



Our Capability

In the Data Centre Sector



Data centres involve specialist design, construction and operation. Diales can provide expert and advisory services in connection with all types of data centre designs, including Enterprise, Colocation, Hyperscale, Edge (Micro) and modular configurations. Our experts have technical, quantum and delay expertise in the following areas.

COOLING AND VENTILATION SYSTEMS

Critical services that support the operation of data / IT infrastructure to maintain the required rack / server temperatures for optimal compute efficiencies.

- Computer Room Air Conditioning (CRAC) cooling systems.
- Computer Room Air Handling Unit (CRAHU) ventilation and cooling systems.
- Air distribution technologies including cool aisle containment, hot aisle containment, and bypass air reduction for efficient air distribution.
- Immersion cooling, direct chipset cooling systems.
- Fast-moving technological advancements.
- General mechanical building services to support areas such as offices, welfare and storage facilities.
- BMS control systems.

TIER STANDARD COMPLIANCE

Certification system devised by the 'Up Time Institute', to set the standard for different types of data centres and the resilience provided by the MEP infrastructure to support all data / IT systems.

- Specified contractual resilience requirement vs As Built.
- Specification and design compliance.
- Maintainability / IT infrastructure operational impact.

ELECTRICAL SYSTEMS

General electrical services to support white space and support facilities.

- Lighting and small power (230v/3kW max).
- Building services.
- Security and alarm systems.
- Fire alarm and extinguishing systems.
- System segregation (electrical supply and cable containment).

POWER SUPPLY

Critical power supply infrastructure that supports the operation of data / IT infrastructure to maintain the required operational resilience for business operations.

- Energy supply at site such as gas engines.
- Emerging technology, including nuclear powered Small Modular Reactions (SMRs).
- On site renewable energy generation and associated inverters.
- Grid connection (feed in / back) systems including approvals and protections.
- Back-up power supply systems (UPS / standby generators)



DATA CENTRE BUILDING DESIGN AND ENVELOPE CONSTRUCTION

The specialist equipment housed in data centres requires exacting building design and envelope construction, reflecting the critical operations within whilst being sympathetic to visual and environmental impacts.

- Discrete foundation design and analysis.
- Floor loading for racks.
- Building shell.
- Architectural considerations including location, planning, air tightness, aesthetics, etc.
- Environmental considerations planning, water supply, visual impacts, etc.

COMMISSIONING

Sustainable design requirements to ensure operational efficiency over the data centre life cycle.

- Seasonal commissioning and building services commissioning.
- BREEAM and Lead Standards compliance for sustainable design.
- MEP services operating as designed at their optimum efficiency.



DATA CENTRE IN HANAU, GERMANY (EPC/TURNKEY)

Large big-tech owner operator

Location: Germany

Net internal area: 10,000 m²

Completion date: March 2023

Development cost: NDA applies

Development outcome: Operational handover

Our role: Appointed by the Owner to provide a report in Mediation with the Contractor in relation to two separate requests for extensions of time issued by the Contractor using a Time Impact methodology. Produced independent assessment and opinion on the effect of the clauses in the contract that are relevant to the extension of time, notices, and COVID-19 impacts on the works.

DIDCOT DATA CENTRE IN UK

On behalf of McLaren Construction. Employer was Amazon World Services.

Location: UK

Our role: Conducted retrospective windows analysis into the causes of delay, and determined the extent of the delay for which McLaren's supply chain held the risk.

14.4MW DATA CENTRE IN SPAIN

Large big-tech owner operator

Location: Spain

Completion date: April 2023

Development cost: EUR 90m

Development outcome: Operational handover

Our role: Expert Quantum Consultant

BRACKNELL DATA CENTRE IN UK

On behalf of McLaren Construction. Employer was Amazon World Services.

Location: UK

Our role: Conducted a retrospective windows analysis into the causes of delay, and determined the extent of the delay for which McLaren's supply chain held the risk.

20MW DATA CENTRE CAMPUS LHR2 IN UK

On behalf of Glencar Construction Limited. Employer was Vantage Data Centers.

Location: UK

Net internal area: 18,000 m²

Our role: Conducted a retrospective windows analysis into the causes of delay and determined the extent of the delay for which the Employer held the risk.



60MW DATA CENTRE IN SCANDINAVIA

Large big-tech owner operator

Location: Scandinavia

Net internal area: 42,700 m²

Completion date: April 2016

Development cost: USD 180m

Development outcome: Operational handover

Our role: Commercial Consultant

30MW DATA CENTRE IN MAINLAND EUROPE

Large big-tech owner operator

Location: mainland Europe

Net internal area: 17,200 m²

Completion date: June 2022

Development cost: EUR 170m

Development outcome: Design and Build Tender

Our role: Bid Consultant

15MW DATA CENTRE EXTENSION IN SCANDINAVIA

World leading information and communication technology company

Location: Scandinavia

Net internal area: 8,400 m²

Completion date: July 2016

Development cost: USD 40m for fit out

Development outcome: Extension to existing data centre

Our role: Bid Consultant/Feasibility Study

55MW DATA CENTRE IN UK

Data centre service provider operated

Location: UK

Net internal area: 31,100 m²

Completion date: 2012

Development cost: EUR 135m

Development outcome: Co location lease

Our role: Procurement M&E Bid



15MW DATA CENTRE IN IRELAND

Data centre service provider operated

Location: Ireland

Net internal area: 330 m²

Completion date: December 2006

Development cost: EUR 3.5m

Development outcome: Co location lease

Our role: Commercial manager and co-location fit out

60MW DATA CENTRE EXTENSION IN SPAIN

Operation Data Centre Company in Spain

Location: Spain

Net internal area: 1,600 m²

Completion date: To be defined

Development cost: EUR 50m

Development outcome: Core and shell data centre

Our role: Tender document preparation

14MW DATA CENTRE IN CALIFORNIA USA

100% green energy powered multi-occupant development

Location: California USA

Net internal area: 16,700 m²

Completion date: early 2015

Development cost: USD 70m

Development outcome: Design and build from slab up

Our role: Bid Consultant

4MW DATA CENTRE EXTENSION IN MIDDLE EAST

Government body

Location: Middle East

Net internal area: 10,000 m²

Completion date: 2014

Development cost: USD 120m

Development outcome: Construction and T&C

Our role: Deputy Project Manager for the main contractor



Vincent Fogarty

Managing Director of
Diales Technical,
Quantum and
Technical Expert -
Head of MEP



EUR ING Kevin Edge

Technical Expert -
MEP

Vincent is an expert witness in both quantum and technical matters, with 40 years' engineering and quantity surveying experience. Vincent has specialist expertise in data centres and is a published author on their construction.

Vincent's data centre experience includes:

- Technical and quantum expert for data centre disputes in Doha and Dubai on complex design and procurement matters.
- META (Facebook), Lulea, Sweden – Dispute resolution advice to a global organisation to settle a procurement dispute on design matters in relation to the construction of 150MW of data centres.
- Quantum expert opinion in anticipation of litigation for a USA multi-national company that delivers telecoms network and data centre construction solutions.
- Site selection and procurement engineering advice to Project Art, Ireland – one of Europe's largest data centre sites at 300MW capacity with network connectivity and latency study.

Vincent also held global procurement manager, contract formation, commercial management and dispute resolution roles for the industry's most significant data centre plant and construction company, VERTIV. The project included Space Net in Munich and Project Gold in California.

Kevin is a Chartered Mechanical Building Services Engineer with 10 years' experience working with engineering contracts in project engineering and design, and a further 18 years as a consulting engineer.

Kevin possesses a broad knowledge of various building types and associated mechanical engineering services and controls and has worked across most sectors.

Kevin has a clear understanding of the requirements associated with the delivery of projects and has significant experience of leading projects from inception through to completion and handover, meeting tight deadlines. He is familiar with the challenges that can arise throughout all stages of a construction project, specifically relating to the MEP discipline.



Dr. John Ford
Technical Expert – M&E

John is a Chartered Electrical Engineer with over 40 years' engineering experience.

John is a highly qualified and experienced engineer, manager, regulator, consultant and expert witness with extensive experience from working in and with major UK and international organisations as well as European Commission projects.

His industrial experience includes working as an electrical engineer in the UK mining industry for over 30 years on systems ranging from electronics to 66kV high voltage utilisation and distribution systems.

As an expert witness, John has opined on a range of technical issues, including whether electrical and data communications installations required replacement after being subjected to fire and water ingress/submersion.



Louis Fellows
Technical Expert - MEP

Louis is an electrical building services engineer with over 38 years' experience in electrical design.

Louis is a chartered engineer with over 38 years' professional experience. He has extensive experience in the project management, design and construction of building services.

Louis has worked on high voltage and standby generation facility installations, as well as a large number of semiconductor production facilities requiring highly resilient electrical installations within clean room environments.

Louis has experience in providing load studies and electrical designs including addressable fire alarm and voice alarm systems for major electrical installations. He has also designed electrical installations providing redundancy and resiliency including UPS, diverse routing of cables and N+n components.



EUR ING Jaswinder Singh
Technical Expert –
Process & Power

Jaswinder is a Chartered Chemical Engineer with over 40 years' experience in power plant design, construction and operation.

His considerable expertise across power generation sectors including gas, nuclear and renewables covers the following:

- Design (concept, detailed, construction)
- Power systems engineering
- Control systems specification, integration, and testing (factory acceptance testing, site testing and commissioning)
- Safety systems engineering and substantiation
- Construction support including completions and inspections
- Commissioning (strategy, management, cold and 'hot' testing/commissioning, performance testing)
- Operations support – trouble shooting control
- Processing of liquids, gases and solids
- Minerals processing



Frances Hale
Technical Expert –
Head of Energy &
Environmental

Frances is an energy and process engineer with 15 years' experience in the design and analysis of energy systems and infrastructure.

Frances specialises in the power and renewable energy sectors, with particular expertise in biomass and energy from waste. She has considerable experience in regulatory and consultancy roles.

Frances has been with Diales for six years and during that time she has gained experience of forensic engineering in insurance, arbitration, and investment disputes. Frances has given advice and assisted experts on a number of major energy and environmental disputes.



Stuart Holdsworth
Technical Expert –
Civil & Structural
Engineering

Stuart is a Chartered Civil and Structural Engineer with over 35 years' private practice and main contracting experience in a wide range of building sectors. Stuart has considerable international and specialist experience.

Stuart is experienced in concrete, cladding, steel design and fabrication, piling, façade retentions, temporary works, masonry, renovation and demolition of derelict structures, refurbishment, drainage, contract management and administration, site management and supervision, risk analysis, structural timber, geotechnical design, and ground investigation.

In addition to this traditional design experience, Stuart has provided specialist advice on the design and design review of more unusual structures, such as telecommunication network infrastructure.

Stuart has acted as an expert witness in a variety of different dispute fora, including international disputes.



Rob Gray
Operations Director –
Civil & Structural
Engineering

Rob is a Chartered Civil and Structural Engineer with over 14 years' experience in structural design in a variety of building sectors, in the UK construction sector and beyond.

Rob has an extensive and proven track record in the design and management of multidisciplinary projects, principally in the building sector. He has worked with major clients in both the public and private sectors and has a broad knowledge of the design of structures using steel, concrete, masonry and timber.

For a number of years, Rob was involved in the refurbishment of period buildings in the UK market. This included the structural design of new basements below existing buildings (including design to suit party wall requirements), vertical/horizontal extensions, and structural alterations to interior spaces to suit change of use.



Dr. Jovana Veletić
Senior Consultant –
Civil & Structural
Engineering

Jovana is a structural engineer and specialist in advance Finite Element Analysis and methods.

Jovana Veletić is a structural engineer with experience in the structural analysis and design of concrete, steel, precast (prestressed) concrete structures, and refurbishment projects.

She received her PhD in Civil Engineering (Structures) from City, University of London where she worked on creating a complete Finite Element (FE) analysis code for tall slender buildings (+400m height and slenderness ratio > 15:1).

She is proficient with the following software: AutoCAD, STAAD, Sofistik, ETABS, MATLAB, Tekla Structural Designer, Tekla Tedds, LaTeX, MS Project.

Jovana has presented at a number of conferences.



Ben Chamberlain
Technical Expert –
Head of Architecture

Ben is a Chartered Architect with over 35 years' experience, including construction experience in Europe and the Middle East.

Ben has worked at a senior level for 25 years, as a designer, project manager and technical expert, with projects and instructions in the UK, Europe, Russia and the Middle East.

Ben is experienced at all stages of the architectural process; from conceptual work and planning through to delivery and handover in a number of sectors. He has worked in a diverse range of practice types, from smaller design led studios to international multi-disciplinary commercial organisations.

Ben has also worked closely with contractors; being based on site when delivering larger projects, both in the capacity of project administrator and as the novated architect, employed by the main contractor.



Octavian Dan
Delay Expert

Octavian is a project manager with over 30 years' experience in the construction industry. He has been appointed as a delay expert on more than 25 occasions, including French language disputes, and has been cross-examined in arbitration.

Octavian is trilingual (English, French, Romanian) completing his architectural degree in Romania, its equivalency in Belgium, and a project management diploma in the UK. He has worked on a wide variety of project sites across Europe, including high-rise offices, retail and residential buildings, a railway station, a prison and industrial plants.

He is specialised in forensic delay and disruption analysis, resolution of time-related issues and uses various recognised analysis techniques based on the critical path of the project. One of the matters he worked on was referred for enforcement to the High Court Mr Justice Akenhead (Cantillon Limited –v- Urvasco Limited [2008] EWHC 282 (TCC)).



Andrew Agathangelou
Delay Expert

Andrew is a delay analyst with 30 years of industry experience. He is a specialist in construction delay claims and has been cross-examined on several occasions.

Andrew has been providing expert witness services since 2005 in adjudication, arbitration, and litigation on a number of different projects in the building, energy, and infrastructure sectors. Andrew has prepared written reports for these disputes for the tribunal, presented oral evidence, and has been cross-examined in arbitration proceedings.

Andrew is also a practising planner, and provides non-contentious programmes and planning advice to a number of property consultants and developers. Prior to becoming a consultant, Andrew spent 18 years with contractors as a planner. He undertook the role of a site based planner responsible for the short term planning, overall strategic planning, co-ordination and integration of the subcontract works into the master programme, and preparation of extension of time claims and supporting programme analysis of the delays.



Kjeld de Meersseman
Delay Expert

Kjeld is an architectural engineer and project manager with over 10 years' experience of construction contract and claims. He has international and domestic claims and dispute resolution experience across multiple sectors, having been appointed as a delay expert on many disputes.

Kjeld has significant experience in advising clients on construction and engineering contracts, preparing, and defending claims including time and money, dispute avoidance / resolution issues as well as day to day assistance of clients with commercial and contract management services.

He has acted as appointed expert witness in proceedings before NAI, RvA and Dutch national courts. He is one of the co-authors of the Dutch 'Leidraad Vertraging en Verstoring', a guideline on delay and disruption for professionals.

Kjeld is fluent in Dutch and English.



Javier Sánchez Llopes
Quantum Expert

Javier is a Chartered Quantity Surveyor and a Chartered Civil Engineering Surveyor with over 15 years' experience in the construction industry. He is experienced in infrastructure and energy disputes in Europe and Latin America.

Javier has a strong background in project management, contracts, claims management and dispute resolution with extensive international experience on construction and engineering projects, having held various project and contract management positions for international infrastructure and energy contractors.

Javier has been appointed as lead expert witness on multiple occasions under various rules of arbitration including ICC, UNCITRAL and SCC. He has provided oral testimony and been cross-examined. He has also participated in statutory adjudications in UK and in mediation processes advising and negotiating on behalf of a party.

Javier is the former President of the Spanish Society of Construction Law and currently acts as committee Vice-Chair of the FIDIC Capacity Building Committee.

Diales is a trading name of Diales plc, which was established in the UK in 1978. We provide complete solutions to the global construction and engineering industry, and our services are offered across two main service streams: advisory and expert.



We provide dispute avoidance and dispute resolution services, from the outset of a project to completion and beyond. We offer commercial and contract management, project programming and forensic analysis.



We offer specialist expert support in adjudication, arbitration, litigation, and Alternative Dispute Resolution, whether acting as an expert witness, an expert advisor, or as an expert determiner.

Global solutions

With over 250 staff across five continents, we are able to understand the needs of our clients – their culture, and the culture of their location – and set about the solution to their problems.

As a global organisation, we work together across our international offices to form the teams most suited to our clients' needs.



250+ staff



15+ countries



20+ languages

Diales is a multi-disciplinary consultancy which provides specialist commercial management, planning, programming and scheduling, project management, dispute resolution and expert witness services, to the global construction and engineering industries.

The quality and experience of our people is fundamental to our success. Whether your requirement is for initial commercial and programming support, technical advice, dedicated training at the outset of a project, dispute management, or testifying expert witness services, our skilled and experienced team can assist.

Our experience combined with our in-house IT expertise allows us to work remotely and handle large volumes of data. Our highly qualified team have a proven track record in delivering exceptional services on time, and within budget.

We create innovative and flexible solutions for our clients at every opportunity, with our company values of innovation, integrity and transparency at the core of what we do.

Our expertise covers the following sectors and services:



MINING



TRANSPORT



OIL AND GAS



PROCESS AND INDUSTRIAL



BUILDINGS



ENERGY



INFRASTRUCTURE



MARINE



**DISPUTE
RESOLUTION AND
EXPERT WITNESS
SERVICES**



**STRATEGIC
COMMERCIAL
IMPROVEMENT
AND CONTRACT
MANAGEMENT**



**PLANNING,
PROGRAMMING,
DELAY ANALYSIS,
QUANTUM, AND
TECHNICAL**



**TRAINING,
SEMINARS,
WEBINARS,
AND WORKSHOPS**

DELAY

At Diales, our people are delay experts, not theorists.

All our experts have a minimum of 15 years' practical industry experience, before providing expert forensic analysis. Our work product is based on solid practical knowledge, ensuring our experts provide credible evidence during testimony.



Our experts demystify the delay analysis process, presenting their findings in a robust and understandable manner, using industry-recognised methodologies, including:

- Impacted As-Planned
- Time Impact Analysis
- Windows Analysis – Time Slice Analysis
- Windows Analysis - As Planned v As Built
- Collapsed As Built



QUANTUM

Our quantum experts, including chartered quantity surveyors with many years' experience of live projects, quickly cut through extensive and detailed cost data to understand the true financial basis of a claim, whether under NEC, JCT, FIDIC, EPC or other forms of bespoke contracts.

They can provide an independent assessment of quantum matters, and provide expert testimony, including the provision of reasoned and evidenced reports for use in tribunals or court, on valuation issues such as:

- Measured works to be completed under a contract
- Variations, compensation events and change
- Delay and disruption
- Contra charges and counterclaims
- Defects
- General claims for damages



TECHNICAL

Diales can provide experts across various technical disciplines ensuring a pre-requisite level and quality of industry experience.

Our skills ensure the delivery of concise reports that explain complex technical interactions in a clear and unambiguous manner in the following fields:

- Architecture
- Civil and Structural Engineering
- Mechanical, Electrical and Public Health Engineering
- Energy and Environmental Engineering

PROJECT MANAGEMENT

Diales Project Management experts have exceptional experience in the management of projects, and the standards of practice and services required to be delivered by Contract Administrators and Project Managers.



From feasibility studies through to handover, our services include understanding and commenting on:

- Industry standards for project management services, as well as the scope of services under specific agreements.
- The adequacy of the standard of service provided against specific contract requirements and industry expectations.
- Reasonable levels of payment for the amount and quality of project management provided.
- The assessment of the consequences of a failure to deliver adequate services.



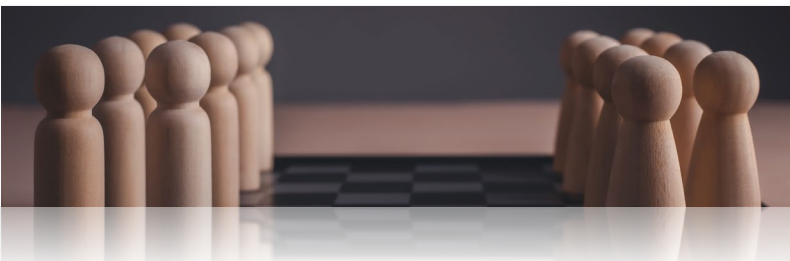
PLANNING AND PROGRAMMING DELAY ANALYSIS

- Baseline programme preparation
- Baseline programme validation and stress-testing to ensure compliance with contractual requirements and completion dates, and to identify and manage exposure to liquidated damages.
- Progress monitoring, including preparation of contractually compliant programme updates.
- Identification of potential programme risk areas, and advice on strategies and options for managing those risks.
- Advice and support in the preparation of baseline programmes, programme updates and as-built programmes.
- Forensic delay analysis.

COMMERCIAL IMPROVEMENT AND CONTRACT MANAGEMENT



- Pre-contract reviews to identify and manage risk allocation
- Contract review and team workshop sessions to identify and discuss contractual risks, advise on programme and progress reporting obligations, clarify notice and record keeping requirements, and raise awareness of general contractual compliance.
- Ongoing contract/commercial 'health-checks'.
- Assistance in the production and management of contractually compliant notices and other records.
- Drafting commercial and contractual correspondence.
- Development of commercial strategies.
- Preparation of commercial position papers, identifying the strengths and weaknesses of each party's position.
- Preparation, defence and negotiation of claims, including variations and compensation events, prolongation, disruption and damages.
- Final account valuation, negotiation and settlement.
- Risk and value management.



DISPUTE AVOIDANCE AND DISPUTE RESOLUTION

- Advice on commercial strategies to avoid and/or manage potential disputes
- Assessment of entitlement to, and value of, claims for variations and compensation event extensions of time, prolongation, thickening and disruption.
- Preparation for and representation in negotiation, mediation and other dispute resolution forums.
- Assistance in the preparation for and management of adjudication proceedings, whether acting for the Referring or Responding Party.
- Assistance in arbitration or litigation proceedings.
- Expert services, including quantum, planning, project management and technical expert witness; independent evaluation; expert determination.
- Acting as Mediators, Arbitrators and Adjudicators.
- 4D visualisation to assist in illustrating key messages on programme, delay, disruption, and costs.



Email: info@diales.com, Web: www.diales.com

Find [your local office here](#) and discover how Diales can help.

Diales | Uncompromised Expertise

Africa | Americas | Asia Pacific | Europe | Middle East