Elevating outcomes and transforming cancer treatment



Molecular imaging has long held the promise of more personalized, precise medicine. And now, the field of Theranostics is delivering on that promise in every stage of the cancer journey—from discovery to diagnosis to treatment. Combining molecular imaging with targeted radionuclide therapy, the goal is to eliminate tumor cells with minimal adverse effects.

With a partner like GE—at the forefront of the Theranostics journey—you can bring newfound hope to patients all over the world. GE's dedicated portfolio of Theranostics-focused solutions was engineered specifically to meet your needs—and those of your patients. With a partner like GE, you can help transform lives.

Discovery

PETtrace Solid Target Platform. Designed for the industry-leading PETtrace cyclotron, the fully automated PETtrace Solid Target Platform seamlessly integrates each of the components in the production chain, providing a simple and reliable supply of radiometal-based diagnostic tracers to support therapeutic programs and development of new diagnosis/treatment pairings. With the PETtrace Platform, enough Gallium Chloride can be produced in one single run to support several patients.

FASTlab 2 – GE's platform of choice for developing and producing our own proprietary PET tracers, FASTlab 2 is instrumental as a developer in producing ^{68}Ga, the radioisotope needed for Theranostics. In combination with our PETtrace cyclotron capabilities, FASTlab 2 helps provide the ^{68}Ga needed for molecular imaging and precision health. Ongoing shortages of the generators that produce ^{68}Ga create serious challenges for medical professionals who are treating a variety of patients. FASTlab 2's one-of-a-kind design improves usability, increases efficiency and is economical for widespread tracer distribution.

TRACERcenter. With customized solutions for research and clinical production of PET tracers, TRACERcenter enables a reliable supply of PET imaging tracers produced on demand, reducing your risk of scanning schedule disruption due to tracer delivery issues. TRACERcenter brings all of the different silos of technology, service, and equipment that make up a tracer production facility together in one comprehensive solution. You can choose a pre-configured service and equipment package, like our entry-level VIP solution, or we can help you design a custom package to meet your specific needs. No matter what your tracer production needs are, TRACERcenter is the only turnkey PET solution in the industry.

Diagnosis

Omni Legend – PET/CT. The first system introduced on our all-new, all-digital Omni platform, Omni Legend features remarkable digital detector design at its core, enabling an unparalleled increase in true NEMA sensitivity and delivering the highest sensitivity per centimeter* in the market.

Discovery MI Gen2 (30cm) – PET/CT. With high sensitivity, precise quantitation (Q.Clear) and MotionFree designed for dose/time reduction, Discovery MI Gen2 enables acquiring ^{68}Ga image for diagnosis, staging or restaging.

SIGNA™ – PET/MR. With pioneering Time of Flight, high sensitivity, and integrated 3.0T magnetic resonance complementing PET/CT, SIGNA includes Q.Clear for improved quantitative accuracy, delivering two times improvement in image quality.

Scanning the Treatment

StarGuide™ – Digital SPECT/CT. Thick CZT detectors enable the imaging of both ^{177}Lu energy peaks (113 keV and 208 keV), increasing number of detected events. StarGuide's ultra-fast 3D ring scanner enables SPECT/CT scans matching PET/CT scan ranges with short scan times to increase patient comfort, enhance lesion detectability,** and dosimetry accuracy.

NM/CT 870 CZT. Bridging the gap between analog and digital SPECT, the NM/CT 870 CZT enables Theranostic procedures by using thick CZT, the new Medium Energy High Resolution and Sensitivity (MEHRS) collimators, optimized for imaging ^{177}Lu in as little as 15 minutes.

NM/CT 870 DR. With higher patient throughput*** and high consistent quantitation, the NM/CT 870 DR is the only SPECT/CT that is ready to adapt to the future needs of Theranostics, protecting your investment with a fast and easy upgrade to digital SPECT/CT with CZT detectors.

Dosimetry, Visualization, and Quantification of the Treatment

Xeleris™ V. This virtual processing and review solution replaces the traditional workstation with cutting-edge AI applications powered by Edison™ to help you discover, diagnose and treat with improved efficiency.

Q.Thera AI. Designed for accurate dosimetry and quantitation, Q.Thera AI includes automatic AI-based organ segmentation. It enables reduction in average time from data loading to dose calculation and the number of clicks to achieve dose calculation.****

Q.Volumetrix AI. This end-to-end solution for advanced segmentation and quantitation empowered by AI is optimized for quantitative and visual assessment of treatment response. It provides advanced segmentation and quantitation capabilities for SPECT/CT and PET/CT data without impeding workflow for both baseline and longitudinal studies. It also offers efficient reconstruction with attenuation, scatter and resolution compensation. Important for Theranostics treatment evaluation and monitoring, it offers a simple, automatic method for liver, kidney, bone, lung, soft tissue and lesions segmentation.

Q.Liver. Designed for 3D-dosimetry segmentation, enabling processing and quantification of Liver SPECT/PET and CT segmentation with tools to calculate a therapeutic dose for SIRT treatments. The result: reduction in the average time and clicks from data loading to dose calculation, including reduction in average time for liver segmentation.*****

** GE Discovery MI 5-Ring and Discovery IQ 5-Ring have the highest NEMA sensitivity compared to market leading PET/CT equipment. Market leading PET/CT equipment is defined based on IMV's Medical Information Division's 2019 report as the manufacturers representing more than 90% of the US Installed Base.*

***StarGuide with FAME post processing. As demonstrated in phantom testing using a model observer.*

****SwiftScan Planar and SwiftScan SPECT enable time or dose reduction up to 25%. As compared to LEHR collimator, with Step & Shoot scan mode (for SPECT) / without Clarity 2D (for Planar). As demonstrated in phantom testing using a bone scan protocol, Evolution processing (for SPECT), and a model observer. Because model observer results may not always match those from a human reader, the actual time/dose reduction depends on the clinical task, patient size, anatomical location and clinical practice. A radiologist should determine the appropriate scan time/ dose for the particular clinical task.*

*****Compared to using Xeleris's Dosimetry Toolkit with dose-calculations done with external software. As demonstrated in bench test using 5 SPECT-CT cases. The bench test covered the workflow from data loading to image processing and dose calculation. Results may vary.*

******Compared to using Xeleris 4 DR Q.Volumetrix MI with manual or external software dose calculation. As demonstrated in an evaluation at 2 sites consisting of 15 SPECT-CT cases and 2 physicians, where each case was processed by 1 of the 2 physicians. Results may vary.*