



DISCOVERY IQ GEN 2





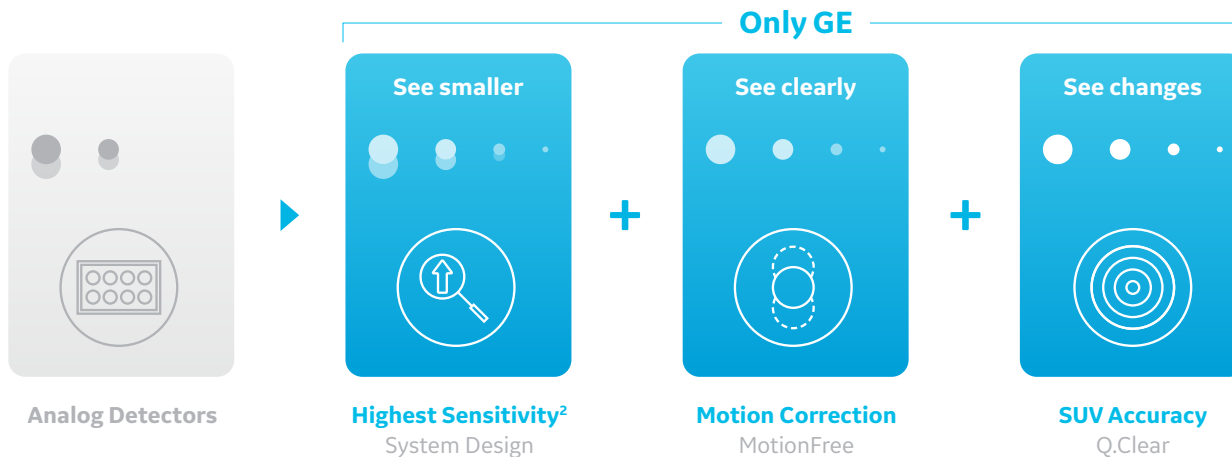
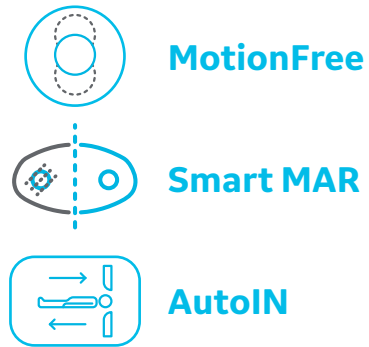
Introducing Discovery™ IQ Gen 2

THE NEXT  
GENERATION OF  
THE WORLD'S MOST  
TRUSTED PET/CT

Discovery IQ Gen 2\* builds on the standard of PET/CT performance set by Discovery IQ, the most widely utilized and trusted PET/CT system amongst clinicians across the globe<sup>1</sup>. It seamlessly integrates technologies foundational to greater performance through powerful software and hardware upgrades. While maintaining the industry's highest NEMA sensitivity<sup>2</sup>, Discovery IQ Gen 2 delivers improvements to the other two core pillars of excellent PET/CT imaging – motion correction and quantitation accuracy. MotionFree will provide every patient the benefit of reduced motion in their images, while more accurate quantitation tools will help produce greater image quality for better patient outcomes.

Additionally, the re-engineered hardware enhances the technologist and patient experience. One such example is the new remote landmarking and table positioning with AutoIN, which keeps the technologist at the console, potentially reducing their radiation exposure. Along with an improved user interface for exam reporting and a smaller footprint, Discovery IQ Gen 2 provides a great opportunity to invest in the world's most trusted PET/CT platform for your molecular imaging requirements.

### Enhanced PET/CT capabilities



Sensitivity

THE HIGHEST  
SENSITIVITY  
TO YOUR  
GREATEST NEEDS<sup>2</sup>

Discovery IQ Gen 2 reinforces what the highest sensitivity can do for your image quality. Built with a combination of the highest NEMA sensitivity<sup>2</sup>, the highest clinical NECR<sup>2</sup> and outstanding field-of-view coverage, this PET/CT system has exceptional small lesion detectability. Amongst these industry-leading capabilities, Discovery IQ Gen 2 also features Smart MAR, which helps reduce metal artifacts, providing significant reduction of streaks and shadows to save time from correcting images. It is imaging in the highest sense, using the lowest amount of dose possible and faster acquisition times to acquire high-clarity images like no other PET/CT system.





Significant reduction of metal artifacts with Smart MAR



Highest NEMA sensitivity in the industry<sup>2</sup>



Highest clinical NECR for clinical <sup>18</sup>F in the industry<sup>2</sup>



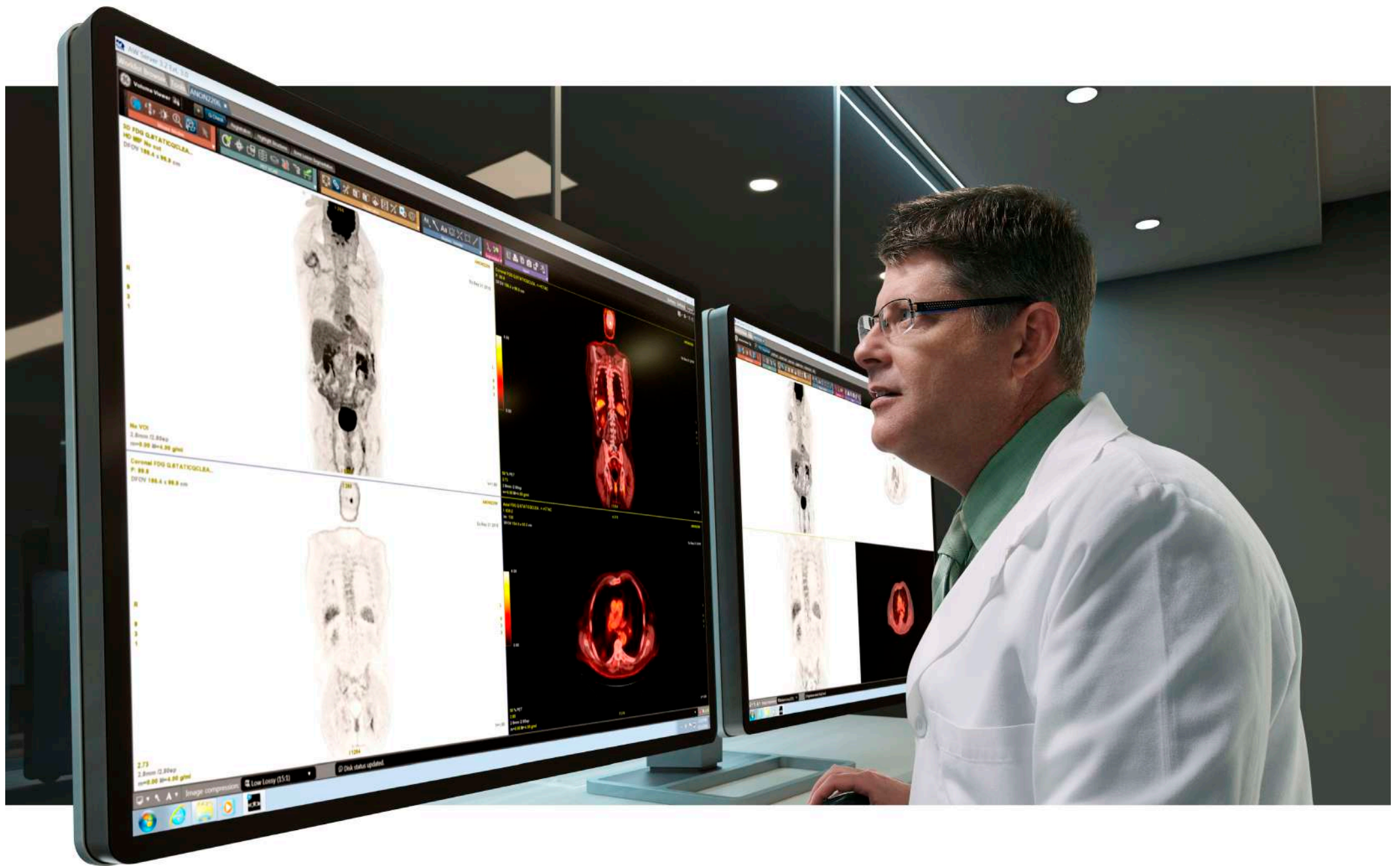
Large, scalable field-of-view



Personalized dose reduction by keeping the technologist at the console



Enhanced patient care, comfort and satisfaction



## Motion Correction

# CLEAR THE WAY FOR CLEAR IMAGES

Respiratory motion negatively affects about half of all PET/CT procedures. Current gating solutions are cumbersome and take too long to set up, which puts you in the difficult position of having to pick and choose which situations to use it in. As a result, only a small percentage of overall procedures affected by motion receive the benefits of motion correction. However, now with MotionFree, Discovery IQ Gen 2 assures that every patient gets the benefit of reduced motion during their exams for exceptionally clear images.

## MotionFree

MotionFree is the first-ever digital respiratory motion management solution that completely eliminates the need for a gating device. It continually monitors respiratory motion in every PET/CT procedure, automatically modifies the scan and then integrates what it learns into the final image in real time. MotionFree is the new standard for PET imaging and an essential tool for better outcomes.



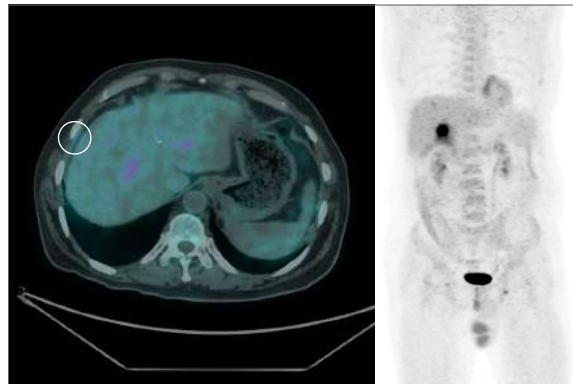
Up to a 30 percent improvement in quantitation accuracy ( $SUV_{mean}$ ) compared to non-motion corrected data<sup>3</sup>



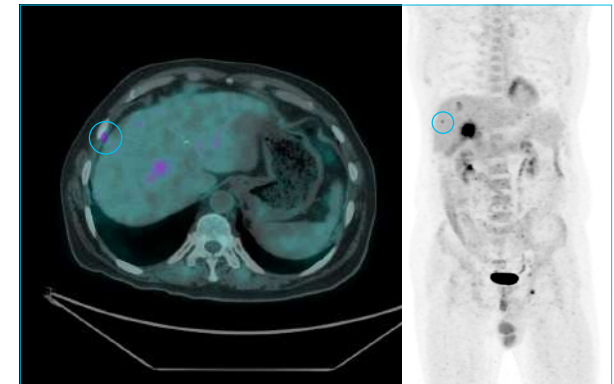
Up to a 67 percent improvement in lesion volume measurements<sup>4</sup>



Avoid adding up to 11 minutes to patient setup time compared to an external gating device<sup>5</sup>



Conventional Static  
SUVmax: 3.45  
Volume: 8.62 cm<sup>3</sup>



MotionFree  
SUVmax: 4.92  
Volume: 3.81 cm<sup>3</sup>



Quantitation

ACCURATE DATA  
POINTS TO TRUSTED  
TREATMENT



With Discovery IQ Gen 2, your quantitation is no longer limited by the technologies used to produce it. Compared to conventional methods, Discovery IQ Gen 2 uses more accurate and consistent quantitative tools like Q.Clear to support your treatment with precise data points. This allows your SUV measurement to become more than a number. It becomes a tool for trusted clinical discovery, diagnosis and treatment assessment.

### Q.Clear

Since its introduction, Q.Clear has delivered fast and efficient quantitation readings for confident diagnosis and precise treatment response assessment by providing up to two times improvement in both PET quantitation accuracy ( $SUV_{mean}$ ) and image quality (SNR). Now, improvements in the Q.Clear algorithm are further enhancing the resolution of brain images in vertical/coronal planes.

2x

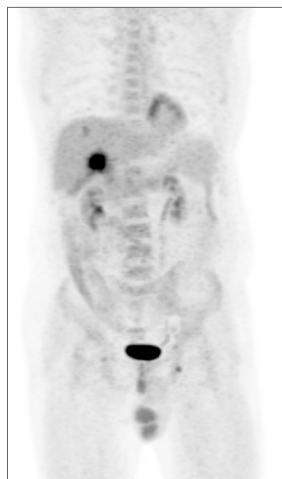
Up to a 2x improvement in image quality (SNR)

2x

Up to a 2x improvement in quantitative SUV ( $SUV_{mean}$ )



Conventional Static VPHD  
SUVmax: 3.45  
Volume: 8.62 cm<sup>3</sup>



MotionFree VPHD  
SUVmax: 3.38  
Volume: 8.32 cm<sup>3</sup>



Conventional Static Q.Clear  
SUVmax: 4.48  
Volume: 5.5 cm<sup>3</sup>



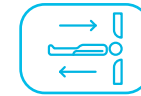
MotionFree Q.Clear  
SUVmax: 4.92  
Volume: 3.81 cm<sup>3</sup>

343 MBq/9.2 mCi  
<sup>18</sup>F-FDG  
180 minute uptake  
18 minute acquisition  
Patient BMI: 26.6

Experience

# A SYSTEM DESIGNED AROUND YOU AND YOUR PATIENTS

The Discovery IQ Gen 2 improvements don't stop with high-performance software upgrades. Now with a smaller footprint, Discovery IQ Gen 2 also offers hardware enhancements that reduce radiation exposure to technologists and improves the user interface for exam reporting. Combined with the latest software upgrades, this allows for a better technologist and patient experience while enabling a powerful boost in PET/CT productivity and performance.



## AutoIN

AutoIN gives your technologists the ability to landmark and position the patient table from the console in the operating room. Not only does this improve the imaging workflow, but it reduces your technologist's exposure to radiation by keeping them at the console.



Reduce technologist radiation exposure and improve workflow

Table positioning and landmarking from the console



Improved user interface

Easy-to-use PET exam reporting and retrospective reconstruction



Up to six minutes less radiation exposure per day<sup>6</sup>

Up to two hours of reduced radiation exposure per month



Up to 10 percent reduction in total scan time<sup>6</sup>

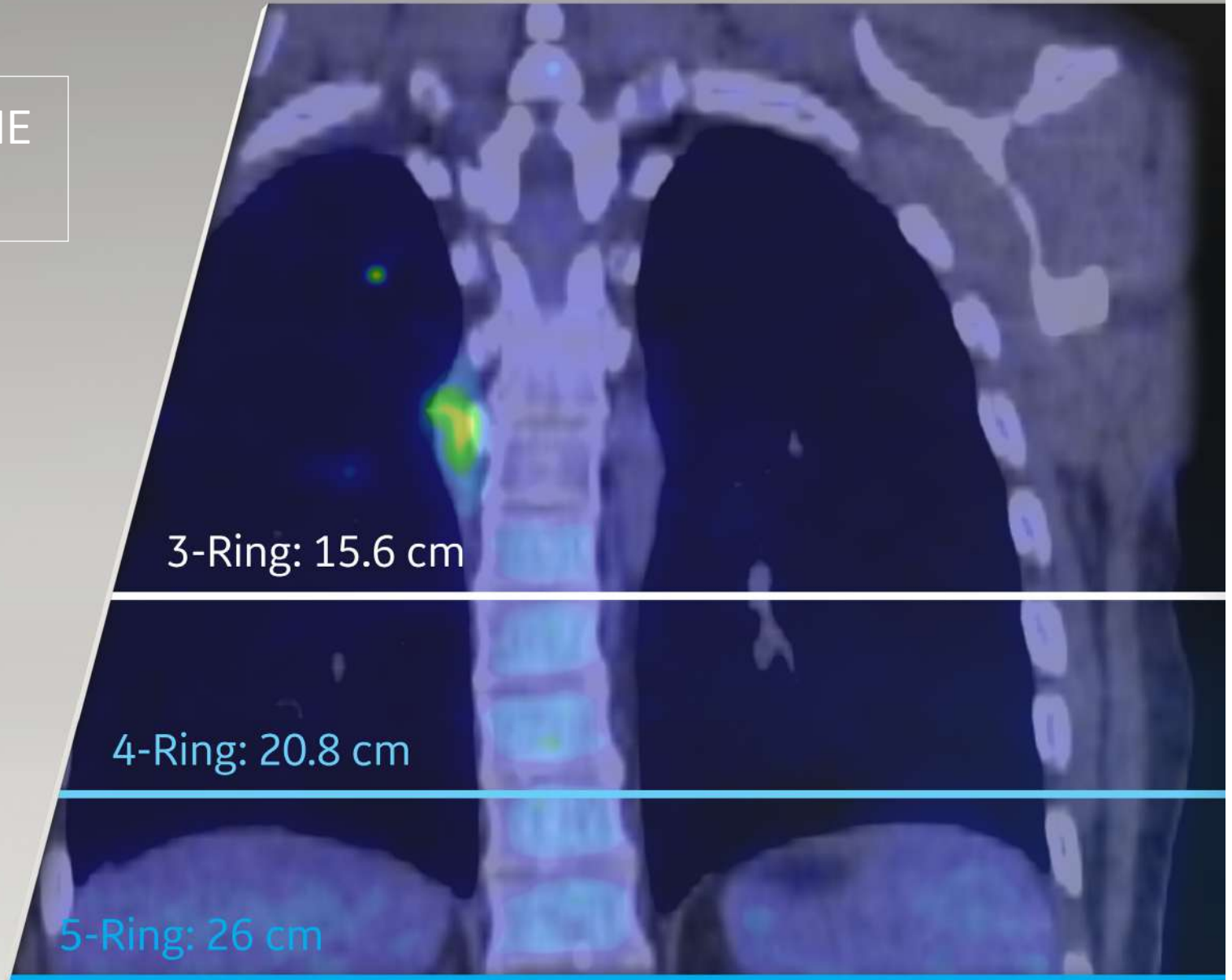
Scan two more patients each day

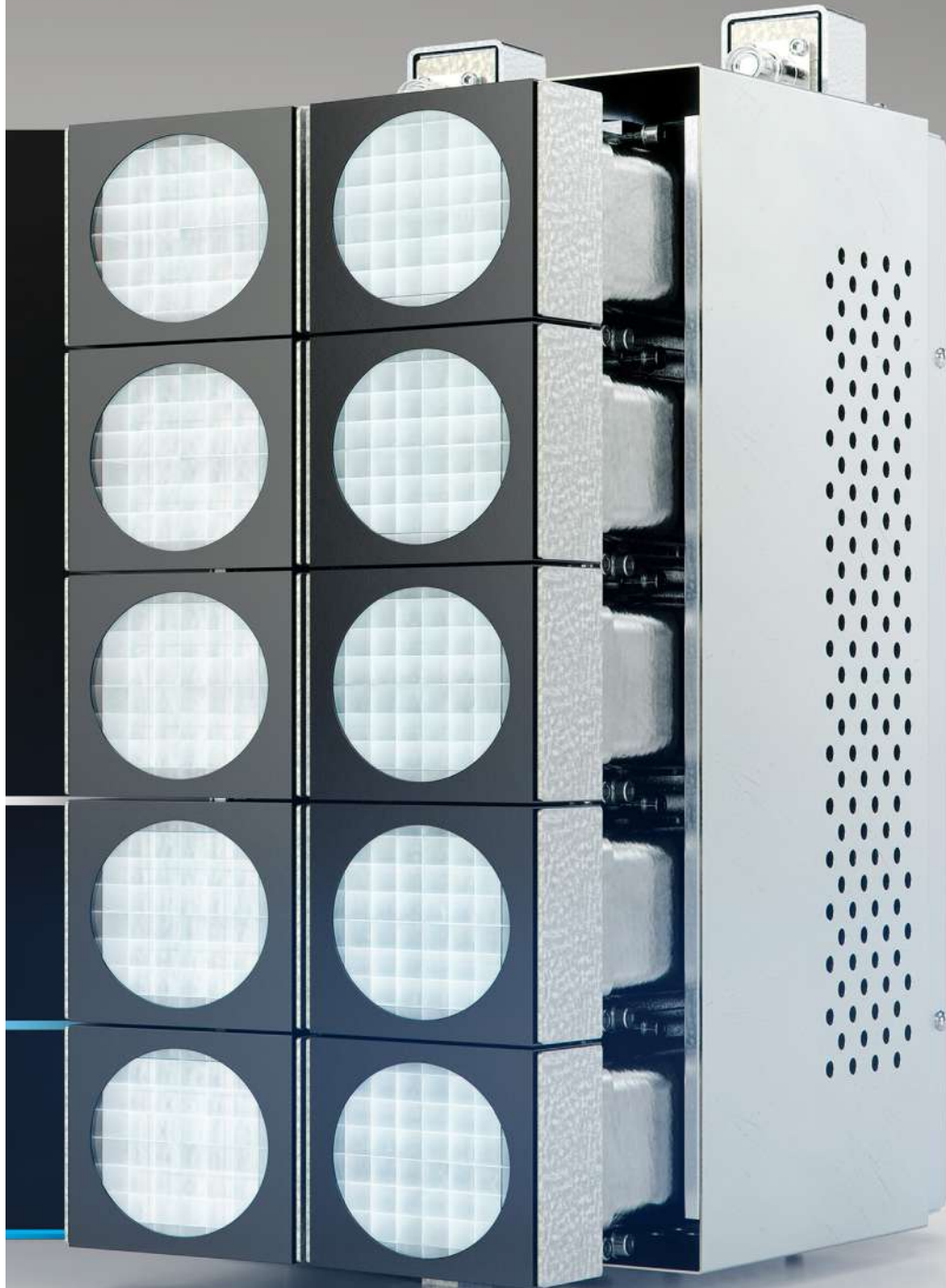




Technology and Accessibility

DETECTION AT THE SPEED OF LIGHT





Discovery IQ Gen 2 comes with the LightBurst PET Detector that reduces scan times and dose amounts in half<sup>7</sup>. Combined with the next-generation improvements in sensitivity, motion correction and quantitation, you can expect increases in the image clarity, the speed that you acquire images and the confidence you have in seeing smaller lesions. We paired this innovative detector technology with the Optima™ CT540, which has the equivalent speed of a 50-slice CT with IQE 1.75 pitch booster<sup>8</sup> to meet your imaging needs. The LightBurst PET Detector is compatible with advanced digital solutions designed to connect machines, people and data through a portfolio of healthcare analytics applications.

### **Better outcomes for all**

Healthcare providers need a cost-effective system that has the flexibility to evolve with the demands of its users and accommodate for future growth. Discovery IQ Gen 2 is made for this. It is an accessible, mobile-ready platform designed with a fully-scalable detector ready to meet the clinical needs of all.





## THE NEXT GENERATION IS HERE

Discovery IQ Gen 2 is the next generation of our high-performance PET/CT system thoughtfully engineered with faster scan times, lower dose techniques and the ability to scan patients of all sizes. By combining best-in-class sensitivity with MotionFree image clarity and trusted Q.Clear quantitation, Discovery IQ Gen 2 is the smartest choice for ensuring better outcomes through true discovery.



GE Healthcare is a leading provider of medical imaging, monitoring, biomanufacturing, and cell and gene therapy technologies. GE Healthcare enables precision health in diagnostics, therapeutics and monitoring through intelligent devices, data analytics, applications and services. With over 100 years of experience and leadership in the healthcare industry and more than 50,000 employees globally, GE Healthcare helps healthcare providers, researchers and life sciences companies in their mission to improve outcomes for patients around the world. Follow us on Facebook, LinkedIn, Twitter and The Pulse for latest news, or visit our website [www.gehealthcare.com](http://www.gehealthcare.com) for more information.

## Imagination at work

© 2019 General Electric Company – All rights reserved.

GE Healthcare reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your GE Healthcare representative for the most current information. GE, the GE Monogram, Discovery, Optima and Imagination at work are trademarks of General Electric Company. GE Healthcare, a division of General Electric Company. GE Medical Systems, Inc., doing business as GE Healthcare.

Not available for sale in all regions.

JB70507XX

\* Discovery IQ Gen 2 is not CE marked and cannot be placed on the market or put into service until it has been made to comply with CE marking.

<sup>1</sup> Based on PET/CT sales and installation industry data from 2014-2018.

<sup>2</sup> GE Discovery IQ 5-Ring has 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 IMV 2012 report as the manufacturers representing more than 90% of the US Installed Base.

<sup>3</sup> As demonstrated in phantom testing using a typical and fast respiratory model, 18 mm Ge-68 spheres and OSEM reconstruction. Quantitative accuracy improvements are based on SUVmean.

<sup>4</sup> Compared to non-processed (STATIC, no motion-correction) data. As demonstrated in phantom testing using a typical and fast respiratory model, 18 mm Ge-68 spheres and OSEM reconstruction.

<sup>5</sup> Based on clinical practice at University Hospital Zurich, using 5-Ring PET/CT with MotionFree and RPM. These results are for illustrative purposes only and represent specific customer experiences; actual results could vary depending on clinical practice and circumstances.

<sup>6</sup> Based on results found at one Medical Evaluation site installation, Tata Memorial Hospital – India. Results may vary.

<sup>7</sup> Comparing Discovery IQ Gen 2 5-Ring to Discovery IQ Gen 2 3-Ring.

<sup>8</sup> IQ Enhancement (IQE) may reduce helical artifacts which are important for image quality of thin-slice helical scans. CT scanners with this feature can accelerate its helical pitch up to 70% (e.g. 0.562 to 1.75, @ 16 slice) when acquiring the same helical artifact level compared with the same scanner with IQ Enhance disabled. This coverage speed is equivalent to that of a 50-slice wider detector CT scanner at same table speed.