

New York

Works **INDUSTRY
SPOTLIGHT**

Creating Good Jobs in VR/AR

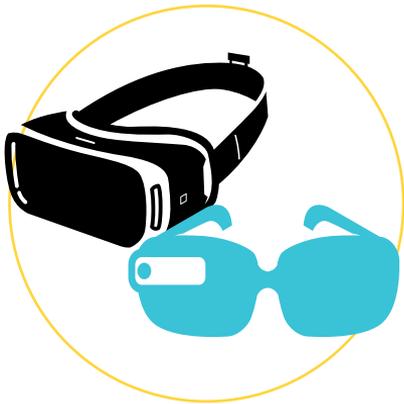
About New York Works

New York Works is the City's roadmap for creating 100,000 good jobs over the next ten years.

New York City Economic Development Corporation (NYCEDC) publishes *New York Works Industry Spotlight* to introduce the public to important industries and job-creating initiatives that the City is adopting, as well as to explore how both contribute to the City's ten-year goal.



New York Works Industry Spotlight: The VR/AR Revolution



What are VR & AR

Virtual reality (VR) offers the user a digitally rendered, simulated experience of the physical world by utilizing specialized equipment, such as goggles and sensor-equipped gloves.

Augmented reality (AR) provides the user with computer-enhanced views of the physical world by overlaying digital content on top of reality.

VR/AR TECHNOLOGIES will make a transformative impact across numerous sectors, including anchor industries in New York City such as healthcare, real estate, and the cultural sector. Home to over 16,000 hospitals and medical offices, nearly 20,000 real estate firms, and more than 260 museums and historical sites, New York City is primed for a strong VR/AR ecosystem. Examples of VR/AR applications in these fields include:



Neurosurgeons use VR goggles to virtually navigate 3D models of patients, looking for the safest route to hard-to-reach tumors.



Real estate professionals use 360-degree tours to show apartments.



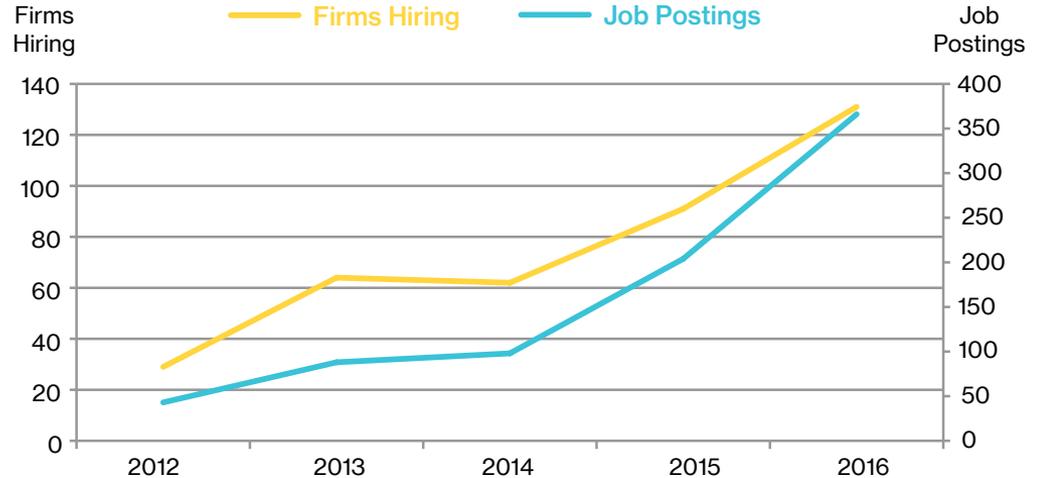
Artists are producing VR pieces that immerse viewers in virtual worlds.

NYC Sector Overview



VR/AR job demand jumped 80% from 2015 to 2016.

VR/AR is a growing technology sector¹ with the potential to create thousands of good jobs in New York City. Over the past five years, the number of firms hiring and the amount of job postings for VR/AR specialists have skyrocketed.²



¹ Because this sector is so novel, traditional sources are not available to estimate its size. Nevertheless, by aggregating job posting and venture capital data it is possible to get a sense of the scale and trajectory of VR/AR.

² Source: Burning Glass Labor Insight. 2017. <http://www.burning-glass.com>.

NYC Sector Overview continued

The City will invest up to \$6 million to build the first publicly funded VR/AR lab in the country.

Workers will get trained and entrepreneurs will gain access to the technology and funding they need to launch new businesses and create good jobs.

Nearly ninety percent of VR/AR jobs offer \$75,000 or more a year.³

Almost all VR/AR jobs pay an annual salary of at least \$50,000
— and those that don't put employees on a clear path toward a Good Jobs⁴ wage.

Employers hiring for VR/AR positions **increased over 350 percent** since 2012.⁵

29 firms hiring in 2012 vs **131 firms hiring** in 2016.

Local job postings for **VR/AR employees increased by 750 percent** from just four years ago.⁶

Venture capital (VC) investments in New York City-based
VR/AR businesses **topped \$26 million in 2016.**⁷

Since 2010, twenty **VR/AR companies have raised a collective \$90 million.**

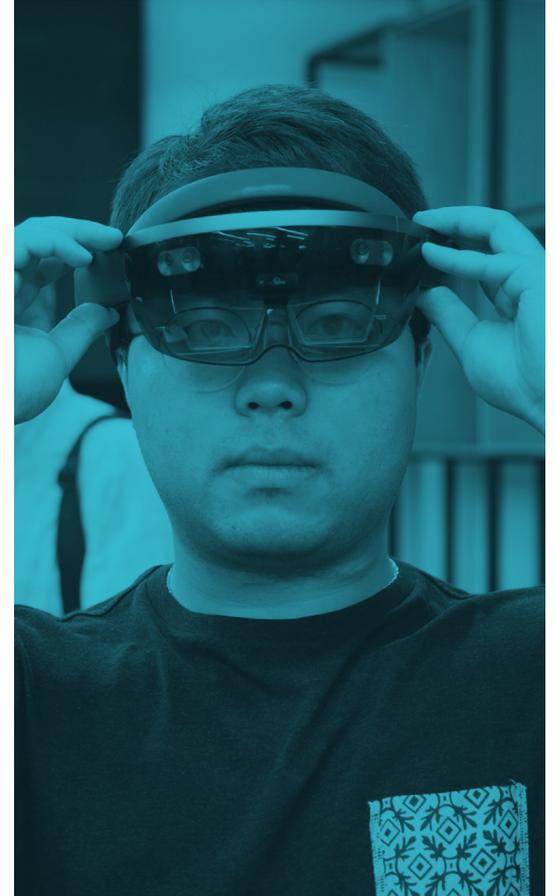
³ Source: Burning Glass Labor Insight. 2017. <http://www.burning-glass.com>.

⁴ New York Works defines Good Jobs as those that pay at least \$50,000 a year or put people on a clear pathway toward achieving that wage.

⁵ Source: Burning Glass Labor Insight. 2017. <http://www.burning-glass.com>.

⁶ 43 job postings in 2012 vs 366 job postings in 2016. Source: Burning Glass Labor Insight. 2017. <http://www.burning-glass.com>.

⁷ Source: CB Insights. 2017. www.cbinsights.com



Opportunities for Growth

By connecting new technologies to traditional and growing industries, entrepreneurs to resources, and by giving the workforce the tools they need to succeed, VR/AR jobs can be a significant driver of innovation and economic growth in New York City.

After surveying the sector and conducting numerous interviews with VR/AR experts, the **City will build the first publicly funded VR/AR Lab in the US** with a focus on four areas of growth:

Train for the Next Generation of VR/AR Jobs

Employers with VR/AR job postings are looking for workers with technical skills: **one-third of VR/AR jobs** require knowledge of visual design software and a programming language. The City will address this demand for technical skills by building **a curriculum of VR/AR workforce development programs** and facilitating apprenticeships to make these jobs more accessible to New Yorkers, giving firms **better access to qualified talent**.

Offer Businesses the Tools to Succeed

By providing **tailored programming** and access to the best equipment and funding available, the City will **empower entrepreneurs** and start-ups with the resources they need to be successful.

Develop Professional Networks Across Industries

Many different types of businesses employ VR/AR technology. The City will develop a **professional network across multiple industries** to help connect VR/AR businesses with clients, entrepreneurs with funders, and VR/AR workers with jobs.

Foster innovation in VR/AR

The lab will **explore new technologies** and push the bounds of discovery with its partner institutions, including NYU, CUNY, Columbia University, and The New School. This space will **build a VR/AR community** by connecting investors, sector leaders, and civic partners with the best researchers in the industry.

The City is building a state-of-the-art lab to support new businesses and encourage innovation.

Investing in the VR/AR Lab Will Help Grow the Economy

Through a public funding commitment, the VR/AR lab can create more than **500 good quality jobs over the next decade.**



NYCEDC and the Mayor's Office of Media and Entertainment are partnering with NYC Media Lab (a collaboration between its founding partners, NYU Tandon School of Engineering and Columbia University) to develop and operate the lab at the Brooklyn Navy Yard. A VR/AR workforce development center will be located at Lehman College in the Bronx.

The lab will leverage the leadership of NYC Media Lab and its founding partners, as well as partnerships with CUNY and other New York City universities, civic organizations, and corporate partners to spur innovation, entrepreneurship, and job growth.



VR/AR jobs can be a significant driver of innovation and economic growth.

VR/AR LAB THREE YEAR GOALS:



Launch over sixty early stage companies



Create a talent pipeline of over one hundred students and forty-five fellowships



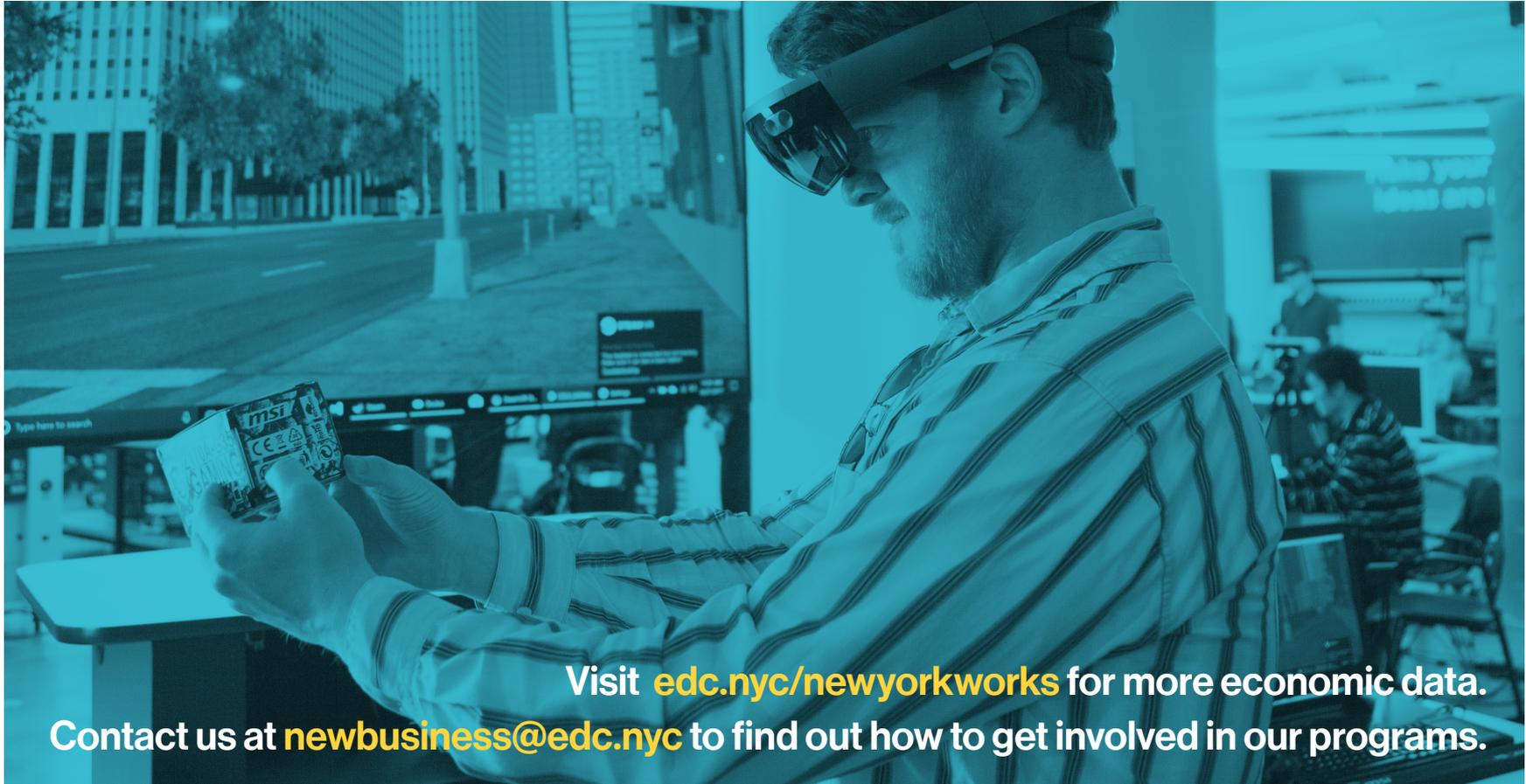
Use the Brooklyn Navy Yard for research and discovery, and leverage other CUNY-owned spaces



Organize over thirty events to bring students, entrepreneurs, and business leaders together



Create more than three-hundred good quality jobs



Visit edc.nyc/newyorkworks for more economic data.
Contact us at newbusiness@edc.nyc to find out how to get involved in our programs.