



ARIZONA'S MANUFACTURING INDUSTRY

the assembled facts



ARIZONA
COMMERCE
AUTHORITY



ARIZONA'S MANUFACTURING AT A GLANCE

Output, 2013 (Real GDP)	\$23.8 Billion
% of total output	9%
Employment, 2013	155,043
% of total employment	6%
Average annual wage, 2013	\$69,060
# of establishments, 2013	4,583
Manufacturing exports, 2013	\$15.6 Billion

Source: Bureau of Economic Analysis, Bureau of Labor Statistics QCEW, Global Trade Atlas

Arizona's manufacturing sector accounted for nine percent of total output and five percent of total employment in 2013. Moreover, the manufacturing sector pays an average annual wage of approximately \$69,000, more than 50 percent higher than the average wage for all positions in the state. Arizona's manufacturing sector has experienced positive growth in output each year after 2009, while employment levels have shown positive growth every year following 2010.

% CHANGE, 2009-2013

	2009	2010	2011	2012	2013
Output	-13%	7%	5%	6%	0.2%
Employment	-12%	-3%	1%	3%	0.3%

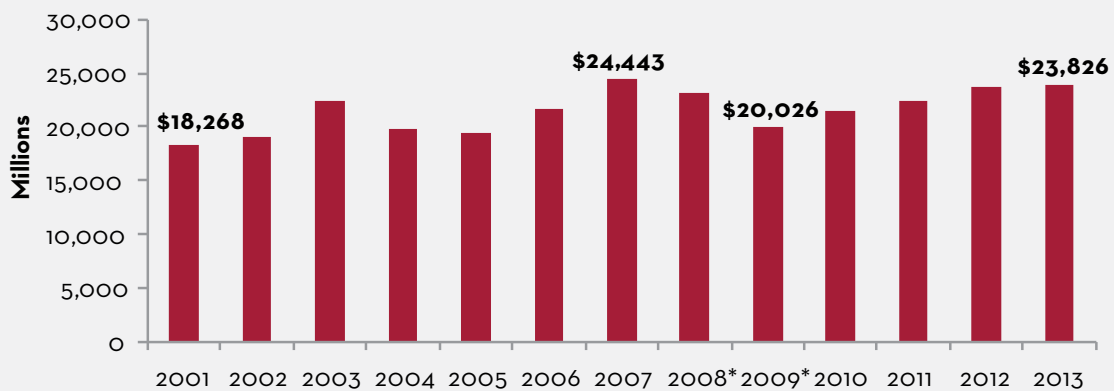
Source: Bureau of Economic Analysis, Bureau of Labor Statistics QCEW



OUTPUT

Arizona's manufacturing output, measured as Real Gross Domestic State Product (RGDP), continues to increase following the Great Recession. In 2013, manufacturing output reached \$23.8 billion, its second highest level in recorded history.

ARIZONA MANUFACTURING OUTPUT, 2001-2013



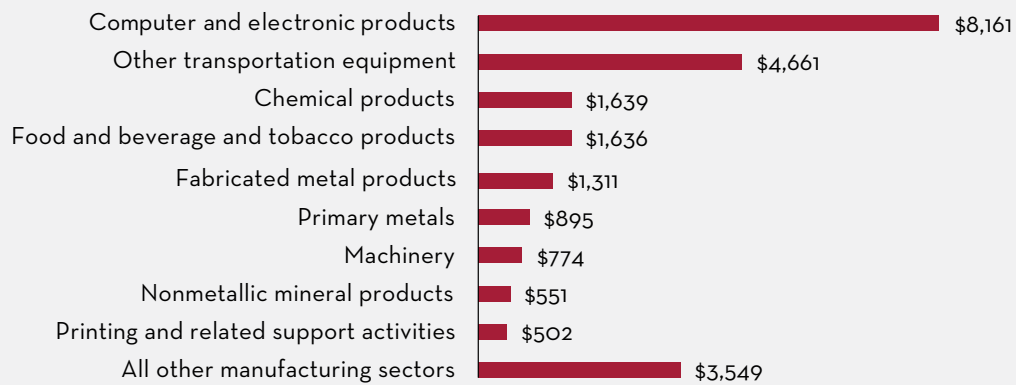
*The Great Recession

Source: Bureau of Economic Analysis



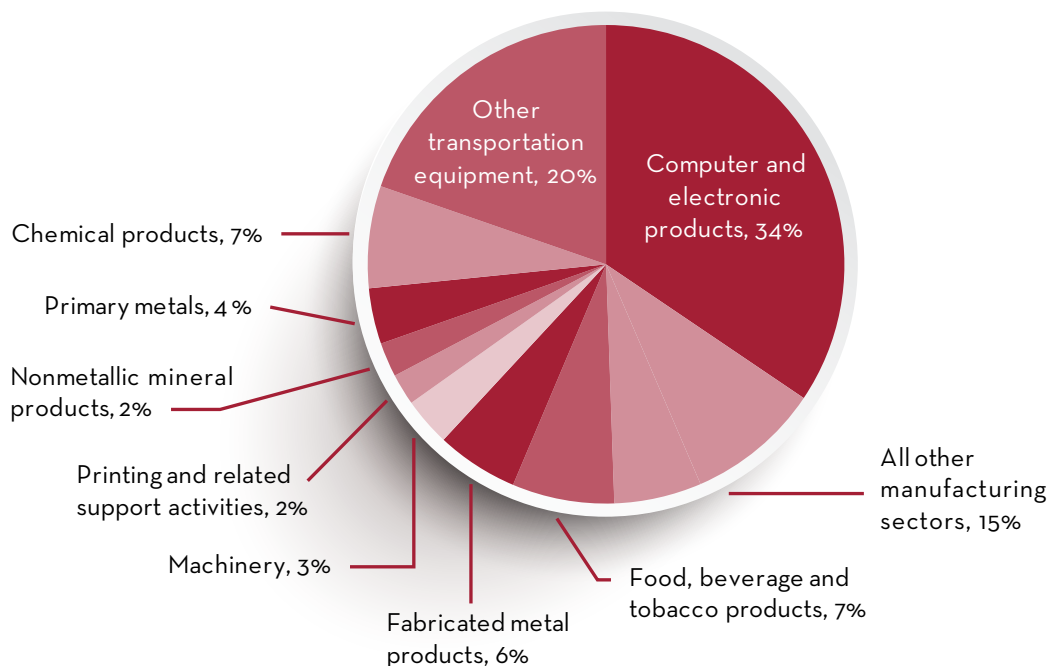
In terms of output by manufacturing subsector, computer and electronic products together with other transportation equipment (which includes aerospace products and parts manufacturing) account for almost \$13 billion of output and represent more than half of total manufacturing output for the state of Arizona.

ARIZONA MANUFACTURING OUTPUT BY SECTOR, 2012 (\$ MILLIONS)



Source: Bureau of Economic Analysis

ARIZONA MANUFACTURING OUTPUT BREAKDOWN BY SECTOR, 2012



Source: Bureau of Economic Analysis

EMPLOYMENT

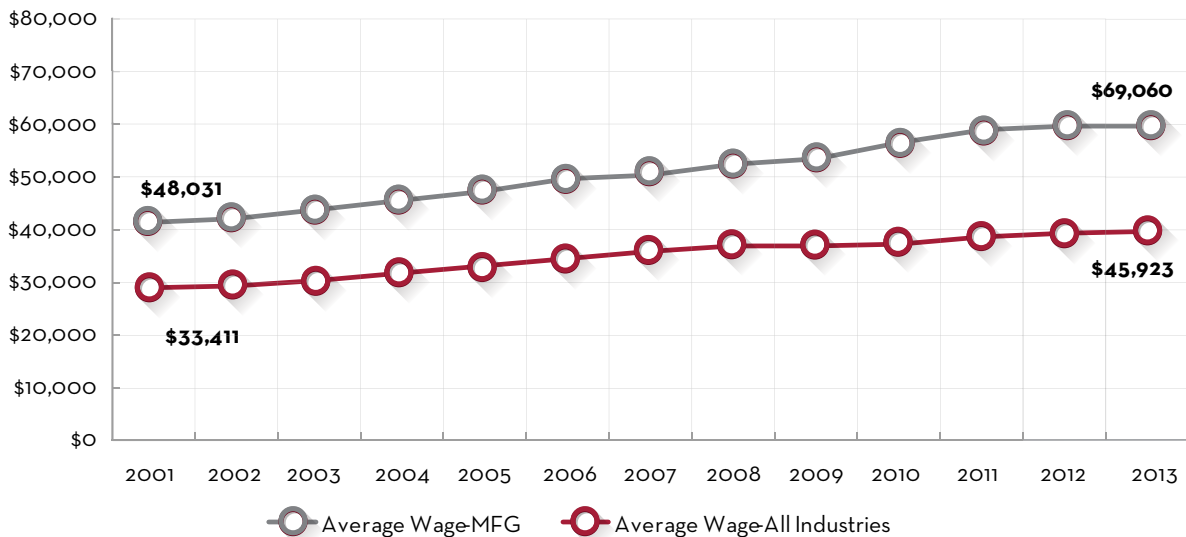
Arizona's manufacturing sector employed approximately 155,000 individuals in 2013, which is about six percent of the State's total employment. While the number of jobs in the manufacturing sector has declined since 2001, productivity (measured as output per worker) has increased, as has the average annual wage. Since 2001, the average wage in the manufacturing sector has been substantially higher than the average wage in the state; in 2013, the average annual wage in the manufacturing sector stood at approximately \$69,000, whereas the average annual wage in the state was close to \$46,000.

ARIZONA MANUFACTURING EMPLOYMENT AND PRODUCTIVITY, 2001-2013



Source: Bureau of Labor Statistics QCEW, Bureau of Economic Analysis

AVERAGE ANNUAL WAGES IN ARIZONA, 2001-2013



Source: Bureau of Labor Statistics QCEW

The aerospace products and parts industry employs the largest number of individuals (26,258) in the manufacturing sector, followed by the semiconductor and other electrical components industry (23,688), and the fabricated metals industry (17,628). Together, these three industries account for almost 45 percent of total manufacturing employment in Arizona. Jobs in semiconductor and electrical components manufacturing pay the highest average annual wage (relative to all industries in the manufacturing sector), and the fabricated metal products industry has the largest number of establishments.

MANUFACTURING EMPLOYMENT AND ESTABLISHMENTS IN ARIZONA, 2013

Sector/NAICS Code	Employment	Establishments	Average Annual Wage
Aerospace product and parts (3364)	26,258	120	\$96,360
Semiconductor and other electronic component (3344)	23,688	147	\$110,035
Fabricated metal products (332)	17,628	845	\$49,455
Food and beverage and tobacco products (331-2)	14,877	301	\$40,887
Navigational, measuring, electromedical, and control instruments (3345)	10,939	159	\$96,517
Printing and related support activities (323)	6,043	490	\$42,176
Medical equipment and supplies (3391)	6,018	246	\$60,217
Machinery (333)	5,748	293	\$63,068
Nonmetallic mineral products (327)	5,654	265	\$48,283
Furniture and related products (337)	5,187	290	\$34,489
Chemical products (325)	5,111	201	\$49,857
Primary metals (331)	4,144	82	\$58,498
Plastics and rubber products (326)	4,101	132	\$43,970
Transportation equipment (except aerospace) (3362-3366)	3,632	135	\$48,894
Wood products (321)	3,515	162	\$34,925
Electrical equipment, appliance, and components (335)	2,234	96	\$56,810
Paper products (322)	2,069	46	\$45,153
Communications equipment (3342)	1,261	39	\$78,591
Textile mills and textile product mills (313-4)	1,067	101	\$41,220
All other manufacturing sectors	5,869	433	\$97,344
Total	155,043	4,583	\$69,060

Source: Bureau of Labor Statistics QCEW

Establishment Size	# of Establishments
'1-4'	1,880
'5-9'	831
'10-19'	699
'20-49'	634
'50-99'	284
'100-249'	180
'250-499'	45
'500-999'	15
'1,000 or more'	14
Total	4,583

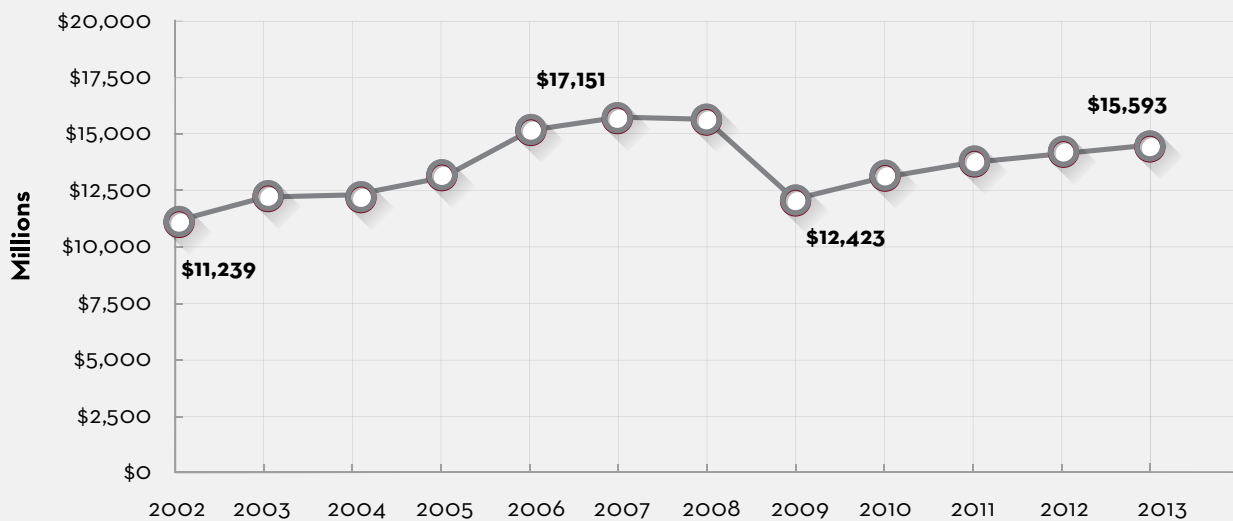
Source: Bureau of Labor Statistics and U.S. Census Bureau County Business Patterns and the Arizona Commerce Authority

Furthermore, the vast majority of manufacturing enterprises in Arizona are of a small size – close to 95 percent of establishments have less than 100 employees.

EXPORTS

Overseas markets play a critical role when it comes to manufacturing in Arizona. According to the National Association of Manufacturers, approximately 27 percent of manufacturing jobs in Arizona depend on exports. Arizona Manufacturing exports experienced uninterrupted growth between the years 2002 and 2007, followed by no growth in 2008 and a sharp decline in 2009. Exports of manufactured products have increased every year after 2009, totaling more than \$15 billion in 2013. Furthermore, manufactured goods exports account for 80 percent of total exports for the state of Arizona.

ARIZONA MANUFACTURED GOODS EXPORTS, 2002-2013

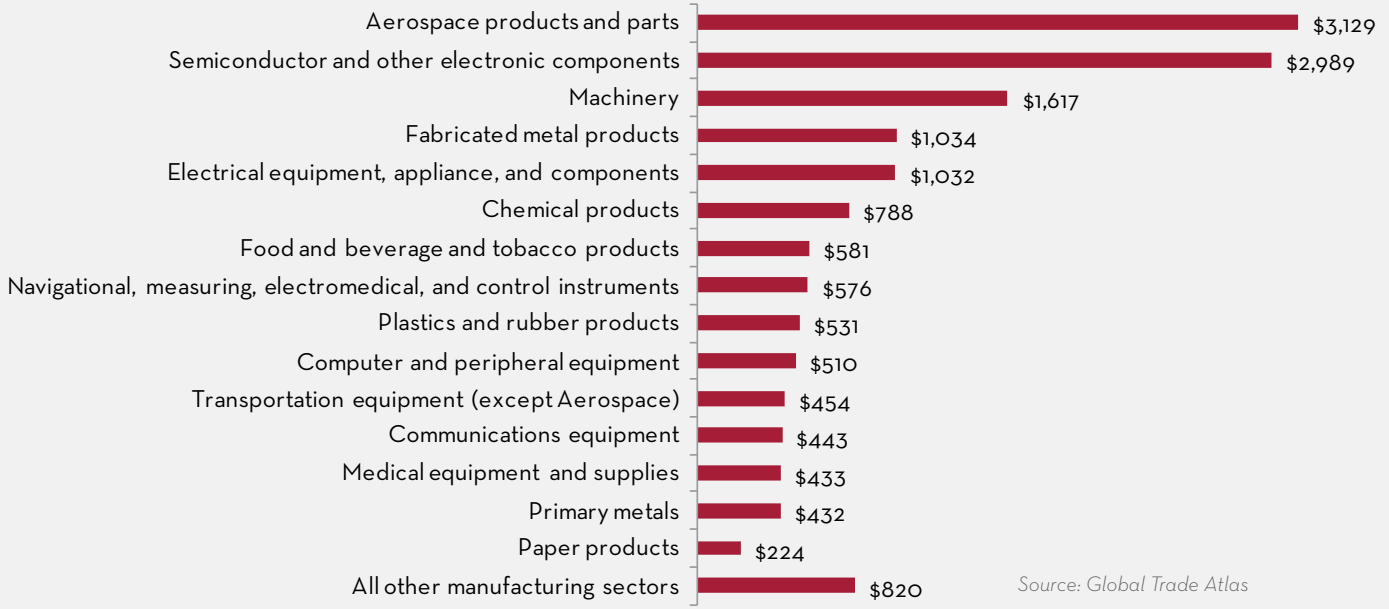


Source: Global Trade Atlas

Not surprisingly, aerospace and semiconductor manufacturing account for a large proportion (close to 40 percent) of manufactured goods' exports, in terms of dollar value. Manufactured machinery, fabricated metal products, and electrical equipment also export a considerable amount of manufactured goods, as measured by dollar values.



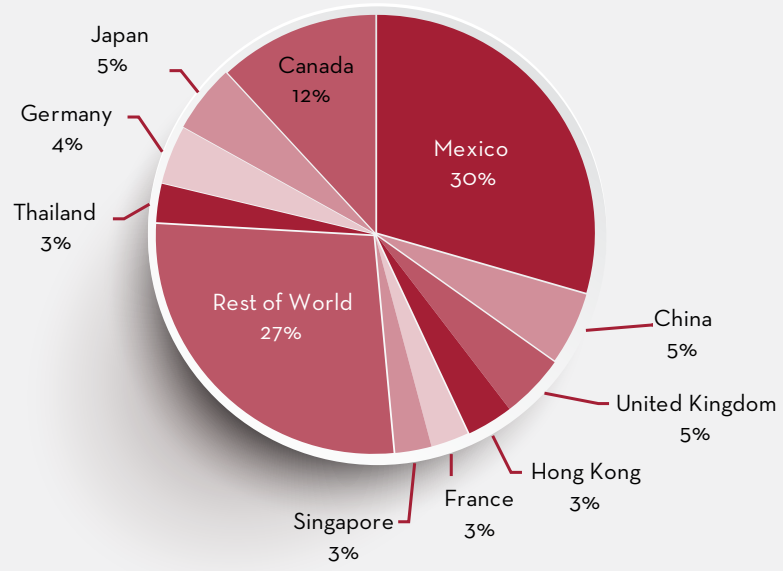
ARIZONA MANUFACTURED GOODS EXPORTS BY INDUSTRY, 2013 (\$ MILLIONS)



Source: Global Trade Atlas

Mexico is Arizona’s top export market for manufactured products, accounting for more than \$4.5 billion and representing 30 percent of total manufacturing exports. Canada represents Arizona’s second largest export market, while China, Japan, and the United Kingdom occupy the third, fourth, and fifth spots, respectively.

TOP EXPORT MARKETS FOR ARIZONA MANUFACTURED GOODS, 2013



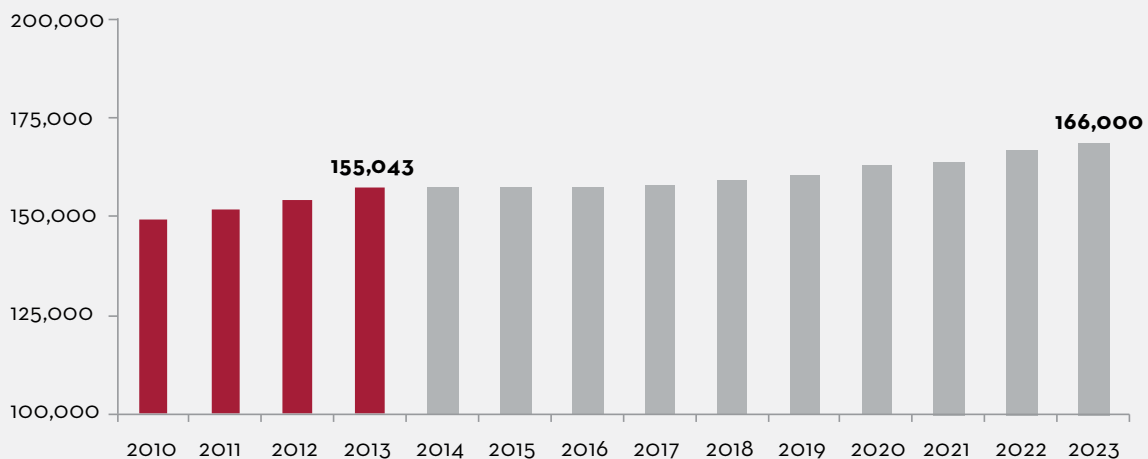
Source: Global Trade Atlas



EMPLOYMENT OUTLOOK

Total manufacturing employment in Arizona is expected to increase in future years². Specifically, the manufacturing sector is expected to add approximately 11,000 (net new) jobs between 2014 and 2023.

ARIZONA MANUFACTURING EMPLOYMENT FORECAST, 2010-2023



Source: Economic Modeling Specialists Intl, Bureau of Labor Statistics QCEW, Arizona Commerce Authority

The fabricated metals industry is expected to add the largest number of manufacturing jobs over the next 10 years, followed by the food, beverages, and tobacco products industries and the medical equipment and supplies industry. With respect to the total number of jobs, the five top sectors will remain unchanged in 2023.

Estimated jobs added - top industries, 2014-2023

Fabricated metal products	3,860
Food, beverage and tobacco products	3,420
Medical equipment and supplies	2,760
Chemical products	1,990
Printing and related support activities	1,410

Arizona's largest forecasted industries, 2023

Aerospace production and parts	24,480
Semiconductor and other electronic components	24,160
Fabricated metal products	21,490
Food, beverage and tobacco products	18,300
Navigational, measuring, electromedical, and control instruments	10,700

² Forecasts based on projected growth rates obtained via Economic Modeling Specialists Intl.

*New jobs added will replace old ones. Some industries will lose their share of total employment.

Source: Economic Modeling Specialists Intl, Bureau of Labor Statistics, and Arizona Commerce Authority



Numerous large manufacturing firms have operations in Arizona. The following list provides some of the largest manufacturers in Arizona:



Honeywell



Raytheon



GENERAL DYNAMICS



RevAZ: ARIZONA'S MANUFACTURER'S RESOURCE

RevAZ is a program created through a collaborative partnership between the Arizona Commerce Authority, the National Institute of Standards & Technology (NIST) and the Manufacturing Extension Partnership (MEP). As Arizona's MEP center, RevAZ's primary mission is to provide customized technical assistance and solutions to significantly impact manufacturers' growth, profitability and futures.



A program of the



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