

Case Study

Ricoh solution  
increases efficiency  
and quality of photo  
documentation

Mathias-Spital Rheine



Ricoh's G700SE digital cameras have helped the Mathias-Spital Rheine hospital to digitise its image documentation process, allowing photos to be uploaded easily, and automatically assigned to patient records using unique barcodes. This has led to reduced incidences of human error and increased patient security.

## The Challenge

The Mathias hospital in Rheine (Germany) documents patients' operations and wounds with digital cameras. Nurses at the hospital take pictures to document the initial medical problem, its development following treatment and the end result, guaranteeing transparency when it comes to patient care.

In the summer of 2011, 25 digital cameras from various manufacturers were trialed at the Mathias Hospital. After a ward round or an operation, the pictures taken would be transferred to a computer using a USB stick. The next step would then be to manually match up the pictures with the patients. Digital images would painstakingly be given file names and manually inputted into the hospital's document management system. This procedure was not only time-consuming, but also prone to human error and, as a result, the process often had to be repeated.

Frequent use caused problems with the USB-ports of the cameras and some became defective after only a few months and had to be replaced. There were also problems with taking the cameras into theatre, since they were difficult to disinfect.

The hospital needed a more effective solution to image documentation, one that would automate this labour-intensive system, make the process more efficient and ensure less room for error. Ideally, the new system would eliminate the number of steps in the documentation process and integrate directly with the hospital's document management system.

## Ricoh's Solution

Ricoh gave staff at the Mathias Hospital its G700SE digital cameras for photo documentation, which enhanced the efficiency and quality of the documentation process. An external barcode reader enabled the case number of each patient to be scanned, so that images were automatically assigned to the right patient on the hospital's system.

## Customer Objectives

- Free up staff time
- Increase efficiency of wound documentation
- Reduce the frequency with which cameras needed replacing
- Achieve a joined-up digital process

## Results

- Increased efficiency of the documentation process
- Reduced margin for error
- Improvement in image quality
- Reduction in staff time needed for image documentation process



*Many steps of the procedure have been completely eliminated or extremely simplified, which has enabled us to considerably increase the efficiency of our photo documentation process."*

Antonius Epping, DMS-Manager of the Mathias Hospital

## Digitalising for Efficiency

Rather than manually uploading and assigning images to patients, this process has now been automated. An external barcode reader means that when each photo is taken, the case number of the patient is also scanned. Every patient receives a case number in the form of a barcode when he or she is admitted to hospital. The case number is attached to the bed or printed on the patient's wristband. Laser technology allows barcodes to be read in seconds, even with bad lighting, and then saved into the metadata of the picture, so that images are automatically allocated to the right patient.

After a ward round or operation, pictures can be transmitted with the click of a button, via Wi-Fi, to the digital management system's hotfolder. A data name for each photo is then created with Ricoh's metadata based software. The hotfolder of the hospital's communication server then has access to the pictures and generates a MDM HL7 message, in which the pictures are automatically saved and transmitted to the patient's medical records.

## Staff and Customer Benefits

Ricoh's G700SE digital cameras have streamlined the image documentation process, reducing the time it takes hospital staff to upload images to the document management system and ensures they are allocated to the correct patient. The time saved by automating this process and the reduced margin for human error means that more staff time can be dedicated to the treatment of patients.

Reducing human input in the process also ensures patient information is kept confidential. Furthermore, Ricoh's G700SE cameras can be disinfected with ethanol or sodium hypochlorite before and after use, ensuring a better quality of care.

## Benefits

- Easy to use, sturdy cameras
- Transmission of photos via Wi-Fi, Bluetooth or USB-stick
- Ability to disinfect with ethanol or sodium hypochlorite
- Improved patient security
- Reduced paper usage

## Ricoh solution

- Automated processing
- Fully scalable solution
- Time-saving
- Cost-efficient

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