



Fully digitalized

German teaching hospital opts for DR 600 and DX-D 100

Case study Klinikum Mutterhaus der Borromäerinnen
Trier, Germany



Case Study

INTERVIEW WITH:

DR. GÜNTHER SIGMUND, HEAD OF RADIOLOGY
THOMAS DEWALD, CENTRAL SERVICES MANAGER
HORST DEWALD, SENIOR RADIOLOGY ASSISTANT
KAI LICKES, PURCHASING TEAM LEADER

Klinikum Mutterhaus der Borromäerinnen, a teaching hospital in Trier (Germany), has made the transition from CR to DR systems in its radiology department. As well as allowing more examinations to be carried out, the fully digital process also benefits radiology assistants and physicians.

The radiology department at Klinikum Mutterhaus der Borromäerinnen took its first steps in digital technology in 2005, with computed radiography (CR) systems from Agfa. "When needle-based detectors then came on the market, we immediately took the next step and transitioned from our conventional solution," says head of radiology Dr. Günther Sigmund. The reason for this decision was the fact that the new generation of detectors promised much better image quality. "A promise that was delivered," says Dr. Sigmund. This is an especially important consideration in pediatrics and neonatology, he adds. "We can significantly reduce the radiation dose for our little patients while maintaining the same image quality," explains senior radiology assistant Horst Dewald.





“The new generation of the MUSICA image processing software is extremely successful.”

Dr. Günther Sigmund, Head of radiology



“It was time to replace the old equipment. And it seemed only logical to make the final step towards digitalization.”

Thomas Dewald
Central services manager

Klinikum Mutterhaus der Borromäerinnen, Trier:

- Successful transition from CR to DR
- High image quality with MUSICA image processing
- Automated and productive
- Simple, intuitive operation

The next important change took place in November 2016, when the department switched over to direct radiography (DR). “It was time to replace the old equipment. And it seemed only logical to make the final step towards digitalization,” recalls central services manager Thomas Dewald. “Our aim was to improve the workflow in radiology with the aid of solid-state flat-panel detectors.” This was achieved with two ceiling-mounted DR 600 systems.

The original intention was simply to replace the digital radiography workstations: “But when we considered it carefully, we realized it didn’t make sense to go only halfway. So after intensive discussion, the two mobile systems, which weren’t yet due to be replaced, were also equipped with solid-state detectors. Two extra DX-D 100 systems were installed, and in one fell swoop we had fully digitalized our imaging technology,” says purchasing team leader Kai Lickes.

TRUST PAYS OFF

Although the department had previously used CR systems from Agfa with great success, the company was not the automatic choice when it came to switching to DR.

“As with any procurement process involving a major investment, we reviewed the various radiology equipment providers very carefully and examined the

different options. Rather than dubious innovations, we were interested in clear benefits and cost-effectiveness," says Thomas Dewald. After visiting other healthcare providers which used Agfa technology and speaking to other users, the decision-makers at Klinikum Mutterhaus were strengthened in their view that in choosing Agfa, the hospital would be placing itself in the hands of a reliable solution provider. "Ultimately it's not primarily about the one-off purchase price, but the total cost of ownership. The cost projection was very positive, but the quality of the technology and the familiar user interface also worked in favor of our established provider," Lickes explains.

The hospital therefore had a lot of trust in Agfa and felt confident that it could rely on an always constructive relationship. "Unforeseen problems can crop up at any time," says Thomas Dewald, "so it's important to maintain a good relationship between customer and supplier and identify adequate solutions." The confidence of everyone involved was soon justified in the DR project. In the hospital's neonatology department, premature babies are radiographed in their incubators. This requires very small detectors. At the time when the hospital was looking for a solution, Agfa was not yet able to supply a very small detector with the DX-D 100. However, a suitable detector was in the development phase. When this new detector came on the market, it was only compatible with the latest equipment series. "As a goodwill gesture, Agfa offered to exchange the system we had purchased four months earlier for a system from the new series at no extra cost. This new system optimally satisfied our needs in neonatology," says Thomas Dewald. "That's what makes for a good long-term relationship."

GOOD SERVICE PAYS OFF

Customer service and a good working relationship are vitally important. The fact that Agfa offers both these things has worked in its favor and lent extra weight to its case when the Trier hospital was choosing a supplier. "Suppliers are quick to sell you a system, but what counts for us is the aftercare," says Günther Sigmund. "Inexpensive equipment is no use to me if I'm left on my own when I really need support. In terms of aftercare, Agfa has always stood out from the rest."

Another important consideration for the head of radiology was the reliability of the DR systems. For a long time the department has been working on a virtually paperless basis. Requests are sent via the hospital information system, the indication is validated in the radiology information system and the images

are stored in the PACS. This allows physicians in the individual clinical departments to view patient images immediately. The digitally dictated written finding can be prepared in just half an hour. "We perform 26,000 exams a year with the DR 600 and about 3000 exams per year with the DX-D 100. That can only be achieved with stable equipment," says Sigmund.

The systems also fulfill all other requirements for radiology, which come not only from neonatology but also from the hospital's large orthopedics department. "It's important that we can offer our colleagues in orthopedics full leg and full spine imaging," says Sigmund. "This isn't easy to do with digital systems. There were various possible solutions, but again the DR 600 was the one that convinced us. I think Agfa had the most advanced systems on the market at the time when the decision was made."

The cost projection was very positive, but the quality of the technology and the familiar user interface also worked in favor of our established provider.

Kai Lickes
Purchasing team leader





“Both the DR 600
and the DX-D 100
are intuitive to use.”

Horst Dewald
Senior radiology assistant

INTUITIVE TO USE

The decision was followed by the introductory phase, which again involved a close working relationship between the hospital and the technology provider. “After all users had completed the training, a representative from Agfa visited the hospital to answer our questions,” says Horst Dewald.

As a result, the team had no difficulty in learning how to use the new system. “Both the DR 600 and the DX-D 100 are intuitive to use. The user interface is comparable to that of a CR system. It presents no difficulties for new staff and trainee radiology assistants,” Horst Dewald adds. According to Lickes, intuitive operation was a ‘soft factor’ in the procurement of the technology: “We were already familiar with the user interface and the MUSICA image processing software from the predecessor system. Our philosophy is also to keep product lines uniform to maintain this level of familiarity,” he says.

FULLY AUTOMATED AND HIGHLY PRODUCTIVE

The main benefits for the radiology assistant are motorized assistance for the workflow, auto positioning, tracking and auto centering.

"After my colleagues have confirmed the exposure parameters on the workstation, the table automatically moves into the right position and the X-ray tubes are correctly aligned," explains Horst Dewald. This reduces physical effort and fatigue. The WLAN detector also makes an important contribution to productivity on the radiology workstation. Compared with using phosphor plates, it saves walking back and forth and especially time, because the preview image can be viewed on the monitor immediately after exposure. Horst Dewald sums up the improvement in efficiency: "We can examine more patients in the same amount of time with the same number of staff."

For each exam, a predefined set of exposure parameters is stored for the modality. "These are

basically standard parameters provided by the manufacturer, which we were able to use with just a few minor adjustments," says Horst Dewald. The exam can then simply be selected from the DICOM worklist with the aid of RIS protocol codes. "Before, the team always had to locate the exam manually, but there's no need for that anymore," the senior radiology assistant adds. Automatic image processing is handled by the latest generation of MUSICA. Günther Sigmund is full of praise: "It's extremely successful and reliable."

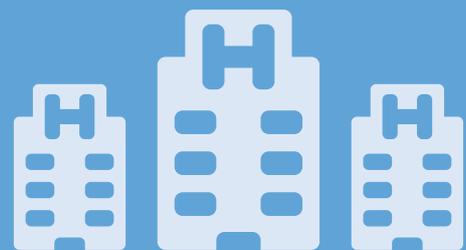
The two DX-D 100 systems are used in neonatology and adult intensive care, both with a WLAN detector. Sigmund points out a major advantage: "Because we can see the images straight away, we can now perform complex exams such as gastrointestinal X-rays at the patient's own bedside. There's no need to physically move the patient to radiology. This is in keeping with our principle that wherever possible the doctor should come to the patient and not the other way around."



KLINIKUM MUTTERHAUS DER BORROMÄERINNEN

A central priority care hospital with outpatient medical center. Spread over **three sites** in the city of Trier, the academic teaching hospital of Johannes Gutenberg University Mainz has **1054 beds**. The hospital treats approximately **41,500 inpatients** and **86,500 outpatients** every year.

The **radiology department** at Klinikum Mutterhaus Central carries out around **51,000 examinations per year**, including some **29,000 conventional X-rays**. The team also performs about **26,000 mammograms** each year.



3 sites



1.054
beds



41.500
inpatients



86.500
outpatients



Radiology Department

51.000 examinations/year
29.000 conventional X-rays
26.000 mammograms

For more information on Agfa, please visit our website on www.agfa.com ■

Agfa, the Agfa rhombus and MUSICA are trademarks of Agfa-Gevaert NV, Belgium or its affiliates. All rights reserved. All information contained herein is intended for guidance purposes only, and characteristics of the products and services described in this publication can be changed at any time without notice. Products and services may not be available for your local area. Please contact your local sales representative for availability information. Agfa-Gevaert NV diligently strives to provide as accurate information as possible, but shall not be responsible for any typographical error.

© 2017 Agfa NV
All rights reserved
Published by Agfa NV
Septestraat 27 - 2640 Mortsel
Belgium

201712

