

SIEMENS



usa.siemens.com/aera

MAGNETOM Aera

Maximize 1.5T. Every case. Every day.

Maximum of 204 channels*.



Leading in excellence.

In your commitment to delivering top-of-the-line MRI services, you realize the need for differentiation in today's healthcare market. You set the trends in clinical MRI, helping you provide more accurate diagnoses and fight the most threatening diseases. Working with the most advanced MRI technology and applications help you differentiate your practice and lead in providing high-quality healthcare.

You are an MRI leader.

Whether you are just beginning to work with MRI or you are at the forefront of research, with Siemens MAGNETOM® MRI systems you can be sure to lead. Let us help you be a leader in your clinical field, your research, your business environment—and achieve our joint goal of advancing human health.

Leading. With MAGNETOM.

Leading MRI. Together.

An intensifying demographic shift, the rise of chronic diseases, patients turning into consumers, the pace of innovation, and a broader access to medical imaging across the globe lead to a constantly growing number of examinations, including MRI.

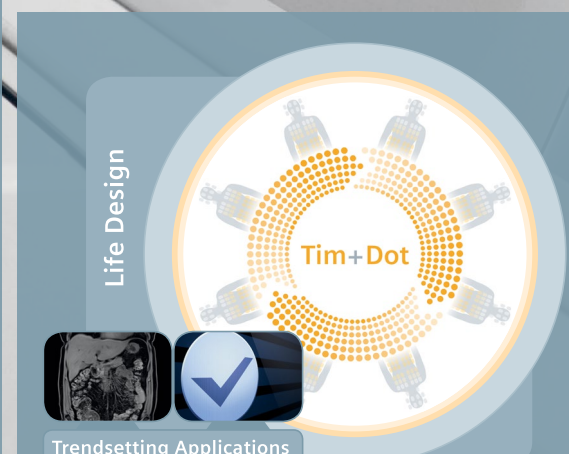
At the same time, this development raises central questions for healthcare providers and industry alike:

- How to manage volume growth with limited resources?
- How to control costs without compromising quality of care?
- How to expand services in either established or growing markets?
- How to continuously strive for clinical excellence in the interest of patients despite economic restraints?

Siemens MR provides answers to these questions by offering a unique combination of MRI technology, software, and clinical applications, supporting you in turning these challenges into opportunities.

With the “DNA” of Siemens MR—Tim®, Dot®, Trendsetting Applications, and Life Design—we support you to:

- Deliver exceptional image quality and speed in MRI. With Tim.
- Go for consistent results, efficiently. With Dot.
- Expand your MRI services. With Trendsetting Applications.
- Combine higher patient friendliness and sustainability. With Life Design.



Maximize 1.5T. Every case. Every day.

Today's healthcare is facing the difficult task of reconciling two contrasting demands: Delivering better outcomes while lowering costs. It is clear that technological innovation can, and should, play a vital role in improving healthcare economics across all measures.

MAGNETOM® Aera, the 2nd generation of Siemens' 70 cm Open Bore systems, provides a sophisticated answer to these challenges. Its core technologies Tim 4G and Dot, along with its comprehensive and unique application portfolio, give you the versatility you need to meet the increasing demands in healthcare.

Tim 4G delivers superb image quality—and Dot ensures that this excellent quality is generated consistently. As a result, MAGNETOM Aera maximizes efficiency and reliability. Add to that ease-of-use—and you reach new levels of productivity and patient care. The unique application portfolio addresses global trends such as the demographic shift—thus making sure you will always be able to offer your patients high-quality care and the latest MRI services.

In short, MAGNETOM Aera lets you optimize your MRI processes, reduce staff workload, and improve your return-on-investment (ROI). And, most importantly, it helps you to deliver excellent quality care consistently—regardless of patient conditions or clinical question.

Today, when healthcare is under pressure from all sides, MAGNETOM Aera delivers. Clinically. Economically. Easily.



Deliver exceptional quality and speed in MRI.

With Tim 4G.

Go for consistent results, efficiently.

With Dot and DotGO¹.

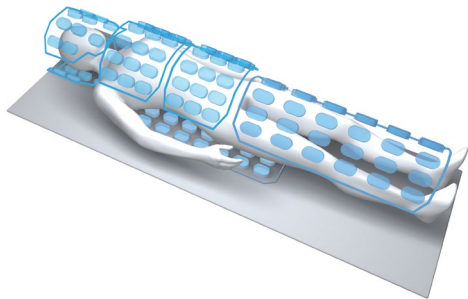
Expand your MRI services.

With trendsetting applications and maximized patient satisfaction.

Deliver exceptional quality and speed in MRI.

In 2003, Siemens launched Tim integrated coil technology, changing MRI forever. Featuring excellent image quality and fast acquisition speed, this proven technology has been installed over 9,000 times to date. Tim's extended coverage means no repositioning for multiple exams, and more exams per day. The newest generation—Tim 4G—is setting new benchmarks, offering the potential for highest coil element density and highest RF channel configurations in the market. Resulting in 4G Flexibility, 4G Accuracy, and 4G Speed.

Tim 4G



The flexibility of Tim 4G makes it possible to cover the entire body up to 205 cm, so you can examine large organs or organ systems and still have the signal and resolution to view small details.

4G Flexibility.

A maximum number of 204 channels.

A simplified workflow leads to increased flexibility in MRI. Efficient coil combinations remove the necessity of limiting yourself to a body region. Benefit from a scan range of up to 205 cm with no coil or patient repositioning and unmatched flexibility of any coverage up to whole body.

A maximum of 204 channels enables large coverage and high flexibility together with a portfolio of high-density coils. Furthermore, up to 64 independent RF channels can be used simultaneously in one single scan and in one single FOV, each generating an independent partial image. This supports fast acquisitions (high PAT factors) and excellent image quality (high signal-to-noise ratio).

4G Accuracy.

Exceptional SNR and image quality with Tim 4G's high-channel coils and the unique RF architecture enabling DirectRF for true signal purity.

High SNR (signal-to-noise ratio) is the key to excellent image quality. Excellent image quality is the key to certainty in diagnosis. Achieve excellent SNR for small Fields-of-View (FoV) exams up to whole-body coverage with Tim 4G's high-channel coils. Additionally, Tim 4G enables true signal purity with each exam, due to its unique all digital-in/digital-out DirectRF design.

4G Speed.

Excellent image quality with up to 40%² reduction of scan times.

Dramatically shorten your exam time with advanced simultaneous parallel acquisition, and an efficient and fast patient set-up. Be faster, deliver excellent image quality and as a result, decrease scan time by up to 40%. Accelerate your patient set-up with the Tim Dockable Table, so that immobile patients can be prepared for an exam outside the scanner room.

The MAGNETOM Aera's detachable table is beneficial as it is easier for transferring bed patients, such as those with cord compression and for use in emergency situations. Radiographers are benefiting from the system's ease-of-use and appreciate the integrated coil technology, which is making for faster scans without compromising on image quality³.

Kim Robertson
Head of Radiology Service
Guy's Hospital, U.K.

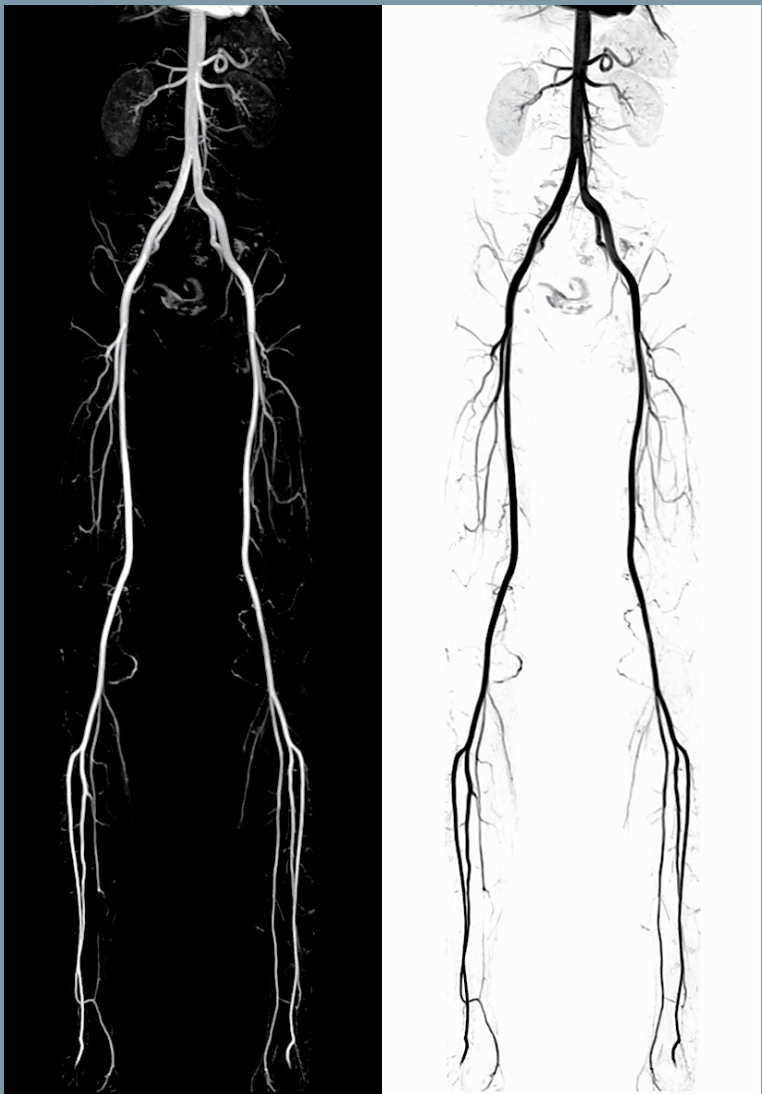
Multi-channel technology lets us scan larger regions of the body flexibly. For another thing, we can perform scans much faster with the new system, which has raised throughput significantly³.

Professor Christoph Bremer, MD
Head of the Department
of Radiology
St. Franziskus Hospital
Münster, Germany

A complete view of the whole spine is made easy. With Tim 4G, there is no repositioning of your patient. Multi-step exams of the spine can be composed automatically using Inline Composing.



Easily perform high-resolution peripheral angiographic examinations. The flexibility of Tim 4G enables seamless imaging of the peripheral vessels. Tim 4G's high-channel coils enable superb image quality—local and up to whole body.

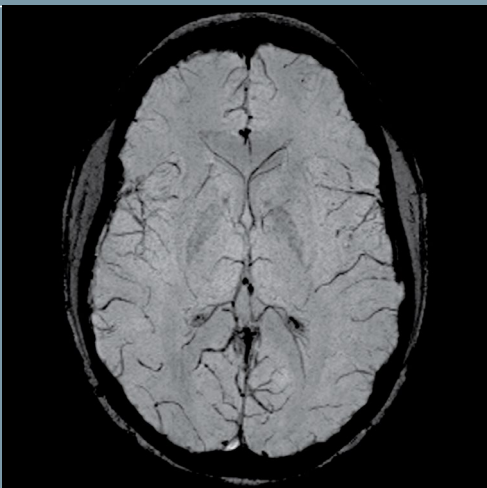


University Hospital Essen, Germany

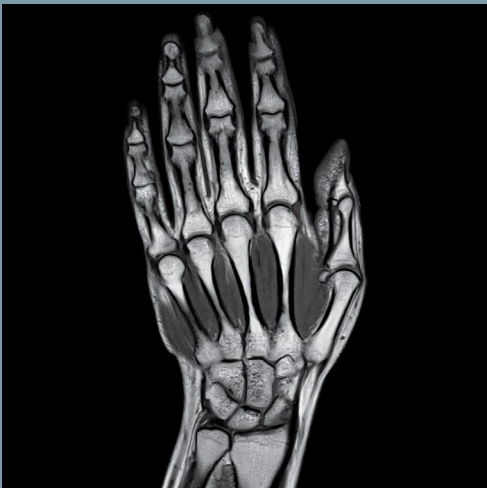
“The MAGNETOM Aera has replaced a system that took 12 minutes to conduct a routine lumbar spine scan, which now takes just seven minutes to do the same examination³.”

Matthew Benbow
Superintendent Radiographer
Royal Bournemouth Hospital, U.K.

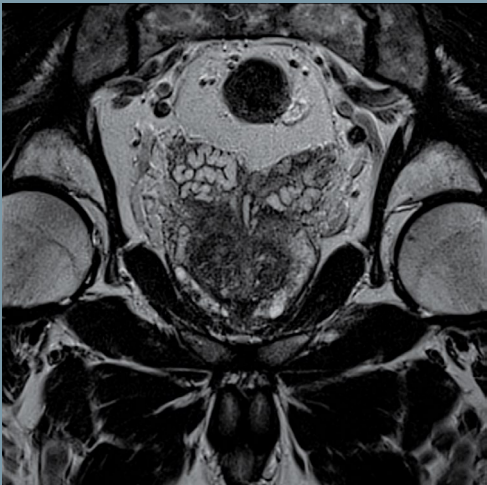
Tim 4G's head/neck coils are designed to accommodate a wide variety of patients and to deliver exceptional image quality. Equipped with DirectConnect®, which eliminates cables, the combined head/neck coils allow for an easy handling and reduced set-up times.
Northwestern Memorial Hospital, Chicago, USA



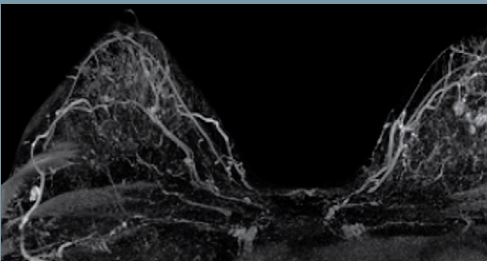
It's a new way to perform orthopedic exams with Tim 4G's coils for MSK imaging, which provide you an ultra-high coil element density. The Hand/Wrist 16 concentrates 16 elements over the hand and wrist to enable superb imaging of the hand, wrist or combined hand/wrist examinations.



MAGNETOM Aera offers you several possibilities to meet your requirements in pelvis imaging. The combination of Tim 4G's body coils (Body 6^{5,11} or Body 18⁴) with the integrated spine coils or in combination with an endorectal coil allows for exceptional image quality and speed.
Centre Republique, Clermont Ferrand, France

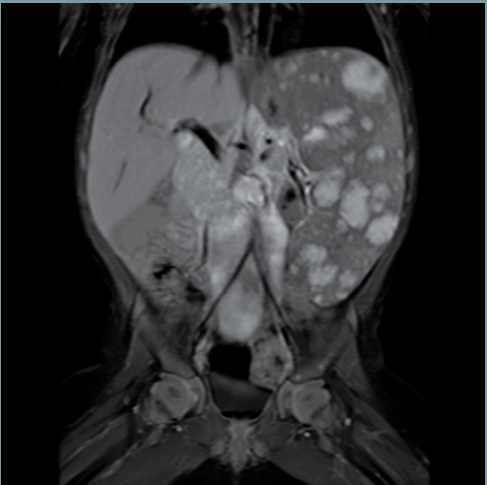


Imaging of the chest or heart is challenging. The high density of coil elements, for example by the combination of Tim 4G's Spine 32⁴ and Body 18⁴, enables high SNR and PAT factors to achieve excellent quality and ultra-fast acquisition times.



MAGNETOM Aera offers a wide selection of breast coils to address the different needs from clinical imaging to biopsy with outstanding image quality.
Imagerie Paris Centre, Paris, France

Tim 4G offers all the means to address the unique imaging needs of pediatric⁶ patients. Tim 4G's flexible, lightweight coils and the patient-friendly design help you to provide best care to these patients.
University Hospital Saarland, Homburg, Germany



Go for consistent results, efficiently.

As MRI is applied in a wider and more complex range of clinical diagnoses and the number of MRI examinations is continuously rising on a global scale, efficient exam management is the key to future quality and profitability.

In 2009, Siemens set the benchmark in MR scanning and productivity by introducing Dot. Easily adapt to the patient's condition or clinical question, consistently achieve reproducible, high-quality results, and consequently reduce exam times and the number of rescans.

DotGO¹—the newest generation of Dot—is Siemens' unique MRI exam software, combining intuitive protocol management (Dot Cockpit¹) with quality results for each exam (Dot engines). For true flexibility, consistency, and efficiency in MRI. DotGO is designed to empower your expertise, increase throughput, and provide excellent results for every exam—in short, for consistent results, efficiently.

Flexibility.

Intuitive protocol management.

One central user interface to configure any protocol and flexibly create your exam strategies. Intuitive, fast functionality results in 80%⁷ improved usability in exam configuration. DotGO empowers you to provide your MRI expertise for the entire department and to define a higher standard of care for more patients and referrers.

Consistency.

Quality results for each exam.

Every patient is different. Every referrers' and radiologists' requirement is different. But your results need to be consistent and of high quality. Your daily schedule has to be met. DotGO partners you in meeting all of these different needs with dedicated functionality for the clinical question at hand. For 88%⁸ of MRI exams, there is a Dot engine available.

Efficiency.

Up to 20%⁹ shorter exam slots.

Time, quality, and costs define the efficiency of your MRI exams. Dot enables you to reduce exam time by up to 20% and makes scheduling more predictable. Standardized procedures support quality results for each exam and help to reduce rescans. All in all turnaround time to the referrer is quicker, quality higher, and MRI more efficient.



DotGO

DotGO is Siemens' unique MRI exam software, combining intuitive protocol management (Dot Cockpit) with quality results for each exam (Dot engines). Resulting in up to 20% shorter exam slots. For true flexibility, consistency and efficiency in MRI.

Brain Dot Engine

More efficient and reproducible brain exams.



Spine Dot Engine

Optimize spine imaging for a wide range of patients and conditions.



Large Joint Dot Engine

Increased consistency. Cover all large joints—hip, shoulder, and knee.



Abdomen Dot Engine

Optimized bolus timing for dynamic liver examinations.



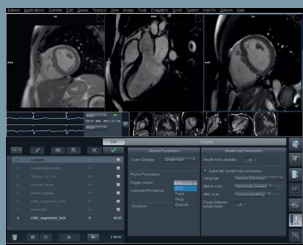
Breast Dot Engine

Increased certainty in Breast imaging.



Cardiac Dot Engine

Up to 50%¹⁰ increase in patient throughput.



TimCT Angio Dot Engine and TimCT Onco Dot Engine

The combination of Siemens' unique technologies to advance workflow benefits even further: Achieve one smooth FoV using the Continuous Table move.



Dot engines

Automatically apply your standards to your exams and the clinical question at hand.

Dot Cockpit

Intuitively manage and configure your protocols to your high standard of care.

Angio Dot Engine

Optimally timed contrast images with interactive bolus timing.



MRI flexibility from the start:

- One central user interface for every protocol
- Fast and intuitive protocol configuration (80%⁷ better usability in MRI exam configuration)
- User-friendly functionalities like drag&drop, AutoSearch
- Exam strategies created with one click
- Multiple strategies in one protocol
- Change protocols on the fly
- Changes in one sequence applied to all protocols—if you want to

Take the lead in defining the standard of MRI in your institution!



Within our environment, we just could not provide a cardiac MRI service without the Cardiac Dot Engine³.

Russell Bull, MRCP, FRCR, MD
Consultant Radiologist
Royal Bournemouth Hospital
Bournemouth, UK

By customizing Dot, we have been able to enhance several of our protocols. For example, the Dot Decisions functionality in Abdomen Dot [Engine] has enabled us to schematize and simplify these protocols. With Dot, we can now ensure our examinations are far more reproducible and of excellent quality³.

Anton Quinsten, RT
Senior MRI Technologist
Institute of Diagnostic Radiology
and Neuroradiology University
Hospital Essen, Germany

Expand your MRI services through trendsetting applications.

An MRI scanner is more than just hardware. Top-of-the-line products are only valuable if they are combined with clinical applications that utilize the full potential of the hardware. Today, this simple notion is more important than ever—now that an intensifying demographic shift, the rise of chronic diseases, and the fast pace of innovation lead to new requirements and indications in MRI.

This is why we designed a unique and comprehensive application portfolio for your MAGNETOM Aera. Whether you are dealing with an increasing number of patients with MR conditional orthopedic implants or patients with chronic diseases who have limited breathhold capacity, MAGNETOM Aera will help you to take on all challenges that come with shifting demographics and new patient groups.

We have understood and we are committed to continuing to lead when it comes to expanding the frontier of MR imaging.

CAIPIRINHA is just one example of the unique clinical applications that help you expand your MRI services. CAIPIRINHA allows you to perform body MRI exams on patients who cannot hold their breath long enough for regular scans. You will be able to perform more exams, you will need less rescans, and you will have more satisfied and cooperative patients.

How about examining patients who cannot hold their breath at all? StarVIBE¹¹ provides an answer with free-breathing, contrast-enhanced examinations of the liver.

Need to scan a patient's knee although he has an orthopedic MR conditional metal knee implant? With WARP¹², your MAGNETOM Aera provides a comprehensive solution, which reduces susceptibility artifacts caused by MR conditional metal implants.

Want to quantify a patient's liver fat and iron without a biopsy? LiverLab¹ delivers this data fully integrated into your workflow and on-the-fly through Inline processing.

The comprehensive application portfolio combined with Dot, Siemens' unique exam software, makes even the most complex exams part of your clinical routine—such as cardiac MRI.

MAGNETOM Aera offers you the definitive application portfolio for MRI. From routine checks to advanced exams, it allows you to extend your clinical scope and to deliver a broad range of new MRI services to your patients.

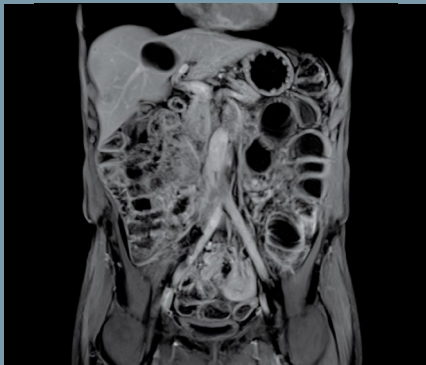
“Not only the number of scans is increasing, but we are also able to broaden our diagnostic portfolio for more indications. Various features including the Tim 4G coil technology and Dot allow us to handle our workload with ease.”

Professor Christoph Bremer, MD
Head of the Department of Radiology
St. Franziskus Hospital, Münster, Germany

Expand your MRI services ...

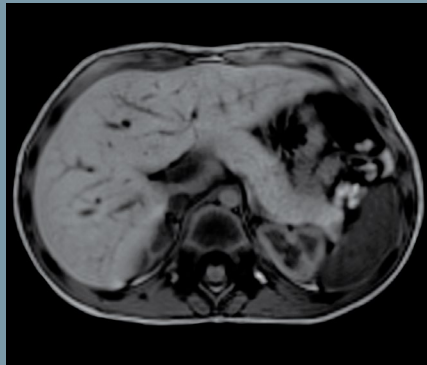
... in Body MRI

Ultra-short breathhold times. With CAIPIRINHA.



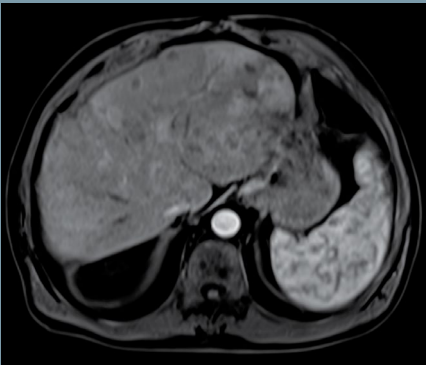
IRMAS, Saint Priest En Jarez, France

Free-breathing, contrast-enhanced body imaging. With StarVIBE.



University Hospital Saarland, Homburg, Germany

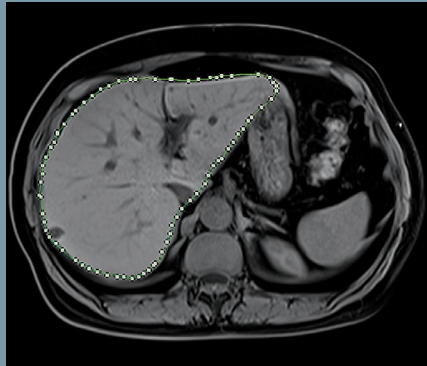
Always the right contrast in dynamic liver imaging. With TWIST-VIBE¹¹.



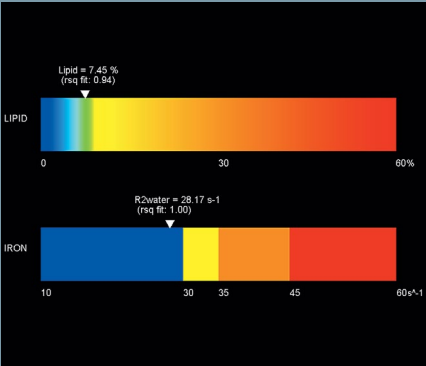
University Hospital Saarland, Homburg, Germany

Quantitative liver imaging, non-invasively. With LiverLab.

Liver Segmentation



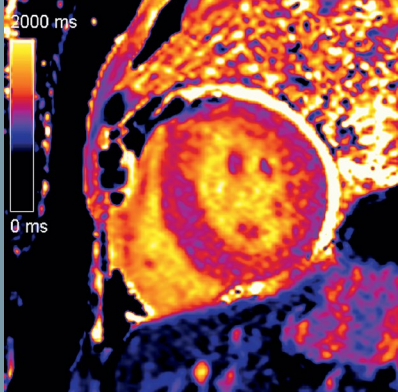
Clinical Report



... in Cardiac Imaging

With Tim 4G's excellent image quality also complex clinical questions can be easily answered. And the Cardiac Dot Engine helps to bring cardiac exams into your clinical routine. And MyoMaps¹ providing you for the first time an additional layer of valuable diagnostic information about even subtle changes in tissue composition—on the fly.

MyoMaps

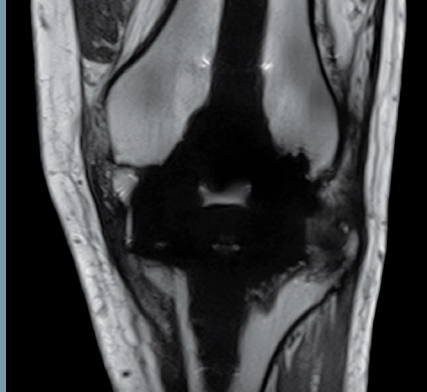


National Institutes of Health, Bethesda, USA

... in Orthopedic Imaging

Serve rapidly-growing patient populations with MR conditional implants.

Advanced WARP^{1,12}



Mount Sinai Hospital, Toronto, Canada

WARP VAT



Mount Sinai Hospital, Toronto, Canada

Expand your MRI services through maximized patient comfort.

Combine higher patient friendliness and sustainability. Life Design is the Siemens MRI design philosophy. Since the beginning, the guiding principle in our MRI development has been to design our systems around the life of you and your patients. Our goal: To achieve highest level of patient friendliness, most efficient workflow, lowest siting requirements, and lowest operational costs possible.

Your patients are at the center of attention. Always have been. Always will be. It is important to make their scan experience as comfortable as possible. MAGNETOM Aera offers you a unique combination of innovative functionalities to maximize your patients' comfort—and attract more patients.

MAGNETOM Aera makes MRI exams easier and more comfortable than ever before. The roominess of the 70 cm Open Bore accommodates a large variety of patient sizes, shapes, and conditions. The ultra-short magnet (145 cm) allows many studies to be completed with the patient's head outside the bore. The Tim

Dockable Table accelerates patient set-up outside the scanner room, so that immobile patients can be easily and comfortably transported to their exam when everything is ready. In addition, the patient-friendly lightweight coil design and the Illumination MoodLight® let your patients relax during their MRI exam. Let us help you help your patients—and increase their comfort, cooperation, and satisfaction.

This unique experience will be completed by the new Quiet Suite¹¹. Advanced noise reduction technologies are already implemented in your MAGNETOM Aera scanner. Nevertheless, we have continually strived to develop technologies, which lower noise even further without compromising our standards of high quality and efficient imaging. With Quiet Suite you can deliver exceptional patient care to your patients with a minimum of 70% reduction in sound pressure for complete neurological and orthopedic examinations and with no need to compromise image quality¹³. Because imaging is to be seen, not heard.

Higher patient comfort for immobile patients, which can be prepared for an exam outside the scanner room. For an easier handling and 360 degree flexibility Tim Dockable Table offers an innovative multi-directional navigation wheel.



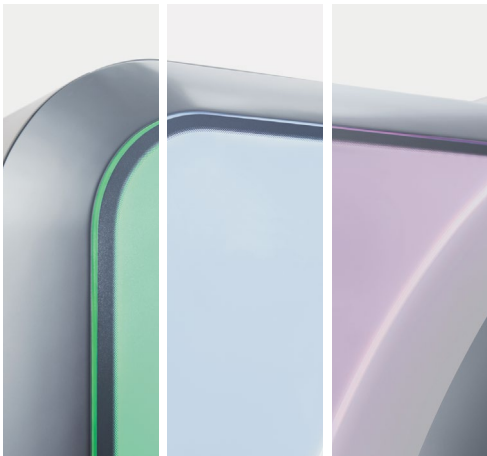
The ultra-short system length (145 cm cover to cover), enables more head-out exams and with that higher patient comfort.

Tim 4G's lightweight and flexible coils allow for a comfortable positioning of patients with with pain.

The roominess of our 70 cm Open Bore will accommodate a large variety of patient sizes, shapes, and conditions.



Increase your patients' satisfaction with experience dedicated features such as the Illumination MoodLight.



We sought a system based on patient comfort, image quality, ease of use for the operator and size of the magnet bore. In every area, the MAGNETOM Aera came out on top³.

Sue Kingston
Superintendent Radiographer for MRI
Royal Glamorgan Hospital, U.K.

With MAGNETOM Aera, we are confident we have one of the most advanced 1.5T MRI systems available on the market today³.

Professor Christoph Bremer, MD
Head of the Department
of Radiology
St. Franziskus Hospital
Münster, Germany

One very important benefit is the unit's wide opening, a 70 centimeter open bore design. Even obese patients can easily fit into the unit now. Also when it comes to claustrophobia among patients, we are able to calm them sooner. The fact that the magnet is shorter means that the patient's head is back outside the tunnel much sooner. And, examination times are considerably shorter. That has definitely become noticeably faster for patients³.

Linda Willeke
Technologist
St. Franziskus Hospital
Münster, Germany



Expand your MRI services through a future-proof lifecycle and customer care.

Capital investments in healthcare are being scrutinized more closely than ever before. Based on the latest technology, your MAGNETOM Aera is a top-of-the-line 1.5T system ready to take on the future of MRI. We are dedicated to helping you stay competitive throughout the whole product lifecycle and beyond.

Life Design saves you money from the time of installation. The modern and compact design includes DirectRF, which concentrates all transmit and receive components at the magnet, and requires very little of your expensive floor space. Installation is fast and easy. With Zero Helium boil-off and an optimized cooling system, MAGNETOM Aera supports you as resources are increasingly scarce. Optimize your lifecycle costs and stay environmentally friendly.

Our extensive range of services is tailored towards optimizing your performance and workflow efficiency. EVOLVE provides a comprehensive suite of software and hardware updates to help you keep pace with rapidly developing technological advances.

Expand MRI services. With peer-to-peer clinical tips and information.

MAGNETOM World is the community of MAGNETOM users worldwide, providing you with relevant clinical information at your fingertips. There you will find application tips and clinical methods to optimize your daily work. Lectures and presentations from experts in the field will allow you to be exposed to new ideas and alternative clinical approaches.

98,5%¹⁴ of the readers of the Siemens MR customer magazine agree that the MAGNETOM Flash provides ideas to grow and expand their practice.

Take inspiration yourself under usa.siemens.com/magnetom-world

Maximize 1.5T. Every case. Every day.

Stay at the cutting-edge of 1.5T MRI.

Whether your focus lies on clinical routine or advanced applications, MAGNETOM Aera keeps you at the forefront of diagnostics imaging.

Boost quality and speed.

Experience exceptional image quality, true flexibility, consistency, and efficiency in MRI.

Expand to new patient populations.

Differentiate your institution by reaching to new patient populations with trendsetting applications and excellent patient satisfaction.



MAGNETOM World,
where MRI meets clinical
expertise.

Leading. With MAGNETOM.

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The information in this document contains general technical descriptions of specifications and options as well as standard and optional features, which do not always have to be present in individual cases.

Siemens reserves the right to modify the design, packaging, specifications, and options described herein without prior notice. Please contact your local Siemens sales representative for the most current information.

Note: Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

¹Currently under development; not for sale in the U.S. and other countries, future availability cannot be guaranteed.

²Based on the scan time difference between a 30-channel set-up and an 18-channel set-up with otherwise identical parameters and same SNR. Data on file.

³The statements by Siemens' customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

⁴Tim [204x48], Tim [204x64]

⁵Tim [204x24]

⁶MR scanning has not been established as safe for imaging fetuses and infants under two years of age. The responsible physician has to decide about the benefit of the MRI examination in comparison to other imaging procedures.

⁷Compared to MR protocol configuration without Dot Cockpit, Usability Study, 2013

⁸Evaluation of 2.2 million Siemens MR exams, 2013

⁹University Hospital Essen, Brain Dot Engine Workflow Study, GER

¹⁰Royal Bournemouth Hospital, Cardiac Dot Engine Workflow Study, Bournemouth, UK

¹¹May not be commercially available in countries outside the U.S., future availability cannot be guaranteed.

¹²The MRI restrictions (if any) of the metal implant must be considered prior to patient undergoing MRI exam. MR imaging of patients with metallic implants brings specific risks. However, certain implants are approved by the governing regulatory bodies to be MR conditionally safe. For such implants, the previously mentioned warning may not be applicable. Please contact the implant manufacturer for the specific conditional information. The conditions for MR safety are the responsibility of the implant manufacturer, not of Siemens.

¹³Data on file; results may vary

¹⁴2013 MAGNETOM Flash reader survey. Data on file.

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