R&D to Commercialization

in New York’s Capital Region

(Updated April 2022)

OVERVIEW

Cluster: 22,094 jobs (2020)
• Scientific R&D Services: 8,307
• Computer Systems Design & Related Services: 5,883
• Architectural, Engineering, & Related Services: 4,913
• Management, Scientific, & Technical Consulting Services: 2,748
• Specialized Design Services: 243

1 of 51 metros where businesses spend $1B+ annually (2018)
$604.7M university R&D expenditures (FY2020)
1.5M sf university R&D space (FY2019)
$73.6M NIH research grants (FY2021)
$15.5M SBIR/STTR grants (FY2020)
$53.6M DARPA and ARPA-E R&D contract awards (2020)
2nd most jobs among mid-sized metros in the physical, engineering, and life sciences R&D services industry: 6,994 (June 2021)
3,831 university R&D personnel, including 754 principal investigators (2019)
1,400 semiconductor patents listing inventors in 8 counties – more than any state except California (2019)

TALENT PIPELINE

PhD-awarding Institutions: University at Albany, Rensselaer Polytechnic Institute, SUNY Polytechnic Institute, Albany Medical College

• 239 science and engineering PhDs awarded in 2020
• 2.1% adults have a doctorate – highest doctorate attainment rate in NYS
Applied BioPhysics, Troy: real-time automated cell-based assays powered by the technology of ECIS
Applied Materials, Albany: materials engineering
Criterium, Saratoga Springs: phase I-IIIb clinical services, including monitoring, statistics, and BA/BE studies
Curia, Guilderland: pharmaceuticals
Ecovative Design, Green Island: mycelium materials
GE Renewable Energy, Schenectady: renewable energy
GE Research, Niskayuna: biotechnology, nanotechnology, renewable energy
IBM/Samsung, Albany: semiconductors, AI, quantum computing
International Electronic Machines Corporation, Troy: transportation safety and security solutions
Kitware, Clifton Park: open source software
Mechanical Technology Inc., Albany: metrology equipment
Mohawk Innovative Technology, Colonie: oil-free, high-speed rotating machinery
Plug Power, Latham: hydrogen fuel cells
Pulmokine, East Greenbush: inhalable pulmonary drugs
Regeneron Pharmaceuticals, East Greenbush: pharmaceuticals
SABIC, Selkirk: chemicals
SI Group, Niskayuna: chemicals
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 Semiconductor Research, SUNY Poly
- New York State Center of Excellence in Nanoelectronics and Nanotechnology, SUNY Poly
- Materials Engineering Technology Accelerator (META) Center, SUNY Poly
- Center for Materials, Devices, and Integrated Systems, RPI

ENERGY
- Center for Future Energy Systems, RPI
- Center for Fuel Cell and Hydrogen Research, RPI
- Institute for Energy, the Built Environment, and Smart Systems, RPI
- NYS Center of Excellence in Weather & Climate Analytics, UAlbany
- NYS Center of Excellence Nanoelectronics and Nanotechnology, SUNY Poly
- Renewable Energy Applications Laboratory (REAL) Lab, UAlbany

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

SOFTWARE-IT
- IBM AI Hardware Center, SUNY Poly
- New York State Data Center, SUNY Poly
- Center for Computational Innovations (CCI), RPI
- Institute for Data Exploration and Applications (IDEA), RPI
- The Center for Advanced Red Teaming (CART), UAlbany CEHC
- Institute for Artificial Intelligence, Siena College

LIFE SCIENCES
- Biomedical Accelerator and Commercialization Center (BAAC), Albany
- Neural Stem Cell Institute, East Greenbush
- NYS DOH Wadsworth Center, Albany
- Regenerative Research Foundation, East Greenbush
- Center for Biotechnology and Interdisciplinary Studies (CBIS), RPI
- Stack Family Center for Biopharmaceutical Education and Training (CBET), Albany
- Center for Integrated Sciences (CIS), Skidmore College
- Integrated Science and Engineering Complex (ISEC), Union College
- Cancer Research Center & Center for Functional Genomics, UAlbany Health Sciences Campus

Mechanical Technology Inc., Albany: Metrology Lab