



# Faster diagnosis closer to home



GE HealthCare



## Queen Ingrid's Hospital in Nuuk is Greenland's national hospital



Provides services  
to around 57,000 patients  
from across the whole  
of Greenland



Employs 18 healthcare  
professionals in the  
Radiology Department



17,000 imaging  
appointments a year

Delivering healthcare services throughout Greenland's vast but sparsely populated landmass is a challenge. The world's largest island is home to a population of just 57,000, with around 20,000 people living in the capital, Nuuk, and the rest in remote towns and villages spread across the country. Greenland's national hospital, Queen Ingrid's Hospital in Nuuk, is responsible for managing all the healthcare institutions in the country. This includes services provided by satellite hospitals located across the five healthcare districts, as well as health clinics serving small populations in isolated villages.

X-Ray services are available at several facilities around the country, but patients requiring specialised treatment or investigations are referred to Nuuk for a telephone or video consultation, or an in-person visit when diagnostic imaging is required. The radiology department at Queen Ingrid's Hospital is equipped with CT and MRI scanners, as well as ultrasound instrumentation. Until recently, MRI was performed on a 0.4T scanner, and this limited the department's capabilities.

The image quality was not always sufficient, and the necessary scans could not always be performed. As a result, some patients had to be transferred to Rigshospitalet in Copenhagen, Denmark, for advanced diagnostic imaging.

Another challenge is the shortage of radiologists in Greenland. Typically, radiologists come from Denmark to work at Nuuk for a few weeks at a time, and the hospital also sends images to the radiologists at Rigshospitalet for interpretation. However, this can lead to delays and the need to recall patients a week or so later once the images have been reviewed. This is a big issue for patients living a long distance from Nuuk, who may have to travel for several days to attend appointments.

## SIGNA™ Voyager Premier Edition – the optimum choice

The hospital had a clear need for a high field MRI scanner with more advanced imaging capabilities than its existing equipment and was fortunate to receive funding from the Kirsten & Freddy Johansens Foundation. After careful evaluation of MRI scanners from various manufacturers, GE HealthCare's 1.5T wide bore SIGNA Voyager Premier Edition emerged as the optimal choice. The SIGNA Voyager Premier Edition enables a greater variety of clinical capabilities to be performed than before – for example, vital organs in abdomen and prostate – using flexible AIR™ Coils to simplify the scanning workflow and improve patient comfort. The system also features a deep learning algorithm, AIR Recon DL, which significantly improves the image quality and can reduce scan times by up to 50%. Artificial intelligence algorithms also ensure consistency when comparing images in case of follow-up examinations – such as measurement of a tumour over time – by guaranteeing having same slice position and orientation between exams. In addition, collaboration with Rigshospitalet is simplified, as the Copenhagen hospital also uses GE HealthCare MRI scanners.



“We're very excited to get  
this new GE HealthCare  
SIGNA Voyager Premier  
Edition scanner.  
It's the first high field  
scanner in the country.”

Thomas Karlsen,  
Head of the Radiology Department,  
Queen Ingrid's Hospital, Nuuk







## Benefits all round

The SIGNA Voyager Premier Edition is delivering benefits for both the hospital and its patients. Previously, scan times were much longer – typically an hour per patient – with radiographers often having to perform more sequences than were actually necessary. The number of patients scanned per day is drastically improved compared to the old scanner, thanks to the SIGNA Voyager Premier Edition’s shorter scan times and user-friendly AIR Coils. The image quality is significantly enhanced compared to the previous scanner, and a greater variety of sequences can now be performed. Imaging 360 Remote enables radiographers to provide remote access to the MRI scanner and engage in real-time discussions with their colleagues in Denmark, significantly reducing the need to recall patients for repeat scans. This technology allows radiographers at Rigshospitalet to operate the scanner remotely if needed, ensuring that patients in even the most remote locations have access to advanced imaging care.

Previously, many patients had to travel the 3,500 km to Denmark for scans that couldn’t be performed in Nuuk. Now, with Imaging 360 Remote, this is no longer necessary. This solution is not only more convenient but also safer, as scans can be performed and results reported much sooner, which is crucial in situations where timely interventions are essential.



“One very good thing about having the new scanner is that it helps to make things safer for the inhabitants of Greenland. The high quality of the images means that we can do more things in house, and don’t have to send as many people to Denmark.”

Cosmus Pyndt,  
Manager of the Diagnostic and Therapeutic Section,  
Queen Ingrid’s Hospital, Nuuk



“I had been using the old scanner myself for years, so I know the quality of its images. When I see images from the new scanner, it’s like night and day.”

Thomas Karlsen,  
Head of the Radiology Department,  
Queen Ingrid’s Hospital, Nuuk

## The greener choice

Sustainability is particularly important in Greenland, as everything has to be imported from mainland Europe. This would be especially challenging – and expensive – for helium, which is used as a coolant in MRI scanners. The SIGNA Voyager Premier Edition features low-helium IPM magnet technology that can reduce helium usage by up to 70% over its lifecycle. It is a superconductive system that operates with very low levels of helium, and has robust zero boil-off capabilities, so will not need refilling during the scanner’s lifetime. This decreases dependency on helium, making the scanner easier to site and more eco-friendly, while cooling of the magnetic field continues even in the event of a power outage. Energy consumption is another critical consideration, and the SIGNA Voyager Premier Edition offers the lowest power consumption in its class.\*



“Our technical experts looked for an imaging solution that would not require annual shipping of helium to Greenland, which is expensive and challenging to do. We chose the SIGNA Voyager Premier Edition as it is a system that requires low levels of helium and can continue to cool the magnetic field even if the power is cut off for a short time.”

Tina Amondson,  
CEO of the Greenlandic Healthcare System,  
Queen Ingrid’s Hospital, Nuuk







The installation of SIGNA Voyager Premier Edition is set to transform diagnostic imaging services in Greenland, eliminating the need to transfer patients to Denmark and enabling faster diagnoses closer to home. Image quality is significantly enhanced compared to the previous scanner, a greater variety of sequences can now be performed, and the shorter scan times allow imaging of more patients in a similar time frame.

The Nuuk facility also benefits from real-time dialogue with colleagues in Denmark – who can even operate the scanner remotely if necessary – reducing the likelihood of repeat scans being required. And, in a country where sustainability is crucial, the closed system's reduced dependency on helium is clearly an advantage.





## About GE HealthCare Technologies Inc.

GE HealthCare is a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, dedicated to providing integrated solutions, services, and data analytics to make hospitals more efficient, clinicians more effective, therapies more precise, and patients healthier and happier. Serving patients and providers for more than 125 years, GE HealthCare is advancing personalized, connected, and compassionate care, while simplifying the patient's journey across the care pathway. Together our Imaging, Ultrasound, Patient Care Solutions, and Pharmaceutical Diagnostics businesses help improve patient care from diagnosis, to therapy, to monitoring. We are a \$19.6 billion business with approximately 51,000 colleagues working to create a world where healthcare has no limits.

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\* COCIR measurement during scanning = 16.1 kW.

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