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MINKELS MAGAZINE

Global key accounts are not Minkels clients, they are partners.

Crédit Agricole Bank chooses Free Standing and Next Generation Cold Corridors.

Increasing adoption of the cloud in Europe is emphasizing the importance of modularity.



Create future-proof data centre solutions

The role of data centres is rapidly changing driven by the cloud, data growth, IT cost reduction, etc. This creates new challenges when it comes to the design & build in order to future proof the data centre infrastructure. Minkels believes that modularity and total integration of the infrastructure's components is key to addressing these challenges. Only then can the right level of flexibility and efficiency be obtained to ensure a consistent optimal performance throughout the infrastructure's life span and at the lowest possible cost of ownership.

Minkels is a leading European manufacturer and worldwide supplier of sustainable and innovative data centre and server room solutions. The core values of modularity, flexibility and energy efficiency, have been implemented in the extensive Minkels product portfolio. This ensures that clients always profit by the latest data centre technologies, and accommodate changing demands in the data centre server room infrastructure.



Benefit from expertise Minkels

To share our accumulated data centre knowledge with customers, our experts have published a variety of white papers on various topics (see also page 8, 9 and 10). Free copies of these white papers can be found here:

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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MINKELS DATA CENTRE EXPERT BECOMES CHAIRMAN OF THE NEN STANDARDS COMMITTEE



“Norms and standards are wonderful tools for helping people make more conscious design choices,” according to Niek van der Pas, Strategic Product Designer for Data Centres with Minkels.

Niek van der Pas, Strategic Product Designer for Data Centres within Minkels, is an international expert on data centre norms and standards. Because of his in-depth knowledge, he is a popular speaker and he is on various standards committees in Europe and elsewhere, including CENELEC and ISO/IEC JTC 1 and for the Dutch practical guideline (NPR) 5313 for computer rooms and data centres. His expertise and his many years of efforts for the Dutch standards committee for data centres (since 2007) led to Van der Pas being appointed chairman of the committee in September.

“Even yet, people don’t pay enough attention to the relationship between the performance of a data centre and the way that the data centre is set up,” says Niek van der Pas. “Norms and standards contain clear guidelines for optimum data centre designs. At the same time, they are wonderful tools for helping people make more conscious design choices. The insights and the guidelines for this could be made more precise, clearer and more concrete, I would say. That’s the contribution I would like to make from my role as chairman of the NEN standards committee.”

His expertise in data centre standards means Van der Pas has been involved in defining many of the innovations in the Minkels portfolio.

FROST & SULLIVAN AWARD FOR THE FREE STANDING COLD CORRIDOR®.



“Minkels has done some very good work in getting to the bottom of what customers in the sector want,” says Krishna Srinivasan, Global President and Managing Partner at Frost & Sullivan.

Markets analysts at Frost & Sullivan gave Minkels the 2015 European Frost & Sullivan Award for new product innovations for its Free Standing Cold Corridor®. The solution, which was launched in 2014, was referred to by Frost & Sullivan as ‘pioneering aisle containment for the European market’.

The Free Standing Cold Corridor is an ultra-modular and cost-effective aisle containment design. The system is designed so that closed-off corridors can be created that separate the warm and cold airflows efficiently in terms of energy, while keeping those corridors independent of the server racks and their dimensions. Thanks to the self-supporting aisle containment construction and modularity down to the most detailed levels, it is possible to maximize the energy efficiency very flexibly and without major investments in the racks, right from day one.

BENEFITS IN BOTH CAPEX AND OPEX

“The latest innovation from Minkels, the Free Standing Cold Corridor, aims to generate major cost savings in both CAPEX and OPEX,” says Gautham Gnanajothi, Senior Industry Analyst at Frost & Sullivan. “The modular design of the product, which consists of just a supporting frame, wall panels, roof panels and doors, offers data centres a cost-effective pay-as-you-grow option.” Frost & Sullivan gives the European Frost & Sullivan Award every year to a company that applies leading-edge technology to develop innovative elements in a product.

KNOWLEDGE PLATFORM FOR THE DATA CENTRE MARKET



The Swiss sector association ‘ERFA Gruppe Datacenter’ holds its members’ meeting at the Minkels head office and they were given a factory tour.

Minkels is the international competence centre within Legrand for data centre environments. Data centre knowledge from inside the Minkels organisation is shared with other Legrand organisations throughout the world, for instance through training courses for Legrand staff given through the Minkels Data Centre Academy.

At the same time, Minkels is trying to provide a platform in which customers and partner organisations can express their wishes, opinions and visions so that Minkels’ data centre solutions can be adapted, improved or expanded where necessary. In line with that concept, Minkels was visited in September by first the Dutch and then the Swiss sector associations for data centres. The Dutch Datacenter Association (DDA), which includes Minkels’ customers Equinix, Interconnect and BIT, held its members’ meeting in the Dutch head office of Minkels. The delegation was then given a tour of the Minkels production facility in Veghel.

The Swiss sector association ‘ERFA Gruppe Datacenter’ was given the same tour a day later, including a knowledge session about data centre design. This delegation, which included Minkels’ client Swisscom and the Swiss Postal Service and the Swiss Army, was then shown round the data centres of Equinix and Interconnect in Amsterdam and Eindhoven respectively.

In order to keep data centre solutions aligned as well as possible with customers’ wishes, Minkels regularly holds knowledge sessions with data centre experts with practical experience. Following on from last year, a valuable customer forum was held at the start of this summer about busbars and fibre-optic cabling. Experts from Atos, Croon, Previder, ING and Eurofiber attended this session. Feedback from the discussions will be used as input by Minkels.

MINKELSEDITORIAL

Accelerated adoption of the cloud is increasing demand for flexible data centres

The first half of 2015 was a hectic but successful period, including winning a new ‘global key account’ - a major Swiss investment bank who we will be providing services for worldwide. This is a good example of the further internationalisation of the data centre and hosting market. Secondly, we have this year focused on continued investment in the organization to facilitate the current international growth, including investment in people, systems and production & assembly close to our international customers.

Minkels made a conscious decision to develop modular data centre solutions very early on in its approach to the emerging data centre market. We believe this approach has been proven to be the correct one, so that today modularity is a theme that runs right the way through our extensive portfolio and remains just as relevant.

We are currently seeing a strong shift in Europe. The use of the cloud and especially the hybrid cloud is rapidly gaining ground against traditional IT infrastructures and the use of colocation. By the accelerated adoption of the cloud, the need for flexible data center infrastructures has increased. (Our customers tell more about this on page 12, 16 and 28 of this magazine.)

Compliance is a key driver for the cloud providers at the moment as they set up new data centres in various European countries. In addition, more rigorous internationalization and a trend towards consolidation can be seen throughout the data centre market. One of our larger customers, Equinix, has for instance stated that it wants to take over TelecityGroup. This is making the data centre landscape even more international, something we as a supplier respond to with the aim to supply commercial data centres and global key accounts worldwide.



“Modularity, flexibility and energy efficiency in the data centre are the answer to the dynamic environment created by use of the cloud.” Christiaan van Terheijden • CEO of Minkels

The global infrastructure of Legrand offers Minkels the possibility to support such parties locally, but also to attract new clients in countries where we ourselves are not present.

In order to expand the international support for Hitachi Data Systems further, Minkels has for example started local assembly in Wuxi (China) and in the United States. We are the data centre competence centre within the Legrand Group, so Minkels arranged the processes locally in Wuxi. We are initially doing this in order to expand our business with Hitachi to new countries, but ultimately it will naturally also offer opportunities for providing comparable services to other customers in these regions.

Winning the Swiss investment bank - with no less than 400 branches in the US and other branches in Switzerland, Singapore, Hong Kong and Japan - confirms for us that our

performance as a supplier and the support we provide to large clients at the international level have not gone unnoticed.

At the product level, the synergy with Legrand is becoming more and more visible. The recent launch of the MatrixCube on the Belgian market is a nice example of an integrated total solution. The MatrixCube combines the best of two worlds. (Read more about the MatrixCube on page 26 of this magazine.) Offering fibre products that use proven Legrand technology is another aspect of rolling out that synergy. At the same time, Minkels is continuing to invest in its own product development. By example Minkels recently received the 2015 European Frost & Sullivan Award for new product innovations for its Free Standing Cold Corridor®. I see that recognition by market analysts for our innovations as the ultimate reward for our vision of data centre solutions. ■

Global key accounts are not Minkels clients, they are partners

“Global key accounts, large clients with international subsidiaries that are serviced by Minkels all over the world cannot really be considered as customers. They are partners,” says Toine van Bergeijk, International Sales Manager at Minkels. These partners are not only of strategic importance for product innovation at Minkels, they bring forth key opportunities in production, assembly and logistics at the international level.

International corporations like Equinix and Hitachi Data Systems, along with a well-known internet company that shall not be named here, are supported worldwide by Minkels in the development and implementation of their data centre infrastructures. Given the scope of the customer demand and the unique needs of these large companies, Minkels refers to these types of organisations as ‘global key accounts’. Probably ‘global key partners’ would have been a better term given the close relationship Minkels has with these companies.

Minkels has acquired additional resources to provide optimum service to all its regular customers worldwide as well as its global key accounts. The additional people and capacity in production, assembly, logistics and account management ensure that both types of users are given the appropriate support when purchasing and implementing data centre solutions. For instance, additional Supply Chain Coordinators have been recruited for specific customers.

“The flexibility of Minkels products enables us to provide solutions in anticipation of our customers likely requirements.”

ENGINEERING, PRODUCTION AND LOGISTICS

“We have such a great relationship with our key accounts that we can no longer speak of a customer-supplier relationship,” says Toine van Bergeijk, who is responsible for the department that services key accounts at Minkels. “The relationships that we have established with these companies are very personal and based solely on mutual trust. I think that this is essential when building a long-term relationship.”

“Because of the long term relationship we understand each other very well. You have to be able to anticipate a global partner’s activities, potential data centre issues and to supply the appropriate solutions to support their business. Ideally, you should come up with a solution before the customer realises that there is an issue.”

“The Minkels staff are always aware of the latest developments taking place at these customers and in the markets,” says Van Bergeijk. “To ensure



“The Minkels staff are always aware of the latest developments taking place at our customers and in the markets. To ensure that we remain well aware we are in regular contact with our customers,” according to Toine van Bergeijk, International Sales Manager at Minkels and responsible for the global key accounts.

that we remain well aware we are in regular contact with our customers. For instance, we have a conference call with Hitachi Data Systems in the United States three times a week to proactively discuss any potential issues and to share new developments with each other. These discussions involve engineering, production and logistics. In many countries we also have local project engineers, thus people with a lot of technical knowledge, to ensure effective communications with operations whereby engineering changes can be implemented very quickly.”

FLEXIBILITY IN PARTNERSHIP

Our close partnership with the global key accounts is also very advantageous for other Minkels customers. Over the years, it has enabled Minkels to develop a variety of innovative products. These data centre solutions were then added to the product portfolio so that other customers could benefit from them as well. What’s more, the partnerships enable Minkels to accelerate the start-up of assembly and production facilities in different areas of the world. These customers even play an innovative role in the world of international logistics.

Flexibility, creativity and ingenuity are the core values that characterise the close relationships between Minkels and its global key accounts

according to Van Bergeijk. This has not only resulted in product innovation, but also in production modifications, such as extending the production facilities in Veghel with an additional assembly line. It has also led to customer-specific modifications to a variety of existing products at the detail level. For example, Hitachi Data Systems has its own Minkels catalogue with more than 150 accessories, many of which have been fully adapted to their own racks and equipment. Minkels has also recently opened an assembly facility in Wuxi, China for this partner and strengthened logistics coordination there.

LARGE SWISS BANK

The flexible options that Minkels offers to these international partners also did not go unnoticed at a large Swiss investment bank with subsidiaries worldwide. The bank

was already familiar with the quality of Minkels’ solutions because the bank commissioned Minkels to implement racks and Cold Corridors® in Switzerland and the United Kingdom between 2001 and 2005. In 2015, the bank has selected Minkels again.

Minkels will now service the bank worldwide, including subsidiaries in Hong Kong and Singapore. The bank’s data centres will be fitted out with racks and Next Generation Cold Corridors®. It is also expected that Minkels will supply products from the Legrand portfolio, such as fibre optics, cable management solutions and PDUs.

“Also for this new global key account we will do our very best to have a thorough understanding of the customer’s specific situation,” says Van Bergeijk. “It boils down to what a partner wants, what their unique data centre needs are on an international basis. Minkels is then capable of working with our parent company Legrand to fulfil these needs with full flexibility on a global basis.” ■



Free Standing Cold Corridor®



Data centres must move flexibly with the dynamic demands of the time

WHITE PAPER: 'Cold Corridors for a new generation of data centres'

Building future-proof data centres nowadays demands a high degree of flexibility in the data centre infrastructure. Virtualization, cloud computing and the shorter lifecycles of IT equipment are making data centre environments significantly more dynamic. Modular aisle containment is the solution for realizing that flexibility. Minkels has issued a new white paper on the subject.

Thanks to the separation of warm and cold airflows, the use of aisle containment creates significant energy savings in the data centre – savings that can be as much as 40%. This not only reduces costs but also improves IT performance and the maximum utilization of the data centre capacity.

“Pb7 Research: users want modular, scalable and integrated data centres.”

MODULARITY = FLEXIBILITY

Aisle containment nowadays has to do more than merely offer energy savings. In order to be able to move flexibly with the current dynamics of IT infrastructure changes, aisle containment now also has to be modular. That is why Minkels has developed two different modular aisle

containment solutions, the Next Generation Cold Corridor® and the Free Standing Cold Corridor®.

In the white paper 'Cold Corridors for a new generation of data centres', recently issued by Minkels and written by their Strategic Product Designer Niek van der Pas, the importance of modular aisle containment is explained in detail. The product details of the innovative Next Generation Cold Corridor and Free Standing Cold Corridor are also discussed in the white paper. This makes it possible for users to make their own informed decisions when purchasing these modular aisle containment solutions. The white paper can be requested via www.minkels.com/whitepaper.

DATA CENTRE KNOWLEDGE IN WHITE PAPERS

'Cold Corridors for a new generation of data centres' is the seventh white paper in a series of white papers that Minkels' data centre experts

have produced recently. The most recent white papers published by Minkels are:

- 'Thermal behaviour of a modular UPS in the Cold Corridor'
- 'Integration of the Cold Corridor® with Fire Suppression Systems'
- 'Rack Airflow Optimisation'
- 'Tips and Tricks for the professional use of PUE as a management tool'
- 'New dimensions in data centre design'

All the earlier white papers can also be requested via www.minkels.com/whitepaper. The documents, largely involving in-depth factual knowledge about data centres, are all written in English. The last white paper is also available in Dutch.

In the white paper 'Cold Corridors for a new generation of data centres', the author Niek van der Pas cites a recent study carried out by Pb7 Research. The study, in which a survey was held among data centre and IT decision-makers in the Netherlands, shows clearly what requirements are imposed nowadays on a modern data centre environment. No less than 43% of the respondents saw modularity and scalability as the way of

The market analysts at Frost & Sullivan gave Minkels' Next Generation Cold Corridor the 2013 European Frost & Sullivan Award for 'Entrepreneurial Company of the Year'. For the Free Standing Cold Corridor, Minkels received the 2015 'New Product Innovation Award' from Frost & Sullivan.

Next Generation Cold Corridor®



Download the 'Cold Corridor' white paper

Aisle containment offers significant energy savings in the data centre, but this too has to be modular so that it can move flexibly to handle the current dynamics of IT. The innovative Cold Corridors® from Minkels are modular right down to the details, giving maximum flexibility in data centres.

In Minkels' new white paper 'Cold Corridors for a new generation of data centres', the importance of modular aisle containment is described in detail. It also covers the key considerations in Cold Corridor choices in various practical situations. Author: Niek van der Pas, Strategic Product Designer with Minkels and chairman of the Dutch NEN Standards Committee for Computer Rooms and Data Centres.

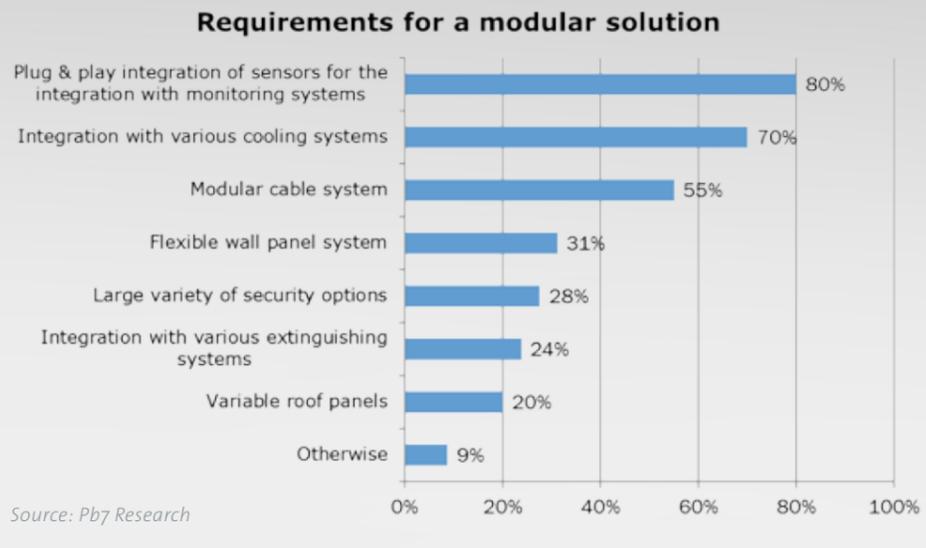
The white paper can be requested through the Minkels website:

www.minkels.com/whitepaper

facilitating the current degree of dynamism in data centres. Modularity and scalability offer users the ability to respond flexibly to uncertainties and rapid changes in data centre infrastructure.

SEAMLESS INTEGRATION

"Traditional aisle containment solutions don't offer enough flexibility to handle the dynamic changes that you see in data centres nowadays," says Niek van der Pas. "It's inherent in the use of the cloud and virtualization that the IT infrastructure has to be flexible and the changes can take place quickly. For organizations, this offers resilience to market changes. That's favourable, of course, but a data centre infrastructure must be capable of moving dynamically along with rapidly changing IT



requirements. The shorter and shorter lifecycles of IT equipment also demand greater flexibility in the data centre. Traditional aisle containment is not modular in structure and has difficulty handling this dynamic. Even a simple expansion with just a few racks can be a real test in traditional aisle containment solutions."

"Minkels Cold Corridors® are extremely modular aisle containment solutions, which means they are flexible and scalable to operate."

Thanks to its modular structure, the Next Generation Cold Corridor from Minkels is sufficiently flexible and scalable in operation that it is easy to add extra new racks. Because the roof panels are fitted independently from the racks, there is also no need to start using all the racks from the moment they are in place.

'Integration' in the data centre is another important user requirement that comes to the fore in the study by Pb7 Research. The white

paper discusses potential practical issues relating to integration, including the solutions that Minkels' Next Generation Cold Corridor and Free Standing Cold Corridor offer for them. The Next Generation Cold Corridor from Minkels has all kinds of optional plug-and-play modules, for example, that make it possible to achieve seamless integration with e.g. monitoring systems, security systems, various cooling systems (including row-based cooling), access control and more.

FROST & SULLIVAN AWARDS

The integration of IT equipment in non-standard sizes, which includes many storage systems, is a challenge faced by many data centre managers. The ultra-modular Free Standing Cold Corridor from Minkels offers the ultimate solution to this problem, thanks to the self-supporting aisle containment construction. This innovation means that an initial investment in racks is not needed. All possible rack dimensions (including non-standard ones) can be put in place easily. This can also be done at a later date, making a pay-as-you-grow model possible.

"Minkels has a suitable modular Cold Corridor aisle containment solution for every data centre scenario," says Van der Pas. "There is an extensive comparison table in the white paper that allows a user to determine for themselves which solution is best in which practical situation." ■



Intelligent data centre monitoring solutions

More than ever, and with the increasing likelihood of governmental legislation, it is necessary to monitor, control and report data centre energy consumption. Monitoring and controlling other vital data centre parameters help to optimize OPEX. Minkels offers a wide range of data centre monitoring solutions under the brand name VariControl®.

These vary from simple power or environment monitoring solutions to fully integrated data centre monitoring systems and software.

- VariControl-L: Rack Access Control
- VariControl-S: Environmental Monitoring System
- VariControl-C: Power Monitoring
- VariControl Energy Monitoring

Please contact our specialists for advice concerning your specific circumstances, free of any further obligation.



Energy Monitoring



Environmental Control
Temperature, humidity, airflow,
leakage, smoke, voltage, etc.



Locking / Access Control



Crédit Agricole Bank chooses Free Standing and Next Generation Cold Corridors

Crédit Agricole, the largest bank in France and one of the largest banks in Europe, has selected the Minkels Free Standing Cold Corridors® and Next Generation Cold Corridors® for its data centres. The 60 Cold Corridors have been designed specifically for Crédit Agricole and they yield significant energy savings in the two data centres.

The Crédit Agricole Tier IV data centres (twin data centres) are energy-efficient with the help of the Minkels modular, thus flexible Free Standing and Next Generation Cold Corridors®.

Crédit Agricole is a French cooperative retail bank that is listed on the Euronext stock exchange in Paris. Crédit Agricole is a global organisation with 140,000 employees, 2,500 branches, 50 million clients and a presence in an abundance of business sectors. In 2014 the bank experienced strong growth with 15.9 billion euros in revenues. The total market value of Crédit Agricole is approximately 31 billion euros in 2015.

TIER IV DATA CENTRES

Two new data centres were built in 2015 to house the bank's IT infrastructure. These Tier IV data centres with a floor space of 2,500 square metres each had to meet the most stringent security requirements and they had to be energy-efficient as well – in line with the bank's corporate guidelines. It is Crédit Agricole Real Estate, the real estate expert of the Crédit Agricole Group, which operates it today.

The aisle containment system that Crédit Agricole Real Estate was looking for, had to be

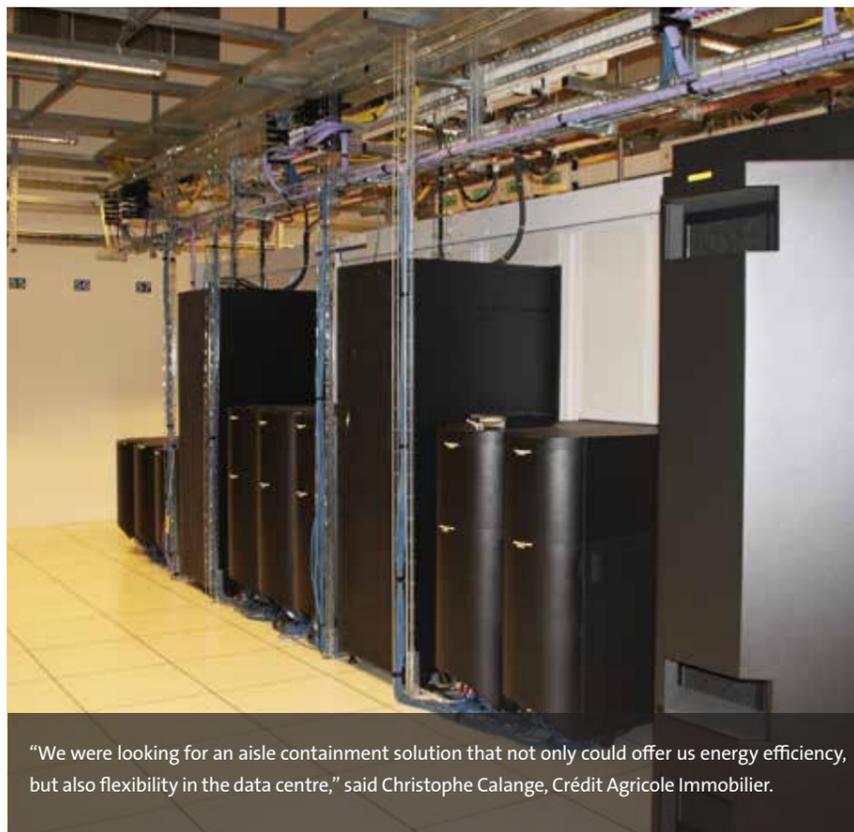
“The fact that Minkels is a prominent brand name within the global company Legrand, is a decisive factor for us.” Christophe Calange, Crédit Agricole Real Estate.

a transparent solution from an administrative point of view and it already had to have a proven track record in the market. The system had to be able to house racks with different height measurements. The aisle containment system also had to be easy to integrate with Crédit Agricole's user-specific fire extinguishing system. After an extensive selection process, Crédit Agricole Real Estate finally decided, in consultation with the Cap Ingelec engineering firm, to implement the Minkels Free Standing Cold Corridors and Next Generation Cold Corridors.

“We were looking for an aisle containment solution that would not only provide us with energy-efficiency, but would also give us the flexibility we need for the daily operations within our data centres,” said Christophe Calange, the data centre operation manager at Crédit Agricole Real Estate. “The Minkels Next Generation Cold Corridors and Free Standing Cold Corridors have a fully modular design. This makes it very easy to adapt them to our existing infrastructure, as well as to changes in the future. An implementation with minimal impact on our data centre activities was also a key factor for us. The data centre environment is of course a vulnerable part of our organisation.”

IT NEEDS

The Minkels engineers modified the design of the two different Cold Corridor systems to the specific circumstances of Crédit Agricole. It turns out that the systems fully meet the bank's needs. “The Minkels standard product version is an effective aisle containment system that is simple to use,” says Christophe Calange. “It



“We were looking for an aisle containment solution that not only could offer us energy efficiency, but also flexibility in the data centre,” said Christophe Calange, Crédit Agricole Immobilier.

Christophe Calange: “The data centre supplier had to have a branch in France. We were also looking for a supplier with multiple good customer references in France. The financial health of Minkels and its attention to energy-efficiency and the environment also played a role in the selection procedure. The fact that Minkels was a prominent brand name within the global company Legrand, was a decisive factor for us.”

“The two Cold Corridor systems that Minkels has implemented fully meet our expectations,” Christophe Calange. “Minkels also managed the installation of the 40 Next Generation Cold Corridors and 20 Free Standing Cold Corridors to perfection. Despite the vulnerability of the data centre environment, there have been no major incidents and we have nothing to complain about. We are definitely planning to expand these Minkels solutions in the near future.” ■

fits perfectly with the racks and is an extension of the rack design, which not only yields great technical results, it looks superb as well. The Free Standing version is a wonderful system that supplies the needed energy-efficiency, regardless of the future IT equipment in the data centre, such as the different brands of storage equipment. The Cold Corridor system is flexible and can grow with our IT needs, while yielding the necessary energy-efficiency from the very first day.”

The fire detection module in the Next Generation Cold Corridor system gave Crédit Agricole the option to install an aisle containment system with a ‘pivoting roof’. A system that fits seamlessly with the specific fire extinguishing system that Crédit Agricole has implemented in its data centres. That means that the Cold Corridor roof panel automatically opens if a fire is detected. The sprinkler system is then activated immediately and can do its job without obstruction.

A LEGRAND BRAND

Crédit Agricole Real Estate not only conducted a comprehensive quality assessment of the Minkels solutions, the Minkels organisation also had to meet certain requirements to be allowed to supply goods and services to this global banking institution.

“The Cold Corridor system is flexible and can grow with the bank’s IT needs.”
Christophe Calange, Crédit Agricole Real Estate.



Minkels Free Standing Cold Corridor

The ultimate flexible solution for a phased implementation with various racks

- Allows the design and integration of the enclosed aisle without the need of cabinets.
- Gives freedom and flexibility to populate the white space as required.
- Cost efficient solution because of the low installation costs and energy efficiency.
- 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.

www.minkels.com/freestandingcoldcorridor



“The staff at Minkels share their knowledge with us and help us think through everything – this is important when partnering with a data centre supplier,” says Marc Sanders, Manager Data Centres Benelux and Nordics at Atos.

Multinational Atos chooses Minkels Free Standing Cold Corridor

Atos, an international supplier of IT services with revenues of 11 billion euros, supplies its managed services from different data centres worldwide. In the Netherlands, the Minkels solution has been the standard for Atos since 2009 when it comes to racks and Cold Corridors. In 2014, Atos implemented the Minkels Free Standing Cold Corridor. Due to its success, Atos would now like to expand its use of the solution.

Atos has 93,000 employees in 72 countries to supply its IT services – including managed services – to different types of customers, such as multinationals, (health) insurance companies, telecom companies, banks, government agencies, hospitals and industrial companies.

In the Netherlands Atos manages four data centres that, since 2009, have been equipped with Minkels solutions – including racks, (Next Generation) Cold Corridors®, intelligent Power Distribution Units (PDUs), cable management systems and data centre accessories.

DATA CENTRE IN BEST, THE NETHERLANDS

One of the most prominent Atos data centres in the Netherlands is located in Best. This data centre houses the Atos Canopy Cloud, the Dutch HUB of the cloud platform that is available worldwide. The data centre has 2,500 square metres of floor space, is located in a highly secured complex and has an average scalable capacity of 6 KW per rack. The low energy Power Usage Effectiveness (PUE) of the data centre, with an annual average value of 1.3 at

current usage levels, illustrates the tremendous importance that Atos attaches to sustainability and energy savings. Atos is currently working on implementing more optimisations.

In 2014 Atos noticed that it was becoming more difficult to house racks with built-in storage appliances in an energy-efficient manner. The racks from Bull, IBM, Oracle and EMC, each one with different measurements, no longer fit properly in the Minkels Cold Corridors the company had been using at the time. “Just at the right moment Minkels came out with the Free Standing Cold Corridor, which enabled us to create fully sealed corridors that we could fill over time, no matter the size of the racks,” says Kees de Klein, data centre specialist at Atos. “As soon as we saw the demo model, we knew that

was what we needed and we purchased the solution right away. I have yet to see another supplier offer this type of innovative product.”

“I have never seen any other supplier offer this type of innovative product, the Free Standing Cold Corridor.”
Kees de Klein, data centre specialist at Atos

“Storage appliances cost a lot of money,” emphasises De Klein. “This type of appliance can cost anywhere from 500,000 to 1.5 million euros. You want to be able to deploy this type of equipment quickly, preferably in an energy-efficient and sustainable environment that will benefit the performance and lifetime of the equipment. The Free Standing Cold Corridor significantly reduces the deployment time for these storage appliances, while the Cold Corridor provides the right, constant cooling environment and saves energy right from the very first day. The first Free Standing Cold Corridor is almost full and we are very pleased with it. We now want to expand the solution even more.”

PARTNERSHIP

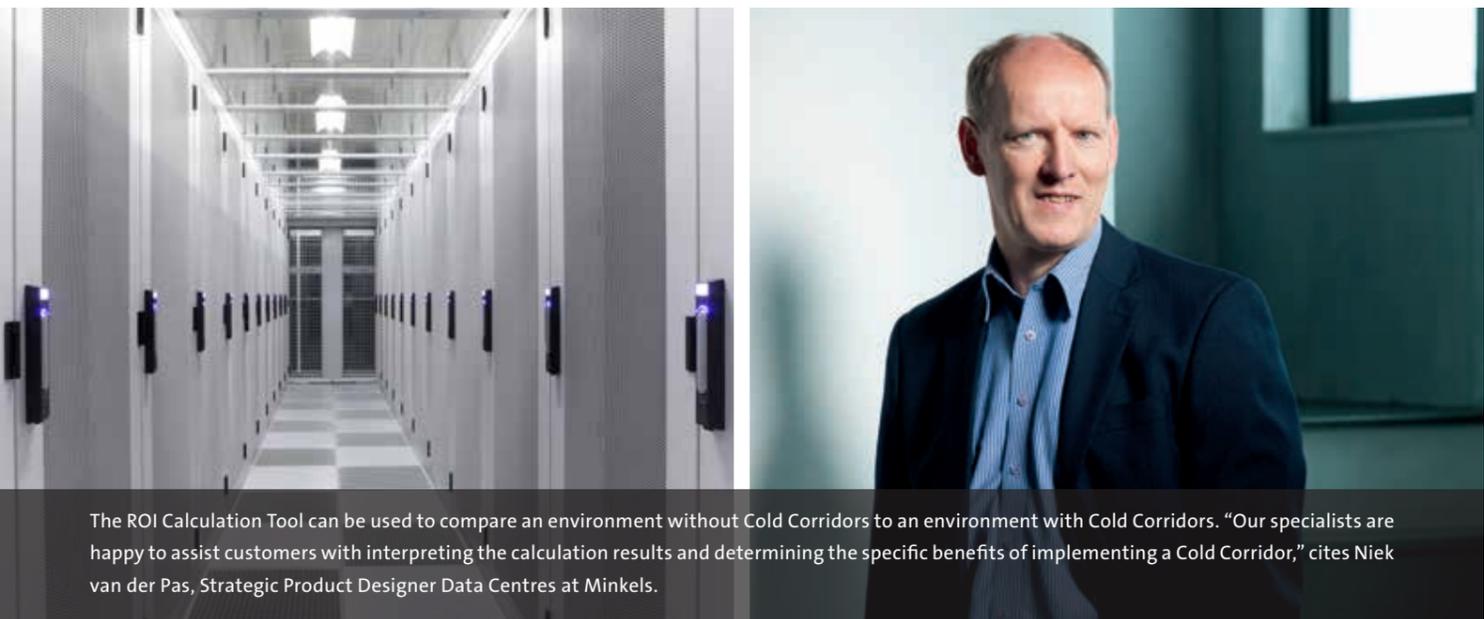
The partnership with Minkels is important for Atos when it comes to a robust layout of its data centres. Atos is not only active in the Netherlands, but also in France and the United Kingdom. “A lot of data centre management activities take place remotely these days, often from different countries,” says Marc Sanders, Manager Data Centres Benelux and Nordics at Atos. “Standardisation is crucial in this case. It reduces the worktime in the data centre and you don’t have to maintain stock of as many spare parts. The Minkels solutions are high quality and modular, which means that they are always a good fit and we would like to see them as the standard solution. Even in interim

tenders over the past few years, Minkels always had the best submission.”

The fact that the Minkels engineers are proactively working with Atos to come up with solutions is an important part of the partnership according to Sanders. Sanders: “It is definitely important to me. We appreciate being able to benefit from the knowledge shared by Minkels. For instance, they help us think through the process of determining air volumes in a Cold Corridor, for example in the Atos cloud environment. They also help us with air optimisation creating business cases and calculating a ROI. It is a huge benefit that we can work so well with Minkels.” ■



Minkels R&D develops ROI calculation tool for investing in Cold Corridors



The ROI Calculation Tool can be used to compare an environment without Cold Corridors to an environment with Cold Corridors. "Our specialists are happy to assist customers with interpreting the calculation results and determining the specific benefits of implementing a Cold Corridor," cites Niek van der Pas, Strategic Product Designer Data Centres at Minkels.

Aisle containment solutions bring about incredible energy savings in the data centre – this is common knowledge in the market. However, just how much can you save and how long does it take for an investment in Cold Corridors® to pay for itself precisely? In partnership with Equinix, Minkels R&D has developed an ROI Calculation Tool, which calculates how long it takes to recover the costs of an investment.

“Minkels’ ROI Calculation Tool for Cold Corridors also provides graphical results with a varied cross-section of models.”

Cold Corridors provide enormous energy-efficiency benefits; they also improve the performance of an IT infrastructure. It may be difficult to express the IT performance improvements in solid figures. However, Minkels

R&D has succeeded in developing a calculation tool that shows the return-on-investment (ROI) of Cold Corridors in energy savings costs. The software tool has been developed in close collaboration with data centre and interconnectivity service provider Equinix, a customer that Minkels services worldwide. The ROI Calculation Tool has undergone extensive and successful testing in three Equinix data centres in France.

KWH PRICE, RACK LOAD, DELTA T

The ROI Calculation Tool was initially developed for Equinix, but is now being used by other

Minkels customers. Specific knowledge is required for parameter input, customer-specific estimates and the correct interpretation of the analyses, therefore the ROI Calculation Tool is only executed by Minkels. Minkels customers can benefit from the calculation results provided by Minkels specialists and can base their business cases for data centre investments on those results.

“With the help of the ROI Calculation Tool, a comparison can be made between an environment without Cold Corridors and an environment with Cold Corridors,” says Niek van

Example of a calculation: No Corridor versus Cold Corridor

Initial situation

New situation

Result	Initial situation	New situation	saving annual saving
IT load	1848 kW	1848 kW	
pPUEcooling	1,2655	1,1648	
Annual Energy for Cooling	4298315 kWh	2668577 kWh	38% € 162.974
SEER (COP)	3,77	6,07	
Temp CRAC out:	13,0 °C	21,0 °C	
Delta T over CRAH	11,0 K	14,0 K	
ROI		495 [day]	
Investment		221.115 €	
Saving by Cabinet			€ 309

der Pas, Strategic Product Designer Data Centres at Minkels. “The calculation results provide insight into how many euros you can save in energy costs. The tool can also calculate the break-even point, in other words the moment when an investment in Cold Corridors has paid for itself due to the energy savings.”

“The ROI Calculation Tool for Cold Corridors is an innovative product created by R&D in close collaboration with Equinix.”

The parameters that are used in the Minkels ROI Calculation Tool include: the kWh price, the expected average load per rack, the number of racks in a Cold Corridor, the number of Cold Corridors in use, the Delta T value (difference between server intake and output temperature), and a setpoint of the server intake temperature. A second series of parameters that has to be entered in the ROI Calculation Tool is related to the specifications of the cooling system in that data centre. There are parameters that may affect the results of the calculation tool, such as whether different ventilator speeds can be set, whether the system has Free Cooling or whether the system incorporates airflow optimisation.

MINKELS R&D WHITE PAPER

Both direct and indirect Free Cooling, is a crucial factor amidst the other parameters. “Free Cooling is very important for a fast payback time of the Cold Corridors,” says Van der Pas. “The output temperature of the cooling units can be set much higher when used in combination with Cold Corridors. The result is that you can reduce the number of days each year that a compressor

must be used. You will obtain the best results from a Free Cooling system by implementing Cold Corridors. Conversely, a Cold Corridor investment also pays for itself much sooner thanks to Free Cooling.” At the present time, the climates of Paris and London are integrated in the tool; however climate information for other, geographically different areas will also be added soon.

The basis for the ROI Calculation Tool is documented in a white paper previously published by Minkels R&D called Rack Airflow Optimisation (www.minkels.com/whitepaper). This white paper introduces a method for calculating the energy efficiency in a Cold Corridor. The white paper also contains recommendations for reinforcing the air tightness in a Cold Corridor and for improving the airflows in the data centre. The calculation method explained in the white paper is based on an existing Cold Corridor environment that can then be compared to an optimised version of a Cold Corridor. The newly developed ROI Calculation Tool also provides the capability to draw a comparison between a data centre environment with and without Cold Corridors.

Besides the different parameters relevant to the cooling system, the tool also contains other variables. “The calculation tool is a reflection of the complexity in the data centre,” says Van der Pas. “You need to have some knowledge of the subject to use the tool. This is why our specialists are happy to help customers interpret the results and determine the specific user benefits of a Cold Corridor.”

BYPASS AND RECIRCULATION

The results of the ROI Calculation Tool can be further optimised with the aid of temperature measurements in an existing environment. Van der Pas: “When using the calculation tool, you have to estimate the bypass and recirculation of airflows in the rack. It is an excellent method for

estimating this information. However, if you were to use sensors to measure the temperatures in the racks, the results generated by the calculation tool would be even more accurate.”

The calculation tool not only provides figure-based insight, it also provides graphical results with a varied cross-section of models. It visualises which segments of the data centre are susceptible to risk if no Cold Corridors are used. It also shows you where the hotspots are based on the calculation. At this time, the ROI Calculation Tool can only be used for traditional data centre environments with raised floors. Minkels expects to be able to use the tool for other data centre layouts in the future as well. ■

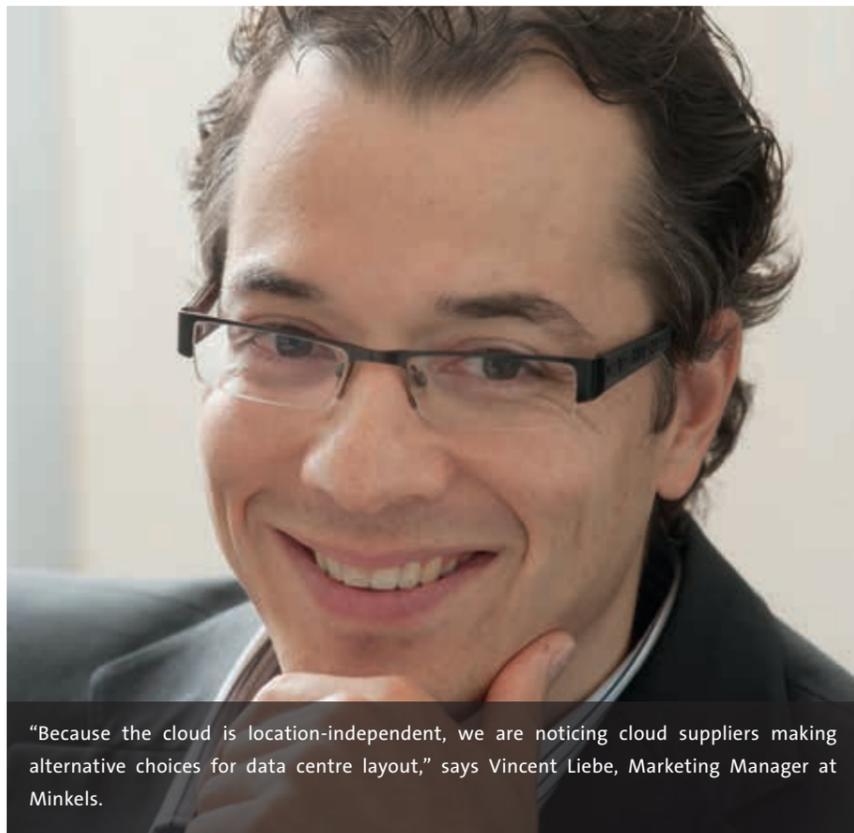
Minkels Cold Corridors®

Next Generation Cold Corridor® - A modular aisle containment solution to separate hot and cold airflows in an energy-efficient manner. The modular design right down to the detail level makes the solution highly flexible, which makes it a perfect fit for the current dynamics of data centres influenced by virtualisation, the cloud and big data.

Free Standing Cold Corridor® - A fully free standing aisle containment structure that can be used for creating sealed corridors fully independently from data centre racks. This Cold Corridor offers the ultimate pay-as-you-grow model that does not require any initial investment in racks. Upon implementation, this solution provides the same energy-efficiency as a standard Cold Corridor layout with data centre racks.

Increasing adoption of the cloud in Europe is emphasizing the importance of modularity

Minkels' position as a global supplier in the data centre market means they can clearly see strong growth in Europe currently in adoption of the cloud. Following on from the United States, more and more users in Europe as well are choosing cloud-based solutions. The demand for hybrid environments in particular is high, says Vincent Liebe, the Marketing Manager at Minkels. He emphasizes that modularity in data centres is the way to facilitate this development.



"Because the cloud is location-independent, we are noticing cloud suppliers making alternative choices for data centre layout," says Vincent Liebe, Marketing Manager at Minkels.

"Data centre solutions from Minkels are being delivered increasingly often to cloud service providers."

Recent statistics show us that a strong shift is taking place at the moment in Europe now that use of the cloud is gaining ground with respect to traditional IT infrastructures and the use of conventional colocation," says Vincent Liebe. "Accelerated adoption of the cloud will increase demand for flexible data centre infrastructures yet further. Flexibility is required if the various features of the cloud are really to come into their own, such as its location-independent nature and the fluctuating utilization of underlying data centre resources. Scalability (both upward and downward), strengthened by the trend towards on-demand infrastructures, is a property of the cloud that is crying out for flexibility in the data centre."

The European Data Centre Association's vision of the cloud

The use of hybrid cloud models in European data centres has become increasingly successful over recent years according to Stijn Grove, Managing Director of the data centre sector associations for both Europe (European Data Centre Association - EUDCA) and the Netherlands (Dutch Datacenter Association - DDA).

"End clients are embracing hybrid models, and data centres in Europe are therefore focusing more and more on the cloud," says Grove. "A growing number of colocation data centres are providing additional links with cloud providers, such as with AWS, Microsoft Azure, Google Cloud and VMware vCloud Air. Regional colocation providers are also expanding their managed services to include additional cloud-related services. I can't predict whether these players will ultimately be able to become complete cloud providers

themselves and start developing cloud interfaces. It will in any event be a gradual process - there won't be any disruption."

"The cloud will however still need servers that will have to be housed in data centres. I keep coming across Minkels in lots of data centres in Europe; the larger colocation providers in particular use Minkels' solutions for housing, cooling, power and monitoring. And with good cause. IT developments are occurring thick and fast, driven by the cloud. Data centre infrastructure has to be modular so that it can move with the times. Minkels supplies very mature solutions that - thanks to their advanced modularity - can grow along with all the changes in the IT environment. On top of that, Minkels has the scale and the international reach to be able to operate these data centre chains throughout the world."



European Data Centre Association – EUDCA: www.eudca.org

Dutch Datacenter Association – DDA: www.dutchdatacenters.nl



The modularity of Minkels' Next Generation Cold Corridor® and Free Standing Cold Corridor® makes these aisle containment solutions ideally suited for the huge dynamic range within cloud environments.

"A modular approach to laying out data centre infrastructures is the answer to the increasing dynamic involved in using the cloud. For that reason, when developing the Minkels product portfolio, we have already been focusing at an early stage on using modular principles. Modularity is embedded down to the detail level in our entire data centre product range, from housing to cooling, from power products to cable management and monitoring solutions."

CLOUD SERVICE PROVIDERS

"The motive forces driving the transition from traditional IT infrastructures to cloud environments in Europe have primarily been the major cloud providers such as IBM, Salesforce, Amazon, Oracle, Google and Microsoft," says Liebe. We can't avoid the issue any longer in Europe now either. Use of the cloud, particularly the hybrid form, is increasing before our very eyes. We're also seeing that reflected in a shift in the profile of clients that

Minkels is supplying. We are delivering our data centre solutions increasingly often to cloud service providers, either on their own or combined with colocation providers. To an even greater extent, cloud providers are the ones who are determining what the underlying data centre infrastructure should look like."

"Compliance is a key driver for cloud providers at the moment as they set up new data centres in various European countries. You can see that trend in Russia, for instance, driven by the strict data legislation that organizations there have had to observe since 1 September 2015. Because the cloud is location-independent, we are noticing cloud suppliers making alternative choices for data centre layout. Previously, data centre users were keenest on having a Tier IV site, the highest available level for availability at a single location. Nowadays, linking three Tier II data centres together in a virtualized environment is a perfectly good option, achieving a level of availability that is at least as high, as well as being more flexible and more cost-efficient. So we are seeing that happen more and more often."

AN ENERGY-EFFICIENT DATA CENTRE

"The enormous growth in data and limitation of the operational costs are key arguments for organizations to switch to the cloud," says Liebe. "A sharper focus on core business activities, in which many companies are already seeing IT as a commodity, is playing a major role in the current cloud trend in Europe. The fact remains that the quality of the underlying data centre infrastructure determines the performance of a cloud environment."

"Modularity and energy efficiency are important parameters for setting up that kind of cloud-enabled data centre infrastructure so that it is high quality and cost-efficient. Modularity provides the necessary flexibility in the data centre, so that it can handle the rapidly fluctuating cloud requirements flexibly. In addition, airflow management and energy management provide the optimum climate conditions on the data centre floor, helping keep a grip on the energy densities used in the cloud."

As an illustration, "The Next Generation Cold Corridor® from Minkels is an aisle containment solution offering the ultimate combination of modularity and energy efficiency. So this is a solution that is ideally suited to the huge dynamic range within cloud environments. The Free Standing Cold Corridor® from Minkels offers the same benefits, but goes yet one step further. The complete independence of the racks in the Cold Corridor construction means that this solution is ideally suited to unpredictable future IT expansions and very rapidly changing specifications of e.g. data storage equipment."

"Maximum flexibility throughout the operational lifespan of a data centre infrastructure avoids having that data centre become a bottleneck for the cloud environment," says Vincent Liebe in conclusion. "Combined with energy efficiency, it creates a seamless link between cloud requirements and future IT developments." ■

Cloud vision of the 'ERFA Gruppe Datacenter', Switzerland



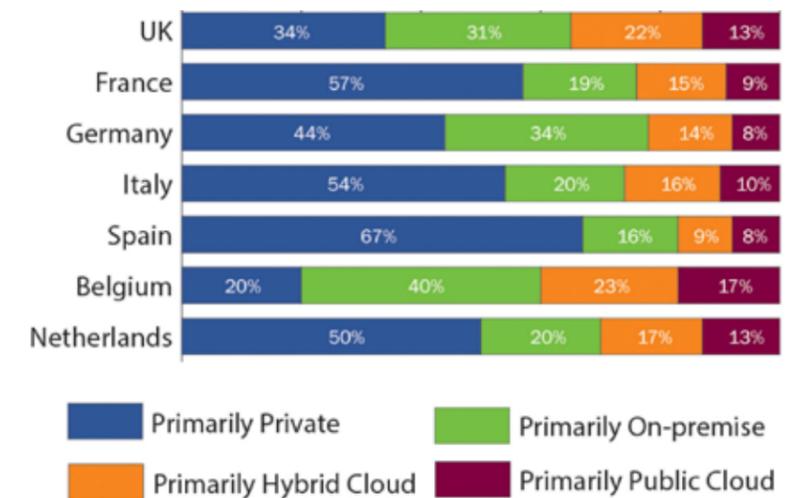
The cloud will make it possible to set up and maintain the physical infrastructure of data centres more cost-efficiently. That's the opinion of Knud Niebur, President of the Swiss data centre sector association, 'ERFA Gruppe Datacenter'.

"One of the advantageous things about the cloud is that there are no specific systems that are needed in the data centre for setting up a cloud environment. That

in turn affects the efficiency and cost management in the data centre."

"Given the rapidly growing demand for the cloud, I expect that the pure colocation providers will start offering cloud solutions. How the interfaces and proposals match up will have to be clear from day one, but in technical terms it certainly ought not to present any problems. Ultimately, it is the end customers who determine which solutions they do and don't want to take and from which parties.

"The cloud does demand flexibility from the data centre infrastructure. Minkels offers that flexibility through its modular and energy-efficient solutions. The Cold Corridor systems are a good example of that, for instance. The customer-specific and highly integrated solutions for cooling, housing, power and monitoring – not to mention the global scope of operations – also make Minkels a strong player in data centre infrastructure for the cloud."



Analysis showing percentage of respondents various types of cloud services, asked to all respondents (660)

Source: Research EasyNet



Minkels VariCondition® HD actively manages the cooling for high-density equipment, which provides Swisscom with significant cost savings.

Swisscom relies on Minkels high-density (cooling) racks and monitoring services

Swisscom, the largest telecommunications company in Switzerland, has its own data centres including Zurich Herdern and Olten. Together, they provide space for more than 1,000 racks that support telephony (mobile and landline), digital TV and internet services. Swisscom attaches great importance to modularity and energy-efficiency in its two data centres. The high-density (cooling) racks, monitoring, and also security are supplied by Minkels.

The telecommunications market is undergoing rapid change. Telecom providers must be able to respond to new developments, even in the data centre environment. Due to the need for flexibility and capacity, Swisscom opted for high energy densities by implementing modularity within a compact data centre environment for its data centres in Zürich Herdern and Olten.

Swisscom supplies more than 150 services in wired and wireless communications from two fully redundant data centres. Both consumers and business clients are dependent upon the performance in the data centres for telecom and internet services, such as Mobilfunk, Festnetz, Internet and Digital TV. From its data centre in Zürich Herdern Swisscom provides its clients services such as Swisscom TV, as well as landline, mobile and VoIP telephony.

“Swisscom attains high-energy densities and modularity in its data centres thanks to the solutions supplied by Minkels.”

MINKELS VARICONDITION® HD

High energy densities and a strong modular concept are important for Swisscom so that they can maintain the data centre infrastructure for these uptime-sensitive services as dynamic and flexible as possible. The solutions provided by Minkels play an important role in achieving these goals. In Zürich Herdern the racks are stacked in eight groups. Each group has a



capacity to connect up to 38,400 fibre cables. This means that up to 2,400 fibre cables can be connected to each rack. Swisscom uses Minkels VariCondition® HD – modular racks with integrated high density cooling, monitoring and cable management for energy densities of up to 24 kW for housing its high-density equipment.

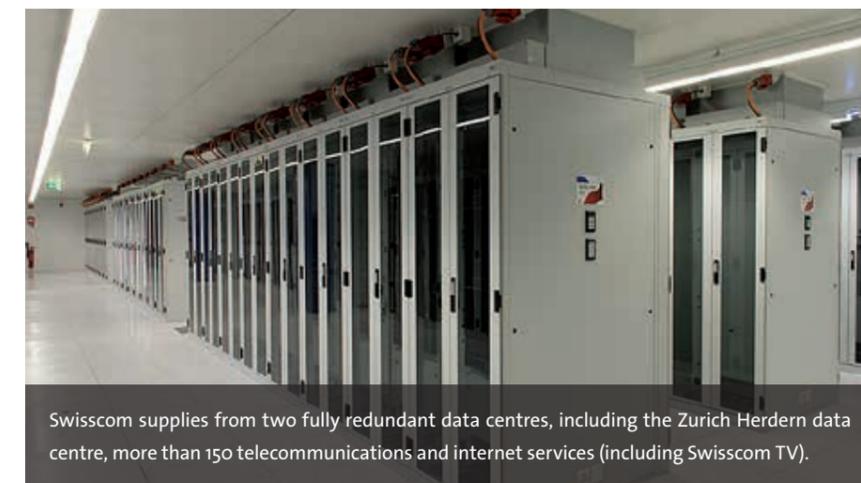
The cooling is managed by the Minkels VariCondition® HD racks. Cold air is brought in under the floor. The airflows are then routed through the racks using airflow optimisation accessories. The warm air produced by the servers is then removed by exhaust fans in the roofing of the racks. The Minkels VariControl® monitoring system, with temperature sensors installed in the right places in the rack, ensure a constant climate in the racks and proper management of the cooling system. The temperature difference of 12.5 degrees Celsius

between warm and cold airflows provides maximum energy-efficiency in the racks.

Thanks to actively managing the cooling via Minkels VariCondition® HD, Swisscom can limit energy usage of high-density equipment and realise significant cost savings. By actively managing climate and energy, Swisscom has been able to double the capacity in its racks. This means that the Swisscom data centre infrastructure is operating at peak efficiency.

RACK SECURITY

Not only system uptime, but also data security is important for Swisscom. For this reason, the telecommunications company has opted to add additional security to the racks. Minkels supplied electromechanical door handles with IP communication that can only be opened by authorised individuals. Alerts can be sent via SNMP or GSM if the rack doors are opened by an unauthorised user.



Swisscom supplies from two fully redundant data centres, including the Zurich Herdern data centre, more than 150 telecommunications and internet services (including Swisscom TV).

Swisscom always selects its partners and suppliers carefully. Expertise, on-time delivery and the provision of solutions are important requirements that Minkels must also fulfil. The professionals of Minkels AG, the Swiss branch of Minkels, ensured an on-time delivery of the requested solutions in close collaboration with other suppliers involved in the data centre project. The modular design of Minkels VariCondition® HD provides Swisscom with the guarantee that the data centre environment will fulfil the organisation's needs – even if those needs change due to the dynamics in the telecom market. ■

The Minkels MatrixCube lets SME companies in Belgium keep their IT infrastructure in-house

Outsourcing through colocation? There are still not many small and medium-sized enterprises (SMEs) in Belgium who take that route. Which is why Minkels Belgium has worked with Legrand to develop the MatrixCube, a pre-configured plug and play server room infrastructure solution specifically for the SME sector.

Minkels MatrixCube

The MatrixCube is a data centre solution for SME companies, simple yet complete and easy to implement. The MatrixCube is delivered and installed and commissioned for use through the Minkels partner channel. SME companies can choose between two or three 42U server racks, with a power consumption of 2.5kW or 5kW per rack. The standard version of the MatrixCube has a power rack that includes an uninterruptible power supply (UPS).

BASIC CONFIGURATION

- Server racks (2x)
- Row-based cooling unit (1x)
- Power rack: power distribution and UPS (2x)

EXPANSION MODULES

- Extra server rack and cooling unit
- Extra power rack (up to 2N, for maximum redundancy)
- Extra UPS battery capacity
- Fire detection and extinguishing system
- Maintenance contract (SLA options: 24, 8 or 4 hours, or all risks)
- Monitoring

The reliability of the IT infrastructure is becoming increasingly important for SME companies too. If fifty or a hundred staff are unable to get at their applications for a day, for example, that can create quite a serious problem for an SME. Downtime costs money, even if you're only talking 'ordinary' office automation applications.

The increased complexity of professional server room infrastructure is however making it more and more awkward for SMEs in Belgium to keep their IT infrastructures in-house, within their own organizations. Energy-efficient integration of cooling, power distribution and uninterruptible power supplies (UPS) can be an all but impossible task for SME companies. An SME company will often not have the knowledge or the time to set up and maintain that kind of server room environment professionally.

TURNKEY DELIVERY

In order to meet the specific requirements of Belgian SMEs, Minkels has worked with its parent company Legrand to develop the MatrixCube. This solution offers SME companies a data centre infrastructure of 2 to 3 server racks that is independent of the building as well as being energy-efficient. The MatrixCube has a fully integrated power

supply, power distribution and cooling that can be customized to suit specific customer requirements. The MatrixCube is a plug and play solution that is supplied ready to use through the Minkels partner channels. The intention is that Minkels will also supply the MatrixCube in other countries in future.

"People in Belgium are more suspicious about outsourcing their IT environments to colocation suppliers or SaaS providers," says Régis de Clercq, Business Unit Manager for Minkels Belgium, who defined the basis for developing the MatrixCube together with Legrand. "On the other hand, the management in an SME generally don't have the time to implement and maintain a professional data centre infrastructure for their IT environment."

"MatrixCube is a redundant data centre for SMEs, delivered ready to use through Minkels partners."

To meet the demands of SMEs, we developed the MatrixCube. We have already received lots of positive responses from the market and I expect that the solution will be popular in other countries as well."

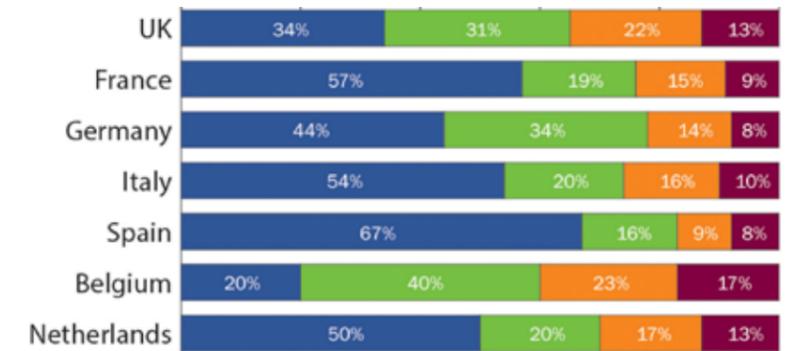


"The MatrixCube is a wonderful synergy product, combining proven data centre technology from both Minkels and Legrand to create something that meets SMEs' requirements," says Régis de Clercq, Business Unit Manager of Minkels Belgium.

MINKELS' PARTNER CHANNELS

Tried and tested technology from Minkels and Legrand are combined in the MatrixCube solution. The casing, mechanical infrastructure, row-based cooling and monitoring are from Minkels, whereas the UPS technology and power distribution come from Legrand. "It's a wonderful synergy product, combining the best from both Minkels and Legrand to create something that meets SMEs' requirements," says De Clercq. "The MatrixCube gives SME organizations a fully redundant, scalable and reliable server room infrastructure, providing secure accommodation for the IT environment with a very attractive price-tag."

The MatrixCube is delivered and installed in Belgium through the Minkels partner channel. De Clercq says, "These are officially certified partners. That means that their staff have been trained by Minkels so that the installation and commissioning will be handled properly. Maintenance contracts and SLAs can be arranged through the partner channel too."



Legend:
■ Primarily Private
■ Primarily On-premise
■ Primarily Hybrid Cloud
■ Primarily Public Cloud

Analysis showing percentage of respondents various types of cloud services, asked to all respondents (660). Source: Research EasyNet

Customer benefits of the MatrixCube for SMEs

- A cost-effective and reliable data centre solution
- Independent of the building, so implementation is flexible
- Energy-efficient accommodation for the IT infrastructure
- Uses tried and tested technology (Minkels and Legrand)
- Plug and play solution, including installation and commissioning
- Customer-specific modifications are possible



Minkels develops integrated high-density fibre & rack solution for Equinix France

Innovation and flexibility are important for Equinix France. This puts the data centre provider in a better position to adapt its services to its customers' needs and requirements, which have become more dynamic over time with the advent of cloud computing, virtualisation and big data. According to Equinix France, the successful integrated high-density fibre, housing & monitoring solution from Minkels is the latest proof that the global partnership with Minkels forms an inextricable component of the Equinix proposition.

Equinix France services more than 250 colocation customers from four International Business Exchange™ data centres with a total floor space of more than 32,000 square metres. These state-of-the-art data centres fully comply with the most stringent international standards for information security, including ISO/IEC 27001:2005 and PCI DSS. Equinix France provides colocation customers an extensive services portfolio that ranges from infrastructure design, network administration and cloud optimisation, to remote data centre management via the Equinix Smart Hands™ support team.

“The partnership between Minkels and Equinix is a true strategic partnership in my view.” Mokrane Lamari, Head of Sales Engineering - Equinix France.

50U AND 52U RACKS FOR BLADE SERVERS

In 2008, the first Minkels Cold Corridor® was deployed in one of the Equinix France data

centres to create energy-efficiency that meets the global Equinix organisation's savings needs. Over the years, Minkels has worked very closely with Equinix France to provide fully tailored Cold Corridors® and hundreds of Minkels racks, which are fully adaptable to the individual and dynamic needs of Equinix customers.

Meanwhile, cloud computing and virtualisation, as well as big data and the increasing interaction between (cloud and digital media) networks, have significantly increased the energy density in the data centres. This forced Equinix France to come up with a new high-density colocation

& connectivity solution in 2015, a solution that could support these blade servers in a very energy-efficient manner. The international team at Minkels, including Minkels France and experts from the corporate office in the Netherlands, then designed extra-reinforced 50U and 52U racks that hold 4 blade servers with a capacity of up to 15 kW.

MONITORING, SECURITY AND R&D

“Our customers' IT challenges demand very flexible data centre solutions,” says Mokrane Lamari, Head of Sales Engineering - Equinix France. “Luckily, Minkels has a very strong R&D team. The Minkels team has worked with us very closely to develop this innovative rack and high-

density fibre solution, adapted to customers' most demanding needs. This R&D department is closely tied to the Minkels production team and delivers the agile solutions that are necessary to meet the evolving requirements of Equinix customers. Their expertise in power, cooling, fibre and housing, along with their involvement, is exceedingly high. Our own engineers, solutions architects and project managers appreciate being able to turn to them. The partnership between Minkels and Equinix is a true strategic partnership in my view.”

Minkels R&D developed the extra tall and reinforced racks for blade servers including the cable management solution specifically for high-

density network applications. They supplied integrated carrier network core nodes for a total of 800 high density racks in France. Minkels also implemented a monitoring solution specifically made for high-density monitoring, including the placement of sensors in the racks to measure power, temperature and humidity. What's more, the racks meet the enhanced security requirements that Equinix France demands of its housing equipment for high density applications.

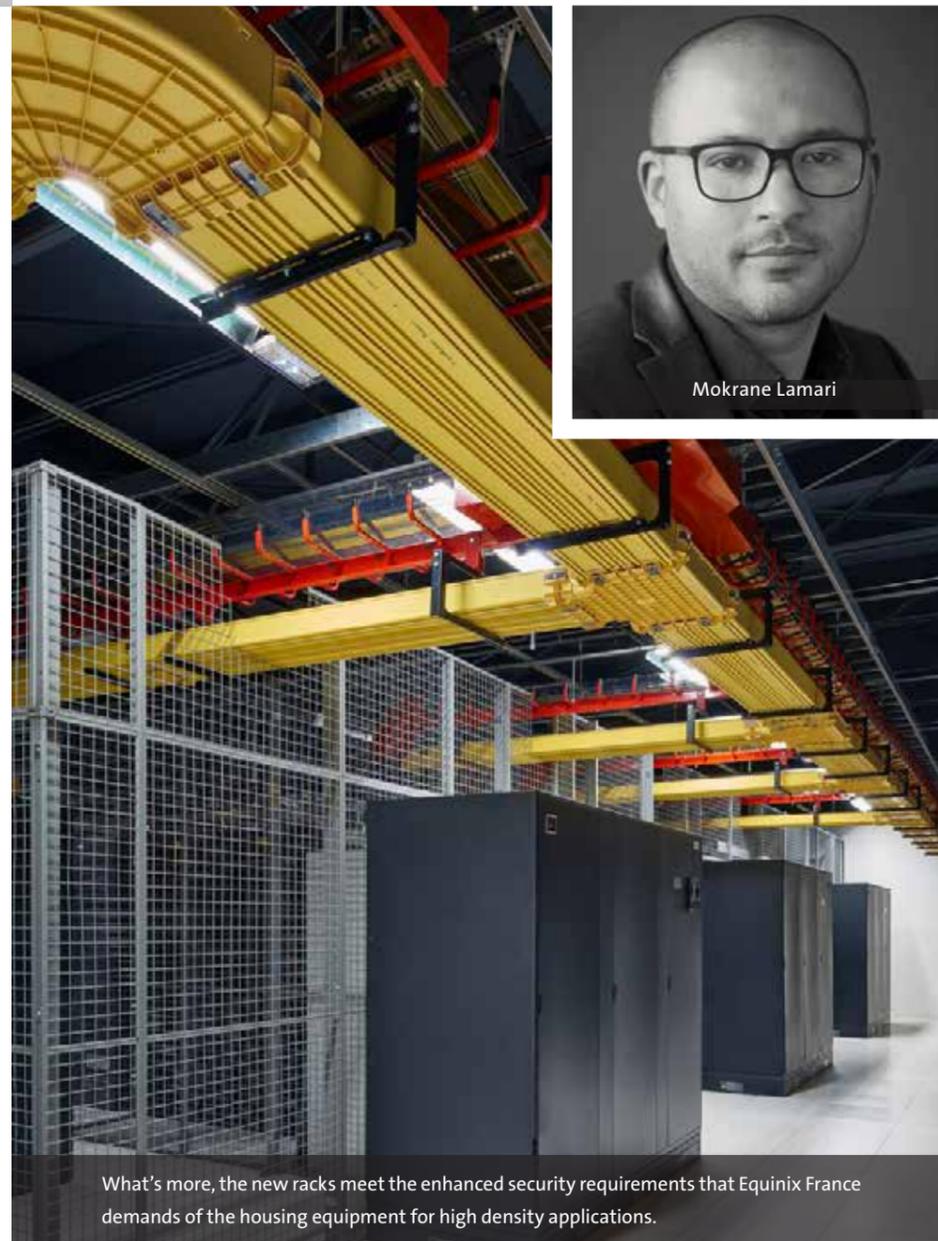
MINKELS/LEGRAND PRODUCT PORTFOLIO

Equinix France makes use of Minkels Next Generation Cold Corridors® to house the high-density racks in an energy-efficient aisle containment environment. The highly modular design in the construction details of this Cold Corridor creates the flexibility to provide a seamlessly perfect fit for the extra tall racks.

“Minkels has a very strong R&D department that provides the agile solutions our customers demand.” Mokrane Lamari, Head of Sales Engineering - Equinix France.

“The IT infrastructures of our customers demand energy-efficiency and flexibility,” says Lamari. “That is why we use the Minkels Next Generation Cold Corridors. This solution has a modular design, which makes it easy to customise when it comes to housing storage, robotics and SAN equipment. The tight integration with sensors for monitoring environmental conditions is also particularly important for our activities.”

Moreover, the Operations Manager of Equinix France is pleased that the Minkels brand is part of the global Legrand organisation. “We benefit immensely from the combined Minkels and Legrand data centre portfolio. Since Legrand acquired Minkels, we have been able to substantially expand the product catalogue we use. The fact that Legrand is also an Equinix customer naturally makes the relationship extra special.” ■



Mokrane Lamari

What's more, the new racks meet the enhanced security requirements that Equinix France demands of the housing equipment for high density applications.



Hans Lehmann, senseLAN GmbH

SenseLAN builds on Minkels Vertical Exhaust Duct

Clever concept and excellent product quality result in a PUE value of 1.15

About senseLAN

Together with Rega-Sense AG, senseLAN GmbH is a regional fibre optic network provider of quality services in the TV, Radio, Internet, Telephony, Hosting and Server Housing sectors. Thanks to redundant connectivity with different carriers, the backbone delivers the highest possible

availability. Technical partners with years of experience and excellent professional knowledge personally look after more than 10,000 private and 500 commercial customers. That pays off. SenseLAN AG is proud to have satisfied customers that have been with them for many years.

ENERGY EFFICIENCY DEPENDS ON CLIMATE CONTROL SYSTEM

Data centres consume a lot of energy. Up to 30 percent of this energy is used for cooling their infrastructure. Therefore, it is worthwhile to pay particular attention to the climate control solution. The latest addition to the Minkels VariCondition® Portfolio is a Vertical Exhaust Duct VED placed on top of each rack. In Switzerland, senseLAN GmbH began implementing this Minkels VED cooling concept in 2015 and is realising an astounding PUE value of 1.15. It was a good move from an

environmental perspective and it has reduced the company's costs significantly.

SenseLAN GmbH is a service provider that offers 1000m² of floor space in two data centres in the Canton of Freiburg. While planning the expansion of the infrastructure, it became clear to Hans Lehmann, owner of senseLAN, that Minkels VariCondition® VED had to be incorporated in the expansion: "Minkels is in a league of its own when it comes to quality. Their products are first class and their service, from offer to assembly, is outstanding."

VARICONDITION® VED: FLEXIBLE, EASY TO INSTALL AND READY FOR THE FUTURE

SenseLAN decided against raised floors in its data centre because moisture is regulated over the concrete floor. The ceiling is 3.30 metres high and the energy efficiency targets were very ambitious. This was a case for VariCondition® VED! The extendable version bridges a height of 300 to 1600 millimetres between the rack and the suspended ceiling without any mechanical attachments. A rubber sealing mechanism provides an airtight connection, the vertical air

duct on the back of the rack routes the warm air to the central cooling unit, and the precision climate control system that fully separates cold and warm air regulates the temperature accurately to the degree. This ensures that every server in the rack receives air of the same temperature so that the sensitive technology can be operated economically, while providing high availability.

VariCondition® VED can be implemented with racks of different widths and depths. However, in order to achieve a high level of efficiency, all the components must interlock seamlessly. Only the use of Minkels products guarantees maximum air optimisation and energy efficiency. With up to 2250m³ of hot air exhaust per hour, Minkels has racks with a heat output capacity of up to 25 kW. At this time, the average heat output required is up to eight kW; therefore, with the VariCondition® VED, customers are well-prepared for the future.

A WELL THOUGHT-OUT TOTAL CONCEPT THAT IS GOOD FOR THE ENVIRONMENT

SenseLAN attaches great importance to the

environment. Therefore, the data centre has been designed accordingly. With an outdoor temperature beginning at 15 degrees, outdoor air is used for cooling and energy is generated from 100% renewable energy sources, such as the solar energy system with 65 kW of power. What's more, the heat generated by the server equipment is recycled and used for heating the entire industrial and commercial centre next door. This saves about 100,000 litres of heating oil and 195 tons of CO₂ each year. Operating costs are reduced, which benefits the customers: the more efficient the data centre, the lower the energy bill.

For the heat recycling system to work correctly, the hot and cold airflows must be completely separated. Therefore, Hans Lehmann puts his trust in Minkels: "We are ISO 14064 certified, precision is our credo. Everything is sealed tight with Minkels, their advice is excellent, deliveries are on time and the installation is perfect. Our data centre is a real gem!" ■

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Utrecht

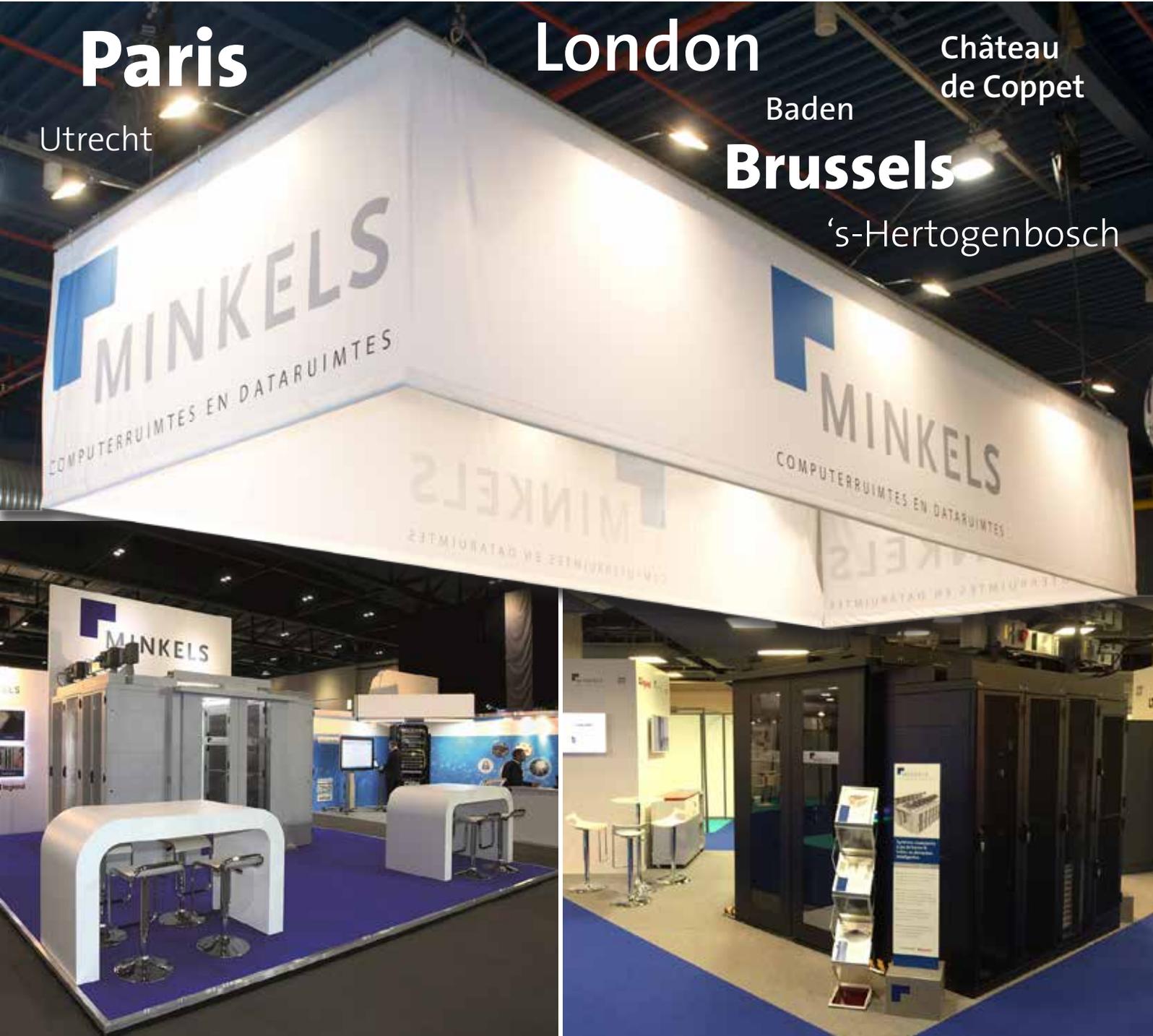
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