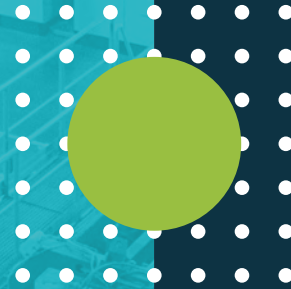


SEPTEMBER 2022

Pennsylvania
Manufacturing
Advisory Council



Pennsylvania's Manufacturing Competitiveness **PLAYBOOK**



Executive Summary

Manufacturing in Pennsylvania is vibrant, innovative, and a path to economic success for many across the commonwealth. Because manufacturing has been the heart of Pennsylvania's economic engine for more than 250 years, many of Pennsylvania's citizens know more about what manufacturing used to be and not enough about its emergence as a source of technological innovation, great career opportunities, and the economic foundation of many smaller communities. Today, Pennsylvania boasts some 14,000¹ manufacturing companies including household names like Hershey and Crayola; mainstays of industry like US Steel and Westinghouse; leaders in life science like Merck and Sanofi Pasteur, and manufacturing startups like Gilson Snow, one of the world's fastest-growing snow sports companies. Pennsylvania's innovative companies make everything from polarized filters and snowboards to powdered metal parts and sustainable products made from recycled materials.



Photo credit: DMI Companies

A strong manufacturing sector is critical to Pennsylvania's economic growth and essential to the economic success of its citizens. However, the manufacturing sector's foundational role to the Pennsylvania economy is, and has been, under threat from external sources. The manufacturing sector has encountered a great deal of turbulence in recent years tied to a severe worker shortage, an onslaught from global competitors, and significant pandemic-related supply chain disruptions. Addressing these issues requires public policy attention at the highest levels of Pennsylvania government.

The Pennsylvania Manufacturing Advisory Council was launched in July 2021 with support from Pennsylvania's Department of Community and Economic Development to facilitate and energize attention for manufacturing. The Council seeks to provide a stronger, more unified state-level voice for manufacturers – to tell the story of what Pennsylvania manufacturing is and what it can be.



1. U.S. County Business Patterns, 2020, released April 2022

Manufacturing is an Economic Engine in Pennsylvania



\$113.2
billion (roughly)

Manufacturing is the largest economic sector in terms of the size of its contribution to state GDP. Manufacturing's total GDP in 2021 was roughly \$113.2 billion, 13% of Pennsylvania's economic output.²



\$33.1
billion in goods

In 2020, Pennsylvania manufacturers exported \$33.1 billion in goods—roughly 5% of the total value of goods exported to US Free Trade Agreement partners.³



\$52
billion in goods & services

In 2020, Pennsylvania manufacturers bought an estimated \$52 billion in goods and services from other in-state companies, ranging from iron and steel to warehousing.

Top 10 Manufacturing Buys from Main Street

Groceries \$930 M

Electric Power \$902 M

Lumber & Construction \$804 M

Agricultural Goods \$737 M

Professional Services \$707 M

Legal Services \$673 M

Machinery and Supplies \$651 M

Services to Buildings & Dwellings \$630 M

Real Estate \$580 M

Hardware, Plumbing & Heating \$560 M

\$52 B Spent by Pennsylvania Manufacturers Drives Main Street

2. U.S. Bureau of Economic Analysis, SQGDP2 Gross domestic product by state in current dollars (data estimate as of 2021, Q4).

3. "2021 Pennsylvania Manufacturing Facts," NAM (National Association of Manufacturers, 2021), <https://www.nam.org/state-manufacturing-data/2021-pennsylvania-manufacturing-facts/>.

Many Pennsylvanians Benefit from Manufacturing



9.5%

Manufacturers employed 9.5% of Pennsylvania workers in May 2022, about 562,700 people in total.⁴



33%

Pennsylvania manufacturing workers earn roughly 33% more than the average for other nonfarm businesses in the state.⁵



90%

These higher paying jobs provide workers more than just higher wages; 90% of manufacturing workers have medical benefits.



78%

And 78% receive retirement contributions from their employers.⁶



2.5
workers

Every Pennsylvania manufacturing job helps to support 2.5 workers in the commonwealth, including those hired directly by manufacturing employers, their suppliers, and those providing goods and services to the employer's workers.⁷

4. Current Employment Statistics (U.S. Bureau of Labor Statistics), <https://www.bls.gov/regions/mid-atlantic/data/xg-tables/ro3fx9525.htm>.

5. US Bureau of Economic Analysis, Calculated data from Tables SAEMP25N and SAINC6.

6. "What Does It Mean to Be Made in Pa?: #PAProud Blog," PA Department of Community & Economic Development (State of Pennsylvania, October 2016), <https://dced.pa.gov/paproudblog/mean-made-pa/>.

7. Lightcast: Pennsylvania Economy Overview, Q2 2022 Data Set.

8. Kenneth P. Voytek, "Manufacturing in Pennsylvania: Challenges & Trends," U.S. NIST Manufacturing Extension Partnership, Presentation to Pennsylvania MEP, January 2021.

BUT Pennsylvania is Losing Ground



Pennsylvania is missing opportunities for expanded manufacturing activities. The data show that many jobs and plants left Pennsylvania or opted to expand in other states during the past three decades.⁸



Globalization impacted Pennsylvania's competitive advantage significantly. The commonwealth lost the 3rd most manufacturing jobs due to offshoring or import competition among 53 states and territories between 1994 and 2020.⁹



Manufacturing employment decreased by **0.5%**

Pennsylvania's manufacturing employment decreased by .5% between 2009 and 2020. Had Pennsylvania's industries performed as well as its peers nationally during that period, manufacturing employment would have increased by 7.4%.¹⁰

What Manufacturers Say

Between December 2021 and May 2022, the Council gathered input from over 500 manufacturers who represent the diversity of the commonwealth's regions and industries, through focus groups and a survey, to understand the most pressing issues and opportunities they face.



90%
were currently hiring workers

Finding, hiring, and retaining employees emerged as the most common issue raised by focus group participants. Survey respondents reinforced the prominence of that concern. A full 90% of manufacturers surveyed indicated they were currently hiring workers.

8. Kenneth P. Voytek, "Manufacturing in Pennsylvania: Challenges & Trends," U.S. NIST Manufacturing Extension Partnership, Presentation to Pennsylvania MEP, January 2021.

9. Public Citizen. Department of Labor Trade Adjustment Assistance Consolidated Petitions Database. Washington, DC, <https://www.citizen.org/article/trade-adjustment-assistance-database/>. Database includes all 50 states, D.C., Puerto Rico, and U.S. Virgin Islands

10. Voytek, January 2021.



90%

are currently investing in or plan to invest in automation

Many manufacturers in Pennsylvania are embracing advanced manufacturing strategies to compete and are ready to invest in the factory of the future. Nearly 90% of responding companies reported that they are currently investing in or plan to invest in automation. The greatest obstacle to adopting technology and innovation is the complexity of integrating new technologies into current business practices (53%), followed by limited available capital (45%) and worker skills gaps (44%).



59%

would consider increasing purchases if they charged the same or less than their current supplier

Manufacturers are interested in stronger connections with other manufacturers in the same region. Over half of respondents (59%) reported they would consider increasing purchases from in-state suppliers only if they charged the same or less than their current supplier.



25%

would increase purchases from in-state suppliers even if the supplier charged slightly more

Yet, a significant minority (about 25% of respondents) said they would increase purchases from in-state suppliers even if the supplier charged slightly more than what they were currently paying.



One in Three

see existing business growth, attraction or expansion incentives as helpful.

Only one in three companies see existing business growth, attraction, or expansion incentives as helpful. Almost as many see the state's economic development incentives as either too complicated or simply not sufficiently relevant.



Advanced manufacturing

is the use of innovative technologies to create existing products and the creation of new products, including production activities that depend on information, automation, computation, software, sensing, and networking. (*Manufacturing.gov*)



Three Game Changers for Pennsylvania Manufacturing

Based on what we learned from our engagement with more than 500 manufacturers, the Council recommends three game changers, encompassing ten recommendations, to strengthen Pennsylvania's manufacturing sector:

Game Changer 1

Recapture Pennsylvania's manufacturing competitive advantage by aggressively pursuing manufacturing growth sectors to drive prosperity.

- 1 Make a transformative investment in the ability of advanced manufacturing technologies to solve real-world problems.
- 2 Connect vulnerable companies to local opportunities to grow more competitive clusters and strengthen supply chains.
- 3 Make Pennsylvania more attractive for investing in manufacturing facilities.
- 4 Provide a sustained and unified voice to advise the Governor and legislature on the needs of manufacturers.

Game Changer 2

Invest in the factory of the future to boost the performance of small and medium-sized companies, improve the quality of manufacturing jobs, and provide better career options for more of Pennsylvania's citizens.

- 5 Accelerate the transition to connected factories.
- 6 Deliver training in automation to upskill incumbent employees and to attract new employees to manufacturing careers.
- 7 Support manufacturers as they transition to high-retention work environments.

Game Changer 3

Unleash the power of advanced manufacturing to drive regional prosperity through policies and services that are more responsive to the needs of manufacturers.

- 8 Raise the visibility and impact of regional, private sector-led partnerships.
- 9 Strengthen regional manufacturing workforce pipelines.
- 10 Help local leaders better understand how the development process impacts manufacturing investment.