

## User Report

# The Most Modern Hospital in Germany Digitalizes Radiology

## The Sana Clinic in Remscheid Successfully Manages PACS

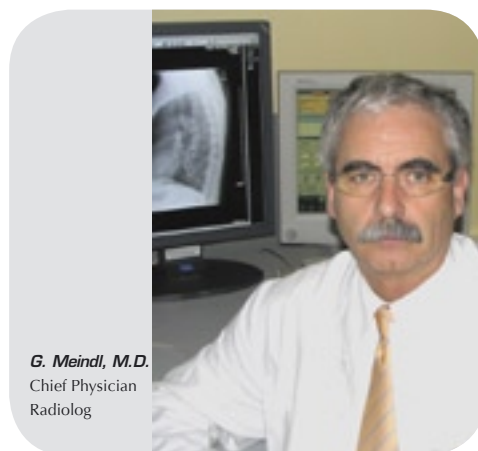
The Sana Clinic in Remscheid is a hospital focusing on specialized care with 16 departments and 684 planned beds. In 2005 it was newly constructed as a result of combining two locations. "The new facility provided the opportunity to improve the organization of procedures and, thereby, to work more economically. That requires rapid and lean processes", explains Michael Willmann, M.Sc. Head of Information Technology Department. A significant part of the comprehensive IT strategy required to accomplish this objective is the digitalization of radiology.

### Rapid Project Implementation is Desired

Because of the impending move, the project was realized in only one year - from the initial discussions to actual operation in January 2005. "The entire process was very closely monitored by the main office", according to Willmann. "Especially in the definition of processes and sequences the know-how helped us." In July 2004 after a multistage selection process VISUS was selected as the PACS (Picture Communication Archiving System) partner. "In light of the requirements contained in the specifications only the one supplier was appropriate", the Head of IT summarizes. "An important prerequisite and strength was the integration of all currently available imaging systems in the marketplace." Therefore, Sana from the very beginning excluded the suppliers of particular modalities, since the independence from specific manufacturers when acquiring additional equipment should be ensured.



Sana Clinic Remscheid



G. Meindl, M.D.  
Chief Physician  
Radiolog

## ***PACS and beyond***

### ***Stepwise System Expansion***

During introduction the expansion of PACS has proved to be very positive. "At the beginning of the project we only had the basic functionalities available", recalls Götz Krüger, Managing Senior Physician in Radiology. "Under close collaboration PACS was then expanded in a stepwise manner to meet our specific needs. During this process, VISUS was always present at our location which simplified the adjustments."

"For example, an integrated 3D image processing software was developed which we can use to comfortably and rapidly evaluate sectional images", adds Chief Physician, Dr. Gerd Meindl. This is also the reason why today over 90% of all examinations are processed at the seven PACS workstations of the two open diagnosing zones. Furthermore, the workstations of different modalities were integrated into PACS.

Senior Physician Krueger describes additional challenges for PACS: "Due to the high data volume in sectional image diagnostics high demands are placed on performance, specifically during diagnosing. And the care of tumor patients requires a polished, automated workflow which PACS - controlled by RIS - is able to ensure."

### ***Clinic-wide Integration Achieved***

Today, PACS is networked throughout the entire clinic. All the data from nearly 60,000 annual examinations are stored centrally in the storage area network (SAN). Through Web-based image distribution with the JiveX Web client, all departments, wards including outpatient departments and operating rooms can access the images. Rapid data transport occurs via glass fibers with a high-availability backbone network on a Gigabit Ethernet basis.

### ***PACS Helps Increase the Volume of Work Completed***

The eight radiologists in Remscheid can report many advantages provided by PACS. "Diagnosis and evaluation have become notably more rapid and certain since all images - including prior images - are available immediately after an examination. And digital image



*Digital diagnosing at the integrated  
RIS/PACS workstation*

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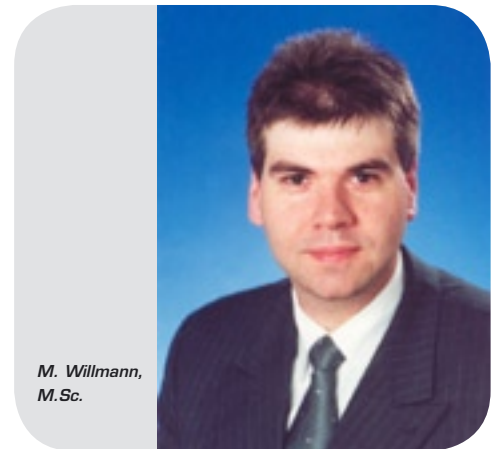
processing additionally supports the diagnosis of the radiologist", summarizes Dr. Meindl. Furthermore, the release procedure for the findings - always a bottleneck with few specialists - has been drastically reduced to 40%. The loss of images is nearly zero and the time-intensive searching, getting and hanging of x-ray films no longer applies.

"By means of a more rapid diagnosis and shorter waiting times, treatment can be initiated more quickly. This increases the satisfaction of patients and leads to shorter dwell times", Willmann economically considers the PACS. In this manner the number of patients could be continuously increased. Furthermore, film consumption decreased by 95%.

#### **Bottom Line after 15 Months**

"The project and PACS have developed equally; both have continued to improve. After a difficult start, we have achieved very good cooperation with VISUS. The result is a PACS with which we are very satisfied", summarizes Dr. Meindl.

*Ralf Buchholz*



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