

R&D TO COMMERCIALIZATION

in Albany/New York's Capital Region

(Updated April 2024)



OVERVIEW

Cluster: **22,140** jobs (2022)

- Scientific R&D Services: **8,491**
- Computer Systems Design & Related Services: **5,829**
- Architectural, Engineering, & Related Services: **4,901**
- Management, Scientific, & Technical Consulting Services: **2,681**
- Specialized Design Services: **238**

1 of 59 metros where businesses spend **\$1B+** annually (2021)

\$693.6M university R&D expenditures (FY2022)

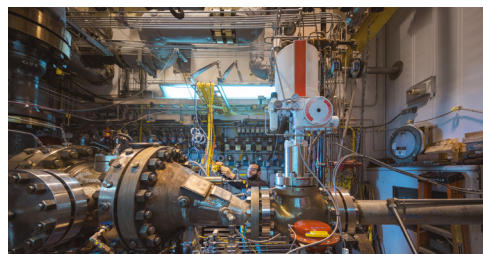
1.5M sf university R&D space (FY2019)

\$58.2M NIH research grants (FY2023)

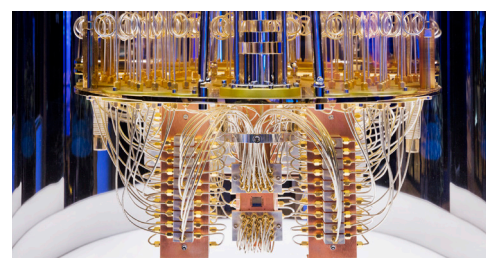
\$19.5M SBIR/STTR grants (FY2022)

\$19.4M DARPA contract obligations (FY2023)

18th most jobs in the physical, engineering, and life sciences R&D services industry: **7,150** (2022)



GE



IBM Quantum System One at RPI



UAlbany XCite Lab



EUV work station at Albany NanoTech Complex

TALENT PIPELINE

Advanced STEM degree Institutions: University at Albany, Rensselaer Polytechnic Institute, UAlbany CNSE, Albany Medical College, Clarkson University Capital Region Campus, Excelsior University

- **556** science and engineering PhDs awarded in 2020

Engineering: 218/91

Computer/IT: 179/22

Biological/Biomedical: 38/36

Physical Sciences: 27/36



BUSINESS R&D LABS

Applied BioPhysics, Troy: real-time automated cell-based assays powered by the technology of ECIS

Applied Materials, Albany: materials engineering

Criterion, Saratoga Springs: phase I-IIIb clinical services, including monitoring, statistics, and BA/BE studies

Cummins, Malta: solid-oxide fuel cell testing

Curia, Albany and Rensselaer: pharmaceuticals

Ecovative, Green Island: mycelium materials

GE Aerospace Advanced Research Center (ARC), Niskayuna: aerospace

GE Healthcare Advanced Research Center (ARC), Niskayuna: diagnostic imaging

GE Vernova Advanced Research Center (ARC), Niskayuna: power, wind, electrification

IBM Research, Albany: semiconductors, AI, quantum computing

International Electronic Machines Corporation, Troy: transportation safety and security solutions

Kitware, Clifton Park: open source software

Mohawk Innovative Technology, Colonie: oil-free, high-speed rotating machinery

Momentive Performance Materials, Niskayuna: silicones

Plug Power, Latham: hydrogen fuel cells

Pulmokine, East Greenbush: inhalable pulmonary drugs

Regeneron Pharmaceuticals, Menands and East Greenbush: pharmaceuticals

SABIC, Selkirk: resins

StemCultures, East Greenbush: controlled-release reagents that provide a stable micro-environment for improved cell growth

Symmetrix, Clifton Park: provider of OEM component technology, software tools, and services for CAD/CAE integration

Taconic Biosciences, East Greenbush and Germantown: commercial animal models

Tokyo Electron, Albany: semiconductors

Vascular Vision Pharmaceuticals, Wynantskill: pre-clinical evaluation

INSTITUTIONAL ASSETS

ADVANCED ELECTRONICS

- Center for Advanced Semiconductor Power Electronics Research (CASPER), Albany
- Center for Semiconductor Research, Albany
- Center for Materials, Devices, and Integrated Systems, RPI
- Materials Engineering Technology Accelerator (META) Center, Albany
- TEL Technology Center America, Albany

ENERGY

- Advanced Grid Innovation Laboratory for Energy (AGILE), Albany
- Center for Fuel Cell and Hydrogen Research, RPI
- Center for Future Energy Systems, RPI
- Institute for Energy, the Built Environment, and Smart Systems, RPI
- NYS Center of Excellence in Weather & Climate Analytics, UAlbany
- Renewable Energy Applications Laboratory (REAL) Lab, UAlbany

LIGHTING

- Light and Health Research Center, Icahn School of Medicine
- Lighting Enabling Systems & Applications (LESA), RPI

ARTIFICIAL INTELLIGENCE/QUANTUM/SOFTWARE

- AI Plus Research Institute, UAlbany
- Center for Computational Innovations (CCI), RPI
- Center for Emerging Artificial Intelligence Systems (CEAIS), UAlbany
- IBM AI Hardware Center, Albany
- Institute for Data Exploration and Applications (IDEA), RPI
- New York State Data Center, Albany
- Rensselaer-IBM Artificial Intelligence Research Collaboration (AIRC), RPI
- The Center for Advanced Red Teaming (CART), UAlbany CEHC

LIFE SCIENCES

- Accelerator for Medical and Pharmaceutical Sciences (AMPS), ACPHS
- Cancer Research Center & Center for Functional Genomics, UAlbany Health Sciences Campus
- Center for Biotechnology and Interdisciplinary Studies (CBIS), RPI
- Center for Integrated Sciences (CIS), Skidmore College
- Center of Excellence in RNA Research and Therapeutics, UAlbany and URochester
- Functional and Integrative Tissue Generation Center, UAlbany CNSE
- Integrated Science and Engineering Complex (ISEC), Union College
- Neural Stem Cell Institute, East Greenbush
- NYS DOH Wadsworth Center, Albany
- Regenerative Research Foundation, East Greenbush
- Stack Family Center for Biopharmaceutical Education and Training (CBET), ACPHS
- The RNA Institute, UAlbany



Curia