



## GE Healthcare Introduces StarGuide, a New Nuclear Medicine System to Help Advance Precision Health & Theranostics

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- *GE Healthcare introduces StarGuide, the company's most advanced SPECT/CT designed to usher in a new age of discovery for research-focused clinicians*
- *Utilizing the latest advancements in Cadmium Zinc Telluride (CZT) technology, StarGuide helps providers explore and better understand the patient condition to improve patient outcomes across care areas*
- *The system's Digital Focus Detectors and 360-degree imaging is designed to help advance Precision Health and support greater Theranostic capabilities in Nuclear Medicine*

[GE Healthcare's StarGuide SPECT/CT System](#)  
[IMAGE/PNG - 5.57 MB](#)

**Chalfont St Giles, UK – 24 March 2021** – GE Healthcare today unveiled StarGuide<sup>[1]</sup>, a next-generation SPECT/CT system that uses the latest digital technologies to help clinicians improve patient outcomes in bone procedures, cardiology, neurology, oncology, and other medical specialties. The system's cutting edge 12 CZT Digital Focus Detectors not only scan patients in 3D to provide more information to clinicians but they are also optimized for Theranostic procedures, which combine the delivery of therapy to patients with diagnosis to monitor disease.

"COVID-19 and the events of 2020 highlighted the need for simple and fast workflows to allow clinicians and staff more time to care for patients, but it also highlighted the importance of listening to and rapidly responding to healthcare system and patient needs," says Jean-Luc Procaccini, President & CEO, Molecular Imaging & Computed Tomography, GE Healthcare. "Today, healthcare systems continue to be asked to maximize efficiencies, without compromising patient care. In response, we designed our StarGuide SPECT/CT system to provide clinicians with the data they need to help them make personalized care decisions and treatment recommendations that are at the heart of precision health."

For more than 20 years, SPECT/CT has proven to be a vital imaging tool used by clinicians to help diagnose and track the progression and regression of heart conditions, cancers, and other diseases. GE Healthcare has been at the forefront of this technology and the molecular imaging industry since introducing the first commercially available SPECT/CT scanner in 1999. Since then, SPECT/CT's clinical use and diagnostic power have rapidly increased with the introduction of CZT detector technology, functional anatomical mapping, attenuation correction, flexible image reconstruction and dose reduction technologies.

"StarGuide represents a breakthrough in the world of SPECT," says Matthieu Bailly, Head of Nuclear Medicine, Physician, Hospital of Orleans, France – the first global site for the StarGuide SPECT/CT system. "Thanks to the versatility of StarGuide's shape adaptive gantry, we can narrow our field of view to focus on specific parts of the anatomy – such as the spine, heart or brain – to generate images with impressive detail not easily attained on conventional SPECT/CT systems. Using this technology, we are already redefining how we explore bone and cardiac assessments – and the ability to scan multiple isotopes at once is affording us opportunities to perform simultaneous imaging in a single session. We are just beginning to unlock the system's potential."

The ability to generate high-quality SPECT/CT images starts with StarGuide's unique Optical Scout technology, which leverages the system's efficiency-focused Swift Plan workflow to determine the contour of the patient body and set the rest of the clinical scanning procedure into motion. After processing the Optical Scout data, StarGuide's detectors and table automatically position themselves for close proximity and contactless scanning of the patient. The slim Digital Focus Detectors then orbit the body as closely as possible, and from all necessary angles, to scan the target area — and not the air surrounding the patient. The result is high-resolution images for clinicians and minimization of time on the table for patients<sup>[2]</sup>.

"StarGuide allows us to acquire the patient's data in the best conditions," explains Gilles Le Rouzic, Medical Physicist, Hospital of Orleans, France. "The pixelated CZT modules combined with registered Dual-Channel tungsten collimation also contribute to improved resolution and sensitivity compared to conventional SPECT/CT<sup>[2]</sup>. Every test we've conducted thus far shows better results than a standard NaI camera. All in all, the shape adaptive gantry of this new device is innovative by its very nature."

Before performing a SPECT/CT, a clinician administers very small amounts of radioactive materials (radiopharmaceuticals) which releases radioactive emissions that are detected by the CZT detectors and processed into images. Compared to conventional technologies, CZT detectors offer improved SPECT sensitivity and resolution<sup>[2]</sup> of these emissions, which in turn helps clinicians pinpoint the size, shape, and position of lesions with exceptional accuracy. Paired with innovative reconstruction, the resulting images provide outstanding quantification for the diagnosis and staging of disease and monitoring of treatment.

Traditionally, only one tracer could be imaged at a time, but the excellent energy resolution of the GE Healthcare-produced CZT crystals for StarGuide's Digital Focus Detectors offers clinicians the unique ability to simultaneously image multiple tracers in a single scan. This ability helps reduce the need for multiple patient visits and, in relevant cases, multiple patient sedations. Also, the inherent temporal registration between the images helps increase clinicians' confidence in differential diagnosis.

Finally, the combination of StarGuide's shape adaptive gantry and CZT detector technology supports the imaging of tracers used in Theranostics with impressive quality. This includes Lutetium-177 (<sup>177</sup>Lu), a tracer used to diagnose and evaluate a patient's treatment response for neuroendocrine and prostate cancer<sup>[3]</sup>.

While there is still much work to be done in the field of Theranostics and Precision Health, StarGuide offers clinicians unique opportunities to make personalized care decisions and treatment response assessments that are at the heart of Theranostics. GE Healthcare is uniquely positioned to advance these efforts as the only partner with solutions spanning from pharmaceutical diagnostics, cyclotrons, chemistry synthesis, PET/CT, PET/MR, nuclear medicine, advanced digital solutions and pharma partnerships to cover the breadth of steps from discovery to diagnosis to treatment.

For more information on GE Healthcare's StarGuide system, visit [gehealthcare.com](http://gehealthcare.com).

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#### About GE Healthcare:

GE Healthcare is the \$18 billion healthcare business of GE (NYSE: GE). As a leading global medical technology, pharmaceutical diagnostics and digital solutions innovator, GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 47,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world.

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[1] StarGuide is CE marked. Available for sale in EU countries. Not for sale in the U.S and other non-EU countries.

[2] StarGuide improves SPECT resolution with scatter, planar sensitivity, and SPECT sensitivity compared to NM/CT 870 DR using LEHR/LEHRS collimators and NM/CT 870 CZT using WEHR collimator. StarGuide SPECT reconstruction with scatter used the system's factory NEMA NU 1-2018 resolution protocol which uses the same method (BSREM with Clarity 3D) as its clinical bone protocol. NM/CT 870 DR and NM/CT 870 CZT SPECT reconstruction used Evolution for Bone (OSEM). StarGuide's planar sensitivity was measured for each of its 12 detectors and adapted from NEMA NU 1-2018.

[3] Radiopharmaceuticals may not be approved by ministers of health in all regions. <sup>177</sup>Lu-PSMA is currently not an FDA approved tracer.

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