

ZENIUM  
DATA  
CENTERS



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Built  
around you.



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AN INTRODUCTION  
TO ZENIUM



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- Meet the Team
- Track Record
- Data Center Portfolio
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# CORPORATE OVERVIEW

We are a young company with a mature  
set of credentials.



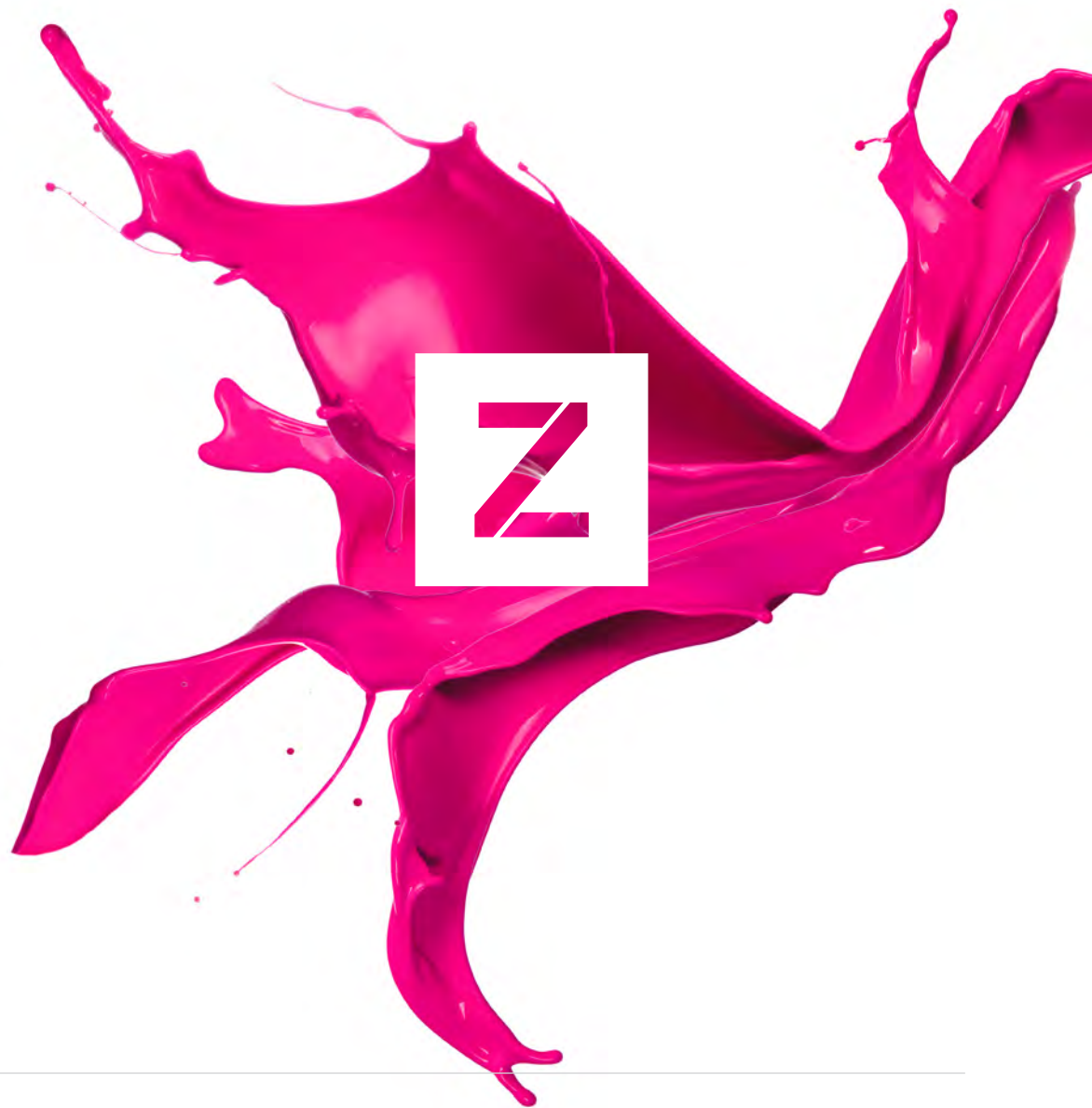
## Introducing Zenium Data Centers

We are a young company with a mature set of credentials.

In the last 20 years Zenium's management team has raised over \$2.2Bn in debt and equity and conceived, designed and delivered over 430,000 square meters of international technical real estate, securing over 100 individual customer agreements. Not only were we instrumental in the inception of Global Switch during the technology boom, but we subsequently established Sentrum in response to demand from corporate users for a uniquely tailored solution.

Our unquestionable expertise, coupled with our desire to push the boundaries of the sector, led to the inception of Zenium Data Centers in 2013 – a fully funded private company established to deliver world-class customized data center solutions in both established and emerging markets.

At our heart we are entrepreneurs and have a genuine desire to set new industry standards and change the way in which the sector operates. We are committed to consistently delivering innovative, high quality data center solutions that meet your business needs.



## Corporate Overview

### Setting standards

We deliver purpose-built, secure, efficient and resilient data center solutions for businesses in established and emerging markets. Combining unrivalled industry experience and innovation, we're setting new standards in data center design, construction and operation to drive efficiencies for our customers.

### Collaborative

Our approach to data center provision is truly collaborative with our customers. We are able to offer a range of solutions from wholesale to resilient co-location and bespoke suites of additional data center management services. Our team of international data center experts work to tailor every aspect of your customers' mission-critical environment and infrastructure to meet your current and future business needs. We advise and deliver across every aspect, from energy-efficient design to operations.

### Unrivalled expertise

In addition to world-class facilities, our entrepreneurial spirit and commercial agility mean that we are able to take advantage of unique opportunities in the sector where others can't.

### What we do

- Deliver state-of-the-art purpose-built data centers
- Offer carrier neutrality and diverse connectivity in fiber-rich locations
- Provide industry-leading energy efficiencies, multi-layer security and a Tier III+ level of resilience
- Create fully customized and scalable data suites
- Collaborate, advise and deliver across every specification

### Portfolio at a glance

Our existing data center portfolio includes:

- Frankfurt One: 5,000 sq m, 9.1 MW of IT load
- Frankfurt Two: 7,500 sq m, 17.6 MW of IT load
- Istanbul One: 12,000 sq m, 22 MW of IT load
- London One: 4,800 sq m, 9 MW of IT load



# MEET THE TEAM

Even when you know what you want in a data center, you can still be pleasantly surprised. The Zenium team works in partnership with its customers to deliver solutions that consistently exceed expectations.



## Meet The Team

### About us

We are a small, dynamic team of experts with a true passion for what we do.

We have tried and tested 'hands-on' knowledge of countless mission-critical systems, technologies and supply chains, giving us practical insights and market understanding unmatched anywhere in the sector.

Our entrepreneurial spirit, commercial agility and straight-talking approach to doing business mean that we are able to take advantage of unique opportunities in the sector where others can't.



Flexible Agile  
Innovative



## Meet The Team



### Franek Sodzawiczny CEO & Founder

With a career history spanning 25 years, Franek has extensive experience in every aspect of the property industry, from finance, design and construction to facilities and energy management.

Franek's particular area of expertise is mission-critical environments having been involved in a myriad of projects across a range of vertical sectors including aviation, telecommunications, IT and manufacturing.

He was a founding partner of Sentrum where he was instrumental in delivering on the company's strategy to develop 'best of breed' data centers and to build a reputation for quality and innovation in the sector. This led to the subsequent sale of the Sentrum portfolio and brand to Digital Realty for \$1.2 billion.

Prior to establishing Sentrum, Franek was a Board Director with Bellwater, having previously held Director positions with both AMEC and EMCOR. As an industry veteran, Franek is well known in the sector and has a strong business track record, as well as considerable knowledge of the key challenges facing this market.



### Matt Pullen Global Sales & Marketing Director

Prior to joining Zenium, Matt was the Head of Global Corporate Services EMEA at CBRE, delivering outsourced real estate services to major corporates across the EMEA region.

As part of this role, Matt developed the first real estate data center advisory team which supported many of the major international telecoms operators with their EMEA expansions during the technology boom. His work during this period earned him the award of "Young Property Person of the Year" (Property Week Awards) in 2001.

Over the last decade Matt has been a key figure in the wholesale data center market. He advised Commercial Union in relation to their acquisition of 25% of Global Switch and was closely associated with the development of the Sentrum portfolio. Throughout the period his team were prolific in the acquisition of corporate data centers and, in the summer of 2012, Matt advised Digital Realty in relation to the property aspects of their acquisition of Sentrum.

Matt has extensive relationships in the corporate community and a unique understanding of the property investment dynamics of data centers.

Fran

Matt



## Meet The Team



### **Julian King** Key Accounts Director

Julian brings a wealth of experience from the data center, real estate and business sectors. His expertise and knowledge of the data center industry is significant.

Prior to joining Zenium, Julian served as Commercial Director of Volta Data Centres where he played a pivotal role in establishing their new facility in the City of London.

Julian was also Group Commercial Director at Global Switch where he had responsibility for the group's commercial and sales strategy across its portfolio of data centers in Europe and Asia-Pacific. Julian joined Global Switch in 2002 at a time when the sector was suffering the effects of the demise of the dot com boom and was instrumental in repositioning the business to attract global corporates and their reseller partners.

Julian also has extensive experience in the commercial real estate sector having been involved in major office developments including London's award-winning Stockley Park and served as European Managing Director of serviced office specialists, HQ Global Workplaces.

Julian



### **Steve Hayward** Head of Facility Management Services

Steve is a highly respected multi-disciplined engineering and facilities management specialist. He brings a wealth of knowledge to Zenium, having previously worked with financial and blue chip enterprises, data centers and critical environments and military aircraft for Her Majesty's Royal Air Force.

Prior to joining Zenium, Steve was Facilities Director at Sentrum (Digital Reality), where he proved he delivered best-in-class customer experiences and exceptional P&Ls for stakeholders.

Steve has a reputation for driving process and procedural excellence throughout his portfolios. He places an acute focus on operational efficiency and service delivery. He listens to understand his customer's requirements and builds long-lasting relationships as a result. This, coupled with his desire to set new standards and continually innovate, perfectly align him within Zenium's DNA.

Steve

## Meet The Team



### Mike Venables Principal Engineer

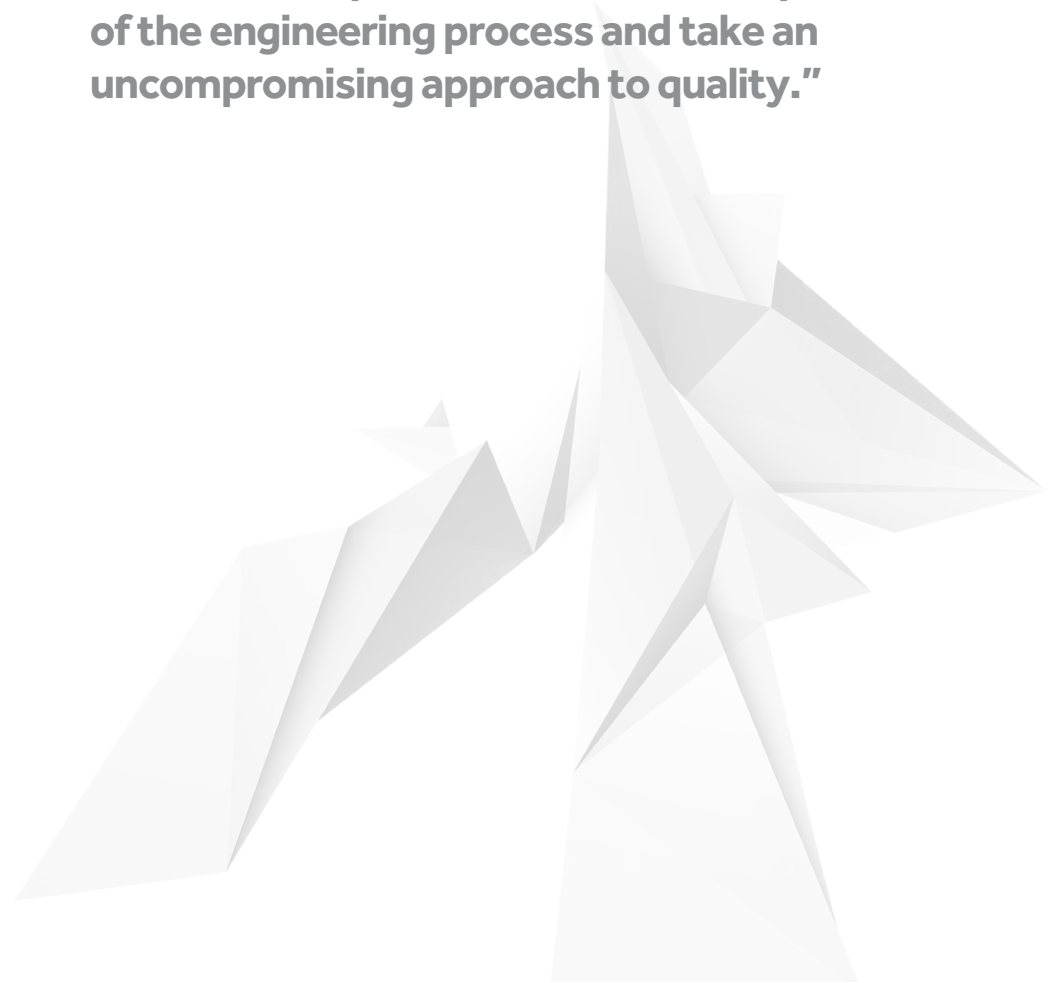
Mike is a Chartered Engineer and a member of the Chartered Institution of Building Services Engineers (CIBSE).

Mike's experience within the data center sector is unrivalled and encompasses every aspect of M&E from concept design and tender/contract documentation through to project management, specialist commissioning, surveys, investigations and general professional M&E advice.

To date, the projects with which Mike has been involved run into hundreds of thousands of square feet in aggregate. He has an unsurpassed reputation for the delivery and management of technically complex projects, where his unique multi-disciplined M&E knowledge and commissioning experience have ensured the consistent delivery of the highest quality engineering solutions on time and on budget.

Mike

**“ Engineering excellence runs through our veins. We are passionate about all aspects of the engineering process and take an uncompromising approach to quality.”**



## Meet The Team



### Mark O'Keefe Director of Architecture

As a qualified Architect, Mark has held a number of senior management roles spanning a diverse range of technically complex projects in the UK and Europe. He has over 20 years' specialist experience in the design and construction of data centers.

Mark has extensive sector expertise having been Director of Architecture both at Digital Realty Trust and Sentrum, where he oversaw the design and build of the 1.4 million sq ft portfolio. His responsibilities ranged from design and coordination through to bid management and client presentations. He also possesses a comprehensive knowledge of Planning and Building Permit compliance in a number of markets.

His previous roles include Senior Project Manager of the Real Estate Division at Trammell Crow, where he was responsible for a number of key data center and office projects across EMEA for American Express, and Project Development Director at Bellwater.

Mark



### Chester Reid Finance Director

Chester is a Chartered Accountant with over ten years' knowledge and experience of the wide ranging financial issues faced by pan-European real estate investment and development companies.

His remit at Zenium is to support the Group's overall expansion plans, as well as playing a key role in seeking additional investment opportunities.

Prior to his appointment, Chester was Head of Finance at Ballymore International Developments Limited Group, a real estate investment and development firm with over €1 billion in real estate assets located across mainland Europe, where he was responsible for managing the Group's finances.

His international experience is also demonstrated through previous roles at Savills Ireland, where he took the lead role in the Irish investment cycle in the Chicago Spire skyscraper development project, and at Quinlan Private (now Avestus Capital Partners) where he managed the finances of an €800m+ portfolio of investment assets in countries throughout Europe.

Chester

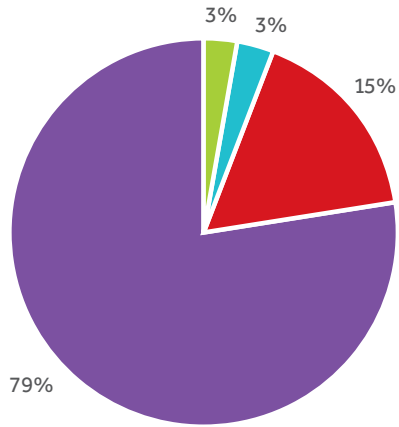
# TRACK RECORD

Zenium offers unrivalled data center experience.  
Between us, the Zenium team have delivered a  
portfolio of over 430,000 sq m of technical space.



# Zenium Customers

## Customers by Industry:



- Cloud & Management Services
- Telecommunications
- Financial Services
- Distribution Services, Information Technology & Media

### Customers:

Bloomberg



DATA GROUP

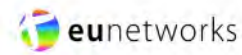


### Previous Customers:



## Zenium Customers

### Connectivity Partners:



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# DATA CENTER PORTFOLIO

Purpose-built data centers in key strategic locations.  
Setting new standards across the globe.



## Data Center Portfolio

### Frankfurt One

Frankfurt One provides 5,000 sq m of high specification technical space, strategically located in Sossenheim, one of the most favoured areas for data centers in Frankfurt, Germany's 'Digital City'.

Built to our exacting standards, Frankfurt One offers industry-leading energy efficiencies, multilayer security, carrier neutrality with diverse routes, and a Tier III+ level of resilience. The purpose-built facility also includes on-site meeting rooms, breakout areas, and benefits from 24/7 security and management delivered by Zenium's in-house teams.

### Overview

- A single five storey building providing 5,000 sq m of technical space
- 9.1 MW of IT load available
- Fully flexible solutions with IT power of 1,500W/sq m or higher if required
- Tier III+ level of resilience
- N+N dedicated electrical infrastructure to each floor with dedicated generator backup
- Industry-leading energy efficiency with a PUE of 1.3 at design load
- Carrier neutrality and outstanding diverse connectivity to A+B Meet Me Rooms from multiple fiber providers
- Bespoke and scalable data halls, sized to suit customer requirements
- Dedicated offices, stores and electrical plants to each floor
- Multi-layer industry leading levels of physical and electronic security
- 24 x 7 x 365 on-site support delivered by Zenium's in-house facilities management and security team



## Data Center Portfolio

### Frankfurt Two

Frankfurt Two will sit immediately adjacent to Frankfurt One. This brand new state-of-the-art facility will provide 7,500 sq m of high specification technical space, strategically located in Sossenheim, one of the most favoured areas for data centers in Frankfurt, Germany's 'Digital City'.

Frankfurt Two will be available for occupation in the fourth quarter of 2017.

Built to our exacting standards, Frankfurt Two will offer industry-leading energy efficiencies, multilayer security, carrier neutrality with diverse routes, and a Tier III+ level of resilience. The purpose built facility will also include on-site meeting rooms, breakout areas, and will benefit from 24/7 security and management delivered by Zenium's in-house teams.

### Overview

- A single five storey building providing 7,500 sq m of technical space
- 17.6 MW of IT load available
- Fully flexible solutions with IT power up to 2,347 W/m<sup>2</sup>
- Highly resilient, concurrently maintainable power and cooling to Tier III+
- Dedicated N+N electrical infrastructure to each data hall
- Ultra-low PUE through the use of Indirect Adiabatic Air Cooling dedicated to each hall
- Carrier neutrality and outstanding diverse connectivity to A+B Meet Me Rooms from multiple-fiber providers
- Bespoke and scalable data halls, sized to suit customer requirements
- Dedicated offices, stores and electrical plants to each floor
- Multi-layer industry leading levels of physical and electronic security
- 24 x 7 x 365 on-site support delivered by Zenium's in-house facilities management and security team



## Data Center Portfolio

### Istanbul One

The Istanbul One campus facilities are brand new and state-of-the-art, providing 12,000 sq m of high specification technical space across three buildings – the largest data center campus in Turkey.

Strategically located to serve both the European and Asian markets, Istanbul One delivers world-class bespoke, scalable and dedicated data suites to multinational corporates looking for secure and resilient data center solutions in the region.

Built to our exacting standards, the three data centers offer multi-layer security, diverse multi-carrier connectivity and a Tier III+ level of resilience to provide world-class bespoke, scalable and fully independent, dedicated data suites.

### Overview

- Three buildings comprising of Blocks A, B and C, delivering 12,000 sq m of world-class technical space
- 22 MW of IT load available
- Fully flexible solutions with IT power of 1,500W/sq m or higher if required
- Highly resilient, concurrently maintainable power and cooling to Tier III+
- Industry-leading energy efficiency
- Dedicated offices, buildrooms and/or ancillary space, adjacent to each data hall
- Dedicated N+N electrical infrastructure to each data hall
- Carrier neutrality and outstanding diverse connectivity to A+B Meet Me Rooms from multiple fiber providers
- Bespoke and scalable data halls, sized to suit customer requirements
- Multilayer industry leading levels of physical and electronic security
- 24 x 7 x 365 on-site support delivered by Zenium's in-house facilities management and security team



## Data Center Portfolio

### London One

London One is strategically located in the Slough Trading Estate, one of the UK's premier data center locations. Slough has direct connections to fibre backbones into central London and mainland Europe. London One will be available for occupation from January 2017.

Built to our exacting standards, London One will offer industry-leading energy efficiencies, multilayer security, carrier neutrality with diverse routes, and a Tier III+ level of resilience. The purpose built facility will also include on-site meeting rooms, breakout areas, and will benefit from 24/7 security and management delivered by Zenium's in-house teams.

### Overview

- A single two story building providing 4,300 sq m of technical space
- Dual redundant power supplies of 15 MVA
- 9 MW of IT load available
- Fully flexible solutions with IT power of 2,000 W/m<sup>2</sup> and higher if required
- Highly resilient, concurrently maintainable power and cooling to Tier III+
- N+N UPS to each data hall
- Ultra-low PUE through the use of Indirect Adiabatic Air Cooling dedicated to each hall
- Carrier neutrality and diverse fibre connectivity to active A+B Meet Me Rooms from multiple providers
- Bespoke and scalable data halls, sized to suit customer requirements
- Dedicated offices, stores and electrical plants to each floor
- Multilayer industry leading levels of physical and electronic security
- 24 x 7 x 365 on-site support delivered by Zenium's in-house facilities management and security team



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# TECHNICAL SOLUTIONS

You don't have to build your perfect data center.  
You just have to know someone who can.



## Technical Solutions

### The Zenium Approach

There is an array of both mechanical and electrical systems available. It is essential that all the chosen solutions meet the desired requirements of resilience, reliability and energy efficiency.

From initial design through to construction and ongoing operation, every aspect of our data center is conceived and managed by our expert in-house team. We listen to understand customers' requirements and directly translate them into clear designs. We work hard to build trusting relationships, and our technical ability coupled with our straight-talking approach allows us to build exactly what customers want, quickly and cost-effectively.



## Technical Solutions

### Key Facts

- 20+ years team experience in the design and construction of mission-critical environments
- In-depth knowledge of supply chain
- Unique design, commissioning and operational experience
- Demonstrable commitment to on-going operational excellence
- Flexible approach to client preferred solutions
- Experience of many internationally recognised solutions
- Focus on reliability, resilience, robustness, maintainability, cost and energy consumption

### Examples of Solutions Delivered

- HV Supply – N, N+1 or N+N, each fully rated at N. 11kV, 33kV or 132kV
- LV Supply – N+N, each fully rated at N required for concurrent maintainability
- UPS Systems – N, N+1, N+N, N+1/N+1. Static, Rotary, Diesel Rotary etc
- Generators – N, N+1, N+N. 400V LV to 11kV HV
- Rack Capacities – From 2kW up to 30kW
- Rack Cooling – Flexible, Air or Water Cooled
- Chilled Water – N, N+N, N+1. Conventional, Free Cooling, Optimised Free Cooling
- CRAC Units – N+2, up to N+N dual coil
- Chillers – N, N+1 or N+N or multiple systems
- Adiabatic N or N+1 indirect air-cooled solutions
- Indirect air handling equipment with adiabatic heat exchanger
- AHU's and Humidifiers – N, N+1 or N+N
- Carrier Routes - N+N as a minimum
- Water Storage – Dedicated 24-Hour storage, or centralized tanks
- ASHRAE T9 supply temperature control or Conventional Return Air Control
- Cold Aisle Contained, Hot Aisle Contained, HD and LD areas
- Scalable, power and cooling
- Mixed air-cooled and water-cooled solutions
- Tier 2, Tier 3 and Tier 4 based solutions

**“ Our list of technical options is endless but can be quickly drilled down to a number of choices to meet commercial requirements and regional conditions.”**



# Technical Solutions

## Energy Efficiency Considerations

With both a corporate and moral responsibility to make our data centers as energy efficient as possible, we review the possibilities for every facility we construct.

Clearly the location of the data center will influence the energy saving strategy adopted. We review the specific location and determine the characteristics of each system in the climate conditions within which it will operate.

## Examples of Options Delivered

Some of the options that we adopt, depending upon the climate conditions present, include:

- Systems are designed to allow for efficient operation, particularly at part load
- Rainwater is collected in underground or above-ground storage tanks
- Adiabatic cooling is used to limit the periods of mechanical refrigeration which can be omitted with certain climates and conditions
- Data halls are constructed with a well sealed panel to reduce air leakage paths. The supply air handling units are sized at 0.50 Ac/hr maximum to reduce energy consumption
- Humidifiers are sized as resistance direct steam injection or spray adiabatic
- AHUs use heat recovery heating and cooling options
- All lighting is of low energy usage T5 lamp with high frequency ballast – PIR controlled
- Ancillary space is heated / cooled with ground or air source heat pumps with additional heating from heat rejection circuits on the chillers, only when required
- The building's fabric thermal properties are enhanced to reduce unnecessary loads
- Inverter drives are used to improve part load operation and BMS logic ensures peak performance
- DFU coils are selected with low pressure drops and the units are down rated to reduce fan power to improve PUE
- UPSs are selected to operate in energy saving modes when the utility supply is within specification limits
- Air-cooled equipment is used wherever possible
- Variable drive compressors are used to improve refrigeration system COPs
- Sequencing and management of the data center services are designed to allow for part load control
- Chillers include inverter driven primary pumps (constant flow) to reduce energy usage in part load operation and non free cooling modes. They are selected to be high efficiency optimised free cooling for maximum PUE
- Chilled water temperatures are set higher than normal to achieve high COP's and increase the free cooling potential

ONE  
DAY ALL  
DATA  
CENTERS  
WILL BE  
BUILT  
THIS WAY

Zenium Technology Partners Limited  
6th Floor, 65 Grosvenor Street  
London W1K 3JH  
United Kingdom

T: +44 (0)20 3667 8440  
E: [info@zeniumtechnology.com](mailto:info@zeniumtechnology.com)  
[www.zeniumdatacenters.com](http://www.zeniumdatacenters.com)

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An aerial night view of the London skyline. The Gherkin (30 St Mary Axe) is the central focus, illuminated from within, showing its distinctive diamond-patterned glass facade. To its right, several other skyscrapers are visible, including the Shard in the distance. The city lights are visible throughout the background, and the sky is a deep twilight blue. The text 'ZENIUMDATACENTERS.COM' is overlaid in white, sans-serif font across the middle of the image.

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