

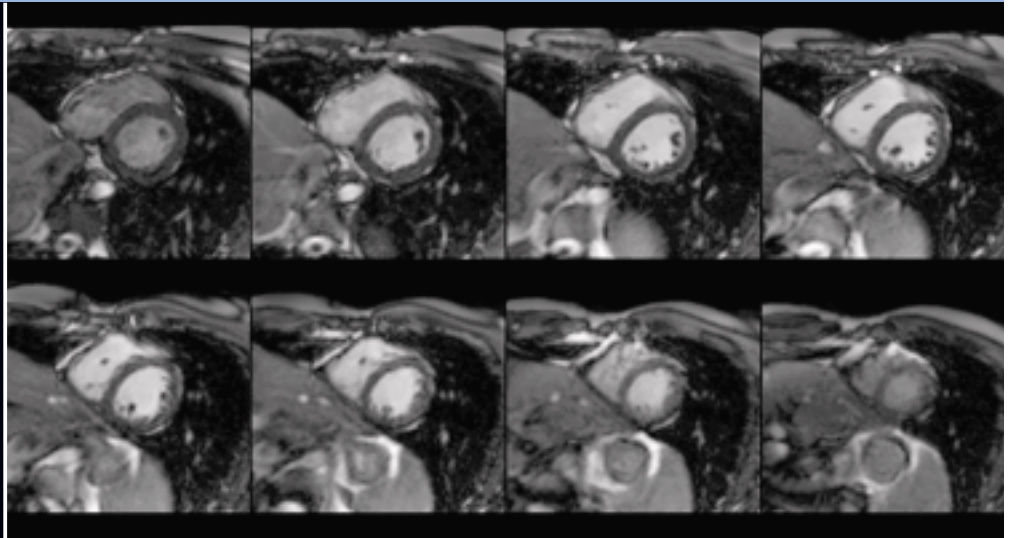
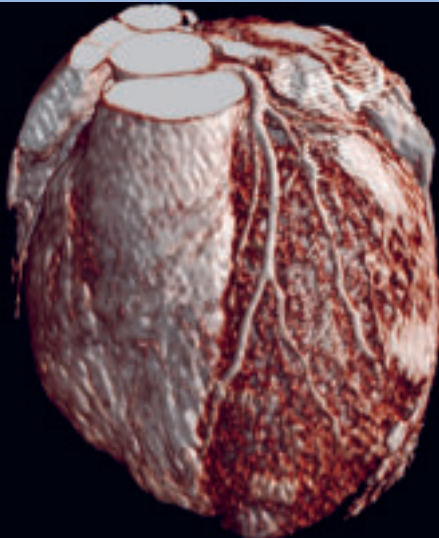
## SINGLE TOOL ALLOWS PHYSICIANS FAST AND INTUITIVE CARDIAC MR SCANNING

Providing a single tool to simplify cardiac magnetic resonance imaging (MRI) examinations, Siemens Medical Solutions recently introduced *syngo*<sup>®</sup> BEAT – the latest version of the groundbreaking software application. Available with the Tim<sup>®</sup> (Total imaging matrix) technology application suite, *syngo* BEAT combines the best of cardiac MRI – morphology, function, tissue characterization, and 3D coronary anatomy – in one simple tool. This enables physicians to detect and diagnose cardiovascular disease earlier and offer more treatment options.

*syngo* BEAT defies the stigma that cardiac MRI is complicated, time consuming, and only used by experts and research centers. This single tool combines everything needed to enable physicians to diagnose cardiac disease, allowing professionals to change parameters with a click of the

mouse – from 2D to 3D, breath-hold to free-breathing, and morphology to functional or tissue characterization. These features allow *syngo* BEAT to adapt to bariatric and pediatric patients, as well as to those who have arrhythmia or shortness of breath, or who are difficult to manage, while increasing patient comfort and confidence. Doctors can now use *syngo* BEAT for most of their cardiac referrals.

“With all the innovations in imaging technology, cardiac MRI today is still seen as a complicated examination that requires a variety of techniques to effectively detect, diagnose and treat cardiac disease states,” says Nancy Gillen, Vice President, MR Division, Siemens Medical Solutions. “*syngo* BEAT provides one easy tool to simplify the process, allowing clinicians to change the types of exams and adapt the exam to the individual patient with a click of the mouse.”



*syngo* BEAT, available with the Tim technology application suite, combines cardiac morphology, function, tissue characterization and 3D coronary anatomy in one simple tool.

## EXCEEDING THE BENCHMARK

Two young, fully digitized cardiology hospitals, The Heart Center of Indiana (THCI) and Nebraska Heart Hospital (NHH), surpass the leading registry's benchmarks. Similar in start-up date, size, specialty, technology implementation, mission, and patient-centered philosophy, their common success is based on focusing on best practices together with their supplier, Siemens Medical Solutions. Consequently, products, services, and technology were combined as a performance solution. Rather than a purchase relationship, the hospitals' teams and Siemens worked together to achieve integrated performance in the clinical, operational, and financial fields. Together, they put outcomes, processes, structure, and patient measures first and financial metrics second.

As a result, THCI and NHH deliver world-class results: For coronary artery bypasses, the average length of stay at THCI

and NHH is 6.4 days and 4.8 days, respectively, compared to the Society of Thoracic Surgeons (STS) benchmark of 9.0 days. Mortality is down to 1.1 percent and 0.9 percent for THCI and NHH, compared to STS's 2.1 percent. In percutaneous coronary intervention, the success rates are 99 percent at THCI and 98 percent at NHH, compared to the American College of Cardiology's (ACC) benchmark of 91.6 percent. More than 98 percent of patients rated THCI care and nursing as "good or excellent", and at NHH, they gave a satisfaction rating of 94 percent. The national average for patient satisfaction in the United States is around 80 percent.

Source: Denham CR. Digital Hospitals Succeed: Old Fashioned Values – New Fashioned Roles. *Journal Patient Saf.* 2005 December; 1 (4).

## A NEW GENERATION IN PRECLINICAL IMAGING

Siemens Medical Solutions introduced Inveon™, a new generation in preclinical imaging. Available as a modular or integrated system, this unique imaging platform enables researchers to leverage any combination of Siemens preclinical hybrid imaging systems and leading-edge applications for improved research opportunities.

Inveon can help facilitate basic research as well as the drug development process, empowering researchers to identify specific biological processes, monitor the efficacy of compounds, and measure the effects of disease progression over time. Furthermore, the system enables unified control of PET, SPECT, and CT data acquisition, and is based on Siemens PICO-3D technology for the industry's highest resolution and sensitivity.

"Siemens preclinical solutions are driving medical research from the laboratory to the clinic," said Michael Reitermann, President, Molecular Imaging Division, Siemens Medical Solutions. "Inveon offers a multiplicity of solutions and the highest performance and versatility available to address research needs from academic and translational research, to drug discovery and development."

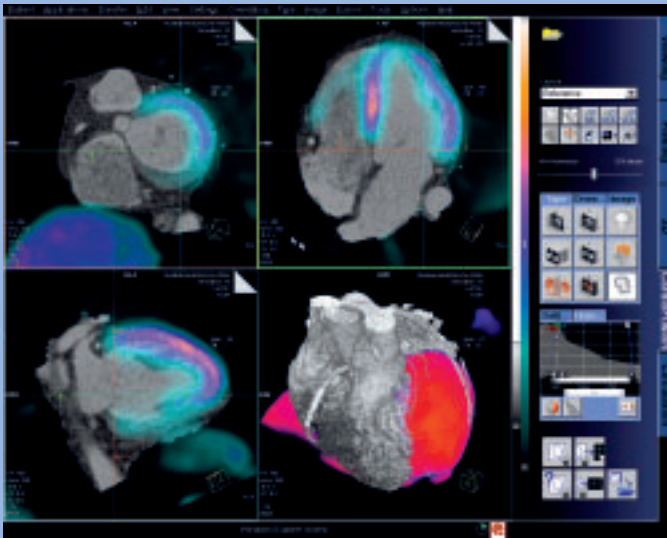
Inveon offers researchers the convenience of a multimodality platform with the potential throughput of two independent

scanners. A dedicated PET module can be used as a stand-alone, high-performance small-animal imaging system, or docked onto the Inveon gantry. When in the docked configuration, the system can operate independently or as a single unit under the control of one workstation. Inveon's integrated and modular configurations are customizable to specific needs, optimizing throughput and making PET/CT, CT/SPECT, or PET/CT/SPECT configurations possible.

Siemens expanded its preclinical applications to include a comprehensive suite of reconstruction algorithms. Inveon offers optimized data acquisition and state-of-the-art image fusion technology, high-end integrated visualization and analysis capabilities, and comprehensive preclinical data analysis and post-process applications.



Inveon enables unified control of PET, SPECT and CT data acquisition.



**syngo CardioFusion** provides advanced VRT visualization to fuse anatomical and functional images of the heart.

## INTEGRATED PLATFORM FOR HYBRID IMAGE VIEWING

*syngo*<sup>®</sup> CardioFusion, based on the *syngo* 3D task card, provides a familiar working environment for the end user. The technology makes it quick and easy to view high-quality images of the heart. Siemens Medical Solutions introduced *syngo* CardioFusion at the 55th Annual Scientific Session of the American College of Cardiology (ACC). This unified platform for visualization of cardiac images from hybrid imaging technologies optimizes the cardiac clinical workflow to enable enhanced diagnostic capabilities.

*syngo* CardioFusion provides several powerful features to streamline the cardiology visualization workflow, including: automatic registration between datasets upon loading of two datasets, advanced visualization/fused VRT2, which is a new display capability that fuses volume rendering techniques (VRT) of two imaging modalities, on-the-spot reorientation of images to American Heart Association display guidelines and simplified reslicing of parallel ranges along the cardiac image planes.

“Cardiac care is a necessity for a growing portion of the population,” says Michael Reitermann, President, Molecular Imaging Division, Siemens Medical Solutions. “Therefore, it is important for physicians to have access to excellent diagnostic technologies. This latest innovation in cardiac visualization facilitates cardiac patient diagnosis and management, which is especially useful for complex studies.”

## NEW SOLUTIONS FOR NEUROSURGERY

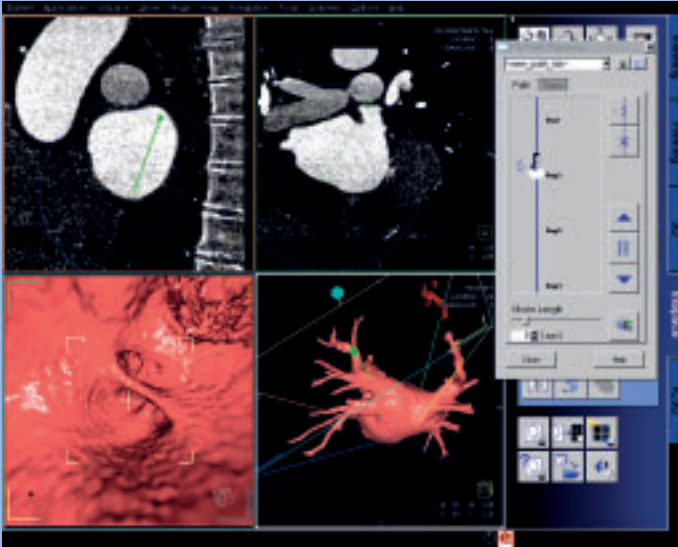
Thanks to an integration of computed tomography (CT), images from the SOMATOM<sup>®</sup> Sensation Open and navigation from BrainLAB, Inc., the University Hospital Munich-Grosshadern, Germany, can operate more precisely and therefore more patient-friendly. The neurosurgery clinic inaugurated its new surgery room with a so-called sliding gantry of the SOMATOM Sensation Open. Because of the bigger gantry bore of the SOMATOM Sensation Open (82 cm), the patient can be scanned in lateral positioning and also with a head clamp, which is regularly used in neurosurgery. Also, patients do not have to be moved for imaging since the CT gantry slides over them. Therefore, SOMATOM Sensation Open is an ideal imaging solution for use during surgery. A real novelty is the cooperation with BrainLAB. It provided an integrated solution of CT imaging from Siemens with the navigation system of BrainLAB. “Through the joint work, we learned a lot about improving clinical workflow,” says Frank Engel-Murke, product manager at Siemens CT Division.

The integrated solution works as follows: The position of the patient and the surgical instruments are tracked in real time, and dedicated software integrates this information with the pre- and intra-operative acquired CT images. “Operations are less invasive and more accurate,” summarizes Jörg-Christian Tonn, MD, Director of the Neurosurgery Department at Munich-Grosshadern.



**KLAUS PETER, MD**, Medical Director of the University Hospital Munich (left) and **Jörg-Christian Tonn, MD**, (right) inaugurate the surgery room with the SOMATOM Sensation Open sliding gantry.

## PROFESSIONAL 3D PERFORMANCE WITH SYNGO INSPACE EP



**EXPLORING** the individual morphology of the patients pulmonary veins requires only two steps: segmentation of the LA with one mouse click and activating of the fly functionality.

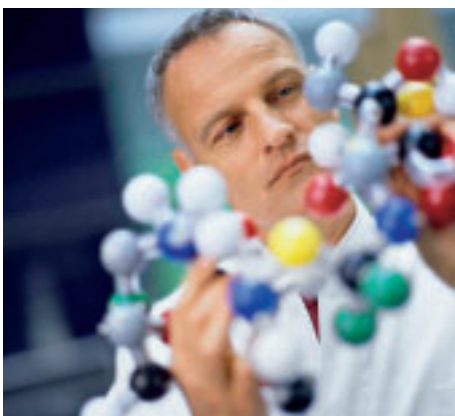
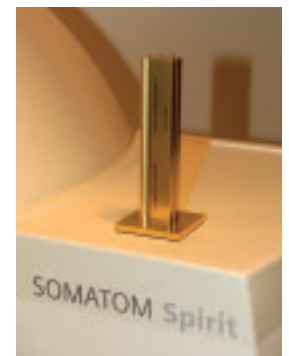
syngo® InSpace EP enables physicians to improve examinations and assists in planning, therapy, and follow-up of atrial fibrillation procedures – with previously unknown speed. The new software syngo InSpace EP was created to optimize workflow in the EP lab. It integrates preprocedural cardiac CT or MRI images into daily clinical routine and provides a 3D visualization of the left atrium (LA) and the pulmonary veins. Offering a one-click segmentation of the left atrium, syngo InSpace EP reduces time-consuming manual interactions; and the so-called fly functionality allows an endoscopic view. Additionally, the esophagus can be visualized. To accelerate ablation procedures, the AutoMap function synchronizes the C-arm of AXIOM Artis to the movement of the displayed 3D image and vice versa. Thus, users can find the optimal working projection faster and save dose. Additionally, due to its in-room display and control, syngo InSpace EP enables working under sterile conditions at the tableside.

## AND THE WINNER IS ...

When it comes to winning design awards, Siemens computed tomography (CT) systems seem to have a regular subscription. This year, the SOMATOM® Spirit won an iF gold award at the product design contest of the International Forum Design GmbH in Hannover, Germany. The jury awarded the prize during the iF award ceremony at the IT fair CeBIT. The SOMATOM Spirit convinced the jury due to its attractive design, innovation, and functionality.

Each year, the International Forum Design bestows the well-known iF product design award. Fifty products won an iF gold award in 2006. About 1,000 participants from 37 countries had applied with 1,952 products and concepts.

The SOMATOM Spirit, together with the SOMATOM Vision, a recent design study of a future CT system, was also short-listed for the 2006 Design Award of the Federal Republic of Germany.



**MI LIFENET** and MI University are helping Siemens customers stay ahead of their peers.

## STAYING AHEAD OF THE CURVE

Molecular Imaging University, a fundamental part of MI LifeNet, a Siemens customer care initiative, provides a substantive training resource for Siemens Molecular Imaging customers. Designed to be used by interpreting and referring physicians and technologists, MI University demonstrates the benefits of PET-CT and SPECT-CT systems, including when and how hybrid imaging influences patient management. Available within the MI LifeNet online portal, MI University provides access to valuable clinical data

and case studies, video lectures, product information, and a means of information exchange among peers.

Access to the MI LifeNet customer portal is free and available to all US Biograph™ PET-CT customers, and it also offers some additional fee-based, premium components. MI LifeNet is expanding very quickly to other facets of molecular imaging and will have international availability this fall. Customers can access and preview MI LifeNet and MI University through [www.smlifenet.com](http://www.smlifenet.com).