

# **S. TK**

## **(SENIOR CONSULTANT)**

### **Introduction & Background**

- An accomplished Domain Consultant and Industry Advisor with over 20 years of experience in the chemical engineering field.
- Proficient in dynamic simulation and steady-state modeling for process design and troubleshooting, specializes in process simulation, digital transformation for chemical R&D, and the development and scale-up of chemical processes.
- Has played key roles in leading multidisciplinary teams, driving digital strategy, and implementing advanced process solutions across the specialty chemicals, pharmaceuticals, and biochemical industries.
- His expertise is complemented by a strong educational foundation in chemical engineering and numerous professional certifications in process modeling, project management, and data science.

### **Functional Tool Expertise:**

Aspen HYSYS, Aspen Plus, Chemcad, MATLAB, Digital Twin Solutions & Data Science Tools

### **Experience summary**

#### **Tata Consultancy Services Limited (Domain Consultant)**

- Leading digital transformation initiatives for chemical R&D, providing functional consulting for specialty chemicals, pharma APIs, and agrochemicals.
- Played a crucial role in developing digital strategies, including connected lab solutions, to drive innovation and business outcomes.

#### **SABIC - STC Bangalore (Senior Scientist in Technology & Innovation)**

- Worked on sustainability projects such as the depolymerization of RPET to PBT. Led the development of new product technologies and optimized existing processes, contributing to strategic insights and commercial viability. Conducted extensive process simulation and scale-up activities using Aspen tools.

#### **Praxair India Pvt Ltd (Process Development Specialist II )**

- Focused on the development of new gas applications in the pharmaceutical and biopharmaceutical sectors.
- Conducted techno-commercial analysis, scouted for new technology opportunities, and ensured compliance with FDA and CGMP guidelines.

#### **SRF Limited (Manager (Technology Transfer & Process Design))**

- Led the conceptual design and downstream processing of agro-specialties and pharmaceutical intermediates, transforming lab-scale processes to pilot and commercial scales.

### **Project Experience:**

- Depolymerization of RPET to PBT
- Ethyl Levulinate Production from Dextrose
- Poly(phenylene) Ether Manufacturing Process
- Scale-Up of PC Powder Crystallization for SLS Laser Sintering
- Technology Transfer of Fluoro-Specialty Chemicals
- New Gas Applications in Pharmaceutical Industry

### Technical Expertise:

- **Process Simulation:** Proficient in simulation tools like Aspen Plus, Aspen HYSYS, and Chemcad for process modeling, flow sheeting, and optimization.
- **Digital Transformation:** Expertise in digital strategy development and implementation for chemical R&D, including digital twin solutions and connected lab strategies.
- **Process Development & Scale-Up:** Experienced in developing and scaling up processes from lab to commercial scale, including reaction system design, optimization, and pilot plant trials.
- **Specialty Chemicals & Advanced Materials:** Skilled in process development for specialty chemicals, polycarbonates, depolymerization processes, and polymer manufacturing.
- **Pharmaceutical & Biopharmaceutical Applications:** Expertise in process development for pharmaceutical intermediates, API, and compliance with FDA and CGMP guidelines.

### Professional Certifications:

- **PMP Certification Course:** Completed 35 PDU's covering all 9 project management knowledge areas.
- **AspenTech Certificates:**
  - Physical Properties for Process Engineers
  - Aspen Plus: Process Modeling
- **HAZOP Training:** Completed training program on Hazard and Operability Study (HAZOP) at SIGMA, HSE .
- **Data Science Prodegree:** Certification in Data Science from IMARTICUS in collaboration with GENPACT
- **Executive Programme in Strategic Management:** Completed at IIM Lucknow

### Education:

1. Master of Technology in Chemical Engineering
2. Bachelor of Engineering in Chemical Engineering