

User Report

First Complete PACS Operator Solution in Germany

Pay-Per-Use Model makes costs transparent and budgetable

Dr. Frank Stöblen

Essen Radiology Group Practice

It is no longer possible to manage a radiology unit economically without a PACS. Such a system is indispensable with regard to organizing effective work processes and ensuring high quality diagnostics in particular – especially when providing services to mammography screening units in parallel. This is exactly the situation at the radiology group practice of Dr. Krüger, Dr. Stöblen, Dr. Baschour, PD Dr. Eising and Ms. Stelkens-Gebhardt. In order to keep costs transparent and budgetable, the radiologists decided that rather than buying a PACS solution, they would task VISUS with operating it for them.

Three Sites with a Screening Unit

The radiology group practice is comprised of three locations in Essen. The main unit is located at the Katholische Kliniken Ruhrhalbinsel hospital in Essen-Kupferdreh, for which the radiologists provide all X-ray services. The second site is a mammography screening unit in Essen-Mitte (Essen-Mülheim-Oberhausen Mammography Screening Unit).

Dr. Karlgeorg Krüger and Dr. Frank Stöblen are the physicians in charge of the project at “Essen-Mülheim and Oberhausen Mammography Screening Unit,” with responsibility for the Essen-Mülheim and Oberhausen region in which around 130,000 women aged between 50 and 69 who are entitled to use the service are resident. From May 21st 2007, there will be an additional screening unit for the Oberhausen/Mülheim area, which will be run locally in



Dr. Krüger and Dr. Stöblen

Mülheim. The team in Essen will also undertake co-reporting and digital archiving of mammograms for this site.

The group practice's six radiologists offer all types of radiological diagnostic procedures and provide services for tens of thousands of outpatients each year. In addition there are currently up to 100 screening patients per day.

Successful PACS Replacement

"In order to be able to effectively organize the complex work process in a practice of our size, since 2001 we have been working with RIS and PACS from a single vendor. After six years we were no longer satisfied with the functional or cost performance of our PACS," explains Dr. Karlgeorg Krüger. The radiologists therefore started to look at new vendors.

The requirements were easy to formulate: "The new system had to be based on a modern technology platform and – like the vendor itself – had to be future-proof. In addition, we were looking for a persuasive cost/benefit ratio," is how Dr. Stöblen summarizes the main selection criteria. After analyzing various vendors, the radiologists soon decided on VISUS. Enterprise PACS JiveX has been in use at the Essen Radiology Group Practice since December 2006. The system is used for reporting, image distribution and archiving. For screening, the radiologists use JiveX Diagnostic Workstation Mammo, a dedicated reporting application for mammography.

Cost Transparency and Know-How Crucial Factors

"As well as the functionality and a persuasive cost structure, proven know-how in mammography screening was a strong factor in favor of JiveX and VISUS," emphasizes Dr. Krüger. With JiveX, the Bochum-based IT service provider controls the complete mammography screening image logistics for North Rhine-Westphalia using a DICOM router to the MaSc mammography application. "We regard VISUS the leader in screening integration, safeguarding our investment for a significant part of our future activities," states the



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radiologist. In addition, the PACS can be installed irrespectively of the operating system being used.

Dr. Stöblen cites a further significant benefit: “With VISUS we were able to separate hardware and software procurement, something which presents difficulties with other vendors. We wanted to continue to use existing hardware and procure new hardware ourselves. For us the fact that our IT vendor confines itself to its core areas of competence was an extremely positive aspect. This model also guarantees a high degree of transparency in the quote.”

Impressively Innovative Financing Options

“What’s really special about this project is the way in which it is financed,” emphasizes Peter Rosiepen, Director Sales at VISUS. “The customer provided or procured the hardware, we implemented the software and now operate the integrated solution for the practice.” A central archiving server was installed at the main site, on which all exams from all sites, including mammograms from mammography screening, are stored. The sites are networked together via a 1 GB fiber optic leased line so data can be transferred fast and smoothly.

In addition, two home workstations for Dr. Krüger and Dr. Stöblen are included in the installation. These are also used for reporting X-ray images as part of the hospital’s emergency diagnostic services. In this case access to the PACS archive is through a VPN tunnel using web technology.

Dr. Stöblen expresses his satisfaction thus, “While the separation of hardware and software procurement offers transparency in cost structuring, it is even more so with financing. We just pay a monthly rental charge, the amount of which is dependent on the volume of data. This pay-per-use model includes servicing and maintenance. We are billed per study. VISUS, as the operator of the solution, ensures that all image data is available online at all times,” he explains.



Mammography screening in Essen

First complete ASP installation

This model is based on a price calculation, which includes upper and lower remuneration limits. "As well as transparency it means we can budget our costs since on the one hand the upper limit restricts expenditure and secondly there are no additional costs for migration, administration or maintenance," Dr. Krüger explains. The operator thus shares the risk, absorbing some of the user's risk.

For Dr. Stöblen the advantages of this "all inclusive PACS" are obvious. "We do not have to invest any cash and are therefore not committing capital. The contract guarantees us support, new developments and updates at no extra cost. The 'Campus License' allows for connection of additional modalities, viewing monitors and workstations without charge. This creates scope for system expansion and customization of reporting-related work processes."

The Essen-based group practice is the first complete ASP customer in Germany working to the pay-per-use model.

Improved quality of diagnostic work

"There is no longer any debate over the pros and cons of a PACS – it is no longer possible to run a radiology unit economically without one. Workflow in the group practice is, especially in the case of mammography screening, no longer feasible, imaginable or conceivable without PACS," is Dr. Krüger's firm conviction.

However, it is not just economic factors that make a PACS indispensable. "Since all the images are available at all times, images no longer go astray and all previous images are available at the click of a mouse, we are raising the quality of diagnostic work and service provision immensely. Abolishing the courier service saves our staff huge amounts of time which they are able to dedicate to patients," states Dr. Stöblen. His colleague adds, "The images are available at different sites simultaneously, which makes it easy for us to consult between locations or discuss cases with physicians from other specialties. In addition, digital case conferences can be prepared rapidly." The ability to import external X-ray images from



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CD-ROM using a special PACS module ensures complete patient records with all information and previous images. The fact that the archive requires no personnel also reduces costs.

Improved Procedures in Mammography Screening

The workflow support provided by the PACS is particularly noticeable in the area of mammography screening, where the radiologists examine a large number of patients each day. JiveX imports patient details from the MaSc software directly and automatically saves the images and exam parameters in the PACS. "This saves times and reduces errors because it removes the need to enter data manually. In addition, research studies show that the rate of tumor detection using digital mammography is significantly higher than when using conventional mammography. This is not least due to the image processing options and the process of handling digital images. The ability to zoom and enlarge in particular make our work easier," explains Dr. Stöblen.

Planned integration of private practices

For the Essen radiology team there are two upcoming projects that will expand the PACS. First, physicians in private practice are to be integrated into the system and be given access to images and reports for their patients. Second, hospital-wide image distribution in the Katholische Kliniken Ruhrhalbinsel hospital will be implemented using a web solution. "Since, for legal reasons, the hospital is not permitted to access the practice archive, we send the images to one of the hospital's archive servers. The wards are then able to access images for their patients from that server," says Dr. Krüger, explaining the planned procedure.

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