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 Head of IT
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INDUSTRY Healthcare

SOLUTIONS [File and Content, Modular Storage](#)
Hardware — Hitachi Content Platform 500, Hitachi Adaptable Modular Storage 2100
Services — Provided by Hitachi TrueNorth Channel Partners März Internetwork Services AG and Green Data Systems



Best of Both Worlds: Hitachi Hard Drive Archive and SAN Support Data at St. Josef Krankenhaus

St. Josef Krankenhaus GmbH, a Catholic hospital based in Moers, Germany, is a modern and successful hospital. It is so successful, in fact, that it has grown significantly over the years: over 1150 employees now provide care for patients there. Alongside expert medical treatment and high quality care, advice and support, the key factors for a "healthy" hospital include modern techniques and technology. To support and secure its huge data volumes, the hospital chose a file and content solution based on Hitachi Content Platform and Hitachi Adaptable Modular Storage 2100.

The St. Josef Krankenhaus GmbH Moers, which has approximately 755 beds or places, is run by a clinical association, the Stiftung St. Josef Krankenhaus Moers. This association has three main buildings and both inpatient and outpatient care units, and it can trace its roots back to healthcare that was originally provided by nuns. In collaboration with local parishes, these nuns provided both inpatient and outpatient care over 100 years ago, and they did so without the use of digital information relating to medical conditions, the course of diseases and therapy.

Today, the hospital has a high volume of digital information to manage and access, which includes both care provision and

administrative data. In order to manage the hospital's ever-increasing and more prolific activities, its IT system required some changes. The main project was to pool all the various existing systems into one single storage platform. März Internetwork Services AG and Green Data Systems, both Hitachi TrueNorth Channel Partners, were able to offer the right solution.

"Our goal was to consolidate the various systems. In simple terms, we wanted to create one storage platform for all the data subject to the statutory period of record-keeping," says Christoph Ickler, head of IT at the St. Josef Krankenhaus GmbH Moers. "We had already successfully carried out another project together with März in the past and had

remained in contact since then. Therefore, the logical step was to tackle the restructuring of the hospital's storage systems together as well," he explains.

The Challenge: Place Everything on One System

The St. Josef Krankenhaus uses an IT system that boasts modern architecture and infrastructure. For example, for over 10 years the radiological department has used only digital X-ray images. However, the use of digital X-ray images results in huge data volumes. These volumes can quickly push the capacity of the original storage infrastructure to its limits. The slow-working jukeboxes have become obsolete, which was a major factor in moving the hospital towards a new storage solution.

Since 1997, the hospital's preferred storage option for data relating to radiology and picture archiving and communication systems (PACS) had been magneto optical discs (MODs) in jukeboxes. Prior to that, employees had to go from ward to ward with each X-ray image. This system represented an improvement in this respect, as it enabled central access to data.

However, this digitalized system brought with it huge data volumes. In the long term, the MODs could not cope with the increasing demands placed on them with regard to the size of the data storage mediums. What's more, they could not provide the



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necessary revision security. The project managers therefore decided to implement a Hitachi Content Platform (HCP) as the archive system. At the start of migration to this new archive, there were more than 1400 MODs that needed to be read. A migration period of eight months was estimated for the 6TB storage capacity.

“These factors showed that the decision to switch to a disk library was the right one,” says Dirk Jost, technical contact for the project at März. “Eight months is plenty of time for a manageable data volume. The new archive is much faster and also offers increased revision security.” For example, now that the HCP is in place there is no need for complex robot systems for swapping tapes. The access and reading times are also significantly quicker than with jukeboxes. In addition, the archive solution features a self-diagnosis function: if there is a disk error, the system provides a new hard drive before the administrator is even aware of the fault.

Complete Solution Archives Directly within SAN

The addition of a new archive alone was not enough to meet all the hospital's consolidation requirements. The hospital was looking for a central storage system that would securely store all data, safe from errors; this meant a complete solution was required. The hospital IT management team favored the Hitachi Adaptable Modular Storage (AMS) 2100 system from Hitachi Data Systems to act as the storage area network (SAN). “Thanks to AMS 2100, we can archive the data directly within the SAN. We can also use the SAN to store the user data. This is important for server virtualization via VMware”, explains Ickler. “What’s more, we no longer need to shut down our server just to perform VMware updates. Generally speaking, we no longer need to concern ourselves with running the HCP and SAN. This saves valuable time.” Although virtualization does

offer advantages, the hospital places a lot of importance on not causing sprawl in the virtual machines.

With the help of AMS as the central storage system, the first step was taken towards implementing the recommended consolidation.

Step-by-step Consolidation

The St. Josef Krankenhaus currently has a data volume of 30TB. Ten of these terabytes are utilized by a long-term archive for the radiology department, stored on SATA disks. Of the remaining 20TB, around a quarter are used for VMware. The rest of the storage capacity is designed for a storage period of between three to five years. If the storage capacity looks like it will be exceeded, it is always possible to extend the system while it is still operating, without the need for an interruption. Therefore, the IT department at the hospital in Moers places a great deal of importance on having a well-organized archiving system. “We take stringent steps to ensure that we only archive data that we will actually need in the future or that we are required to retain for the purposes of revision security,” states Ickler. “Digital information builds up into mountains of files very quickly if you save all your data. This slows down the system, and it is unnecessary.”

As the next step in the consolidation process, the hospital IT team now wants to store the hospital's entire range of image and video data using the AMS 2100 and HCP as central storage and archiving systems. The data involved includes that relating to ultrasound examinations and various kinds of imaging systems. The training measures already implemented in collaboration with Hitachi Data Systems and März for the new hardware and software will therefore continue to bear fruit for a long time to come. In addition to lowering the administrators' stress levels, this development will also facilitate the work of the care staff and the doctors.

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