CUSTOMER CASE STUDY

Radiotherapie groep

> "This fully integrated identification process is simple, fast, accurate and developed to avoid human error in radiotherapy treatment."

Kasper L. Pasma, PhD
Medical Physicist
Radiotherapiegroep

Radiotherapiegroep's Arnhem Clinic has deployed biometric palm vein scanning to accurately identify patients during daily radiotherapy treatments.

At a glance

Country: The Netherlands
Industry: Healthcare
Founded: 1967
Website: radiotherapiegroep.nl

Challenge

The Radiotherapiegroep needed to accurately ID its patients. The clinic wanted to implement a fast, integrated and accurate ID solution to reduce human error.

Solution

Arnhem Clinic deployed ten Fujitsu PalmSecure scanners, which use near-infrared light to capture a person's palm vein pattern, allowing precise identification. Arnhem worked with existing partner, Cablon Medical B.V., to develop an interface with its Image Guided Radiotherapy (IGRT) patient-setup-verification software (Theraview) and treatment verification technology.

Benefit

- Provides a quick, non-invasive and fully integrated way to correctly ID patients
- Ensures optimal security of sensitive data, by encrypting on transmission and then encrypting a second time within the application
- Enables the organization to maintain records for compliance purposes

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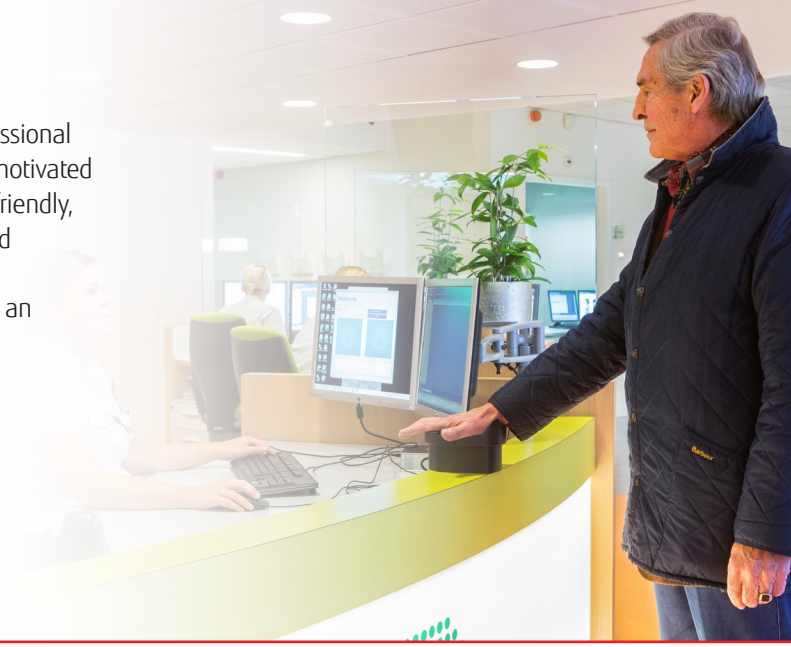
Customer

Radiotherapiegroep believes that every patient deserves the best professional and personalized radiotherapeutic care available via well-trained and motivated employees as well as an efficient workflow. The clinic provides patient-friendly, secure and high quality radiotherapy care using modern techniques and equipment to achieve this goal. It treats over 120 people each day in its Arnhem Clinic with the latest radiotherapy techniques in an effort to battle cancer.



Products and services

- FUJITSU PalmSecure

Matching patients to treatment plans

Every radiotherapy patient is different so treatment can vary enormously in terms of dosage and location on the body. This means that it is critical to correctly identify each patient and ensure they receive the correct treatment. Radiotherapiegroep's Arnhem Clinic used photos and birth dates to confirm the ID of its patients but could never be 100 percent certain that this process was being used every time.

"Each patient has a bespoke treatment plan and if you don't stick to it, you might do irreversible damage, so identifying patients correctly is crucial," explains Kasper Pasma, PhD, Medical Physicist, Radiotherapiegroep. "The problem was that we could never be sure that people who work with patients were using the procedure at all times. In the hurry and chaos of a busy clinic, it is easy to forget and there is ample room for human error."

With 120 treatments performed every day at the Arnhem Clinic, it needed a fast, integrated and accurate ID system. The organization looked at a variety of systems, including fingerprint and iris recognition, but always found something lacking.

"During chemotherapy, which half of our patients undergo, you can lose your fingerprints as a side effect, so fingerprint scanners were obviously not appropriate," adds Pasma. "And we found iris scanners too slow and uncomfortable for the patients. When we came across Fujitsu PalmSecure during our research, it appeared to solve our problem. The next step was finding a way to integrate it with our own back end systems."

Treatment accessed through palm reader

The Fujitsu PalmSecure sensor uses near-infrared light to capture a person's palm vein pattern, generating a unique biometric template that is matched against pre-registered user palm vein patterns. The PalmSecure technology false accept rate is just 0.00008 percent, with an exceptional false reject rate of 0.01 percent, all in a small form factor that generates extremely fast authentication, usually in under one second.

Arnhem Clinic and existing partner, Cablon Medical, developed an interface with Cablon's patient positioning system (Theraview) and treatment verification technology. For nearly forty years, Cablon Medical has been a trusted supplier of medical equipment and peripherals to hospitals and care organizations in The Netherlands, Belgium and a rapidly growing number of other countries. It used Fujitsu's toolkit to customize the software to work with PalmSecure.

There are now four Fujitsu PalmSecure readers at reception and six in treatment rooms. The radiotherapy machines will not deliver the dose until the patient has been successfully identified.

"It is a simple and elegant solution that ensures 100 percent accuracy, is non-invasive and is very fast," continues Pasma. "It's fully integrated with the existing technology so there is no need for additional monitors or PCs or software. In addition, if a patient cannot use the scanner for whatever reason, a radiation technologist can be nominated to unlock treatment with their own unique palm signature."

100 percent accuracy

Arnhem Clinic can now be fully confident that every patient is receiving the right treatment without having to constantly state their date of birth, thanks to what it calls the Patient ID Module (PIM). This Fujitsu PalmSecure solution also enables the organization to maintain immaculate records for compliance purposes.

"Here in The Netherlands, there is lots of regulation and we have to prove we are correctly identifying our patients. This system allows us to do that easily with no additional paperwork," says Pasma. "It's a seamless ID process that gives the patients a safe and secure feeling that we are professional and know what we are doing. That is important when undergoing stressful treatment."

Furthermore, there are no concerns about security, despite the sensitive nature of the data. That's because data from the sensor is encrypted on transmission and then encrypted a second time within the application, making hacking virtually impossible.

"The data is stored in a highly secure server and encrypted at every step of its journey so we know it is safe from prying eyes," comments Pasma. "Again, that helps us meet compliance regulation and gives patients peace of mind."

Arnhem Clinic believes it is the first radiotherapy organization in the world with this integrated solution, employing Fujitsu PalmSecure readers to identify patients on the treatment machine. The clinic is already looking at other areas and applications where it might be used.

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Phone: +31 346 598 111

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