

IAN PAUL STOKES

CEng MIET | MSc (Oxon) Software Engineering | BEng (Hons) Digital Systems Engineering

Engineering Leader | Systems Architect | Technology Strategy

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PROFILE

Cross-disciplinary engineering leader specialising in complex systems spanning software, electronics, mechanical engineering and product development across global organisations.

Proven track record building teams from small focused units to programmes of 700+ engineers, delivering across telecommunications, life-safety, industrial controls, energy systems and IoT.

Experienced at board and director level — P&L accountability, technology roadmaps, R&D centres of excellence and large-scale business transformation across Europe, Asia and North America.

Combines strategic leadership with deep hands-on technical capability across embedded systems, software architecture, electronics and physical engineering disciplines.

Particular expertise bringing engineering rigour, process maturity and scalable architecture to high-growth and founder-led organisations.

CAREER HIGHLIGHTS

- Directed a GSM programme of 700+ engineers at Motorola — subsequently offered programme leadership of a 7,000-engineer Nokia integration representing nearly 10% of Nokia's global engineering workforce.
- Delivered the world's first 6,000MW ±800kV HVDC transmission system (Champa-Kurukshetra, India) — one of the largest power engineering projects ever undertaken.
- Directed Motorola's telecommunications engineering support for the 2008 Beijing Olympics and Paralympics, ensuring uninterrupted China Mobile CMCC network performance.
- Established new R&D facilities and engineering teams from scratch in China (Beijing), Poland (Krakow), Vietnam (Hanoi) and Ireland (Cork).
- Introduced Agile and Lean practices at Nokia Siemens Networks, reducing project duration by 30%.
- Accountable for a €500M product roadmap at Eaton Life Safety, presented directly to the divisional General Manager.
- Led 96+ engineering projects at Motorola with ~\$48M budget accountability across global teams.

CORE EXPERTISE

Systems Architecture & Engineering

- Cross-discipline architecture spanning software, electronics, mechanical and physical systems
- High-integrity and safety-critical system design (SIL4, EN54, UL, IEC standards)
- Requirements engineering, CMM / CMMi process maturity, FMEA and formal methods

Software Engineering

- Embedded firmware, distributed platforms, cloud infrastructure and SaaS applications
- DevOps, CI/CD pipelines, Agile transformation and engineering process maturity
- C#, C++, C, Python, JavaScript, MATLAB — Azure, Linux, Windows, RTOS

Electronics, RF & Communications

- RF systems, GSM / 3G / 4G base station platforms and telecommunications infrastructure
- Embedded electronics, PCB design, control systems and regulatory certification (UL, EN, ETSI, FCC)
- 25+ compliance laboratories managed across China, UK and global third-party test bodies

Engineering Leadership & Global Delivery

- Engineering teams from 8 to 700+ across UK, China, India, Poland, Vietnam, France, Nordics
- R&D centres of excellence established across multiple continents; outsource partner development
- P&L accountability, M&A engineering advisory, business transformation and corporate restructuring

PROFESSIONAL EXPERIENCE

Head of Strategy & Technology — Inductosense | Bristol, UK

▶ **Team: ~8 engineers | Global energy customers: Shell, BP, TotalEnergies, Reliance, Petrobras, Chevron**

Joined following Series A funding (Aramco-backed, ~\$5M) to professionalise the software function and drive technology strategy. Expanded to cover software and robotics teams, introducing systems engineering discipline across the organisation.

- Secured \$150,000 Microsoft funding — covering all cloud infrastructure costs for the first 12–18 months
- Introduced testing discipline, DevOps pipelines and Agile practices into a founder-led culture
- Expanded remit from software to robotics team — bringing systems engineering approach across both disciplines
- Leading development of an autonomous inspection platform integrating robotics, sensors and cloud analytics
- Driving technology strategy and product roadmap for scaling deployments across global energy sector

Engineering Unit Manager — High Integrity Software — Capgemini Engineering | Bath, UK

▶ **Team: ~90 direct | 170+ cross-team | Sectors: Air Traffic Control, Rail, Defence, Nuclear**

Led engineering unit delivering SIL4 high-integrity software systems across national critical infrastructure programmes. Applied formal methods, safety-critical development processes and high-integrity toolchains.

- Managed ~90 engineers across multiple concurrent SIL4 software developments
- Engineering authority on long-term national infrastructure projects including air traffic control
- Applied formal specification methods (Z, Alloy, Malpas) and safety-critical V-Model development
- Technical reviewer and engineering authority on new client programmes across cyber security and communications

Group Leader — Software Development Centre — Malvern Panalytical | Bristol, UK

▶ **1 → 36 Bristol (Frontier Analytics startup) → 88 NanoMaterials Group**

Joined as sole software engineer for Frontier Analytics — a mothership-funded internal startup within Malvern Panalytical. Scaled the function using a sprint team replication model, before earning expanded remit to lead the NanoMaterials Group across the entire organisation.

- Started solo — designed and built first 6-person Agile sprint team from scratch
- Replicated the sprint team model to scale to 36 engineers across multiple Bristol teams
- Bristol success earned expanded remit — took over NanoMaterials Group of 88 engineers across Malvern Panalytical
- NanoMaterials Group: Zetasizer (laser diffraction), X-ray and fluorescence scientific instrumentation
- Architected Azure cloud infrastructure, SaaS platforms and DevOps, SonarQube and Scrum Agile

Senior Director — HVDC Controls Engineering — GE Power | Stafford, UK | India | France

▶ **Team: 100 UK + 75 India + France | P&L accountability | \$10Bn+ project portfolio**

Headhunted to direct HVDC business transformation post-Alstom acquisition. Introduced configuration management, requirements engineering and project management to a portfolio of failing projects, achieving immediate improvements in delivery performance.

- Directed 300+ engineers in UK, France and India across simultaneous HVDC infrastructure programmes worldwide
- Delivered the world's first 6,000MW ±800kV HVDC system — Champa-Kurukshetra, India
- Projects spanning South Korea, Brazil, Germany, France, USA, Newfoundland, UK and Pakistan
- Introduced requirements management (Doors NXG), MATLAB Simulink control development and automated test
- Transformed Systems, Architecture, Verification & Validation and Project Delivery capabilities

Group Technical Director — Volution Ventilation Group plc | UK | Sweden | Belgium | Germany

▶ **Team: ~45–60 across UK and Europe | Board-level role reporting to CEO | M&A advisory**

Appointed as engineering leadership for a serial acquirer — working with the CEO to assess, integrate and increase engineering value across acquired companies by combining fragmented resources into unified capability.

- Assessed and unified engineering across acquired businesses into a single centre of excellence
- Board-level M&A engineering advisor — evaluated targets and led post-acquisition integration

- Introduced CFD fluid dynamics, iOS/Android mobile applications and electronics cost reduction across the group
- Streamlined manufacturing materials realising 40% packaging cost improvement; reduced production footprint
- Directed engineering across UK (Vent-Axia, Diffusion, Torin-Sifan) , Sweden (Pax/Fresh), Belgium/Holland (Ventilair) and Germany (Inventer)

Director of Engineering — Life Safety Division — Eaton | UK | China | France | Israel

▶ **Team: ~60–80 across UK, Shanghai and Riom France | €500M MGPP accountability**

Technical Director for Fire Control, Detectors, Emergency Lighting and Security Systems across an international corporation with highly regulated, market-leading products. Products deployed in aerospace, marine and hazardous environments across domestic and commercial markets.

- Introduced Engineering Centre of Excellence consolidating Fire, Security and Emergency Lighting R&D
- Accountable for €500M multi-generational product portfolio — MGPP presented to divisional General Manager for Fire and Security products deployed all over the world.
- Member of EN54 and UL standards committees; BSIA representative for radio regulations
- Managed regulatory compliance laboratories for life-safety certification across three product families
- Established commercial relationships with Israeli customers, securing significant revenue in Israel

Head of Horizon R&D — Nokia Siemens Networks / Motorola Solutions | UK | China | Vietnam

▶ **Team: 90+ new hires (Hanoi) + UK and China facilities | Critical merger programme**

Led the Horizon R&D programme critical to the Nokia/Motorola merger — overseeing integrated GSM/LTE base station delivery and establishing a new ultra-low-cost outsource facility in Hanoi, Vietnam.

- Managed R&D and development facilities in UK and China through transition period
- Built Hanoi R&D centre from scratch — offices, laboratories, 90+ staff, full GSM training
- Introduced Lean and Agile practices, reducing project duration by 30%
- Critical programme bridging 2G GSM and 4G LTE R&D businesses across both companies

Engineering Manager — Base Transceiver Systems — Motorola | UK | China | Poland | Ireland | Singapore | USA

▶ **Team: 300–700+ engineers globally | \$48M budget accountability | 96+ projects**

Progressive career from Senior DSP Development Engineer to leading a 700+ person engineering programme. Pioneered GSM base station development from 2G to LTE with teams across five countries.

- Led 96+ projects with ~\$48M budget across global teams in UK, China, Poland, Singapore and USA
- Resource managed 350–700 engineers globally across GSM WBTS engineering programme
- Directed engineering support for the 2008 Beijing Olympics and Paralympics (China Mobile CMCC)
- Established R&D labs and teams in Beijing (2001, 2008), Cork Ireland (2003) and Krakow Poland (2006)
- Resolved \$100M+ customer issues; delivered UMTS, LTE and GSM platform evolutions
- Began career as Senior DSP Engineer developing AMR speech compression algorithms for GSM

EDUCATION

MSc (Oxon) Software Engineering — University of Oxford

BEng (Hons) Digital Systems Engineering — University of the West of England

CERTIFICATIONS & PROFESSIONAL MEMBERSHIP

CEng Chartered Engineer | **MIET** Institution of Engineering & Technology | Certified Scrum Master | PRINCE2 Project Management | TL9000 Telecom Quality | CMMi Level 5 | Six Sigma

TECHNOLOGIES

Languages C#, C++, C, Python, JavaScript, MATLAB, Java, PHP, Assembler

Platforms Azure, Linux, Windows, RTOS

Tools Git, Azure DevOps, Jenkins, Jira, Confluence, Doors NXG, SonarQube

Domains Embedded systems, IoT, safety-critical systems, HVDC controls, telecommunications, cloud platforms

Full engineering portfolio and project history available at ianpstokes.com