

### **Siemens introduces MRI power couple at RSNA 2009**

#### **Imaging innovations offer 30 per cent more productivity**

At this year's Radiological Society of North America (RSNA), Siemens introduced its latest innovations in MRI. The MAGNETOM® Aera\* 1.5 Tesla and MAGNETOM® Skyra\* 3 Tesla systems have been designed to transform productivity and improve the patient experience.

Siemens also showcased the next generation of its Tim® (Total imaging matrix) technology along with the new Dot™ (Day optimising throughput) engine. Tim supplies the power needed for superb image quality while Dot takes away the complexity inherent in MR scanning. The Aera and Skyra are the first scanners to incorporate both new technologies.

“Fast, efficient workflow solutions are vital in today's healthcare environment,” said Jane Kilkenny, MR Product Manager at Siemens Healthcare. “The latest version of our unique Tim technology, combined with the new Dot engine will deliver faster, more efficient throughput for up to 30 per cent more productivity per day.”

The 70cm Open Bore design of both MRI systems accommodates a large variety of patient sizes, shapes and conditions. A friendly and open appearance helps to reduce sedation rates, minimises stress for claustrophobic patients and leads to higher throughput and more referrals. The super-short magnets enable many studies to be completed with the patient's head outside the bore while still supporting a full 50cm Field of View (FoV) (45 cm in z-direction). An illuminated MoodLight cover on both systems also allows the user to select the colour of the front panel.

Tim 4G offers a completely redesigned RF system and a new innovative coil architecture that packs more coil elements into a smaller space (up to 204 coil elements with 48 channels as standard configuration), unlocking the possibility of higher element configurations and higher signal-to-noise ratio (SNR). The result is high-resolution imaging that maintains its quality even when zooming in on multi-station images. With up to 128 channels, Tim provides enough channels to use ultra-high density coils.

Tim also enables increased resolution and a total FoV of up to 205cm with no coil or patient repositioning. Flexible Parallel Imaging is also possible, enabling simultaneous parallel acquisition in two directions for fast, high-resolution 3D data in a breath hold; this is supported by inline multiplanar reconstruction (MPR) capabilities.

The DirectConnect coil design provides cableless coils for fast and easy setup and higher SNR. For flexible coils, one-hand operation with SlideConnect makes patient set-up even easier. Tim's lightweight coils can be seamlessly integrated to support large anatomic coverage, for instance, combining head, neck, body and spine coil elements to create a neurovascular array.

Dot makes it easy to get the best possible results for virtually any type of patient, providing tailored, optimised scans configurable to patient condition or clinical question. Dot proposes optimal exam strategies, requiring only confirmation prior to scanning. It also adapts to each patient's breath-hold capacity and then links to the optimum scanning protocol. Personalised, high-quality exams can be easily reproduced even when conditions change for consistent examinations.

With real-time on-board guidance, Dot guides the user step by step through even the most complicated exams, providing instant help, how-to descriptions and example images. At critical steps in the scanning process, decision points are presented; the user can then add or eliminate protocols or groups of protocols with the click of a button. Steps, images, text, and protocols can all be customised to follow individual standards of care. Patient data and positioning information is also provided at the scanner for accurate and fast patient setup.

Dot links proper protocols and procedures, so that the optimal FoV is instantly estimated. Furthermore, automated slice positioning and alignment provides fast and robust image quality across all patients. Dot also integrates AutoVoice Commands into the scan process, ensuring the synchronised timing of breathing and scanning, while lowering variability and stress for the MRI technologist. Dot offers optimised engines for brain, cardiac, abdomen, knee, angiographic and oncology exams.

**Notes to editors:**

\* The product requires 510(k) review and is not commercially available in the US.

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**About Siemens Healthcare**

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 optimising clinical workflows for the most common diseases, Siemens also makes healthcare faster, better and more cost-effective. Siemens Healthcare employs some 48,000 employees worldwide and operates around the world. In fiscal year 2009 (to September 30), the Sector posted revenue of 11.9 billion euros and profit of around 1.5 billion euros. For further information please visit: [www.siemens.com/healthcare](http://www.siemens.com/healthcare).

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**Picture caption:** Siemens Healthcare introduced the MAGNETOM® Aera 1.5 Tesla MRI with Tim® and Dot™ technology at this year's RSNA.

