

Customer Focus:
Rivierenland Hospital, Tiel

Making a Difference in a Regional Hospital

Interview with Ed Drooggelman, Head of Diagnostic Imaging, Peter Schelling, Head of Coordination and John Jansen, Team Leader Medical Instrumentation Service

Enhancing Clinical Practice Daily

Interview with Dr. Susanne Tonino - van Boldrik and Dr. Jim Geselschap, Interventional Radiologists Dr. Maarten Asselman, Cardiologist and key users of the new diagnostic equipment.

Making a Difference in a Regional Hospital

The Rivierenland Hospital is a regional hospital located in Tiel, the Netherlands. It plays an important role in healthcare in the Betuwe area in the province of Gelderland. As part of a major overhaul of its Radiology Department, the Hospital recently purchased new Toshiba Aquilion™ Prime CT, Infinix™-i and Ultimax™-i X-Ray systems. Alongside this, they rebuilt the Radiology rooms, leveraging the specialist expertise of Toshiba. VISIONS talked to Ed Drooggelman, Head of Diagnostic Imaging, Peter Schelling, Head of Coordination, and John Jansen, Team Leader Medical Instrumentation Service, to find out how the project went.

With 373 beds at its main unit in Tiel, the Rivierenland Hospital aims to provide high quality, regional healthcare services across 19 specialisms. When the Hospital came to replace its CT and X-Ray equipment and expand its cathlab facilities, specialists and management chose unanimously for Toshiba.

The Hospital's previous systems were installed in 2000. With an anticipated lifetime of around 10-11 years, the equipment had already outperformed all expectations. However, Radiology staff at the Hospital considered them outdated and experienced restrictions in advancing their Cardiology capabilities, in particular. In 2013, the process of selection and replacement of these systems began. A Working Group was established to gather information from all staff in relevant Departments, and the needs and preferences of Radiologists, Cardiologists and Key Users of the eventual new systems, as well as the Medical Instrumentation Service, were included.

THOROUGH EVALUATION

The specific requirements of all staff, who would work with the equipment, were evaluated by Ed Drooggelman, Head of Diagnostic Imaging at the Hospital, who also carried out a detailed assessment of the short- and longer term implications and the costs. The resultant equipment purchase proposal was approved by Rivierenland's Investment Committee and, in turn, its Executive Board.

"Combining the specific requests of our Radiologists and Cardiologists and based on our very positive, past experience with Toshiba, we made a clear choice for Aquilion Prime CT, Infinix-i and Ultimax-i X-Ray systems," said Ed. "Alongside the specific features of Toshiba's high quality products that support improved safety, faster diagnosis and enhanced clinical capabilities, the excellent service record was a particularly important factor in our decision." With the new systems chosen, the Hospital decided to also overhaul its Radiology suite to house the new equipment. This required the creation of entirely new rooms.



Ed Drooggelman, Head of Diagnostic Imaging

"Based on our positive experience we made a clear choice for Toshiba."



Peter Schelling, Head of Coordination

Once again, Radiologists, Cardiologists and Key Users of the eventual new systems were consulted on every detail of the new facilities during design.

“Toshiba Technical Service provided a great deal of input for the design blueprint,” remarked Ed. “The design features spacious, wider rooms for easier maneuvering of equipment and patients’ beds and optimum mobility. A color coding system for storage facilities was integrated to provide clear categorization of the storage of accessories, enhance efficiency and improve the ambiance of the rooms. The lighting was also specially-designed to create a light and pleasant working environment.”

Planning for installation of the systems was led by Peter Schelling, Rivierenland’s Head of Coordination.

“Weekly planning meetings were held. Our objective was to realize the plans with minimal impact on resident staff and patients, such as noise and debris. With Toshiba’s extensive experience in realistic planning, construction and installation, we were able to develop an intricately detailed plan and complete all stages of construction and installation of the new equipment according to the schedule,” he said. “One very important consideration was the replacement of these systems without a single day of downtime. In a small hospital like Rivierenland, additional systems for use during construction phases or downtime are simply not available. When it was necessary, Toshiba even provided an Infinix-i, ensuring temporary cover, and they were very flexible, often utilizing time out of our usual work hours to complete the build.”

“Toshiba provides full service during working hours, and often beyond.”

360 DEGREES OF SAFETY

The redesign of Rivierenland Hospital’s facilities is a prime example of Toshiba’s holistic commitment to ‘360 Degrees of Safety’ – a campaign that provides comprehensive (360 degree) attention to features that ensure safety for customers and patients in all aspects of system installation, operation and work flow.

Toshiba’s ‘360 Degrees of Safety’ campaign includes product features, such as reduced dose and advanced dose management; safer patient experience through larger bores, table movement/range, multi-axis positioned; features that reduce operator error and create a safer environment for operator through ergonomic user design and multi-axis positioned. And also services, such as education and support that contribute to patient, staff and overall site safety.

ESSENTIAL SERVICE

John Jansen is Rivierenland Hospital’s Team Leader Medical Instrumentation Service. Keeping essential equipment fully functional is critical at the Hospital, just as it is in other regional facilities. John is responsible for management of 2,000 (650 different types of) devices at the Hospital, and issues inevitably occur daily. An average of around 200 devices must be replaced each year due to expiration of their normal lifetimes. In addition, all medical devices require regular maintenance at a rate of about 200 devices per year.



“Our partnership with Toshiba help us to provide the best to our patients and our staff.”

“Toshiba’s Engineers have been coming here for years and know their way around,” said John. “They performed the installation of the new systems independently, almost entirely as agreed, and required minimal guidance or cooperation required from our side. They have, of course, provided explanation of the overall functioning of the systems, so that we can react on first-line failures. And we will shortly also receive a full, technical training on all the new systems delivered, so that we can monitor any faults better.”

Collaboration with Toshiba’s Engineers and mutual trust are very important to facilitate John’s role. Clear communication and definitive arrangements and appointments determine who does what and when.

“Toshiba provides full service during working hours, and often beyond,” remarked John. “Direct telephone contact with a technician is always possible, and we are never diverted through a switchboard contact, who doesn’t know anything about the equipment or who to connect you to. If a Toshiba Engineer is required on site, they can usually visit the same day, and if parts are required, they can be delivered within two hours. Toshiba’s Engineers

and our Key Users are highly trained, so everyone is competent in handling any problems with the systems.”

MINIMIZING DOWNTIME

With limited resources, it is essential for Rivierenland Hospital to avoid downtime of any devices.

“A large part of the failures we can correct ourselves, or after a brief telephone conversation with a Toshiba Engineer,” added John. “Even if a part is needed, we can already start disassembly, so that assembly can begin immediately, as soon a Toshiba Engineer arrives with the part. This saves a lot of downtime, often the device can be in use again after less than an hour, and frequently, it is not necessary for a Toshiba Engineer to visit us on site. This benefits everyone.”

BEST FOR PATIENTS AND STAFF

“Our partnership with Toshiba, its high quality systems, innovative technology, commitment and flexible service help us to provide the best to our patients and our staff,” concluded Ed. “We can now expand our contribution to healthcare in the region.”



Esther van Beverloo, Margret Gubbels and Helen van Rooijen Radiographers, John Jansen, Medical Instrumentation Service, Dr. Jim Geselschap, interventional radiologist

Enhancing Clinical Practice Daily

The Rivierenland Hospital has a total of around 1,500 staff and volunteers. Its Radiology Department comprises 50 staff, including five resident Radiologists supported by a large team of Radiodiagnostic Technicians. The Cardiology Department also has five resident Cardiologists supported by technical experts. VISIONS met with Susanne Tonino - van Boldrik (M.D.), Radiologist, Maarten Asselman (M.D.), Cardiologist, and some of the technicians (the key users of the diagnostic equipment) to find out how the new Toshiba Aquilion™ Prime CT, Infinix™-i and Ultimax™-i X-Ray systems benefit their work.

Investing in equipment in the hospitals is generally always a well-considered process, but making the right choices in functionality, after service and value is accentuated even. Shared use of key systems between specialisms is essential at Rivierenland Hospital, just as it is in many other regional facilities. The Radiology- and Cardiology Teams at Rivierenland Hospital were the key consultants, not only in the decision to purchase the three Toshiba systems, but also in developing the new rooms to operate the equipment in. Flexibility and close cooperation within and between Rivierenland's specialists, their teams and Toshiba, has ensured that their individual- and joint needs have been realized to benefit the widest range of daily clinical practice.

NEW POSSIBILITIES IN RADIOLOGY

Susanne Tonino - van Boldrik, is one of the five Radiologists at the Hospital. She has worked at Rivierenland for seven years and is one of the two Radiologists on the team, who carry out interventional vascular procedures, alongside all other radiology functions. Familiar with the quality of Toshiba products and service, the Radiology Department opted unanimously for the Toshiba systems. Installing the new Aquilion Prime, Infinix-i and Ultimax-i has not only upgraded the clinical capabilities of the Radiology Department, but motivated the entire team in their daily work.

"It has been an 'eye-opener' for us to have a system, like the Aquilion Prime," she remarked. "As a small unit, we have some limitations in the procedures we can carry out. There are a lot of things we can do here, but rarer cases have to be referred. With the new CT system, we can expand our contribution to care. The images that it gives us bring new opportunities to implement additional procedures, such as Cardiac-CT and CT-colonography, which will be introduced here in the near future."

The major dose reductions achievable with each system compared to the Hospital's previous ones have



Dr. Susanne Tonino, interventional radiologist

"The Aquilion Prime has been an 'eye-opener' for us."

broadened the scope of examinations. Susanne refers to examinations for patients with pulmonary embolism, as an example, and how the reduced dose and flowing angio from pelvis to toes that is possible with the Infinix-i has enabled the Department to do more with less contrast.

And while achieving vast improvements in workflow are not a key priority for the Department, Susanne particularly appreciates the added efficiencies that the systems bring to her daily work, such as the significant improvement in the speed of obtaining images from the Toshiba Aquilion Prime on the back station.



Dr. Maarten Asselman, Cardiologist

ENHANCED MOTIVATION

According to Susanne, one of the biggest gains has been the motivational effect that the new systems have had on all who work with them.

"Everyone on our team is very excited about what they can learn with the new systems. It has brought new energy and enthusiasm into their work. Of course, new opportunities can also bring new problems, but the team thoroughly enjoys challenges, and solving these issues together is very inspiring for all of us as a unit. In addition, it stimulates the generation of new ideas. With the enhanced modalities provided by the systems, and the benefits of the new examination rooms, it has been a tremendous boost for us all."

IMPROVED CAPABILITIES IN RADIOLOGY

Alongside bringing the option for new possibilities for the future, the new Aquilion Prime, Infinix-i and Ultimax-i systems installed have already enabled many improvements in existing clinical practice in Cardiology. Cardiologist, Maarten Asselman, joined Rivierenland's Cardiology Team three years ago and immediately became involved in development of Rivierenland's new Cathlab.

"We are very satisfied with the new systems. They are a great improvement in comparison with our old systems and we are already seeing many benefits," he said. "As well as better image quality, the advanced digital software provides many new opportunities to enhance our

"We are already seeing many benefits to enhance our cardiological diagnostics."

cardiological diagnostics. While we do not carry out coronary interventions here at Rivierenland, procedures, such as pacemaker implantation, for example, have become easier, faster and less invasive for patients using the enhanced imaging provided by the new systems."

"With a dose reduction of 75% already achieved compared to the Hospital's previous systems, patient and key user safety has been drastically improved."

"The faster gantry movement of the systems and Flat Panel Detector (FPD) size of 30cm x 30cm in particular support better cardiological diagnostics," added Maarten. "And with increasing prevalence of obesity within the general population and the incidence of cardiological conditions associated with this, the ease of maneuverability of larger patients that the systems allow us is a great advantage."



Dr. Jim Geselschap, Interventional Radiologist



A.G. van Veldhoven, Nurse, M. Stellaard, Radiographer, J.M.C. Willemsen, Radiographer, M.M. Blommestein, Radiographer, Dr. S. Tonino, interventional radiologist, M.W.H. Gubbels, Radiographer

RELIABLE SERVICE

One of the most important aspects in the choice for Maarten was the high quality, fast and reliable service that Toshiba offers.

The Toshiba systems were also chosen with a view to introducing Cardiac-CT procedures at the Hospital. With the Aquilion Prime now operational for a few months, structural plans to train technicians in Cardiac CT techniques have been formulated and training will begin later this year.

ENTHUSIASTIC USERS

Radiodiagnostic Technicians, Marga Blommestein, Mariët van der Klis and Robert van Drie are key users of the new systems. As well as enhanced diagnostic capabilities, many practical advantages of the systems are of course particularly beneficial to those who operate the machines daily.

"I have worked here for 26 years and have seen Riverenland grow from a very small regional hospital with many limitations to incorporating a strong Radiology Department with a great many opportunities," remarked Marga. "The recent redevelopment, including the introduction of Toshiba systems has been a milestone in our development that has greatly enhanced our capabilities."



Robert van Drie, Radiographer



Eugenie Koelemeijer (L), Radiographer, J.M.C.Willemsen (R), Radiographer

"Having relocated to this area, I joined Rivierenland 15 years ago from the much larger Nieuwegein Hospital," said Mariët. "It has been fantastic to see the development of the CT functionality here and now to have the opportunity to work with the Aquilion Prime. The system is much better than our previous model. I can scan faster, the gantry is bigger, it makes less noise, and the functionalities are better. We have an excellent visibility of patients' and can maneuver them more easily. The table goes lower. With the Aquilion's intuitive tools, our workflow can be improved."

"The Ultimax-i is a faster, very fine system that is far more user-friendly than our previous one," remarked Robert van Drie, who has worked at Rivierenland for 10 years. "Our training in using the system was thorough, but paced, so that we could learn at our own tempo, which brought us extra confidence in using the system."

"Toshiba systems has been a milestone in our development."



Marga Blommenstein, Radiographer

EFFECTIVE TRAINING

Training in use of the new systems was given to the key users by John van Gulik, Toshiba's Application Specialist CT, and Sjoerd Iken, Toshiba's X-Ray Application Specialist X-Ray. Key users were trained individually using a train-the-trainer approach - those who attended the training continually exchange and share the knowledge that they acquired amongst their colleagues.

TAILOR MADE FACILITIES

In addition, the new examination rooms are designed with needs of all staff and patients in mind.

"We were consulted on every detail of the new facilities," added Robert. "The preparation- and changing rooms are wider; all rooms have a good width for maneuvering patients' beds that gives far better mobility. And the color coding optimizes efficiency and also adds to the pleasantness of working in the room. All in all, it is a super, well-illuminated room with plenty of space to move in. Together with the new systems from Toshiba, it has made our work a great deal more efficient and enjoyable."

Through its close and continued collaboration with Toshiba Medical Systems, the Rivierenland Hospital in Tiel is better equipped to deliver specialized diagnostics and patient care.



Sjoerd Iken, Clinical Applications Specialist X-Ray, Toshiba Medical Netherlands.

Per February 2016: International Senior Product Manager (CardioVascular) X-Ray, Toshiba Medical Systems Europe.

