

** This system is a Research Tool and is intended for Investigational Use Only. This information is preliminary. The system is under development and not commercially available in the U.S., and its future availability cannot be ensured.*

7T* MRI

Explore the Future of MRI. Today.

www.siemens.com/healthcare

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MAGNETOM Systems • MAC Print

7T* MRI

Explore the Future of MRI. Today.

With more and more applications calling for higher resolution images, ultra-high-field MRI technology has become compulsory for leading institutions. 3T MRI is already clinical reality. 7T* MRI now emerges as the equipment of the elite, the new research and development frontier.

7T* MRI provides the potential for microscopic spatial resolution visualizing anatomy previously unseen. In addition, it enables the observation and analysis of tissue metabolism and function.

7T* MRI is a great instrument for research and development of molecular imaging methods, promising a whole new world of applications such as personalized medicine.

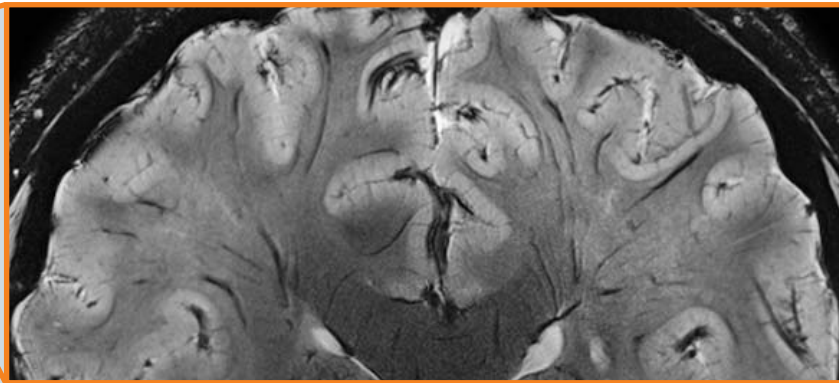
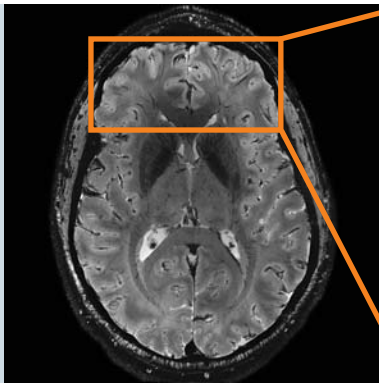
With its expertise in developing and manufacturing high-performance and high-quality gradients, Siemens has been recognized as a leader in the field of 7T*, and 15 Siemens 7T* systems are already up-and-running worldwide. This leadership in technology and applications is supported by intensive collaboration activities including dedicated MAGNETOM World 7T* users meetings. Technological innovation will continue to drive the dynamics of the healthcare industry into the future, as it did in the past century. With the 7T* program, Siemens seeks to ensure that it will continue to lead successfully in this most challenging market.

World-wide MAGNETOM 7T* users:

- MGH, Boston, USA
- Institute for Neuro-Biology, Magdeburg, Germany
- NYU, New York, USA
- Gachon University, Seoul, Korea
- Center for MR Research, Minneapolis, USA
- Max Planck Institute, Leipzig, Germany
- Oregon Health, Portland, USA
- Center for Imaging in Biomedicine, Lausanne, Switzerland
- Medical University Hospital, Vienna, Austria
- ELH, University Hospital, Essen, Germany
- Max Planck Institute, Tuebingen, Germany (9.4T)
- CEA, Paris, France
- UPMC, Pittsburgh, USA
- DKFZ, Heidelberg, Germany
- Forschungszentrum, Jülich, Germany (9.4T)
- HUP, Philadelphia, USA
- MDC, Berlin, Germany

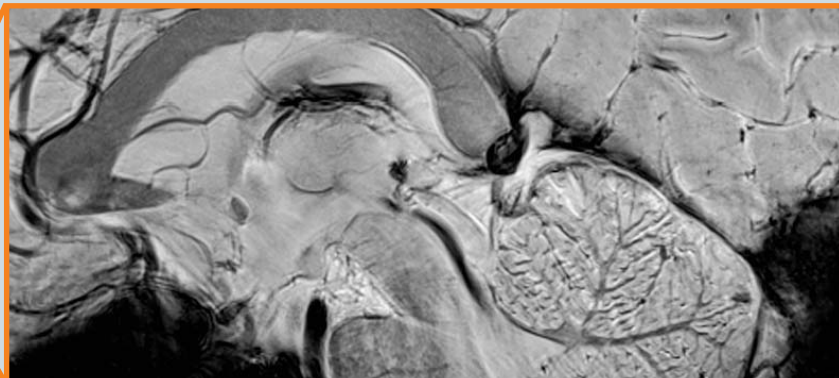
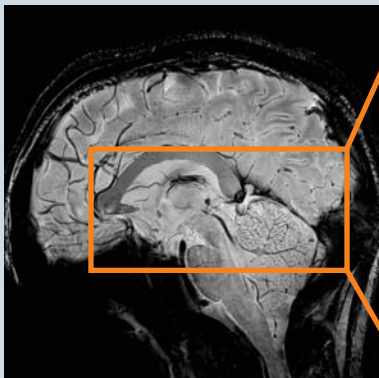
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Non-invasive visualization of microscopic anatomy in-vivo.
Imaging with 32-channel Head coil, 48 voxel dimensions in TA 8 min.
Courtesy of MGH, Boston, USA



Zooms of the images in the left show exquisite details

MR Histology in-vivo.
Imaging with 24-channel head coil. Courtesy of Gachon University Hospital, Seoul, Korea





Unique and one of the most complete portfolios

7T* Whole-Body Scanner

Available with TQ-engine whole-body gradient (45 mT/m amplitude and 200 T/m/s slew rate) and head gradient insert (80 mT/m amplitude, 400 T/m/s slew rate).

7T* Head Scanner

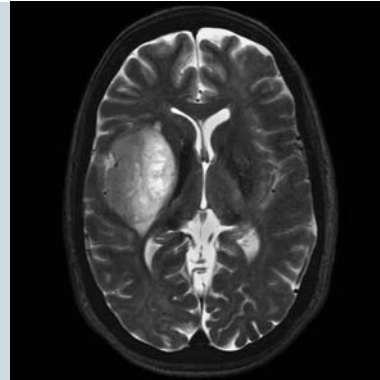
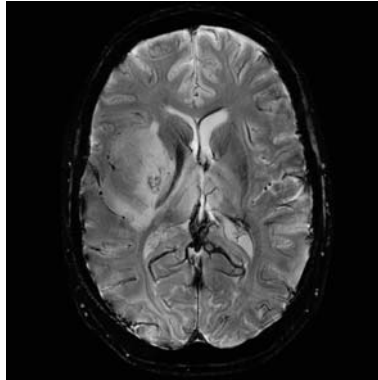
Actively shielded 2.20 m long magnet with 36 cm bore diameter, enables siting of 7T* in a conventional 3T foot print. Available with ultra-high performance gradient coil (80 mT/m amplitude, 400 T/m/s slew rate).

ClinScan 7T*

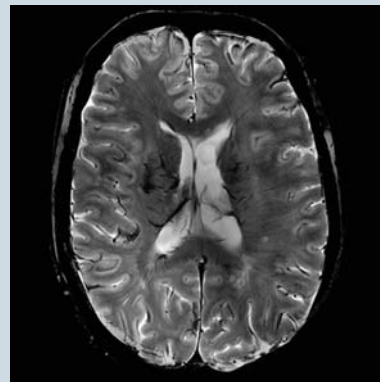
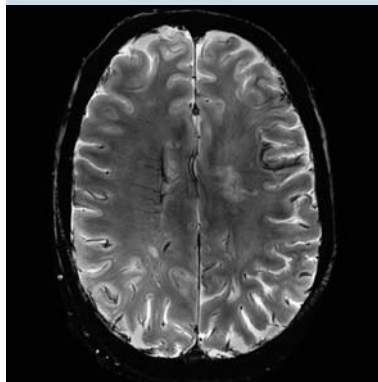
Bruker Biospin GmbH, Ettlingen, Germany
Animal scanner, ideal for translational research, "from mouse to man".

Available with Ultra-high performance gradient (300 mT/m amplitude, 1200 T/m/s slew rate) and Tim (Total imaging matrix) electronics. Operating with syngo console and applications

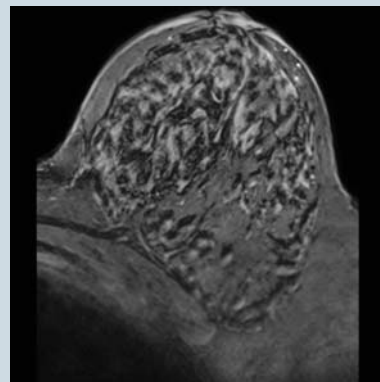
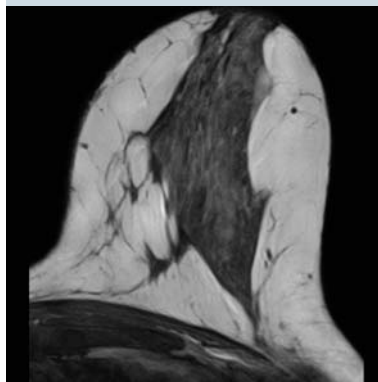
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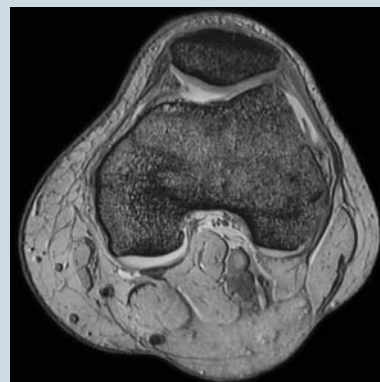
Microscopic imaging of pathology in the brain. Tumor borders and structure sharply visualized with Gradient Echo and TSE sequences. Courtesy of ELH, University Hospital, Essen, Germany



Microscopic imaging of pathology in the brain. Micro-vascular changes in the initial stage of MS lesion development. 7T* produces great contrast-to-noise-ratio. Courtesy of NYU, New York, USA



Unilateral breast imaging with T2 TSE and VIBE. High isotropic resolution, excellent fat saturation and visualization of microstructures. Courtesy of NYU, New York, USA



7T* for orthopedics. High isotropic resolution, remarkable visualization of microstructures invisible with conventional 1.5T imaging. Complete absence of flow artefacts. Courtesy of ELH, University Hospital, Essen, Germany

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