

NEC Display Solutions Client Installation **Healthcare**

# BREGENZ STATE HOSPITAL



LANDESKRANKENHAUS BREGENZ

## INTRODUCING AN INNOVATIVE AND LEGALLY COMPLIANT HOME OFFICE SOLUTION FOR RADIOLOGISTS

Bregenz State Hospital is a focal institution for the Vorarlberger Unterland catchment region with a capacity of 275 beds. A variety of special services are utilised by patients not only throughout Austria but also from Germany and Switzerland.



Much like Austria as a whole, radiology in Bregenz is undergoing a change. In addition to the rapid development of technology, the question is raised, how radiological expertise of specialists can be provided to patients – at the highest level and around the clock.

Making diagnoses from the radiologist's own private residence were unthinkable in Bregenz until now. After all, conventional monitors for home use that don't meet legal requirements are no alternative to the special devices used in healthcare institutions. If the doctor can't or doesn't need to get to the monitor in the clinic, then the monitor needs to come to the doctor – this was the guiding thought of Dr. Antonius Schuster, Head of Radiology at Bregenz Clinic. "When radiologists no longer need to do exhausting night shifts, and can instead work from their home study to perform a diagnosis, both the physician and the patient benefit," explained Schuster. "We wanted a diagnosis system that provides us with the mobility of a laptop while away from the clinic, but

also delivers a level of quality comparable to that of a clinic-based diagnosis system." Until now, it was only possible to remotely assess images, as performing diagnoses on the basis of images on a laptop is forbidden by law.

Schuster approached AGFA Healthcare, the PACS supplier of the Bregenz State Hospital, with his idea of equipping physicians with diagnostic monitors for home use. AGFA Healthcare in turn searched for a suitable solution among diagnostic monitor manufacturers and found in NEC a willing partner. NEC immediately saw the potential of such a solution, but also recognised the technical challenges inherent.

One of them was to find a laptop capable of adequately communicating with two monitors with a high resolution. They found such a laptop from Hewlett-Packard, namely the 8460p P. The device has a docking station with two DVI and two display port outputs, making it the perfect partner for the

NEC MD212MC displays. With a resolution of 2 x 2 megapixels, they are ideal for diagnostic radiology – regardless of whether the images are from CT, MRT, nuclear medicine/PET or cardiology. Bregenz Clinic has ordered five pairs of monitors to date. The clinic's IT department also addressed important security considerations. For example, images are transmitted to the devices over a connection that is secured using multiple encryption and several different passwords. There is absolutely no loss of quality caused by image compression.

Each MD212MC is pre-calibrated in accordance with the DICOM standard during production. The DICOM standard plays a key role in the review of clinical imagery on monitors, guaranteeing the required high standard of quality. Digital Uniformity Control and backlight stabilisation ensures whitepoint stability and consistent image quality. The supplied GammaCompMD QA software enables the monitor to be easily calibrated, and consistency checks can also be performed. This aspect was particularly

important to the clinic. "We wanted a system of quality assurance that enabled the quality of the displayed



image to be checked, recorded at various intervals and documented," explained Schuster. Using the QAXRAY module from diraal, this is possible without any issues. NEC's Berlin-based partner, diraal, specialises in quality assurance software in the field of medicine and helped with the implementation in the clinic. QAXRAY enables web-based reporting via intranet or Internet in conjunction with NEC devices. Data from tests that are due to be performed – acceptance, partial acceptance and consistency tests – can be recorded and maintained directly in forms. A high-quality measuring instrument is used at the clinic for quality assurance. Each physician is

requested once a quarter to perform a consistency check, which they can perform from their home office.

"With NEC's help, we have managed to have the first system of this type certified in Austria to allow diagnosis to be performed at home while still enabling mobility," reported Schuster. "This new solution makes it possible to massively improve the quality of life of our colleagues from radiology without compromising on the high standards that we set in medicine."

## INSTALLATION INFORMATION

### SITE INFORMATION

#### SECTOR

Medical

#### GEOGRAPHICAL LOCATION

Landeskrankenhaus Bregenz

Carl-Pedenz-Straße 2, A-6900 Bregenz

Austria

<http://www.lkhh.at>

### EQUIPMENT AND BENEFITS

10 x NEC MD212MC

5 x NEC GammaCompMD Quality Assurance software

1 x NEC MDSV SENSOR PRO

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