

Career Summary:

An experienced technical management professional with a broad portfolio of qualifications earned during the course of over 40 years of progressive responsibilities and achievements in the field of engineering and management, in the United States, Europe, South America, Asia, and the Middle East. Areas of expertise include Twin Screw Compounding and Thermoplastic Pultrusion (Long Fiber Reinforced Thermoplastics materials). Demonstrated commitments to developing multi-disciplined teams focused on maximizing profitability and growth. Knowledge and experience in the following:

**Business Management:**

After starting work in thermoplastics industry as Shift Supervisor, to Process Engineer and all the way up to Technical Director, I realized the need of middle level consulting services providers - in compounding industry – that were affordable practical and most importantly could work with the employees of the company at all levels, from production floor to senior management. With this idea in mind, I laid the foundation of Oak Tree Engineering as one-man operation in 2002. Starting as a personal, one-on-one consultant, I found success in the service philosophy I coined “Embedded Consulting.” As an embedded consultant, I could provide customers with the cost savings of out-sourcing engineering work, while embedding my experience, expertise and resources into projects as if I were part of the company that hired me. The business grew while keeping the core philosophies of project intimacy and personalized service intact. Now that Oak Tree Engineering has matured, the combined abilities of our diverse and talented team expanded to provide total turn-key solutions to customers around the globe interested in the implementation of thermoplastics compounding lines or greenfield construction of entire compounding facilities on turnkey basis. Today Oak Tree Engineering has well established offices in two countries and plans to expand its operations to Middle East and Far East regions. If embedded consulting was the sprouted seed of an oak tree, our currently established set of core competencies are the overarching branches that grew from the trunk of reliable, customer-centric services. These competencies include, but are not limited to, Installation and Commissioning of Thermoplastic Compounding and Masterbatch Manufacturing Plants, Equipment Specialization, Custom Workflow Design, 3D Modeling & BIM (Building Information Modeling), Project Management, and Industry Safety & Training. For a breakdown of our core competencies and how they are procured, please refer to our website www.oaktreelle.com.

Compounding and Pultrusion:

- Feasibility Studies & Planning for ‘Thermoplastics Plastics Compounding Plants’.
- Engineering, Design, Construction Supervision & Project Management of thermoplastics compounding plants.
- Product and process development on lab and pilot lines, and scale-up to production lines.
- Management of “Technical Assistance Requests” from Sales, Marketing, and Production departments.
- Responsible for the management of company (Celstran Business Line) “Intellectual Property” and all patent issues.
- Fiberglass selection and optimization for long fiber reinforced thermoplastics materials, in partnership with the suppliers.
- Carbon fiber selection and process development for pultrusion of carbon fiber reinforced products.
- Continues improvement in the process for producing long fiber reinforced Polypropylene materials to improve fiber wet-out that in turn improves physical properties and surface quality of molded parts.
- Management of Quality Function at Ticona Celstran, on interim basis, involving both internal and external customers.
- Interaction with customers from a technical perspective.
- Supervision of major engineering projects for Compounding and Pultrusion lines.
- Installation and commissioning of new plastic compounding lines (including W&P ZSK 90’s).
- On-line process support to manufacturing in solving processing problems (seven days around the clock operation).
- Single screw extrusion - screw design and process optimization.
- Twin-screw design for incorporating additives, colors and reinforcements in engineering thermoplastics.
- Troubleshooting and operation of Loss-in- Weight feeders, Weigh Blenders, Pelletizers, Dryers, etc.
- Hands-on supervision of compounding operation on twin screw extruder lines for production of alloys and reinforced thermoplastics.
- Supervision of color master batches production on twin-screw lines, including lab work and color matches.
- Extensive work in optimizing carbon dispersion in carbon black concentrates produced on twin-screw machines.

- Coordination of compounding trials with customers (Dow, Allied Signal, Monsanto, GE, etc.) from inception to product commercialization, including raw material planning and finished goods shipping.
- Hands-on supervision of production line set-ups, including screw design and installation, for assigned compounding runs.
- Training and coaching machine operators, production supervisors and technicians.
- Company representation in industry shows and seminars, as well as in the community.

Electrical Engineering:

- General planning and engineering studies, including cost-reliability analysis for major electrical transmission line projects.
- Studies involving earthing, lightning protection, corona, line inductance, vibrations etc. in designing high voltage transmission lines.
- Electrical supply layouts for petroleum test flow stations.
- Preparation of equipment specifications.
- Preparation of list of materials.
- Selection of hardware and accessories for heavy electrical construction.
- Sag/tension calculations tower spotting, and selection of special structures for specific locations.

Field Experience (HV Transmission lines):

- Coordination between design and field offices.
- Transmission lines route selection.
- Aerial reconnaissance (helicopter and fixed wing)
- Soil testing and foundation checking in field.
- Supervision of stringing operation.
- Field checking of special crossing and problem locations.
- Inspection and checking of substation locations and tie lines.
- Liaison with contractors, arrangements for shutdowns and general construction administration.

Accomplishments:

- Managed the installation of multiple new, green-field and brown-field compounding plants in USA, Mexico and India for multinational corporations as well as one site operations.
- Upgraded and optimized single screw, twin screw and Banbury compounding lines for major compounders and processors in USA.
- Initiated the Productivity & Quality Improvement Program and facilitated Multi-Disciplined Task Force Teams, achieving 100 % improvement in productivity over one-year period at Ticona Celstran, Inc.
- Developed and implemented improved, enhanced, and innovative methods of manufacturing Long Fiber Reinforced Thermoplastics materials, leading the path to company's success as the leader in the industry.
- Established process Standard Operating Conditions for Pultrusion lines, significantly improving product quality consistency and increasing average line speed by over 50 % across the product line.
- Improved the process for producing a problem ridden long fiberglass reinforced Nylon product, achieving 100% quality rating from the customer.
- Supervised and counseled lead engineers in planning, construction and start-up of new manufacturing facility for Celstran in Winona, MN, resulting in timely completion and commissioning.
- Coordinated transfer and proliferation of technology to and from licensees in Germany and Japan.
- Supervised and directed research activities in the areas of fiber-matrix interface, Coupling agents and stabilizers, Thermoplastic alloys and blends, etc.
- Managed Alloy Polymer's New Jersey plant as acting Plant Manager, for extended periods of time.
- Served on advisory board (for composites education) of the local technical college, for four years.

Employment:

Oak Tree Engineering, LLC¹
President & CEO

Monroe, MI
2002 to Present

¹ Founder and Managing Director of 'OT Engineering Pvt. Ltd.', Pune India since April 2011

BASF Corporation Engineering Plastics Compounding Technical Manager	Wyandotte, MI 2000 to 2002
Ticona Celstran, Inc. (formerly, Polymer Composites, Inc., Hoechst Celanese Corporation) Manger Process Technology & Engineering Process Development Team Leader (Global) Technical Director	Winona, MN 1990 to 2001
Alloy Polymer, Inc. Manager, Process Technology Production Superintendent Shift Supervisor	Richmond, VA 1982 to 1990
Jantesa S.A. (Bechtel) Electrical Engineer	Caracas, Venezuela 1980 to 1983
Gibbs & Hill-Iran Senior Design Engineer	Tehran, Iran 1975 to 1979
Delhi Electric Supply Undertaking Electrical Engineer Trainee	Delhi, India 1972 to 1975

Education and Training:

IIT Roorkee (University of Roorkee) B.E. (Electrical)	Roorkee, UP, India 1971
University of St. Thomas MBA Credit Courses	Minneapolis, MN 1992
Hoechst Celanese Corporation Management Leadership Program	Summit, NJ 1993

- Have attended numerous seminars and certificate courses related to the fields of Engineering, Plastics Manufacturing, Quality Management & Control, ISO 9000 Documentation and Plant Management etc.

Patents:

- Co-inventor of a unique compounding process to incorporate additives in long fiber reinforced thermoplastic materials. (US Patent #6,090,319)
- During the course of eleven years with Ticona, led the engineering team in several innovations, in the field of Thermoplastic Pultrusion Processing, that have dramatically improved the process, quality and productivity of the system. Most of these innovations have been kept as trade secrets.

Computer Skills and Other Interests:

Well versed in word processing, database and spread sheet applications.
Special interest in developing presentations utilizing computer graphics and multi-media accessories.
Technical Writing.
Public Speaking /Motivational Speaking

Memberships:

Senior member - Society of Manufacturing Engineers.
Associate Member -Society of Plastics Engineer
Member Advisory Committee, Monroe Community College