

SHAWN V MONTGOMERY

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CAREER PROFILE

Accomplished, innovative and unflappable leader that excels in dynamic demanding environments while remaining pragmatic with a results-oriented focus on company goals. Able to ensure aggressive progress to meet ambitious goals from diverse stakeholders while minimizing risk. More than 25 years of experience in domestic and international product/process development, scale up, manufacturing and general operations in the Chemical, Energy Storage, Filtration, HVAC and Recycling industries. High-tech startup, turn-around and mature company experience.

- Communication
- Business Planning
- Multinational Operations
- R&D and Engineering
- Global Sourcing
- Conflict Resolution
- Product Development/Rollout
- Cost Reduction and Control
- Contract Manufacturing
- Change Management
- Scale-up
- Continuous Improvement

PROFESSIONAL EXPERIENCE AND ACHIEVEMENTS

Nth Cycle, INC., Beverly MA., Technology and manufacturing company for critical metals recycling. 2021-03/2022

Vice President of Operations

Referred by a 7AC Board Member and Hired by the CEO to finish the development of and subsequently scale-up & commercialize their proprietary Electro-Extraction technology in the form of an internal pilot and external production facility.

Complete core technology and supporting unit process development, secure new lab and pilot space, buildout internal pilot and buildout first commercial wholly owned and wholly operated production facility at the customer's location based on the company's Spoke Model. Create and implement required Engineering, EHS and Commercialization systems. Utilize external engineering firms for plant design and build out so internal resources can focus on development of core technology. Oversight responsibilities include R&D, Engineering, Manufacturing, Supply Chain, EHS, IT and Facilities.

Technical Areas: Mechanical Design; Chemistry: Material Dissolution, Metals Precipitation; Chemical Engineering: Reactor, Tank, Filtration, Drying

Key Achievements:

- Corporate: Operations representative for successful Seed Funding and Series A due diligence from investors
- Development, Commercialization and Manufacturing
 - 10X process scale increase designed, built and proven in 6 months
 - 100x process scale internal pilot plant in process
 - Potential failure mode completely designed out by changing internal liquid flows
 - External engineering company for full plant buildouts secured, full scale design work in process
 - FEA and CFD used to shorten design cycles and decrease iterations/prototype builds by 50%
- Organizational
 - Defined new Operations organizational structure to support continued development while supporting plant buildouts and startup/commissioning via use of a matrixed Tiger Team
 - Two year hiring plans created to support Engineering, Development and Manufacturing targeting minimizing cost and resources while meeting the aggressive Commercialization Timeline
- Facilities
 - 12,000 SQFT Office, Lab and Pilot space secured
 - Lease secured and negotiated at area low price with buildout split with the landlord
 - Lab and office move from business incubator to newly leased space; engineering up and running experiments again in 1.5 weeks
 - 3-Phase power installed on schedule for pilot installation
- General Operations/Systems Created
 - Custom APQP based Commercialization System broken out by scale and unit process to accelerate team learning and adoption created and implemented
 - OSHA compliant EHS program & Committee in process; State compliant COVID-19 process and procedures for Social Distancing, Hygiene, Cleaning & Disinfecting and Staffing & Operations created and implemented; Industrial waste and water permitting received
 - Engineering Change Control System, Committee and template document creation and implementation in process
 - Companywide implementation of Microsoft 365

Chief Operations Officer**Successful company sale to Emerson Climate Technologies Nov 2020!**

Hired by the CEO to accelerate the development and commercialization cycles of their patented dehumidification technology as well as oversight of General Operations. Secondary focus on Technical Organization buildout, Board of Directors reporting and assistance in Fund Raising.

Leverage established Emerson resources and suppliers, internal staff and external subject matter experts for the development and subsequent first commercial product launch. Determine internal versus external manufacturing split. Source, develop and negotiate contract manufacturing. Oversight responsibilities include R&D, Engineering, Manufacturing, Supply Chain, EHS, HR, IP, IT and General Administrative.

Technical Areas: Mechanical Design; Chemical Compatibilities; Plastics: Extrusion, Thermoforming, Heat Sealing, Injection Molding, Laser Welding

Key Achievements:

- Corporate
 - Operations representative during due diligence towards a successful company sale; Created data room for due diligence processes
 - Operations and technical representative in new investor meetings and preparation of associated presentation materials
 - Operations representative for Board of Directors meetings
- Development, Commercialization and Manufacturing
 - Mostly blank slate to core technology prototype in 13 months; full system with 10% better than modeled performance in +9 months
 - Expedited development cycle 50% by working with strategic investor Emerson and external plastics subject matter experts
 - Material choices optimized to meet performance, manufacturability (established, well known plastics processing) and cost requirements
 - Design created that focuses on DFMA, durability and reliability and cost
 - Developed six new to company plastics processes across multiple contract manufacturers
- Organizational
 - Aligned staff number, staff expertise and company organizational structure with development needs and cash-burn plan
 - Created manufacturing and hiring plans to support different funding scenarios; cash conservative to aggressive growth
- Finance
 - Multi-year COGs and Capital Expenditure budget creation and management; External, Internal and Mix Product Cost Models created
- General Operations/Systems Created
 - OSHA: Performed OSHA audit remediations, permitting updated, safety programs created, and employees trained third week with company
 - Safety Program updated for COVID-19 compliance; Working from home program, procedure, and tools created and implemented in 1 week
 - Founded EHS, Engineering Change, IP and IT committees; Currently chair all four
 - Product Stage Gate, Documentation Systems and Engineering Change systems created and implemented; QMS in process
 - Companywide implementation of Microsoft Business Basic and Standard; Basecamp and Sharepoint; and MS Project

General Manager and Chief Operations Officer, Board Director

Note: Company closed by South African majority shareholder late 2015

Recruited by the Counsel to the Board to pivot the company from an R&D focus to one poised for manufacturing and commercialization of its proprietary filtration media, filter cartridges and filtration systems. Secondary focus to help secure bridge financing and provide support to the Board for fund raising.

Review and address all deficiencies of the Senior Management team and associated systems in each functional area. Bring manufacturing to the point of being able to produce a stable, quality product with the correct metrics in place. Work with external counsel for: labor litigation; EPA Pre-Manufacturing Notification and federal/local compliance; EB5 compliance; and IP strategy, portfolio maintenance and augmentation.

Technical Areas: Aqueous Casting: Filtration Media; General Processing: Mixing, Blending; Carbon Nano-tube: Handling, Use and Registration

Key Achievements:

- Revenue:
 - Largest customer contract in company's history received of \$15M; Potential customer pipeline increased 4-6X
 - First fiscal year revenue target met; Second fiscal year target on track at time of company closure
- Bridge financing and Fund raising:
 - \$250K bridge financing secured from city; Two strategic investors brought to the Board for negotiations Data Room created
- Company structure
 - Mission and Vision statements created; New Org. structure with gaps addressed via clarification of roles, additional hiring and replacements
- Systems implemented
 - Engineering: Automotive APQP for future ISO9001/TS16949 certification; Basecamp, MS Project for project teamwork and tracking
 - BusDev/Marketing: Salesforce CRM for implemented; Water and Fuel Unit Business Plans and associated Marketing Plans created
 - Finance: 5-year, 3-level model with Optimistic, Realistic and Pessimistic scenarios created and approved by board
 - HR:
 - Implemented monthly company meetings, employee round table (focus group) and brown bag lunches (internal seminar)
 - Job descriptions, salary grades and employee review systems; MBO incentive plan created for the Business Development team
 - EHS: Achieved compliance with all local and federal regulations; FIFRA compliance for marketing materials and website
 - Manufacturing and Quality
 - QMS rectification in process at time of company closure; Available ERP systems compared and reviewed
 - Manufacturing Plan with Cap-Ex budget and staffing requirements created; Contract manufacturers chosen/pricing negotiated

Director of Plant Operations

Pilot plant demonstration of scalability and manufacturing documentation preparation for sale of the CAM-7 active cathode material technology; 18650 and pouch-cell coating and cell pilot plant management and supervision

Lead direct and indirect (matrix) teams in the installation, commissioning, and validation of purchased pilot production equipment to demonstrate manufacturability of the proprietary cathode material. Supply manufacturing input towards the business strategy for technology sale. Standardize pilot/sub-pilot cathode powder, electrode, and cell assembly operations to ensure accurate and on-time customer sampling.

Technical Areas: Synthesis: Wet Bench and Solid State; Aqueous Wet Chemical Processing: Mixing, Milling, Spray Drying, Co-Precipitation; Dry Chemical Processing: Blending, Calcination, Milling & Classification

Key Achievements:

- Produced a material equal to or better in performance than current lab material in the first pilot test run
- Created documentation system for the pilot facilities based on TS16949 and APQP standards
- Created project timelines and budgets for company EVP and President
- Led plant tours for all prospective technology buyers
- Raw material qualifications: one binder, one separator qualified with cycle life data; three electrolytes, one anode active material in process
- Determined and solved three cell cycle life problems

Director of Powder Operations

Initial scale up of key company IP, incremental plant expansions and Management of 270 Direct and Indirect personnel: \$40M total Capex

Compile analysis for China versus U.S. manufacturing, perform subsequent technology transfer and lead plant build outs with report out responsibility to the CEO, CFO, CTO, and VP of operations. Lead all operations and engineering activities including cost reductions for the manufacture of A123 proprietary cathode materials. Internal customer interface for program and plant managers and associated staff. Design representative on the internal Engineering Change Board. Initial organizational reporting to the CTO/Founder; subsequent reporting to the Vice President of Operations.

Technical Areas: Synthesis: Wet Bench and Solid State; Aqueous and Solvent Based Wet Chemical Processing: Mixing, Milling, Spray Drying; Dry Chemical Processing: Blending, Calcination, Milling & Classification

Key Achievements:

- Compiled original cost analysis for Asian versus U.S. manufacturing and led subsequent build-outs in China including project timing and budget.
- First plant build-out for A123 completed on schedule and on budget; >10MT/mo. capacity
- Buildup of team including engineers, technicians, and managers
- Developed 5-year cost and capacity plan for manufacturing and raw material sourcing
- Achieved 15% in cost reductions via process improvements, process intensification and raw material second sourcing
- Boosted throughput by 50% on high cap-ex equipment resulting in a \$4M savings
- Introduced a new billing/tracking system for Engineering test requests on production equipment giving the VP of R&D and Operations better visibility into quarterly costs
- Product generation planning
- TSCA registration for two products
- Point person for DOE grant information for active cathode processing; DOE grant awarded
- Assisted in TS16949 certification of plant
- Implemented APQP for Powder Engineering/Manufacturing Area
- Domestic and international sourcing of equipment and raw materials

Other Positions, Consulting & Earlier Career: Details Upon Request

- **Radical Plastics:** Operations, Manufacturing, EHS and Supply Chain Consulting 01/01 – 04/01/2021
- **Nth Cycle:** Engineering, Engineer Mentoring, Manufacturing, Scale-Up & General Operations Consulting 01/01 – 04/31/2021
- **OMG Americas:** Chemist thru Technical Project Manager Full Time position 1995-2004
 - Heterogenous and Homogenous Catalysts & Cathode Material Synthesis; Pilot Plant buildouts

EDUCATION AND TRAINING

Master of Business Administration: TIFFIN UNIVERSITY
MS Chemistry: CLEVELAND STATE UNIVERSITY
BA Chemistry, ACS Certified: OHIO WESLEYAN UNIVERSITY

ISO9001:2000 Internal Auditor
Automotive TS16949 Internal Auditor
Advanced Product Quality Planning (APQP)
3 Provisional Patents in Process