Oper8 GLOBAL

Micro Data Centre Solutions

About Oper8 Global

Created on the back of 60+ years experience

Oper8 Global Limited was established in late 2019 in Oxford, UK, to expand the Oper8 brand outside Australia, New Zealand and the Pacific Islands. Built on the long-term relationship of the multinational Management Team which developed during global Edge data centre solutions and deployments, and the obvious need for specialist Solution Integrators in the Edge, Hybrid Cloud and HPC marketplace.

Oper8 Global takes the view that customer aligned, right-sized data centred solutions require the right mix of vendor products with integration expertise.

Oper8 Global supports the approach that no one product can deliver everything required to successfully deliver a customer aligned, right-sized Edge, Hybrid Cloud or HPC data centre solution.

Oper8 Global has taken advantage of the significant industry knowledge of our Management Team to carefully select Key Partners that continue to prove their support for our innovative customer solutions. Our Key Partners accept that their entire product range might not always align to our customer's local project needs, but that core components when integrated by Oper8 with other infrastructure that can provide the right blend of form, function, and cost.

Oper8 has it's own product development and manufacturing capabilities that are designed to complement our solutions.

Oper8 Global offers the following core build solutions:

- Modular Data Centre
- Prefabricated Data Centre
- Micro Data Centre
- Nano Data Centre
- Pico Data Centre

In addition the build solutions, Oper8 Global offer products and services aimed to compliment the Data Centre industry.

To find out more, please visit our website by clicking the below link or scanning the QR Code:

oper8globalgroup.com

Oper8 Global Micro DC Overview

Introducing Oper8 Global's Micro Data Centre solutions - small in size, big on performance.

The innovative Oper8 Global Micro DC solution is flexible to suit a diverse range of applications, indoor or out. Using a modular approach, the Micro DC can be scaled as budget or requirement allows offering an extremely cost effective way to manage your IT estate. The specially designed racks are air tight and offer room neutral cooling.

The Micro DC promotes the latest in industry technology as well as best practices to offer a solution that is incredibly efficient. Efficient doesn't mean underpowered, as it is possible to achieve 125kW in one rack for real high density applications. The Oper8 Global Team will work with you to provide a solution tailored to your requirements.

Key Features:

- Utilises standard Data Centre hardware and practices
- Optimal airflow management enables greater efficiency for the cooling system
- Air Tight
- Room neutral cooling
- Flexible
- Scalable as budget or requirement allows owing to the modular approach
- Rapidly Deployable
- Secure
- High Density - up to 125kW per rack
- Extensive Options & Accessories available
- IP66 version can be sited outside
- Cost effective - Up to 60% cost savings using Micro DC over a conventional build
- Reduction in white space requirement due to higher density racks

Modular, Flexible and Scalable

Designed with a modular approach, the Oper8 Global Micro Data Centre allows for a scalable solution.

The rack range offers two solutions, IT/Network racks and Cooling racks. The IT/Network racks provide conventional industry sized rack dimensions, although you will see that the depths have increased to allow for improved airflow front and rear. These plenums in effect work as hot/cold aisle separation. It is important to note that when scaling the solution Day 2, rack heights and depths must be the same dimensions as Day 1 installation, only the width can differ.

The cooling racks are bespoke to Oper8 Global's air conditioning sizes. Our frame sizes suit the application needed. High density racks will require a 700mm wide unit to accommodate the larger row based cooling unit. In addition, higher density racks and deep UPS units will require the 1,450mm depth so as to aid airflow and return. The Oper8 Global Team will work with you to advise the best solution.

The Oper8 Micro DC solution offers great flexibility in terms of design. Racks are mechanically bayed together and can be positioned in any arrangement. Oper8 will assist in designing you a solution that accommodates your requirements whilst ensuring optimal efficiency.

Module Dimensions for the Micro DC IT/Network Rack Range:

Heights:	40U	45U	48U

Widths:	600mm	800mm

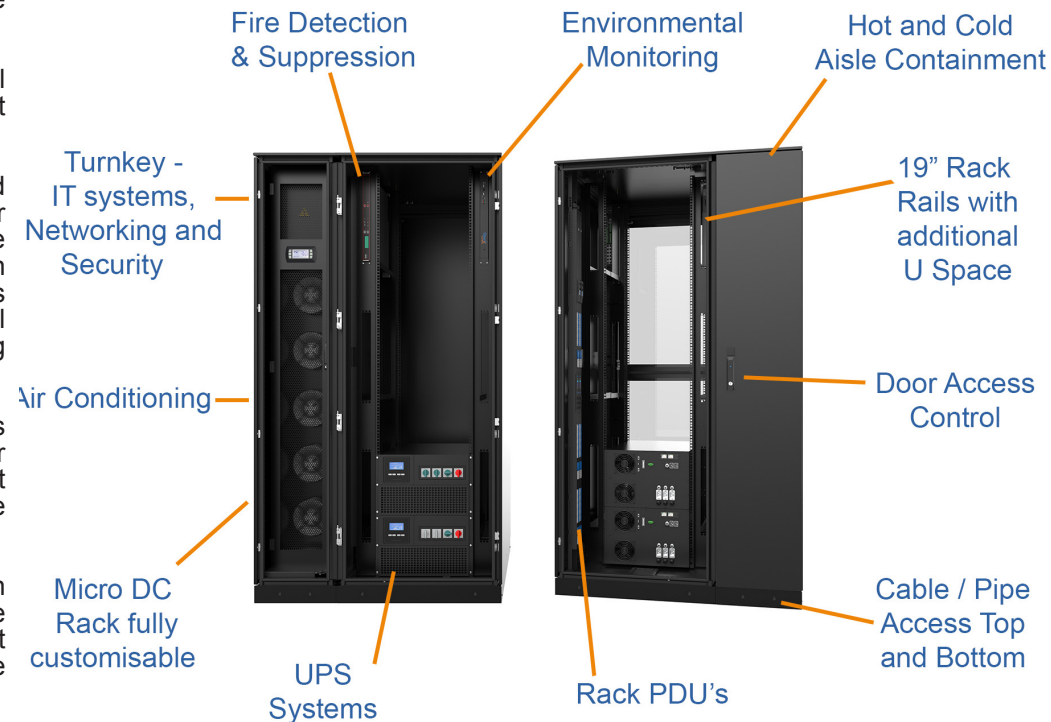| Depths:	1,250mm	1,450mm

A Regular Data Centre

The Oper8 Global Micro Data Centre incorporates the traditional Data Centre Hardware, only in a smaller footprint.

Specify your Micro Data Centre with:

- **Air Conditioning -** flexible power densities and various cooling mediums available (DX/GE/CW) allow for efficient and controlled cooling. Oper8 Global's experience can enable you to employ a cooling system that provides optimal cooling whilst aligning with corporate and environmental goals.

- **Hot / Cold Aisle -** The Oper8 Global Micro DC comes as standard with hot/cold aisle separation. The sealed rack and air barrier ensure airflow can't mix therefore providing the user with an incredibly efficient system that will protect IT as well as reduce operational costs.

- **UPS -** Oper8 Global offer a great selection of rack mounted UPS systems from well established, industry leading manufacturers. Systems are designed to suit a resilient infrastructure and offer a broad range of power.

- **Rack PDU's -** Supply your compute with Zero U rack mounted PDU's in the rear mounted vertical brackets provided in every Micro DC. PDU's can be provided to suit global power requirements, a host of plugs to suit any input socket and a diverse offering of compute receptacles to power any IT hardware you require. PDU's offer so much more than power. Outlet power-up sequencing protects against inrush current overload and allows users to define equipment boot-up order and timing, while billing-grade outlet level metering provides detailed equipment level power data. Remote outlet on/off switching for complete protection and control in critical environments, and so much more.

- **Rack Rails -** Like most conventional IT racks, the Oper8 Micro DC uses 19" rack rails to accommodate standard Data Centre Hardware. To maximise efficiency of the smaller footprint, it is possible to add a further 6U to the side of the rails to vertically mount switches, EMS, Fire Panels etc. In total an additional 12U can be supported using the rails.

- **Fire Detection & Suppression -** protect your environment by optioning a fire detection and suppression system. Available from 1U high, the small device can detect fire using an intelligent smoke aspirating system and extinguish any threat by the inbuilt suppression system. A range of suppression mediums are available to mitigate a fire risk to your IT estate.

- **Environment Monitoring & DCIM -** Let Oper8 Global's EMS and DCIM systems monitor the environment to mitigate risk and keep you informed as to what is going 24/7 where ever you are. Not only is the environment monitored, but additional hardware (UPS/Fire etc.) are also able to be monitored, providing customers with a great overview of their IT estate in real time, anywhere in the world.

- **Security -** Specify your Micro DC with a range of security options such as CCTV or Door Access to ensure your IT is protected at all times. Robust defences, configurable warnings and alarms and remote monitoring will ensure your Micro DC is always safeguarded from threats. Work with the Oper8 Global Team to deploy a solution that offers peace of mind.

Fire Detection & Suppression

Environmental Monitoring

Hot and Cold Aisle Containment

Turnkey - IT systems, Networking and Security

19" Rack Rails with additional U Space

Air Conditioning

Door Access Control

Micro DC Rack fully customisable

UPS Systems

Rack PDU's

Cable / Pipe Access Top and Bottom

Weatherproof

The Oper8 Global Micro Data Centre can specified with an IP66 rated enclosure. This option enables the Micro DC is to be located in much harsher environments. This allows the Micro DC to free up office or warehouse space and exploit the unused space outside of the building. Better still, the external variant can be easily sited at remote locations, and with the optional remote monitoring with excellent real time visibility over your IT estate and full support from Oper8 Global, owning and operating this solution remotely is simple.

The weatherproof range continues the ethos of the standard Micro DC enabling a multitude of potential cabinet layouts. Again, like the internal variant, the external Micro DC uses standard 19" rails and conventional Data Centre hardware. Option your weatherproof solution as you would any other Data Centre.

Deployment is simple with Rapid Deployment. Plug and Play components mean once power is connected and a Data connection established, your external DC is ready to go. Quick and easy plug and play connections simplify the deployment process and are designed with Operators in mind to ensure robustness at remote environments with a weatherproof enclosure, vandal resistance and a host of external options to deploy a secure solution fast.

If security is a priority then the Oper8 Global solution is perfect for you. Enhanced security through toughened locking ironmongery, door access, CCTV and alarms can help to mitigate threats. Security is further improved by optioning the installation of condensers within the cabinet. Using stainless steel mesh for the walls and secure doors, condensers can be installed with all pipework and cabling protected too.

If you are considering a new Data Centre but do not have the available space internally, or you require an external solution, enquire to see how the Oper8 Global weatherproof solution can help you fulfil your IT goals.

Bespoke Design Services

Right Sized - Customer Aligned

Oper8 Global are all about working with customers to achieve their IT and corporate goals. The personalised service offered by Oper8 Global allows customers to fully customise their products and solutions.

From simple customisation like branding and colour through to purpose designed and sized Micro DC enclosures, Oper8 Global endeavour to deliver your perfect solution.

If you have a requirement for a bespoke solution, enquire now to see how Oper8 Global can help.

Applications

The Oper8 Micro Data Centre is designed to excel across a broad range of applications. Thanks to the modular approach, the ability to be sited inside or outdoors and the flexibility offered through unique customisation, the Oper8 Global Micro DC can be tailored to so many applications.

The core areas the Micro DC is suited to are:

- High Performance Computing (HPC)
- Edge Computing
- Hyper Converged on-site Platforms
- Telco Solutions
- Industry 4.0
- Unconventional Data Centre spaces such as factories, store rooms, trackside for motor sport etc.
- Retail
- Branch Offices
- SOHO
- Artificial Intelligence
- Super Computing
- Oil, Gas, Exploration and Mining

High Performance Computing

A key application of the Oper8 Global Micro Data Centre is High Performance Computing. Oper8 Global provide High Performance Computing (HPC) Infrastructure solutions that range from small workgroup clusters to HPC clusters featured on the world Top 500 supercomputers list. The demand for High Performance parallel processing of data is growing. It is no longer possible to cool these devices with air alone, Direct Liquid to chip cooling is the only way forward. Oper8 provide the IT Eco System to be " Server Ready". To achieve this our solution comprises of:

*   A purpose built rack enclosure which is 100% air tight capable of accommodating loads of more than 2000KG per Rack
*   In rack CDU's starting from 40kW through to 1.2MW, these liquid to liquid heat exchangers utilise centralised pumping architecture to ensure superior performance and reliability
*   In rack liquid manifolds are mounted vertically at the rear of the rack and distribute the liquid from the CDU and the server, these are customised to suit the application. The manifolds are fitted with non drip quick disconnects making adding or removing a server a simple task.
*   In Rack Cooling unit for non Liquid cooled devices. These units deliver conditioned air along the front of the enclosed rack and remove the heat from the rear of the rack. A typical HPC configuration is based on 80% Liquid cooling to 20% air cooling. Depending upon the size of the cluster will determine how many units are required
*   Intelligent Zero U rack PDU's are installed at the rear of the rack and provide the power interface to the server, these are intelligent and indicate, phase loadings, power draw per socket and KW/h
*   Network switch cassettes are provided at the front of the rack. These 1U cut outs that accommodate various manufacturers, a total of 8 slots per rack are provided and designed for front IO

Key Benefits:

*   Significantly reduces Data Centre White space through higher density cooling
*   Maximised utilisation of the rack space
*   High efficiency means reduction in total Data Centre Energy consumed
*   Higher return water temperatures means 100% free cooling in most geographic regions
*   A plug and play solution
*   Scalability, System can grow as your IT estate grows (Faster ROI)
*   Creates a room neutral environment (no heat generated within the location) reduced noise)

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