



# Time saving is the crucial factor

Trauma hospital is able to save five minutes per X-ray, a period that can be critical in lifesaving situations

## Who/where

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## Challenge

Despite budget restrictions, patients must receive high quality and most efficient medical treatment. To achieve this, the BUKH planned to replace the existing six analog mobile X-ray units with four digital systems.

## Solution

The hospital decided to replace the existing equipment with four digital MobileDiagnost wDR systems from Philips. Thanks to the great mobility and the increased patient throughput, only three MobileDiagnost wDR units were needed.

The 'Berufsgenossenschaftliches Unfallkrankenhaus Hamburg' (BUKH) in Hamburg, Germany has been using mobile X-ray devices since their first days of patient treatment. The hospital, which openly embraces innovation, was on track to go digital in 2011. Aiming to become more efficient, it planned to replace six existing analog systems with four digital units. A decision to purchase four MobileDiagnost wDR units from Philips was made. Thanks to a increase in mobility and reduction of five minutes per exposure afforded by the MobileDiagnost wDR, only three of the new systems were actually needed. The money saved was invested in other medical devices to further enhance patient care. Today, a time-savings of up to four hours per day is being realized. Along with the prompt availability of images, this has led to increased patient throughput and a reduction in patient waiting periods. Indeed, this speed can be lifesaving, especially in intensive care situations.

Opened in 1959, the BUKH belongs to the employer's liability insurance association and is equipped with 500 hospital beds. "Our focus, objective and mission at the hospital is to offer patients treatment and rehabilitation under the same roof – from accident to occupational reintegration," explains Dr. Anette Moldenhauer, M.D., chief radiologist at the BUKH department of radiology. At the trauma hospital, various physicians including trauma surgeons, orthopedists, sports traumatologists, hand surgeons, neurosurgeons as well as anesthesiologists, pain therapists, and rehabilitation physicians, work hand in hand.



Dr. Anette Moldenhauer M.D.,  
Chief radiologist

# PHILIPS

# Less equipment – more

The BUKH has one of Germany's largest and most modern severe burn treatment centers, a paraplegic center, as well as a center for rehabilitation medicine, including early neurological rehabilitation following trauma or stroke. "Apart from the treatment of accident patients, we focus more and more on seriously ill patients, suffering from vascular diseases, diabetes, or tumors," explains Dr. Moldenhauer, who has been heading the department of radiology since 1990. Today, she oversees a team of 30 employees.

In 2013, all rooms and devices in the radiology department underwent a thorough renovation. Before that, hospital wards were equipped with six analog mobile X-ray devices. Due to an anticipated gain in efficiency with the move to digital technology, they planned to replace these with four Philips MobileDiagnost wDR. However, in the end, only three systems were needed.



"The radiographers as well as the requesting physicians now have direct image access and are satisfied."



# time for patients



## Four hours gained every day

With the MobileDiagnost wDR systems, all hospital areas can now be reached more quickly. Examinations in the ward can be carried out right away without having to move patients, sometimes severely injured, to the X-ray rooms. Thanks to cable free detector positioning and high-speed image processing, the hospital is able to save time. Images can be reviewed right away at the patient bedside. This is particularly important in acute areas of the hospital, but also in critical situations when quick decisions are needed.

The purchasing decision at the BUKH was based on the degree of efficiency offered by the MobileDiagnost wDR and influenced by the positive experiences that BUKH had had with Philips in the past. In order to save diagnostic time and enhance workflow, they wanted a system with a portable flat detector. The fact that radiographers were already familiar with the system's intuitive Eleva user interface, and enjoyed working with it, led to a reduction in training time. "Even more important is the rapid availability of images, so that images can be checked right away for correct exposure and settings and promptly be presented to the clinically requesting doctor," says Dr. Moldenhauer. "Another argument in favor of the MobileDiagnost wDR system is the rotating column. My radiographers kept asking for this functionality and I would never go against them."

Initially, Dr. Moldenhauer ordered only one MobileDiagnost wDR unit to make certain the team fully supported her decision. "The success was immediate," Moldenhauer is happy to report. "The radiographers as well as the requesting physicians now have direct image access and are satisfied. This is quite an important factor." Dr. Moldenhauer knows that a smooth and rapid cooperation can really make a difference to the daily hospital operation.

## Quick response time in life-threatening situations

In the past, radiographers had to carry the images from the ward to the radiology department, load them onto the system and send them to the PACS. "Because we can omit these steps today, we gain a lot of time," Dr. Moldenhauer explains. The BUKH now is able to save approximately five minutes per exposure, as images are

available on the MobileDiagnost wDR screen right after they are acquired. With roughly 50 X-rays taken per day, this saves the hospital four hours every day – time that can now be put toward quality patient care. Admission appointments can also be timed much more efficiently.

**"We save five minutes per examination with MobileDiagnost wDR"**

"This economy of time can sometimes be lifesaving," the chief radiologist explains, using the example of a closed pneumothorax when a quick decision for or against chest tube drainage is needed. In the past, thorax images had to be taken in the radiology department first, then carried to the ward, and the drainage would have been inserted based on assumption. Today, the right decision can be made immediately at the patient's bedside in intensive care.

Life-threatening situations are not the only time patients benefit from the advantages of the mobile digital X-ray system. As a matter of fact, the waiting time for general X-rays has been reduced and appointments can now be scheduled at a much shorter notice. "We are able today to work within a much tighter schedule and also keep the appointments," Dr. Moldenhauer says with a touch of pride. As a consequence, the hospital is able to start earlier with further treatment and has increased patient throughput.



### From six to four to three

Initially, four systems were ordered to replace the six existing units on dedicated wards. However, thanks to increased efficiency and mobility offered by the MobileDiagnost wDR, it became clear quickly that a fourth unit was not needed at all. "The radiographers love to drive around with the systems," Dr. Moldenhauer emphasizes. Now, one of the systems is permanently in use on the intensive care unit, where time is a critical factor. The other two MobileDiagnost wDRs are being used in the radiology department and other hospital divisions. "The image quality is astonishing; you cannot even decipher in the PACS whether the image is acquired in a permanent X-ray room or with a mobile unit," says Dr. Moldenhauer.

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Thanks to its innovative technology, the MobileDiagnost wDR enables enhanced workflows, faster decision-making, and excellent patient care. When it became clear that the existing six systems could easily be replaced by three MobileDiagnost wDR, the hospital was able to use the remaining budget to upgrade their Philips DigitalDiagnost systems with portable flat detectors. "With these additional devices, our department is now much better equipped," Dr. Moldenhauer says with a smile.

### Embracing innovation to meet the future

"Keeping up a smooth hospital workflow is the greatest challenge for me," Dr. Moldenhauer admits. "To master this challenge, an efficient technology has to be in place, but also a well performing team. My staff can only be happy if they have the right working conditions and equipment. Wherever I can identify a promising future, I act as initiator, but also involve my team." As department head, Moldenhauer has clear ideas about how to develop the hospital in the short and long term. She says, for example: "I always think ahead of time and look forward to the moment – hopefully very soon – when everything in the hospital will work wirelessly."



To achieve this goal, the BUKH is currently upgrading and expanding their WLAN network to be able to send X-ray images wirelessly across the hospital network. This will again help speed up reaction and diagnosis while increasing system use. With these changes, and the introduction of detector sharing, where one Philips wireless portable detector is used in combination with several X-ray systems, Dr. Moldenhauer is confident that, "Philips can offer excellent clinical solutions which will enable time saving and simultaneously enhance efficiency. As far as the introduction of new products is concerned, I always feel I am in good hands with Philips."

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