

KUMAR SINGH, Ph.D., MBA

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SENIOR EXECUTIVE – GLOBAL ENGINEERING

Global R&D & Engineering Executive, transforming product innovation into business value, leading elite teams and breakthrough technologies across Fortune 500s and spin-off ventures in energy, aerospace, healthcare, and beyond.

→ **Global Leadership:** Led global R&D strategy and execution for multibillion-dollar portfolios across healthcare, aerospace, and energy sectors. Directed teams of 150+ across the U.S., India, EU, and APAC to spur enterprise innovation, ensure regulatory compliance, and post-separation build-back.

→ **Transformational Execution & Operational Excellence:** Scaled India's R&D hub through COVID, orchestrated global lab footprint changes, and built capacity with strategic CRO partnerships considering scientific relevance and market alignment. Delivered value at speed and scale to propel productivity, accelerate innovation, and restore executional rigor.

→ **Breakthrough Innovation & Commercialization:** Marketed first-of-its-kind technologies that included inaugural Digital Twin for Oil & Gas, world's first hybrid glass-carbon composite fan blade, and first ceramic composite turbine components for aircraft engines. Spurred topline growth, multimillion-dollar savings, and competitive product differentiation.

→ **Meaningful Relationship Building & Collaboration:** Transforms technical insight into business outcomes by forging deep, trusted partnerships with senior stakeholders across supply chain, regulatory, quality, procurement, and commercial teams. A proven connector of science, strategy, and market execution.

→ **Trusted People Leader & Culture Builder:** People-first executive with front-line and executive leadership experience in the US and India. Builds award-winning teams and future-ready leaders. Credited with Great Place to Work certifications by fostering cultures of empowerment, innovation, and global collaboration.

New Product Introduction
Global Team Management
Advanced Product Quality Planning
Lean Manufacturing | Six Sigma
Regulatory Compliance

Research & Development
Design for Manufacturability
Engineering Strategy
Innovation Management
Digital Twin | Industry 4.0

Product Lifecycle Management
Budget & Capital Planning
Strategic Partnerships & Alliances
VP-level Stakeholder Relationships
Patent Development

PROFESSIONAL EXPERIENCE

DA VITA INC. | *Newly independent healthcare company focused on vital organ therapies.*

SENIOR DIRECTOR OF SCIENCES | Jacksonville, FL (2.2025 – Present)

Head global sciences team enabling \$4B+ renal care portfolio spanning drugs and devices. Lead 150+ scientists worldwide (20% PhDs), with 7 direct reports across India, Europe, and the U.S. Provide strategic and technical oversight for sterility, microbiology, analytical chemistry, biocompatibility, toxicology, E&L, and materials compliance.

- **Orchestrated global transition**, closing U.S. and European R&D labs responsible for 70% of legacy work and shifting operations to India. Built full-scale lab to ensure continuity, resilience, and long-term cost efficiency.
- **Restored innovation pipeline**, shaping 2 global development programs to modernize products for evolving regulatory landscapes. Injected new mindset of scientific relevance and market positioning.
- **Acted as key transformation driver**, embedding long-range product development strategies while ensuring business continuity during separation from Baxter systems, tools, and dependencies.
- **Expanded global funding for R&D**, indicating strategic ROI through CRO utilization and exposing resources for advanced testing and product innovation.

BAXTIN INTERNATIONAL | *Multinational healthcare focusing on products to treat chronic and acute medical conditions.*

DIRECTOR, MATERIALS, EXTRACTABLES, & LEACHABLES & PRECLINICAL | Jacksonville, FL (9.2024 – 2.2025)

SENIOR DIRECTOR OF SCIENCES | Jacksonville, FL (5.2023 – 9.2024)

Revitalized struggling global safety and sustainability function across a \$4B+ pharmaceutical and medical device portfolio. Led a global team of 50+ scientists, rebuilding culture and performance expectations while directing a \$5M budget across strategic partnerships, CRO engagements, testing programs, and regulatory compliance.

- **Transformed previously underperforming function** into execution-focused team recognized for consistent delivery and transparent engagements. Enabled early issue escalation and VP-level visibility into roadblocks.

- **Forged enterprise safety and sustainability strategy**, ensuring market product compliance with evolving global regulations complete with processes necessary to surpass regulatory standards across geographies.
- **Directed \$5M+ annual impurity detection initiative**, defining compliance risks previously undetected under legacy protocols. Advanced initial pilot into cross-functional collaborative multiyear effort to match emerging regulatory frameworks.
- **Orchestrated strategic readiness for corporate spin-off**, including India capability expansion, lab closure execution, and external partnership formation to ensure seamless transition of safety oversight post-separation.

DIRECTOR, RENAL CARE/US RENAL CARE | Jacksonville, FL & India (6.2020 – 5.2023)

Tapped to standup and lead strategic R&D hub in India for \$1.7B Peritoneal Dialysis portfolio. Developed systems and cadences to maximize contribution to global pipeline delivery and product lifecycle. Grew team from 25 to 55.

- **Formed award-winning R&D organization**, driving talent strategy, organizational design, and capability development. Earned “Great Place to Work” certification in record time for leadership and team engagement.
- **Accelerated change control cycles 40%** and increased productivity 25%, instilling performance targets, identifying systemic delays, and promoting quality, regulatory, procurement, and supply chain accountability.
- **Established innovation engine**, embedding conscious innovation metrics and frameworks that catalyzed 8 patent filings and 15 internal innovation records. Delivered 2 breakthrough product-improvements to market under this model (saving COGS, increasing capacity and expanding markets).

UTCC GLOBAL RESEARCH | *Research and development division of GE Aerospace.***EXECUTIVE LEADER, DIGITAL TWIN COMMERCIALIZATION** | India (12.2018 – 6.2020)

Promoted and charged with driving global expansion into next-generation Digital Twin technologies. Drove product lifecycle from concept to market adoption across APAC and global regions.

- **Launched 4 flagship Digital Twin products:** AI Smelter, Inspection, Field Services, and Factory Benchmarking. Secured commercial edge in intelligent industrial solutions.
- **Architected full product strategy**, from identifying customer needs to merge engineering roadmaps and GTM plans. Acted as strategic bridge between global engineering, field sales, and C-level customers.
- **Formed \$10M+ sales pipeline** and propelled annual revenue from \$300K to \$3.4M through focused product-market fit and customer engagement.
- **Optimized equipment availability**, scheduling, image automation, and data analysis with Digital Twin process modeling. Defined target customer profiles and use cases.
- **Influenced global product adoption**, serving as the face of GE's Digital Twin innovation to clients and partners worldwide, including direct collaboration with multinational industrial customers.

PROGRAM & PEOPLE LEADER, COMPOSITES, METALS, & MECHANICAL | India (12.2013 – 12.2018)

Served as Operations Leader for India R&D Center (2016–2018), transforming operations and realigning strategic priorities for team of 150. Expanded capabilities, improved performance, and managed \$20M budget spanning CapEx, OpEx recruiting, and vendor spend.

- **Evolved India team from legacy expertise** in composites and IC engines to cutting-edge innovation in coatings, metals, wind turbines, and gas turbines. Unified technical vision, operational execution, and strategic partnerships.
- **Orchestrated \$50M+ product cost out initiative**, embedding Design to Value and value engineering into DNA of product development across GE India Engineering Center, resulting in leaner, more competitive solutions.
- **Activated scale-up of Pune manufacturing facility 10x** (\$5M to \$50M), leading deployment of IIoT infrastructure, advanced scheduling tools, and automated machining guided by 3D CAD models.
- **Elevated wind turbine market position** via the Wind Farm Optimization platform. AI-driven, cloud-based computational tool enabling sales teams to dynamically model turbine placement and energy capture.
- **Enabled 35% maintenance costs reduction, leading design team** through design of novel pitch bearing system for Halide-X wind turbine, which enhanced reliability and lifecycle economics.
- **Pioneered next-generation technologies, including:**
 - First-ever hybrid glass-carbon composite fan blade for GE's 9X aircraft engine, redefining performance-to-weight standards in aviation.
 - A Shape Memory Alloy (SMA)-based valve actuator, recognized as a breakthrough innovation and showcased as a site innovation highlight to the CEO.

PROGRAM & PEOPLE LEADER, VIBRATIONS & AEROMECHANICS | Jacksonville, FL (4.2011 – 11.2013)

- **Cut cycle time 90%** and increased productivity \$2.5M+ via compressor aeromechanics validation tool.
- **Introduced flutter-free last-stage blades** for H-class turbine, including DFM and supply chain variations.

PROGRAM LEADER, CERAMIC MATRIX COMPOSITES (CMCs) | Jacksonville, FL (1.2009 – 11.2013)

- **Influenced \$100M+ spend in design validation**, building 50-person cross-functional team to design 1st ever ceramic matrix composite part for LEAP engines and enabling 4 more CMC components on GE9X engine.

SENIOR ENGINEER, LIFING TECHNOLOGIES | Jacksonville, FL (10.2004 – 4.2011)

- **Delivered \$10M in new CSA productivity**, launching first-ever Digital Twin for the Oil & Gas Frame-5 machine.
- **Elevated global technical capabilities** by designing and implementing 3D fracture analysis system and leading comprehensive training, enabling adoption across international engineering teams.

Early career spans roles as Design & Root Cause Analysis (RCA) Engineer at Exponent and Manufacturing Engineer (Optical Fiber) at Corning. Delivered landmark innovations including design and analysis for Apple's first iMac G5, development of Shell's first Teflon seal for drilling, root cause investigations for Fortune 100 companies, and implementation of process-monitoring software that optimized production at Corning's Optical Fiber plant.

EDUCATION

EXECUTIVE MBA | Institute of Product Leadership – India

PH.D., APPLIED MECHANICS (MINORS: COMPUTER SCIENCE & ENGINEERING MANAGEMENT) | Jacksonville University – Jacksonville, FL

MASTER OF TECHNOLOGY, MECHANICAL DESIGN | IIT Bombay – India

BACHELOR OF ENGINEERING, MECHANICAL ENGINEERING | University of Mumbai – India

PATENTS & PUBLICATIONS

Holder of 5 U.S. patents and author of 24 technical publications, including 2 book chapters.

SELECTED HONORS & SPEAKING ENGAGEMENTSThought Leadership & Industry Panels

- **Invited Expert Speaker, 3rd International Digital Economy Conference (IDECS 2017), Sarawak, Malaysia** – Spoke on Industry 4.0 and the Future of Manufacturing
- **Panelist, SHRM Elevate India (2019)** – Explored emerging opportunities in Healthtech and Virtual Work for Tech Talent
- **Panelist, 6th International Conference on Humanistic Management (2017)** – Discussed Leveraging Technology for Human-Centric Leadership

Awards & Recognition

- **GE India Technology Award (2019)** – For leadership in making JFWTC a Great Place to Work
- **GE Global Research Difference Maker Award (2018)** – Recognized for outstanding organizational citizenship and cross-functional leadership
- **GE Technology Award (2015)** – For Brilliant Factory implementation (IIoT) at GE's Pune facility
- **GE Technology Award (2013)** – For product impact in the design and development of LEAP CMC shroud
- **GE Technical Career Path Excellence Award (2006)** – For exceptional performance in a Senior Engineer role
- **GE Rookie of the Year Award (2003)** – For significant contributions and rapid impact within first year of joining