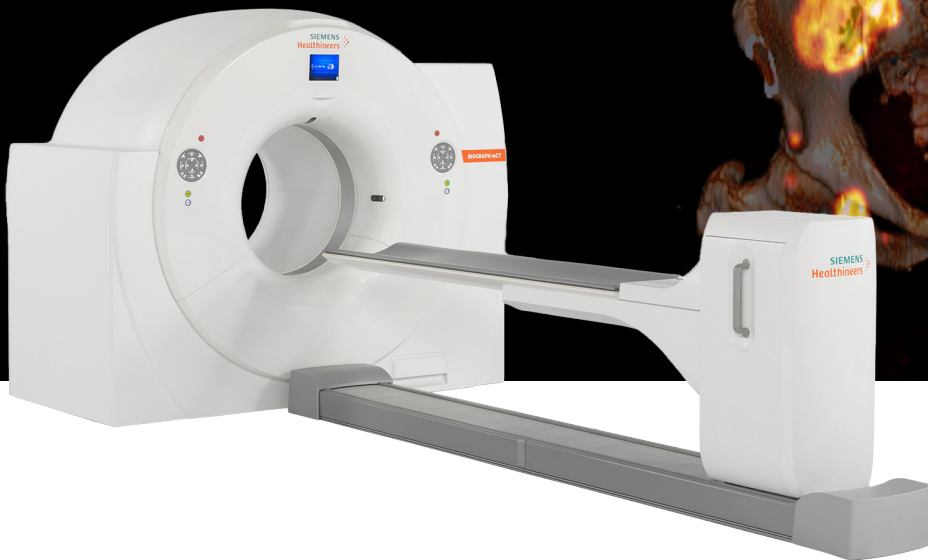


**Biograph mCT PET/CT**

**Clearly going  
beyond**

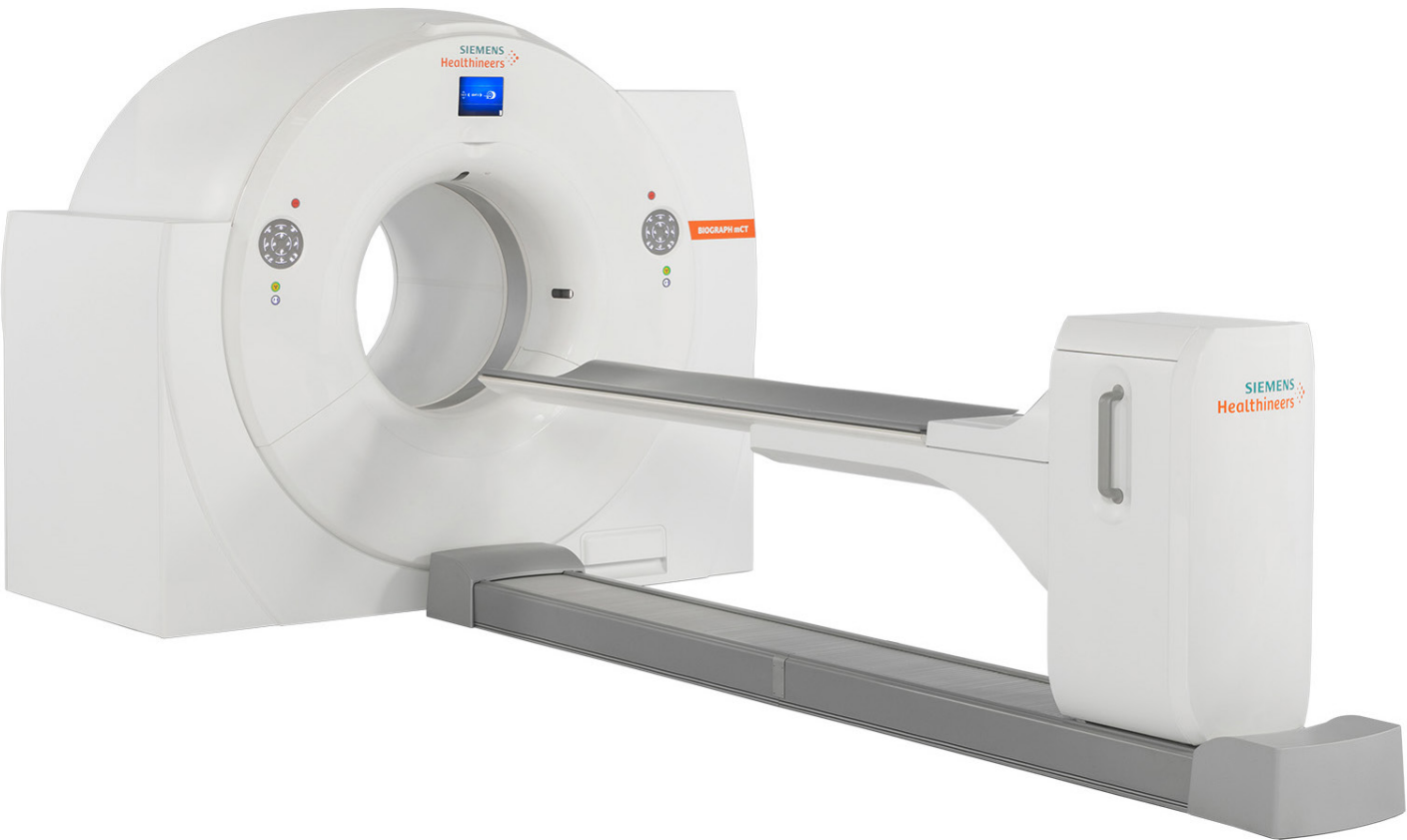
[siemens-healthineers.com/biographmCT](https://siemens-healthineers.com/biographmCT)



# Innovative technology for better care

Today, value-based healthcare is growing, and small details can lead to significant value for patients, caregivers, and enterprises. Advances in molecular imaging help you reveal critical details that result in meaningful improvements for all. Healthcare additionally demands a high level of productivity, as well as a flexible PET/CT system that can accommodate all patients and procedures for both PET and CT—enabling providers to offer better results while maintaining profitability.

**A truly hybrid system, Biograph™ mCT supports your ability to serve more patients and generate more revenue.**



Accelerate your potential with technologies that go beyond the standard level of imaging with Biograph mCT. Serve more patients and grow your business with enhanced technological and clinical efficiencies that empower you to access more steps across the entire patient journey. With intelligent imaging and the ability to accommodate all patients<sup>1</sup>, Biograph mCT moves the patient and user experience to a new level of care.

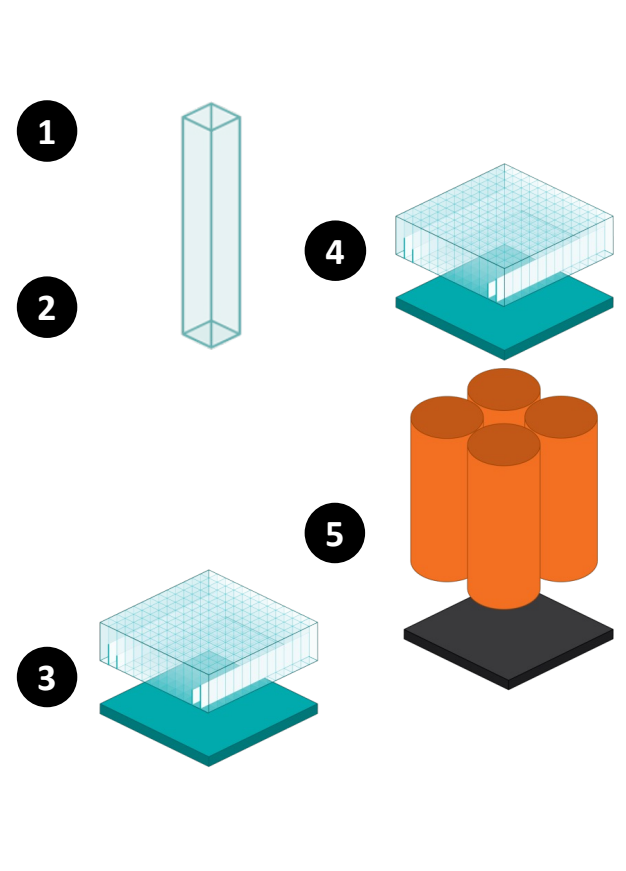
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**Technology that takes you further**  
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**Clinical solutions for beyond today**  
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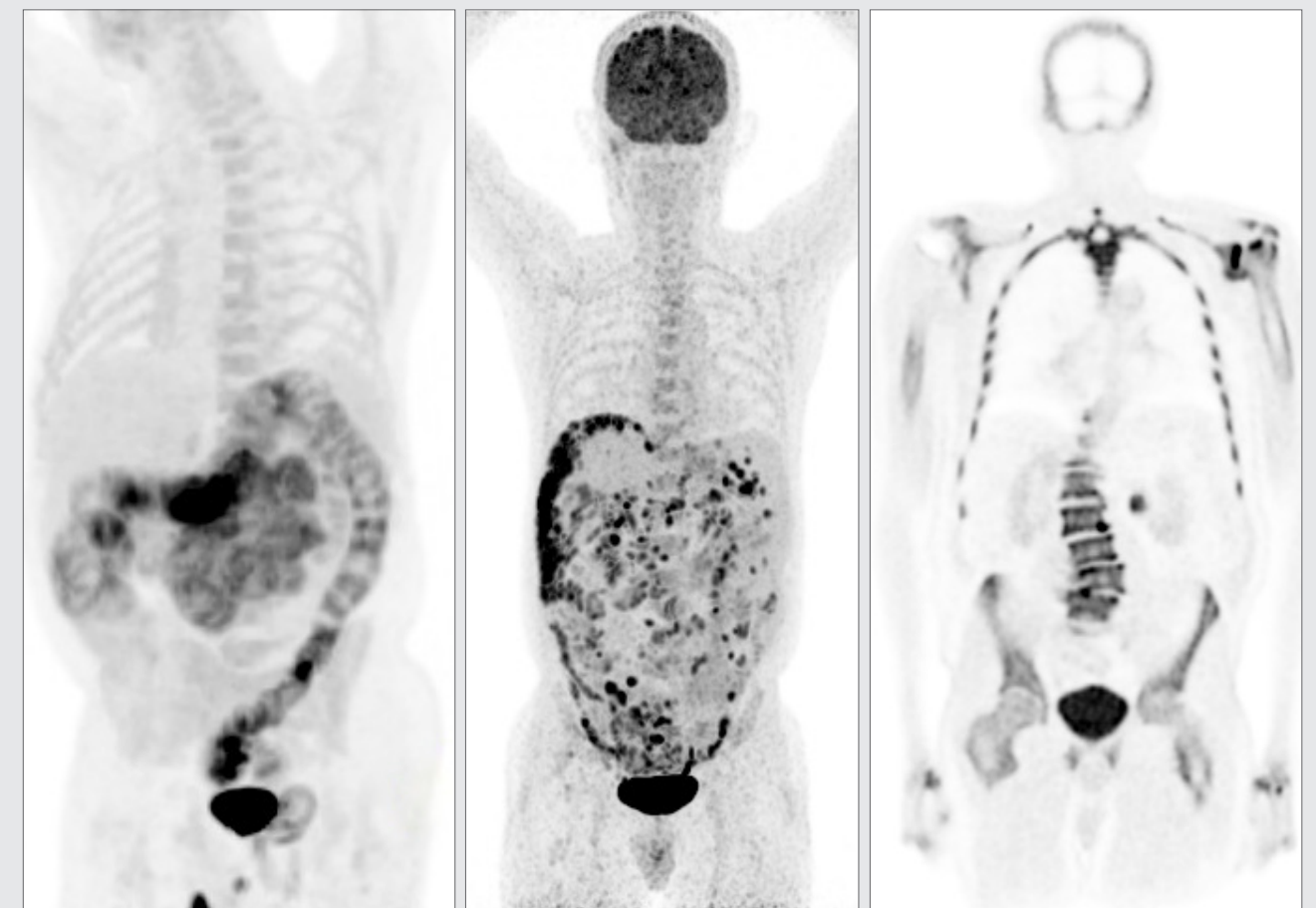
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**A next-level experience for all**  
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# Technology that takes you further

Biograph mCT's high 78-mm<sup>3</sup> volumetric resolution<sup>2</sup> and small, 4 x 4-mm lutetium oxyorthosilicate (LSO) crystal elements bring enhanced detectability with accurate and reproducible quantification. True time-of-flight (TOF) capabilities and innovative technologies such as FlowMotion™ help you lead the way in technological and medical advancement. Powerful CT solutions ranging from 40 to 128 slices with low-dose technologies give you the flexibility to go beyond standard care.

- 
- 1 A fast, efficient scintillator,** LSO is grown and cut in-house through a vertically integrated manufacturing process, ensuring the highest quality.
  - 2 4 x 4 x 20-mm crystal elements** are individually selected and deliver high 78-mm<sup>3</sup> isotropic volumetric resolution; higher image resolution may result in improved lesion detectability.
  - 3 Small, 4 x 4-mm crystals** with integrated light guidance arranged in a 13 x 13 matrix create a block that is combined with a light guide without partitions to spread light to photomultiplier tube (PMT) photosensors.
  - 4 Digital LSO-based detectors** and high-speed electronics support true TOF for improved signal-to-noise ratio. This enables faster scans, lower injected dose, and better image quality.
  - 5 Arranged with no gaps between detector blocks,** the detector delivers an effective sensitivity of up to 23.1 cps/kBq<sup>3</sup> and an effective peak NEC rate of up to 425 kcps<sup>3</sup>.

**Achieve excellent image quality with combined HD•PET and TOF**



Sarcoma of the mesentery

Peritoneal metastases

Degenerative changes

Data courtesy of University of Tennessee, Knoxville, Tennessee, USA.  
Data courtesy of Keio Gijyuku University Hospital, Tokyo, Japan.  
Data courtesy of Northern California PET Imaging Center, Sacramento, California, USA.

# PET technology that takes you further

Our foundation of reliable, sustainable, and proven technologies allows you to start from a position of clinical power. Biograph mCT streamlines the user experience and addresses a broader patient population with a design purposefully built on our key technology. Evolve your business with a scalable PET/CT platform that opens new opportunities and helps maximize and protect your investment for the future.

## Experience more PET technologies<sup>3</sup>

### TrueV

Extend the PET axial field of view from 16.4 to 22.1 cm and add 33% more detector elements, resulting in 70% higher count rate performance<sup>4</sup>.

### ultraHD•PET

Improve image signal-to-noise by utilizing TOF combined with the resolution recovery of HD•PET. Enhance image quality and/or reduce patient acquisition time.

### FlowMotion/FlowMotion AI

Create standardized imaging workflows for fast, reproducible, and personalized results with disease-based protocols that adjust to the patient's anatomy.

### Whole-body dynamic imaging

Simplify workflow for whole-body dynamic imaging that potentially enables new clinical PET applications.



### Multiparametric PET AI

Expand the available parameters and acquisition flexibility, facilitate more reproducible images, and enable absolute quantification.

### OncoFreeze™ AI

Locate and correct anatomy impacted by respiratory motion and increase clinical confidence without additional setup or patient interaction.

### Cardiac imaging

Complete myocardial blood flow (MBF) workflow with automated PET and CT data registration, and fast reconstruction of dynamic datasets, simultaneously with acquisition.

### QualityGuard™

Use intrinsic radioactive properties of LSO to automatically calibrate the scanner—eliminating the need for an external source for daily and weekly PET quality control and saving technologist time.



# CT technology that takes you further

Biograph mCT is engineered as a true dual-modality scanner, which integrates the best performance of both PET and CT into a single compact system. Available in CT configurations of up to 128 acquired slices per rotation, it provides all the functionalities of high-end standalone CT, including intervention, so that it can potentially generate revenue by performing dedicated CT scans. Requiring just one room and one team, it saves you space, time, and cost.

## Experience more CT technologies<sup>3</sup>

### 40-/64-/128-slice CT

Definition class CT offers acquired 40-, 64-, or 128-Edge-slice CT configurations.

### SAFIRE

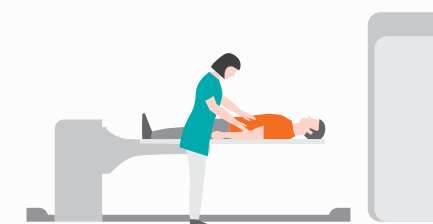
Enhance patient outcomes by delivering excellent image quality at very low doses.

### iMAR

Yield images with a reduced level of metal artifacts compared to conventional reconstruction.



49%



of Biograph mCT users perform standalone CT examinations in addition to PET/CT scans<sup>2</sup>.

### Dual energy

Combine tissue information with morphology using different kV levels.

### FAST CARE CT technologies


Optimize dose, image quality and streamline workflow. Innovations include CARE Dose4D™, CARE kV, and more.

### Radiation therapy (RT) planning

Support RT workflow, including motion management solutions for precise therapy planning.

# Clinical solutions for beyond today

Biograph mCT supports the clinical development of PET/CT imaging in oncology, cardiology, and neurology. Delivering customizable solutions for diagnostic, theranostic, RT planning, and research imaging, Biograph mCT lets you redefine clinical decision-making.




Scanning over


**10,000**

patients per day<sup>6</sup>

**3x** increase   
in adoption of <sup>68</sup>Ga-DOTATATE for  
neuroendocrine imaging since 2018.<sup>5</sup>

 **131%** increase  
in sites performing cardiac <sup>82</sup>Rb PET  
imaging in the U.S. from 2014 to 2021.<sup>5</sup>

 **5x** increase  
in use of prostate-specific  
tracers since 2018.<sup>5</sup>

**87%**   
of RT sites incorporate PET into  
their RT planning protocols.<sup>7</sup>

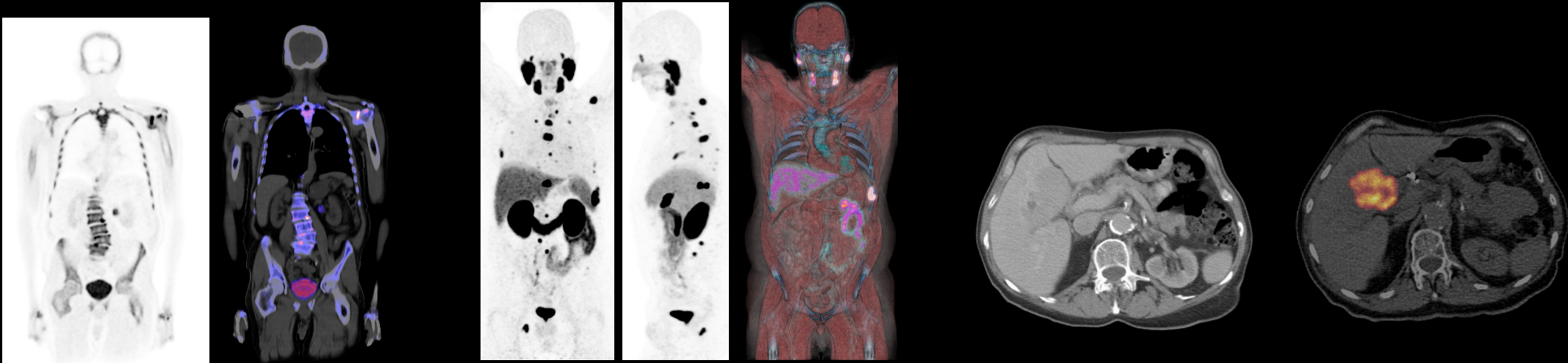




# Clinical solutions for beyond today

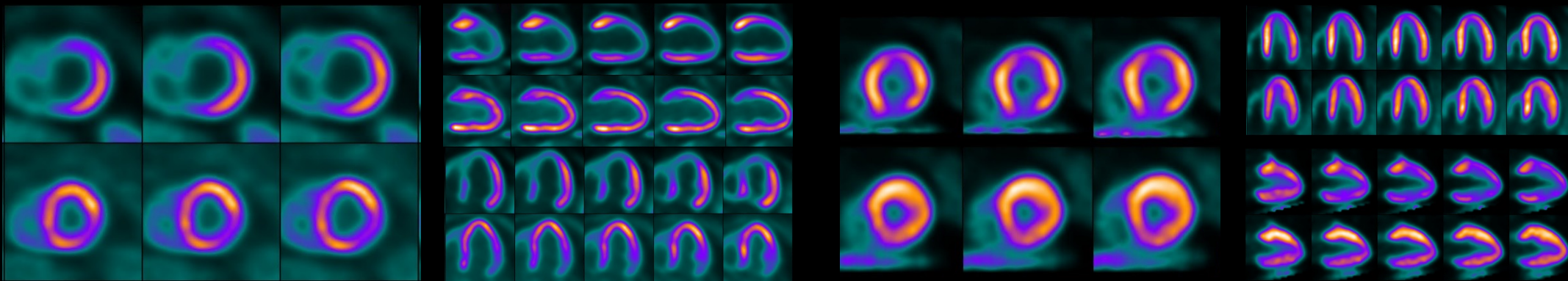
## Oncology

Expand capabilities beyond traditional PET/CT imaging with Biograph mCT. Designed to support low-dose and fast imaging, Biograph mCT enables a comprehensive oncology imaging workflow. Dedicated technologies, such as deviceless gating, whole-body dynamic imaging, and RT planning packages reveal critical details while ensuring patient comfort.



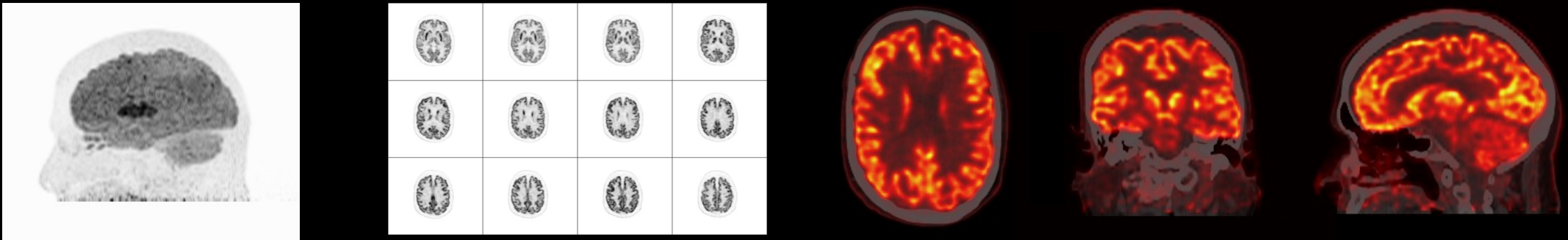
## Cardiology

Biograph mCT delivers a fast and reproducible cardiology workflow. Digital LSO-based detectors enable routine use of short-lived isotopes for cardiac imaging. Cardiac-dedicated features deliver automated PET and CT data registration and fast reconstruction of dynamic datasets simultaneously with acquisition.



## Neurology

Neurology imaging workflows benefit from Biograph mCT's precise delineation of cerebral anatomy with TOF and small, 4 x 4-mm elements—including 78-mm<sup>3</sup> volumetric resolution and a large 400 x 400 acquisition matrix.



Data courtesy: see final page.

# A next-level experience for all

Biograph mCT's large bore and weight capacity combined with AIDAN—our intelligent imaging platform for Biograph PET/CT—let you deliver an enhanced patient and user experience. Accommodate all patients<sup>1</sup> and procedures for both PET and CT with optimized patient positioning and an easy-to-use interface. AI-powered features enable automation for faster, more reproducible workflows—giving you more time with your patients.

**Short, 136-cm tunnel**  
Reduced patient claustrophobia and more room for patient positioning

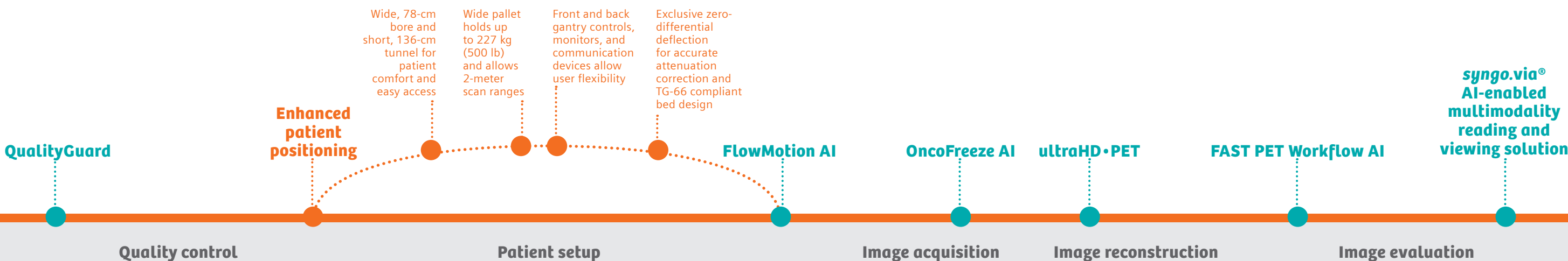
**78-cm bore size**  
Easy patient access and positioning of external accessories

**Large patient imaging**  
Wide pallet that holds up to 227 kg (500 lb) and allows 2-meter scan ranges

**Exclusive bed design**  
Zero-differential deflection for accurate attenuation correction



## Streamlined workflow with intelligent imaging







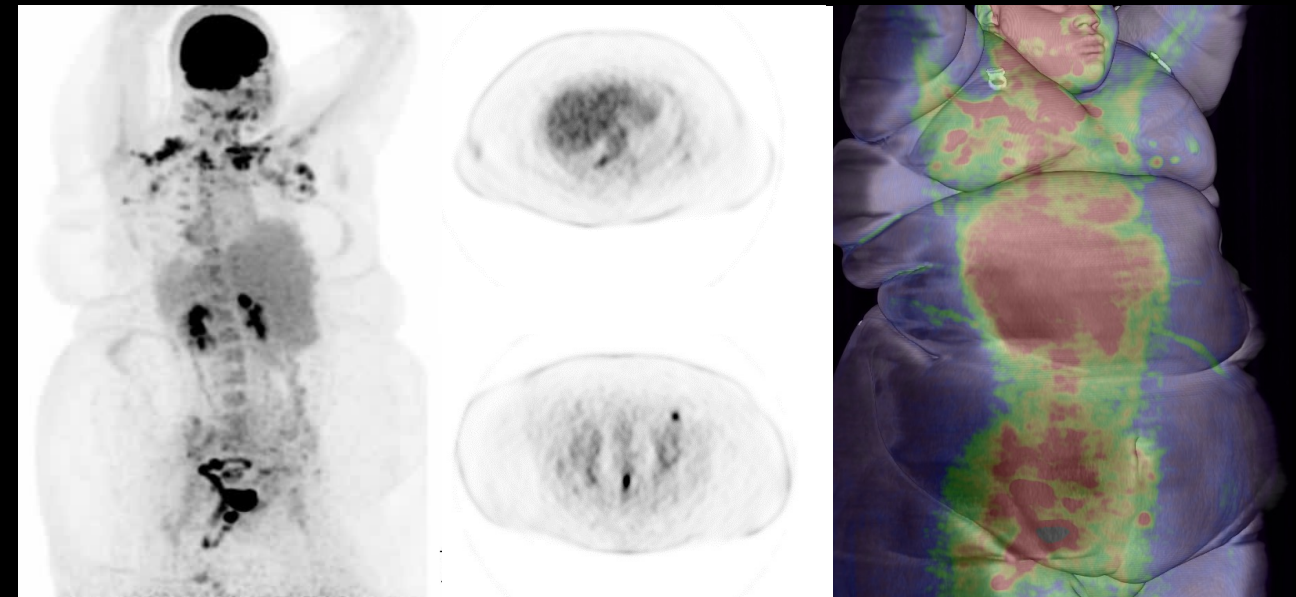
Data courtesy of University of Tennessee, Knoxville, Tennessee, USA.



*“When combined, AIDAN features freed up a considerable amount of time—almost 3 minutes per patient, which now can be used to support additional PET studies.”*

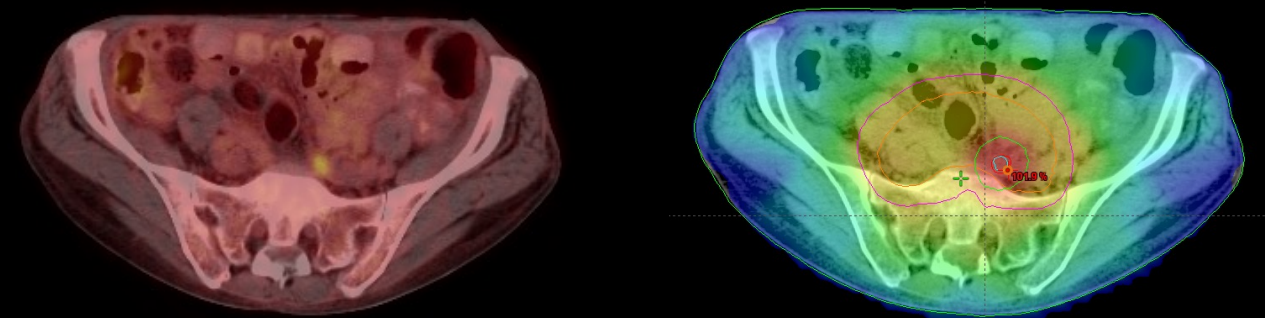
Dustin Osborne, PhD  
Director Clinical Research  
Knoxville, Tennessee, USA

**Biograph mCT’s 78-cm bore delivers high-quality PET/CT images for large patients.**



Data courtesy of The Ohio State University, Columbus, Ohio, USA.

**Delineation of delivery target volume for rectal cancer treatment plan with iliac lymph node metastases**



Data courtesy of Keio University Hospital, Tokyo, Japan.



# Clearly going beyond

Set the standard in PET/CT with Biograph mCT



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Clinical image featured on cover: Data courtesy of University Hospital of Essen, Essen, Germany.

<sup>1</sup> Patient bed weight limit 227 kg (500 lb).

<sup>2</sup> Based on internal measurements available at time of publication. Data on file.

<sup>3</sup> Optional.

<sup>4</sup> With TrueV and time-of-flight option.

<sup>5</sup> IMV 2022 PET Imaging Market Summary Report.

<sup>6</sup> Worldwide data on file.

<sup>7</sup> IMV 2020 Radiation Therapy Market Summary Report.

Clinical images found in order on pages 12-13:

Data courtesy of Northern California PET Imaging Center, Sacramento, California, USA.

Data courtesy of Klinikum Klagenfurt, Klagenfurt, Austria.

Data courtesy of University of Tennessee, Knoxville, Tennessee, USA.

Data courtesy of WVU Medical Center, Morgantown, West Virginia, USA.

Data courtesy of Centre Hospitalier Princesse Grace, Monaco.

The statements by Siemens Healthineers customers described herein are based on results that were achieved in the customer's unique setting. Because there is no “typical” hospital or laboratory and many variables exist (eg, hospital size, samples mix, case mix, level of IT, and/or automation adoption) there can be no guarantee that other customers will achieve the same results.

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