MINKELS
MAGAZINE

Drivers for innovation in the data centre market

MainOne plans to expand its data centre business, MDXi, into new territories across West Africa

Fire suppression for MiniCube micro data centre

Learn more about: rack must-haves!

The data challenges
of the Academic Medical Center (AMC) in Amsterdam

Dataplace provides more certainty in a 24/7 economy

Van Marcke chooses energy-efficient MatrixCube

A modular solution for mobile data storage

MINICUBE 3.5 KW – ADVANCED
WITH EXXFIRE FIRE SUPPRESSION SYSTEM

The market increasingly demands safety solutions for data centres. That is why Minkels offers a fire suppression solution as an option for its micro data centres. The **MatrixCube** was already available with this system. Now the **EXXFIRE system** is also integrated in the **MiniCube**!

Benefits

- Reliable solution for server rooms
- Building-independent, thus easy to deploy
- Efficient housing for IT infrastructure
- Use of proven technologies
- Turn-key solution

MORE INFORMATION?
www.minkels.com/minicube/configurations

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WHICH INFORMATION WOULD YOU LIKE TO RECEIVE?

You will probably have noticed that the GDPR (General Data Protection Regulation) is effective since 25 May 2018. This also includes the use of e-mail addresses for marketing purposes. To keep you informed in the future of Minkels updates, we kindly request you to opt-in at our website so we have permission to e-mail you. Please let us know which information you would like to receive!

www.minkels.com ◼

THE MINKELS WEBSITE; CONTINUOUS IMPROVEMENTS

The Minkels website has undergone some improvements. Have you noticed them? All the information on our website is now also available in German and French and the design has been updated to guide you through our website even faster and easier. Take a look yourself at **www.minkels.com** ■

EXHIBITION SEASON FOR LEGRAND DATA CENTER SOLUTIONS

Minkels was present at different events in the past months. Minkels, Legrand and Raritan showcased the portfolio and possibilities of Legrand Data Center Solutions!

Legrand Data Center Solutions presented among others the micro data centre solution MiniCube, the award-winning Free Standing Corridor and some innovations like new sliding doors, UPSes, intelligent PDUs and the new Legrand connectivity program LCS3.

The Legrand Data Center Solutions team was present at Light & Building (Frankfurt), Datacenter Forum (Baden), Data Centre World (London), Solution Datacenter Management (Paris) and the Technology Forum (Castione). Legrand also organised the first Legrand Data Center Solutions 'EMEA Channel Partner Conference' in Berlin (page 7). In the coming months, you can also meet our team at Com-Ex (Bern), Data Centre World (Frankfurt and Paris) and IT Room Infra (Den Bosch). Find out what Legrand Data Center Solutions can offer you! ■

Legrand Data Center Solutions
Global partner to count on

This year Minkels celebrates its 70th anniversary. In all those years, Minkels has always been at the forefront of new developments in the data centre market. Right now, Minkels is expanding and modernising its factory to meet the rapidly changing customer demand – need for availability, diversity, flexibility, better service and innovation – faster with high-quality solutions. In this article, Christiaan van Terheijden (CEO of Minkels) discusses the challenges in the data centre market.

Christiaan van Terheijden,
CEO of Minkels

GLOBAL PARTNER

The current data centre market is getting more and more mature with a strong focus on availability, efficiency and cost control. Van Terheijden: "Building a data centre demands a high degree of flexibility and a modular approach in order to be able to adapt to the ever-changing needs of the market. Projects are also becoming more and more complex due to increasing globalisation and the need for integrated solutions to match global standards. Support and assistance from a well-informed, trustworthy partner is essential. The specialist brands within Legrand Data Center Solutions – Legrand, Minkels and Raritan – have been these trustworthy global partners for thousands of organisations."

LEGRAND DATA CENTER SOLUTIONS

Legrand Data Center Solutions offers sustainable data centre solutions. "The key concepts of modularity, flexibility and energy-efficiency have been implemented throughout our extensive product portfolio. This ensures that customers always benefit from the latest data centre

EMEA Channel Partner Conference in Berlin

technologies. Our award-winning solutions also guarantee optimal uptime of mission-critical operations."

PARTNERS

In April Legrand Data Center Solutions also held its inaugural EMEA Channel Partner Conference in Berlin. "The highly acclaimed 3 day event was attended by over 50 partners from 19 countries across EMEA. It showcased the three brands that comprise Legrand's focus on the data centre space namely Minkels, Raritan and Legrand LCS3 together with DCIM Technology Alliance Partner, Sunbird Software. A consolidated

Legrand Data Center Solutions channel partner program will follow designed to enable our valued partners to maximise the significant opportunity that exists to deploy best of breed solutions that address the ever demanding needs of our joint customers."

OUR APPROACH

The local specialists of Legrand Data Center Solutions in your market will support you with the design and build of your white space with innovative solutions. "Whether it's a commercial data centre or a dedicated white space in a hospital, our specialists support you in all applications – large or small, with broad-based knowledge. These are solutions like enclosures, cooling, power, access management and structured cabling –

including the recently introduced high-quality connectivity range LCS3 – to meet unique customer requirements. Our approach is to fully understand our clients' requirements and business drivers and offer a complete solution for the white space. In-depth market and product knowledge as well as a strong link with standard committees (EN 50600) and the consultancy world further helps to get the best results for our clients' data centres."

KNOWLEDGE SHARING

White papers published by Legrand Data Center Solutions – written by Legrand, Minkels and Raritan – can be used as a guide to create future-proof and energy-efficient data centres. "Next to this, we provide our customers other tools like specification documents, configurators, training, Data Centre Academies* and knowledge sharing sessions. In this edition of Minkels Magazine, we also like to share our knowledge. You can find more information about our new whitepaper 10 (page 30), rack musthaves (page 10) and fire safety for micro data centres (page 18). Besides this, our customers – Dataplace, the AMC hospital, Van Marcke and MainOne – also share their experiences using the data centre technology of Legrand Data Center Solutions." ◼

Do you want to receive further information about our Data Centre Academies? Or do you want to register for the next session? Send an e-mail to info@minkels.com.

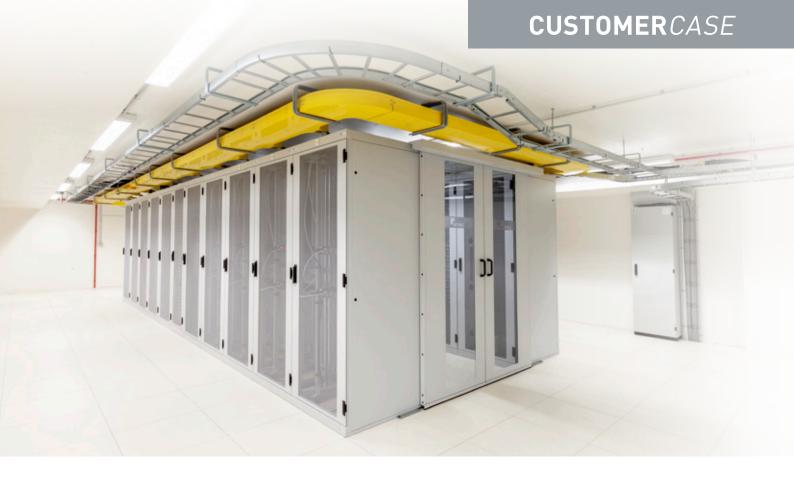EMEA Channel Partner Conference - Berlin, Germany

The data centre challenges

of the Academic Medical Center (AMC) in Amsterdam

As a university medical center, the AMC is tasked with three core responsibilities. First and foremost is to treat patients. The Academic Medical Center also conducts considerable medical-scientific research. The third core responsibility is to provide education and training. Fulfilling these responsibilities requires a lot of data traffic within the AMC and that poses the necessary challenges, according to Tim Hol (General Services ICT Network Management) of the AMC.

Tim Hol, General Service ICT Network Management at AMC

SER OF THE FUTURE

The existing Satellite Equipment Room of the Academic Medical Center was equipped with SER cabinets that would become hot too quickly. Hol: "The temperature in the cabinets began to increase due to an increase in Power over Ethernet devices and all the cables. Therefore, we got together with Minkels to conduct a site survey and an action plan was prepared to renovate the Satellite Equipment Room. Minkels based its solution on the MiniCube concept for this space that we call the 'SER of the future'. This micro data centre, that has been custom-made for us, ensures that we can support the network with more power while keeping the area cool. We have now moved from cabinets that were sixty centimetres wide to racks that are a metre wide. The micro data centre is also equipped with a Legrand UPS, Minkels in-row cooling, EXXFIRE fire suppression equipment and Raritan intelligent PDUs and sensors – resulting in an integrated total solution. As an introduction, the solution was assembled and presented to the managers on site. In particular the standardisation, the reduced downtime, (remote) monitoring of the environment – from temperature monitoring to fire suppression – and the enjoyable collaboration with Minkels really appealed to
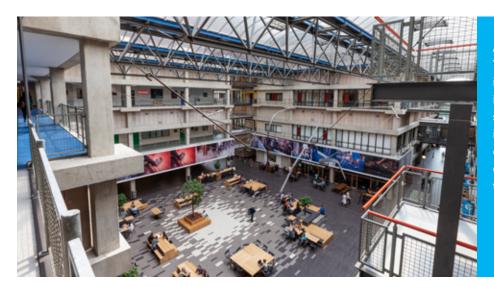
us. The project has now been awarded to Minkels."

FITTING OUT TELECOM ROOM

The 'SER of the future' isn't the only data centre project taking place at the AMC. "At AMC we currently have poor telephone coverage. We are setting up a new computer room for our indoor telephony. Minkels worked with us and gave us ideas and input in the design. This room will be equipped with a Minkels corridor with Legrand cable management systems, twenty Minkels cabinets with Minkels 650 water coolers and intelligent Raritan PDUs. A stress test has also been conducted in the room. By increasing the temperature, we could see what the effect was on the equipment. Minkels did well on this stress test!"

OPTIMISATION OF AUXILIARY DATA CENTRE

Minkels was also given the opportunity to optimise an auxiliary data centre at the AMC. "It was time to upgrade the equipment in this back-up computer centre. The heat density had increased substantially over a twelve year period; an imbalance developed between power consumption and cooling capacity. We then extensively researched cooling systems. In 2017 we ended up moving from decentralised cooling to centralised cooling. We use PCMs (Phase Change Material) for this purpose, which consist of salt hydrate. In an emergency situation, enough cold water is drawn from a buffer tank over a period of X hours to cool the cooling unit. Our cooling system is now much more efficient than before. We have also moved from standard PDUs to the Raritan intelligent PDUs. Therefore, we are more in control in this area as well." ■
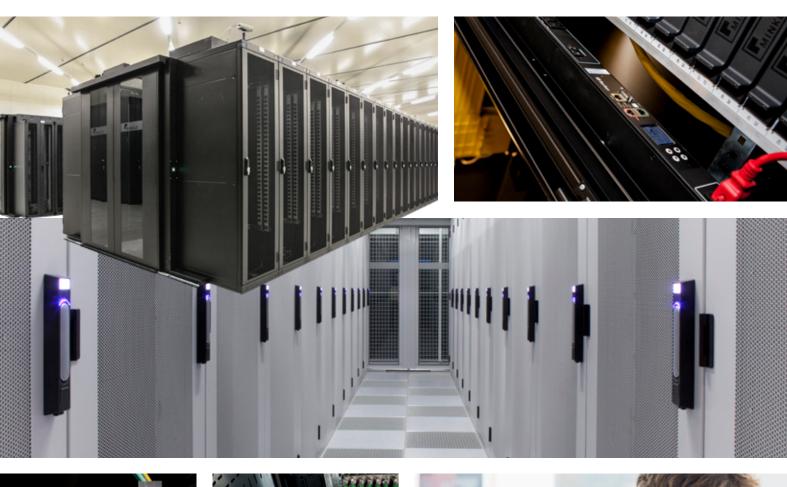

ABOUT THE AMC
The Academic Medical Center (AMC) in Amsterdam is a hospital where innovative medicine and top medical science go hand-in-hand. The AMC is one of eight university medical centres in the Netherlands and is considered among the international top in academic medicine.

Learn more about:
rack must-haves!

Minkels has an extensive portfolio of housing solutions for your data centre or server room. They are perfectly suited for the installation of (blade) servers, switches, patch panels, routers and storage equipment. Modularity and flexibility are always central concepts in our design process. What rack best suits your needs greatly depends on its intended application. Check out this article about rack must-haves and the considerations when choosing a rack!

① RACK APPLICATION

What is the intended use of the rack? Think of a small footprint & a high rack for colocation or an 800mm wide rack for cable & power management convenience. Pay extra attention to rack and floor loading specifications. High racks with small footprints are efficient for m² usage but can be a challenge for floor loading and equipment access. Wider racks provide much better options for cable management and Power Distribution Units (PDU) installation. Generally spoken, data centres use (high density) server racks, (high density) network racks and colocation racks. Having the ability to seamlessly use them together by means of having the same basic platform, has value when it comes to standardisation, aesthetics and integration with other systems.

② EASY TRANSPORTATION AND INSTALLATION

Use reusable/temporary transportation castors to move your rack from the data centres loading dock onto the data floor. Doors should be able to be opened 180 degrees or more to provide proper access during the installation of IT equipment. It is also quite convenient if it is possible to temporarily take off the doors without the use of tools.

③ AIRFLOW MANAGEMENT STRATEGY

Rack airflow management is a substantial contributor to data centre energy efficiency and the ability for proper cooling control (especially in case of low airspeed systems like most new data centres use). This includes the prevention of air losses in the 19" racks as well as aligning the room/row/rack cooling principles to the rack specifications (open, closed & hybrid loop, VED, etc.). Use appropriate accessories to manage this topic efficiently.

④ CABLE MANAGEMENT

The network is the heart of the IT infrastructure. Proper cable management provides better performance, serviceability, reliability and airflow management. Using the right accessories for copper and fibre cabling is essential. Especially >CAT 6 copper and fibre is sensitive for sharp bends so the minimum bend radius shouldn't be violated. Use modular cable ducts with dividers on top of the rack to manage top of rack cabling smartly.

⑤ RACK ENVIRONMENTAL MONITORING

A very high uptime is one of the main features demanded of an IT infrastructure. The ideal would be a computer system which has an availability of a hundred percent, and thus is up 24 hours a day.

Failures in computer systems and networks can cripple your organisation. For this reason, understanding what happens inside your rack by adding temperature, humidity and airflow sensors enlarges the ability to manage your data centres properly and provides optimal conditions for your IT equipment. Linking this information to your

DCIM tool will further enhance data centre management capabilities.

➏ SECURITY

It is essential to provide proper access management to your valuable servers and IT equipment as well as access to data (e.g. protection of USB ports to prevent unwanted interaction with your equipment) by adding the right level of security to the racks. This includes front and rear door access as well as cross cabinet access (use of divider panels between racks) and the side of the cabinet (side panel locking). Choose electronic access control systems for managed security, optimal results (highest level of security) and compliancy.

➐ POWER DISTRIBUTION

Choose the proper position in the rack to install PDU's in relation to PDU power lead cable management, angle and position of the outlets, potential obstructions of airflow, server power lead cable management and access to components in case of servicing, reading display, etc. Use the PDU must have tool* to better understand how to select PDU's properly.

➑ INTEGRATION AND CUSTOMISATION

Inside the equipment racks, all facilities come together in a very small volume: hot & cold air flows, power, network, fire suppression and detection, security, monitoring, etc. For an optimal result, it is critical that all these elements are properly integrated in the rack by using the right products and accessories. Since all situations are different, it is of great value to have the ability to combine standard components and accessories into a customer specific specification and single article number. Mass Customisation is an excellent way to achieve this. ◾

Do you want to know more about these rack must-haves? Let us know via our contact form at www.minkels.com or e-mail us: info@minkels.com.

* Please contact our sales department for more information about the PDU must have tool

Developments in
sliding door portfolio

DEVELOPMENTS
Minkels has further enhanced it's sliding door portfolio for aisle containment solutions – like the Next Generation Corridor and the Free Standing Corridor. But what are these developments?

GLOBAL PARTNER FOR ELECTRICAL SLIDING DOOR SYSTEMS
Thanks to its global presence strategy, Minkels can now provide service and maintenance in over 130 countries worldwide. Minkels has selected a global partner to ensure that customers get the best service on its new electrical sliding door systems – in accordance with the EN 16005. This will also guarantee optimal working conditions for the sliding doors during its life-span.

CHANGES IN SLIDING DOOR PORTFOLIO
The sliding door portfolio has been changed as well.

Options for electrical sliding doors:
- Keypad
- Emergency button (reset by master key only)
- Access control / Intelligent locking (HID Direct/485)
- Push button (inside/outside)
- *new* Motion sensor (inside/outside) with tool to configure its detection area
- Door position detection

Options for mechanical sliding doors:
- *new* Electrical locking
- *new* Sliding door with manual unlock by key lock
- *new* Keypad or access control / intelligent locking (HID Direct/485), makes remote locking/unlocking possible
- *new* A door latch to temporarily fix the doors in the open position
- Door position detection

Dataplace provides
24/7 economy

Dataplace offers data centre housing solutions tailored to the needs of the customer with its modern, fully equipped TIER III data centres with built-in redundancy. These data centres can be found in various locations throughout the Netherlands: one is located near Rotterdam, a second one in the Utrecht area and a third one in Arnhem. A fourth data centre has just recently been added: Dataplace Brabant. From these locations, Dataplace houses both large and small IT environments for a variety of different customers. Minkels provides key contributions to Dataplace's core processes, according to Marc van Erp (Marketing & Business Development Manager at Dataplace).

THINKING FROM THE END USER'S PERSPECTIVE

Designed with a clear philosophy in mind – whereby reliability, efficiency, durability and continuity play a key role – the Dataplace data centres have one mission to accomplish: to provide continuity and top quality data centre service 24/7. That is simple and clear language! But what is the one thing that distinguishes Dataplace from other data centres? Van Erp: "We think about everything we do from the end user's perspective, from how we house the servers, to how we speak with the customers on the floor every day – every slightest detail has been carefully considered. But where

Dataplace Utrecht

Dataplace Rotterdam

more certainty in a

Marc van Erp, Marketing & Business Development Manager at Dataplace

did it all begin? Our own experiences from the past as a customer of various, large data centres. Those experiences – coupled with our improvement ideas from both a technical and a customer focus perspective – have formed this vision."

MEETING EXPECTATIONS
The first Dataplace data centre – in the Rotterdam area – was established years ago as a direct result of this vision. "We also designed the data centres that were built later on in a similar manner. Short lines of communication, flexibility, speed and our willingness to do whatever it takes illustrate how we work. We also give each customer – ranging from multinationals to small, local specialised IT companies – a lot of freedom. For example, clients can use an online customer portal to view energy use or to order patches. Therefore, they can monitor everything to see if we are meeting our commitments." And Dataplace meets and exceeds those customer expectations. "We keep things simple and clear when it comes to our relationships and recommendations, even when things seem complicated.

Marc van Erp, Marketing & Business Development Manager at Dataplace

sector is becoming more and more important for the strong entrepreneurial spirit that characterises the Netherlands. There is a reason why we are considered the third main port in the Netherlands in terms of industries. What do I think is going to happen? There is still a large group that maintains an in-house IT environment, and that group has yet to take the step towards moving IT operations to a data centre. That means further growth in the near future! We have also seen the early adopters, who have scaled back their in-house environment because they took that step to move to the public cloud. Some of them will reverse that decision, either partially or completely, because the costs of "standard" cloud services end up being more than they expected, or because it is not always clear where the data is actually housed, or because there are performance issues. Other companies accomplish this by opting for hybrid solutions; some services run from the public cloud (such as Office 365) and all other services run from their in-house IT equipment or in a data centre (private cloud). I am also seeing a clear trend of getting closer to the end user. Developments such as 5G and edge computing make regional data centres a necessity. The fact that we have multiple data centre sites is also very convenient now that companies are opting more and more for a back-up solution at a second, geographically separated data centre location. That provides more certainty in our 24/7 economy." ◼

And that is working well. Our customer satisfaction surveys confirm time and again how satisfied our customers are. They are not only satisfied with us, but also with Minkels and their racks. By the way, the same goes for us too. We are still very happy with the Minkels racks, aisle containment and the Legrand PDUs! Why? We ended up going with Minkels because the organisation fits well with ours; we also chose them because the product, the price and the terms were a great match. And it still is a great match!
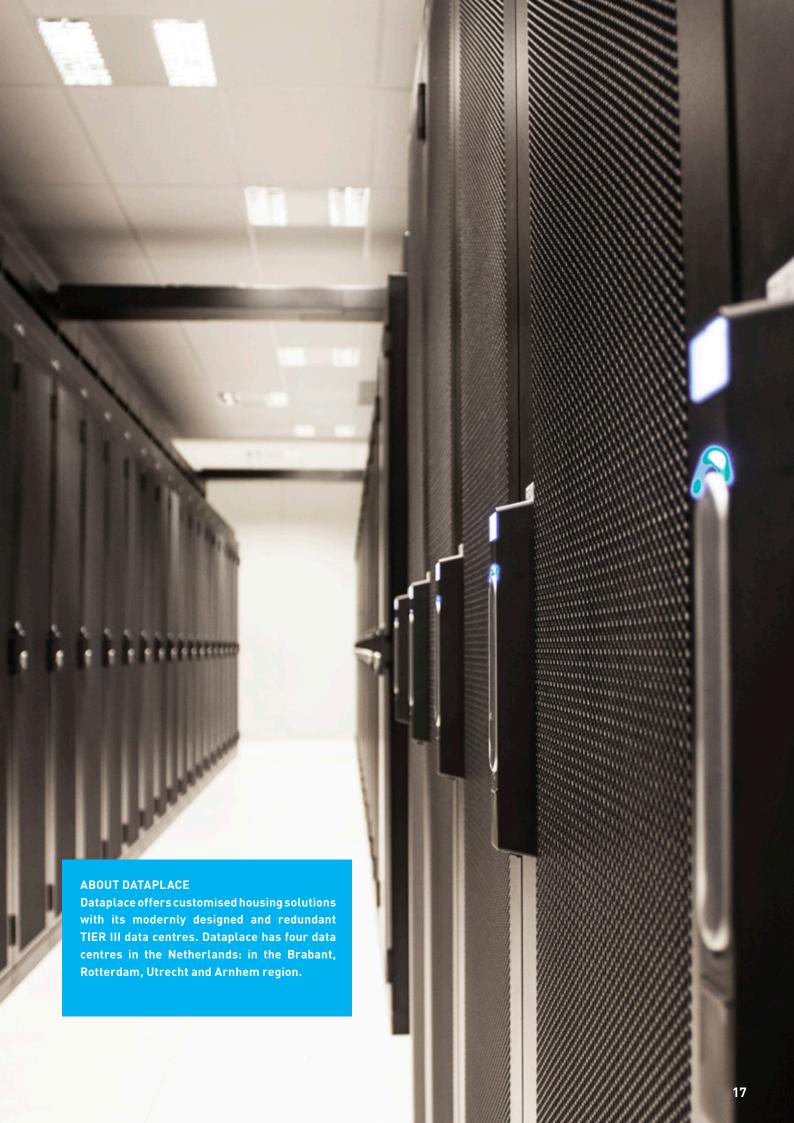
Minkels is flexible and they are happy to work and grow with us, even if we want something that is non-standard. Thanks to the Minkels engineers who know our data centre sites like the back of their hand, we always come up with an appropriate solution – for us and for the end users."

DEVELOPMENTS

Van Erp sees flexibility as a strength in today's market. "A lot is changing, so you have to be able to adapt quickly. Our

ABOUT DATAPLACE
Dataplace offers customised housing solutions with its modernly designed and redundant TIER III data centres. Dataplace has four data centres in the Netherlands: in the Brabant, Rotterdam, Utrecht and Arnhem region.

Fire suppression

for MiniCube micro data centre

The market is demanding more and more safety solutions for its data centres. To meet this demand, Minkels now offers a fire suppression system as an option for its micro data centres. The MatrixCube is already equipped with this safety solution. And now, the EXXFIRE system is also integrated in the MiniCube!

Edwin Verver, CCO of EXXFIRE

EXXFIRE FIRE SUPPRESSION SYSTEM

Minkels has selected the Dutch EXXFIRE system, due to its state-of-the-art fire detection and suppression systems for switch and server racks. Bas Jacobs, Product Manager at Minkels: "The EXXFIRE fire suppression system protects expensive IT systems against fire, without causing damage to the hardware. The system is plug-and-play, reliable and low-maintenance; thus it's the perfect add-on for the MiniCube, which has also been developed according to the plug-and-play principle. Hi-Safe can provide service and maintenance in the Netherlands and Belgium region."

PROTECTING ENCLOSED SERVER RACKS

The EXXFIRE fire suppression system has been designed to protect an enclosed server rack like the MiniCube. Edwin Verver, CCO of EXXFIRE: "The system is equipped with three optical sensors. These sensors can detect smoke long before a fire starts. The unique feature of the EXXFIRE system is the patented refrigerant generator. This robust nitrogen (N2) storage technology has been developed by TNO for the European Space Agency programme (ESA). The nitrogen is stored in a depressurised state and is released at room

ABOUT THE MINICUBE

Influenced by the cloud and other technologies, many companies have the need to professionalise their server rooms. The number of applications that still run on local servers is decreasing, which results in the need to reduce the size of on-site server rooms. However, companies still desire to keep business critical information in-house, even when using cloud solutions.

The MiniCube is also the ideal solution for companies that need to be able to access their data quickly – low latency. The MiniCube has all the elements of a fully-fledged data centre in an ultra-compact design, such as an enclosed area, power supply, monitoring and recirculation cooling. The MiniCube is fully pre-configured and is truly plug-and-play. Therefore, the MiniCube makes the IT Manager's life easier!

ADVANTAGES MINICUBE
- Reliable solution for server rooms
- Building-independent, thus easy to deploy
- Efficient housing for IT infrastructure
- Use of proven technologies
- Turn-key solution

temperature without any residue. Nitrogen changes the composition of the air whereby the oxygen level decreases, thus preventing or smothering a fire. This is why this type of fire suppression system is ideal for enclosed and integrated rack solutions like the MiniCube."

NOW AVAILABLE

Minkels has rigorously tested the system with EXXFIRE at the French testing institute CNPP.

Bas Jacobs, Product Manager at Minkels

Jacobs: "Our previous experiences with integrating the fire suppression system in the MatrixCube and the positive test results for the MiniCube give us a high level of confidence in the system and in our partnership." A complete MiniCube with the EXXFIRE fire suppression system is now available with article number MIC3520A. ■

ABOUT EXXFIRE
EXXFIRE BV – a Dutch start-up with global ambitions – has developed a fire suppression system based on a revolutionary, globally patented technology for depressurised gas storage. The EXXFIRE system protects expensive IT systems against fire, without causing damage to hardware. The system is plug-and-play, reliable and low-maintenance. EXXFIRE is represented in the Benelux by Hi-Safe in Dordrecht (subsidiary of the Hertek Group).

Server and network racks 42U

delivered as flatpack

IDEAL SOLUTION

Flatpack racks have the same configuration as the 42U server and network racks (VLE-series). However, these racks, including side panels, are supplied as flatpack. Flatpack is the ideal solution when there are logistical restrictions.

SPECIFICATIONS

The 42U server and network racks are widely applicable and modular in structure. They are delivered in the colour black (RAL 9011). The rack is equipped with 2 cable trays which are mounted left and right at the back of the rack. Vertical toolless mount PDUs can be placed to these cable trays. The cable trays are equipped with elongated holes for Velcro mounting and mounting positions for plastic cable rings. ■

YOUR BENEFITS
■ **Where pre-assembled racks cannot be mounted due to logistical limitations, flatpack is the ideal solution!**
■ **Due to slim packaging (500 mm) 2 racks in 1 load meter**
■ **Easy transportation**
■ **Fast assembly**

MORE INFORMATION?
www.minkels.com/flatpack

The image shown is a 42U server and network rack without side panels. Side panels are supplied with the flatpack.

Drivers for **innovation** in the data centre market

As a knowledge-driven producer and worldwide supplier of high-quality solutions for data centre infrastructure, Minkels continuously maps the future needs of the industry. Analysing and understanding where the need comes from is important in order to develop future-proof solutions. Niek van der Pas, Lead Data Centre Expert at Minkels, shares his vision on innovation in the sector.

Niek van der Pas, Lead Data Centre Expert at Minkels

FIRE EXTINGUISHING IN DATA CENTRES

Minkels recently introduced a new fire extinguishing solution for data centres. Van der Pas: "The main issue was that aisle containment in data centres made it difficult to comply to the rules regarding sprinklers. The sprinkler system didn't cover all areas of the data centre. For this reason, roof panels would need to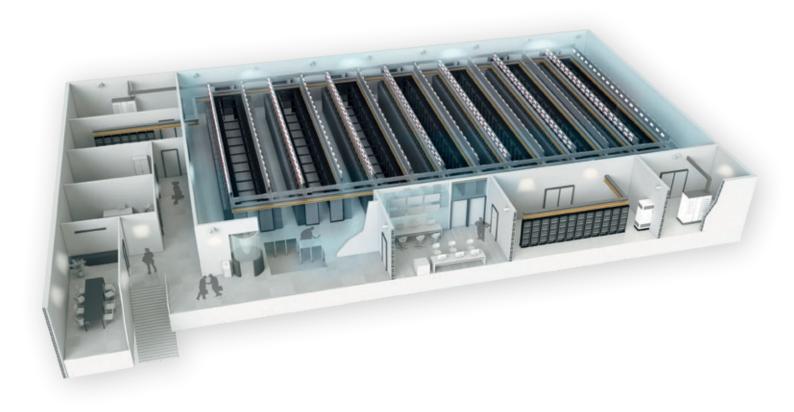 open up when the extinguishing system was activated. Depending on the circumstances, mechanical systems are not always desirable. Therefore, we designed a corridor roof system made out of very light plastic. Once the temperature indicates a fire break-out, the plastic will shrink and the fire extinguishing system can do its work."

PUE: A GREAT DRIVER FOR INNOVATION

Van der Pas is also involved in defining efficiency standards for data centres. In fact, he is one of the authors of the Dutch guidelines. "The PUE is a great way to drive innovation. Some critics say that the PUE is not adequate enough as it fails to measure the actual efficiency of data centres. To a certain extent this is true. However, the norm has provided us with many insights. Therefore, I take this flaw for granted. After all, without PUE there wouldn't have been any insights on energy efficiency at all."

SUSTAINABLE DATA CENTRES

On behalf of Minkels, Van der Pas takes part in a committee for sustainable data centres. "Servers have become much more energy efficient. However, there's so much more to be gained. Software architects should start thinking about employing processing power, as this could be done in a much more efficient way. Additionally, data centre designs could be further optimised on scalability. We've seen data centres that are built to ensure low PUE. However, if the data centre is not fully utilised, the PUE optimisation doesn't apply. This scenario can be prevented by building data centres modularly, and by analysing the PUE on different occupancy rates."

SCALABILITY AND MODULARITY

Minkels uses these insights when it's designing new products. Scalability will become increasingly important, according to Van der Pas. "The housing of equipment, corridors and so on can all be built modularly. This way, you never build more than you need. Furthermore: it will prevent you from making unnecessary costs, even though this depends on the investment cycle. With the integration of Minkels in the Legrand family, a huge resource of modular solutions has been added to the Minkels data centre toolbox. Legrand busbars, Cablofil wire mesh and different power supplying and cable ducting solutions are now easily integrated on top of the racks and corridors systems. The vast pool of PDU and sensor products of Legrand, Raritan and Server Technology, are now seamlessly integrated in the data centre mass customisation portfolio. The integration of the components is innovative. If a cable comes into a cabinet through the roof of that cabinet in a hot aisle data centre concept, this roof should be air tight. If the roof is not air tight, hot air will escape from the cabinet into the cold room."

MARKET DEVELOPMENTS

Van der Pas has detected a few market developments that will affect the entire sector, even though it's not yet clear in which way. "Certain needs of individual operators become more prominent or even become the standard. The extinguishing solution we developed exemplifies that. We do a lot of research to examine the industry needs, both on the short and the long term. Reversely, we also create solutions when we receive specific requests and assignments that are interesting for the data centre industry.

For example, we have developed the Free Standing Corridor in response to customer demand. This Free Standing Corridor gives the liberty to use a diverse base of racks with computer equipment and the freedom to build a standardised contained aisle solution with sensors, fire extinguishing, locking etc. – according to a predefined design."

IOT AND EDGE COMPUTING

It is obvious that IoT will lead to a substantial growth of data. "Also the way we look at data will change. Data is no longer centralised information that we simply consume, the decentral character of IoT will also lead to decentral data processing and analysis. This provides new challenges in how to cope with this. Extra factor is the fact that communication with the IoT devices in some cases requires (ultra) low latency connectivity. Basically, we can define two layers supporting IoT, the core layer with big data analytics and the decentralised (near) edge layer with fast connectivity to the devices (things). Each layer has its own data centre infrastructure, for instance hyperscale and cloud data centres in the core and decentralised micro data centres in the (near) edge. Applications which require (ultra) low latency might need a decentralised micro data centre infrastructure. For example, the supporting edge infrastructure for self-driving cars needs to be fast and reliable. Micro data centre solutions such as the MatrixCube and the MiniCube are characterised by their small-scale, standardised set-up. They are heterogeneous, provide space for universal equipment and process data locally. The roll-out speed, ease of installation and processing capabilities characterise micro data centres like the MiniCube and MatrixCube." ■

A modular solution for
mobile data storage

In today's digital economy the availability of digital systems is of paramount importance. A good infrastructure is the essential backbone for permanent availability. Data centres are fundamental for services like cloud, mobile apps and other digital applications. An interview with Elmer Bos, Manager Data Centers at ENGIE.

EXTRA DATA CENTRE CAPACITY

More and more organisations are coming to the conclusion that digital facilities are crucial for their daily operations and reflect on issues like 'business continuity' and 'disaster recovery'. Bos: "Existing (cloud) data centres offer data storage but in order to meet present needs for storage, there is a growing demand for additional data centre capacity on short notice. Companies show preference for modular solutions and will not accept any disturbances to their primary processes."

ABOUT ENGIE

ENGIE Nederland consists of ENGIE Energie and ENGIE Services and is a leading energy and technology company that employs 6,200 people. ENGIE is leading the way and is establishing the energy transition through innovative and sustainable energy solutions. ENGIE gives direction to this change by helping customers (companies, institutions and consumers) to make the transition from fossil to 100% sustainable and the movement towards decentralisation, as quickly and cost effectively as possible. ENGIE Nederland is part of the ENGIE Group that employs 150,000 people worldwide and achieved revenues of €65 billion in 2017.

SMART TECH SOLUTIONS

In our constantly expanding digital world, it is more and more important that digital systems are available at all times for both companies and consumers. ENGIE focuses on digitalisation and especially on innovative 'Smart Tech' solutions that help customers to become smarter, innovative and more economic in their use of energy. ENGIE offers extensive experience when it comes to designing, building and maintaining data centres.
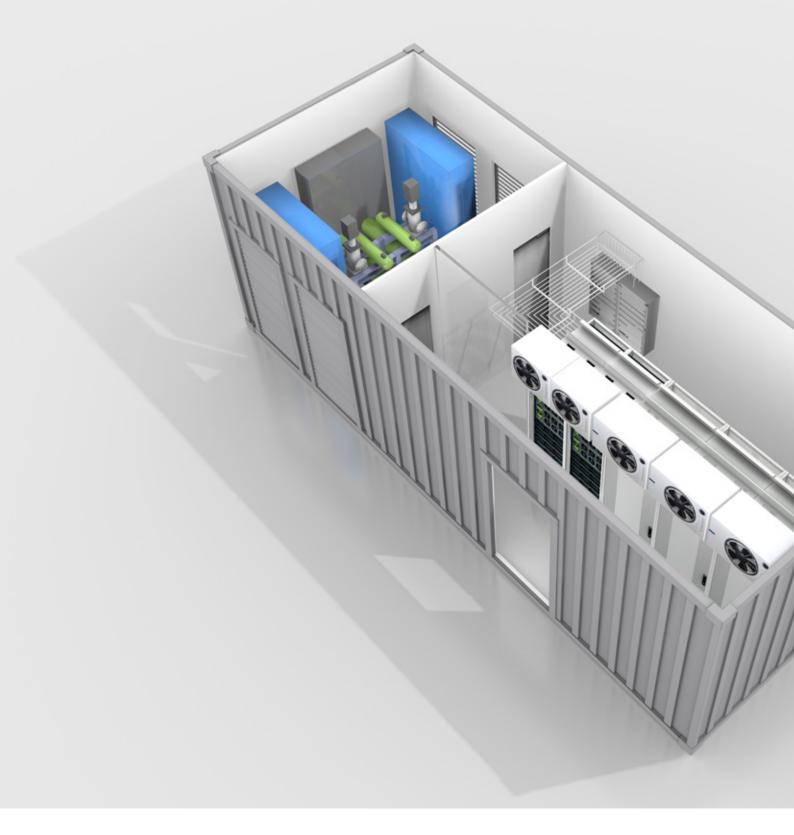
Elmer Bos, Manager Data Centers at ENGIE

A COMPLETE MOBILE DATA CENTRE SOLUTION

In order to meet these demands ENGIE and Legrand Data Center Solutions, developed a completely integrated modular mobile data centre: the 'ENGIE Mobile Data Center – powered by Legrand' (EMDC). "In this prefab mobile data centre, cooling solutions by ENGIE Refrigeration are combined with energy-efficient solutions by Legrand Data Center Solutions for optimal yield and continuous performance. This unique, flexible infrastructure solution for data storage is available when companies – like our customer Lentis – are in need of extra capacity on short notice or want to keep privacy-sensitive information out of the cloud. The EMDC is a great (temporary) alternative for a traditional data centre when in the process of renovating, expanding or modernising facilities." ❯

ICT NEUTRAL OVERALL CONCEPT

The ENGIE Mobile Data Center is an ICT neutral overall concept, designed for the industry sector, infrastructure- and utility market and covers the total process of design, realisation, service and, if needed, logistical service provision. "The mobile data centre comes in two sizes (8m x 3m and 13m x 3m) with all necessary data centre components integrated in this single enclosure. Thanks to the prefabrication, lead time can be reduced by up to 40% as compared to traditional data centres. Reliability and availability of the EMDC are equal to those of a traditional data centre or server room."

MODULARITY

The most unique aspect of the EMDC is the modularity of the solution in size, capacity and redundancy. "The customer can configure his own data centre based on predefined modules. Apart from the necessary components within the basic functionality of the data centre, convenience and operational reliability can be increased with extension modules like fire suppression or performance monitoring. The integrated

modular data centre is an enclosure that will be assembled, commissioned and delivered in a perfect working condition. When the data centre arrives at the customer's location it is only a matter of plug-and-play. Only the ICT facilities have to be added." ■

MainOne plans to expand

its data centre business, MDXi, into new territories across West Africa

Leading connectivity and data centre solutions provider in West Africa, MainOne*, constructed West Africa's largest Tier III+ Data centre (MDXi) in 2015. Just recently, MainOne announced the second phase of the project! Minkels Magazine spoke to Ms. Funke Opeke (CEO) about the current developments.

EXPANSION

MainOne has announced plans to expand its data centre business, MDXi, into new territories across West Africa with a target to build new facilities in 3 new locations including Sagamu, Nigeria; Accra, Ghana; Abidjan, Cote D'Ivoire in addition to an ongoing expansion of its Lekki Data Centre in Lagos, Nigeria. Over the next ten years, the company plans to build new Tier III data centres in each location and invest in infrastructure projects as part of a push to ramp up technology penetration in the region.

Also check out Minkels Magazine 2016-2: www.minkels.com/magazine

ABOUT MAINONE

MainOne, the premier connectivity and data centre solutions company in West Africa, blazed a trail in Africa with the construction of West Africa's largest Tier III+ Data centre, MDXi. MainOne's data centre is the premier carrier-neutral co-location facility in West Africa because it is the only data centre to have attained PCI DSS, ISO 27001 and ISO 9001, and the SAP certification for Infrastructure Services for SAP® solutions.

DIGITAL TRANSFORMATION OF WEST AFRICA

Affirming the company's commitment to the digital transformation of West Africa, Chief Executive Officer of MainOne, Ms. Funke Opeke, highlighted the untapped investment opportunities in the region and noted that ICT infrastructure investments will support rapid technology proliferation. "Given the size of its markets and status as home of some of Africa's biggest economies, West Africa has a vantage opportunity to adopt infrastructure development to scale up its industrialisation. Targeted investments in the region will bridge the gap for digital infrastructure and address the increasing reliance on data collection."

LARGEST TIER III FACILITY

MainOne's data centre subsidiary, MDXi built the region's largest Tier III facility in 2015 for $35m and recently commenced the second phase of the project, investing an additional $8m to construct 300 additional racks in its Lekki facility. Focused on developing a data centre ecosystem spanning facilities across West Africa, the company will launch its new Tier III data centre project in Sagamu, by Q4 2018, Ghana in 2019 and Cote I'voire in 2020. MDXi is West Africa's largest full-scale data centre provider offering colocation, wholesale deployments, interconnection and cloud services and has been dubbed the region's Telehouse, due to its status as most connected data centre, proven competence to interconnect OTTs and major network, content and financial providers as well as interconnections at multiple peering exchanges in Nigeria, Ghana, Amsterdam, and London. ■

CERTIFICATION

MainOne's data centre is the only facility certified in West Africa to process payment card information with its Payment Card Industry Data Security certification. It was built to TIA 942 and Uptime Institute Tier III Standards and also has ISO 27001 and 9001 certifications.

Ms. Funke Opeke, CEO MainOne

Minkels announces

White Paper 10

How to use the EN 50600 to design an energy efficient data centre

More and more data centre owners and ICT managers use the EN 50600 for effectively setting up data centres and server rooms. The standard not only provides insight into the design process – from strategy determination to operation – but also into KPIs, best practices and data centre operations. But how do you use the EN 50600 to design an energy-efficient data centre? Niek van der Pas provides some insights in this article (to be revealed fully in his whitepaper 10)!

MINKELS
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10

How to use the EN 50600 to design an energy efficient data centre

WHITE PAPER

By Niek van der Pas

THREE PILLARS

According to the EN 50600, three pillars together determine the quality of a data centre: energy-efficiency, availability and security. At an early stage, it is possible to estimate costs for, for example, a certain energy-efficiency. The standard provides guidelines for determining which level is desired in these three areas.

FIRST PART OF THE WHITE PAPER

White paper 10 ˝An energy efficient data centre using the EN 50600˝ is the first of three white papers discussing the first pillar: energy-efficiency. This white paper

UPTIME

Energy-efficiency

Availability

Security

will guide you through the different parts of this standard and will highlight the subjects related to energy efficiency:

- 50600-1 Setting the goals according to your business
- 50600-4-2 Using designed PUE to predict your efficiency
- 50600-99-1 Selecting the relevant best practices
- 50600-2-2 How and where to measure
- 50600-3-1 How to manage energy efficiency, acceptance testing, continuous improvement, reporting

SECOND PART OF THE WHITE PAPER

The second part of the white paper will walk you through the Legrand Data Center Solutions Product portfolio and will explain

Are you interested in white paper 10? You can request it at www.minkels.com/whitepapers! You can also request one of our other white papers on this web page.

how all these products can be used to build, expand and retrofit a data centre. Legrand has developed the ELENE (Electrical Energy Efficiency) program with different tools to support the process to choose the best solutions. These products are:

- Transformers
- Busbars
- Switchgear
- UPS'es
- PDU's
- Sensors
- ATS's
- Aisle containment
- Airtight cabinets
- Air ducting accessories
- Free cooling equipment
- Managing software

THIRD PART OF THE WHITE PAPER

The third part of the white paper will handle how to use European and country specific programs which give incentives to implement energy-efficient solutions. ■

Create a future-proof
data centre!

A future-proof, energy-efficient and scalable data centre? That is a must nowadays! Our standard, customer-specific and mass customised solutions are all developed to meet this need. But Minkels offers more!

STRAIGHT FROM STOCK

The core values of modularity, flexibility and energy efficiency are reflected throughout our extensive standard product portfolio. This means you always benefit from the latest technology and you will see it integrated into our standard solutions almost instantly. With our standard solutions, you can expect a fast delivery. These predefined products are (largely) in stock and available immediately. You can choose from different types and sizes directly from our standard product catalogue (available at www.minkels. com/downloads).

CO-DEVELOPMENT

Our customer-specific solutions are created through co-development between yourself and our engineers. You get exactly the custom solution you're looking for, just like many of the customers in every edition of Minkels Magazine. If you would like an

entirely customised solution, our sales department will be glad to help.

COMBINE ENDLESSLY

If you need flexibility combined with short delivery times, mass customisation could be the right option for you (brochure available at www.minkels.com/downloads). With mass customisation, we provide you with an enormous choice of components. These components can be combined in an almost infinite number of ways in order to achieve a solution (server racks, aisle containment, PDU's etc.) that suits your needs. This is possible through the use of a smart product configurator. The wonderful thing about this is that you get a very scalable and easily adaptable data centre solution while you also benefit from a fast delivery and the same quality and logistics, anywhere in the world. Minkels is one of the few data centre suppliers that can truly offer mass customisation.

SPECIFICATION DOCUMENT

Minkels also offers you all the help you need when designing a future-proof data centre. Such a data centre must meet many specifications. Think of all the requirements in the areas of integration and energy-efficiency. Minkels, Legrand and Raritan have a lot of experience in this field and are happy to share this knowledge; with the Minkels specification document, an effective data centre design – and therefore a complete and fully integrated data centre – is within reach. The specification document lists all specifications for you for the products of Minkels, but also for Legrand PDUs, Raritan PDUs and transfer switches!

DOWNLOADS
■ The specification document can be requested at www.minkels.com/specification-tools
■ The standard product catalogue is available at www.minkels.com/downloads
■ The mass customisation brochure is available at www.minkels.com/downloads

If you would like an entirely customised solution, our sales department will be glad to help.

Energy-efficient MatrixCube

is a great fit with the

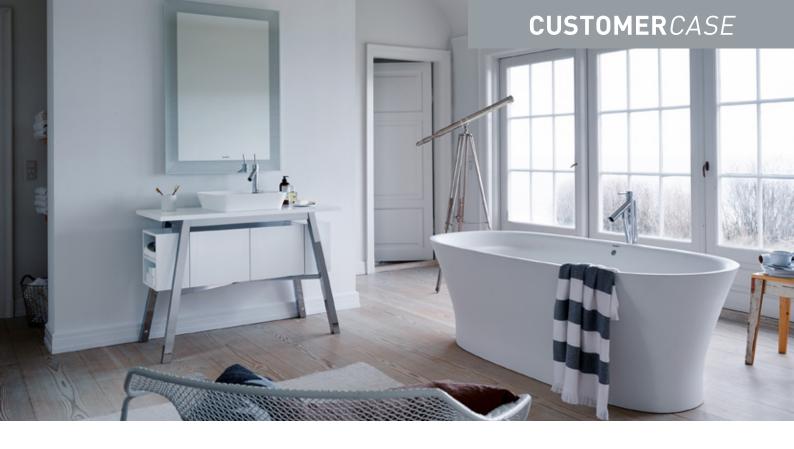# Van Marcke

CO2-neutral warehouse

Van Marcke is a Belgian company with family shareholders. It was founded in 1929 by Raymond Van Marcke in Kortrijk and is now managed by Caroline Van Marcke. The company has 1,400 employees and is active in the Netherlands, France, Luxembourg, Switzerland, Malta and the USA. Minkels Magazine spoke with Guido Gruwez (IT professional with Van Marcke) about the (IT) challenges Van Marcke is facing and the solution the company has found in the MatrixCube.

PLUMBING AND CENTRAL HEATING

In Belgium, Van Marcke is the market leader in the specialised distribution of plumbing and central heating products. Gruwez: "Our customers are mostly fitters, but we also sell our products to consumers in our showrooms. We are well known as a global challenger in heating and water. Recently, we opened an outlet in Switzerland and we acquired the company CFM in Luxembourg – also a specialised wholesaler in plumbing and heating – with a hundred employees. We currently have twenty outlets in Northern France. In the US we have 4 outlets in Nevada (Las Vegas), 10 in Arizona and another 6 in Texas (Dallas). What's more, we are expanding in more and more countries due to the sales of private label products."

WORRY-FREE

Van Marcke knows how to grow rapidly. The distributor does so by continuously adapting to changes in the market. "Now that e-commerce is becoming more common place, fast delivery is a priority. We also take the environmental factors into account. Thus, we are currently building a new, CO2-neutral, 80,000 m² warehouse in Belgium. We were looking for a suitable, energy-efficient micro data centre for the building. I first saw the MatrixCube at a trade fair and thought it was an interesting concept from the

ABOUT VAN MARCKE

Van Marcke is much more than a distribution company and shopping chain. It is a company with a clear ambition: to help everyone turn a house into a home that is enjoyable to live in. This ambition forms the basis of success; however, there is a lot involved in making that happen. That's why customers find everything they are looking for in heating and water, including bathrooms, wellness equipment and plumbing components at Van Marcke, as well as kitchens, energy-efficient climate control, tap water saving technologies, water quality treatment, fittings and tools.

outset. Now that servers are becoming more powerful, you need less and less rack space to run all your applications. Where we used to need five or 6 racks, now we only need a micro data centre with two racks. The main advantage of the MatrixCube is its energy usage. The solution is also very plug-and-play. You simply place the MatrixCube in a regular, open space that doesn't need to be cooled or finished. Then, you hook up two cables for power and data cables, and you're all finished.... Once it is set up, you will enjoy worry-free operation!"
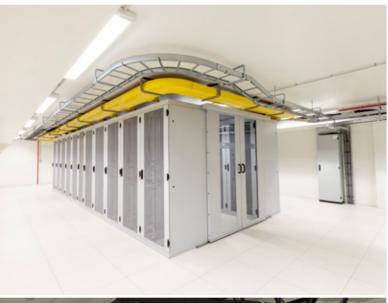
COMPLETE SOLUTION

Besides convenience, Gruwez is also very impressed with the value for money. "The value you get for the money is excellent when compared to a standard solution, where you must equip the space with insulation, security, fire suppression equipment and raised floors. Even other micro data centres were no match for the benefits of the MatrixCube for us. The MatrixCube is a fully comprehensive solution for us – equipped with monitoring, Legrand UPS units, Raritan PDUs and a fire suppression system. We currently have two MatrixCubes in use to our full satisfaction, with an option for a third. In addition, I already see possibilities for the smaller Minkels micro data centre: the MiniCube!" ◼

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Academic Medical Center (AMC)

Dataplace

MainOne

Van Marcke

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