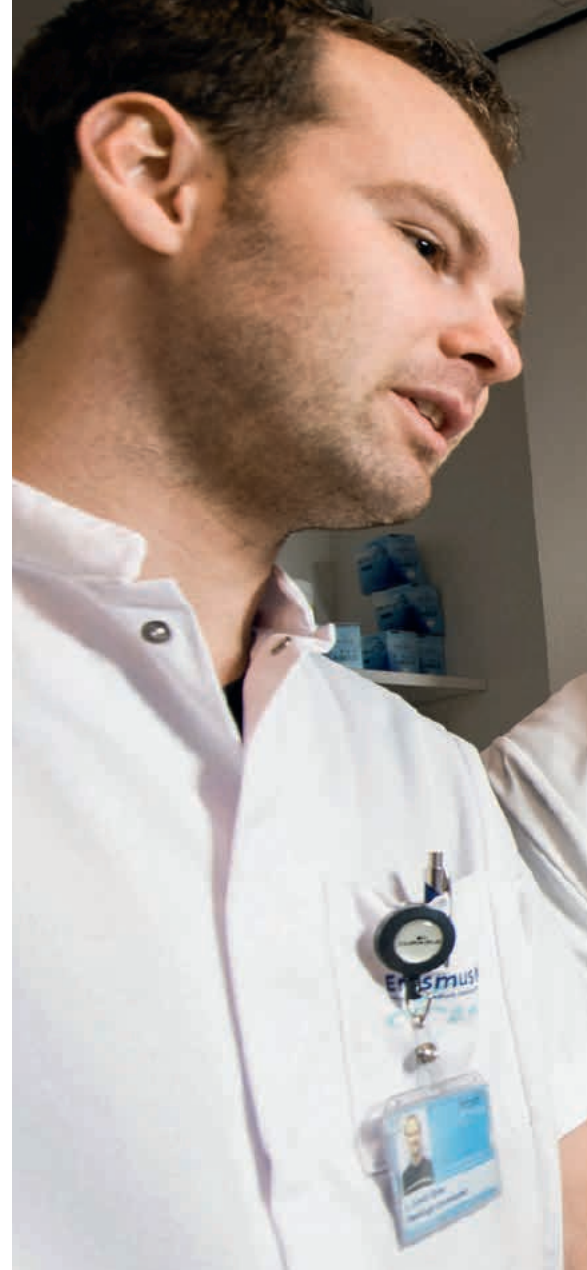


# Direct Benefits of Being Digital

Fully digital radiography solutions have huge potential to increase efficiency and to improve the availability of images within hospitals and beyond. Completely automated solutions combine the advantages of the fully digital approach, creating benefits for radiology departments, individual technicians, and patients.

Text: Philipp Grätzel von Grätz  
Photos: Ezequiel Scagnetti



*“I find the Ysio system fairly easy to use. There is far less physical work involved, compared with older systems.”*

**Luud Rijnen**, Radiology Trainee, Erasmus Medical Center, Rotterdam, Netherlands



Radiology trainee Lud Rijnen (left) sees the advantages of digital radiography when discussing clinical images with Bert Huijbens (center) and fellow student Milan van Holstein.

Erasmus Medical Center in Rotterdam is no usual hospital. Its main site, in the center of town, is more like a district than a building. There is a separate children's hospital in the next street, and a cancer center in the south of the city. The Department of Radiology is very busy, with around 100 medical technician assistants providing cover for all three institutions. Some 60 to 65 doctors are then responsible for analyzing the X-rays from the computed tomography (CT) scans, magnetic resonance (MRI) images, and interventional radiology that those technicians produce.

For general radiographic examinations alone, there are 90,000 patients per

year. This workload is handled using a total of 24 radiographic systems, not counting CT, MRI, or interventional solutions. Some of the systems are fully digital, but not all of them. Siemens has become one of the hospital's most important industrial partners in recent years.

### Departmental Perspective: Efficient and User Friendly

"We have made the shift towards fully digital radiography in recent years. For the average technician, this was a completely new thing – really, a new world," says Bert Huijbens, Unit

Manager for Conventional Radiology at Erasmus Medical Center. From the perspective of the department, going digital was a huge leap forward: "Our doctors love it. Image quality is far better with the digital systems than it was in the old days. There are far more details on chest X-rays, for example." There are obvious logistical advantages to using DR systems, too: Having the X-ray images instantly available, and being able to distribute them within minutes – or indeed, seconds – to wherever they are needed is of utmost importance to an institution the size of Erasmus Medical Center. "And to be able to check the quality of the images, while the patient is still ►



*“From the point of view of the department, Ysio is a highly efficient tool for examining high numbers of patients.”*

**Bert Huijbens**, key user and Unit Manager Conventional Radiology, Erasmus Medical Center, Rotterdam, Netherlands

present, is obviously also extremely helpful,” says Huijbens. Generally, a standard X-ray examination of a knee or a hip, using the Ysio® digital radiography solution, now takes a matter of minutes. On busy days, each room can handle as many as 60 patient examinations.

But, fully digital radiography also means that technicians must come to terms with a new way of creating and processing images: “Handling the system in the X-ray room is considerably quicker than it was during the non-digital era. But in post-processing, technicians need to be aware of spe-

cific parameters that affect image quality. This is something we all had to learn about and still have to,” says Huijbens. The Ysio system makes getting a handle on DR particularly easy, according to Huijbens: “There are hundreds of standard protocols that lead to high-quality images. They are easy to use even for less experienced colleagues,” he says.

As Unit Manager, Huijbens is one of two key-users allowed not only to use the system, but also calibrate it and change protocols. “Since the standard protocols are so good, we don’t have to change them very often. But when

we have to, it is very straightforward. The Ysio system is not only user-friendly; it is also key-user friendly.” This is one of the reasons why Erasmus Medical Center recently installed its third Ysio system in as many years.

### **Technician’s Perspective: Comfortable and Ergonomic**

Another reason is the value that technicians place on the system’s high level of automation and excellent usability: “When I have a patient, I use the remote control to bring the tube



Bert Huijbens appreciates the Ysio system’s user friendliness and its huge variety of pre-programmed protocols.



into the right position, and to place it roughly in the direction needed. I don't have to touch the system at all. I only use the handles to fine-tune the position: it is absolutely effortless," says Luud Rijnen, a young trainee, who plans to become an assistant medical technician himself.

Rijnen also occasionally works in one of the older rooms. He is therefore well placed to compare the Ysio with other solutions. "A big plus is that fine positioning is so easy. If I unlock the table, I can move it with one hand and use the other hand to move the tube. There is certainly far more physical work involved with the older systems." Rijnen also likes the foot pedals, which are integrated into the table and can be used to raise and lower it, or position the tabletop: "This is far more comfortable for the back, since I don't have to bend over to help the patient."

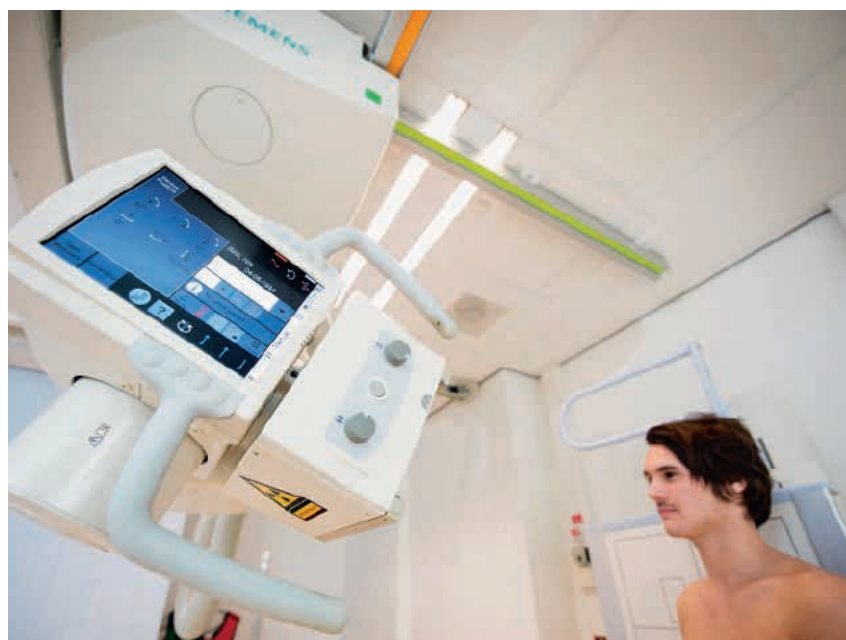
According to Bert Huijbens, other technicians very much share his impression: "We had many colleagues with shoulder problems in the past. This is not an issue anymore. We can use the remote control, and even if we move the tube manually, it is lightweight and easy to maneuver." The ability to access the menus directly at the tube, via a large color touchscreen monitor, also helps keep staff relaxed. "We see everything on this menu: the name and date of birth of the patient, as well as the program selected. It is even possible to change the order of a program without having to go back to the workstation," Huijbens enthuses. Having relaxed staff is also good for patients: Not only are they diagnosed using a modern system with low radiation dose and quick examination times, they also interact with technicians who are highly satisfied with their working conditions. And a good atmosphere can be contagious. ■

**Philipp Grätzel von Grätz** was a medical doctor before he became a freelance healthcare journalist in the early 2000s. His areas of specialty include medical technology and healthcare information technology. From Berlin, he contributes as author, editor, and editorial director to various healthcare magazines in German- and English-speaking countries.

## The Benefits of the Ysio System

Digital radiography (DR) addresses the needs of modern X-ray departments: Quick image acquisition and immediate availability of images for quality control and post-processing are what hospitals can expect from modern DR systems. However, DR doesn't have to stop there: Siemens' Ysio system has several features designed to support radiologists and technicians in their daily routines.

For example, Ysio features FAST (Free Axis Simultaneous Travel). With the help of a remote control, this provides parallel movement across six axes – thereby providing safe and highly accurate positioning. Usability was also a priority in the design of the Ysio system. A wireless remote control allows the tube to be positioned from any point in the room. And with the help of a large intuitive touchscreen, technicians can change all relevant image parameters directly from the tube without leaving the patient. Even changes to the order of examinations are possible without having to go back to the workstation.



## Further Information

[www.siemens.com/ysio](http://www.siemens.com/ysio)

The statements by Siemens' customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that other customers will achieve the same results.

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