufacturing
32532	Pesticide and Other Agricultural Chemical Manufacturing
32541	Pharmaceutical and Medicine Manufacturing
32599	All Other Chemical Product and Preparation Manufacturing
32711	Pottery, Ceramics, and Plumbing Fixture Manufacturing
32712	Clay Building Material and Refractories Manufacturing
32791	Abrasive Product Manufacturing
32799	All Other Nonmetallic Mineral Product Manufacturing
33111	Iron and Steel Mills and Ferroalloy Manufacturing
33121	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
33151	Ferrous Metal Foundries
33152	Nonferrous Metal Foundries
33311	Agricultural Implement Manufacturing
33312	Construction Machinery Manufacturing
33313	Mining and Oil and Gas Field Machinery Manufacturing
33324	Industrial Machinery Manufacturing
33331	Commercial and Service Industry Machinery Manufacturing
33361	Engine, Turbine, and Power Transmission Equipment Manufacturing
33391	Pump and Compressor Manufacturing



Code	Description
33392	Material Handling Equipment Manufacturing
33399	All Other General Purpose Machinery Manufacturing
33411	Computer and Peripheral Equipment Manufacturing
33421	Telephone Apparatus Manufacturing
33422	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing
33429	Other Communications Equipment Manufacturing
33431	Audio and Video Equipment Manufacturing
33441	Semiconductor and Other Electronic Component Manufacturing
33451	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing
33461	Manufacturing and Reproducing Magnetic and Optical Media
33511	Electric Lamp Bulb and Part Manufacturing
33512	Lighting Fixture Manufacturing
33521	Small Electrical Appliance Manufacturing
33522	Major Household Appliance Manufacturing
33531	Electrical Equipment Manufacturing
33591	Battery Manufacturing
33592	Communication and Energy Wire and Cable Manufacturing
33593	Wiring Device Manufacturing
33599	All Other Electrical Equipment and Component Manufacturing
33611	Automobile and Light Duty Motor Vehicle Manufacturing
33612	Heavy Duty Truck Manufacturing
33621	Motor Vehicle Body and Trailer Manufacturing
33631	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing
33632	Motor Vehicle Electrical and Electronic Equipment Manufacturing
33633	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing
33634	Motor Vehicle Brake System Manufacturing
33635	Motor Vehicle Transmission and Power Train Parts Manufacturing
33636	Motor Vehicle Seating and Interior Trim Manufacturing
33637	Motor Vehicle Metal Stamping
33639	Other Motor Vehicle Parts Manufacturing

Code	Description
33641	Aerospace Product and Parts Manufacturing
33651	Railroad Rolling Stock Manufacturing
33661	Ship and Boat Building
33699	Other Transportation Equipment Manufacturing
33911	Medical Equipment and Supplies Manufacturing

# Appendix B - Data Sources and Calculations

## Industry Data

Emsi industry data have various sources depending on the class of worker. (1) For QCEW Employees, Emsi primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

## Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

## Input-Output Data

The input-output model in this report is Emsi's gravitational flows multi-regional social account matrix model (MR-SAM). It is based on data from the Census Bureau's Current Population Survey and American Community Survey; as well as the Bureau of Economic Analysis' National Income and Product Accounts, Input-Output Make and Use Tables, and Gross State Product data. In addition, several Emsi in-house data sets are used, as well as data from Oak Ridge National Labs on the cost of transportation between counties.

## DatabaseUSA.com Business-Level Data

Data for individual businesses is provided by DatabaseUSA.com, which maintains a database of more than 14 million U.S. business entities. Note that in aggregate it will not be consistent with Emsi labor market data due to differences in definitions, methodology, coverage, and industry/geographic classification.

## State Data Sources

This report uses state data from the following agencies: Texas Workforce Commission

NAICS		Industry		Current			5-Year History			10-Year Forecast						
				Four Quarters Ending with 2017Q4			Total Change	Empl Last 'n' Years	Avg Ann % Chg in Empl	Total New Demand			Separations (Approximate)		Growth	
				Empl	Avg Ann Wages	LQ				Empl	Region	Total	Exits	Transfers	Empl	Avg Ann Rate
324110	Petroleum Refineries	226	\$456,632	0.13	-164		-10.4%	233	73	149	12	0.5%				
324121	Asphalt Paving Mixture and Block Manufacturing	223	\$47,702	0.58	46		4.7%	237	72	146	20	0.8%				
324122	Asphalt Shingle and Coating Materials Manufacturing	830	\$96,168	3.03	-18		-0.4%	870	269	549	52	0.6%				
324191	Petroleum Lubricating Oil and Grease Manufacturing	326	\$62,372	1.22	40		2.7%	377	109	223	45	1.3%				
324199	All Other Petroleum and Coal Products Manufacturing	3	\$30,556	0.02	-4		-15.6%	4	1	2	1	1.8%				
325110	Petrochemical Manufacturing	491	\$139,532	0.79	1		0.0%	518	161	326	31	0.6%				
325120	Industrial Gas Manufacturing	431	\$95,920	0.95	-115		-4.6%	451	141	285	25	0.6%				
325130	Synthetic Dye and Pigment Manufacturing	20	\$93,647	0.06	-32		-17.6%	23	7	14	3	1.5%				
325180	Other Basic Inorganic Chemical Manufacturing	389	\$107,499	0.41	166		11.8%	426	129	261	35	0.9%				
325193	Ethyl Alcohol Manufacturing	22	\$70,252	0.09	16		26.9%	24	7	15	2	0.8%				
325194	Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing	13	\$107,651	0.14	12		73.7%	13	4	9	0	0.3%				
325199	All Other Basic Organic Chemical Manufacturing	595	\$128,938	0.65	163		6.6%	630	196	395	39	0.6%				
325211	Plastics Material and Resin Manufacturing	880	\$128,680	0.63	30		0.7%	782	284	551	-52	-0.6%				
325212	Synthetic Rubber Manufacturing	82	\$71,626	0.34	-15		-3.4%	78	27	53	-1	-0.2%				
325220	Artificial and Synthetic Fibers and Filaments Manufacturing	31	\$78,889	0.05	23		30.4%	28	10	20	-2	-0.5%				
325311	Nitrogenous Fertilizer Manufacturing	31	\$74,384	0.16	-8		-4.7%	37	11	22	4	1.1%				
325312	Phosphatic Fertilizer Manufacturing	1	\$62,702	0.01	0		10.9%	1	0	1	0	1.8%				
325314	Fertilizer (Mixing Only) Manufacturing	72	\$41,437	0.34	23		7.9%	72	25	47	0	0.0%				
325320	Pesticide and Other Agricultural Chemical Manufacturing	298	\$48,930	0.93	46		3.4%	292	102	195	-5	-0.2%				
325411	Medicinal and Botanical Manufacturing	207	\$67,665	0.30	-49		-4.1%	224	71	134	19	0.9%				
325412	Pharmaceutical Preparation Manufacturing	3,896	\$107,810	0.79	-160		-0.8%	4,137	1,336	2,514	287	0.7%				
325413	In-Vitro Diagnostic Substance Manufacturing	3	\$31,213	0.00	-5		-18.7%	4	1	2	1	1.7%				
325414	Biological Product (except Diagnostic) Manufacturing	68	\$78,309	0.08	8		2.5%	71	23	44	5	0.7%				
325991	Custom Compounding of Purchased Resins	374	\$53,616	0.86	117		7.8%	341	130	239	-27	-0.8%				
325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	150	\$62,665	0.55	2		0.2%	163	55	101	6	0.4%				
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	972	\$72,805	1.03	-206		-3.8%	871	336	616	-81	-0.9%				
327110	Pottery, Ceramics, and Plumbing Fixture Manufacturing	205	\$60,203	0.49	88		12.0%	215	80	135	0	0.0%				
327120	Clay Building Material and Refractories Manufacturing	2,225	\$67,341	3.63	525		5.5%	2,291	865	1,470	-45	-0.2%				
327910	Abrasive Product Manufacturing	66	\$60,312	0.26	10		3.5%	78	26	46	6	0.8%				
327991	Cut Stone and Stone Product Manufacturing	751	\$48,646	0.92	-28		-0.7%	861	294	519	48	0.6%				
327992	Ground or Treated Mineral and Earth Manufacturing	58	\$74,319	0.40	11		4.3%	52	21	37	-5	-1.0%				
327993	Mineral Wool Manufacturing	908	\$87,776	1.97	19		0.5%	899	314	552	33	0.4%				
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	604	\$57,753	2.02	203		8.6%	753	244	430	79	1.2%				
331110	Iron and Steel Mills and Ferroalloy Manufacturing	344	\$69,567	0.17	32		2.0%	305	115	215	-25	-0.8%				
331313	Alumina Refining and Primary Aluminum Production	3	\$38,871	0.02	-78		-46.9%	5	1	3	1	1.7%				
331314	Secondary Smelting and Alloying of Aluminum	111	\$47,047	0.83	27		5.8%	108	40	73	-5	-0.5%				
331315	Aluminum Sheet, Plate, and Foil Manufacturing	21	\$64,858	0.05	-1		-1.3%	21	8	14	-1	-0.3%				
331318	Other Aluminum Rolling, Drawing, and Extruding	1,652	\$46,261	2.42	-10		-0.1%	1,696	605	1,109	-19	-0.1%				
331511	Iron Foundries	30	\$50,245	0.04	-32		-13.4%	29	11	20	-2	-0.5%				
331512	Steel Investment Foundries	174	\$39,613	0.60	-38		-3.9%	145	59	110	-24	-1.5%				
331513	Steel Foundries (except Investment)	409	\$61,605	1.31	-105		-4.5%	342	138	258	-54	-1.4%				
331523	Nonferrous Metal Die-Casting Foundries	125	\$42,597	0.20	61		14.4%	114	43	81	-10	-0.8%				
331524	Aluminum Foundries (except Die-Casting)	238	\$52,458	0.56	-35		-2.7%	202	81	151	-30	-1.3%				
331529	Other Nonferrous Metal Foundries (except Die-Casting)	66	\$46,723	0.22	-29		-7.0%	62	23	43	-4	-0.7%				
333111	Farm Machinery and Equipment Manufacturing	100	\$62,459	0.07	26		6.3%	127	37	71	18	1.7%				
333112	Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing	3	\$41,720	0.01	-9		-26.2%	3	1	2	1	1.7%				
333120	Construction Machinery Manufacturing	290	\$70,385	0.18	-65		-3.9%	363	107	206	49	1.6%				
333131	Mining Machinery and Equipment Manufacturing	751	\$77,549	3.30	160		4.9%	956	279	538	139	1.7%				
333132	Oil and Gas Field Machinery and Equipment Manufacturing	3,410	\$90,508	2.61	-873		-4.5%	4,294	1,264	2,432	598	1.6%				
333241	Food Product Machinery Manufacturing	546	\$54,601	1.19	216		10.6%	510	184	335	-9	-0.2%				
333242	Semiconductor Machinery Manufacturing	205	\$119,567	0.43	-34		-3.0%	202	70	128	3	0.2%				
333243	Sawmill, Woodworking, and Paper Machinery Manufacturing	47	\$64,772	0.14	-115		-21.9%	43	16	29	-1	-0.3%				
333244	Printing Machinery and Equipment Manufacturing	110	\$59,372	0.63	-119		-13.6%	102	37	67	-2	-0.2%				
333249	Other Industrial Machinery Manufacturing	726	\$54,201	0.54	338		13.4%	675	244	444	-13	-0.2%				
333314	Optical Instrument and Lens Manufacturing	338	\$85,165	0.69	19		1.1%	318	116	210	-8	-0.3%				
333316	Photographic and Photocopying Equipment Manufacturing	12	\$69,878	0.07	8		20.8%	14	4	8	1	1.0%				
333318	Other Commercial and Service Industry Machinery Manufacturing	737	\$70,867	0.48	-62		-1.6%	723	257	463	3	0.0%				
333611	Turbine and Turbine Generator Set Units Manufacturing	103	\$71,306	0.16	-66		-9.4%	109	36	67	7	0.6%				
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing	54	\$58,400	0.20	-43		-11.0%	57	19	35	3	0.6%				
333613	Mechanical Power Transmission Equipment Manufacturing	1,330	\$62,483	4.29	-19		-0.3%	1,415	462	864	90	0.7%				
333618	Other Engine Equipment Manufacturing	5	\$46,111	0.00	2		7.9%	6	2	3	1	1.3%				
333912	Air and Gas Compressor Manufacturing	116	\$72,019	0.24	-19		-3.0%	119	41	75	2	0.2%				
333921	Elevator and Moving Stairway Manufacturing	324	\$65,688	1.37	206		22.4%	375	119	219	36	1.1%				
333922	Conveyor and Conveying Equipment Manufacturing	816	\$57,205	1.06	76		2.0%	860	291	535	34	0.4%				
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	334	\$66,588	1.00	-4		-0.2%	355	119	220	16	0.5%				
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	137	\$49,470	0.22	53		10.4%	146	49	90	7	0.5%				
333991	Power-Driven Handtool Manufacturing	13	\$42,962	0.06	2		3.3%	14	5	8	1	0.5%				
333992	Welding and Soldering Equipment Manufacturing	480	\$70,127	1.35	-73		-2.8%	597	181	333	82	1.6%				
333993	Packaging Machinery Manufacturing	230	\$62,985	0.46	64		6.7%	240	82	150	8	0.3%				
333994	Industrial Process Furnace and Oven Manufacturing	119	\$42,824	0.50	0		0.1%	123	42	77	4	0.3%				
333995	Fluid Power Cylinder and Actuator Manufacturing	203	\$63,262	0.52	-135		-9.7%	212	72	132	7	0.3%				
333996	Fluid Power Pump and Motor Manufacturing	2	\$41,720	0.00	0		-0.9%	2	1	1	0	1.7%				
333997	Scale and Balance Manufacturing	31	\$54,388	0.30	10		8.1%	33	11	20	1	0.4%				
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	396	\$66,629	0.42	-417		-13.4%	410	140	258	12	0.3%				
334111	Electronic Computer Manufacturing	4,279	\$198,252	1.75	3,175		31.1%	3,236	1,117	2,283	-164	-0.4%				
334112	Computer Storage Device Manufacturing	92	\$206,291	0.21	68		30.6%	69	24	49	-4	-0.5%				
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	318	\$70,037	0.33	-177		-8.5%	237	82	169	-14	-0.5%				
334210	Telephone Apparatus Manufacturing	4,626	\$171,630	9.69	-157		-0.7%	3,289	1,362	2,482	-554	-1.3%				
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	2,259	\$104,334	1.90	-1,379		-9.1%	1,673	672	1,225	-224	-1.0%				
334290	Other Communications Equipment Manufacturing	976	\$111,347	2.23	-210		-3.8%	614	278	507	-171	-1.9%				
334310	Audio and Video Equipment Manufacturing	716	\$86,541	1.49	255		9.2%	667	245	421	1	0.0%				
334412	Bare Printed Circuit Board Manufacturing	1,319	\$104,503	1.95	-469		-5.9%	1,236	446	775	15	0.1%				
334413	Semiconductor and Related Device Manufacturing	15,530	\$177,724	3.55	-638		-0.8%	14,563	5,258	9,132	173	0.1%				
334416	Capacitor, Resistor, Coil, Transformer, and Other Inductor Manufacturing	105	\$53,959	0.26	-59		-8.5%	108	37	64	7	0.7%				
334417	Electronic Connector Manufacturing	433	\$70,445	0.86	108		5.9%	420	148	257	14	0.3%				
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	1,731	\$70,290	1.29	203		2.5%	1,626	586	1,018	21	0.1%				
334419	Other Electronic Component Manufacturing	1,777	\$90,766	1.21	-632		-5.9%	1,779	614	1,067	98	0.5%				
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	1,040	\$162,331	0.64	92		1.9%	1,097	350	625	122	1.1%				
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	3,742	\$131,662	1.28	-822		-3.9%	3,777	1,241	2,217	318	0.8%				
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	60	\$44,368	0.14	3		1.0%	55	19	34	1	0.2%				
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	358	\$84,257	0.24	-206											