At RSNA ’12, Siemens Offers Imaging Innovations to Visualize Answers to Disease

The Associated Press

CHICAGO--(BUSINESS WIRE)--Nov 25, 2012--At the 98thScientific Assembly and Annual Meeting of the Radiological Society of North America (RSNA), from November 25 to 30 in Chicago, Siemens Healthcare (Booth #831, East Building/Lakeside Center at McCormick Place, Hall D) will provide imaging innovations to help the medical community visualize answers to life-threatening diseases – in ways that invite new clinical possibilities for detection, more accurate diagnosis, and more targeted therapy. These innovations demonstrate Siemens’ innovation and competitiveness – two components of the Healthcare Sector’s Agenda 2013 global initiative.

“At this year’s RSNA, Siemens will offer technologies and solutions that help our customers transition to next-generation healthcare by improving diagnostic and treatment accuracy as well as elevating the efficiency of care for the world’s most threatening diseases,” said Hermann Requardt, CEO, Siemens Healthcare. “Siemens also will demonstrate how our high-quality, economical systems and information technology can help improve patient and staff access to imaging. Additionally, we will illustrate how our latest imaging systems can help customers increase their efficiency and efficacy in their daily clinical routine. This is what Siemens has always provided: answers, visualized.” At RSNA 2012, Siemens will showcase the following technologies: Angiography In angiography, Siemens is presenting the unique new imaging application syngo® DynaPBV Body, which introduces 3D functional information for body imaging directly in the interventional lab. syngo DynaPBV Body provides color-coded, cross-sectional blood volume maps, e.g. for tumors. The application can help physicians select patient-specific treatment options such as chemoembolization or radioembolization as well as help physicians monitor treatment and determine the end point of therapy during an interventional procedure. syngo DynaPBV Body follows Siemens’ first application for functional imaging during interventional procedures – syngo DynaPBV Neuro, released in 2009. syngo DynaPBV Body differs from the neuro application in its ability to compensate for motion in the region of interest.

Computed Tomography Siemens will again underscore its position as a leader in computed tomography (CT) radiation reduction, demonstrating how facilities can reduce overall radiation exposure. The KLAS “CT 2011: Focused on Dose” report established that customers regard Siemens as “industry’s low-dose leader.” One recent example of Siemens’ preeminence in CT dose reduction is its SAFIRE [1] (Sinogram Affirmed Iterative Reconstruction) alogrithm, which, with a reconstruction speed of up to 20 images per second, can be used in daily clinical routine to help users reduce patient dose by up to 60% compared to previous filtered back projection techniques.

This year saw the first U.S. installations of Siemens’ latest CT systems, which debuted at RSNA 2011: the SOMATOM ® Definition Edge and the SOMATOM Perspective. The SOMATOM Definition Edge single-source CT solution offers high image quality, dose reduction and dual energy acquisition in clinical settings, including the emergency department (ER). The SOMATOM Definition Edge features the unique Stellar detector, which for the first time fully integrates the detector’s miniaturized electronics within the photodiode. The SOMATOM Perspective is designed to enable budget-conscious community hospitals, critical access hospitals, and outpatient centers to extend the range of available examinations to their communities at reduced radiation dose. With Fully Assisting Scanner Technologies (FAST) such as FAST Planning and FAST Cardio Wizard to help simplify and automate time-consuming procedures, the 128-slice SOMATOM Perspective features a slim gantry design and a footprint of 194 square feet. At this year’s RSNA, Siemens will unveil a 64-slice version of the SOMATOM Perspective.

Magnetic Resonance Siemens MR scanners MAGNETOM ® Aera 1.5 Tesla and MAGNETOM Skyra 3 Tesla are now available with syngo MR D13 – the latest MR software platform. The 2009 introduction of the MAGNETOM Aera and Skyra introduced two key MR technologies: Tim (Total imaging matrix) integrated coil technology in the 4th generation – Tim 4G – and Dot (Day optimizing throughput), which includes a customizable suite of engines that enable high consistency, productivity, and greater ease of use. The new syngo MR D13 software platform offers unique functionalities for image acquisition as well as new Dot engines for breast, spine, and large joint examinations. Imaging-related highlights include syngo WARP, allowing for imaging of patients with MR-conditional metal implants, and syngo RESOLVE high-resolution diffusion-weighted imaging. The new technique syngo CAIPIRIHINA has the potential to half the time of liver examinations. Syngo MR D13 is also available for Siemens’ MAGNETOM Avanto 1.5T and MAGNETOM Verio 3T systems – for new systems as well as for field upgrades.

Siemens continues to enable access to leading and innovative MR technologies with the attractive total cost of ownership of its MAGNETOM Spectra 3T and MAGNETOM Essenza 1.5T systems. Facilitating access to 3T technology for hospitals and radiological institutes, the MAGNETOM Spectra is characterized by excellent image quality, fast scan times, and easy operation. With more than 1,000 customers, MAGNETOM Essenza features Tim, which allows for high accuracy, flexibility, and speed, facilitating more reliable workflow in MR imaging. Tailored to user workflow, MAGNETOM Essenza can help physicians treat up to 60 patients per day.

Molecular Imaging The Molecular Imaging business unit of Siemens Healthcare offers the world’s first comprehensive imaging solution for the visualization and quantification of amyloid plaques – a necessary pathology of Alzheimer’s disease – in the living brain. This comprehensive imaging solution includes the new Biograph™ mCT positron emission tomography/computed tomography (PET•CT) scanner (with the industry’s highest volumetric resolution [2] of 87 mm [3] that enables physicians to more accurately differentiate brain matter), the syngo®.PET Amyloid Plaque software [3] – which enables the physician to evaluate amyloid plaque density in the living brain – and the radiopharmaceutical production and distribution expertise of PETNET Solutions, a wholly-owned subsidiary of Siemens. This unique

combination of scanner, software, and PET radiopharmaceutical expertise provides U.S. physicians with a valuable tool for the evaluation of Alzheimer’s disease and other neurologic conditions.

Siemens also will highlight the Symbia ™ family of scalable single-photon emission CT (SPECT)•CT solutions, including its unique IQ•SPECT technology ⁴, which enables myocardial perfusion imaging using half the dose at double the speed. Additionally, Siemens will showcase the new iPad application for Symbia.net, which allows access to full processing and reading capabilities anywhere.

Radiation Oncology The strategic global partnership between Siemens Healthcare and Varian Medical Systems, which took effect October 26 in North America following an international rollout earlier this year, provides advanced diagnostic and therapeutic solutions and services for treating cancer with image-guided radiotherapy and radiosurgery. The Siemens/Varian collaboration covers the mutual marketing and representation of products for imaging and treatment in the global radiation oncology business. Varian will represent Siemens diagnostic imaging products such as CT, PET•CT, and MRI to radiation oncology clinics in North America and in most international markets. Similarly, Siemens will represent Varian equipment and software for radiotherapy and radiosurgery within its offerings to its healthcare customers. This collaboration includes the development of software interfaces between Siemens and Varian treatment systems, including an interface that will enable Varian’s ARIA ® oncology information system software to support Siemens accelerators and imaging systems. Additionally, the two companies will investigate opportunities for joint development of new products for image-guided radiotherapy and radiosurgery.

Radiography and Surgery In X-ray, Siemens is showcasing the Mobilett Mira, the company’s first mobile digital X-ray system that has both a wireless and a wired detector that transmits image data via W-LAN to an integrated imaging system, facilitating examinations of critically ill patients with limited mobility. One of the smallest mobile X-ray systems available and possessing a resolution exceeding 7 million pixels, the Mobilett Mira features a detector that delivers image quality comparable to high-resolution stationary systems and works with very short exposure times beyond one millisecond. Furthermore, its mobile X-ray swivel arm system not only moves vertically but also rotates up to 90 degrees.

Luminos Agile is the first patient-side controlled system with a dynamic flat detector, height-adjustable table and true dual-use capability for fluoroscopy and radiography. Luminos Agile’s 17 x 17 inch dynamic flat detector yields an image that is up to 116 percent larger and allows for better patient coverage than a 13-inch image intensifier, enabling users to view objects without repositioning the patient or changing the field of view, and reducing overall fluoroscopy time and dose.

Ultrasound The ACUSON X700 ™ ultrasound system offers exceptional image quality, robust technologies and intelligent workflow solutions at an excellent price/performance ratio. Many advanced imaging technologies that were previously available only on premium systems are now standard on the ACUSON X700 system.

Dynamic TCE ™ tissue contrast enhancement technology enhances borders and reduces speckle/noise to improve subtle tissue differentiation. Advanced SieClear™ spatial compounding enhances anatomic border definition and improves tissue contrast. Siemens has migrated its patented MicroPinless (MP) transducer connectors from its premium platforms to the ACUSON X700 system. MP connectors offer the highest signal fidelity and improve the signal-to-noise ratio to enhance signal quality. The transducers are compatible with Siemens’ ACUSON S Family ™, ACUSON X Family ™, and ACUSON Sequoia ™ ultrasound systems to increase flexibility and investment value. The ACUSON X700 system also features a new, single-solution, 50-millimeter aperture linear array transducer for both superficial and deep imaging. The proprietary Hanafy lens transducer technology provides continuous focusing and image uniformity while delivering superb contrast and detail resolution. Technologies like 3-Scape ™ real-time 3D imaging and Advanced four Sight ™ technology support the 3D/4D imaging required for abdominal, fetal and gynecological examinations. Advanced cardiac imaging applications such as intracardiac echocardiography imaging (ICE) support procedure visualization and device placement monitoring.

Integrating high-performance hardware and software, the compact ACUSON P300 ™ ultrasound system is designed to provide high performance and reliability for a wide variety of clinical settings ranging from general to cardiovascular and from obstetrics and gynecology (OB/GYN) to specialty imaging, including breasts and small parts. To support routine as well as specialty application needs, the ACUSON P300 system features advanced image optimization technologies such as speckle reduction and spatial compounding, which optimize imaging data to improve diagnostic confidence and enable efficient clinical workflow. The ACUSON P300 system comes with 13 multi-frequency transducers that feature a frequency range of up to 18 MHz, allowing a selection of several different frequencies to meet different scan depth requirements without the need to change transducers.

[1] In clinical practice, the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. The following test method was used to determine a 54 to 60% dose reduction when using the SAFIRE reconstruction software. Noise, CT numbers, homogeneity, low-contrast resolution and high contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with SAFIRE showed the same image quality compared to full dose data based on this test. Data on file.

[2] Based on competitive information available at time of publication. Data on file.

[3]syngo.PET Amyloid Plaque is intended for use only with approved amyloid radiopharmaceuticals in the country of use. Users should review the drug labeling for approved uses.

[4] The Symbia.net iPad app is intended for non-diagnostic imaging only.

Launched by Siemens Healthcare Sector in November 2011, Agenda 2013 is a two-

year global initiative to further strengthen the Healthcare Sector's innovative power and competitiveness. Specific measures will be implemented in four fields of action: Innovation, Competitiveness, Regional Footprint, and People Development.

The Siemens Healthcare Sector is one of the world's largest suppliers to the healthcare industry and a trendsetter in medical imaging, laboratory diagnostics, medical information technology and hearing aids. Siemens offers its customers products and solutions for the entire range of patient care from a single source – from prevention and early detection to diagnosis, and on to treatment and aftercare. By optimizing clinical workflows for the most common diseases, Siemens also makes healthcare faster, better and more cost-effective. Siemens Healthcare employs some 51,000 employees worldwide and operates around the world. In fiscal year 2012 (to September 30), the Sector posted revenue of 13.6 billion euros and profit of 1.8 billion euros. For further information please visit: www.siemens.com/healthcare.

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