



Trinity Consultants is a leading global environmental consulting firm that brings 50 years of experience providing services and solutions in the EHS Regulatory Compliance, Built Environment, Life Sciences, and Water & Ecology markets. Trinity has the technical expertise and acute industry knowledge to provide optimal solutions to highly complex pharmaceutical development, process, safety, and facility design challenges.

Trinity Consultants Life Sciences provides design and engineering in all project phases, including pre-conceptual design, conceptual design, basic design, and detailed design. Our services include planning, feasibility assessment, schedule, and cost for different design phases.

## Process Engineering Services

- Facility Programming
- Design Drawings (PFD, P&ID, GA) & Schematics
- Equipment Design, Sizing, Specification, and Procurement
- Process Skid Design
- Instrumentation Selection/Datasheets
- Scale-up & Scale-down
- Heat & Material Balances
- Thermal/Fluid Dynamic
- Fluid/Flow Simulation (CFD analysis)
- Process Simulation/Modeling (SuperPro, SchedulePro)
- Process Analytical Technology
- Hydrodynamics Characteristics
- Statistical Analysis (matlab, jmp)

## Professional Registrations

Our design teams have subject matter experts who hold professional licenses and are members of multiple industry professional networks. We have also provided technical papers, articles, and presentations with innovative ideas and solutions.

### Key credentials include:

- Professional engineering licenses (chemical & mechanical)
- Leadership in ASME-BPE and PDA
- Lean six sigma certified black belts

## Areas of Expertise

Our design teams include talented and experienced process engineers with depth and breadth of experience and knowledge in different processes and various products from small-scale to full-scale cGMP manufacturing.

- Upstream, Cell Culture, and Fermentation
- Downstream Separation Processes (chromatography, centrifugation and TFF)
- Solution Prep Systems (buffer/media fixed & portable vessels)
- Sterilizers & Parts Washers
- Formulation & Fill-Finish
- Single-Use Technologies
- Clean and Plant Utilities
- CIP/SIP
- HVAC

Trinity Consultants Life Sciences has expertise in the commercialization of biopharmaceutical processes. We provide a wide array of engineering services and project management supporting the entire product life cycle. Our engineers bring many years of experience along with a complete understanding of industry regulations and requirements. We provide project engineering and design, automation, commissioning, and compliance-related services for clients across the U.S. and in Canada, Europe, and Asia.

### CONTACT OUR TEAM!

For more information about how we can help your organization, please contact us.

#### Trinity Consultants | Life Sciences

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