EANM 2017 in Vienna: Hall X4, Booth 401

At EANM 2017, Siemens Healthineers Debuts Biograph Vision PET/CT System, Software Platform

- New Biograph Vision™ PET/CT system¹ designed for time-of-flight performance with a 249-picosecond temporal resolution² using small 3.2 mm LSO crystals²
- Features in new software platform designed to advance clinical capabilities for Biograph Vision as well as established Biograph mCT family of PET/CT systems

At the 30th Annual Congress of the European Association of Nuclear Medicine (EANM), Oct. 21-25 at the Austria Center Vienna, Siemens Healthineers debuts the Biograph Vision¹, a positron emission tomography/computed tomography system designed to deliver a new level of precision in PET/CT imaging. Also at EANM 2017, Siemens Healthineers unveils new software features designed to bring advanced clinical capabilities to the Biograph Vision as well as the company’s established Biograph mCT and Biograph mCT Flow PET/CT systems.

Biograph Vision PET/CT

The Biograph Vision PET/CT system features new Optiso Ultra Dynamic Range (UDR) Detector Technology, which is based on silicon photomultipliers (SiPMs) rather than the photomultiplier tubes (PMTs) that have been the industry standard. This new system design enables Siemens Healthineers to reduce the size of the detector’s lutetium oxyorthosilicate (LSO) crystal elements from 4 x 4 mm to 3.2 x 3.2 mm, resulting in higher spatial resolution, which may improve lesion detectability. Utilizing these extremely small LSO crystals and covering 100 percent of the area of the scintillator array with SiPMs², the Biograph Vision is designed to deliver the industry’s fastest time-of-flight (TOF)¹, with a temporal resolution of just 249 picoseconds².

The Biograph Vision also has a large 78 cm bore that offers 24 percent more space than the industry standard¹. This larger bore is designed for improved patient comfort and
positioning, and for advanced applications in radiation therapy (RT) planning.

The Biograph Vision is designed to fit in a facility’s existing Biograph mCT family of PET/CT systems room with no need for costly renovations.

**New software platform**

The new software platform from Siemens Healthineers contains four optional features that are designed to provide optimal performance to the new Biograph Vision PET/CT system. These software features also will be available as options on the company’s established Biograph mCT family of PET/CT systems.

The QualityGuard feature¹ is designed to self-calibrate the PET detector by tapping natural background radiation from the LSO detectors to run daily and weekly quality control (QC) procedures during off-hours, saving up to 30 minutes of staff time per day². Self-calibration eliminates the need to use a radioactive source for daily and weekly manual calibration, thereby reducing the technologist’s radiation exposure in addition to eliminating the need to lift the radioactive source, which can weigh 25 to 30 lbs.

A second software feature, FlowMotion Multiparametric Suite,¹ is a fully automated solution designed to deliver whole-body PET images of tracer uptake rate and distribution volume, in addition to the standard static PET images.

The OncoFreeze¹ feature is designed to provide images that are virtually free of respiratory motion. Traditionally, respiratory gated images use only select information from a specific portion of the patient’s respiratory cycle, and the rest of the data acquired from the PET/CT scan is discarded. OncoFreeze is designed to use 100 percent of acquired information from the respiratory cycle² and potentially allows for reduced acquisition time.

Finally, CardioFreeze¹ addresses issues associated with cardiac PET/CT image acquisitions. The software is designed to correct for respiratory and cardiac motion. With CardioFreeze, each individual cardiac gate is reconstructed with 100 percent of the data acquired,³ eliminating variability from respiratory and heartbeat motion.
“The Biograph Vision PET/CT system makes a significant leap in performance beyond anything we have ever built,” said Jim Williams, PhD, head of Siemens Healthineers Molecular Imaging. “It has unprecedented time-of-flight speed, extraordinary spatial resolution, and an effective count rate capacity close to triple that of current state-of-the-art devices. With this system, we push back the boundaries of PET imaging and will help to enable our clinical partners to explore a new frontier.”

¹ Biograph Vision, OncoFreeze, CardioFreeze, QualityGuard, and FlowMotion Multiparametric Suite are currently under development and do not yet fulfill all the essential requirements according to the European Medical Device Directive (93/42/EEC) and its national implementations. They are not yet commercially available in the European Union nor available for sale in the U.S. or any other country. Future availability cannot be guaranteed.
² Based on internal measurements at time of publication. Data on file.
³ Based on competitive literature available at time of publication. Data on file.

This press release and press pictures are available at www.siemens.com/press/PR2017100034HCEN

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In fiscal 2016, which ended on September 30, 2016, Siemens Healthineers generated revenue of €13.5 billion and profit of over €2.3 billion and has about 46,000 employees worldwide. Further information is available at www.siemens.com/healthineers.