

# LIFE SCIENCES

*in New York's Capital Region*



The heartbeat of New York's life sciences industry is heard loud and strong in the Capital Region. We are not only the "birthplace of innovation" that Thomas Edison established more than a century ago – the region is also home to the legacy of medical equipment manufacturing in "Catheter Valley" during and after World War II. Building on this solid foundation are cutting-edge companies such as **Regeneron Pharmaceuticals, Curia (formerly AMRI), GE Healthcare, Philips Healthcare** and **AngioDynamics**. These companies – and dozens more – benefit from a vast talent pipeline and R&D infrastructure, including **SUNY Polytechnic Institute, the University at Albany, Albany College of Pharmacy and Health Sciences (ACPHS)** and **Rensselaer Polytechnic Institute (RPI)**. This unique mix of R&D and manufacturing capabilities makes the Capital Region a bench-to-bedside model.



Regeneron Pharmaceuticals

## R&D (2020)

- **\$81.5M** in annual NIH awards
- **\$137.2M** university Life Sciences R&D expenditures
- **446,000 sf** in university R&D space for Biological & Biomedical Sciences

## ESTABLISHMENTS (2020)

- **112** Life Sciences Cluster payroll establishments
- **25** FDA-registered medical device establishments
  - ▶ **1,300+** registered devices
- **40** FDA-registered drug establishments
  - ▶ **6** Active Pharmaceutical Ingredient Manufacturers – most in NYS



Albany College of Pharmacy and Health Sciences (ACPHS)

## EMPLOYMENT & HIGHLIGHTS (2020)

- **6,728** jobs in Life Sciences Cluster - up 54% over 5 years
  - ▶ **3,459** jobs in related Pharmaceutical and Medicine Manufacturing
    - *Regeneron builds an \$800M, 2<sup>nd</sup> campus in East Greenbush*
    - *Regeneron manufactures COVID-19 antibody cocktail at East Greenbush facility*
  - ▶ **1,765** jobs in in Medical Equipment and Supplies Manufacturing
    - *Warren County has highest concentration of Medical Equipment & Supplies Manufacturing jobs in US*
- **6,244** jobs in related R&D in the Physical, Engineering, and Life Sciences industry
  - ▶ **14<sup>th</sup>** most Scientific R&D Services jobs among U.S. metro areas
  - ▶ *NYS DOH Wadsworth Center developed a non-invasive saliva test for COVID-19*

## TALENT PIPELINE (2020)

- **10** institutions awarding degrees in Biological and Biomedical Sciences
  - ▶ **648** degrees annually awarded
  - ▶ RPI launched new Life Science Entrepreneurship MBA in 2021
  - ▶ ACPHS opens Stack Family Center for Biopharmaceutical Education and Training (CBET)
- **17** institutions awarding degrees in Health Professions and Related Programs
  - ▶ **1,892** degrees annually awarded

## MAJOR R&D ASSETS

- **Albany College of Pharmacy and Health Sciences**, Albany
- **Albany Medical Center/College**, Albany
- **Biomedical Accelerator and Commercialization Center (BAAC)**, Albany
- **GE Global Research**, Niskayuna
- **Neural Stem Cell Institute**, East Greenbush
- **NYS DOH Wadsworth Center**, Albany
- **Regenerative Research Foundation**, East Greenbush

- **Rensselaer Polytechnic Institute Center for Biotechnology and Interdisciplinary Studies (CBIS)**, Troy
- **Skidmore College Center for Integrated Sciences (CIS)**, Saratoga Springs
- **Stack Family Center for Biopharmaceutical Education and Training (CBET)**, Albany
- **SUNY Polytechnic Institute**, Albany
- **Union College Integrated Science and Engineering Complex (ISEC)**, Schenectady
- **University at Albany Health Sciences Campus**, East Greenbush

## LIFE SCIENCES CLUSTER COMPANIES (\*FDA-registered establishments)

### DRUG MANUFACTURER

- **AgroChem\***, Saratoga Springs: Chemicals and formulated products for farm animal hygiene (API MFG)
- **Ames Goldsmith\***, Glens Falls: Silver nitrate (API MFG)
- **Biomed Innova\***, Albany: cGMP/GLP laboratory/CRO for product formulation, chemistry testing
- **GlaxoSmithKline\***, East Durham: Toothpaste
- **Messer\***, Feura Bush: Pharmaceutical-grade gases (API MFG)
- **N-Molecular\***, Colonie: Positron emission tomography drug production
- **Pharmaceutic Labs\***, Albany, Outsourcing animal drug compounding
- **Purina Animal Nutrition\***, Guilderland Center: Medicated animal feed
- **Regeneron Pharmaceuticals\***, East Greenbush: Pharmaceuticals (API MFG)
- **Surpass Chemical Company\***, Albany: Sodium hypochlorite
- **Westway Feed Products\***, Albany: Medicated animal feed
- **Curia\***, Guilderland, Rensselaer: Pharmaceuticals (API)
- **PETNET Solutions\***, Albany: Tomography drug production

### R&D/CLINICAL TESTING SUPPORT

- **Applied BioPhysics**, Troy: Real-time automated cell-based assays powered by the technology of ECIS
- **Cady Research Group**, Albany: Nanotechnology for biosensors & bioinspired electronics
- **ConSynance Therapeutics**, East Greenbush: Clinical-stage rare CNS disease (Prader-Willi Syndrome)
- **Criterion**, Saratoga Springs: phase I-IIIb clinical services, including monitoring, statistics, and BA/BE studies
- **Integrated Tissue Dynamics (INTiDYN)**, East Greenbush: Complex tissue evaluations
- **Pulmokine**, East Greenbush: Inhalable pulmonary drugs
- **Stem Cultures**, East Greenbush, controlled-release reagents that provide a stable micro-environment for improved cell growth
- **sxRNA Technologies**, Albany: Novel RNA regulatory mechanisms for biomedical applications
- **Symbiotica**, Schenectady: Natural product antifungal, selvamycin, for drug-resistant fungal infections
- **Taconic Biosciences**, Albany, Germantown: Commercial animal model vendor
- **Vascular Vision Pharmaceuticals**, Wynantskill: Pre-clinical evaluation for drug development
- **VEC Technologies**, East Greenbush: Cultured vascular endothelial cells and cell culture products

### MEDICAL DEVICE MANUFACTURER

- **Accumetra\***, Clifton Park: QIBA lung nodule profile calculator
- **American Bio Medica Corp**, Kinderhook: Immunoassay test kits
- **AngioDynamics\***, Glens Falls, Queensbury, Latham: Minimally invasive medical devices
- **BD BARD\***, Queensbury: Catheters and ports
- **Delcath Systems\***, Queensbury: Chemotherapy systems
- **Extreme Molding\***, Watervliet: Food-grade silicone molding & medical silicone injection molding
- **GE Healthcare**, East Greenbush: Digital X-Ray detectors
- **Image Owl\***, Greenwich: Cloud-based solutions for diagnostic medical imaging and radiotherapy quality assurance
- **Integrated Medical Technologies\***, Troy: Caps for vials, pharmaceutical bottles and test tubes
- **Medline Industries\***, Glens Falls: Minimally invasive medical devices
- **Medtek Skin Care\***, Hudson Falls: UV dermatological lights
- **Molded Devices Inc. (MDI)**, South Glens Falls: Balloons, catheters, cuffs, single-use medical devices
- **Next Advance**, Troy: develops instruments for molecular biologists, including tissue homogenizers and blot processors
- **Phantom Laboratory\***, Greenwich: High-precision phantoms for medical imaging and radiation therapy
- **Philips Healthcare**, Latham: MRI magnets
- **Praxis Powder Technology\***, Queensbury: Titanium implantable devices
- **Precision Valve & Automation\***, Halfmoon: Emergency ventilator
- **Revivo Medical**, Loudonville: Spinal fusion medical device
- **Serta Simmons Bedding\***, West Coxsackie: Hospital beds
- **Sterigenics\***, Queensbury: Medical sterilization
- **SupreMEtric**, Albany: Raman Hyperspectroscopy for early-stage Alzheimer's detection
- **Ultradian Diagnostics**, East Greenbush: Wearable biosensors
- **Vyv**, East Greenbush: LED disinfectant lighting



AngioDynamics

### IMAGING AND SOFTWARE

- **Intelligent Medicine**, Schenectady: Modeling and simulation solutions for emerging medical procedure
- **Glauconix**, Albany: Ophthalmic ex-vivo dynamic 3D human tissue models
- **IPACES**, Ballston Lake: Neuro-exer game for Alzheimer's and related dementia
- **ITrackNeuro**, Albany: AI hardware and software solutions for MRI and angiography analysis
- **Kitware**, Clifton Park: Open-source medical visualization and data
- **Virtual Phantoms**, Albany: Radiation dose modeling
- **YDS Medicine**, Albany: AI-powered drug design
- **ZephyRx**, Albany: Pulmonary function testing using video games and virtual reality



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