

2014
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MINKELS MAGAZINE

Minkels introduces ultra-modular design: the Free Standing Cold Corridor®.

NeoCenter Ouest places its trust in the Legrand Group for its data centre in Roche-sur-Yon.

Minkels strengthens its Power portfolio with the launch of the VariconPower® Hybrid Rack PDU.

WHITEPAPER - Airflow optimisation is the next step in energy efficiency

Are you wondering how you can save even more on energy costs in your data centre? Research by the Minkels R&D department shows that the right airflow optimisation products and accessories in your data centre can lead to a tremendous reduction in energy use. Minkels has designed new data centre products and accessories that deal specifically with airflow optimisation needs. Further information can be found in the Minkels' **Whitepaper 'Rack Airflow Optimisation'**.



Our experts have published a number of whitepapers about a variety of topics in order to share our data centre knowledge with customers. Free copies of this whitepaper are available on:

www.minkels.com/whitepaper

COLOPHON

MINKELS MAGAZINE

Minkels is a subsidiary of the Legrand Group. This global, publicly traded organisation 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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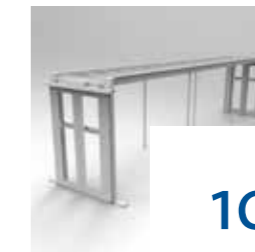
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Minkels introduces ultra-modular design: the Free Standing Cold Corridor. An ultra-modular and cost efficient aisle containment concept that does not require any initial investments in data centre racks.



Minkels strengthens Power portfolio with launch of VariconPower Hybrid Rack. PDU. Carrier neutral data centres have to deal with more and more high density clusters with locally rigorous cooling requirements.



Minkels and Legrand solutions integrate seamlessly with the modular and compartmentalised building needs of EvoSwitch. Ever since the opening of its first data centre in 2007, EvoSwitch has been using Minkels racks to house IT infrastructures. Recently, EvoSwitch has also opted for busbars and tap-off boxes by Legrand and Legrand cable ducts.

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MINKELS RECEIVES FROST & SULLIVAN AWARD



The international marketing research firm Frost & Sullivan recently completed a global study in the Racks and Cabinets market. The study revealed that Minkels is a data centre manufacturer with a remarkable focus on innovation. Therefore, Frost & Sullivan has awarded Minkels with the 'Entrepreneurial Company of the Year' award. Minkels accepted the award during an awards ceremony in London on 14 May 2014.

The Frost & Sullivan report highlighted the two core principles behind the Minkels portfolio that are probably primary contributing factors to Minkels' current international success in the data centre market, which are modular design and energy efficiency. Key examples of Minkels' recent innovative products that were mentioned in the report are: Next Generation Cold Corridor, Free Standing Cold Corridor, and VariCondition® row-based cooling (DX and H2O).

"The modular design that is the key component of the Minkels portfolio not only provides customers with great scalable and flexible systems that can be tailored to the specific needs of each data centre environment," says the branch analyst Gautham Gnanajothi of Frost & Sullivan. "It also enables a more customer-focused approach that can fulfil a client's very specific needs."

NEW SOFTWARE ADDS EFFICIENCY TO MINKELS' LOGISTICS



Minkels has just implemented a new warehouse management system. The software is a modular extension of the Microsoft Dynamics AX ERP package that had already been deployed previously. The 'WMS' module provides a significant increase in logistics efficiency. Minkels would like to further reduce delivery times and human error in the logistics process.

Just this past year Minkels has significantly expanded its product portfolio with a variety of solutions and a number of new components. Global sales of Minkels products have increased significantly. This not only means a tremendous increase in production, it also means that the logistics process has become more complex.

The WMS module enables Minkels to manage the inventory of components real-time with the aid of terminals and hand scanners in order to pick orders more efficiently and to be even more flexible in prioritising the production of components. The warehouse management system module adds so much efficiency to the logistics process that Minkels can facilitate current growth while still maintaining the desired flexibility for delivery.

BUSBARS & SMART TAP-OFF BOXES FULFIL NEED



The Minkels VariconPower busbars & smart tap-off boxes that were launched earlier this year apparently are fulfilling an important void in the market. The solutions have already been integrated in different ongoing data centre projects. In their feedback, customers have unanimously indicated that the modular design has given them the flexibility they have been looking for.

Minkels based the development and modification of its own Minkels VariconPower busbars & smart tap-off boxes on the existing busbar system of its parent company Legrand, a global expert in power distribution. While designing this product, Minkels listened to its customers and experts from the data centre world. A common theme from the knowledge sessions that were held, is that traditional busbars generally lack flexibility. Traditional busbars are inflexible, hardly scalable and do not adapt easily to the dynamic needs of an operational data centre.

In line with the modular design principles that are seen in many Minkels' solutions, this modular design has been integrated to the fullest extent in its busbar system that has now been added to the Minkels portfolio. The solution including the 'intelligent' smart tap-off boxes adapts to the building where it will be installed and can be integrated seamlessly with Minkels Cold Corridors in a flexible manner.

Current growth strengthens our power of innovation

The demand for Minkels solutions is growing significantly in our home market in the Netherlands; but also our international markets have shown exceptionally strong growth. Customers all over the world praise the high quality solutions portfolio and the customer-oriented service, including the characteristic modular design of our solutions, providing data centres with the flexibility they need.

This is the twelfth year in a row that we are experiencing growth; but 2014 has all the makings of being our most successful year ever. We notice that our large international customers are happy that Minkels has had the backing of a financially strong parent organisation since the beginning of 2012. As a conglomerate with 4.5 billion Euros in revenues, Legrand gives its customers maximum assurance and continuity – which is important for a long-term relationship with us

as a supplier. We have also been able to greatly expand our global distribution and assembly options for these customers.

RECENT MINKELS INNOVATIONS

Growth is wonderful; it ensures that we can continue to invest in product innovations. An example of a specific product innovated by Minkels is the Free Standing Cold Corridor that we have just recently developed and launched – a free standing aisle containment system that is ultra-flexible, whereby customers do not need to invest in racks beforehand. There appears to be a lot of interest in the market for this cost-efficient product. Meanwhile, the solution has been delivered and implemented in different countries.

You can also read more about the recently introduced VariconPower hybrid PDUs in this magazine, as well as the further expansion of our power portfolio with a modular busbar

solution, a product that was originally in the portfolio of our parent organisation Legrand – a global expert in power distribution. Minkels has implemented this proven busbar technology to create a modular power distribution solution, specifically aimed at data centres with dynamic and evolving power requirements.

At the same time, the current market success fuelled by our knowledge-based partner programme in which partner companies recommend or implement Minkels solutions for their customers. Our pathways to the market are always clear, our direct and indirect business complement each other perfectly.

NEW INVESTMENTS

To facilitate the growth within our organisation, substantial new investments are currently being made in the organisation – investments in people, machinery and systems. Thanks to the implementation of a software system, partners will be able to work independently to configure solutions for their customers. A completely new warehouse management system is also being rolled out, which will benefit the quality of order picking and the further automation of order processes.

With the recent product innovations, we have been able to significantly expand the already extensive Minkels portfolio even more this past year. Thanks to further investments in new solutions and in our organisation, we will be in a position to optimally fulfil the broad range of customer requirements in different countries throughout the world also in the future. This will strengthen Minkels' leading role within the Legrand Group in data centre solutions even further.

This is my last editorial as the CEO of Minkels. On 1 November I transitioned to the Legrand organisation and assumed the position of Deputy Vice President. I am now in charge of the Strategic Business Unit Digital Infrastructures. The Legrand global data centre & connectivity programme has recently become a part of this Unit – with brands like Minkels, Legrand and Estap. In this new role I shall continue to promote the further growth of the organisation and innovation in the product portfolio, but from a different position. My succession is in good hands with the appointment of Christiaan van Terheijden as the new CEO of Minkels. He comes to us from Legrand Austria, where he served as Commercial Director.

Jeroen Hol, CEO Minkels ■





Data centre solutions:

A comprehensive portfolio



Minkels' parent company Legrand, a publicly traded company with revenues of 4.5 billion in 2013 and sales in 180 countries, has earned a solid position in the global data centre market these past few years. Thanks to acquisitions, R&D efforts and extensive investments in the latest technological developments, Legrand is now a key player in the data centre market with a fully comprehensive portfolio.

The results of Legrand's efforts to become one of the most prominent suppliers of data centre solutions, have now been bundled in a data centre catalogue and corresponding website.

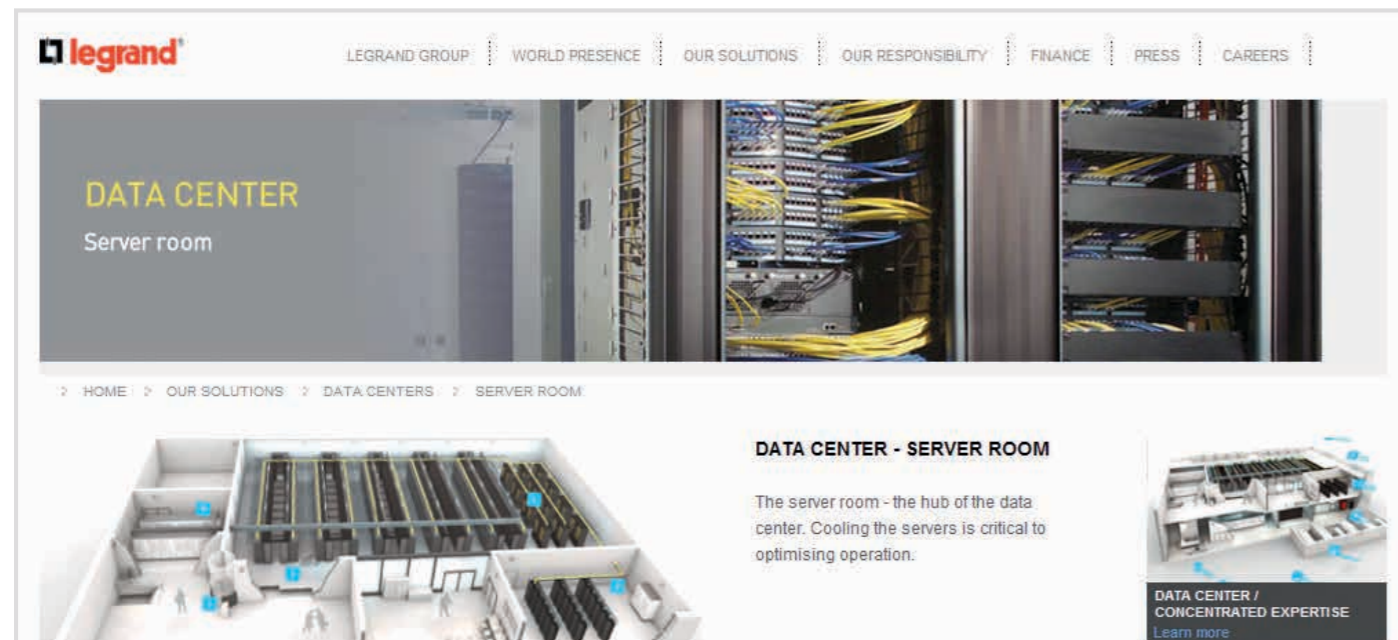
They showcase the different Minkels solutions and other data centre related brands and products produced by Legrand.

The data centre catalogue and website provide a complete overview of integrated data centre solutions from brand names such as Minkels, Legrand, Cablofil, Zucchini, Estap and Alpes Technologies. The different solutions and brands are intended for corporate and commercial data centres. Besides information about aisle containment solutions, racks, PDUs, busbars & tap-off boxes, along with row-based cooling, the catalogue also contains information about a variety of cabling systems, UPS equipment

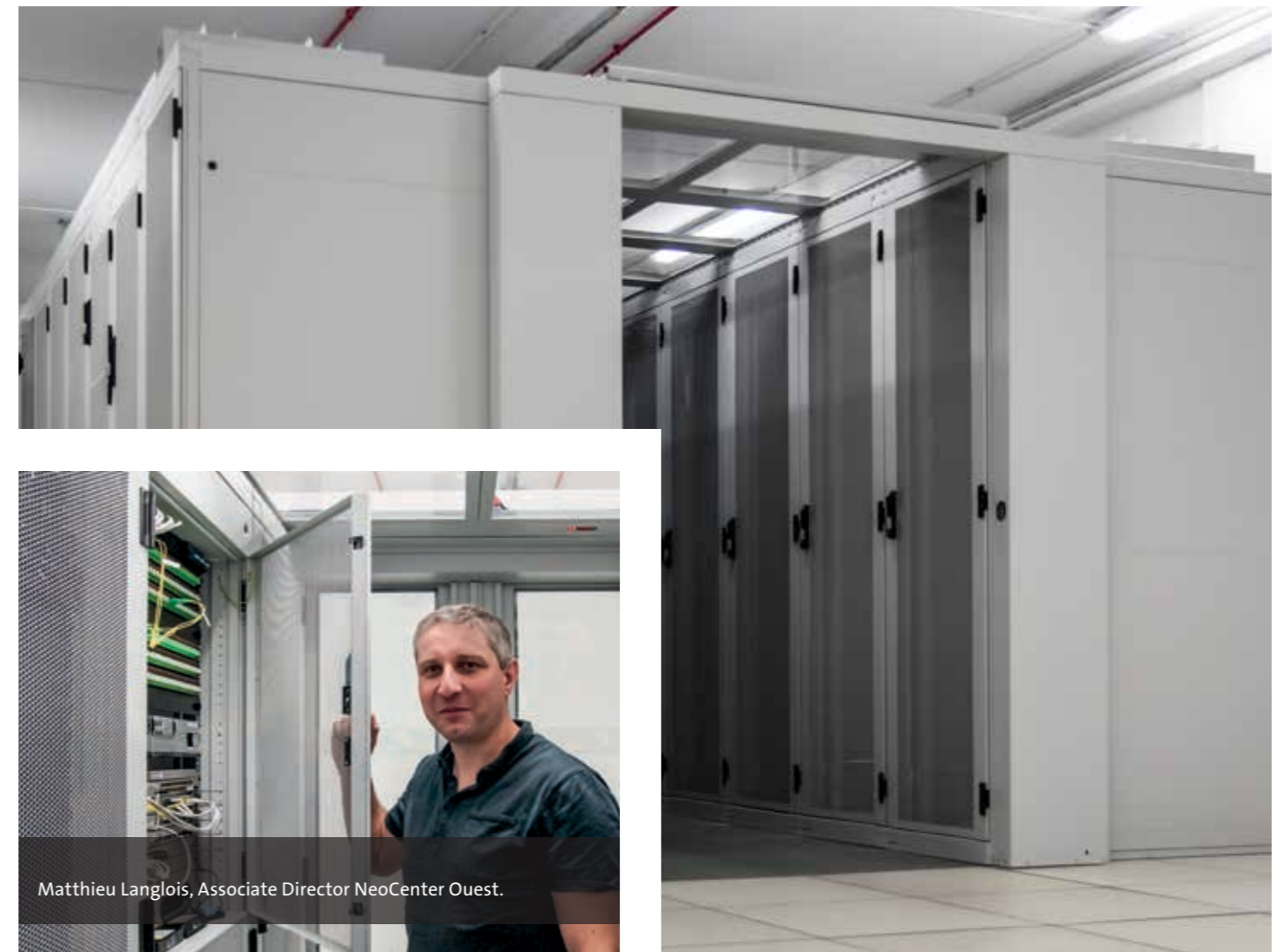
and other cooling solutions, including free cooling. It also has information about products for CCTV & access control. The catalogue is very extensive with 66 pages and it also contains need-to-know information relevant to power usage efficiency (PUE), internal and external levels of protection in data centres, electrical circuits, network infrastructure layout in data centres, different standards, and general data centre design considerations.

The catalogue can be downloaded from Legrand's new website for data centre solutions:

datacenter.legrand.com



NeoCenter Ouest places its trust in the Legrand Group for its data centre in Rochesur-sur-Yon



Matthieu Langlois, Associate Director NeoCenter Ouest.

The new data centre of operator NeoCenter Ouest is an emblematic project for Legrand, because it has the best technologies and products to ensure smooth operations of a data processing centre. The different Legrand brands were deployed in order to bring this project to a successful close.

The company NeoCenter Ouest (member of the NeoTelecoms group, shareholder of NCO) is

specialised in hosting and in fibre optics telecom services for system houses, end customers and operators, and the first neutral host in the Vendée. The company recently opened a second data centre with 40 racks in Rochesur-sur-Yon (Vendée), after the one it opened in Nantes (Loire-Atlantique). Purpose: respond to a significant increase in the demand from regional customers.

A SOLID BACKGROUND AND POSITIVE OPINIONS

"When we first began this project, we already had a long-term partnership with the company Minkels, who supplied us with the newest generation Cold Corridor, according to Matthieu Langlois, Associate Director at NeoCenter Ouest. "We started working with Legrand through them. We also worked with their subsidiary company, S2S Onduleurs, who installed the last new Archimod240 HE 240kVA ondulator

The solutions implemented jointly by Legrand



The EZ-Path® firewall module by LCM (Legrand Cable Management) enables organised cable installation through walls, without risk of flashover.



MPO optical fibre cassette, custom made by Legrand. Installation time cut in half in comparison with the old systems that were in use.



NeoCenter Ouest has the newest generation of UPSs with the Archimod 240 kVA by the S2S company (Legrand Group).



NeoCenter Ouest has the fourth and last version of the Cold Corridor developed by Minkels, which has space for 40 racks.



The Archimod 240 kVA ondulator is a modular solution that enables UPSs and batteries to be added as the data centre expands.



MPO optical fibre cassette, custom made by Legrand. Installation time cut in half in comparison with the old system that was in use.



The Minkels Cold Corridor ensures and optimises data centre cooling while taking the heat generated by the servers into account.



LCS² cable solutions by Legrand, both optical fibre and copper cables (Cat. 6A).

and Minkels in Neocenter Ouest

(modular rackable solution for the newest generation – High Efficiency), making it easy to add UPSs and batteries as the data centre expands: (pay-as-you-grow). Besides, several technicians had nothing but great things to say about the Legrand FDI solutions, therefore, I decided to have a look in that brand's showroom to see whether the products would meet our needs, particularly in terms of rules and operations."

A POWERFUL STANDARD SOLUTION AND CUSTOM WORK

In terms of our needs, Legrand introduced its latest generation solutions with optical fibre and copper cabling, and with panels that are

equipped with powerful 6a connectors that easily exceed the requirements. Because of their rapid deployment and space optimisation, they recommended pre-installed LCS² solutions in LC and MTP for 40/100 Gb and fibre channel. In terms of capacity, these are the HD optical fibre products up to 288 2U fibre connectors. "In addition to a solution for modular cabling, Legrand also supplied custom work by developing an optical fibre cassette so that the expansion would progress 4 to 5 times faster than with the old system, whereby installation time is cut in half", cites Langlois with pride. Another innovative solution that LCM (Legrand Cable Management) provided is its latest invention, the EZ-Path® firewall module. Thanks to this

unit, both high voltage and low voltage cables can be laid from one room to another without having to do without the firewall function.

VALUABLE SOLUTIONS

"One of the things I really appreciated about this project with Legrand, is that they have worked very hard to understand our needs and to meet our requirements. In addition to their custom products that have been fully integrated in our systems, they provide excellent follow-up and are willing to supply finished products that meet our rules and operating requirements," emphasises Langlois. ■





Minkels introduces ultra-modular design: The Free Standing Cold Corridor

Minkels has added the Free Standing Cold Corridor to its portfolio, an ultra-modular and cost efficient aisle containment concept that requires no initial investment in data centre racks. All modular production options from the Next Generation Cold Corridor that were introduced last year can be integrated in the design.

The Minkels Free Standing Cold Corridor is a free standing aisle containment structure that can be deployed independently from racks and equipment, including storage equipment. The solution has been designed by the Minkels Product Development Department to provide customers with ultimate flexibility for future use of Cold Corridor systems. A large supermarket chain recently began using the first Free Standing Cold Corridor. The product will become available to the general market on a global scale in the third quarter of 2014.

PAY-AS-YOU-GROW MODEL

The new aisle containment concept provides supermarket chains a pay-as-you-grow model, whereby only wall panels, roofing and doors

of the Cold Corridor are pre-installed. The self-contained, free standing structure can then gradually be filled with racks and equipment.

“The Free Standing Cold Corridor is an excellent solution from an investment point of view.”

This makes it an ultra-modular design, providing extreme flexibility for a phased use of the Cold Corridors. The solution also provides full flexibility in terms of models and sizes of racks plus the equipment it will contain over time.

With its flexible and phased options for adding equipment, the Free Standing Cold Corridor is also an excellent solution from an investment point of view.

From the very beginning, the Free Standing Cold Corridor has been designed with the same energy-efficient features that customers have come to appreciate from the standard Cold Corridor design. “This can be interesting, especially for commercial data centres,” says Vincent Liebe, Marketing Manager at Minkels. “Energy-efficiency typically plays a large role in this kind of environment, while colocation customers will highly appreciate the freedom it provides. A commercial data centre can take the Cold Corridors and roll them out in very different

phases, giving end-users full flexibility to install the backbone of their IT infrastructure to suit their needs.”

BEST PRACTICES

The Minkels Product Development Department has developed the Free Standing Cold Corridor based on prior custom projects for their clients. Liebe: “We have listened to different customers and their experiences, and have extracted the best practices from those projects as input for the current design. Thanks to the modular design, even in terms of wall panels and roofing, users can create a custom solution that hardly requires custom work. This solution standardisation provides customers with a high level of efficiency and a relatively short deployment process. It also makes the solution accessible to a broader audience.”

“The design provides extreme flexibility for a phased and evolving use of Cold Corridors.”

An independent external company tested and evaluated the load capacity of the self-supporting structure of the Free Standing Cold Corridor. The ultra-modular Cold Corridor solution passed this test with flying colours, which also included a review of the options for integrating Minkels Cable Trays or other cable ducts on the roof of the structure. This is also an option with the Free Standing Cold Corridor.

RETROFIT APPLICATION

The modular details in the different panels make it possible to adapt the Cold Corridor design at a later time to the needs of the data centre and its customers. The maximum possible length of a Free Standing Cold Corridor is 9.6 metres, which provides many options for customer-specific needs with a variety of custom lengths – because an average Cold Corridor almost never measures more than 7 metres in length.

The Free Standing Cold Corridor is also ideal for so-called retrofit applications, in other words, existing legacy data centre environments that require an energy-efficient aisle containment

FREE STANDING COLD CORRIDOR ADD-ONS

All modular options that are available for the Next Generation Cold Corridor can be used with the Free Standing Cold Corridor as well. For instance, the ultra-modular Cold Corridor concept can be combined with a variety of fire extinguisher modules, including the pivot roof system whereby roofing panels automatically open in case of fire or upon reaching a certain temperature to allow access by water mist sprinklers.

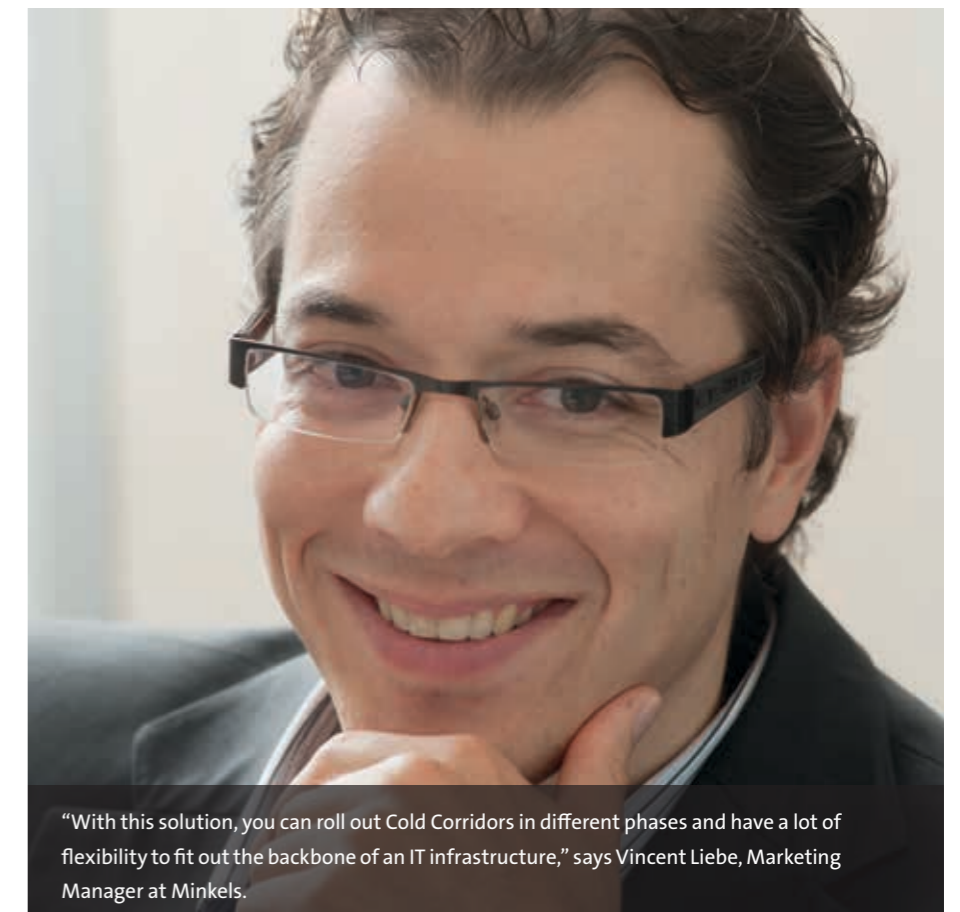
The Free Standing Cold Corridor can also be used in conjunction with VariCondition row-based cooling using air (Minkels VariCondition-DX) or water (Minkels VariCondition-H2O).

OTHER SUGGESTIONS FOR ADD-ONS:

- Modules for security options and (automatic) door systems
- Module with monitoring sensors (plug & play)
- Airtightness module for ‘the last mile’ in airflow optimisation

solution. “In such a case, the Free Standing Cold Corridor structure is placed over the top of the existing data centre racks, as it were,” says Liebe. “The advantage of this custom solution based on standard products is that there is no need

for engineers to perform all sorts of calculations to assess the load balance capacity of the racks. This type of application is much easier to fit out than a fully custom project would be.” ■



“With this solution, you can roll out Cold Corridors in different phases and have a lot of flexibility to fit out the backbone of an IT infrastructure,” says Vincent Liebe, Marketing Manager at Minkels.

Minkels strengthens Power launch of VariconPower

With the recent launch of the VariconPower Hybrid Rack PDU, Minkels has further expanded its portfolio with power distribution solutions. The Minkels VariconPower Hybrid Rack PDU is a unique PDU solution that brings the advantages of serial and IP-related communications together in an innovative product.

From a data centre management perspective, serial communication for power distribution is very practical, particularly in larger data centre environments. Power Distribution Units (PDUs) can be connected to a central gateway, making IP port administration easy and transparent for larger data centres. It typically has a positive effect on the manageability of a power distribution infrastructure in the data centre.

IP PORT FOR EACH PDU

An individual user in a data centre may have reasons for working with a separate IP port for each PDU. The ICT management environment has often expressed the need for each PDU to have its own IP port. Therefore, this is often provided as the default option. The main advantage of a separate IP port for each PDU is that a connection can be made from the PDU directly to a network service. This configuration

allows users to manage and monitor easy IT tasks related to the network equipment remotely from the PDU. The disadvantage of this kind of solution is that IP addresses and IP ports must be available on the network switches for each PDU in a data centre. "If you add up all your network investments for this type of solution, a corresponding IP port costs about 25 Euros per month for each PDU on the network," Jules Sommers, Product Manager at



portfolio with Hybrid Rack PDU

Minkels. "The costs for larger data centres in particular can really add up, even though you, as the data centre manager, truly only need the IP port on the gateway, which could save the costs involved in having hundreds of IP addresses."

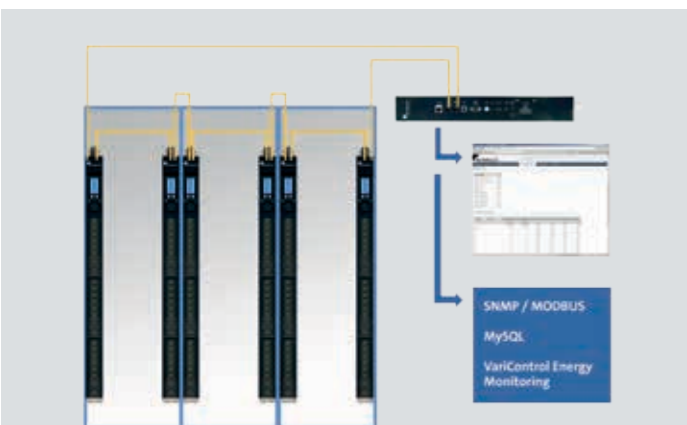
A HYBRID SOLUTION

To meet both of the needs of the data centre manager and the individual ICT user, Minkels R&D has developed the hybrid solution – a product that is completely unique in the market. VariconPower Hybrid Rack PDU provides a software solution to unlink IP addresses from the gateway. This makes it possible to separate certain rights related to the functionality of the PDU and then to modify them once it is

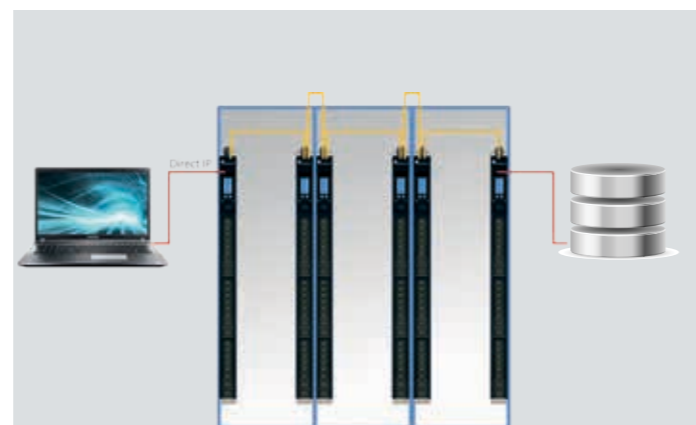
operational. This configuration meets the requirements of serial communication and the individual communication needs.

"Larger data centres in particular will benefit from this hybrid PDU solution," says Sommers. "Data centre managers can maintain a single IP address on their gateway so that they can read the energy usage of the whole data centre for instance. At the same time, individual users can have an individual IT port to manage their own parameters, such as being able to switch outputs, which are rights the data centre manager does not have in this case." ■

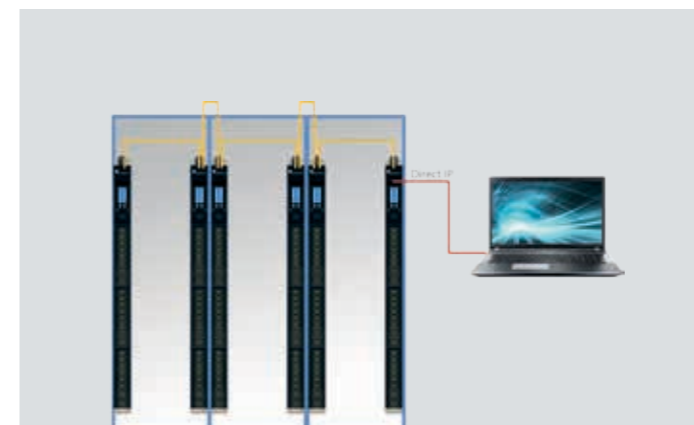
The VariconPower Hybrid Rack PDU is a new PDU solution in the Minkels portfolio. The product brings serial and IP related communication together in a single solution, which is a unique product in the market. It combines the best of both worlds for data centre managers and IT managers. With the VariconPower Hybrid Rack PDU, data centre managers can set up their IP port management in an efficient and transparent manner, while IT managers can still have a separate IP port for each PDU. Minkels VariconPower Hybrid Rack PDU and the Minkels VariControl®-C Power Monitoring together provide extensive management functionality via a user-friendly web interface. Monitoring & management tasks can be performed remotely via the Hybrid Rack PDUs. The dual solution allows a variety of parameters to be read, including amperes, voltage, kilowatt-hours and power factor. A gateway provides the capability to connect monitoring equipment and (maximum) 500 Hybrid Rack PDUs on a LAN network.



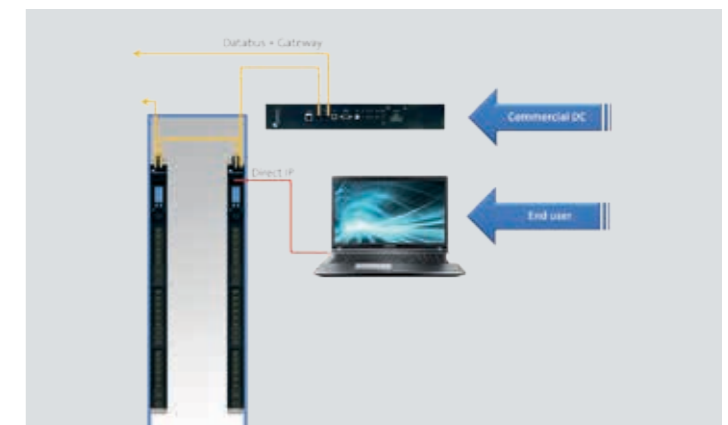
The Hybrid Rack PDU has a daisy chain network configuration, just like the other intelligent Minkels PDUs. The difference is that with a Hybrid Rack PDU – in combination with a gateway – hundreds of other PDUs can be read, thus being able to save the costs of hundreds of IP addresses.



To provide maximum uptime and readout guarantees for the Hybrid Rack PDU, Minkels has added Dual Redundancy to the network. Should a network connection be interrupted, it will still be possible to read the other PDUs on the network with a laptop from any PDU.



In smaller data centre environments, there is no need to use a gateway for reading multiple PDUs via the Hybrid Rack PDU. In that case, multiple PDUs can be read out directly using a laptop.



The link between the IP addresses and the gateway is decoupled in the software, offering commercial data centres the opportunity of reading back useful parameters without accidentally disabling a port.

University in Wageningen

“Our colleagues at other universities told us that Minkels has excellent, high quality solutions.”

“Knowledge sessions were held in which we explored many topics at great length with the specialists from Minkels. Topics such as floor load, power distribution, rack depths and cable management were discussed in detail,” cited Ron Lukassen, Senior Consultant IT at Wageningen UR.

chooses Minkels

CUSTOMER REQUEST

- Aisle containment for energy efficiency
- Data centre racks
- Power distribution (PDUs)
- Solution monitoring & control
- Cable management infrastructure
- Integrated total solution from a single data centre supplier
- Availability of technical knowledge in fitting out data centres

THE MINKELS SOLUTION

Minkels implemented and integrated an innovative total concept for the new data centre for Wageningen UR. It is a modular solution, which includes Cold Corridors, 19 inch racks, custom intelligent PDUs, VariControl-C monitoring & control, and a variety of cable management accessories. Minkels also held knowledge sessions with Wageningen UR to supply technical knowledge, so that the IT organisation could make well-informed decisions about structuring and fitting out their new data centre.

Wageningen UR wanted to build a new data centre to house its IT systems in a central location on the Wageningen Campus. The new data centre had to replace an aging data centre. Via a tendering process, Minkels was selected to supply Cold Corridors, 19 inch racks, intelligent PDUs, monitoring and cable management solutions, including technical knowledge for fitting out a data centre.

THE ORGANISATION

Wageningen UR (University & Research centre) is the association between Wageningen University and the Stichting DLO, the former agricultural research institute of the Ministry of Agriculture. A total of 6,500 employees and 10,000 students from 100 countries work and study healthy nutrition and the living environment at Wageningen UR. Most of the different organisational units within Wageningen UR have been operating from a central location at

the Wageningen Campus for a couple of years now. The IT department of Wageningen UR has 170 employees.

DATA CENTRE KNOWLEDGE SESSIONS

Wageningen UR follows a twin data centre concept to guarantee high availability of its services. These same data centres also provide basic services, such as a High Performance Computing (HPC) environment. One of the two existing data centres was still located in a building off campus. Once this old location

was sold, the decision was made to build a completely new data centre on campus.

The result is a stand-alone data centre of 120 square metres, with indirect adiabatic cooling for maximum energy efficiency. Minkels was selected to supply fully integrated and energy efficient solutions for fitting out the data centre.

“We had heard from colleagues at other universities that Minkels supplies very high quality solutions and that they are flexible and

can adapt to the needs and requirements of the data centre environment, even if the details change during the building phase,” says Ron Lukassen, Senior IT Consultant at Wageningen UR. “Minkels was immediately on our shortlist during the tendering process. The fact that they can supply an integrated solution as an end-to-end supplier is more efficient and reduces the risks in the data centre.”

“Our diverse equipment is kept cool thanks to the modular racks and Cold Corridors supplied by Minkels.”
Ron Lukassen,
Wageningen UR

Minkels was involved during the early stages of the project in order to provide knowledge about

best practices for fitting out a data centre. Lukassen: “Knowledge sessions were held in the time leading up to the project, in which we had in-depth discussions with specialists from Minkels. We explored different topics such as floor load, power distribution, rack depths and cable management. We don’t build data centres on a daily basis and these sessions were extremely enlightening for our IT organisation. One thing that strikes me, which is indicative of their company culture, is that their staff are very helpful.”

A VARIETY OF EQUIPMENT

In line with the energy-efficient adiabatic cooling concept and the environmentally-conscious identity of Wageningen UR, Minkels implemented intelligent power distribution units (PDUs) and a power monitoring & management solution (Minkels VariControl-C). “We want to know where power is being consumed in the data centre, and the numbers tell the tale,” says Lukassen. “This is why we opted for intelligent PDUs, custom made

by Minkels, which will show us exactly how much power the different pieces of equipment are using. VariControl-C gives us the ability to manage all power-related parameters in a simple and easy manner, without having to purchase an expensive DCIM solution.”

It is also important for Wageningen UR that the layout of the data centre can adapt to the cooling needs of the equipment. Lukassen: “We have a diverse selection of brands and types of equipment. The cooling requirements differ and, right now, we do not know what kind of equipment will be added two years from now. The modular design of Minkels’ solutions allows us to effectively facilitate those needs.” ■

The flexibility of VariconPower busbars:

Because the near future is unpredictable

A SUMMARY OF CUSTOMER BENEFITS OF MINKELS VARICONPOWER BUSBARS:

- Reduced complexity - not dependent on building infrastructure
- Cost efficiency - pay-as-you-grow
- Maximum flexibility - easy to adapt to different power capacity needs
- Future-proof investment - investing in busbars based on actual power needs, when it is truly needed

BUSBAR DIMENSIONS

An issue with traditional busbars is often that the junction boxes cannot be placed exactly in line above the data centre racks. Minkels has developed its modular VariconPower busbars so that the dimensions of the branching points that are being inserted match up to those of the racks down to the millimetre.

Benefit for the clients:

- Maximum security - it is always clear which junction box belongs with which rack
- Scalability - even when the system is expanded, the branching points will still match up with the insertion dimensions of the racks
- Aesthetically improved - the busbar system designed by Minkels also looks a lot neater

In order to meet current market requirements in full, Minkels has also created branching points at the rear of the busbars. This maximises the opportunities for growth and the flexibility, which also provides possibilities for connecting up additional cooling systems and setting up HD clusters.

Data Centre managers often have a difficult time estimating exactly how much power the data centre environment will require in the near future. In order to respond to evolving and changing power requirements, Minkels has launched the modular VariconPower busbar system. These busbars take the uncertain and often unknown future scenarios into consideration.

As a data centre manager, you can never predict exactly how much power you will need in the future. Over time, you may discover that you need a high density (HD) cluster. A traditional power distribution infrastructure is rather inflexible. If a traditional busbar is provided with a power capacity of 160 amps, what do you do if you need 250 amps later on for the HD cluster? In this case, the specifications for the system were too conservative, and now you have a problem. On the other hand, if the specifications for such a busbar system are too aggressive, the costs are unnecessarily high.

What about the elevated floors, will you keep them in the future? If you opt for row-based cooling and the elevated floors are removed in the future, the busbar system would need to be able to adapt to this change. It is not easy to adapt to this change with a traditional, busbar system that is dependent upon the structure of the building.

The possible transition to a twin data centre concept is also a future uncertainty that data centre managers may encounter. If you opt for adding redundancy at the software level in such a scenario, a dual feed in the future could be an over-specification.

MODULAR BUILDING BLOCKS

"The answer to such future uncertainty is modular design," says Jules Sommers, Product Manager at Minkels. "If a busbar system is built with modular building blocks, it provides scalability and flexibility; therefore, the busbar can adapt easily to future developments and needs."

The Minkels VariconPower busbar system is a building independent solution that integrates well with Minkels Cold Corridors. The solution provides a redundant 2N system with an A and B feed above the racks. The corresponding modular and intelligent smart tap-off boxes are flexible and can be deployed once a specific

power requirement has been identified in a certain location of the data centre. Integrated with the Cold Corridors themselves, the busbar system can easily grow to meet changing energy needs in the data centre, by expanding the system only if and when truly necessary. ■

SMART METER INTEGRATION

To ensure operational continuity and to have the capability to trace equipment issues, Minkels has developed a specific monitoring device for VariconPower busbars. The 'Smart Meter' is a module in the smart tap-off boxes that provides integration with other systems, and it also provides power usage measurement readouts. Monitoring and reporting of other parameters, such as temperature and the status of breakers, including alarms, can be added as an option.

While developing the Smart Meter, Minkels carefully considered the specific busbar needs in the data centre. Minkels purposefully kept the size of the Smart Meter compact, only half the size of similar monitoring modules on the market. In this way, there is still plenty of space for other components, such as fuses, surge protectors and indicator lamps.

To ensure that the removal and/or addition



of tap-off boxes does not affect the readout of the different Smart Meters on a network, Minkels added ring redundancy. This system can produce a readout up to a distance of 500 metres, whereby the ring redundancy prevents any interruption to the readout from the meters.



Minkels and Legrand solutions integrate seamlessly with the modular and compartmentalised building needs of EvoSwitch

EvoSwitch is an innovative provider of carrier-independent, colocation services in Europe and the United States. Ever since the opening of its first data centre in 2007, EvoSwitch has been using Minkels racks to house IT infrastructures. Recently, EvoSwitch has also opted for busbars and tap-off boxes by Legrand and Legrand cable ducts.

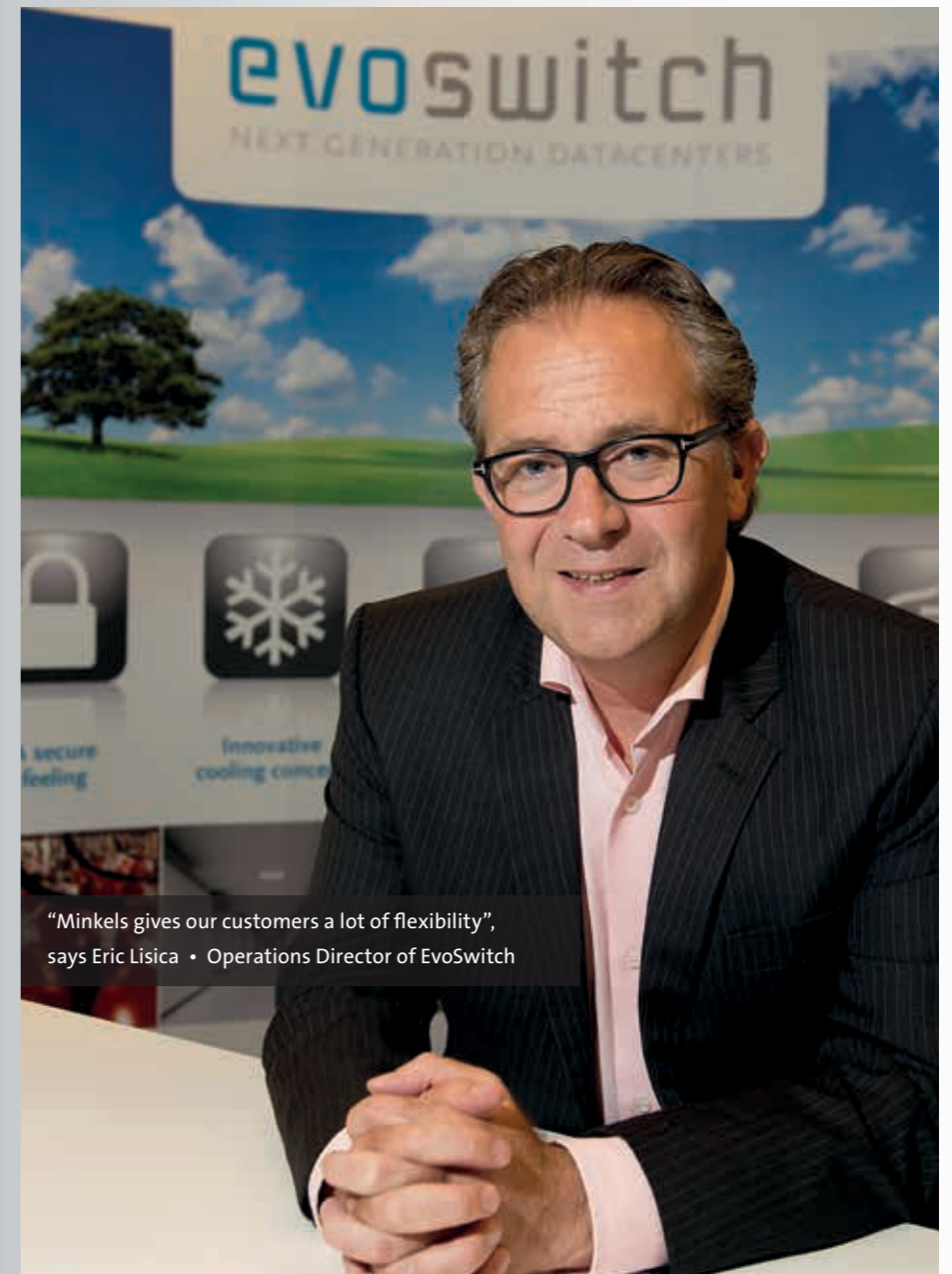
THE ORGANISATION

EvoSwitch (www.evswitch.com) is a carrier neutral supplier of colocation, connectivity and managed services, with its own data centres in Europe and the United States, and with ambitious plans to expand in Asia and other areas. The data centre operator uses innovative data centre concepts and technologies for the energy-efficient and long-term housing of the IT infrastructures of its customers. The EvoSwitch data centre operations are energy-efficient and provide safe, secure and scalable colocation environments for a range of different IT, cloud and connectivity needs.

MODULAR BUILDING

The management of EvoSwitch highly values operational efficiency and an energy-efficient layout of its data centres. For this reason, the company opted for modular components for its data centres. "Because we use a modular format and work compartmentalised, it takes us less time to achieve a low, thus energy-efficient PUE," says Eric Lisica, Operations Director at EvoSwitch. "Our PUE value is currently under the 1.2. This is a tremendous achievement for a large data centre provider like EvoSwitch."

The innovative and scalable data centre modules have been designed and built by DataXenter, a sister organisation of EvoSwitch in the Ocom Group (www.ocom.com). Whenever EvoSwitch is ready to add capacity, a new module is deployed. Each module forms



"Minkels gives our customers a lot of flexibility", says Eric Lisica • Operations Director of EvoSwitch

a mini data centre, with a layer for IT and an integrated layer for the complete data centre infrastructure, including UPS, fire extinguishing equipment and cooling units. Indirect adiabatic cooling technology in the module ensures

that EvoSwitch can easily achieve its energy efficiency goals.

FLEXIBLE RACK OPTIONS

The EvoSwitch data centre in the Amsterdam

Customers around the world will get more attention from Minkels



The international sales results went up substantially this year. The management of Minkels have therefore decided to restructure the Export business unit, in order to provide even better service internationally to potential and existing customers. The Export business unit will expand, taking on new staff for the commercial sales department at our offices, for instance for support and account management. In addition, the existing sales department for the Dutch domestic market will be scaled up, developing new staff skills and encouraging them to share expertise so that an all-round service can be provided to customers by a multi-functional sales organisation covering a number of countries. In addition to that department, a separate focal point will be created for Global Key Accounts, for large international customers who need dedicated sales support worldwide and intensive account management.



“We’d like to get around the table with customers throughout the world and help them,” says Ramón de Groot, Business Unit Manager of Minkels Netherlands. “From the initial requirements right through to the actual implementation.”

De Groot has now taken on the task of creating a multi-functional international sales department that can provide effective service for both the domestic market in the Netherlands and customers worldwide. De Groot has worked for Minkels since March 2010. He has a lengthy track record in the IT sector, with his previous employers including Sun, Dell and a Dutch cloud computing and SaaS provider.

Ramón de Groot, the Business Unit Manager of Minkels Netherlands, will see his existing role extended to include running the Export business unit.

Why the dual role?

“In our home market in the Netherlands, we have had a leading position in the colocation market for a number of years. In addition, we’ve achieved strong growth over recent years in the market for smaller data centres, for instance thanks to an effective partner model with well-trained partners who we can use as an extension of our own expertise organisation. This has ensured that Minkels has managed to grow its turnover in the Netherlands strongly, despite the fact that we were already the market leader. Having the international sales organisation report to me as well now is a logical step that follows on from what we’ve achieved in the Dutch market.”

What requirements are you currently seeing from customers?

“It varies from one country or region to the

next, but in general there’s a lot of demand for fully integrated data centre solutions with a high degree of flexibility - both in the delivery process and the solutions. The need for data centre security and integrated monitoring and management solutions has increased strongly.”

“There is currently is a lot of demand for fully integrated data centre solutions with a high degree of flexibility.”

So there’s going to be more cooperation between the current sales department for the Dutch market and the international marketing efforts?

“That’s right, we’re aiming for yet more good cooperation between our sales organisation in the Netherlands and the worldwide presence of the sales organisations of the parent company

Legrand. That’s already happening in various countries throughout the world, but we now want to set up that cooperation so that it’s more structured and more effective. With a presence in more than 180 countries, Legrand has very extensive opportunities for operating an extension of our customer intimacy strategy and meeting customers’ data centre configuration requirements. We’d like to make use of those possibilities.”

What is being done internationally to align the cooperative efforts between the various sales organisations?

“We’ve already got our own sales offices in the Netherlands, France, Belgium, the UK and Switzerland, of course. In addition, Minkels’ Export business unit will remain a compact organisation that will focus on the target countries. Internationally, as an extension of that department, we will make heavy use of the Legrand sales organisations that are present throughout the world. On top of that, Minkels will make its extensive product configurator available to the sales organisations

worldwide, allowing customer-specific product configurations to be put together quickly, including the quotations that go with them. That is unique in this market, and it will help us deliver tailored solutions quickly to customers anywhere in the world.”

“The modular data centre solution of Minkels and the products of Legrand complement each other nicely.”

What are the customers going to see in concrete terms when the Minkels sales organisation is restructured?

“The bottom line is that the individual customers globally are going to get more attention from us.”

What is Legrand’s role in Minkels’ current international sales success?

“Minkels’ turnover will grow by at least 10 per

cent this year. A major part of that is due to growing customer demand globally, in countries outside our home market in the Netherlands. The fact that we have had a financially strong parent organisation behind us since 2012 in Legrand will certainly be playing a part. We’re a conglomerate now, a large organisation, and that offers the customers certain continuity guarantees with respect to Minkels as a data centre supplier. On the other hand, we can still get even more benefits from the combination of the worldwide Legrand sales network with our own sales organisation. We’re going to make more of that over the next little while.”

How do you think you can provide even better services internationally for the customers?

“We’ve seen that there’s a lot of demand for our solutions from within the worldwide Legrand network. A more proactive approach to sales and more intensive customer guidance through all the stages of the sales process will let us convert those customer demands into business more often, with concrete answers to the customers’ needs.”

Minkels has now included a number of innovations in power and power distribution from Legrand’s portfolio in its own product portfolio, after making the requisite engineering changes specifically for data centres. How important is this for Minkels’ business?

“If you combine the modular data centre solutions of Minkels and the engineering expertise centre of Minkels in the Netherlands with the various products of Legrand, you get a very powerful combination. The recent addition of modular busbars, junction boxes and a UPS solution from the Legrand product range are all prime examples of that. Products such as these have improved and expanded our own portfolio. The trick now is to translate our broad range of data centres into solution selling within our international sales processes, both through our own organisation and via partners. We’d like to get around the table with customers throughout the world and help them in a structured way, from the initial requirements right through to the concrete order and the actual implementation.” ■



Minkels Free Standing Cold Corridor

The ultimate flexible solution for a phased implementation with various racks

EXCEPTIONALLY FLEXIBLE:

- A fully free standing aisle containment system
- Offers pay-as-you-grow options for separating hot and cold air flows in an energy efficient manner
- Can be used to create closed aisles independently from the IT racks
- Provides the same energy efficiency immediately upon implementation as a standard Cold Corridor system with IT racks
- Different types and sizes of racks can be adapted to the design
- Ideal for retrofit situations