The Capital Region's Advanced Materials Cluster includes a vast array of advanced chemical and materials manufacturers that supply the aerospace, defense, automotive, electronics and medical industries. Major employers include Momentive Performance Materials, SI Group, SABIC and Ames Goldsmith. The Albany metro area is one of fewer than 50 metros nationwide where the private sector spends more than $1 billion on R&D, including research at corporate materials and chemical labs run by GE Research, SI Group, SABIC, and Polyset.

**R&D ASSETS**

- **University R&D**
  - $20.5M university R&D in physical sciences
  - 95,000 sf physical sciences university R&D spaces
- **Contract Research Labs**
  - Greenfield Manufacturing (chemical manufacturing)
  - GE Global Research (materials research)
- **Research Centers**
  - Rensselaer Polytechnic Institute
    - Rensselaer Exploratory Center for Cheminformatics Research
    - New York State Center for Polymer Synthesis
    - Baruch '60 Center for Biochemical Solar Energy Research
    - Center for Materials, Devices, and Integrated Systems
    - Center for Flow Physics and Control
  - Albany Nanotech Complex
    - Materials Engineering Technology Center (META Center)
    - New York State Center for Advanced Technology in Nanomaterials and Nanoelectronics (CATN2)
    - TEL Technology Center, America R&D Center (TEL TCA)
  - University at Albany
    - Center for Biochemistry and Biophysics
  - Watervliet Arsenal
    - Benet Laboratories
    - Advanced Composites Launcher Laboratory

**WORKFORCE (2020)**

9,673 JOBS
(excludes bio, pharma, semiconductor, R&D)

**TALENT PIPELINE (2020)**

3,901 STEM Degree Awards

- 58 Industrial Engineering
- 123 Chemical Engineers
- 1,410 Engineering & Engineering Technologies Degree Awards
- 279 Mechanical Engineering
- 120 Electrical Electronics and Communications Engineering
- 41 Materials Engineers
MAJOR ADVANCED MATERIALS MANUFACTURERS

1. Momentive Performance Materials, Waterford: silicones for electronics
2. SI Group, Niskayuna/Rotterdam: intermediate chemicals for adhesives, rubber, fuel and lubricants
3. SABIC, Selkirk: Ultem and Noryl resins

ABRASIVES

5. Flex Trim, Queensbury: abrasive foams, abrasive strips, belts, strips and discs
7. Saint-Gobain Abrasives, Watervliet: industrial-grade sandpaper

ADHESIVES

8. YINCAE Advanced Materials, Colonie: coatings, adhesives and encapsulants used in the microchip and optoelectronics

AEROSPACE

10. Cosmo Optics, Albany: precision optical components
11. Duxommun, Coxsackie: large complex contoured aerostructures and precision components
12. DK Machine, Fort Edward: valve balls for the aerospace
13. Electronic Coating Technologies, Clifton Park: contract manufacturing services for aerospace. Conformal coating, potting, encapsulation, low pressure molding, packing and bonding services
14. Mechanical Technology Inc., Albany: metrology equipment for aerospace
15. Crafttech Industries, Hudson: precision-molded and machined standard and custom fasteners and components in more than 200 plastic materials
16. Gurley Precision Instruments, Troy: high-performance optical encoders for aerospace
17. United Aircraft Technologies, Troy: interconnecting Clamp (ICC) for aerospace wire harness management
18. P1 Industries, Schenectady: supplier of specialized custom parts for the aerospace and defense industries
19. Pacamour Kubar Bearings, Troy: DFARS-approved miniature and instrument ball bearings, and FAA TSO Aircraft Bearings
20. Precision Valve and Automation, Halfmoon: conformal coating systems, fluid dispensing solutions and precision valve technology for aerospace
21. Vyv Tech, East Greenbush: antimicrobial LEDs for airliners
22. Wright Electric, Malta: electric aerospace for commercial jets

CERAMICS

23. Blasch Precision Ceramics, Menands: net shape ceramic products and refractory components
24. Norlite Lightweight Aggregate, Cohoes: lightweight, porous ceramic material
25. Lithoz America, Troy: additive manufacturing (3D-printing) of high-performance ceramics

COMPOSITES

26. Trelleborg (Automated Dynamics), Niskayuna: carbon fiber and thermoplastic composite parts
27. Vistex Composites, Schenectady: thermoset and thermoplastic composites
28. Technical Fibre Products, Schenectady: multi-material nonwoven veils for electromagnetic interference (EMI) shielding
29. Composite Technology & Infrastructure, Ravena: composite services, epoxy flooring and resurfacing, industrial coating, custom solutions, and more
30. Insitu Composites, Troy: continuous fiber composites for 3D printing

NEXT-GEN MATERIALS

31. Imitec, Schenectady: polyimides and polyimides
32. Free Form Fibers, Saratoga Springs: high value, inorganic, high purity ceramic fibers and materials via laser-driven chemical vapor deposition (LCVD)
33. Ecovative Designs, Green Island: mycelium materials

OTHER

34. Ames Goldsmith Corp, Glens Falls: Silver refining
35. AgroChem, Saratoga Springs: Agricultural chemicals

RUBBER/RESINS

36. Tire Conversion Technologies, Latham: compression-molded, recycled rubber products
37. Polyset, Mechanicville: catatonic catalysts, epoxy siloxane resins and electrical/optical coatings

SILICONES

38. Extreme Molding, Watervliet: plastic injection and silicone molded products
39. Specialty Silicone Products, Ballston Spa: custom silicone compounds, silicone lubricating greases, conductive silicone elastomers, and thin silicone membranes