

Healthcare Sector Division Imaging & IT / Workflow & Solutions

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Siemens Provides Breast Care Solutions

Comprehensive solutions that follow the complete continuum of breast care

Siemens Healthcare showcases the clinical workflow of breast cancer care at the 94th Scientific Assembly and Annual Meeting of the Radiological Society of North America (RSNA) in Chicago. From early detection and diagnosis through therapy and aftercare, Siemens demonstrates its comprehensive portfolio of innovations for women's health.

Breast cancer is the most frequently diagnosed cancer in women. In 2007, 1.3 million cases were diagnosed and 465,000 women died worldwide¹. The National Cancer Institute estimates that a woman has a 1 in 8 chance of developing breast cancer during her lifetime. But even with statistics as these, the good news is that advanced diagnostic and treatment technology developments have helped reduce death from breast cancer by approximately 24 percent since 1992.

“For clinicians, and certainly for patients, breast cancer care has now become a truly personalized clinical workflow,” said Thomas Miller, CEO, Workflow & Solutions, Siemens Healthcare. “The clinical focus is first on early detection, and then differential diagnosis, staging, and precise characterization of the nature of the disease so that an individualized and customized treatment plan can be selected. Siemens understands this, and we have unique technologies to deliver an integrated solution allowing our customers to deliver the best, as well as the most efficient standard of care.”

Through a unique combination of advanced imaging, laboratory diagnostics, and information technologies, Siemens' innovations help physicians detect, diagnose and treat breast cancer in its earliest, most treatable stages, as well as providing them with comprehensive after-care solutions. This holistic approach enables shorter exams, streamlined workflow, and improved patient outcomes. With clinical guidelines suggesting different types of exams for breast care, imaging technologies are playing an increasing role in all stages of breast care. At RSNA, Siemens is

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showcasing its latest advancements in breast ultrasound and magnetic resonance imaging (MRI), as well as the next-generation of digital mammography systems.

Magnetom Espree – Pink

The American Cancer Society's new screening guidelines recommend that high-risk women receive an annual MRI, which could impact up to 1.4 million women.¹ Siemens' latest innovation in MRI, the Magnetom Espree – Pink, is a dedicated MR breast scanner which combines the Open Bore design of the Magnetom Espree with the Sentinelle Vanguard for Siemens, a breast coil solution that offers exceptional breast imaging and biopsy access. Magnetom Espree – Pink offers unmatched patient comfort, unique applications, and an innovative workflow pushing MRI Breast Care to the next level.

The Magnetom Espree – Pink offers the same unprecedented level of patient comfort of the Magnetom Espree, the world's first Open Bore MRI. Enabling feet-first and head-first positioning and excellent access to perform biopsies, the system has unparalleled openness with a 70 cm Open Bore and the shortest system on the market (125 cm) for increased comfort.

This MR system provides a comprehensive portfolio of routine and advanced applications for breast care, including syngo VIEWS for routine imaging, syngo GRACE for spectroscopy, and syngo BLADE for motion-free imaging results. An integral part of Magnetom Espree – Pink is the design of the Sentinelle Vanguard coil for Siemens. This coil technology, combined with the system's dedicated multi-modality workplace, creates a powerful solution that offers exceptional speed and versatility and enhanced workflow.

Acuson S2000 Automated Breast Volume Scanner (ABVS)

In a 1998 study published in the *New England Journal of Medicine*², the detection rate for non-palpable, invasive breast cancers increased by 42 percent in women with dense breasts when mammography was followed by an ultrasound exam. The Acuson S2000 ABVS³ system automatically and quickly acquires full-field sonographic volumes for comprehensive review and diagnosis of the breast streamlining workflow and reducing operator dependence and variability. The system also features the intuitive, anatomical coronal plane not available using conventional ultrasound. This view provides a more understandable representation of the global anatomy and architecture of the breast. Semi-automated reporting and comprehensive BI-RADS reporting capabilities further enhance the clinical workflow.

The Acuson S2000 ABVS system has an innovative, mobile in-suite design, combining the advanced Acuson S2000 ultrasound system with a transducer specifically designed for automated ultrasound breast volume imaging. To further optimize high-volume patient care, the system also supports innovative breast imaging applications, such as fatty tissue and eSie Touch elasticity imaging.

3D Tomosynthesis

The latest technology now under development in full-field mammography, breast tomosynthesis⁵ is a 3D imaging technology that acquires 2D projection images of a compressed breast at multiple angles during a sweep of the X-ray tube. Poised to enhance mammography, the new technology will take the two-dimensional images and reconstruct them to reveal depth – the third dimension of anatomy. Tomosynthesis slices have the potential to show tumors that are covered by overlaying tissue in 2D imaging.

Mammomat Inspiration

Siemens' digital mammography platform Mammomat Inspiration is the first system in industry upgradeable on-site to tomosynthesis (WIP). Its basic system architecture including stand, generator, detector and software is already prepared for future 3D imaging with tomosynthesis. In addition the mammography platform is ideally suited for high-volume screening, diagnostics and stereotactic biopsy. At the moment, 125 Mammomat Inspiration have already been installed worldwide, since its launch in December 2007.

“Siemens' unique strength is our ability to integrate in-vivo and in-vitro diagnostics with therapeutics and clinical workflow knowledge to support the worldwide battle against breast cancer,” said Miller. “Patient care and positive outcomes are at the core of our mission – and that is just how it should be.”

¹Global Cancer Facts and Figures 2007.

²*New England Journal of Medicine*, Vol. 356, No. 5: 227-263.

³This product is pending 510(k) review and is not yet commercially available in the U.S.

⁴Caution: Investigational device. Limited by U.S. Federal Law to Investigational Use. This is a Works in Progress and not yet commercially available in U.S.

⁵Caution: Investigational device. Limited by U.S. Federal Law to Investigational Use. The information about Digital Breast Tomosynthesis is preliminary. This product is under development and not commercially available in the U.S., and its future availability cannot be ensured.

The **Siemens Healthcare Sector** is one of the world's largest suppliers to the healthcare industry. The company is a renowned medical solutions provider with core competence and innovative strength in diagnostic and therapeutic technologies as well as in knowledge engineering, including information technology and system integration. With its laboratory diagnostics acquisitions, Siemens Healthcare is the first integrated healthcare company, bringing together imaging and lab diagnostics, therapy, and healthcare information technology solutions, supplemented by consulting and support services. Siemens Healthcare delivers solutions across the entire continuum of care – from prevention and early detection, to diagnosis, therapy and care. Additionally, Siemens Healthcare is the global market leader in innovative hearing instruments. The company employs more than 49,000 people worldwide and operates in 130 countries. In the fiscal year 2008 (Sept. 30), Siemens Healthcare reported sales of €11.17 billion, orders of €11.78 billion, and group profit of €1.23 billion. (Preliminary figures) Further information can be found by visiting <http://www.siemens.com/healthcare>.