EIZO

Case Study RadiForce®

Medical Display Monitors

Faster and more Reliable Diagnosis with RadiForce Monitors

Bamberg Hospital, Germany

radiforce.com

"Of course the quality of our diagnostic monitors is highly important. And I'm very satisfied with EIZO. My colleagues, too."

Dr. Hans Schneider
Senior Physician, Institute of Radiology,
Bamberg Hospital

Hans Schneider has been a senior physician in the Institute for Diagnostic and Interventional Radiology and Nuclear Medicine at Bamberg Hospital for the past five years. Together with his colleague, Dr. Sieglinde Spindler-Thiele, he is the head of the PACS Task Force and was of course eager to see the system introduced.

The Speed Advantage

For the radiologist Dr. Schneider speed is an important part of his work, as he needs to make his diagnosis quickly and reliably, so that the appropriate treatment may begin. Equally important is the follow-up monitoring of the therapy, and that these results are transferred just as quickly to his colleagues in the other clinical wards.
Such speed and efficiency can only be achieved with a picture archiving and communications system (PACS). Bamberg Hospital (Klinikum Bamberg) has recently introduced such a system, consisting PACS and EIZO RadiForce monitors. "With this new system we save an extra one or even two days", enthusiastically Hans Schneider. This is all the more important for a modern, cost-conscious hospital, since patients are not factored merely according to the length of stay but also in terms of their diagnosis.

"Diagnosis is now considerably faster; we don't have to search for images" continues the radiologist. "In the past when a colleague phoned and asked 'Can you take a look at the thorax?' I replied 'Where's the film?', or 'Come here and bring the film.' Now I just go to the nearest console and look at the image for myself. Then I can give him my opinion within 30 seconds." Fast decisions like these are often critical to the therapy: If a query comes from the intensive care unit as to whether particular action needs to be taken or not, and the radiologist is immediately able to confirm or rule out the need to operate then this is obviously beneficial for the patient concerned.

Combined Knowledge and Experience

The digital distribution of the images also means that if, for example, a physician in outpatients has a question for the surgical department or the senior consultant, then the whole diagnostic team is able to look at the images at the same time, regardless of where they are, and decide if and when to operate.

Dr. Schneider explains that “here in our Radiology department we don’t train our staff to become pure specialists; any one of the team can analyze 80% of the images.” The PACS, along with EIZO RadiForce monitors, allows any of the radiologists to access all the images, so that they can diagnose everything – with the added bonus that the Institute remains flexible in terms of staffing. In addition, the physicians are able to define their own user profiles within the system, so that only those images which concern them are displayed, regardless of which station they are using.

The quality of the monitors is of course highly important, throughout the entire diagnostics process, as Dr. Schneider is all too aware: “There are certain legal requirements to be met, and you have to have a good feeling about the monitor. And I’m very satisfied with EIZO. My colleagues, too.”

> “We looked for a partner who could provide the whole spectrum of monitors, and with an optimum cost-effectiveness ratio. This is why we decided to use EIZO.”

Rapid Implementation of a Global System

As one of the leaders of the Hospital's PACS Task Force, Dr. Schneider was pleased to see how motivated both the radiologists in his team and the clinical physicians were in supporting the fast and smooth implementation of the project. In fact, the introduction of the PACS took just 18 months – from the first consultation to its authorized launch. This was made possible by close cooperation with an experienced external consultant, Martin Neumann of MedServ. In fact, a rapid implementation is part of MedServ policy: The longer a project takes, the more opportunities arise for hindering factors, and the user acceptance is likely to suffer.

Bamberg Hospital already had an RIS and HIS, so an interface to the existing system was an integral part of the contract. Another stipulation was the supply of TFT monitors throughout the Hospital. This was thus a global project for EIZO, with the hospital management clearly stating that if EIZO RadiForce monitors were to be implemented in the Radiology Institute, then everyone should have them.

EIZO Wins the Contract

Therefore, the Hospital, together with MedServ, was looking for a partner who could provide the whole spectrum of monitors, meeting the various requirements dictated by different workplaces – and with an optimum cost-effectiveness ratio. It is also worth mentioning here that the monitors in question have to operate 24 hours a day, 365 days a year.
This is why the decision was taken to use EIZO.

All the relevant EIZO monitors with their various specifications were presented to the Hospital on one day, allowing the staff involved to actively participate in the decision process and to increase acceptance of the new system and its hardware. In total, Klinikum Bamberg has around 750 workplaces using EDP equipment, plus there are another 200 EDP workplaces at the St. Gertreu Psychiatric Clinic, which is linked to the Hospital by a direct dark fiber line and which comes under Bamberg Hospital's supervision.

"Every hospital will need to have this system if it wants to remain competitive."

Investing in the Future

The Hospital expects a return on its PACS investment within the next four years. The introduction of the new system entails certain direct financial benefits, such as savings on X-ray film, developer, waste chemicals disposal, or space needed for archiving film. There are also the numerous incalculable savings derived from faster access to images, saving time previously spent searching, and resulting in a more relaxed work atmosphere.

A Hospital with a Tradition of Innovation

Bamberg Hospital is situated in Northern Bavaria, Germany, and has a catchment area extending to around 50 km. It is integrated within and owned by a social foundation, which also includes the St. Getreu psychiatric clinic.

The Hospital itself has a total of 760 beds, and covers the entire medical spectrum, with the exception of neurosurgery and transplantations. One of the main areas of focus is gynecology, and Bamberg Hospital has its own Breast Center, where mammography plays a crucial role.

The current modern building is 20 years old, and replaced the town's former hospital, which was originally built in 1789. For many years this was the most modern hospital in the whole of Europe, so that today its successor feels a sense of duty to remain true to these innovative origins.

Klinikum Bamberg is also the medical school for the Friedrich-Alexander University in nearby Erlangen and Nuremberg.

"We decided to use EIZO since these are the best products."

Brigitte Dippold
Quality Manager at Bamberg Hospital

The Radiology Institute

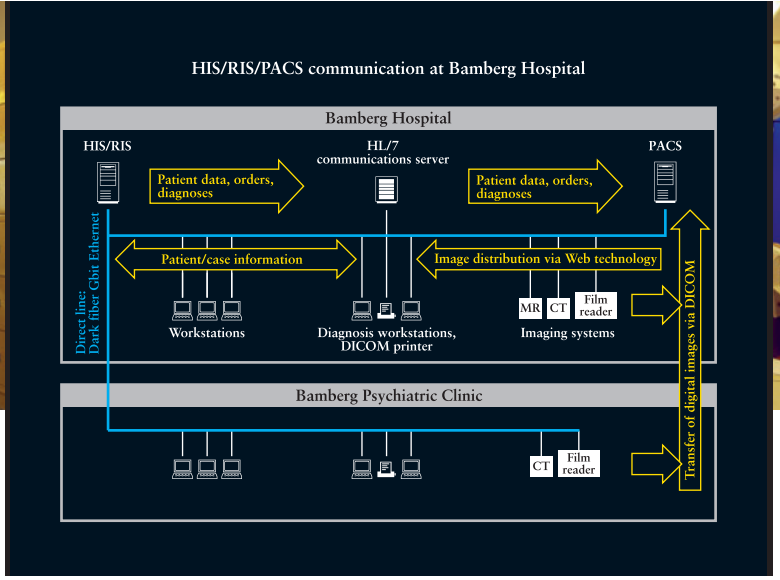
Headed by senior consultant Dr. Manfred Schmidt, the Institute for Diagnostic and Interventional Radiology and Nuclear Medicine (with its department for isotope diagnostics and isotope therapy) comprises three senior physicians, two specialists, five interns, 23 MTRAs and six nurses.
With computer tomography, magnet resonance imaging and ultrasound, the Institute utilizes all modern imaging techniques, which are also applied to interventional operations. The Institute processes 100-120,000 images annually, representing around 260 examinations each day – most of which result from MRI and CT.

Streamlined Diagnostics

The Hospital decided to introduce the PACS to enhance interdisciplinary cooperation between the radiologists and the clinical departments. The system has the crucial benefit that the digital images are always available whenever and wherever they are needed. As Brigitte Dippold, Quality Manager at Bamberg. Hospital, comments: "Now there's no need to search for the images, and that saves both time and money – as well as improving the treatment of our patients."
In terms of quality management, process optimization is an important step towards quality assurance, and Ms. Dippold considers it "impossible to optimize processes within a radiology department without a PACS." The Quality Manager adds that when the Hospital introduced its PACS, the decision to use EIZO was taken "since these are the best products."

RadiForce for Reliability

The Institute for Diagnostic and Interventional Radiology has a total of 9 diagnostic stations plus a mammography console, all of them equipped with EIZO RadiForce monitors, which of course conforming to all the legal requirements. Each station has three monitors – two diagnostic monitors plus a console for displaying the radiology information system (RIS) data – with an integrated digital dictation system for the radiologists to directly input their diagnostic comments.



HIS/RIS/PACS communication at Bamberg Hospital

Bamberg Hospital is linked by a dark fiber line to the town's psychiatric clinic, allowing for the transmission of digital data via HIS, RIS and PACS. The system is Web-based and designed for further external connections in the future, including teleradiology.
The Hospital stores all its images digitally, including reconstructions taken from various sections.
In line with insurance and legal requirements, the images are stored between 10 years (accident patients) and 30 years (therapy patients).
The server contains the patient database plus all the images in both compressed and uncompressed form, since compressed files suffice in 98 % cases in the periphery. This saves considerably on network traffic, further streamlining the PACS, and is one of the major advantages of the Fuji system.
All the data is stored twice and in a parallel (redundant) system, completely independent of each other. This protects the data from fire, water or other types of damage. The 1.2 terabyte of storage space (RAID) is designed in a modular way, and thus can be extended as desired.

Bamberg and EIZO set the Standard

Since Bamberg Hospital introduced its PACS and EIZO RadiForce monitors, representatives of other clinics have come to visit and find out about the system. Klinikum Bamberg offers them the opportunity to see a successful system in operation for themselves. This has helped to enhance the positive image of the Hospital, since its PACS is regarded as the standard by which others are measured.
As Dr. Schneider points out, “the speed advantage and subsequent earlier start of therapy means that in future every hospital will need to have this system if it wants to remain competitive.”

EIZO NANAO CORPORATION

153 Shimokashiwano, Matto ◆ Ishikawa ◆ 924-8566 Japan
Phone: +81-76-277-6792 ◆ Fax: +81-76-277-6793
Information on the products is available at the RadiForce official site **http://radiforce.com**