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STATE OF THE INDUSTRY



State of the Industry Publishing Partner



The Real Story of Pittsburgh's Tech Economy Isn't Startups:

By Audrey Russo,
President and CEO,
Pittsburgh Technology Council

For nearly 30 years we have been tracking the growth of the Pittsburgh region's technology industry across seven sub-clusters in our State of the Industry (SOI) report showcased here. While our methodologies are universally accepted and deployed, I have often thought that we are not capturing the entire narrative of our tech workforce.

Here is what we have been getting wrong about Pittsburgh's technology economy for years: We have been counting hospital non health care support services as "life sciences workers" and calling manufacturing supervisors "advanced industry employees" while completely missing the software developer optimizing supply chains at a food manufacturer, the data scientist revolutionizing patient care at a hospital, and the AI engineer making a material company's chemical processes more efficient.

This is not just a numbers problem—it is a fundamental misunderstanding of how technology actually works in 2025. I have spent time digging through occupational employment statistics, the kind of government data that tracks what people actually do at work rather than what industry their company happens to be classified under. What I found is simple but changes much of what we thought we knew about Pittsburgh's tech scene. We are not lacking technology workers. We just have not been looking in the right places.

The Real Numbers

According to the most recent data from the Bureau of Labor and Statistics, Pittsburgh employs 37,580 genuine technology workers—people whose daily work involves writing code, analyzing data, designing systems, and solving complex technical problems. These are not industry counts that lump together everyone from prize-winning researchers to hospital cafeteria workers. These are actual technologists, earning an average of \$106,020 per year, pulling down wages that are 76% higher than the regional average.

Think about that for a moment. Nearly 40,000 people in Pittsburgh wake up every morning and go to jobs that require serious technical skills. They are making \$50.98 an hour while the average worker in the region makes \$28.93. That is not the profile of a region struggling with technology adoption—that is the profile of a region where technology skills are so valuable that the market pays premium wages to keep them here.

But here is the key insight: Most of these workers do not show up in traditional "tech industry" reports like our SOI because they are not working at companies with "Technologies" or "Software" in their names. They are embedded throughout Pittsburgh's economy, solving real problems for real businesses that have been here for decades.

Where Pittsburgh's Hidden Tech Army Actually Works

Walk into any bank's headquarters, and you will find teams of software developers building mobile banking apps that compete with anything

coming out of Silicon Valley. Visit a health care provider, and you will discover data scientists using machine learning to predict patient outcomes and optimize treatment protocols. Head over to a research facility, and you will meet AI engineers developing smart materials that respond to environmental conditions.

These are not anomalies—they are the new normal. Every major Pittsburgh institution now runs on technology, and they have hired the expertise to prove it. The cybersecurity analyst protecting Allegheny County's voter registration database is just as much a technology worker as someone at a startup in the Strip District. The difference is that one shows up in traditional economic development reports and the other does not.

This distributed model of technology employment actually gives Pittsburgh some serious competitive advantages that we are barely beginning to understand. While other cities fight over the same pool of software engineers for their startup ecosystems, Pittsburgh has built technology capability directly into industries that are not going anywhere—healthcare, manufacturing, financial services, energy, and government.

The Retention Reality Check

Now, before we get too excited about these numbers, we need to confront an uncomfortable truth. While we have all these technology workers, industry data shows that dedicated IT companies in Pittsburgh lost 23% of their jobs in recent years, according to our SOI report. So we are training great technologists, but they are not sticking around to start the next Google or Facebook here. Instead, they are getting absorbed into traditional industries or leaving for other cities entirely.

This creates a fascinating paradox. Pittsburgh has become incredibly effective at deploying technology across its existing economy, but we are struggling to create the kind of concentrated tech clusters that generate startup activity and venture capital investment. It is like we have become the best supporting actor in the technology economy while still dreaming of being the leading role. But maybe that is exactly the wrong way to think about it.

Why Being Different Might Be Pittsburgh's Superpower

What if Pittsburgh's distributed technology model is not a bug, but a feature? What if having technology workers embedded across diverse industries actually makes us more resilient and innovative than regions that put all their eggs in the startup basket?

Consider what happened during the pandemic. Cities with economies built around concentrated tech clusters saw massive volatility as venture funding dried up and startups folded. But Pittsburgh's embedded technology workers kept healthcare systems running, maintained manufacturing operations, and ensured financial services could adapt to remote work almost overnight. Our distributed model provided stability when concentrated models created chaos.



It's Embedded Talent Driving Transformation

More importantly, these embedded technologists understand both cutting-edge technology and real-world industry challenges in ways that pure-play tech workers often do not. The data scientist at a hospital knows more about healthcare workflow optimization than someone who has only worked at software companies. The AI engineer at a materials company understands materials science applications that would never occur to someone focused purely on consumer apps.

This combination of technical sophistication and domain expertise positions Pittsburgh to lead the next wave of technology innovation—the one where software finally transforms traditional industries instead of just creating new ways to order food or share photos.

And let us not forget Pittsburgh's world-renowned robotics ecosystem. With Carnegie Mellon's Robotics Institute leading global research and companies like Aurora, Argo AI alumni, and dozens of robotics startups calling Pittsburgh home, we have another layer of technical sophistication that most regions can only dream of. Our embedded technology workers are not just writing software—many are developing autonomous systems, industrial automation, and AI applications that bridge the physical and digital worlds. The deep tech revolution validates Pittsburgh's distributed technology model. Rather than lacking concentration, Pittsburgh has something more valuable: technology workers who understand both cutting-edge capabilities and real-world applications across the industries that deep tech is transforming. Plus, Pittsburgh is growing a defense-related sector projected to generate \$41 billion in spending over the 2020–2025 period, according to this year's SOI report.

The Aspiration: From Hidden Asset to Innovation Engine

Here is what Pittsburgh could become if we start thinking strategically about our distributed technology advantage: the place where breakthrough innovations happen because technologists actually understand the industries they are transforming.

Imagine medical device breakthroughs emerging from collaborations between Highmark's data scientists and the region's manufacturing engineers. Picture autonomous systems developed by CMU robotics researchers working with embedded technologists at manufacturing companies to revolutionize production lines. Envision energy efficiency innovations developed by teams that include PPG's materials scientists, robotics engineers, and software developers who understand industrial automation. Consider financial technology advances that come from technologists who have spent years understanding how regional banks actually operate, enhanced by AI and robotics capabilities that Pittsburgh pioneered.

This is not fantasy. It is the logical evolution of Pittsburgh's existing strengths. We already have the technical talent. We already have world-class traditional industries. We already have research universities generating breakthrough discoveries. What we need is better connection

between these assets and strategic support for the innovations that emerge when they collaborate.

The policy implications here are profound. Instead of chasing the latest startup accelerator trends or trying to recreate Silicon Valley, Pittsburgh should focus on maximizing the innovation potential of our embedded technology workforce. That means cross-industry collaboration programs, entrepreneur-in-residence positions for embedded technologists, and venture capital that understands deep tech applications rather than just consumer apps.

The Strategic Opportunity

Pittsburgh sits on the edge of a massive opportunity that most regions would kill for. We have premium-wage technology workers distributed across resilient industries, world-class research institutions generating breakthrough discoveries, a globally recognized robotics ecosystem that spans from Pitt and CMU's research labs to commercial applications, and traditional industry expertise that spans manufacturing, healthcare, energy, and financial services. The question is whether we will recognize this combination as the foundation for sustainable innovation leadership or keep chasing someone else's playbook.

The data tells us we are a region that needs to unleash the technology capability we already have. Our 37,580 technology workers are not just doing jobs, they are sitting at the intersection of technical possibility and industry reality, perfectly positioned to drive the innovations that matter most in an increasingly digital economy.

The choice is ours. We can keep measuring ourselves by metrics designed for different types of cities, or we can build strategies that leverage what makes Pittsburgh unique. We can keep looking for our technology workers in all the wrong places, or we can start connecting the dots between the technical talent that has been hiding in plain sight all along.

I have been a self-professed data nerd my entire life. The Tech Council will dig deeper into more workforce data to paint an even more complete picture of our region's strengths and pinpoint the opportunities that can lead to growth.

Look for regular updates coming from me to not just guide the conversation, but hopefully also create new ones. The Tech Council is excited to provide you with this year's SOI report as a baseline of our technology industry.

Pittsburgh sits on the edge of a massive opportunity that most regions would kill for.

2025

STATE OF THE INDUSTRY REPORT

THE PITTSBURGH REGION | Data for Years Ending 2022 through 2024

Data Compiled by Kevin Lane

MIXED RATES OF GROWTH CONTINUE TO CHARACTERIZE MOST TECHNOLOGY INDUSTRY CLUSTERS IN THIS YEAR'S REPORT.



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Southwestern Pennsylvania counties in the Pittsburgh region tracked for this report include Allegheny, Armstrong, Beaver, Bedford, Butler, Cambria, Fayette, Greene, Indiana, Lawrence, Somerset, Washington and Westmoreland. The Pittsburgh Technology Council keeps records of a complete list of currently used NAICS codes for each subcluster in this report.



Special thanks to the Center for Workforce Information & Analysis, part of the Pennsylvania Department of Labor and Industry

This year's State of the Industry Report compares three years of data for each of six main technology industry clusters for three years ending in 2024, the latest year for which complete data was available. In addition, this year's report provides a look back at data from mid-decade and shows a 10-year overview of progress in the region's technology industries.

A region's total annual payroll is the most significant measure of its wealth, and in southwestern Pennsylvania, technology industry clusters account for nearly 28 percent of the region's total workforce payroll. All technology industry clusters experienced positive growth in total annual payroll over a three-year period, most notably IT. Since 1995, 99 percent of all businesses and 60 percent of all job growth continues from small businesses nationwide.

All other tech clusters experienced steady growth across the board with one minor exception in manufacturing which showed a slight drop in number of establishments.

Ever since health services has been reported as part of the life sciences cluster, it is important to note that its total annual payroll is the largest in this report at nearly \$9.5 billion. It also has the highest number of employees at more than 106,000. The average wage for health services workers grew at the rate of six percent over three years.



HIGHLIGHTS:

- › One enigmatic example of mixed results is in information technology, where **employment plunged nearly 23 percent**, while **average wages surged almost 50 percent**.
- › The **9,059 technology establishments** presented within this report in the year 2024 represent more than **12 percent of all companies in the 13-county region**.
- › These firms employ **241,804 individuals** and account for more than **19.6 percent of the area's overall workforce**.
- › The **\$24 billion annual payroll** of technology and related companies, including the health services subcluster, represents more than **28 percent of the region's total wages**.
- › The average annual wages in the technology industry clusters are **significantly higher than all other industries in the region**. Average wages in the region's tech clusters have reached nearly **\$100,000**, while average wages for all industries is \$69,563.

One of the most significant changes in the methodology for this report is the manner in which totals are determined. In previous years, cluster data was simply tallied to determine totals in each category. This did not account for subclusters and establishments that have been assigned multiple NAICS codes, thereby causing a certain degree of duplicating and inflating of the numbers. In this year's report, top line totals in the highlights sections directly below have been scrubbed to avoid this duplication.



INFORMATION TECHNOLOGY

HIGHLIGHTS:

➤ **70 hardware establishments** within the 13-county region employ **3,407 people** with a total annual payroll of nearly **\$322 million**, which is an increase of \$22 million from the previous year. As a result of the significant increase in the total annual payroll, along with the slight increase in employment in this subcluster, the average wage also increased by nearly \$6,000 per employee year over year.

➤ **Software accounted for 1,376 establishments** in 2024, an increase of 94 over the previous year, and it employed **14,791 people** with a total annual payroll of **\$2.3 billion**, which was an increase of \$354 million over the previous

year. As a result, average wages also increased by a significant \$24,000 to **\$158,829**.

➤ **585 telecommunications firms** employed **8,590 people** in the 13-county region with a total annual payroll of **\$976 million**. This represents a \$39 million increase year over year. Average wage also increased by about \$7,000 over the previous year to **\$113,622**.

Component Industries:

- Hardware
- Software
- Telecommunications

AGGREGATED Information Technology Cluster — 13 Counties —

10 Year

*2015 dollars have been
adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	1,870	28,012	\$3,176,302,555	\$113,390
2022	1,942	26,991	\$3,234,304,593	\$113,390
2024	2,031	21,605	\$3,647,343,192	\$168,819
Percent change 2022-2024	+8.6	- 22.9	+14.8	+48.9
Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	1,578	29,712	\$3,438,140,128	\$115,7716
2024	2,031	21,605	\$3,647,343,192	\$168,819
Percent change	+28.7	- 27.2	+6	+6



ADVANCED MANUFACTURING

This cluster encompasses industries that are largely automated and that employ a high degree of information technology and process controls, such as computer numerical control systems, that result in just-in-time deliveries and other productivity improvements.

HIGHLIGHTS:

➤ There are **759 advanced manufacturers** within the 13-county region that employ **21,944 people** with a total annual payroll of nearly **\$1.8 billion**.

➤ The technology-intensive manufacturing subcluster accounted for nearly **1,331 establishments** and employed **40,577 people** in 2024. The total annual payroll for this subcluster was more than **\$3.9 billion**.

➤ The average annual wage in the manufacturing cluster during 2024 was **\$94,450**, which represents an increase of more than \$6,700 annually since three years prior.

AGGREGATED Advanced and Technology-Intensive Manufacturing Cluster — 13 Counties —

10 Year

*2015 dollars have been
adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	1,909	54,498	\$4,779,918,343	\$87,708
2023	1,888	55,515	\$5,097,882,057	\$91,829
2024	1,884	55,189	\$5,212,590,878	\$94,450
Percent change 2022-2024	- 1.3	+ 1.3	+ 9.1	+ 7.6
Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	1,928	59,219	\$5,853,523,912	\$98,845
2024	1,884	55,189	\$5,212,590,878	\$94,450
Percent change	-2.3	-6.8	-11	-4.4



HIGHLIGHTS:

- **65 medical equipment and supply manufacturers** within the 13-county region employ **1,250 people** with a total annual payroll of more than **\$85 million**, three million dollars more than the previous year.
- **52 instrument and device makers** employ **4,875 people** with a total annual payroll of more than **\$475 million**, a decrease of \$37 million over the prior year.
- **384 bioresearch establishments** employ **13,235 people** with a total annual payroll in excess of **\$1.9 billion**, an increase of nearly \$227 million in payroll, as compared with the previous year.

- **24 pharmaceutical companies** employ **361 people** with a total annual payroll of **\$32.5 million**. Even though the number of companies remained steady and employees decreased, average annual wages increased by \$8,000 over a year's period.
- With **more than 106,000 employees** and a **total annual payroll of nearly \$9.5 billion**, the health services subcluster is by far the largest tracked in this report, and as such, it requires a separate examination as an addendum, rather than integral to the aggregated life sciences cluster. (See charts.) Total payroll increased **\$521 million** over the previous year.

Component Industries:

- Medical Equipment and Supplies
- Instruments and Devices
- Bio Research
- Pharmaceuticals
- Health Services

AGGREGATED Health Services Subcluster — 13 Counties —

10 Year

*2015 dollars have been adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	3,006	102,109	\$8,620,265,239	\$84,422
2023	3,005	104,092	\$8,997,935,131	\$86,442
2024	3,015	106,288	\$9,518,948,080	\$89,558
Percent change 2022-2024	+0.3	+4.1	+10.4	+6.1

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	2,869	105,188	\$9,618,588,147	\$91,300
2024	3,015	106,288	\$9,518,948,080	\$89,558
Percent change	+5.1	+1.0	-1	-1.9

AGGREGATED Life Sciences Cluster — 13 Counties —

10 Year

*2015 dollars have been adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	494	20,356	\$2,361,183,801	\$115,994
2023	508	20,309	\$2,407,726,294	\$118,456
2024	525	19,721	\$2,591,526,912	\$131,143
Percent change 2022-2024	+ 6.3	-3.1	+ 9.7	+ 13.0

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	397	19,016	\$1,937,805,147	\$101,902
2024	525	19,721	\$2,591,526,912	\$131,143
Percent change	+32.2	+3.7	+33.7	+28.7



ENVIRONMENTAL TECHNOLOGY

HIGHLIGHTS:

- 58 environmental equipment manufacturers employ 3,164 people in the 13-county region with a total annual payroll of more than \$275 million, an increase of \$20 million over three years earlier. Yet during the middle year, 2023, there was a significant blip in total payroll to \$326 million which since has receded.
- 327 waste remediation and management establishments within the 13 counties employ 4,533 people with a total annual payroll of nearly \$356 million, an increase of \$37 million over the three-year period.

- 1,429 professional service and research establishments employ 31,010 people with a total annual payroll of more than \$3.7 billion in the 13-county region, which is an increase of \$491 million or 15 percent over three years.

Component Industries:

- Environmental Equipment
- Remediation and Waste Management
- Professional Services and Research

AGGREGATED Environmental Technology Cluster _ 13 Counties _

10 Year

*2015 dollars have been adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	1,752	37,125	\$3,853,915,809	\$103,809
2023	1,813	38,141	\$4,116,674,066	\$107,933
2024	1,814	38,707	\$4,402,982,672	\$113,751
Percent change 2022-2024	+3.5	+ 4.3	+14.2	+9.6

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	1,671	41,308	\$4,057,599,160	\$98,219
2024	1,814	38,707	\$4,402,982,672	\$113,751
Percent change	+8.5	-6.2	+8.5	+15.8

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ENERGY TECHNOLOGY

HIGHLIGHTS:

- The energy technology industry in the 13-county region has **975 establishments** employing **28,913 people** with a total annual payroll in 2024 of more than **\$3.1 billion**, an increase of almost six percent over three years.
- Over a ten-year period, the number of establishments and employment have decreased, yet the average wages have increased by nearly **\$21,000** a year, but this has not kept up with the rate of inflation during the same period.

Component Industries:

- Coal
- Petroleum and Natural Gas
- Power Storage
- Nuclear
- Hydroelectric

AGGREGATED Energy Technology Cluster _ 13 Counties _

10 Year

*2015 dollars have been adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	1,028	29,457	\$2,983,236,706	\$101,274
2023	986	29,018	\$2,984,117,529	\$102,837
2024	975	28,913	\$3,103,046,863	\$107,324
Percent change 2022-2024	-5.2	- 1.8	+4.0	+5.9

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	1,056	35,411	\$4,181,194,546	\$118,075
2024	975	28,913	\$3,103,046,863	\$107,324
Percent change	+7.6	-18.3	-25	-9.1



ADVANCED MATERIALS

HIGHLIGHTS:

- **153 rubber and plastics manufacturers** within the 13-county region employ **7,387 people** with a total annual payroll of more than **\$530 million**, an increase of more than \$68 million or nearly 15 percent over three years.
- **95 chemical manufacturers** within the 13 counties employ **2,414 people** with a total annual payroll of **\$245 million**, which represented a decrease of more than four million dollars over the three-year period.

Component Industries:

- Chemicals
- Plastics and Rubber

AGGREGATED Advanced Materials Cluster _ 13 Counties _

10 Year

*2015 dollars have been adjusted for inflation.

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2022	243	9,613	\$712,193,756	\$74,087
2023	243	9,699	\$727,885,782	\$75,047
2024	248	9,801	\$776,304,123	\$79,206
Percent change 2024-2023	+2.1	+2.0	+9.0	+6.9

Year	Establishments	Employment	Total Annual Payroll	Average Wages
2015	254	10,170	\$821,687,540	\$80,824
2024	248	9,801	\$776,304,123	\$79,206
Percent change	-2.4	-3.6	-5	-2



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OTHER GROWTH FACTORS

A region's technology economy is described by a variety of indicators beyond the number of companies, jobs and wages. This section illustrates the other important measures that help influence southwestern Pennsylvania's strength and pace of technology growth.



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UNIVERSITY RESEARCH AND DEVELOPMENT

Research and development spending in any given region's universities and research centers can have a great impact on the development and success of a region. Throughout the United States, there are compelling examples of productive links between research universities and technology industries, especially since they both are involved in attracting large amounts of investment capital and talent.

Within this context, it is significant that Pittsburgh is the home of two of the largest research universities in the region, the University of Pittsburgh and Carnegie Mellon University. Duquesne University and Indiana University of Pennsylvania also continue in a tradition of R&D spending, although not to the magnitude of Pitt and CMU. In addition, although technically not located within the 13-county southwestern Pennsylvania geographic region, West Virginia University is close enough to the Pittsburgh MSA to be considered for inclusion in this group.

Data for this report includes all colleges and universities in the region that spend at least \$150,000 in research and development. In previous years, Penn State's Greater Allegheny campus and Wheeling Jesuit College also made the list, but were not ranked in 2023. Sources of funds counted in this section include federal, state and local governments, institutions' funds, business, non-profits and other sources.

Source: National Science Foundation/National Center for Science and Engineering Statistics, Academic Institution Profiles of more than 1,000 institutions of higher learning in the U.S. and its territories for fiscal years 2021 through 2023, the latest years for which data was available. Data for these years include Carnegie Mellon University, Duquesne University, Indiana University of Pennsylvania, West Virginia University and the University of Pittsburgh. There are 42 FFRDCs throughout the U.S. The Software Engineering Institute is the only FFRDC in the region, and it is funded separately from Carnegie Mellon University, even though it is managed by CMU. Data was provided by the National Science Foundation FFRDC Research and Development Survey for fiscal years 2021 through 2023. Values from previous years may have been restated, due to late reporting and/or accounting revisions.

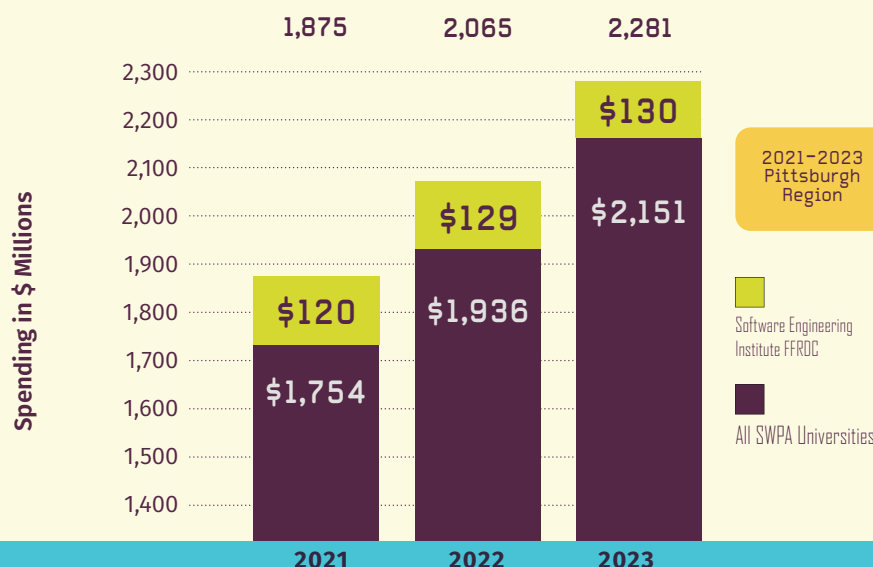
HIGHLIGHTS:

- University spending in 2023 totaled \$2.28 billion, an increase of 21 percent over a three-year period.
- With respect to total R&D spending, Pitt was ranked 17th among more than 1,000 colleges and universities nationwide. Total R&D expenditures at Pitt in 2023 was nearly \$1.4 billion, an increase of almost 12 percent over the previous year.
- When considering R&D spending in only the life sciences cluster, the University of Pittsburgh is ranked 6th nationally with expenditures totaling \$658.3 million. Financed mostly through the U.S. National Institute of Health (NIH), of all Pitt's federal R&D expenditures, approximately 47 percent was devoted to life sciences.
- Math and Computer Science is the second largest discipline in the region with respect to R&D funding, as Carnegie Mellon University generally is acknowledged to be among the top three computer science schools in the nation,

along with Stanford University and M.I.T. The nearly \$485 million in total R&D expenditures at CMU in 2023 represented an increase of \$82 million over three years. Of this amount, \$37 million was spent in math and computer sciences.

- Expenditures at the Software Engineering Institute (SEI), the region's only Federally Funded Research and Development Center (FFRDC) is examined separately and reached \$130 million in 2023, the latest year for which data is available. Currently, 13 federal agencies sponsor or co-sponsor a total of 42 federally funded research and development centers (FFRDCs) throughout the U.S. These FFRDCs provide R&D capabilities in a broad range of areas, from energy and cybersecurity to cancer and astronomy. The Software Engineering Institute, managed by Carnegie Mellon, focuses specifically on software-related security and engineering issues.
- Research expenditures at Duquesne University were nearly \$15 million in 2023.

R&D Expenditures at Universities and Colleges Including Federally Funded Research and Development Centers (FFRDCs)





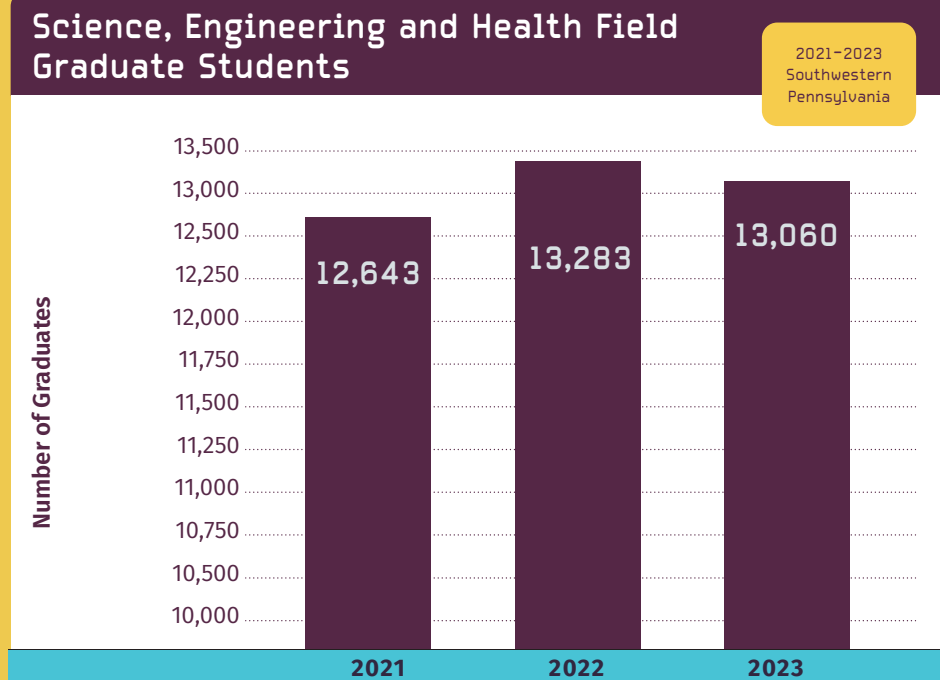
SCIENCE, ENGINEERING AND HEALTH FIELD GRADUATE STUDENTS

The number of science, engineering and health fields graduate students that any region's colleges and universities enroll each year continues to be an important drawing card in attracting and expanding technology development. Companies wishing to establish a presence in any given locale will examine the number of graduate students in these fields as a ready source of technology talent.

HIGHLIGHTS:

- Altogether, seven universities in the region accounted for **13,060 science, engineering and health field graduate students** in 2023, the last year for which complete data is available.
- Both Carnegie Mellon University and the University of Pittsburgh accounted for **78 percent** of the 13-county total in 2023. Other of the region's institutions are keeping pace, with the exception of Slippery Rock and Point Park Universities which reported no graduate students for this year, as they have in previous years.
- Out of the nearly 700 colleges and universities across the U.S. that grant graduate degrees in science, engineering and health-related fields, Carnegie Mellon ranked 25th with 6,245 students in 2023. The University of Pittsburgh ranked 49th with 3,960 students.
- West Virginia University is included in these totals, because of its close proximity to and economic influence on the southwestern Pennsylvania region. Many students from Pennsylvania cross the state line to attend there. The University accounted for 1,764 graduate students, which is more than 13.5 percent of the total.
- Indiana University of Pennsylvania, Robert Morris University, Duquesne University and Chatham University, contributed the remaining eight percent of the region's total science, engineering and health field graduate students in 2023.

Source: National Science Foundation Graduate Students in Science, Engineering and Health Fields in Doctorate-granting Institutions. Data includes Carnegie Mellon University, Chatham University, Duquesne University, Indiana University of Pennsylvania, The University of Pittsburgh and West Virginia University. Results may have been restated from previous years' reports. Slippery Rock University and Point Park University reported graduate students in previous years but not in 2023.



UNIVERSITY-BASED TECHNOLOGY TRANSFER

University technology transfer activity represents the vehicle by which university-developed science and technology is translated into commercial ventures. The value that is realized from university research and tech transfer are vital components of regional economic development.

HIGHLIGHTS:

- Although the number of patents filed in any given year may vary widely, the fluctuation can be attributed to coincidence. It still indicates the underlying robustness of ongoing innovative activity and discovery. In this regard, gross licensing regressed from the previous year to \$26.5 million. Pitt posted \$18.7 and CMU's licensing income was \$7.8 million in 2024. Since typically there is a years-long period of time between registering for patents and realizing any gross income, it is not inconceivable that the slight downturn this year might still be as a result of the vestiges of Covid.
- The U.S. Patent and Trademark Office awarded Carnegie Mellon University 91 new U.S. patents and the University of Pittsburgh received 118 patents in 2024. Pitt and CMU ranked 20th in 2024 for the number of patents issued to U.S. universities, and CMU moved to 32nd, up from 50th the previous year.
- Carnegie Mellon entered into 168 licensing agreements, and the University of Pittsburgh negotiated 32 licenses in 2024. Duquesne University negotiated three.

University Technology Transfer in Southwestern Pennsylvania			
	2022	2023	2024
Patents Issued	198	192	209
Licenses & Options Executed	400	323	303
Gross License Income	\$44.3 Million	\$57.9 Million	\$26.5 Million
Start-up Companies	23	24	22

Source: Carnegie Mellon University, the University of Pittsburgh, and Duquesne University. Since 2009, Duquesne University had adopted the "Carolina License," which offers a no-cost, royalty-only option (license) to spur more regional start-ups. Data for Licenses, Options and Other Agreements Executed provided by the University of Pittsburgh and Duquesne University represent a total that includes regular licenses/options executed, sublicenses and licenses that fall under inter-institutional agreements in which the University is not the lead institution. These non-regular license/options are termed "other agreements." The metric reflects the current criteria of the Association of University Technology Managers in counting licenses/options.



SBIR/STTR AWARDS



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The U.S. Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program grants are a large source of early-stage technology financing, and it encourages the development and commercialization of new technology products and services.

Managed by the U.S. Small Business Administration, the SBIR program requires federal agencies with more than \$100 million in their extramural R&D budgets to set aside 3.2 percent for partnerships with private industry. Within the STTR program, agencies with one billion-dollar budgets are required to set aside 0.45 percent.

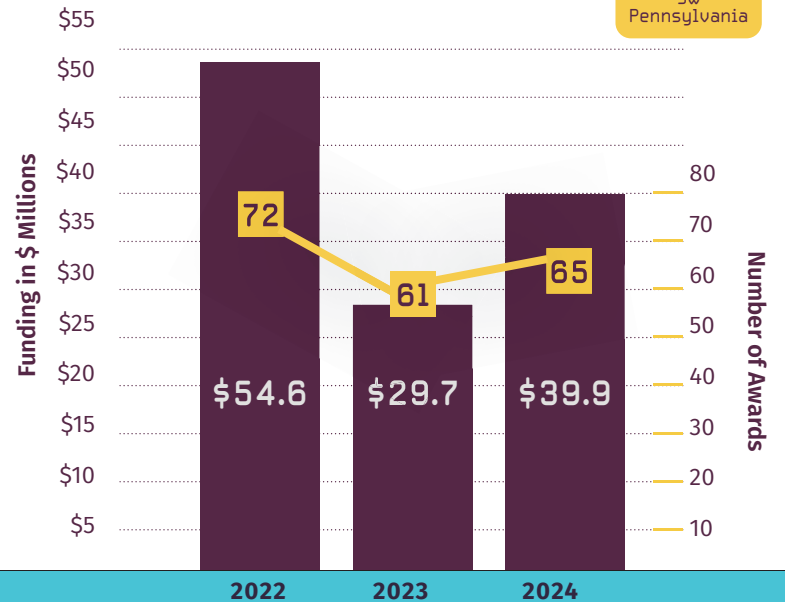
The statutory authority for the SBIR/STTR programs is set to expire on September 30, 2025, unless Congress reauthorizes the program. The list of federal agencies and departments that participate in the SBIR and STTR programs has been revised as of 2024.

HIGHLIGHTS:

- Among the 13 counties, the award values in 2024 totaled nearly \$40 million. This represented a more than 32-percent increase over 2023. Although the number of awards and totals may spike in certain years, as has happened in 2022, when compared over a three-year period, 2024 results were more in line with the overall trend.
- The total number of awards in 2024 was 66, a slight increase from the previous year.

SBIR/STTR Funding (All Agencies)

2020-2022
13 Counties in
SW
Pennsylvania



Source: Small Business Administration; note that although technically awarded in any given year, awards to certain recipient companies may not be publicized until later years. The SBA award database is continually updated throughout the year. As a result, data for a given year is generally not complete until June of the following year. For the reasons stated above, values from previous years may have been restated.

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