

# Employment in New York State

WE ARE YOUR DOL



Department  
of Labor

RESEARCH AND STATISTICS

## At a Glance

New York State had 8,588,900 total nonfarm jobs in August 2020, including 7,198,600 private sector jobs, after seasonal adjustment. The state's seasonally adjusted private sector job count increased by 1.4% in July-August 2020, while the nation's job count increased by 0.9% over this period. From August 2019 to August 2020, the number of private sector jobs decreased by 13.2% in the state and by 7.5% in the nation (not seasonally adjusted).

In August 2020, New York State's seasonally adjusted unemployment rate decreased from 15.9% to 12.5%. The comparable rate for the nation in August 2020 was 8.4%.

New York State's seasonally adjusted labor force participation rate decreased from 61.4% in July to 60.8% in August 2020.

## Change in Nonfarm Jobs

August 2019 - August 2020

(Data not seasonally adjusted, net change in thousands)

	Net	%
Total Nonfarm Jobs	-1,196.5	-12.2
Private Sector	-1,096.9	-13.2
Goods-producing	-83.2	-9.6
Nat. res. & mining	-0.8	-14.3
Construction	-41.7	-9.8
Manufacturing	-40.7	-9.2
Durable gds.	-21.1	-8.3
Nondurable gds.	-19.6	-10.6
Service-providing	-1,113.3	-12.5
Trade, trans. & util.	-187.8	-12.2
Wholesale trade	-36.6	-11.2
Retail trade	-99.1	-10.9
Trans., wrhs. & util.	-52.1	-17.7
Information	-16.2	-5.7
Financial activities	-45.5	-6.1
Prof. & bus. svcs.	-171.1	-12.3
Educ. & health svcs.	-130.5	-6.3
Leisure & hospitality	-403.2	-39.9
Other services	-59.4	-14.3
Government	-99.6	-6.9

Analysts expect more job losses to machines....

## Companies Use More Automation During COVID-19 Crisis

*"One of the hallmarks of the COVID crisis and its aftermath is going to be an acceleration of the deployment of all kinds of automation."*

Mark Muro, Senior Fellow,  
Brookings Institution

Fears about technology taking jobs away from human workers are not new. In 1589, Queen Elizabeth I of England refused to grant the inventor of a mechanical knitting machine a patent for fear of putting manual knitters out of work. In the early 1800s, British textile workers called Luddites destroyed new textile machines that would replace their jobs.

More recently, concerns have focused on the spread of automation, such as robots and artificial intelligence (AI), which can replace human workers. The COVID-19 pandemic has heightened these concerns as companies in many industry sectors rely

more on automation to replace workers sickened by the coronavirus. They want to avoid workplace infections and cut costs to remain competitive during the current economic slowdown.

Daniel Susskind of the University of Oxford said, "This pandemic has created a very strong incentive to automate the work of human beings." His belief is confirmed by the results of a June 2020 survey conducted by consulting firm PwC, which found half of chief financial officers were planning to speed automation. Here, we examine the growth of automation during the pandemic.

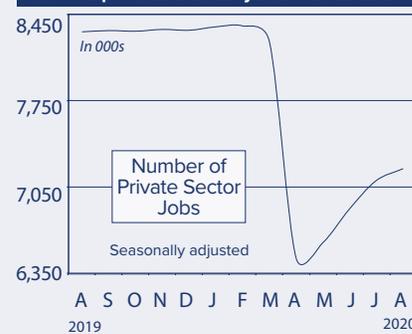
### Substitutes or Complements?

Automation takes on many familiar, everyday forms. We use automatic teller machines, self-service gasoline pumps, digital self-serve ordering stations in

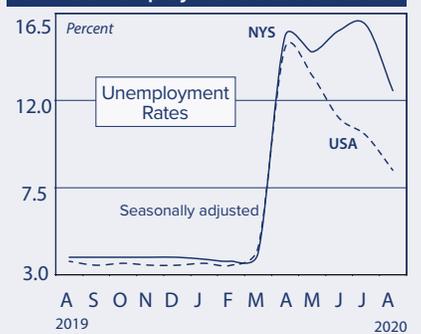
Continued on page 2

## In August...

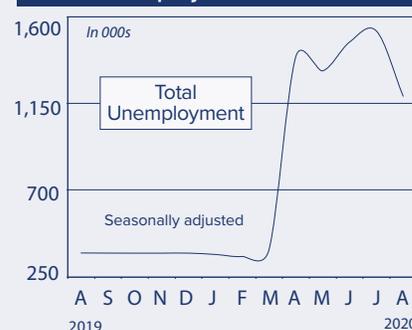
...NYS private sector jobs increased



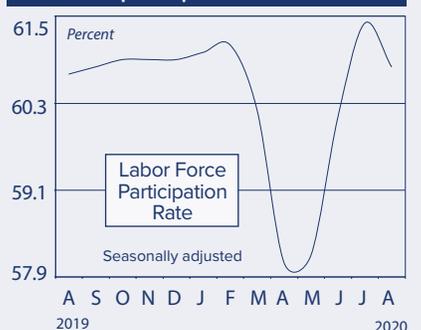
...NYS unemployment rate decreased



...NYS unemployment decreased



...NYS LF participation rate decreased



## Focus on the Capital Region

### The Capital Region's Dynamic Tech Scene

by Kevin Alexander, Labor Market Analyst, Capital Region

Technology has reshaped labor markets across the nation, as innovation transformed existing industries and occupations and helped to create new ones. The Capital Region has been a primary beneficiary of this transformation. The region is ranked among the best areas in the nation in which to find a job in a technology field. In 2016, *U.S. News and World Report* ranked the Albany-Schenectady-Troy (A-S-T) metro area as the third best in the U.S., trailing only behind the San Jose and San Francisco areas in California. And a 2019 report from the Brookings Institution ranked the A-S-T area third on its list of potential high-tech, innovation growth centers. Here, we analyze some industries in the Capital Region that play a significant role in the region's tech scene.

#### High-tech Manufacturing

Technology has underpinned the transformation of the Capital Region's manufacturing sector. For example, the emergence of biotechnology helped chemical manufacturing (NAICS 325) to become the region's largest manufacturing industry, employing 5,900 workers in 2019. This industry continues to grow. Tarrytown-based Regeneron Pharmaceuticals is expanding its East Greenbush (Rensselaer County) production facility. They anticipate creating more than 1,000 new jobs over the next few years.

The region's second largest manufacturing industry is computer and electronic products (NAICS 334), employing 4,400. The Albany Nanotech Complex at SUNY Polytechnic Institute and the GlobalFoundries Fab 8 plant in Malta (Saratoga County) have been driving forces behind the industry's

recent growth. Last winter, semiconductor equipment manufacturer Applied Materials opened the Materials Engineering Technology Accelerator (META Center) at SUNY Poly. This first-of-its-kind facility is focused on materials engineering R&D in several areas, including virtual intelligence, augmented and virtual reality, semiconductors and advanced optics.

#### Video Game Development

The Capital Region has been involved in the digital gaming industry for decades. One of the industry's top-performing companies – Activision Blizzard – operates a studio in Menands (Albany County). Activision's Vicarious Visions studio is well known in the gaming community, having worked on franchises such as Crash Bandicoot and Guitar Hero.

The region is home to many other gaming studios, creating an industry cluster that has attracted numerous companies, including Warner Brothers, Wolfjaw and Velan Studios. Velan Studios, along with others, is situated in the Troy Innovation District (Rensselaer County). For their first game, they partnered with Nintendo to develop Mario Kart Live: Home Circuit, which was released on October 16.

The Center for Economic Growth in Albany estimates that the Capital Region's digital gaming sector employs nearly 500 workers at 23 different studios. Employers in this sector represent many different industries, with the most common being professional and technical services (NAICS 541). This industry is one of the region's highest paying, with an average annual wage of \$87,400.



#### High-Paying, In-Demand Occupations

As the popularity of video games soars, Capital Region employers are looking for skilled workers. Software developers, and software quality assurance analysts and testers, are among the most sought-after workers. These occupations employ more than 3,500 with an annual median salary of \$97,800. Experienced workers can earn up to \$119,200 per year, while entry-level employees can make \$62,900.

High-tech manufacturers also offer high-paying jobs, mostly in engineering. For example, there are 1,600 industrial engineers in the Capital Region with an annual median salary of \$99,100. Industrial engineers beginning their career in the region can make \$72,000 per year and can earn up to \$119,200 as they become more experienced. Another common occupation, electrical engineers, has an entry-level annual salary of \$73,400, while pay for an experienced worker tops \$130,200.

#### Summing Up

Technology has clearly boosted the Capital Region's economy in recent years. Not only does it enhance the long-term prospects for a variety of manufacturing and service industries, it also offers high-paying jobs to workers who possess the right skills.

#### More Automation... from page 1

fast-food restaurants and interactive voice response telephone systems (aka phone trees). Amazon recently opened a new supermarket prototype in Seattle that uses cameras and sensors to detect which products customers select. In each case, technology automated basic tasks and replaced workers who performed them.

Automation tends to disrupt labor markets and replace workers in the short run, as technology substitutes for routine work. However, MIT economics professor David Autor argues that, over longer periods of time, automation and human labor often complement one another. This can lead to a net gain in jobs and raise workers' wages.

Similarly, a recent report from the Paris-based Organisation for Economic Co-operation and Development noted that "employment in total may continue to rise" even if automation disrupts specific industries.

The U.S. auto industry is one example that shows how human labor and automation may intertwine. Most industrial robots (54%) in this nation assemble automobiles. While some workers in the auto industry (e.g., painters) may lose their jobs as more robots are deployed, robots might help raise the overall productivity and efficiency of the automotive assembly line. This, in turn, could lead to an increase in the demand for other types of jobs (like technicians) that support the use of robots.

#### Now, More Than Just Manufacturing

Historically, the factory sector has been most able to take advantage of labor-saving technology and pass on the resulting cost savings to consumers through lower prices. This trend has continued during the pandemic, with increased use of slaughterhouse robots to replace sick workers in meatpacking plants.

Recently, some service sector industries, such as call centers, have turned to automation to replace workers sickened by the coronavirus. For example, the call center for David's Bridal, the wedding gown retail chain, introduced an AI chatbot named Zoey that simulates human conversation. The Zoey chatbot shows

*Continued on page 3*

## Unemployment Rates in New York State

Data Not Seasonally Adjusted

	AUG '19	AUG '20		AUG '19	AUG '20		AUG '19	AUG '20
<b>New York State</b>	<b>4.1</b>	<b>12.6</b>	<b>Hudson Valley</b>	<b>4.0</b>	<b>10.5</b>	<b>Finger Lakes</b>	<b>4.2</b>	<b>9.7</b>
<b>Capital</b>	<b>3.7</b>	<b>8.7</b>	Dutchess	3.8	9.4	Genesee	3.5	8.1
Albany	3.9	9.0	Orange	4.1	10.5	Livingston	3.9	7.6
Columbia	3.1	7.3	Putnam	3.9	9.3	Monroe	4.4	10.5
Greene	4.5	9.7	Rockland	3.9	10.4	Ontario	3.6	8.3
Rensselaer	3.9	8.4	Sullivan	3.7	10.9	Orleans	5.1	9.8
Saratoga	3.3	7.8	Ulster	4.0	9.3	Seneca	3.5	8.9
Schenectady	3.9	10.3	Westchester	4.1	11.1	Wayne	3.9	8.6
Warren	3.7	8.5	<b>Mohawk Valley</b>	<b>4.3</b>	<b>9.2</b>	Wyoming	3.7	7.5
Washington	3.6	7.9	Fulton	4.7	10.2	Yates	3.3	6.9
<b>Central New York</b>	<b>4.2</b>	<b>9.6</b>	Herkimer	4.4	9.0	<b>Western New York</b>	<b>4.5</b>	<b>10.6</b>
Cayuga	4.2	9.1	Montgomery	4.9	10.4	Allegany	5.1	9.0
Cortland	4.4	8.3	Oneida	4.2	9.4	Cattaraugus	4.7	9.8
Madison	4.2	8.4	Otsego	3.9	8.0	Chautauqua	4.4	9.5
Onondaga	4.0	10.0	Schoharie	4.4	7.8	Erie	4.4	10.8
Oswego	5.1	9.9	<b>North Country</b>	<b>4.8</b>	<b>8.5</b>	Niagara	4.9	10.9
<b>Southern Tier</b>	<b>4.3</b>	<b>8.7</b>	Clinton	4.2	8.0	<b>Long Island</b>	<b>3.9</b>	<b>10.5</b>
Broome	4.8	9.6	Essex	3.8	7.7	Nassau	3.7	10.7
Chemung	4.3	9.6	Franklin	4.5	8.8	Suffolk	4.0	10.4
Chenango	3.9	7.4	Hamilton	3.4	5.5	<b>New York City</b>	<b>4.2</b>	<b>16.3</b>
Delaware	4.5	7.7	Jefferson	5.1	9.2	Bronx	5.7	21.1
Schuyler	3.9	8.1	Lewis	4.4	7.3	Kings	4.3	16.5
Steuben	4.2	9.0	St. Lawrence	5.5	8.8	New York	3.6	12.9
Tioga	3.9	8.5				Queens	3.6	16.4
Tompkins	4.0	7.2				Richmond	4.2	13.8

### More Automation... from page 2

iPhone users how to book an appointment at a nearby store, process a return or find other help. Zoey has helped the firm to improve its bottom line by cutting its contact center operating costs by more than 30%.

The hotel industry also moved to more automation with self-serve kiosks, which feature contactless check-in and digital key room entry. Certain Marriott and Hilton properties have robots deliver items to guest rooms (e.g., pillows and towels). However, the robots are not permitted to carry luggage, make beds or take reservations. Hotels also deploy specialized robots that emit broad-spectrum ultraviolet light to destroy viruses and bacteria. These machines, which enter rooms after they are cleaned by human workers, cost about \$100,000 each.

Restaurants are a third service industry relying more on technology. Since more than 80% of U.S. residents now own a smartphone, there has been an explosion in the number of Americans who use mobile device apps to order dinner from their favorite eateries. The coronavirus crisis boosted this trend, as restaurants made greater investments in their mobile platforms. Digital sales now account for 75% of sales at Domino's; 30% at Yum Brands, which operates KFC, Pizza Hut and Taco Bell; and 22% at Starbucks. Industry analysts predict the restaurant automation

trend will continue, with robot chefs working in "ghost" kitchens (i.e., facilities that prepare orders for delivery only) and drones delivering meals ordered online.

### K-shaped Recovery?

Increasing reliance on technology is likely to disproportionately hurt workers in jobs that have routine, repetitive tasks. Researchers Lei Ding and Julieth Saenz Molina at the Federal Reserve Bank of Philadelphia (FRB-P) studied this issue. They found that many service sector workers in easily automated occupations that cannot be done remotely — such as clerks and bank tellers — have suffered more layoffs per capita during the pandemic than workers with jobs that are at low risk of being replaced by machines (e.g., nurses, plumbers). Workers in easily automated occupations lost 4.2 more jobs per 100 than workers in low-risk occupations. The study also found automatable jobs held by minority workers experienced 5.1 more job losses per 100 jobs than those held by non-Hispanic Whites. As of August 2020, there were 2.6 million jobs nationwide at risk of permanent automation, according to the FRB-P study.

The occupations at high risk of being replaced by machines tend to be those that do not permit remote work and have a higher risk of COVID-19 transmission. These trends

have given rise to concerns that the U.S. may experience a "K-shaped" recovery, which occurs when an economy recuperates unevenly. The upward spike of the K represents segments of the workforce that have recovered, while the downward spike represents segments that have not.

### Looking Ahead

The COVID-19 pandemic has accelerated certain ongoing economic trends, including greater use of automation. As companies increase their reliance on AI and robots, technology will likely eliminate some types of jobs and create others. It remains to be seen whether increased automation leads to more or fewer jobs for human workers in the long run.

by Kevin Jack

**Employment in New York State** is published 12 times a year. To request a change of address, write to the address below and provide your old and new addresses.

New York State Department of Labor  
Division of Research & Statistics, Pubs. Unit  
Building 12, State Office Campus  
Albany, NY 12240

Deputy Director/Editor	Kevin Jack
Director of Communications	Deanna Cohen
Graphic Design	Laura A. Campbell
Editorial Advisor	Jean Genovese



Division of Research and Statistics
Building 12, Harriman State Office Campus
Albany, NY 12240

OFFICIAL BUSINESS

Regional Analysts' Corner

CAPITAL

Kevin Alexander — 518-242-8245

Between August 2019 and August 2020, the private sector job count in the Capital Region fell by 53,100, or 11.8%, to 395,300. Employment losses were greatest in leisure and hospitality (-23,200), trade, transportation and utilities (-8,500), educational and health services (-6,200), professional and business services (-6,200), manufacturing (-3,600) and other services (-3,100).

CENTRAL NY

Karen Knapik-Scalzo — 315-479-3391

The private sector job count in the Syracuse metro area dropped by 36,100, or 13.6%, to 229,700 in the 12 months ending August 2020. The greatest job losses occurred in trade, transportation and utilities (-10,200), educational and health services (-6,900), leisure and hospitality (-6,600), professional and business services (-6,200), manufacturing (-2,400) and natural resources, mining and construction (-1,600).

FINGER LAKES

Tammy Marino — 585-258-8870

The Rochester metro area's private sector job count fell by 53,600, or 11.6%, to 407,400 in the 12-month period ending August 2020. Employment losses were largest in leisure and hospitality (-18,900), trade, transportation and utilities (-15,400), manufacturing (-7,000), educational and health services (-4,500), financial activities (-2,600) and professional and business services (-2,600).

HUDSON VALLEY

John Nelson — 914-997-8798

For the 12-month period ending August 2020, the private sector job count in the Hudson Valley decreased by 98,300, or 12.0%, to 720,700. Job losses were greatest in leisure and hospitality (-41,300), trade, transportation and utilities (-14,900), professional and business services (-13,000), other services (-9,500), educational and health services (-7,100) and natural resources, mining and construction (-5,600).

LONG ISLAND

Shital Patel — 516-934-8533

The private sector job count on Long Island fell by 141,000, or 12.1%, to 1,024,500 in the 12-month period ending August 2020. Employment losses were greatest in leisure and hospitality (-46,900), educational and health services (-28,900), trade, transportation and utilities (-27,000), professional and business services (-16,600), manufacturing (-7,300) and natural resources, mining and construction (-6,800).

MOHAWK VALLEY

Brian Acton — 315-793-2282

For the year ending August 2020, the Mohawk Valley's private sector job count fell by 18,000, or 12.0%, to 131,400. Employment losses were greatest in leisure and hospitality (-6,200), educational and health services (-4,500), trade, transportation and utilities (-2,600), manufacturing (-1,600), professional and business services (-1,400) and other services (-1,000).

NEW YORK CITY

Elena Volovelsky — 718-613-3971

The number of private sector jobs in New York City fell over the year by 602,700, or 14.9%, to 3,437,600 in August 2020. Job losses were greatest in leisure and hospitality (-231,100), professional and business services (-106,700), trade, transportation and utilities (-91,500), educational and health services (-61,200), other services (-34,900), financial activities (-31,900) and natural resources, mining and construction (-21,700).

NORTH COUNTRY

Anthony Hayden — 518-523-7157

In the 12-month period ending August 2020, the private sector job count in the North Country region fell by 11,900, or 10.5%, to 101,800. Losses were greatest in leisure and hospitality (-4,500), educational and health services (-2,300), trade, transportation and utilities (-1,500), manufacturing (-1,100), natural resources, mining and construction (-1,100), other services (-700) and professional and business services (-700).

SOUTHERN TIER

Christian Harris — 607-741-4480

The number of private sector jobs in the Southern Tier declined over the year by 16,500, or 7.3%, to 208,800 in August 2020. Losses were largest in leisure and hospitality (-4,100), trade, transportation and utilities (-2,700), educational and health services (-2,400), professional and business services (-2,300), other services (-1,700), natural resources, mining and construction (-1,600) and manufacturing (-1,100).

WESTERN NY

Timothy Glass — 716-851-2742

From August 2019 to August 2020, the private sector job count in the Buffalo-Niagara Falls metro area fell by 47,400, or 9.9%, to 429,600. Employment growth was focused in manufacturing (+1,100). Losses were greatest in leisure and hospitality (-16,000), trade, transportation and utilities (-11,800), professional and business services (-7,600), educational and health services (-6,900) and other services (-3,300).

