MINKELS MAGAZINE

2014
#1

TelecityGroup France chooses Minkels Cold Corridors with Pivot Roof.

Strong growth in demand for rack security solutions.

Minkels wins Frost & Sullivan Entrepreneurial Company of the Year Award.

Sharing our knowledge

Back in 2006, Minkels was the first data centre vendor in Europe to commercially launch the Cold Corridor aisle containment concept. In February 2013, Minkels launched its Next Generation Cold Corridor - a highly flexible aisle containment solution with substantial modularity.

Features and functionalities in these and other data centre solutions within Minkels' extensive product portfolio are based on customer feedback and Minkels R&D investments. To share our accumulated data centre knowledge with customers, our experts have published a variety of whitepapers on various topics. Free copies of these whitepapers can be found here: www.minkels.com/whitepaper.

COLOPHON

MINKELS MAGAZINE

Minkels is a subsidiary of the Legrand Group. This global, publicly traded organization has companies and offices in more than 180 countries with revenues of 4.5 billion Euros worldwide. Legrand markets a range of low voltage equipment and data networks from different manufacturers for the housing, utility construction and industrial sectors.

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TABLE OF CONTENTS

Also

MINKELS*NEWS*

MINKELS ASSEMBLES PRODUCTS LOCALLY IN THE USA

In 2012 Minkels began selling and implementing data centre solutions in the United States. Minkels has marketed its product portfolio successfully in Walnut Creek, near San Francisco, where customers receive local support.

In order to further increase customer-specific options for data centre solutions in the United States, Minkels has acquired a local assembly facility. The assembly plant is located near Los Angeles. A number of data centres in the US are equipped with Minkels racks that have been assembled at this plant to meet their specific needs.

CUSTOMER-SPECIFIC ACTIVITIES

Minkels is planning to further expand its production and assembly activities in the United States in the near future. One of the areas for expansion will be the East Coast. "We expect that this will have a positive effect on close relationships with our customers in the US," says Jeroen Hol, CEO of Minkels. "Besides, the modular qualities of our solutions will be showcased even more. We would also like to add customer-specific solutions to standardised data centre concepts that our customers in Europe are accustomed to from us."

FROST & SULLIVAN APPLAUDS MINKELS' CUSTOMER-CENTRIC APPROACH TO INNOVATION IN THE RACKS AND CABINET MARKET

Minkels strives to continually improve and refine energy-efficiency and flexibility in its products and solutions

Based on its recent analysis of the racks and cabinets market, Frost & Sullivan recognizes Minkels with the 2013 European Frost & Sullivan Award for Entrepreneurial Company of the Year. Minkels is setting new standards in technology development with the launch of its Next-Generation Cold Corridor®. This innovative aisle containment solution has been developed to meet current and future dynamic user requirements in the demanding data centre environment.

Minkels serves its customers both directly and through a widespread network of international distribution channel partners, which it carefully selects based on their knowledge and expertise in the data centre arena. After its acquisition by the global major, Legrand, in 2012, Minkels leveraged the company's international logistics and distribution assets to increase its global penetration rate. Minkels has successfully ventured into new geographies such as the U.S., the Middle East, Russia, and Scandinavia.

One of the key reasons for Minkels' growth excellence is its collaborations with customers, which enable it to better understand market needs and design solutions that cater to those exact needs. It has implemented multi-site production, operations, and logistics to be as close to its customers as possible.

"Minkels' data centre solution portfolio has been built with two core principles: modularity and energy-efficiency," said Frost & Sullivan Industry Analyst Gautham Gnanajothi. "The modular design of its data centre products not only ensures highly scalable solutions that adapt to the dynamic needs of a data centre environment, but also enhances a customer-centric approach, meeting specific customer requirements."

"As optimising airflows in the data centre can result in significant energy-savings, Minkels' R&D department performed extensive testing on air flow management and cooling air leakage, both on rack and Cold Corridor levels," noted Gnanajothi. "The R&D results will provide data centre managers with vastly improved energy-efficiency in a Cold Corridor environment, thus catering to PUE-optimisation needs."

Other examples of Minkels' customer-centric product innovations include the stand-alone cold corridor for extreme flexibility in operations and investment. It is a construction without any racks and provides comprehensive integration options for third-party equipment. It is a pay-as-you-grow solution, which considerably reduces the CAPEX investment. Minkels also developed the row-based Varicondition DX and H2O energy-efficient cooling solutions, and zero air loss server racks for air tightness of racks and Cold Corridors.

Each year, Frost & Sullivan presents this award to the company that has demonstrated excellence in devising a strong growth strategy and robustly implementing it. The recipient has shown strength in terms of innovation in products and technologies, leadership in customer value as well as speed in response to market needs. In short, the award looks at the emerging market players in the industry and recognises their best practices that are positioned for future growth excellence.

Jury report: www.minkels.com/frost-sullivan

International growth at Minkels will accelerate at a rapid rate in 2014

At Minkels, we have noticed that the data centre and hosting market is currently undergoing rapid international growth, which is in part driven by developments in cloud computing. These developments do not necessarily have to pose a threat to domestic colocation and hosting providers; however, it is highly recommended that they choose a smart strategy to differentiate themselves in the market. This is what Michiel Steltman cites during an interview that you can read about elsewhere in this edition of Minkels Magazine. He is the director of the Dutch Hosting Provider Association (DHPA), a trade organisation that represents the largest hosting providers in the Netherlands.

This means that international companies that are in the business of fitting out data centres want their data centre supplier to service them in more and more countries. We see this trend in the market time and again. Minkels has been able to adapt to these needs by further expanding its international reach, also via its parent company Legrand, which has branch offices in 70 countries worldwide.

Considering the current trend in demand from our customers, I expect our international growth to continue at an even faster pace in 2014. As a manufacturer, we will have to step up to the plate to meet this demand, especially in terms of product development. Therefore, it is of key importance to further expand and strengthen our product portfolio in order to further grow the Minkels brand in the international market place.

Minkels is currently working hard to expand the VariconPower® power distribution and Uninterruptable Power Supply (UPS) portfolio. Furthermore, we will add busbar systems and draining receptacles designed specifically for data centres to the portfolio for 2014.

Our R&D department has made great strides in developing new cooling solutions. The recent introduction of the Next Generation Cold Corridor®, a highly modular and energy efficient concept, and two new water-based Varicondition® H2O cooling solutions are prime examples.

Our innovative approach and the growth of the Minkels brand in the data centre market have not gone unnoticed. With pride I can report that Frost & Sullivan, after conducting broad and extensive market studies, has awarded Minkels the 'Entrepreneurial Company of the Year' award, a prestigious prize in the European data centre racks market. Frost & Sullivan gave Minkels 9 out of 10 points for its proven growth, innovation and market leadership.

I am convinced that with Minkels' approach to creating a bond with its customers, in combination with a sharp eye for customer requirements at home and abroad, we will continue to provide a positive contribution towards setting up international data centre projects at customer sites. We will be able to seamlessly adapt to international requirements thanks to our modular design qualities. ■

We currently provide many solutions outside the countries where Minkels has its own branch offices. These countries include Russia, the United States, Scandinavia, Dubai and Southeast Asia.

Thanks to Minkels' extensive international partner and distribution network via its parent organisation Legrand and its own strategy for bonding with customers, Minkels can successfully fulfil the needs in these countries.

Jeroen Hol
Chief Executive Officer

Integrated cooling systems

Jackrabbit and Minkels VariCondition® keep it cool

The Jackrabbit is a rabbit species that lives in North America, in desert-like conditions, but it also lives in the mountains and in agricultural areas. One of the characteristic traits of this animal is its ears. A Jackrabbit's ears are very long (approximately 4 to 5 inches), and they have a built-in cooling system. This makes the Jackrabbit capable of maintaining its body temperature in every situation.

The Jackrabbit's cooling system combines air and liquid (blood), which provides a very direct and effective means of keeping the body cool. Even at top speeds (more than 60 km per hour) in the desert, the Jackrabbit can continue running without any additional effort thanks to its cooling system..

AIR AND WATER

Minkels has a number of different water and air-based VariCondition®, energy-efficient cooling solutions in its product portfolio, which adapt to a variety of customer-specific situations. The combination of water (VariCondition-H2O) and DX (VariCondition-DX) ensures that Minkels can provide a suitable cooling solution for any data centre, even for high density clusters in carrier neutral data centres. The row-based feature ensures that the systems can be placed easily between the racks, which enhances the effectiveness of the cooling principle.

The Minkels cooling concepts are just like the Jackrabbit's internal cooling system because they can be implemented easily and effectively in different situations and for different cooling requirements. For customers, this means that they can let the equipment in their data centre perform to maximum capacity without any problem.

Refer to the article elsewhere in this magazine about the launch of the new Minkels VariCondition® H2O cooling systems. ■

Fully integrated

Universitair Ziekenhuis Brussel selects Minkels DX and H2O row-based cooling

The Information Systems department of the University Hospital (UZ – Universitair Ziekenhuis) in Brussels was looking for a solution to resolve the uptime issues in its data centre. The existing CRAC cooling system was the root cause of the problem. A tender was published and Minkels VariCondition H2O row-based cooling was selected. They also chose Minkels when they built a second data centre. That data centre is now equipped with Minkels VariCondition DX row-based cooling.

INTEGRATED SET-UP OF 2 DATA CENTRES

The University Hospital of Brussels (UZ Universitair Ziekenhuis Brussel) has 750 beds and 4,000 employees, including 55 employees in the Information Systems Department. The two data centres of UZ Brussels have been built by Minkels' partner NextiraOne and include integrated Minkels solutions. Minkels' engineers with their extensive knowledge supported the installation. Minkels also produced components to fully meet the specific requirements of UZ Brussels.

"The density in the UZ Brussels data centre had increased dramatically over time," says Professor Rudi van de Velde, director of Information Systems at UZ Brussels – who also serves as a scientist with the Free University of Brussels. "The CRAC cooling with its single point of failure could no longer handle it. The aging cooling system had a negative impact on the data centre's uptime. Therefore, we decided to look for a high-quality, redundant cooling solution and finally encountered NextiraOne, an installation partner of the manufacturer Minkels."

DATA CENTRE WATER COOLING VERSUS AIR COOLING

The existing data centre of UZ Brussels already had the infrastructure in place in the building for water cooling. "The Minkels VariCondition H2O water cooling solution was the most efficient solution for us in that situation, also in terms of costs," says Van de Velde. "The Minkels DX cooling solution turned out to be a more cost efficient option for the back-up data centre that we recently built a few kilometres down the road."

Van de Velde is very impressed with the row-based cooling solution that Minkels has delivered. "The CRAC solution required much more cooling power to achieve the same effect. These row-based cooling units are located between the racks – you can't get more direct cooling than that. It not only provides higher energy efficiency, it has a positive influence on the performance of the equipment, which ensures a high level of uptime and performance. Thanks to the modular structure of the solutions, we can easily scale up and add additional row-based cooling systems to the mix."

MINKELS COLD CORRIDORS, UPS AND CABLE ORGANISERS

UZ Brussels didn't only choose Minkels row-based cooling solutions. Van de Velde: "We have also installed Minkels Cold Corridors and cable organisers. Minkels provides us with a complete, integrated package."

"The Minkels engineers were on site with the implementation partners to discuss our needs," says Van de Velde. "This is not always the case. Many manufacturers don't know how their products are actually implemented in the field. The Minkels engineers have given us very

Steven De Boeck and Professor Rudi van de Velde

valuable advice, from design to implementation. Not only on paper, but also on the floor. Minkels then built specific components for optimum integration in the project. That is also one of their strengths, that they can produce custom data centre solutions."

"I am much more relaxed when I go on holiday now," says Van de Velde. "The data centres have a very redundant cooling capacity with the Minkels DX and water cooling solutions. We no longer have outages due to cooling failures and the reliability of our data centres has increased dramatically."

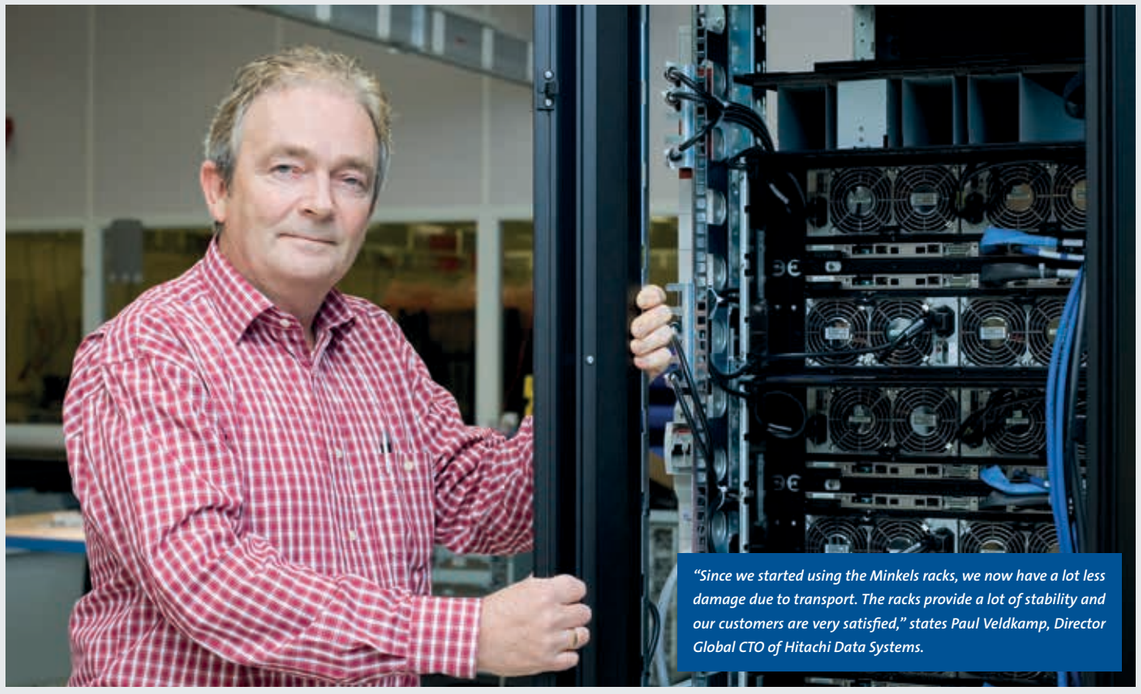
After the summer of 2013, Professor Van de Velde reached the pensionable age at UZ Brussels. He will still work for the Free University of Brussels as a scientist at that point, where he will continue to share his knowledge in technology. "In the long-term I expect that data centres in Europe will be consolidated even more than they are now," cites Van de Velde. "The developments in cloud computing will have the necessary impact and hospitals will also feel the effects. Healthcare budgets in Europe are under a lot of pressure. This means that not all hospitals will set up their own data centres. Certain components will be outsourced more often to centralised data centre environments." ■

Universitair Ziekenhuis Brussel

Minkels global rack supplier Hitachi

Hitachi Data Systems was looking for a supplier at the end of 2009, who could supply high quality data centre racks. HDS wanted the racks to house and transport its own data storage systems. Meanwhile, Minkels has been the sole rack supplier for HDS in a number of regions throughout the world for 4 years already.

HITACHI



"Since we started using the Minkels racks, we now have a lot less damage due to transport. The racks provide a lot of stability and our customers are very satisfied," states Paul Veldkamp, Director Global CTO of Hitachi Data Systems.

QUALITY

"The Hitachi brand name stands for quality, Minkels' product and service quality are a perfect fit," says Paul Veldkamp, Director Global CTO of Hitachi Data Systems. The workmanship of their data centre racks is superb and it matches well with the highly valued Hitachi product. The modular design of their racks also offers many configuration adjustment options."

CUSTOM WORK

HDS asked the engineers from Minkels to design a completely new rack for its high-end data storage systems. Veldkamp: "Minkels designed the necessary custom details, specifically for our high-end solution systems. Their engineers came up with a click system in order to easily match the sizes in the data centre rack specifically to our equipment. I am happy that they help us to come up with ideas and to quickly turn those ideas into actions. Since we started using the Minkels racks, we now have a lot less damage due to transport. The racks provide a lot of stability and our customers are very satisfied."

MODULAR AND FLEXIBLE DESIGN

Minkels has been supplying Hitachi Data Systems with different types of racks for almost 4 years, including racks for high-end solutions. These are racks that are easy to transport. They are designed to handle high dynamic loads. The racks have a modular design and can be easily modified to meet the needs and requirements of HDS. Our engineers are at the disposal of HDS on a daily basis, ready to respond to any questions and/or issues. ■

Minkels launches H2O-650

Water cooling system for High Density clusters

Commercial data centres in particular are dealing more and more with high density zones, with locally higher cooling requirements. In order to meet these requirements, Minkels has designed the VariCondition H2O-650 cooling system. These water-based cooling solutions can cool high density applications at the row/rack level.

VariCondition H2O – 650

In 2012 IMS Research already showed that new servers with high density applications were causing more and more hot spots in the data centre. The report, titled 'The World Market for Data Centre Cooling', shows that cooling at the row/rack level is the most appropriate and cost-efficient solution to cool these so-called hot spots.

"The market demand for row-based cooling has increased recently," says Vincent Liebe, Senior Product Manager at Minkels. "As a manufacturer, we notice that too. The increased density in data centres has caused significant increases in the energy density per rack in server rooms at both mid-size companies and commercial data centres alike."

> **"Water-based cooling is an ideal solution for high density applications."**

"Water-based cooling is an ideal solution for cooling high density applications," states Liebe. "Particularly for carrier neutral data centres, which often already have a water-based infrastructure in place because they have CRAC units that are cooled by water. In this case, the row-based character of the VariCondition H2O-650 system provides the option to supply very targeted and efficient cooling, whereby investments can be made in the cooling system in phases."

SPECS ADAPTED TO CUSTOMER REQUIREMENTS

Minkels VariCondition H2O-650 is an innovative product with extensive functionality, which is closely aligned to the specific needs of carrier neutral data centres. For example, the system is equipped with a 3-phased energy source, which automatically finds a balance in the distribution of electricity. Water usage is also measured continuously (optional), so that the system is capable of determining the current thermal cooling capacity. Liebe: "This means that data centre managers can gain a better understanding of the data centre's energy usage."

Another innovative component of the H2O-650 cooling system is the steam humidifier, an optional feature that can regulate the humidity in the data centre. Minkels also has a heat exchanger to optimise the cooling system in an energy-efficient manner. With proper installation it handles the different airflows perfectly. And, to optimise the efficiency of the cooling system, Minkels has installed the heat exchanger in a special way that takes the different airflows into consideration. ■

VARICONDITION H2O-650

NEW

- Width: 600 mm
- Cooling capacity: 50 kilowatt (kW)
- 3-phased power supply
- Modular integration with Varicon M Racks and Minkels Cold Corridors
- Monitoring of current thermal cooling capacity (optional)
- Energy optimisation of airflows
- Integrated humidifier

Integrated security throughout the hosting sector chain

that's where we want to go

Cloud computing and as a service business model only exist due to confidence and the attention paid to security in the supply chain, according to Michiel Steltman, director of the Dutch Hosting Provider Association (DHPA). That is why data centres should aim for the very highest levels of security.

"I'm talking about carrier neutral data centres here, at any rate. The way the cloud is developing makes it important for them to make allowances for a huge variety of applications. High security levels are a key characteristic along with energy efficiency and connectivity determine how successful carrier neutral data centres will be."

The data centre and hosting markets are rapidly becoming more international, with cloud computing as one of the driving forces. What does this mean for co-location and hosting providers who operate at the national level?

"You don't have to see it as a threat, but you do have to go with the flow and pick the right differentiation strategy. Thanks to the cloud, hosting and co-location providers are moving into the domain of traditional IT infrastructures. And there are lots of opportunities there if you choose the correct strategy. That could be through innovative profiling and a well-chosen portfolio, or a vertical specialization, or for instance by offering quality with good security guarantees and high availability. What you mustn't get involved in are price busting wars: there aren't many winners there."

The hosting and data centre industry is a relatively new sector. How mature has it become now and what steps are still needed?

"There's too little realization in political circles as yet about the economic importance of the hosting industry within our society. People are still too busy tackling various outgrowths of the Internet, instead of protecting the economic relevance of this sector, which creates so much technological innovation."

Michel Steltman has been the director of the Dutch Hosting Provider Association since 2011. The DHPA is a trade organisation that represents the largest hosting providers in the Netherlands. Manufacturers such as Cisco, IBM, HP, Dell, Intel and EMC also have a role as partners in the DHPA. The organization, which is virtually unique in Europe, was set up at the end of 2007. Its aims include improving the public image of the hosting sector and confidence in it, as well as getting the economic importance of the hosting business onto the political agenda.

What is the hosting sector itself doing to push the importance of the hosting industry up the political agenda?

"Self regulation is important for further development of the sector. Hosting providers in the Netherlands have therefore taken the initiative and agreed a Notice & Takedown procedure with the Ministry of Justice stating how we want to deal with illegal content. This procedure has been created without any legislation or regulations. So you can see that the Netherlands is one of the pioneering countries in the field within Europe; the model is highly thought of, internationally."

Where is there still scope for more professionalism in the hosting sector?

"Cloud computing and as a service business models are key drivers in our industry, but they only exist thanks to confidence in them and the attention paid to security. Physical security in data centres is an important aspect of this, but it mustn't be just window dressing, detracting from other security aspects. The fact that a hosting provider is located in an ISO-certified data centre is only one rather limited component of the overall security. As a business customer, you have to be certain that security is guaranteed by the chain, in the same way as you get a guarantee that any car you buy is safe. The integrated approach is still missing, and that's something that has to be tackled jointly by the authorities, the hosting sector and the customers." ■

TelecityGroup France

Chooses Minkels Cold Corridors with Pivot Roof

TelecityGroup is an innovative organization, a pioneer in the field of energy-efficiency in data centres. To further improve the quality of its offerings to colocation clients, TelecityGroup France has implemented and thoroughly tested Minkels' Cold Corridor® pivot roof solution catering to risk management requirements for water mist fire suppression.

"Our group engineering department has communicated to all countries that the pivot roof construction, such as Minkels', might be a good solution for them to adopt."
Nicolas Buono - Operations Director TelecityGroup France

TelecityGroup is an innovative company focusing on the premium part of the business. The company is headquartered in London, with nearly 40 data centers at prime locations in 11 countries. Its data centers have a variety of connectivity options available, among which more than 400 carriers, IXPs, CDNs, Financial Services Companies and cloud HUBs. The data centers of TelecityGroup France are located in the Paris region, in Courbevoie and Aubervillers.

RETAIN ENERGY-EFFICIENCY

As TelecityGroup has water mist fire suppression systems as well as Minkels Cold Corridors® present in quite some of its European data centers, TelecityGroup France decided to invest in optimizing the combined solution to heighten customer expectations. The company had the intent to retain the highly valued energy-efficiency gains of the Cold Corridors® while maximizing risk mitigation of the fire suppression systems installed.

As an innovative experiment, TelecityGroup France chosed to have Minkels' pivot roof solution for Cold Corridors implemented in two of its Paris-region facilities. The recently introduced pivot roof solution ensures that energy-efficiency of the Cold Corridor is retained while the roof construction automatically collapses in case of fire, letting nozzles in to squirt water mist inside the Cold Corridors.

TESTED IN OPERATIONAL SETTING

After three months of thoroughly testing Minkels' pivot roof solution, TelecityGroup France has concluded that the solution is a perfect fit. "We have Minkels racks and Cold Corridors installed in our facilities, with Minkels being a partner for many years already, but with a new solution like this we always keep our options open," said Nicolas Buono, Operations Director at TelecityGroup France. "We've tested the pivot roof solution for several months, in new Cold Corridor developments as well as operational Cold Corridor set-ups, and we didn't encounter any issues."

"Minkels and TelecityGroup share the same innovative spirit."

"We wanted to ensure ourselves that the roof system would open in time, just as expected," said Nicolas Buono. "Plus, for example, what would happen if the doors of a Cold Corridor were open at the moment of a fire alarm going off? These and other operational requirements where tested by our engineers, to really assure that Minkels' pivot roof solution would be the best fit for our water mist fire suppression needs."

"We service very demanding customers," said Nicolas Buono. "Usually we solve issues emerging from it by testing and implementing innovative solutions. Therefore, you also need partners with the same innovative principles. As business partners, Minkels and TelecityGroup share the same innovative spirit." ■

TelecityGroup
where content meets connectivity

CLIENT REQUEST

- A solution optimizing the combined set-up of water mist fire suppression and Cold Corridors®
- Retain current energy-efficiency levels achieved with Minkels Cold Corridors®
- Maximizing risk mitigation of water mist fire suppression system

SOLUTION OFFERED BY MINKELS

Back in 2007, TelecityGroup France implemented its hydrogen fuel cell backup power system in close partnership with Minkels. Now, the two companies have taken their innovation-driven relationship to a new level by implementing Minkels' pivot roof solution in two Paris-region data center facilities.

Strong growth in the demand for rack security solutions

Minkels has noticed an enormous increase in the demand for rack level security solutions, both in the Netherlands and throughout Europe. The significant growth in demand can be attributed to the type of customers that currently house their IT infrastructures with commercial data centres, and to new laws and legal requirements.

We can see enormous growth in demand for security solutions with Minkels' commercial data centre customers in particular. A significant part of this demand is due to the preferences and stricter requirements in data centre security by the customers of these colocation facilities.
These security solutions not only involve cylinder locks on the racks, but also electronic security with pass code systems, such as RFID technology, for authorising and registering activities, so that a user can see afterwards who was next to a certain rack and at what time. There is also a lot of demand for security sensors (to check whether side panels are being removed), side panel locking from the inside, door contacts (to check whether a door is closed).

GOVERNMENT ORGANIZATIONS AND FINANCIAL COMPANIES

"The high level of interest in our security solutions at the rack level can be explained in part by the type of customers that house their IT infrastructure at commercial data centres," says Jules Sommers, Product Manager at Minkels. "Government organizations and financial companies, organizations with strict security requirements are now often making the decision to house their infrastructure off site at commercial data centres."

The Dutch Government recently announced that it was fitting out a Government Cloud at an Equinix data centre in Amsterdam. The Department of Public Works (Rijkswaterstaat) and the Correctional Institutional Service (Dienst Justitiële Inrichtingen) will also use those services. Banking & financial software vendor SAB Services has also made the decision in September to house their Software as a Service (SaaS) solution with Telecity Group France. Equinix has been able to bring in more financial companies internationally as well, some of them fed by the Equinix International Business Exchanges™, a unique eco system in which financial companies can mutually connect to one another under low latency conditions. Both the TelecityGroup and Equinix are serviced by Minkels on an international scale.

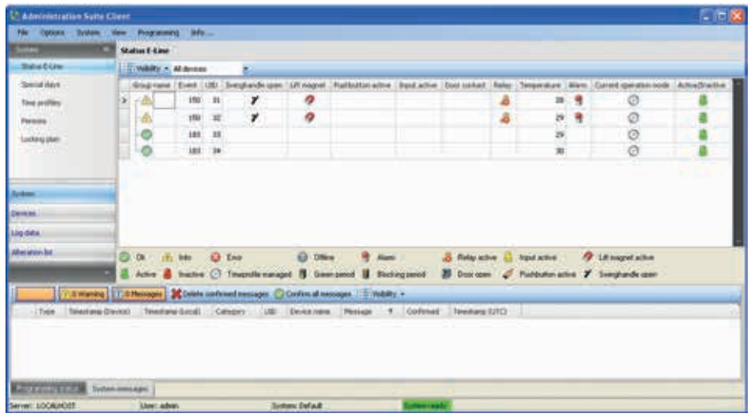
Another development that contributes towards the growth in demand for security solutions is the Nederlandse Praktijk Richtlijn Computerruimtes en Datacenters (NPR 5313 – Dutch practical standards for computer rooms and data centres) which is about to undergo some changes. The non-profit organisation NEN, the agency that is active in the development of standards, will soon present its more stringent changes – including security standards. These standards will form the basis for new EN50600 directives, the European standard for fitting out data centres and computer rooms.

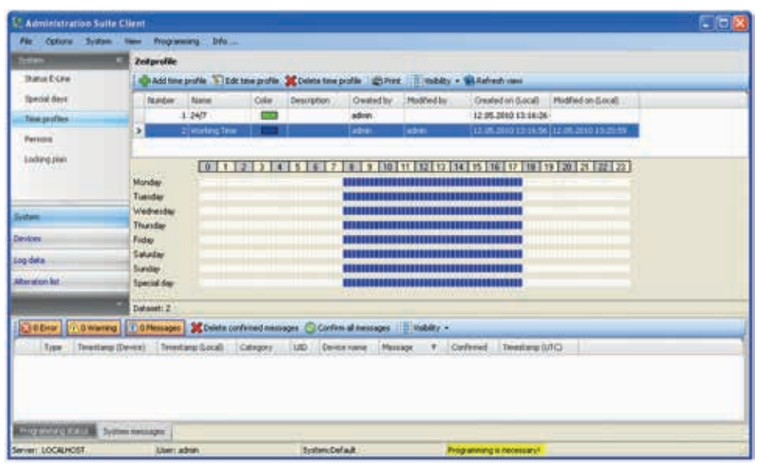
THE EUROPEAN STANDARDISATION

Niek van der Pas, Strategic Product Designer Data Centres with Minkels is a member of the NEN Commission, which is responsible for more stringent standards for the Nederlandse Praktijk Richtlijn Computerruimtes en Datacenters (NPR 5313 – Dutch practical standard for computer rooms and data centres). He has been involved in the new standard since the very beginning. According to Van der Pas, the new standard contains three key elements. The first element is 'uptime', the second one is 'energy efficiency' and the third element is the establishment of 'security levels'.

"High demand for intelligent systems with RFID technology for managing, authorising and registering activities."

"The new standard will focus a lot on security," says Van der Pas. "The push for this also comes from security issues that have been in the news a lot recently. The new standard will include physical security requirements and a risk assessment. This guarantees that the security level of a data centre is in line with the business model of its users and that data security is guaranteed at the deepest desired layer."
"The old standard contains some information about security, but that information is very vague and is limited to the outer most layer of a data centre," says Van der Pas. "The new standard will focus on covering and neutralising vulnerabilities at a deeper and more detailed level than what we have been accustomed to in the past. Security processes and security systems integration are also explained in the standard." ■





MINKELS RACK SECURITY SOLUTIONS

BENEFITS OF IP BAED RACK SECURITY
The Minkels VariControl-L rack security solutions vary in intelligence. VariControl HID Direct and HID-485 are the most intelligent solutions, with integrated RFID technology and IP communications options.

Customers choose IP based rack security due to:

- Security – Loss of HID cards can be recovered within seconds after being reported and a card system can be managed more effectively than a keys plan.
- Central access management & remote management – Oversight of all rack level activity, plus capability to remotely open racks, groups and zones.
- Low OPEX – After a one-time investment in the VariControl-L Admin Suite the operational costs are significantly lower than managing a keys plan.

VariControl-L BASIC – Electromechanical swing handles that are easy to operate via a simple relay port. The main advantage of VariControl-L is that it can be integrated with practically all existing building management and access control systems.

VariControl-L HID – Full rack level access control solutions, which offer handles, software and HID cards. Built-in antennas with RFID technology (Radio Frequency Identification) are used for authorisation. The corresponding software is installed in a central server and can communicate with all locks and equipment via the network (Ethernet).

VariControl-L HID DIRECT and HID-485 – The difference between HID-Direct and HID-485 is how they communicate with the network. The HID-Direct has a direct Ethernet connection. The HID-485 communicates via a serial RS-485 bus and can be connected to an Ethernet network via a gateway.

The Minkels VariconPower® Portfolio: from basic to highly intelligent

The Minkels VariconPower® portfolio provides high quality power distribution, energy efficient solutions that can be seamlessly integrated with a Building Management System, a DCIM system, or with the Minkels VariControl-C energy monitoring system.

Basic Rack PDU

A VariconPower® Basic Rack PDU is a traditional solution with a variety of options, including 16A, 32A or 63A as well as single-phased and three-phased options. Customer-specific modifications are also an option, just like with the other VariconPower® products.

This traditional PDU solution is typically used in existing data centre environments. In combination with CT sensors and Minkels VariControl-C you can still integrate the desired intelligence and create the same functionality as a VariconPower® Metered or Monitored Rack PDU.

Metered Rack PDU

A VariconPower® Metered Rack PDU has the same features and options as a Basic Rack PDU, but is equipped with a screen that shows the energy usage.

Customers use this product to be able to view the amperage. Even though this product does not have the same intelligence as a Monitored Rack PDU, it provides a cost-efficient option to integrate some management security and energy efficiency.

Monitored & Switched (remote) Rack PDU

A VariconPower® Monitored & Switched Rack PDU has all the same features and options as a Monitored Rack PDU, plus the option to remotely switch outlets on and off.

This intelligent solution is often implemented by customers who are in charge of all aspects of the data centre infrastructure, such as is the case in corporate organizations. It provides the option to reboot servers remotely or to assign certain outlets to users – which promotes safety.

Monitored (remote) Rack PDU

A VariconPower® Monitored Rack PDU is an extremely intelligent power distribution solution. It has the same features and options as a Metered Rack PDU, it measures the amperage, but it also measures the power factor, kilowatt hours and voltage. These PDUs can be hooked up to a LAN network via a data bus and a wireless gateway.

This extremely intelligent PDU solution allows you to incorporate remote management functionality and to create maximum security. A combination with Minkels VariControl-C can enhance the management functionality even further.

Minkels Archimod UPS

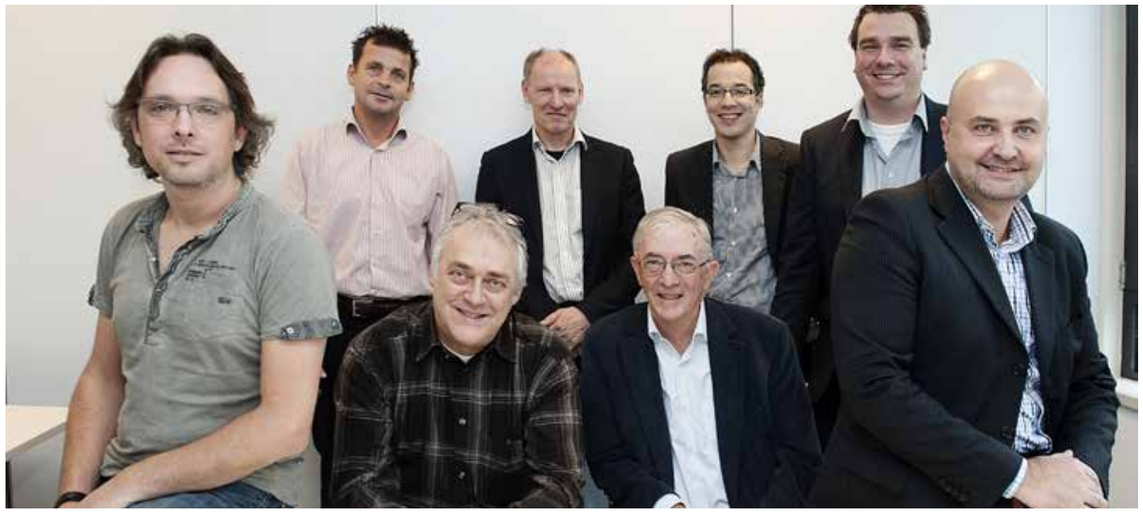
The Minkels Archimod UPS System has a modular power capacity from 20 to 120 kVA.

This makes the UPS solution suitable for server rooms in Corporate and small to medium size company environments with a capacity of approximately 6 racks.

NEW

DATA CENTRE EXPERTS:

“Busbar systems could be more flexible”



Minkels Forum discussion with Atos, BIT, Tier3 and Croon Elektrotechniek at the table

Minkels Netherlands organised a forum discussion on site at the BIT data centre in Ede, the Netherlands, where a number of different experts presented their vision about the topic of busbar systems. Minkels uses the input provided by these experts to further enhance its own product development. Minkels will launch the new busbar systems in 2014.

The busbar systems that are currently on the market are almost always custom built to order. It is true custom work that can hardly be modified once it has been designed for a specific customer. It turns out that this is very challenging according to the forum discussion.

Thus, busbar systems could do with being more flexible. During the forum discussion, the experts went into great detail of the specific requirements product features should meet. Minkels is now using this information to perfect its own busbars, systems that will become a part of the Minkels product portfolio in 2014. In the next edition of Minkels Magazine, you will be able to read how the discussion among the experts further progressed. ■

VARICONPOWER® BUSBAR SYSTEMS

NEW

This upcoming year, Minkels will further expand its product portfolio in power distribution solutions to include busbar systems and drain receptacles. With these added products, Minkels will meet the growing number of high density clusters in data centres, where it would be advantageous to implement busbars. It will also appeal to customers who need a fully integrated system with PDUs, UPSs and busbars.

Minkels will incorporate the busbars and the drain receptacles in its own data centre portfolio from the portfolio of its parent organisation Legrand. The publicly traded company Legrand is a global specialist in power distribution solutions.

Quick oversight of your energy usage

The density of the power capacity in the rack is increasing. Power capacity of 4 to 8 kW per rack is quite normal these days. Therefore, the power relationship between the different components will become increasingly more important, which explains the increasing demand for measurement systems like the Minkels VariControl® Energy Monitoring.

"We are seeing that users in the market need more and more information, that they want to be able to take more measurements of power distribution," says Jules Sommers, Product Manager with Minkels. "What is the status of a fuse? Where are the power leaks? What is the reactive power capacity? Customers want answers to these questions. Measurements are being taken at deeper levels than in the past. Not only in terms of physical measurement points, but also in the use of data and the analyses of the measurement data must contain more details than before."

OUTAGE RISK INCREASE

A lack of cohesion between the electrical components not only results in wasted power, thus an increase in a data centre's power costs, it also increases the risk of outages. Sommers: "Let me give you an example, the different components of an electrical system often have their own fuses. Therefore, multiple fuses may be placed next to each other. However, in case of a short circuit or overload, you would really like to know which component can lose power first. You will be able to cover the risks better with proper cohesion between the components and full insight into the energy usage."

You can measure and show how energy is being used in a data centre by means of a Data Centre Infrastructure Management (DCIM) system. "This is a shot in the dark for many people," says Sommers. "It costs a lot of money, while many data centres do not consider it a priority to have the extensive features of a DCIM system, which go far beyond energy usage alone."

For this reason Minkels has the VariControl® Energy Monitoring system in its portfolio, a software solution whereby users can take the first step towards managing the energy flows in their data centre. Sommers: "This is a cost-effective product. It doesn't require the large investment like a DCIM integration does, even though you can do everything with it to gain full insight into a data centre's energy usage."

VARICONTROL® ENERGY MONITORING

With VariControl® Energy Monitoring users can collect a data centre's energy data in a database. The system also allows you to analyse the data, to manage alerts and to create overviews at the rack level (instead of per PDU). A dashboard also allows you to measure all sorts of Key Performance Indicators (KPIs), including phase balancing, load balancing, as well as temperature and humidity readings in the data centre.

"VariControl® Energy Monitoring has not been designed as a DCIM system on purpose," says Sommers. "The solution is simplistic yet effective. You can read and analyse all important energy values, and the solution is easy to install and manage." ■

VARICONTROL®
MONITORING SOLUTIONS

Jules Sommers, Product Manager

Modular UPS System

Minkels R&D explores thermal performance in Cold Corridors

At the beginning of 2013 Minkels launched the Archimod UPS System. It is an energy-efficient UPS solution with 20 to 120 kVA power capacity for uninterruptable power supply in server rooms. The thermal exploratory tests conducted by Minkels' R&D department (see whitepaper) show that this UPS system is ideal for full integration in a Cold Corridor environment.

The Minkels Archimod UPS System has been developed by Minkels' parent company Legrand.
The Uninterruptible Power Supply (UPS) has been placed in business critical environments worldwide over the past 10 years, including surgery departments in hospitals and airport lighting on runways. Minkels has turned this emergency power supply into a suitable product for use in data centres.

The data centre specific application of the UPS system may bring up questions from customers, which we would like to answer proactively. Therefore, Minkels conducted a thermal exploratory test, which shows the specific performance of the UPS solution in the data centre environment.

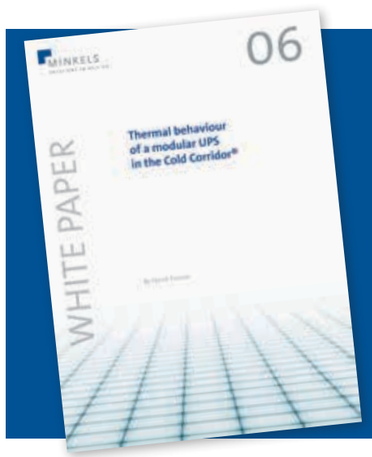
TEST SET UP FOR SERVER ROOM

The UPS system was generally used in technical areas, in dedicated areas with a fairly constant temperature of 25 degrees Celsius, where the batteries do not overheat. Minkels wanted to adapt the system to use in a server room, with row-based positioning of the UPS in a Cold Corridor. Minkels then created a data centre-specific cover. Besides the mechanical adjustments for stiffness and strength, adjustments were also made to guarantee the separation of hot and cold airflows in the UPS.

"With the thermal exploratory test, we validated the quality of the data centre-specific adjustments and the usage conditions for ICT infrastructures in a Cold Corridor setting," says Patrick Timmer, Integrated Product Designer for Data Centres at Minkels. "We have set up a test server room environment with warm and cold corridors and a simulated ICT load in our R&D centre. Temperature sensors have been installed on the UPS batteries, the system's critical components."

THE TEST RESULTS

The exploratory test shows that the innovative Archimod UPS System works well and is ideal for use in a one-row set up inside a Cold Corridor, as long as the temperature and pressure difference meet certain conditions (see frame 'UPS Thermal Behaviour Test' whitepaper. The adjustments Minkels applied to the UPS system specifically for use in data centres have been validated and proven to work well.
Timmer: "During the test, we varied the pressure between the cold and warm corridor. We looked at which pressure level the temperature of the batteries did not increase. We have come to the conclusion that a difference of 2 Pascal (Pa) in pressure is necessary to ensure that the conditions of the Cold Corridor surround the batteries for the UPS. In order to achieve the same proven good performance in IT rooms, it is important to maintain a positive pressure difference of 5 Pascal for in-row use in a Cold Corridor, and to not let the temperature in a cold corridor exceed 25 degrees Celsius."
The Minkels Archimod UPS System has a power capacity of 20 to 120 kVA and is designed for server rooms with 5 to 25 racks in a Corporate or small to mid-size company environment. ■



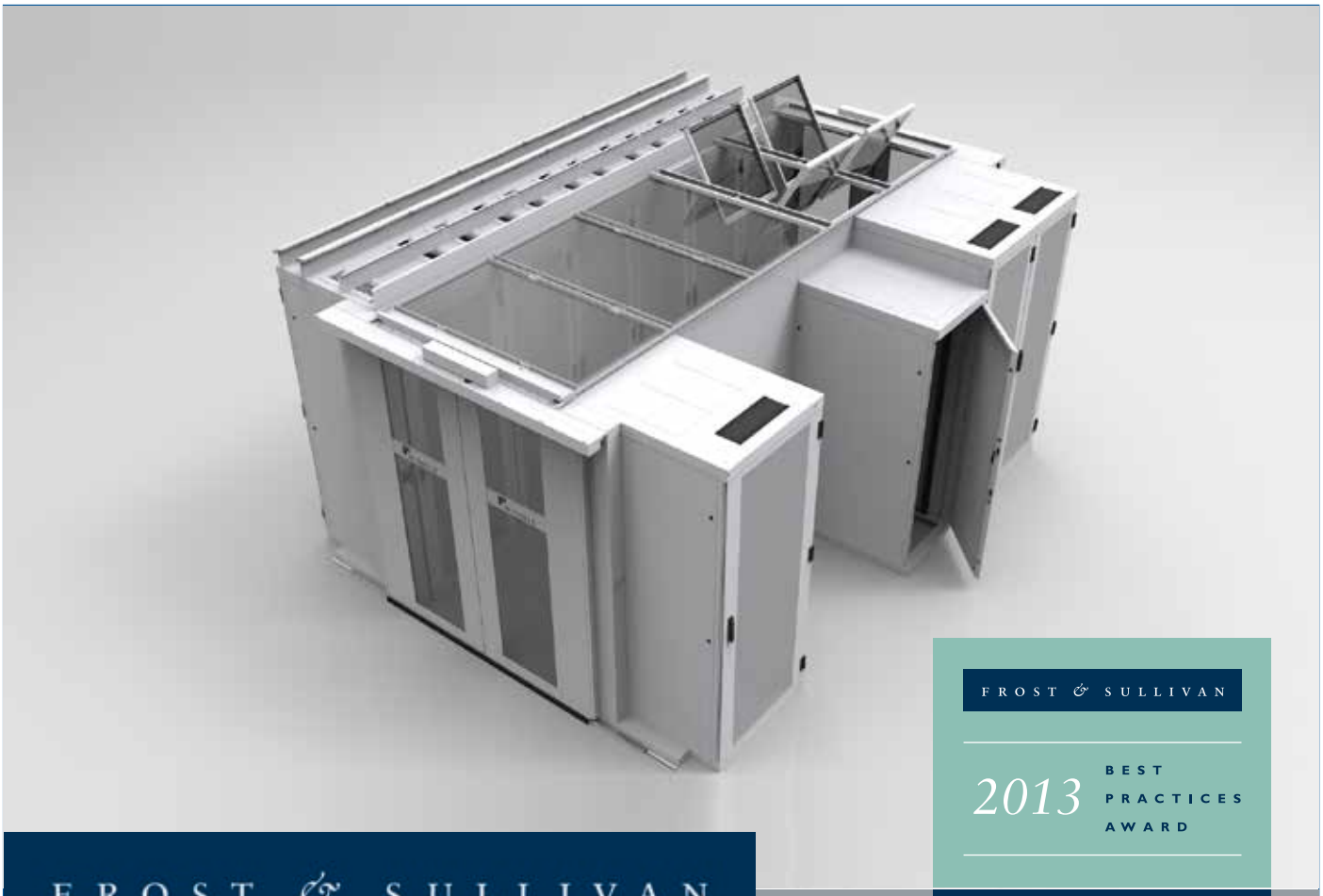
Download whitepaper

The results from the thermal server room exploratory test that Minkels R&D conducted with the Archimod UPS System have been examined in the whitepaper: 'UPS Thermal Behavior Test'.

You can download the whitepaper from: www.minkels.com/whitepaper.

MINKELS

SOLUTIONS TO RELY ON



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2013 BEST PRACTICES AWARD

EUROPEAN RACKS & CABINETS
ENTREPRENEURIAL COMPANY OF THE YEAR AWARD

"Minkels is setting new standards with the launch of the Next Generation Cold Corridor®."

EXCEPTIONALLY FLEXIBLE:

- Modular options based on best practices
- Easy to install
- R&D based optimisation of airflows
- Large choice of security options and (automatic) door systems
- Plug & play sensor integration
- Easy integration of fire detection and suppression systems
- New roof design for high translucency

A Group brand | legrand