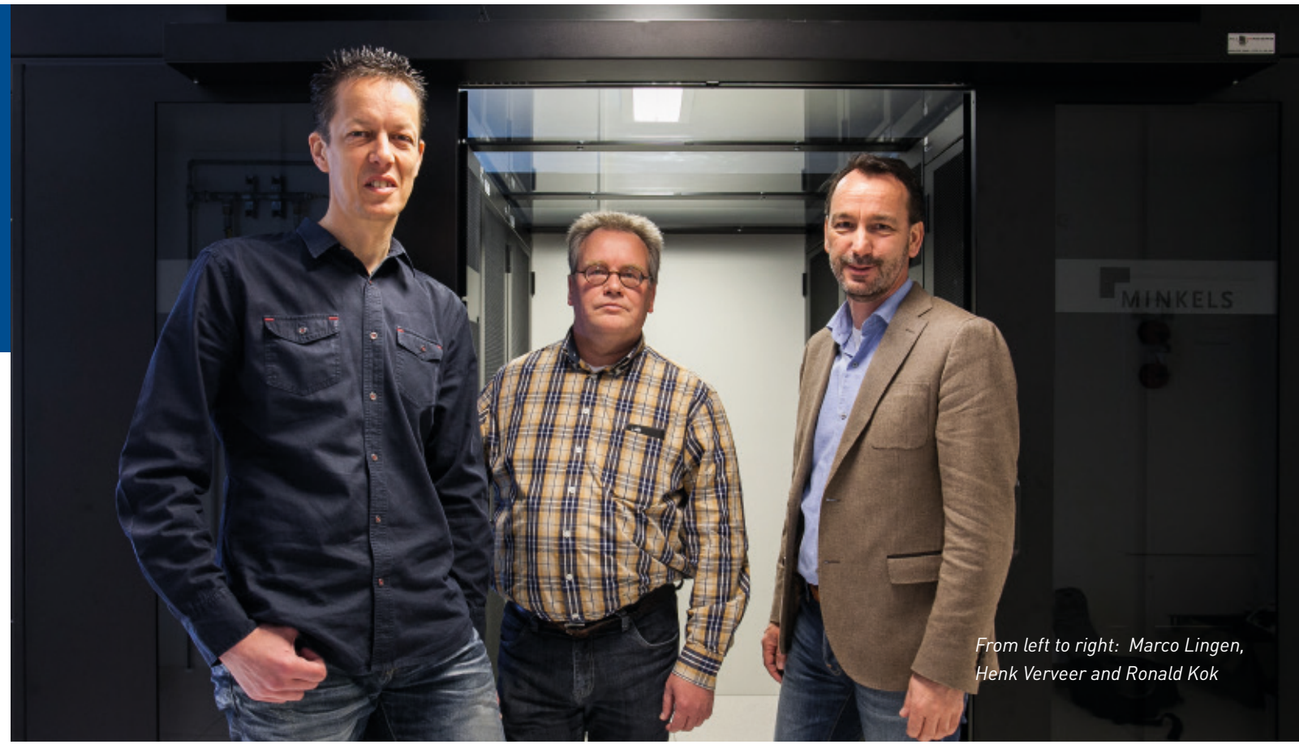
Sustainable data centre
for the Krimpener waard municipality

Since December 2015, The Krimpenerwaard municipality has a new data centre in Lekkerkerk (the Netherlands), from which virtual work places are offered and in which the data of the municipality is kept. The data centre was built by Minkels Solution Partner All IT Rooms, who placed an aisle containment. This results in a sustainable data centre, with which Krimpenerwaard is ready for the future.



From left to right: Marco Lingen, Henk Verveer and Ronald Kok

PRIMARY DATA CENTRE

The municipality Krimpenerwaard's primary data centre is located in Bergambacht (the Netherlands). "At this moment we offer 500 work places from this data centre. In practice, we use about 350 to 400 of those work places on an average day", says Marco Lingen, senior system and application manager for the Krimpenerwaard municipality. "We also host all of the municipality's data in this data centre. We have deliberately chosen to host all of the data in-house this is due to privacy considerations. After the opening of the new data centre in Lekkerkerk, the data centre in Bergambacht will serve as a fall-back location." The new Lekkerkerk data centre is provided with modern equipment and the newest techniques. "Because of this the location will take over the function of primary data centre. As the data centre is based in the same building as our ICT department we are able to reach the centre faster, which simplifies management."

ALL IT ROOMS

In the preliminary stages of planning it already became clear that there is an enormous amount of choice in the area of appliances, suppliers, cooling techniques and combinations thereof. Henk Verveer, advisor automation for the Krimpenerwaard municipality: "For us, it was not doable to make a well-substantiated choice between these products, as we simply do not know the market well enough. It is not our daily work, after all. In the end we granted the project to All IT Rooms after a 'Best Performance Purchase tender'. With a 'Best Performance Purchase' you ask suppliers to propose the best solution within the set functional demands and the available budget. For this, we set demands in the field of availability, safety and redundancy. We mainly looked at the approach taken, the results, the functionality and the completeness of the solution."

THE BEST SOLUTION WITHIN THE AVAILABLE BUDGET

Thus, when using a Best Performance Purchase the selection does not depend solely on price, but on what is the best solution within the available budget. "We give suppliers room to think with us. For example, does a supplier feel that we may profit from a solution which we did not ask for? Then they can include this solution as part of their tender, as long as they do not exceed the budget because of this", Verveer says. "This has led to us actually receiving more than we had initially asked for and had expected during this project. For example we now possess a closed hot aisle, which we did not see as an option beforehand, considering our budget."

ROW-BASED COOLING

The data centre in Lekkerkerk is provided with two rows of Minkels server cabinets, in which row-based cooling is applied.

Marco Lingen, senior system and application manager for the Krimpenerwaard municipality

Together these rows form a hot aisle, which is closed off by a glass roof and a sliding door. "This ensures a good air circulation in the data centre. Hot air is suctioned from the hot corridor, after which the cool air is blown back into the data centre", says Lingen. "The choice of a hot corridor arises from the municipality's demand for a sustainable solution. With a solution like the hot corridor, sustainable and energy-efficient cooling is possible", Ronald Kok, director of All IT Rooms, explains. "Many other parties choose to supply cooling with overcapacity. However, this stands in the way of energy-efficiency. If the cooling is working at, for example, 10 percent of its maximum capacity, it can never perform in an energy-efficient manner, and the same goes for the UPS. In addition, overcapacity asks for a large initial investment, which can be avoided by accurately assessing the needed capacity."

ACCURATELY CALCULATING THE NECESSARY CAPACITY

All IT Rooms has collected much data from other data centres which they monitor real-time. Kok: "Because of this we could trace how much cooling capacity comparable data centres of other municipalities need and how the capacity demand has developed over the years. This data shows that in many cases the necessary cooling ability decreases through the years, instead of increasing like one might expect. After all, IT Equipment is becoming more and more energy-efficient. Therefore we have chosen for an initial cooling capacity of 10kW which can be expanded modularly. We can monitor the data centre continuously and in real time. When, for example, unexpected temperature increases or problems with the power supply occur, we are immediately warned. We can also proactively advise customers with regard to preventive maintenance and measures to prevent failures."

NOW OPERATIONAL

The Krimpenerwaard municipality data centre has been operational since April 2016. "The coming period we will focus on transferring the functions of our current primary data centre in Bergambacht to the new data centre in Lekkerkerk. We are doing this under our own management", says Marco Lingen. "We deliberately chose to leave space in the data centre. If we want to expand its capacity, we can easily add extra cooling technology, servers and other equipment." ■