



2023 OHIO MANUFACTURING COUNTS

FACTS ABOUT THE ECONOMIC IMPACT OF OHIO MANUFACTURING

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FACTS ABOUT THE ECONOMIC IMPACT OF OHIO MANUFACTURING

Ohio is powered by manufacturing. The sector is responsible for **17.9%** of Ohio's (all private industries) Gross Domestic Product (2021) and contributes to the state's quality of life by providing:

- More than **691,900** jobs for Ohio workers (as of October 2022);
- An annual payroll of **\$44 billion**, the highest total annual wages of any Ohio industry sector;
- **\$51 billion** in exported products to **211** countries and territories; and
- A **cleaner environment** through decreased emissions and increased recycling.

Manufacturing is the **largest of Ohio's 20 economic sectors**, including government, with **16% of total output** in 2021.

As of 2021, Ohio's manufacturing sector GDP was **\$117.9 billion**, making it **fourth in the nation** – following California, Texas, and Illinois. Through Q3 2022, Ohio's manufacturing GDP reached \$130 billion, according to figures published by the U.S. Bureau of Economic Analysis.

In 2021, durable goods manufacturing accounted for 52% (\$61,644.2 million) of all production, while nondurable goods made up 48% (\$56,303.3 million) of production.

In 2021, Ohio was **third in the nation** in total manufacturing employees and total annual payroll.¹

The average annual earnings of Ohio workers on manufacturing payrolls in 2021 were **\$67,000**. The average hourly earnings of all Ohio manufacturing employees were \$30.92 as of October 2022.²

The Ohio Manufacturers' Association has prepared these data to help Ohioans understand the importance of manufacturing to the state's economic future. The data in this publication were the most current available as of January 2023.

Contact the OMA at **(800) 662-4463** or **oma@ohiomfg.com**.

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¹ U.S. Bureau of Labor Statistics

² U.S. Bureau of Labor Statistics



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Ohio Department of Development

Grace Snider, Chief, Office of Research

Ohio Department of Job and Family Services, Office of Workforce Development

Paul Konicek, Workforce Research Section Supervisor

Ohio Environmental Protection Agency

Mark S. Johnson, Jr., Assistant Chief

Kaytee Ankrom, Environmental Specialist 2

Cindy DeWulf, Assistant Chief, Division of Air Pollution Control

Muhammad Elsalahat, Environmental Specialist 3, Division of Air Pollution Control

William Kenny, Supervisor, Air Quality Evaluation and Planning Section, Division of Air Pollution Control

Nichole Lemin, Chief, Division of Materials and Waste Management

Ernie Stall, Environmental Specialist 3, Division of Materials and Waste Management

Jennifer Van Vlerah, Assistant Chief, Division of Air Pollution Control

The Ohio State University, Ohio Manufacturing Institute

Ned Hill, Professor of Economic Development, John Glenn College of Public Affairs and City and Regional Planning, Faculty, Ohio Manufacturing Institute

OHIO MANUFACTURING AND OHIO'S ECONOMY



Manufacturing GDP ranking by state (2018 - 2021)

FACT:

Ohio's manufacturing Gross Domestic Product (GDP) in 2021 showed strong recovery from the impact of the COVID-19 pandemic.

FACT:

Through Q3 2022, Ohio's manufacturing GDP reached \$130 billion, according to figures published by the U.S. Bureau of Economic Analysis.

Rank	2021			2020		
	State	Mfg. GDP (\$ in billions)	% of U.S.	State	Mfg. GDP (\$ in billions)	% of U.S.
1	CA	\$413.5	15.00%	CA	\$356.4	15.69%
2	TX	\$232.0	8.42%	TX	\$211.5	9.31%
3	IL	\$120.4	4.37%	IL	\$105.8	4.66%
4	OH	\$117.9	4.28%	OH	\$105.3	4.63%
5	NC	\$112.0	4.06%	NC	\$96.5	4.25%
6	IN	\$111.6	4.05%	IN	\$94.9	4.18%
7	PA	\$106.3	3.86%	PA	\$94.3	4.15%
8	MI	\$102.2	3.71%	MI	\$90.2	3.97%
9	NY	\$78.2	2.84%	NY	\$69.8	3.07%
10	WI	\$69.3	2.51%	WI	\$61.1	2.69%

Rank	2019			2018		
	State	Mfg. GDP (\$ in billions)	% of U.S.	State	Mfg. GDP (\$ in billions)	% of U.S.
1	CA	\$356.5	15.04%	CA	\$316.8	13.57%
2	TX	\$236.7	9.98%	TX	\$230.4	9.87%
3	IL	\$111.1	4.69%	OH	\$112.2	4.81%
4	OH	\$111.0	4.68%	IL	\$108.4	4.64%
5	IN	\$99.3	4.19%	NC	\$103.6	4.44%
6	NC	\$98.0	4.13%	MI	\$102.3	4.38%
7	PA	\$96.6	4.07%	IN	\$102.1	4.37%
8	MI	\$95.9	4.04%	PA	\$93.8	4.02%
9	NY	\$72.2	3.05%	NY	\$74.6	3.19%
10	WI	\$62.7	2.64%	GA	\$64.6	2.77%

Total U.S. Manufacturing GDP (\$ in billions):

2021 - \$2,756.3 • 2020 - \$2,272.0 • 2019 - \$2,370.9 • 2018 - \$2,334.6

Source: Bureau of Economic Analysis, U.S. Department of Commerce, <https://apps.bea.gov>



Manufacturing leads Ohio private industries in contribution to Gross Domestic Product (GDP) (2021)

FACT:

At 17.9%, manufacturing’s contribution to Ohio’s GDP in 2021 (among all private industries) continued to be significantly greater than that of any other industry sector.

Industry	\$ Contributed to Ohio GDP (\$ in millions)	% of Ohio GDP
All private industries	\$658,103.6	
Manufacturing	\$117,947.4	17.9%
Real estate, rental, and leasing	\$80,077.2	12.2%
Finance and insurance	\$80,320.7	12.2%
Health care and social assistance	\$62,679.2	9.5%
Wholesale trade	\$45,589.7	6.9%
Retail trade	\$46,069.1	7.0%
Professional, scientific, and technical services	\$38,095.6	5.8%
Construction	\$27,614.7	4.2%
Management of companies and enterprises	\$22,890.1	3.5%
Transportation and warehousing	\$25,369.4	3.9%
Administrative support and waste management services	\$23,469.9	3.6%
Information	\$18,216.2	2.8%
Accommodation and food services	\$18,172.0	2.8%
Other (except government)	\$14,219.1	2.2%
Utilities	\$11,952.5	1.8%
Educational services	\$5,735.7	0.9%
Arts, entertainment, and recreation	\$6,781.4	1.0%
Mining, quarrying, and oil and gas extraction	\$6,723.0	1.0%
Agriculture, forestry, fishing, and hunting	\$6,180.7	0.9%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, <https://apps.bea.gov>



Manufacturing projects as a percent of all new qualifying Ohio investment projects

FACT:

Typically, more than half of Ohio’s new qualifying projects are manufacturing projects.

Year	# Manufacturing Projects in Ohio	# Total Ohio Qualifying Projects	% Manufacturing Projects
2021	263	505	52%
2020	220	409	54%
2019	243	449	54%

To be listed, projects must meet at least one of three criteria:

1. Minimum investment of \$1,000,000, or
2. New square footage of 20,000 or more, or
3. Job creation of 20 or more.

Projects are generally credited to the year they are announced.

New manufacturing sector investment projects 2019 – 2021

FACT:

In 2021, the number of anticipated new jobs from these announced investments of \$6.03 billion was 13,681.

Sectors	2021	2020	2019
Plastic and Rubber Products	36	28	33
Fabricated Metal Products	35	30	27
Transportation	35	17	41
Foods and Beverages	31	36	30
Chemicals	28	24	18
Machinery	27	18	39
Primary Metals	11	10	10
Paper and Related Products	10	8	8
Appliances and Electrical Equipment	10	7	14
Miscellaneous Goods	8	11	11
Computer and Electronics	8	4	NA
Furniture and Related Products	5	2	3
Nonmetallic Mineral Products	5	10	7
Textiles/Apparel/Leather	5	4	1
Wood Products	4	1	9
Printing and Support	3	5	3
Petroleum and Coal Products	2	5	3

Source: Ohio Development Services Agency, Research Office, Ohio Private Investment Survey 2019-2021, June 2022



Ohio manufacturing: A leader in U.S. manufacturing jobs (2021)

FACT:

In 2021, Ohio kept its third-place ranking in manufacturing employment nationally, with 5.4% of all U.S. manufacturing jobs. However, neither the state nor the U.S. saw a full return to pre-pandemic manufacturing jobs numbers.

Rank	2021		
	State	Manufacturing Employment	% of Total U.S. Mfg. Jobs
1	CA	1,277,555	10.4%
2	TX	874,313	7.1%
3	OH	665,724	5.4%
4	MI	585,798	4.8%
5	IL	554,343	4.5%
6	PA	543,563	4.4%
7	IN	524,614	4.3%
8	WI	465,956	3.8%
9	NC	464,007	3.8%
10	NY	406,435	3.3%

Total Ohio manufacturing jobs 2017-2021

Year	Manufacturing Jobs	Year-to-Year Change
2017	685,942	859
2018	698,950	13,008
2019	700,786	1,836
2020	653,028	(47,758)
2021	665,724	12,696

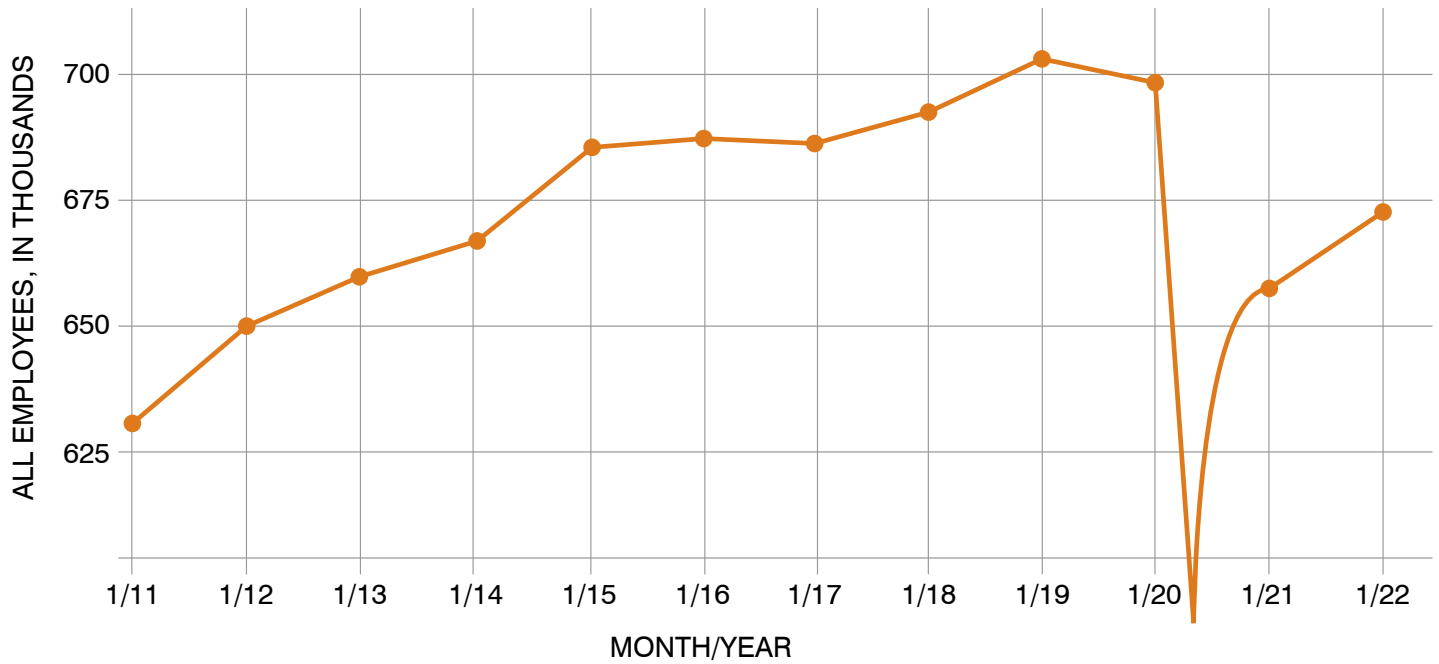
Total U.S. manufacturing jobs 2017-2021

Year	Manufacturing Jobs	Year-to-Year Change
2017	12,406,757	110,060
2018	12,647,900	241,143
2019	12,776,157	128,257
2020	12,083,479	(692,678)
2021	12,302,657	219,178

Source: U.S. Bureau of Labor Statistics, All Employees in Private NAICS 31-33 Manufacturing for All Establishment Sizes, data.bls.gov/PDQWeb/en



Ohio manufacturing jobs 2012-2022 (seasonally adjusted, in thousands)



U.S. Bureau of Labor Statistics, <https://data.bls.gov/timeseries/>

FACT:

Ohio manufacturing jobs continue to recover from the COVID-19 pandemic.



Manufacturing near top of Ohio private sector employment (2021)

FACT:

Almost 15% of all (unemployment-insurance covered) Ohio workers were employed in manufacturing in 2021. Only the health care and social assistance sector had greater employment among Ohio’s private sectors.

Rank	Industry Sector	Average Monthly Employment	% of total Ohio jobs
	Total (covered) Ohio employment	4,546,542	100%
1	Health care and social assistance	784,756	17.3%
2	Manufacturing	665,724	14.6%
3	Retail trade	541,679	11.9%
4	Accommodation and food services	434,326	9.6%
5	Administrative support and waste management services	311,791	6.9%
6	Professional, scientific, and technical services	270,798	6.0%
7	Finance and insurance	230,798	5.1%
8	Wholesale trade	229,025	5.0%
9	Transportation and warehousing	239,669	5.3%
10	Construction	223,902	4.9%
11	Other services (except public administration)	145,308	3.2%
12	Management of companies and enterprises	137,765	3.0%
13	Educational services	85,352	1.9%
14	Information	65,067	1.4%
15	Real estate, rental, and leasing	63,586	1.4%
16	Arts, entertainment, and recreation	71,946	1.6%
17	Utilities	18,193	0.4%
18	Agriculture, forestry, fishing, and hunting	17,375	0.4%
19	Mining, quarrying, and oil and gas extraction	8,302	0.2%

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, data.bls.gov/PDQWeb/en



Of Ohio's 100 top employers by employment (headcount), 19 are manufacturers

FACT:

Large, global industrial enterprises employ large numbers of Ohioans. The companies highlighted on this table have Ohio headquarters.

Rank	Company	Ohio Employment Estimate: Headcount	Headquarters	Product
1	Honda Motor Co., Ltd.	14,400	Tokyo, Japan	Motor vehicles
2	Whirlpool Corporation	11,079	Benton Harbor, MI	Consumer products
3	Procter & Gamble Company	11,000	Cincinnati, OH	Soaps and consumer goods
4	Berkshire Hathaway, Inc.	9,800	Omaha, NE	Machinery and fiberglass products
5	General Electric Company	9,000	Boston, MA	Aerospace and electrical equipment
6	Ford Motor Company	7,000	Dearborn, MI	Motor vehicles
7	Stellantis Fiat Chrysler Automobiles N.V.	6,600	Onbekend, Netherlands	Motor vehicles
8	Cleveland Cliffs, Inc.	6,242	Cleveland, OH	Steel/mining
9	Sherwin-Williams Company	6,211	Cleveland, OH	Paints
10	Crown Equipment Corporation	5,000	New Bremen, OH	Lift trucks
11	Goodyear Tire & Rubber Company	4,800	Akron, OH	Rubber products
11	Swagelok Company	4,800	Solon, OH	Fluid systems
13	General Motors Corporation	4,483	Detroit, MI	Motor vehicles
14	Nestlé, S.A.	4,000	Vevey, Switzerland	Frozen foods
15	Honeywell International, Inc.	3,800	Morris Plains, NJ	Aerospace and electrical equipment
16	Marathon Petroleum Corporation	3,500	Findlay, OH	Petroleum products
17	Essilor Luxottica	3,300	Charenton-le-Pont, France	Lenses and eyewear
17	Lincoln Electric Holdings, Inc.	3,300	Cleveland, OH	Welding equipment
17	Worthington Industries	3,300	Worthington, OH	Steel products

Source: Ohio Development Services Agency, Research Office, Ohio Major Employers, December 2022



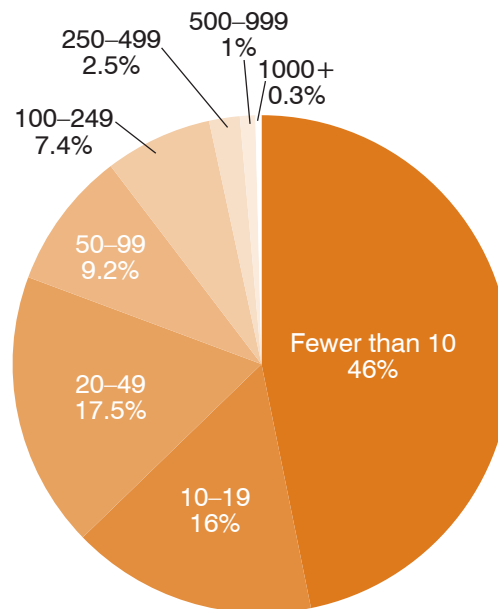
Number of Ohio manufacturing firms by number of employees

Manufacturing is comprised of large and small businesses

Number of Employees	Number of Firms (2020)	Number of Firms (2019)	Number of Firms (2018)	Number of Firms (2017)	Number of Firms (2016)
Fewer than 10	6,207	6,330	6,467	6,489	6,510
10-19	2,155	2,217	2,269	2,283	2,320
20-49	2,366	2,404	2,367	2,370	2,462
50-99	1,241	1,231	1,262	1,266	1,246
100-249	1,005	1,038	990	989	957
250-499	338	344	342	326	331
500-999	135	137	137	126	122
1,000+	46	53	54	53	52
Total	13,493	13,754	13,888	13,902	14,000

Source: U.S. Census 2020 County Business Patterns

Distribution of Ohio manufacturing firms by number of employees (2020)



FACT:

Most Ohio manufacturing firms (46%) employ fewer than 10 people, while 0.3% of firms employ 1,000 or more people.



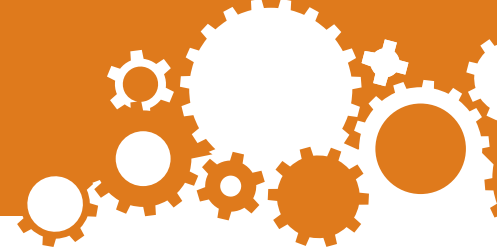
Mid-sized manufacturing firms provide plentiful jobs

Number of employees	Number of firms	Total number of employees (2020)	Percent of all employees by size of manufacturing firm
Fewer than 10	6,207	23,316	3%
10-19	2,155	29,883	4%
20-49	2,366	74,396	11%
50-99	1,241	87,605	13%
100-249	1,005	155,999	23%
250-499	338	118,511	18%
500-999	135	91,519	14%
1,000+	46	92,490	14%
Total	13,493	673,719	100%

Source: U.S. Census 2020 County Business Patterns

FACT:

In 2020, mid-sized manufacturing firms (100-499 employees) employed 41% of Ohio’s manufacturing employees. Manufacturers with 100-249 employees had the most total employees at 156,000.



Traditional industries continue to be Ohio's leading manufacturing job producers

FACT:

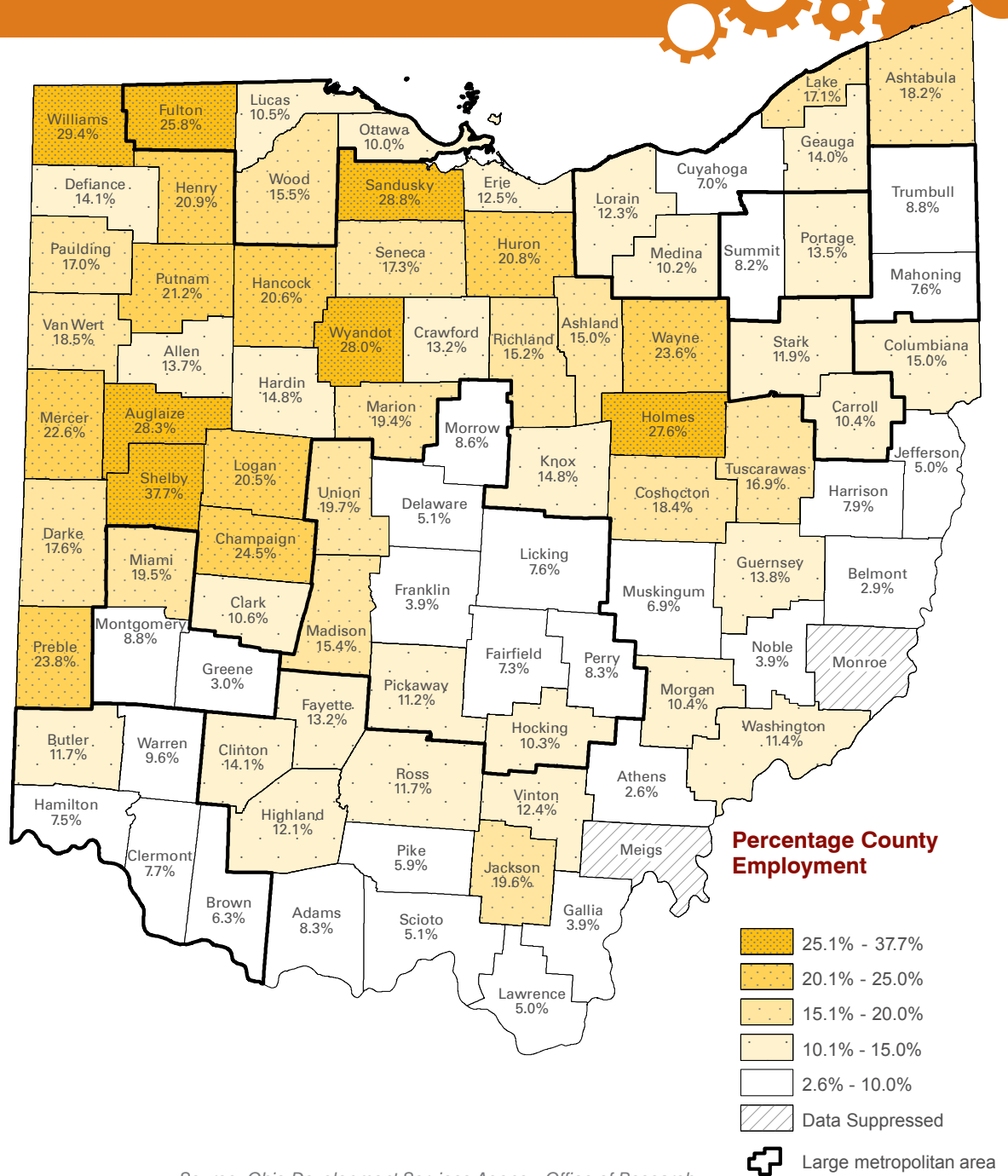
Traditional industries are foundational to the state's economy. Most of these major categories of manufacturing experienced employment increases from 2020 to 2021, reflecting recovery from the COVID-19 pandemic. The largest percentage gains were in furniture and related products (5.3%) and plastics and rubber products (4.1%).

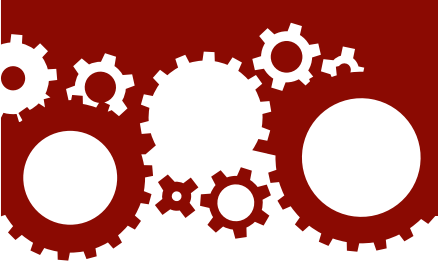
Manufacturing industry (NAICS)	Number of jobs (2021)	Number of jobs (2020)	Number of jobs (2019)
Durable Goods			
Transportation equipment (336)	114,578	113,054	128,820
Fabricated metal products (332)	93,356	92,171	102,296
Machinery (333)	74,825	74,399	79,954
Primary metals (331)	34,064	34,241	35,852
Nonmetallic mineral products (327)	26,104	25,512	27,481
Electrical equipment and appliances	26,472	25,437	26,406
Computer and electronic products (334)	20,275	20,664	21,309
Furniture and related products (337)	15,396	14,580	15,559
Nondurable Goods			
Food manufacturing (311)	59,911	59,321	59,889
Plastics and rubber products (326)	56,850	54,518	58,289
Chemical manufacturing (325)	47,158	45,874	46,024
Paper (322)	20,784	20,275	NA
Printing and related support activities (323)	18,597	18,507	21,049

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, data.bls.gov/PDQWeb/en

OHIO MANUFACTURING AND JOBS

Statewide manufacturing employment of total employment by county as of 2021: 9.9%





OHIO MANUFACTURING EARNINGS & WAGES

Ohio annual wages by
industry sector (2021)

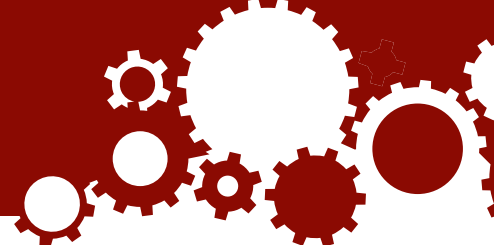
Industry Sector (NAICS code)	Total All Wages (\$ in thousands)	Average Annual Wage
Manufacturing (31-33)	\$44,566,478	\$66,944
Health care and social assistance (62)	\$43,246,710	\$55,108
Professional, scientific, and technical services (54)	\$23,598,694	\$87,145
Finance and insurance (52)	\$21,586,705	\$93,531
Retail trade (44-45)	\$18,956,252	\$34,995
Wholesale trade (42)	\$18,622,112	\$81,310
Management of companies and enterprises (55)	\$17,309,838	\$125,648
Construction (23)	\$15,049,037	\$67,213
Administrative support and waste management services (56)	\$13,559,737	\$43,490
Transportation and warehousing (48-49)	\$13,188,286	\$55,027
Accommodation and food services (72)	\$8,809,051	\$20,282
Other services (except public administration) (81)	\$5,794,540	\$39,878
Information (51)	\$5,610,037	\$86,219
Educational services (61)	\$3,647,277	\$42,732
Real estate, rental, and leasing (53)	\$3,623,414	\$56,985
Arts, entertainment, and recreation (71)	\$2,866,480	\$39,842
Utilities (22)	\$1,953,108	\$107,357
Mining, quarrying, and oil and gas extraction (21)	\$627,337	\$75,568
Agriculture, forestry, fishing, and hunting (11)	\$725,147	\$41,734

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, data.bls.gov/PDQWeb/en

FACT:

Year after year, Ohio manufacturing leads all industry sectors in total wages.

OHIO MANUFACTURING EARNINGS & WAGES



Average annual earnings within manufacturing subsectors (2021)

NAICS Category	Industry	# of Annual Avg. Establishments	# of Annual Avg. Employees	Total Wages (\$ in thousands)	Average Annual Wage
311	Food manufacturing	1,151	59,911	\$3,623,878	\$60,487
312	Beverage and tobacco product manufacturing	379	10,851	\$547,096	\$50,418
313	Textile mills	59	1,895	\$131,579	\$69,419
314	Textile product mills	191	2,382	\$105,567	\$44,325
315	Apparel manufacturing	79	1,677	\$75,223	\$44,860
316	Leather and allied product manufacturing	45	1,053	\$52,677	\$50,022
321	Wood product manufacturing	629	13,169	\$660,802	\$50,178
322	Paper manufacturing	318	20,784	\$1,383,765	\$66,578
323	Printing and related support activities	1,143	18,597	\$943,045	\$50,710
324	Petroleum and coal products manufacturing	112	4,675	\$531,069	\$113,602
325	Chemical manufacturing	838	47,158	\$4,858,596	\$103,029
326	Plastics and rubber products manufacturing	842	56,850	\$3,271,586	\$57,547
327	Non-metallic mineral product manufacturing	689	26,104	\$1,702,838	\$65,233
331	Primary metal manufacturing	440	34,064	\$2,567,613	\$75,376
332	Fabricated metal product manufacturing	3,496	93,356	\$5,741,846	\$61,505
333	Machinery manufacturing	1,792	74,825	\$5,226,039	\$69,843
334	Computer and electronic product manufacturing	524	20,275	\$1,497,830	\$73,874
335	Electrical equipment and appliance manufacturing	333	26,472	\$1,767,109	\$66,755
336	Transportation equipment manufacturing	814	114,578	\$7,865,107	\$68,644
337	Furniture and related product manufacturing	728	15,396	\$784,664	\$50,965
339	Miscellaneous manufacturing	925	21,652	\$1,228,548	\$56,741
		15,527	665,724	\$44,566,478	\$66,944

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, data.bls.gov/PDQWeb/en

FACT: In 2021, the average annual pay in manufacturing increased to \$66,944 from \$64,995 in 2020.

HIGHLIGHTS

FACT:

The leading Ohio industries in terms of **number of employees**:

NAICS Category	# Employees
336 – Transportation equipment manufacturing	114,578
332 – Fabricated metal product manufacturing	93,356
333 – Machinery manufacturing	74,825
311 – Food manufacturing	59,911
326 – Plastics and rubber products manufacturing	56,850

FACT:

The leading Ohio industries in terms of **average annual wages**:

NAICS Category	Average Annual Wage
324 – Petroleum and coal products manufacturing	\$113,602
325 – Chemical manufacturing	\$103,029
331 – Primary metal manufacturing	\$75,376
334 – Computer and electronic product manufacturing	\$73,874
333 – Machinery manufacturing	\$69,843

FACT:

The NAICS categories with the most **numerous Ohio manufacturing establishments**:

NAICS Category	# of Establishments
332 – Fabricated metal products manufacturing	3,496
333 – Machinery manufacturing	1,792
311 – Food manufacturing	1,151
323 – Printing and related support activities	1,143
339 – Miscellaneous manufacturing	925

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, data.bls.gov/PDQWeb/en

OHIO MANUFACTURING AND THE GLOBAL ECONOMY



Ohio exports to the world (2021)

FACT:

In 2021, Ohio dropped to the ninth-largest exporting state, down from seventh in 2020, with industrial machinery continuing to be the top exported good. The effect of the COVID-19 pandemic is evident in the overall reduction of U.S. exports in 2020 (\$1.425 billion compared with \$1.643 billion in 2019). In 2021, U.S. exports recovered to \$1.754 billion.

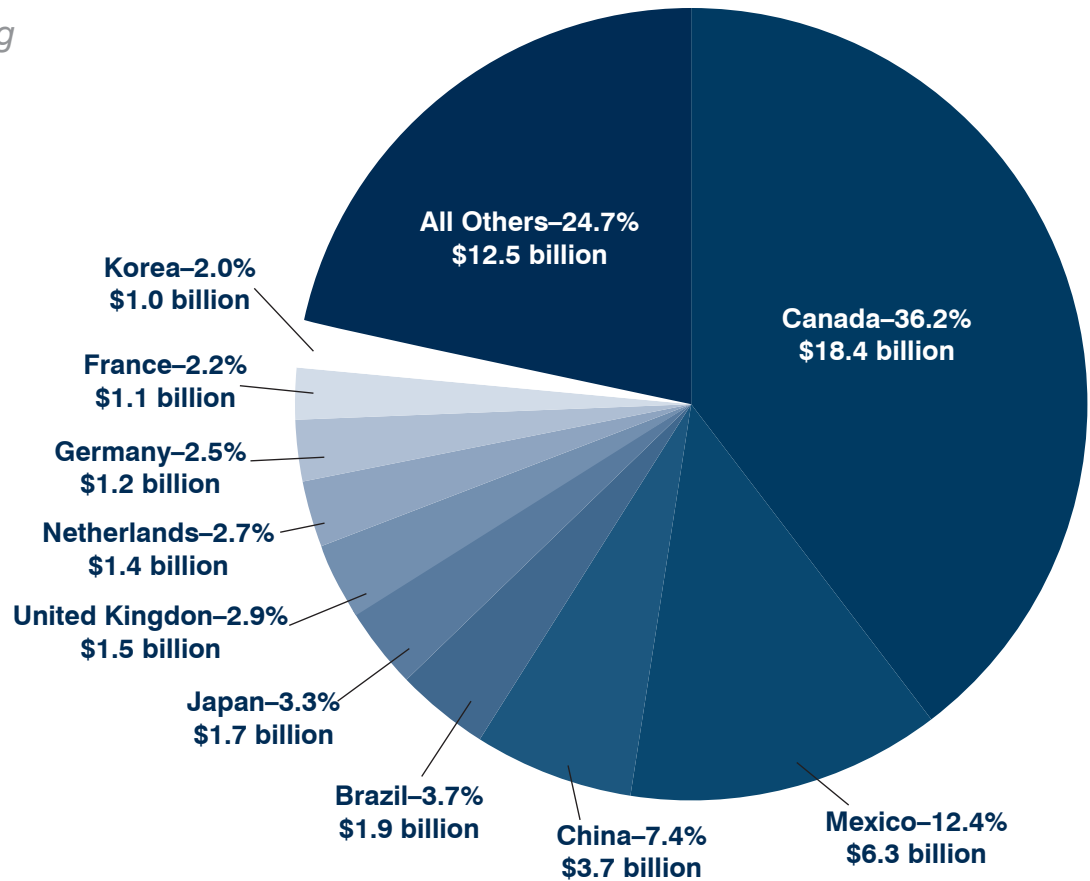
Rank	2021		
	State	Exports (\$ in billions)	Top Export
1	TX	\$376	Mineral fuel, oil, etc.
2	CA	\$175	Industrial machinery
3	NY	\$90	Prec. stones; jewelry
4	LA	\$76	Mineral fuel, oil, etc.
5	IL	\$66	Industrial machinery
6	FL	\$56	Electric machinery
7	MI	\$56	Vehicles and parts
8	WA	\$54	Aircraft and parts
9	OH	\$51	Industrial machinery
10	NJ	\$49	Prec. stones; jewelry

Rank	2020			2019		
	State	Exports (\$ in billions)	Top Export	State	Exports (\$ in billions)	Top Export
1	TX	\$276	Mineral fuel, oil, etc.	TX	\$331	Mineral fuel, oil, etc.
2	CA	\$156	Electric machinery	CA	\$173	Electric machinery
3	NY	\$66	Prec. stones; jewelry	NY	\$73	Prec. stones; jewelry
4	LA	\$58	Mineral fuel, oil, etc.	LA	\$64	Mineral fuel, oil, etc.
5	IL	\$53	Industrial machinery	IL	\$60	Industrial machinery
6	FL	\$46	Electric machinery	WA	\$60	Aircraft and parts
7	OH	\$45	Industrial machinery	FL	\$56	Electric machinery
8	MI	\$44	Vehicles and parts	MI	\$55	Vehicles and parts
9	WA	\$41	Aircraft and parts	OH	\$53	Industrial machinery
10	GA	\$39	Aircraft and parts	PA	\$43	Mineral fuel, oil, etc.

Source: Ohio Development Services Agency, Research Office, Ohio Exports Report 2021, August 2022



Ohio's top 10 trading partners (2021)



Source: Ohio Development Services Agency, Research Office, Ohio Exports Report 2021, August 2022

FACT:

In 2021, Ohio exported \$50.7 billion in goods to 211 countries and territories, a 12% increase in value from 2020 (\$45 billion). As is typical, about half of Ohio's exports went to Canada and Mexico.

OHIO MANUFACTURING AND THE GLOBAL ECONOMY



Ohio's top manufactured export commodities (2021)

FACT:

Machinery continued to be Ohio's leading export in 2021 (\$8.3 billion). Ohio was fifth among states in this category with 4% of the U.S. total. Ohio is first among states in the export of soap, waxes, lubricating preparations, etc.

Commodities	Exported goods (\$ in billions) 2021	% of Ohio exports 2021	Ohio's state ranking 2021	Exported goods (\$ in billions) 2020	% of Ohio exports 2020
Machinery (including computers)	\$8.3	16.5%	5th	\$8.6	19.0%
Vehicles and parts	\$7.8	15.5%	7th	\$5.9	13.2%
Aircraft, spacecraft, and parts	\$4.1	8.2%	8th	\$4.4	9.7%
Plastics and articles thereof	\$3.3	6.5%	3rd	\$2.7	6.1%
Electric machinery; sound/TV equipment	\$3.0	6.0%	15th	\$2.8	6.1%
Pharmaceutical products	\$1.8	3.6%	13th	NA	NA
Optic, photo; medical instruments	\$1.7	3.3%	16th	\$1.5	3.2%
Iron and steel products	\$1.5	2.9%	4th	\$1.2	2.6%
Perfumery, cosmetic, etc.	\$1.2	2.4%	5th	\$1.2	2.7%
Soap, waxes, lubricating preparations, etc.	\$1.1	2.5%	1st	\$1.3	2.8%
Misc. chemical products	\$1.1	2.5%	10th	\$1.0	2.3%

Source: Ohio Development Services Agency, Research Office, Ohio Exports Report 2021, August 2022



Industry leads statewide reduction/recycling of Ohio-generated waste

Year	Tons Reduced/Recycled			Percentage of Total Reduced/Recycled		
	Residential/Commercial	Industrial	Total	Residential/Commercial	Industrial	Total
1990	2,260,000	2,186,000	4,446,000	19.4	38.2	25.6
1995	1,942,000	6,523,000	8,465,000	17.0	42.8	31.7
2000	2,712,535	12,199,869	14,912,404	20.0	65.6	46.3
2005	3,745,758	9,474,260	13,220,018	25.7	56.9	42.3
2010	3,500,240	8,985,171	12,485,411	27.4	51.4	41.3
2015	3,728,582	8,546,359	12,274,941	27.3	53.5	41.4
2019	4,301,306	8,560,651	12,861,957	28.5	67.1	46.2
2020	4,386,564	6,550,058	10,936,622	30.0	52.6	40.4
2021	4,263,786	8,110,789	12,374,575	27.9	53.4	40.6

Source: Ohio Environmental Protection Agency

Note: Ohio EPA attributes some of the year-to-year variations in recycling rates to changes in economic activity/output. However, year-to-year changes are also due to how many, and which, entities respond to annual Solid Waste Management District surveys. Consequently, Ohio EPA generally focuses on trends over several years when evaluating changes in recycling activity rather than changes from one year to the next.

FACT:

Industry leads the way in solid waste reduction and recycling. Reduction and recycling include source reduction activities, reuse, recycling, composting and incineration. Industry is an enormous consumer of recycled materials, including metals, glass, paper, and plastics; thus, manufacturers are strong advocates for recycling systems in Ohio and the U.S.

Each year, Ohio’s 52 local Solid Waste Management Districts survey businesses about the amounts and types of materials being recycled. This provides a statewide picture of recycling activities, trends, and opportunities. While reporting is voluntary, measuring and reporting recycling efforts is valuable for all of Ohio’s audiences.

Ohio EPA offers grants, technical assistance and recognition to businesses that want to increase recycling or develop markets for recycled products.

Ohio EPA has an online platform – the Ohio Materials Marketplace – which provides Ohio businesses a venue to advertise and acquire scrap and by-product materials that might otherwise be destined for disposal in landfills.

OHIO MANUFACTURING AND THE ENVIRONMENT



Ohio emissions data (not manufacturing specific)

³The 2010 and more recent summarized point source emissions are calculated from information provided to Ohio EPA from Title V and Synthetic Minor permitted facilities.

See Ohio EPA Emission Inventory System (EIS) web page: <https://epa.ohio.gov/divisions-and-offices/air-pollution-control/reports-and-data/emission-inventory-system>.

The 1980 emissions data are derived from a 1995 Ohio EPA publication, "Emission Trends Report for Stationary Air Contaminant Sources within the State of Ohio 1980-1990."

Percent reductions are calculated based on the formula: $((\text{Old value} - \text{new value}) / \text{Old value}) * 100$

It is difficult to compare the historical figures to the current figures due to changes in how the emissions data are reported.

PM emissions in 1980 accounted for filterable particulate matter only. PM emissions in 2010 and after accounted for filterable and condensable particulate matter. The PM reduction from the 1980 emissions would have been significantly larger if the condensable fraction was inventoried.

Only Volatile Hydrocarbon Compounds (VOCs) were included in the 1980 inventory. Both VOCs and Organic Compounds (OC) were inventoried in 2010 and after. VOCs are a fraction of OCs. For illustration purposes, the 1980 report assumed VOC=OC emissions. The OC reduction from the 1980 emissions would have been significantly larger if the OC emissions were inventoried besides the VOC emissions.

The number of facilities included in EIS varies from 1980 to 2010 and beyond. In 1980, only large emission units were inventoried. In 2010 and after, emission units with greater than one ton for any of the criteria pollutants were inventoried.

	1980 (tons)	2010 (tons)	% reduction 1980:2010	2020 (tons)	% reduction 2010:2020
SO ₂	2,659,612	619,267	77%	105,725	83%
NO _x	690,195	150,891	78%	79,160	48%
Particulate Matter	174,250	66,303	62%	21,232	68%
Organic Compounds	169,515	36,284	79%	31,668	13%
Carbon Monoxide	329,700	243,864	26%	111,448	54%

	1982 (PPB)	2012 (PPB)	% reduction 1982:2012	2021 (PPB)	% reduction 2012:2021
Highest 4 th -high eight-hour ozone concentration in Ohio	115	91	20.9%	75	17.6%
	1983 (PPB)	2012 (PPB)	% reduction 1983:2012	2021 (PPB)	% reduction 2012:2021
Highest annual average Sulphur dioxide (SO ₂) concentration in Ohio	24.07	5.25	78.2%	2.74	47.8%
	2000 μ/m ³	2012 μ/m ³	% reduction 2000: 2012	2021 μ/m ³	% change 2012:2021
Highest annual average Particulate Matter (2.5 μ or smaller) concentration in Ohio	19.7	12.31	37.5%	12.68	3.0% increase

Source: Ohio Environmental Protection Agency

FACT:

Manufacturers have invested billions of dollars in environmental control technologies and more efficient processes, which has significantly reduced emissions.³



Toxic releases to the environment (pounds per year): multi-year trend for core chemicals at base years 1988 and 2001, all industries

Year	Total air emissions	Surface water discharges	Total underground injection	Total on-site releases to land	Total on- and off-site disposal or other releases
<i>1988 core chemicals</i>					
1988	104,341,351	1,043,905	11,538,544	29,291,941	188,489,950
1999	37,672,554	458,895	12,077,836	19,036,238	113,789,099
2019	15,041,761	184,351	8,059,626	10,638,310	55,949,855
2020	12,934,895	194,257	5,208,933	8,999,230	45,234,723
2021	12,928,071	159,658	10,285,056	8,948,769	49,105,512
% change 1988-2021	-87.61	-84.71	-10.86	-69.45	-73.95
% change 1999-2021	-65.68	-65.21	-14.84	-52.99	-56.85
<i>2001 core chemicals</i>					
2001	119,894,999	10,006,806	31,985,954	66,020,183	282,121,623
2019	34,930,989	8,329,339	16,208,245	17,028,051	104,190,977
2020	31,134,336	7,497,051	12,013,728	14,741,045	90,953,014
2021	31,446,579	5,893,752	18,115,096	14,894,342	95,536,630
% change 2001-2021	-73.77	-41.07	-43.37	-77.44	-66.14

Source: Ohio Environmental Protection Agency

Note: U.S. EPA requires an annual Toxic Release Inventory from facilities. Chemicals in the annual inventory are added or delisted in any year. Thus, base year core chemical amounts vary.

FACT:

Ohio manufacturers have contributed significantly to reducing toxic releases.



The mission of The Ohio Manufacturers' Association is to protect and grow Ohio manufacturing.

For more information about the services and activities of the OMA, contact us at
(800) 662-4463 or oma@ohiomfg.com or visit OHIOMFG.com.



The Ohio Manufacturers' Association
33 N. High Street, 6th floor
Columbus, Ohio 43215

(800) 662-4463
oma@ohiomfg.com
ohiomfg.com

