## NEPIRC

## PENNSYLVANIA <br> MANUFACTURING <br> Industry

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# A Letter from NEPIRC's President \& CEO 

Manufacturing is a driving force within Pennsylvania, accounting for more than $\$ 116$ billion in Gross State Product (GSP), 575,000 full-time jobs and nearly $\$ 41$ billion in annual wages paid. Compared to other states, Pennsylvania is the 6th greatest industrial economy in the nation.

In addition to being a critical component of Pennsylvania's economy, the manufacturing sector's sheer size makes it a bellwether of Pennsylvania's long-term prosperity. Make no mistake - however the manufacturing sector goes, so too goes the quality of life of all Pennsylvanians.

It is imperative that Pennsylvania's legislators and policy makers, economic and workforce development professionals, business leaders, educators, students and the community at large share a common understanding of the Commonwealth's manufacturing sector and the value of the careers Pennsylvania's industrial firms provide to our families, friends and neighbors.

By reviewing this report, you've chosen to invest your time in creating that common understanding. For that investment, we at the Northeastern Pennsylvania Industrial Resource Center (NEPIRC) are very thankful.

As you read through the report, I humbly encourage you to keep two things in mind.
First, please note that the data within this report reflects only the employment, wages, output and economic activity directly related to Pennsylvania's nearly 15,000 manufacturing firms. Manufacturing has among the highest employment, earnings and sales multiplier effects of any industry - meaning that each dollar of sales and net earnings recorded by a manufacturing firm and each direct manufacturing job supports a multitude of sales, earnings and jobs in downstream industries such as services, transportation and logistics, retail and so forth. A recent analysis by the non-partisan Economic Policy Institute, for example, concluded that every 100 direct manufacturing jobs support a minimum of 184 downstream supplier jobs and as many as 455 other jobs. For the sake of report readability, NEPIRC chose to not yet discuss the manufacturing industry's multiplier effects or indirect impacts. However, it's important to note that when those impacts are considered, the manufacturing sector's significance to Pennsylvania's economy becomes exponentially amplified.

Secondly, this report presents the manufacturing sector as what business researchers refer to as a "vertical" - a sector distinct from other segments of the economy such as agriculture, energy or health care. To fairly represent the manufacturing sector's size, output, exports, demographics and other details, this level of distinction was necessary. However, manufacturing is actually much more "horizontal" than "vertical" - meaning that it is essential to the success of a multitude of other sectors. In fact, many other sectors are dependent upon a robust manufacturing ecosystem within Pennsylvania. Simply put, Pennsylvania cannot compete and win in arenas such as aerospace, agribusiness, alternative energy, biotechnology, food security, infrastructure, life sciences, pharmaceutical readiness or natural resource utilization without the resident manufacturing capability to support those sectors.

On the pages that follow, we've done our best to present complex industry information in ways that are engaging and enjoyable to a vast audience. We hope you enjoy the report and have questions after reading it. Please feel free to contact NEPIRC or myself directly - we'll be happy to have a conversation with you.

Thank you again for your time in learning more about Pennsylvania's manufacturing industry.

Sincerely,



## About the Pennsylvania Industrial Resource Centers

The Pennsylvania Industrial Resource Centers (PA IRCs) represent the Commonwealth's flagship program for strengthening the competitiveness, resiliency and long-term viability of its small and mid-sized manufacturers and enhancing the Commonwealth's overall economic health and vitality through a thriving advanced manufacturing sector.

The PA IRCs were established in 1988 by the Pennsylvania Department of Community \& Economic Development through an innovative Industrial Resource Center appropriation. That funding was later supplanted by the Partnerships for Regional Economic Performance (PREP) appropriation and, more recently, the Manufacturing PA initiative.

The PA IRCs utilize their Commonwealth of Pennsylvania funding to secure support from the Hollings Manufacturing Extension Partnership (MEP) Program of the U.S. Department of Commerce as subrecipients of the Pennsylvania Manufacturing Extension Partnership (PAMEP). The IRCs also obtain
resources from the manufacturers that utilize their services as well as corporate sponsors that share in their mission to assist Pennsylvania manufacturers making the IRCs a true public-private partnership.

The PA IRCs positively impact the future of small and mid-sized manufacturers by working with them to continuously improve their operations, drive new product development, accelerate their adoption of new technologies, efficiently enter new markets, capitalize on opportunities in emerging sectors, upskill their existing workforce and implement innovative approaches to become employers of choice for the future.

PA IRC services produce quantifiable, objective, measurable results for manufacturers in Pennsylvania. Quarterly independent third-party surveys of IRC clients confirm the economic impact associated with IRC services. These impacts and benefits are not only impressive - they are critical to Pennsylvania's economy and the vibrancy and strength of our Commonwealth and nation.


Over the past 10 years, the Pennsylvania Industrial Resource Centers have helped manufacturers achieve more than

## \$9.56 Billion <br> in Realized Value



## Pennsylvania: A Recognized Leader in Manufacturing

## The strength of Pennsylvania's advanced manufacturing economy, as well as its prevalence as a place to start, domicile and expand manufacturing operations, is internationally recognized.

Each year, the Commonwealth receives accolades for the performance of its industrial sector and the policies, programs, incentives, workforce development initiatives and economic development ecosystem that it has in place to support the growth and long-term sustainability of its manufacturers.

Pennsylvania's recent acknowledgments and achievements with respect to fostering manufacturing growth include:
» Site Selection Magazine 2023 Prosperity Cup ranking of $2^{\text {ND }}$ AMONG NORTHEASTERN STATES
>> Site Selection Magazine 2023 State of the States ranking of $5^{\text {TH }} \| \mathbb{N}$ THE NATION for R\&D expenditures by institutes of higher education
» Site Selection Magazine 2022 Governor's Cup ranking of $2^{\text {ND }} \| N$ THE NATION for number of economic development projects, with 230 qualifying projects
>> Site Selection Magazine 2022 Governor's Cup ranking of $2^{\text {ND }}$ AMONG NORTHEASTERN STATES for number of economic development projects per capita
>> Site Selection Magazine 2022 Governor's Cup Top Metros recognition of four (4) Pennsylvania metropolitan areas - Philadelphia, Pittsburgh, Allentown/ Bethlehem/Easton and Scranton/Wilkes-Barre/Hazleton - within the TOP 10 ACROSS THE NORTHEASTERN UNITED STATES
> CNBC Top States for Business 2023 ranking of $6^{\text {TH }}$ IN THE NATION for access to capital, $11^{\text {TH }}$ IN THE NATION for technology and innovation and $16^{\mathrm{TH}}$ IN THE NATION overall
» Site Selection Group 2022 Best States for Manufacturing ranking of $6^{\text {TH }}$ IN THE NATION for labor availability and $7^{\text {TH }} \| \mathbb{N}$ THE NATION for transportation and logistics
» IndustrySelect Top 10 U.S. States for Manufacturing 2023 ranking of $6^{\text {TH }}$ ACROSS THE UNITED STATES

Each year, Pennsylvania's reputation as a manufacturing-friendly state, geographical advantages, and collaborative economic development ecosystem attracts new companies to the Commonwealth, provides motivation for expansion among manufacturers already domiciled within the state and stimulates the launch of industrial start-ups.
» The listing at right is a representative sample of industrial growth announcements within the past 3 years.

| Company Name | Manufacturing Subsector | Project Type |
| :---: | :---: | :---: |
| AC Products, Inc. | Furniture \& Related Products Manufacturing | Expansion |
| Almac Group | Chemical Manufacturing | Expansion |
| Ashley Machine \& Tool | Aerospace Parts Manufacturing | Expansion |
| Cardinal Systems | Steel Wall Panels, Extruded Plastics, Vinyl Liners | Expansion |
| Country View Family Farms, LLC | Food Manufacturing | Expansion |
| Duvall Leatherworks | Leather Products Manufacturing | Expansion |
| Fleetwood Homes, Inc. | Premanufactured Home Manufacturing | Expansion |
| Fresh Roasted Coffee, LLC | Food Manufacturing | Expansion |
| Gentex Corporation | Advanced Polymer \& Plastics Manufacturing | Expansion |
| Great Dane, LLC | Transportation Equipment Manufacturing | Expansion |
| Lion Brewery | Beverage Product Manufacturing | Expansion |
| MTF Biologics | Tissue Generation \& Transplantation Facility | Expansion |
| PF Nonwovens | Hygiene-Related Non-Woven Fabrics | Expansion |
| PowerRail | Specialized Locomotive Parts Manufacturing | Expansion |
| Schott North America | Advanced Optics Manufacturing | Expansion |
| Shearer's Foods Waterford, LLD | Food Manufacturing | Expansion |
| Trivium Packaging | Metal Packaging Products | Expansion |
| Truck-Lite Co., LLC | Transportation Equipment Manufacturing | Expansion |
| Vigon International | Fragrances \& Flavoring Manufacturing | Expansion |
| West Pharmaceutical Services, Inc. | Plastic \& Rubber Products Manufacturing | Expansion |
| Black Buffalo 3D Corp | Machinery Manufacturing | Relocation |
| Amapharm, LLC | Global Nutraceutical Product Manufacturing | New Operation |
| American Flooring, LLC | Specialized Flooring Manufacturing | New Operation |
| Archaea Energy, Inc. | Renewable Natural Gas (RNG) Facility | New Operation |
| Ball Metal Beverage Container Corp. | Metal Packaging Products | New Operation |
| Breuer Premium Pet Food Company | Pet Food Manufacturing | New Operation |
| CANPACK Group | Metal Packaging Products | New Operation |
| Easy Signs, Inc. | Printing \& Sign Manufacturing | New Operation |
| Espoma Company | Organic Fertilizer Granulation Facility | New Operation |
| Fresh \& Lean | Prepared Food Product Manufacturing | New Operation |
| HMTX Industries | Luxury Vinyl Tile Manufacturing | New Operation |
| Lewis Lumber \& Milling, Inc. | Wood Product Manufacturing | New Operation |
| Little Leaf Farms | Lettuce Farm \& Food Manufacturing | New Operation |
| MUZO | Furniture Manufacturing | New Operation |
| Nacero Incorporated | Natural Gas Processing Facility | New Operation |
| Nexii Building Solutions | Green Building Systems | New Operation |
| Niagara Bottling, LLC | Beverage Product Manufacturing | New Operation |
| Re-Match | Artificial Turf Fields \& Plastic Repurposing | New Operation |
| Roquette American, Inc. | Chemical Manufacturing | New Operation |
| Schuetz Container Systems | Plastics Manufacturing | New Operation |
| Sivana Converting, LLC | Industrial Hemp Product Manufacturing | New Operation |
| U.S. Premium Molders | Plastic Injection Molding | New Operation |
| WREN Manufacturing, Inc. | Furniture \& Related Products Manufacturing | New Operation |



Pennsylvania's manufacturing economy, expressed in terms of output or Gross State Product (GSP) - represents the 6th largest industrial economy within the United States.

Over the past 15 years, Pennsylvania' manufacturing output (GSP) has increased by $49.3 \%$ - from $\$ 77.8$ billion to $\$ 116.3$ billion.

During that span, Pennsylvania's manufacturing output growth rate (49.3\%) surpassed that of competitor states Michigan (39.6\%), Ohio (39.6\%), North Carolina (28.1\%) and New York (22.2\%). Pennsylvania's industrial growth even surpassed that of high-growth states like Indiana (46.9\%) and Texas (45.9\%).


Source: Bureau of Economic Analysis, U.S. Department of Commerce. Accessed 4/15/23.

# Leading Industry Sectors 

## \$ Contributed to PA GSP (\$ Millions)

$\$ 116,272.5$

| $\$ 116,272.5$ |
| ---: |
| $\$ 104,375.6$ |

\$89,564.7
Manufacturing
leads Pennsylvania's
private industry sectors
in contribution to Gross
State Product (GSP).
At 13.8\% of statewide GSP, Pennsylvania's manufacturing sector adds more value to the statewide economy than Agriculture, Natural Resource Extraction, Construction, and Transportation and Warehousing combined.

Pennsylvania is often misperceived as an agricultural state. True agricultural activities generate less than $1 \%$ of the Commonwealth's GSP.

Reports from the Department of Agriculture express more robust GSP, employment and economic impact metrics because they often include Food Manufacturing, Food Container Manufacturing and other industrial support sectors within their tallies.

While tourism is a critical element of the Commonwealth's economy, the industry sectors most frequently associated with tourist activity

- Retail Trade, Accommodation and Food Services, and Arts, Entertainment and Recreation - collectively account for $10.6 \%$ of value-added economic activity in Pennsylvania - less than manufacturing on its own.

INDUSTRY: \% of PA GSP
MANUFACTURING: 13.8\%
Real Estate, Rental and Leasing: 12.4\%
Health Care and Social Assistance: 10.6\%

Professional, Scientific and Technical Services: 8.6\%
Finance and Insurance: 7.0\%
Wholesale
Trade: 6.5\%
Information
Technology: 6.5\%
Retail
Trade: 6.1\%
Transportation and Warehousing: 4.4\%
Construction:
3.9\%

Management of Companies and Enterprises: 3.3\%
Admin Support, Waste
Reduction and Remediation: 3.1\%
Accommodation and Food Services: 2.9\%
Educational
Services: 2.5\%
Mining, Quarrying and Natural Resource Extraction: 2.2\% Utilities:

## 1.9\%

Arts, Entertainment and Recreation: 1.1\%

Agriculture, Forestry, Fishing and Hunting: 0.7\%
All Other Services
(Except Governmental): 2.4\%

## Manufacturing Across the State

## Manufacturing is an economic driver for ALL Pennsylvania counties and communities.

Some regions generate more manufacturing output than others due to ease of access to ports, large airports or other exporting outlets, the availability and abundance of natural resources, proximity to major markets or even regional heritage and legacy. However, manufacturing is a critical component of economies all across the Commonwealth.

MANUFACTURING GSP BY COUNTY (2021)

| $<\mathbf{2 0 0}$ Million |
| :---: |
| $\$ 200-\$ 500$ Million |
| $\$ 500-\$ 1$ Billion |
| $\$ 1-\$ 2.5$ Billion |



# A National Leader in Manufacturing Employment 

In addition to being the 6th largest goodsproducing state in the country, Pennsylvania holds the 6th position in terms of number of manufacturing jobs.

Pennsylvania is home to 4.4\% of our nation's manufacturing workforce. Over the past five years, Pennsylvania's manufacturers have consistently added jobs, with the exception of during the pandemic year (2020).

During the pandemic, the Commonwealth's industrial firms decreased employment at a rate greater than the nation overall ( $-6.43 \%$ vs. $-5.36 \%$ ), but have since recovered well.

| Manufacturing Employment - Top 12 States |  |  |
| :---: | :---: | :---: |
| State | Manufacturing <br> Employment | Percent of U.S. <br> Manufacturing Employment |
| California | $1,367,850$ | $10.5 \%$ |
| Texas | 953,642 | $7.3 \%$ |
| Ohio | 695,257 | $5.3 \%$ |
| Michigan | 612,451 | $4.7 \%$ |
| Illinois | 581,108 | $4.4 \%$ |
| Pennsylvania | 575,954 | $4.4 \%$ |
| Indiana | 446,284 | $4.2 \%$ |
| North Carolina | 481,962 | $3.7 \%$ |
| Wisconsin | 432,910 | $3.7 \%$ |
| New York | 428,656 | $3.3 \%$ |
| Florida | 419,877 | $3.3 \%$ |
| Georgia | $3.2 \%$ |  |

Total Pennsy/vania Manufacturing Jobs 2017-2022

| End of <br> Year | Mfg. <br> Jobs | Year-to-Year <br> \# Change | Year-to-Year <br> \% Change |
| :---: | :---: | :---: | :---: |
| 2017 | 572,984 | - | - |
| 2018 | 580,794 | $+7,810$ | $+1.36 \%$ |
| 2019 | 585,222 | $+4,428$ | $+0.76 \%$ |
| 2020 | 547,588 | $-37,635$ | $-6.43 \%$ |
| 2021 | 554,564 | $+6,976$ | $+1.27 \%$ |
| 2022 | 575,954 | $+21,390$ | $+3.86 \%$ |

Total U.S. Manufacturing Jobs 2017-2022

| End of <br> Year | Mfg. <br> Jobs | Year-to-Year <br> \# Change | Year-to-Year <br> \% Change |
| :---: | :---: | :---: | :---: |
| 2017 | $12,717,073$ | - | - |
| 2018 | $12,956,232$ | $+239,159$ | $+1.88 \%$ |
| 2019 | $13,059,380$ | $+119,693$ | $+0.92 \%$ |
| 2020 | $\mathbf{1 2 , 3 7 5 , 8 2 0}$ | $-\mathbf{7 0 0 , 1 0 4}$ | $-5.36 \%$ |
| 2021 | $12,614,764$ | $+238,944$ | $+1.93 \%$ |
| 2022 | $13,072,937$ | $+458,172$ | $+3.63 \%$ |

Source: Chmura Economic JobsEQ® Data as of 2022 Q4.

# Manufacturing: A Dominant Source of Employment in PA 

## Manufacturing is the Commonwealth's 3rd largest employment sector.

Manufacturing accounts for $9.2 \%$ of Pennsylvania's total workforce. Only Health Care and Social Assistance and Retail Trade have greater employment across Pennsylvania.
» Manufacturing supports more full-time jobs for Pennsylvanians than Mining, Natural Resource Extraction, Utility Services, Agriculture, Information Technology, Entertainment and Recreation and Wholesale Trade combined.

| Employment Sector | Employment <br> (End of 2022) | \% of PA Employment |
| :---: | :---: | :---: |
| Health Care and Social Assistance | 1,091,292 | 17.45\% |
| Retail Trade | 629,237 | 10.06\% |
| Manufacturing | 575,954 | 9.21\% |
| Educational Services | 483,097 | 7.72\% |
| Accommodation and Food Services | 451,663 | 7.22\% |
| Professional, Scientific and Technical Services | 435,971 | 6.97\% |
| Transportation and Warehousing | 371,631 | 5.94\% |
| Administrative Support, Waste Reduction and Remediation Services | 333,156 | 5.33\% |
| Construction | 326,235 | 5.22\% |
| Finance and Insurance | 276,365 | 4.42\% |
| Public Administration | 230,111 | 3.68\% |
| Wholesale Trade | 217,285 | 3.47\% |
| Management of Companies and Enterprises | 144,916 | 2.32\% |
| Arts, Entertainment and Recreation | 113,674 | 1.82\% |
| Information Technology | 99,699 | 1.59\% |
| Real Estate, Rental and Leasing | 83,442 | 1.33\% |
| Agriculture, Forestry, Fishing and Hunting | 51,340 | 0.82\% |
| Utilities | 33,605 | 0.54\% |
| Mining, Quarrying and Natural Resource Extraction | 21,865 | 0.35\% |
| All Other Services (Except Governmental) | 284,173 | 4.54\% |
| Total Pennsylvania Employment | 6,254,711 | 100.0\% |

## PENNSYLVANIA MANUFACTURERS BY NUMBER OF EMPLOYEES


fewer than 50 employees

> Over the past five years, the employment trend across manufacturers of varying sizes has been fairly consistent.

## PENNSYLVANIA MANUFACTURING EMPLOYMENT BY NUMBER OF EMPLOYEES

| 160,000 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 140,000 |  |  |  |  |
| 120,000 |  |  |  |  |
| 100,000 |  |  |  |  |
| 80,000 相 |  |  |  |  |
|  |  |  |  |  |
|  |  | ..... | .- ${ }^{\text {- }}$ |  |
| 40,000 $20192020{ }^{\text {c }}$ |  |  |  |  |
|  | 20182019 | 2020 | 2021 | 2022 |
|  | - = = Fewer than 20 Employees 100-249 |  |  | $\begin{aligned} &=- 50-99 \\ &= 500+ \\ & \hline \end{aligned}$ |

# Employment by Manufacturing Sub-Sector 

Pennsylvania's gradual shift from durable goods - often referred to as "traditional manufacturing" to non-durable products - those with shorter consumption cycles and most commonly associated with pharmaceuticals, food and disposable paper goods represents the industry's migration away from overdependence upon core industrial and business-tobusiness manufacturing.

## » The Commonwealth's

 manufacturing economy is now much better balanced between industrial goods and consumerfocused products.This reflects the Commonwealth's strategic advantage of being proximate to major population centers and consumer markets where the demands for food, packaged beverages, personal hygiene and paper products, prescription/nonprescription medications, health aids and plastic products are high.

The Commonwealth's loss of jobs in the Printing, Textile, Textile Mills and Apparel subsectors is reflective of national trends. These jobs are unlikely to return to Pennsylvania, or the United States, in the short term. Pennsylvania's loss of manufacturing careers within the Computer and Electronic Products subsector is a consequence of innovations in electronic and digital storage technologies, which obsoleted CD, DVD and laser-read media, much of which was produced in Pennsylvania.

| Employment Sub-Sector | Employment <br> (End of 2022) | $\begin{gathered} 5 \text { Year } \\ \text { Job Trend } \end{gathered}$ |
| :---: | :---: | :---: |
| DURABLE GOODS |  |  |
| Fabricated Metal Products Manufacturing | 81,005 | -440 |
| Machinery Manufacturing | 44,945 | +920 |
| Transportation Equipment Manufacturing | 37,005 | + 225 |
| Primary Metals Manufacturing | 33,296 | -1,777 |
| Computer and Electronic Products Manufacturing | 28,535 | -1,493 |
| Electrical Equipment, Appliance and Component Manufacturing | 25,469 | -850 |
| Nonmetallic Mineral Product Manufacturing | 19,692 | -1,511 |
| Furniture and Related Product Manufacturing | 16,431 | -654 |
| Durable Goods Total | 286,378 | -5,580 |
| NON-DURABLE GOODS |  |  |
| Food Manufacturing | 79,462 | +6,343 |
| Chemical Manufacturing | 44,843 | +3,862 |
| Plastic and Rubber Products Manufacturing | 41,516 | + 1,426 |
| Wood Product Manufacturing | 24,838 | +1,347 |
| Paper Manufacturing | 21,337 | -862 |
| Printing and Print-Related Activities | 19,421 | -4,940 |
| Beverage and Tobacco Product Manufacturing | 12,678 | +2,223 |
| Textile Product Manufacturers and Textile Mills | 6,207 | -1,155 |
| Petroleum and Coal Products Manufacturing | 4,999 | -876 |
| Apparel Manufacturing | 4,333 | -338 |
| Leather and Similar Product Manufacturing | 883 | -22 |
| Non-Durable Goods Total | 260,517 | +7,008 |
| Miscellaneous (Other) Manufacturing | 29,059 | + 1,542 |
| Total Pennsylvania Manufacturing Employment | 575,954 | + 2,970 |

## Industrial Employment by Region

Manufacturing is a critical employment sector all throughout Pennsylvania.

In many rural communities, manufacturing serves as the dominant employer that allows Main Street businesses, service firms and other sectors to thrive not only through their local spend on supplies, services and consumable items but also by stimulating incoming business travel and providing high levels of discretionary income to their employees. The map below depicts manufacturing employment, expressed as a percentage of total private sector employment, by county through Pennsylvania.


Percent of Total Private Employment



## TOTAL ANNUAL WAGES PAID (2022): \$ Thousands

| \$65,251,786 |
| :--- |
| $\square \$ 45,570,400$ |
| $\$ 40,850,699$ |

Collectively, Pennsylvania manufacturers paid out nearly $\$ 41$ billion in wages to their employees in 2022 - or 11.1\% of the state's total private sector workforce compensation.

Thus, in addition to being the Commonwealth's 3rd largest sector in terms of employment - it also holds the 3rd position in terms of total wages paid to associates.

EMPLOYMENT SECTOR: \% of Total PA Wages

Health Care and Social Assistance: 17.72\%
Professional, Scientific and Technical Services: 12.38\%

Manufacturing: 11.10\%
Finance and Insurance: 8.91\%
Retail Trade:
6.04\%

Wholesale Trade:
5.69\%

Management of Companies and Enterprises: 5.68\%
Construction:
5.57\%

Transportation and Warehousing: 4.57\%
Admin Support, Waste Reduction and Remediation Services: 4.33\%
Educational
Services: 3.93\%
Accommodation and Food
Services: 3.38\%
Information
Technology: 3.06\%
Real Estate, Rental and Leasing: 1.44\%
Arts, Entertainment and Recreation: 1.15\% Utilities:
0.76\%

Mining, Quarrying and Natural Resource Extraction: 0.61\%
Agriculture, Forestry, Fishing and Hunting: 0.21\%
All Other Services (Except Governmental): 3.47\%

# Pennsylvania Wages by Sector 

Of the Commonwealth's 10 largest employment sectors, which collectively account for $\mathbf{8 0 \%}$ of all private sector jobs, Manufacturing is among only three that provide an above-average wage.

Manufacturing currently employs 575,954 workers at an average wage that is $9.0 \%$ above the overall state average. Manufacturing associates can earn above this average wage through overtime incentives and other opportunities. Alarmingly, the Retail Trade and Accommodation and Food Service sectors employ somewhat comparable numbers of Pennsylvanians but provide average wages that are $44.9 \%$ (roughly half) and $63.5 \%$ (roughly two-thirds) LESS than the statewide average.

| Rank (\# of Employees) | Employment Sector | Employees (End of 2022) | Average Wage | \% Above/Below PA Avg. Wage |
| :---: | :---: | :---: | :---: | :---: |
| 6 | Professional, Scientific, and Technical Services | 435,971 | \$109,902 | + 65.0\% |
| 3 | Manufacturing | 575,954 | \$72,594 | + 9.0\% |
| 9 | Construction | 326,235 | \$69,285 | + 4.0\% |
| Pennsylvania Average Wage (All Sectors) |  |  | \$66,591 |  |
| 4 | Educational Services | 483,097 | \$65,681 | -1.4\% |
| 1 | Health Care and Social Assistance | 1,091,292 | \$63,362 | -4.8\% |
| 7 | Transportation and Warehousing | 371,631 | \$56,975 | - 14.4\% |
| 8 | Administrative Support, Waste Reduction and Remediation Services | 333,156 | \$49,935 | - $25.0 \%$ |
| 10 | Other Services (Except Governmental) | 284,173 | \$37,482 | -43.7\% |
| 2 | Retail Trade | 629,237 | \$36,662 | -44.9\% |
| 5 | Accommodation and Food Services | 451,663 | \$24,329 | -63.5\% |

# Manufacturing in a Global Economy 

» In 2022, Pennsylvania was the 10th largest manufactured goods exporting state, with more than \$43.3 billion of Commonwealth-made products landing in foreign markets.

Pennsylvania's manufactured goods exports rose sharply after the pandemic, boosting the Commonwealth from the 12th position in 2018, with $\$ 35.9$ billion in shipments, to 10th by 2020, with $\$ 39.4$ billion in exported products. Through the first five months of 2023, Pennsylvania's manufacturers are on pace to export a record level of goods ( $\$ 45.4$ billion) and claim the 9th position among the United States.

| Rank | State | Exports <br> (\$ Billions) | Top Exports |
| :---: | :---: | :---: | :--- |
| 1 | TX | $\$ 309.57$ | Petroleum \& Coal Products, Chemicals, Computers \& Electronics |
| 2 | CA | $\$ 161.23$ | Computers \& Electronics, Non-Electrical Machinery, Chemicals |
| 3 | NY | $\$ 85.41$ | Primary Metal Products, Misc. Commodities, <br> Computers \& Electronics |
| 4 | IL | $\$ 72.68$ | Chemicals, Non-Electrical Machinery, Transportation Equipment |
| 5 | FL | $\$ 62.37$ | Computers \& Electronics, Transportation Equipment, Chemicals |
| 6 | MI | $\$ 57.50$ | Transportation Equipment, Chemicals, Machinery |
| 7 | OH | $\$ 52.61$ | Transportation Equipment, Chemicals, Machinery, Fabricated Metals |
| 8 | LA | $\$ 52.14$ | Petroleum \& Coal Products, Chemicals, Food \& Similar |
| 9 | IN | $\$ 44.29$ | Chemicals, Transportation Equipment, Machinery |
| 10 | PA | $\$ 43.37$ | Chemicals, Computer \& Electronics, <br> Machinery, Primary Metal Products |



Throughout 2022, Pennsylvania-made products were exported to 179 different nations and territories.
10.5\% мехісо 6.5\% Netherlands 5.7\% China 4.7\% Germany
3.4\% Japan 2.7\% Belgium 2.7\% India

If you have any questions about this report or are interested in learning more about the economic impact and growth trajectory of the manufacturing sector, please contact:

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