



Certainty in an Uncertain World



## Bruce Swales

Managing Director, Asia IEng, REA, MIET

### Experience

- More than 32 years of engineering experience gained in a wide range of industries, throughout Asia-Pacific.
- Over 14 years experience in telecommunications systems, hardware and software design engineering, systems integration and software project management.
- Experienced electrical/electronics engineer with 15 years of experience leading contamination assessment and disaster recovery consultancy assignments covering the nature and extent of damage and recovery options for electrical and mechanical systems.
- Significant forensic engineering experience including electrical, mechanical, structural and fire loss incidents.

### Professional Profile

Incorporated Engineer (IEng) through The Engineering Council, UK, and a licensed Registered Engineering Associate (REA) through the Engineering Associates Registration Board of New Zealand. Extensive experience in contamination, disaster recovery, forensic investigations, electrical and mechanical systems & engineering, equipment restoration, computer hardware and software design, telecommunications systems, project management, and operations management.

Extensive electronic, electrical and mechanical machinery and equipment restoration experience having served in senior management and director roles with the world's largest technical equipment restoration company. Involved in over 500 restoration projects throughout Asia and in USA – from state of the art server equipment and

### Education

- Graduate Programme in General Management, University of Auckland, NZ
- NZCCT (Computer Technology), Auckland University of Technology, NZ
- NZCE (Telecommunications – Int) Manukau Institute of Technology, NZ

### Licenses/Accreditations

- Incorporated Engineer (IEng), *The Engineering Council, UK*
- Registered Engineering Associate (REA), *Engineering Associates Registration Board, NZ*

### Practice Areas

- Telecommunications & Data Communications Equipment
- Computers/Hardware/Software
- Semiconductor and related
- Automation & Control
- Printing Equipment
- Office Equipment
- Elevators (lifts) & escalators
- Power Transmission & Distribution Equipment
- Manufacturing Equipment

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- HVAC/Building Automation
- Test & Laboratory Equipment
- Computers/Hardware/Software
- Radio/TV/Broadcast
- Mechanical Failure
- Electrical Failure
- Cause & Origin

### Professional Development

- Computer & Software Contracts, Monadnock Int.
- Engineering Contract Law, James Cornish
- Contracts Management, IIR
- Project Management, Plessey UK/Anthony Smith
- Semiconductor Processing Technology, Singapore
- Labour Relations Practices in Singapore
- Customer Satisfaction Measurement, AIC
- Selling Skills
- Effective Oral Skills, University of Auckland
- Negotiating, NZIM

semiconductor manufacturing machinery to printing machines and paper mills.

Carried out well in excess of 60 forensic investigations, including fire investigations (structures and vehicles), mechanical and electrical failure analyses, and structural failure analyses.

### Representative Project Experience

#### *Telecommunications Design/Implementation Consulting Experience:*

Significant consulting experience, initially as a consultant, then senior consultant and lastly as operations manager for (then) New Zealand's largest independent telecommunications consultancy.

- Project managed numerous telecommunications projects on behalf of clients, including aspects such as system design, tender document preparation (technical and commercial), proposal evaluation (technical and commercial), contract negotiations and contract award, contractor and client management, etc.
- Consultant on the design and establishment of a call centre.
- Contracts Manager for the nationwide rollout of a mobile radio network for the New Zealand Ambulance Service.
- Review of a mobile radio network operated by a New Zealand electricity supply authority. Redesigned and significantly upgraded service provision.
- Audited a nationwide IT project for the New Zealand Fire Service and made a range of organisational and contractual change recommendations.
- Undertook project audits of multimillion-dollar telecommunications projects for a national telecommunications company – being directly responsible to the Board of Directors for these audits.
- Developed a project management methodology for a national

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telecommunications company, including development of Project Manager Assessment guidelines.

- Developed the Geographic Information System component of an IT Strategic Plan for a national telecommunications company.
- Carried out telecommunications strategic planning assignments for clients.
- Managed the telecommunications consultancy practice.
- Managed the implementation of three MIS projects.

*Telecommunications Loss Technical & Forensic Consulting Experience:*

- Cellular network BTS site damage assessment (multiple sites) – Malaysia
- Cellular network switching centre, Singapore – investigation emergency generator failures
- Cellular network MSC equipment valuation, Thailand
- Optical fibre modem product liability claim – investigation of the cause of failure
- Cellular network switching centre, Singapore – investigation of fire.
- Communications centre equipment (Deutsche Telekom subsidiary), Singapore – water ingress. Assessment of all contaminated equipment. Analysis of reinstatement options.
- Large data centre, Singapore – water ingress. Assessment of all contaminated equipment. Analysis of reinstatement options.
- GSM network switching centre, Singapore – water and ferric oxide contamination. Assessment of all contaminated equipment.
- GSM cellular transmission site, Indonesia – fire. Assessment of all contaminated equipment.
- Public switched telephone exchange, Thailand – fire. Assessment of all contaminated equipment and building facility.
- GSM cellular transmission site, Thailand – flood. Assessment of all contaminated equipment.
- GSM cellular transmission site, Indonesia – flood. Assessment of all contaminated equipment.
- Paging centre, India – Fire. Assessment of all central equipment including data servers and operator workstations.
- GSM cellular transmission site, Philippines – fire. Assessment of all contaminated equipment.

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- HF radio station (VOA), Sri Lanka – fire. Assessment of all contaminated/damaged equipment and building facility.
- GSM cellular transmission equipment, including transceivers, power supplies, cavity filters and other ancillary items of equipment, Malaysia – flooded warehouse. Assessment of all contaminated equipment.

*Telecommunications Risk Surveys:*

- Risk survey for a nationwide GSM cellular telecommunications network in the country of Brunei. Survey scope included network control centre, mobile services switching centre, billing centre and several transmission sites.

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*Telecommunications Manufacturing:*

- Digital hardware development and software (assembly language) development for various control system/SCADA and telecommunications system products.
- Systems integration engineering and project management on numerous telemetry and control systems projects.
- Project manager on numerous multi-million dollar SCADA and control systems projects in New Zealand and Asia.

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