



Tristan Ilich

Director

Tristan is a Director of Tsquared, a specialist Building Services, Digital Technology, Technical Advisory and Consultancy business. Tristan is passionate about Building Services, Digital Technology, Telecommunications, Data Centres, IoT, and Advanced Technologies which create real human, business and social benefits.

As a Chartered Professional Engineer (Electric and Electronics Engineering) with a strong focus on innovation, leadership and client service, Tristan is a recognised industry leader in the area of Building Services, Telecommunications and Technology with 25 years' experience in NZ, Australia and the UK.

Tristan has a proven track record in the area of Design Led Thinking, programme and project management, design management, strategy, governance, business development, project directorship and complex engineering design. This expertise is across wide range of complex property and infrastructure projects including stadia, schools and universities, hospitals, commercial offices, mobile and fixed networks, data centres and exchanges, disaster recovery facilities and mission critical systems for a range of public and private enterprises.

Tristan has a proven track record in delivering exceptional client outcomes and customer experiences by bringing a high degree of written and verbal communication which builds genuine trust and confidence with all his client interactions. Tristan has strong interpersonal and team building skills and gains the trust of his clients through all his interactions with clients and stakeholders.

Tristan is a board member and the current Chair of the 'Technology Users Association of New Zealand' (TUANZ). He is also on the Executive Council of the NZ IoT Alliance which is a cross industry and government initiative to establish and drive the uptake and benefits of IoT for NZ Inc. Tristan is also a resident judge for the prestigious Property Council New Zealand Awards and the TUANZ Broadband Compare Awards.

Key Expertise

Building Services:

Electrical Engineering (HV, LV, ELV, DC) – small power and lighting systems

Critical power systems including UPS systems, DC power systems, engine alternators (EA's)

Lightning protection and earthing systems, surge protection

Specialist lighting, daylighting analysis, sportslighting, and pitch growth analysis

Healthcare including operating theatres, body protection, critical power systems, nurse call systems

Security & access control, CCTV, MATV, nurse call Systems, BMS Systems

Data Centre Design

Telecommunications infrastructure (mobile and fibre networks) site acquisition, lease management

Qualifications

CPEng (Elec) - Chartered Professional Engineer

MIPENZ - Member Institute of Professional Engineers New Zealand

BE - Bachelor of Engineering – Electrical
Diploma in Illumination Engineering (IESANZ)

NZCE - New Zealand Certificate in Engineering (Electrical)

Design Led Thinking (UTS)

Specialisation

Data Centres, Telecommunications, Mobile Network Deployments (3G/4G/5G), Programme Management, Design Led Thinking, Agile, Project Management, Project Governance, Building Services (Electrical), Critical Power Systems, Advanced Building Sciences, Specialist Lighting, Lightning Protection & Earthing, Daylighting and Shading, Stadia, Sustainability, Contract Negotiations, Contract Administration.

Years in industry

25



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Advisory & Programme Management

Programme Manager and Project Director responsible for delivery of Capital Projects as engineering services consultant to Spark and Chorus from 2010 to 2020 across broad range of mobile networks and critical environments portfolios.

Technical Advisor on range of large complex telco Due Diligence transactions.

Engineer to the Contract and Contract Administration

Innovation

Application 'Design to Innovate' methodology on range of complex advisory and engineering projects. Methodology follows Design Led Thinking principles developed at University of Technology Sydney (UTS). Attendance at UTS Design Led Thinking facilitator training in 2015.

Facilitation and participation in a broad range of Design to Innovate workshops and design process reviews for range of clients and projects.

Application of strategy tools including "where to play, how to win", applying CASE framework, journey mapping, Five E's client engagement framework, Doblins 10 steps of Innovation, and storyboarding.

Leadership and Management:

Data & Telecommunications Leader, NZ – responsible for the management of key telco clients in NZ, market and business development for the D&T sector in NZ, and Project Director for a range of D&T projects throughout NZ

Programme Advisory Leader, NZ – responsible for the management of Aurecon Programme Advisory business in NZ. Management of team of programme and project managers, business development, delivery and support.

North Island Built Environment Leader – responsible for the overall leadership and management and performance of the North Island Built Environment business unit comprising 130 staff across four offices.

Office Manager – Assisting the Auckland / Wellington Delivery Centre Manager in the day to day management of the Auckland office including strategy development, H&S, client relationship management, facilities management, client events, people management and industry representation

NZ Data & Telecommunications BD Leader – market strategy, project performance improvement, marketing, business planning, resource management for all D&T opportunities and projects in NZ.

Programme Manager and Project Director - responsible for the overall management, performance and delivery for the Spark NZ and Chorus NZ project portfolio from 2010 to 2020

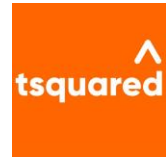
Key Client Relationship Management (CRM)

CRM for Spark NZ, Chorus NZ, Vodafone NZ and RCG – responsible for client engagement and relationship including strategy, opportunity management, proposals and sales. Annual sales and revenue target of \$5m pa.

CRM and Project Director for Waitamata and Auckland District Health Board's

CRM and Project Director for Counties Manukau District Health Board

CRM for Vodafone New Zealand



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Key Experience

Healthcare:

North Shore Hospital Elective Surgery Centre | \$35m – Project Director responsible for the delivery of all building services and infrastructure upgrade design.

North Shore Taharoto Mental Health 48 bed Unit | \$17m – Project Director responsible for delivery of all engineering services including structural, civil and building services.

Waitakere Hospital Emergency Department | \$17m – Project Director for building services design services.

CMDHB Acute Mental Health Unit | \$40m - Project Director for building services, ICT and security design services.

Greenlane Hospital Ambulatory Care, Auckland | \$100m – Senior electrical engineer responsible for all electrical design services.

Auckland Acute Mental Health Hospital | \$14m – Senior electrical engineer responsible for all electrical services design and construction observation.

North Shore Hospital redevelopment –Project Director on range of projects including Imaging Department, CathLab and Theatre Upgrade, Emergency Department, Site Infrastructure, Lake View extension, MRI extension, maternity refurbishment and generator upgrade.

Waitakere Hospital redevelopment | \$100m – Senior electrical engineer for site redevelopment including all electrical services, site infrastructure, generators.

Mercy Hospital Intensive Care Unit Redevelopment, Auckland – Electrical engineer for all ICU electrical services include body protected areas, power and lighting.

Birmingham QE Hospital redevelopment PFI, UK | £600m – Senior electrical engineer and client advisor role on retained team for all electrical services and vertical transportation.

Leicester Hospital redevelopment PFI, UK | £400m – Senior Electrical Engineer and client advisor role on retained team for electrical design services.

University Hospitals of Leicester (UHL) Physical Condition Survey, UK - Project Leader and Senior Electrical Engineer for 21 facet physical condition survey and maintenance audit.

Coolock House St Josephs Hospice, Auckland | \$6m - Project Leader and Senior Electrical Engineer for new hospice facility including delivery of all engineering services.

Commercial Office, Entertainment, Recreation and Hotel projects:

Dio Performing Arts Theatre and Teaching Facility | \$30M – Project Director for all Building Services.

125 Queen Street | Refurbishment of 28 storey office tower | \$35m – Project Director responsible for the delivery of all engineering design services.

Blue Water Black Magic, Sir Peter Blake and NZL32 America's Cup exhibition, Auckland | \$10m – Project Leader for delivery of all building services design including advanced thermal and daylighting analysis



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Kawarau Falls | \$40m – Project leader for delivery of building services design for new apartment complex

Vodafone House Office Fitout, Auckland – Senior Electrical Engineer and Project Leader for new office fitout, all building services and structures

Sylvia Park Business Centre, Auckland – Project Leader for new office fitout

Oracle Tower, Auckland | \$15m – Electrical engineer for 14 storey office building extension

Bahrain Commercial Centre, UAE | US\$400m – Senior Electrical Engineer for new retail, hotel and theme park - concept stage with focus on lighting design package.

Brighton Marina, UK – Provided advanced shading and daylighting analysis for 46 storey apartment building and adjoining complex during feasibility stage

Broad St Mixed Use Development, UK – Senior Electrical Engineer for new 38 storey residential / hotel building - concept phase.

Hobson Heritage Hotel and Apartments, Auckland – Electrical Engineer for hotel and apartment complex

North Gheran Office, Commercial Office and Hotel Development, Libya – Auckland based Building Services Project Leader for concept design phase assisting the Brisbane office.

Tamaki College Recreation Centre, Auckland | \$9m – Electrical Engineer for new recreation centre

717 Bourke Street Multi-use Development, Melbourne | \$190m – New multi-story office and retail development. Auckland based Building Services Project Leader assisting the Melbourne office.

Retail projects:

Sylvia Park Retail Development, South Zone, North Zone and Carpark, Auckland | \$400m – Project Leader and Senior Electrical Engineer for New Zealand largest retail shopping complex for all building services.

Westfield Albany, NZ – Electrical services peer reviewer

Westcity Shopping Centre, Auckland | \$80m – Electrical engineer for new shopping complex.

Sylvia Park "The Warehouse" Reconfiguration – Project Director for delivery of electrical and hydraulic design services for mall extension and reconfiguration of The Warehouse store

Bethlehem Retail Centre | \$20m – Project Leader for delivery of building services, ICT and lighting design services

Education projects:

McAuley High School | \$10m – Project Director for new Classroom and Admin Block

University of Auckland Business School | \$250m – theatre lighting specialist and electrical building services interim project leader



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St Peters Middle School, Auckland | \$5m – Electrical Engineer for new primary school

Sheffield Schools PFI, UK – Senior Electrical Engineer for 5 new primary and secondary schools delivered via PFI consortium.

Luton University Atrium, UK – Senior Electrical Engineer on proposed student atrium. Services included all electrical design services and daylighting analysis.

Newcastle Schools PFI, UK – Senior Electrical Engineer for 6 new primary and secondary schools delivered via PFI consortium.

Auckland University of Technology, Science and Engineering Faculty | \$15m – Electrical Engineer on science and technology facility.

Stadia projects:

Wembley National Stadium, London | £430m – Lead sportslighting and lighting designer; senior electrical engineer on WST (client) retained team; senior electrical engineer for electrical services design (HV, LV, small power and communications)

ASB Bank Stand, Auckland | \$40m – Senior electrical engineer on new 18,000 seat stand

ASB Bank Stand (Video Screen) – Senior electrical engineer for new LED video replay screen

Eden Park Redevelopment (Rugby World Cup 2011) – Specialist technical advice including daylighting and shading mitigation analysis and reporting, sportslighting concept design, technical advisor to Rugby World Cup Resource Consent hearing, RWC opening ceremony overlay works

Otago Stadium, Dunedin | \$190m – Electrical services concept design team and verifier

Trafalgar Park, Nelson – Electrical services concept design team and verifier

ASB Tennis Arena Redevelopment – Project Director for building services, specialist lighting, ICT and civil disciplines

Civic and Justice – key technical delivery roles:

Manchester Civil Justice Courts, UK | £100m – Senior electrical engineer on new multi-storey civil justice centre responsible for advanced daylighting analysis, specialist lighting and electrical services design

Auckland City CBD Streetscapes Project, NZ | \$100m – Project Leader on major streetscape upgrade projects including Queen Street, Quay Street including Kingslow Landing, Lorne Street, Khartoum Place, Vulcan Lane. Responsible for delivery of electrical and lighting design services.

Christchurch Emergency Services and Justice Precinct – Aurecon bid leader

Industrial & Energy:

Fletcher Wood Panels Sub-Division, HV and LV Reticulation Upgrade – Electrical Engineer



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Capral Aluminium, sub-division of electrical services – Electrical Engineer

Genesis Energy SchoolGen Project – CRM and Project Manager for design and delivery of 50 solar school projects. Assisted in development and delivery of renewable energy education programme in primary and secondary as part of CSR programme.

Pegasus Bay School PV system – Independent peer review and safety audit of new 80kW PV system

Transportation:

SH16/18 Western Flyer Road Lighting – electrical and lighting design peer reviewer

Stratford Station Extension, London – specialist lighting design

Farrington Station Redevelopment, London - daylighting analysis

ESD & Advanced Building Sciences:

Westfield Albany, NZ - daylighting peer review and advice

Vodafone Houhora - alternative energy cell site design advice (wind, solar, generator)

Duxford AirSpace Museum, UK – Provision of advanced daylighting analysis study

Otago Stadium, Dunedin – Provision of pitch growth analysis and daylighting study

Telecommunications and Data Centre Projects:

Ultra Fast Fibre – Project Director for Technical Due Diligence of fibre network acquisition.

Microsoft Data Centre AK03 | \$100M – Project Director for site selection and technical Due Diligence of a new Data Centre facility in Auckland.

ANZ Data Centre Albany | \$50M – Project Director for all engineering design services.

Spark CH91 Data Network Technology Node | \$50M – Project Director for all engineering services.

Spark Engineering Services Contract – Programme Manager and Project Director responsible for delivering engineering consultancy services on the following key projects:

- CH109 seismic strengthening | \$8M - including all engineering services (architectural, structural, electrical, mechanical, geotechnical, fire and town planning)
- 91 Hereford Street Deconstruction and new EA installation | \$10m – Project Director responsible for the delivery of all design services including project management, architectural, QS, structural, building services and town planning.
- Exchange Power and Cooling Upgrade | \$9m – Project Director responsible for the delivery of site audit, project management and detailed design service for 28 exchange upgrades to house high density network equipment

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- MDR DC Power Upgrade Project – Project Director
- MDR Long Term Strategic Review and Property Strategy – Project Director
- MDR Cooling Upgrade – Project Director
- iNOC Fitout – Project Director
- Riccarton, Porirua and Invercargill Exchange EA Upgrade

Spark LTE 4G rollout | \$250m – Programme Manager and Project Director responsible for the delivery of all town planning, site audit and civil / structural design services for 1150 LTE site upgrade project and SRAN swap.

Spark Site Acquisition and Lease Management Services | \$3M fees per annum – CRM responsible for the engagement and winning of the SALM project, partnering arrangements with Jones Lang LaSelle and Wilson Hurst, transition services and negotiation of new Master Services Agreement.

Spark Digital Takanini and Christchurch Data Centres – Project Director responsible for the independent audit of two new Data Centre Facilities as part of acceptance testing and completion phase for TransPower.

Chorus Engineering Services Panel Contract – Programme Manager and Project Director responsible for delivering engineering consultancy services on the following key projects:

- Seismic strengthening for Ponsonby, Paraparaumu and Lower Hutt Exchanges
- Engineering and technical support to Chorus Engineering Services Manager during the Christchurch 2011 earthquake
- 60 Engine Alternator Upgrades including procurement, design and installation
- National Seismic Assessment Programme – Project Director responsible for the delivery of seismic assessment and concept design report for 150 telephone exchanges
- Site Development Plan programme across 30 Core sites
- Mt Eden Exchange - seismic strengthening and services upgrade

NZ Rural Broadband Initiative | \$300m – Project Director responsible for the delivery of town planning and civil design services for 150 new rural mobile sites.

NBN Australia fibre and mobile deployment | \$43BN – Aurecon Business Development Manager responsible for early engagement and positioning on this project.

Project Sunrise, Telecom XT Network rollout | \$530m – Project Director and CRM responsible for the delivery of town planning and civil design services for 200 new mobile sites.

2Degrees – Project Director and CRM responsible for the delivery of civil design services for 200 new mobile sites.

Huawei Technologies, Australia and New Zealand – CRM responsible for the negotiation of Master Procurement Agreement.

Vector Communications Urban Fibre Nodes, Auckland – Technical input into engineering design standards and 5 new network node sites in Auckland

Australian Square Kilometer Array Project, NZ sites – Client Relationship Manager to Ministry of Economic Development for delivery of GIS services as part of initial ASKAP scoping project.

Vodafone New Zealand BTS Cell Site Infrastructure Rollout | \$200m – Senior electrical engineer responsible for the design and delivery of over 500 new mobile sites throughout New Zealand.



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Walker Wireless High Speed Internet Network Rollout | \$10m – Project Leader and Senior electrical engineer on initial rollout of 50 new WiMax sites.

Vodafone Mt Eden Mobile Switching Centre, Auckland | \$25m – Senior electrical engineer and Project Leader responsible for the design of new mobile switching centre (MSC) IT disaster recovery data centre.

Vodafone Generator Upgrade, Vodafone House, Auckland | \$1m – Project Manager and Senior Electrical Engineer responsible for the design and delivery of generator upgrade project.

Vodafone House, Mobile Switching Centre UPS Rationalisation and LV Distribution Upgrade | \$500K – Project Manager and Senior Electrical Engineer responsible for the design and construction observation.

Vodafone House Lightning Protection and Earthing Upgrade | \$1m – Senior electrical engineer and project manager responsible for all design and construction observation.

BellSouth New Zealand Cell Site Rollout | \$100m – Electrical engineer responsible for the design and delivery of over 500 new mobile sites throughout New Zealand.

BellSouth New Zealand Engineering and Repair Centre, Auckland | \$5m – Electrical engineer responsible for the design of a new office and mobile phone repair centre.

Vodafone High Voltage Electrical Audit – Senior Electrical Engineer and Project Manager for development of high voltage asset audit database.

1999 Mercury Energy Electricity Crisis – Project Manager and Senior Electrical Engineer assisting Vodafone Operations Manager during extended power outage and part of crisis management team.



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Employment History

1995 to 2001	Connell Wagner (now Aurecon), NZ Electrical Engineer
2001 to 2005	Mott MacDonald, UK Electrical Engineer
2005 to 2008	Aurecon NZ Senior Electrical Engineer
2008 to 2013	Aurecon NZ Associate and Equity Partner
2013 to 2020	Aurecon NZ Technical Director / Principal and Equity Partner
2021 to present	Tsquared Director and Principal

Awards

Connell Wagner 'Young Professional of the Year Award' 2009 – Participation at the 2009 FIDIC Young Professional Leadership Programme and Conference in London, UK

CIBSE 'Young Lighter of the Year 2005' – Manchester Civil Justice Centre, 'Daylighting in Naturally Ventilated High-rise Buildings'

Mott MacDonald Milne Award (Finalist and Highly commended) 2003 – Wembley National Stadium Pitch Lighting Design

Mott MacDonald 3D Modelling Competition (Winner) – Farrington Station Daylighting (Runner-up) Luton University Student Atrium Daylighting Visualisations

John Connell Innovation Award (Electrical Discipline) 2001 – Vodafone Lightning Detection Network

James Hardie New Zealand Institute of Building Awards 2000 – (under \$2 million) Finalist

John Connell Innovation Award (Electrical/Mechanical Discipline) 1999 – Vodafone Mt Eden MSC