



# The key to 3T

## MAGNETOM Spectra



# **MAGNETOM Spectra**

## **The key to 3T.**

A system that offers unprecedented access to 3 Tesla magnetic resonance imaging? The answer is MAGNETOM Spectra. It's the key to a new scope of image and healthcare quality for patients. It's the key to a new level of usability and diagnostic confidence for physicians. And, it's the key to ensure premium patient care at an attractive total cost of ownership for radiologists.

If access is what you are looking for, then MAGNETOM Spectra is your key to 3T.



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# MAGNETOM Spectra at a glance

## The key to 3T.

### Up to 55 % faster MRI exams<sup>1</sup>

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- Rapid image acquisition with Tim 4G coil technology
- 6-minute, push-button brain exams with GOBrain<sup>2</sup>
- 10-minute, push-button true isotropic high resolution 3D knee exams with GoKnee3D<sup>3</sup>
- Up to 33 % faster time of flight examinations with Segmented TOF

### Free-breathing Body MRI with FREEZEit

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- Ideal contrasts for dynamic liver exams
- Non-invasive liver evaluation
- Powerful syngo MR E11 software

### Push the limits with advanced neuro MRI

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- With Simultaneous Multi-Slice reduce DWI scan times by up to 39 %
- Introduce advanced DTI and BOLD imaging for pre-surgical planning with Simultaneous Multi-Slice





### **Up to 97 % reduction in sound pressure<sup>4</sup>**

- Complete, quiet neurological and orthopedic examinations
- More patient acceptance, fewer rescans
- No compromise on image quality

### **Up to 46 % fewer parameter adjustments<sup>5,6,7</sup>**

- Routine tasks automated with DotGO workflow
- Time savings for technicians
- Highly efficient preconfigured protocols

### **Up to 33 % TCO savings throughout the system lifecycle**

- State-of-the-art Zero Helium boil-off technology
- Reduced power consumption with Eco-Chiller self-adjusting components
- Power-saving technology for higher energy efficiency

MAGNETOM Spectra  
A Tim+Dot System

SIEMENS

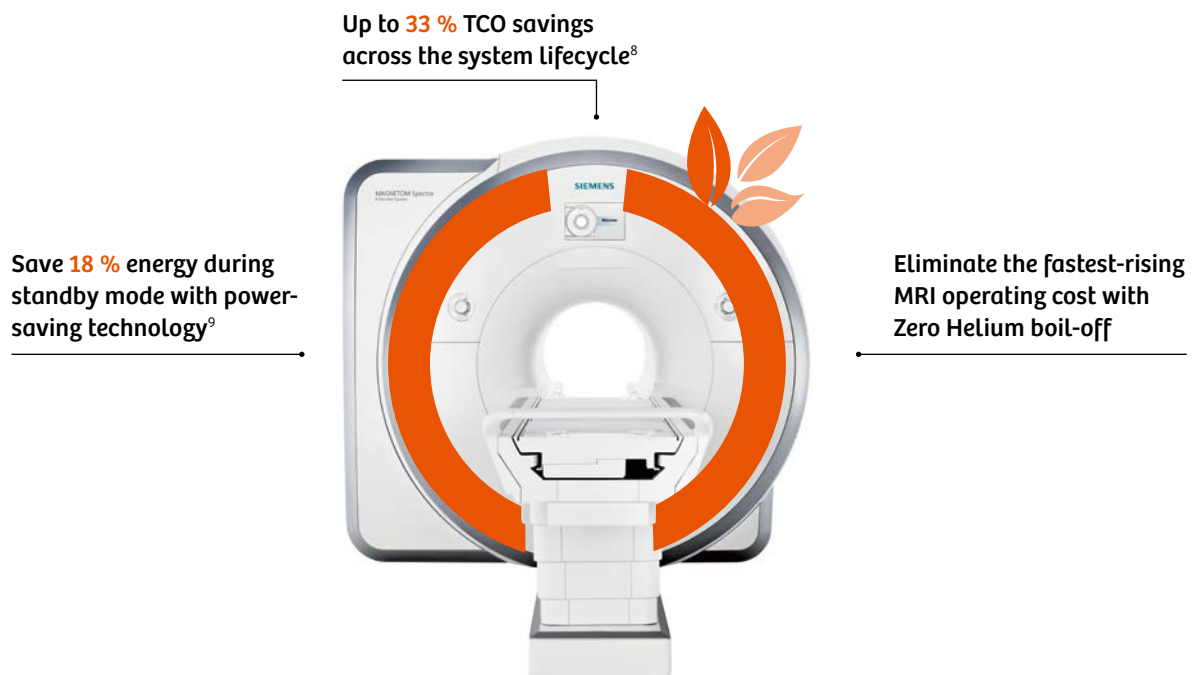




## Achieve exceptional financial performance

More and more exams are performed, yet healthcare providers are under mounting pressure from falling MRI reimbursements and rising operating expenses. Against this background, enhancing financial performance is a chief concern. MAGNETOM Spectra enables you to address this challenge by placing state-of-the-art 3T technology at your fingertips – while cutting TCO by as much as 33 %.<sup>8</sup>

# Achieve exceptional financial performance with unmatched TCO



## Unmatched TCO

With an outstanding price-performance ratio, small installation footprint and low overall power consumption, MAGNETOM Spectra offers unmatched total cost of ownership – up to 33 %<sup>8</sup> lower across the system's lifecycle compared to other 3T units. In addition, it features state-of-the-art MR technology, such as Tim 4G, DotGO and Body MRI.

*“As a private radiology practice, we work in a cost-sensitive environment, and MAGNETOM Spectra is the first 3T system that gives us the opportunity to provide this very high standard of MR imaging to our patients.”<sup>7</sup>*

**Dr. Axel McKenna-Küttner**

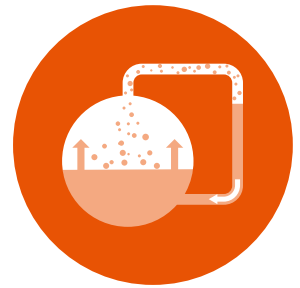
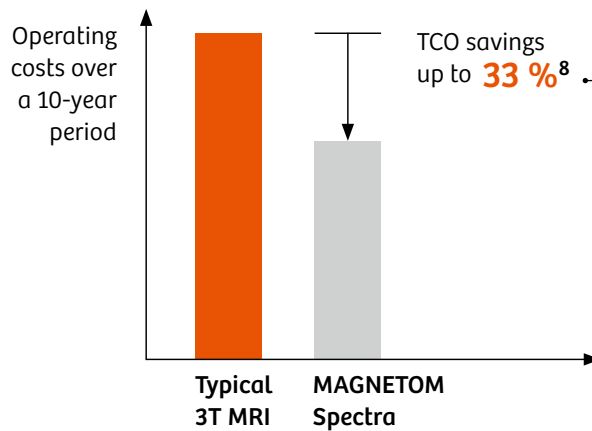
Gemeinschaftspraxis für Radiologie und Nuklearmedizin,  
Frankfurt / Bad Nauheim, Germany

### **Excellent energy efficiency**

On average, MRI systems consume 209.57 kWh of power daily – as computed by COCIR. COCIR is a non-profit organization that represents the medical imaging community and related industries, and provides a common framework for measuring and comparing the energy consumption of MRI systems.

By comparison, MAGNETOM Spectra lies 18 % below this average. Its power-saving technology uses less electricity – and in turn, cuts costs. Components switch off automatically when not in use, and optimized sequences reduce the need for gradient switching.

Compared to typical 3T MRI scanners, MAGNETOM Spectra delivers exceptional financial performance throughout the entire lifecycle, reducing TCO by up to 33 %.<sup>8</sup>



Zero Helium boil-off

#### Zero Helium boil-off

Cut out helium refills – the fastest-rising MRI operating cost – and improve your eco-footprint with true Zero Helium boil-off technology and lower power and cooling requirements. At the same time, enjoy enhanced performance and greater investment protection.

#### Power-saving technology

Reap the benefits of cutting-edge, intelligent technology, including components that switch off automatically after a period of inactivity. In addition, optimized sequences reduce the need for gradient switching, contributing to energy savings of up to 18 % in standby mode.<sup>9</sup>



**Power-saving  
technology**



**Eco-Chiller**



**Short  
installation time**



**Small  
footprint**

#### **Eco-Chiller**

Normally, considerable power is needed to liquefy helium for cooling. However, the corresponding pump intelligently adapts to changing pressure levels and cooling requirements, lowering electricity consumption. Furthermore, Eco-Chiller features high heat conversion efficiency.

#### **Short installation time**

MAGNETOM Spectra's compact design means it can be installed within seven working days, helping reduce costs from the start.

#### **Small footprint**

MAGNETOM Spectra's magnet, electronics and console room require less than 31 m<sup>2</sup> of space. It complies with standard ceiling heights and features an integrated water cooling cabinet.

MAGNETOM Spectra  
A Tim+Dot System

SIEMENS



## Expand clinical capabilities

To accommodate growing demand for MRI and broaden their offering, healthcare institutions need solutions that enhance productivity but avoid complexity. MAGNETOM Spectra features an expanded suite of innovative trendsetting applications, including RESOLVE, Simultaneous Multi-Slice, and FREEZEit. These help achieve exceptional quality and speed. Moreover, features like Advanced Warp enable a greater variety of exams – attracting new patient populations, increasing referrals, and making better use of MRI resources.

# Expand clinical capabilities with *syngo* MR E11

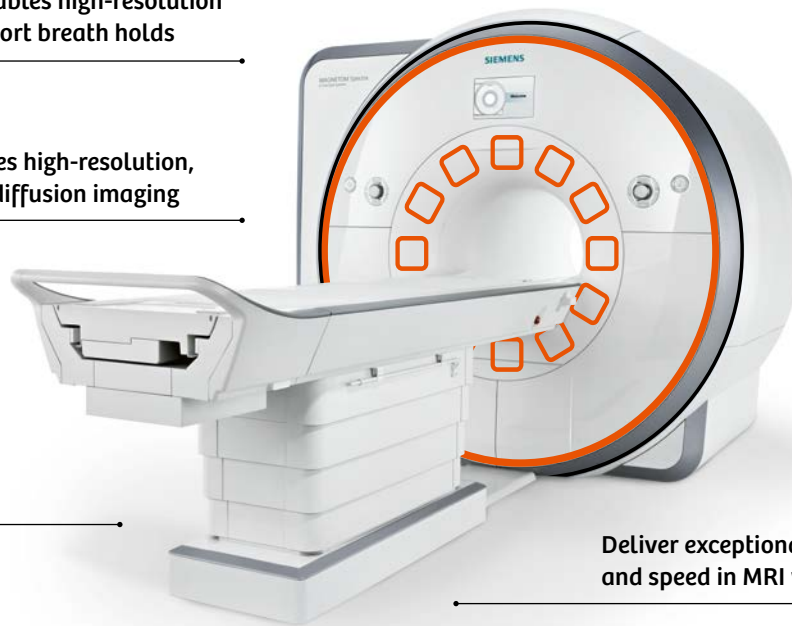
**CAIPIRINHA** enables high-resolution imaging with short breath holds

**RESOLVE** enables high-resolution, distortion-free diffusion imaging

Further extend your MRI services with **Simultaneous Multi-Slice**, a paradigm shift in MR imaging

Free-breathing Body MRI with **FREEZEit**

Deliver exceptional image quality and speed in MRI with **Tim 4G**



## Enjoy fast, high-quality imaging

MAGNETOM Spectra paves the way for superior image quality with Tim 4G high-density coil technology and an exceptional signal-to-noise ratio (SNR). Up to 120 channels\* that can be connected and 24 independent RF channels\*\* enable efficient scanning with no coil or patient repositioning. Plus, Tim 4G enables MRI for large anatomical areas, even whole body scans.

\* Channels (coil elements) that can be connected simultaneously.

\*\* Independent RF channels that can be used simultaneously in one single scan and in one single FOV, each generating an independent partial image.



*“MAGNETOM Spectra has been an excellent choice for us. I believe that 3T will be the imaging modality of choice in the future, because of the advancements that have been put into the machine.”<sup>7</sup>*

**Dr. Francis Lau,**  
Island Hospital, Penang, Malaysia

### **Expand your MRI services**

With a broad portfolio of MR applications and powerful *syngo* MR E11 software, MAGNETOM Spectra supports a comprehensive and unique range of 3T clinical services. As a result, you can expand and differentiate your offering, and make even the most challenging scans part of your clinical routine.

### **Leverage cutting-edge applications**

Join the forefront of MRI by deploying trendsetting applications. Advanced WARP, for example, enables more accurate visualization of tissue with metal implants.<sup>10</sup> MyoMaps provides powerful myocardial tissue quantification. QISS supports contrast-free angiography exams on par with CE scans. And LiverLab opens up non-invasive evaluations.

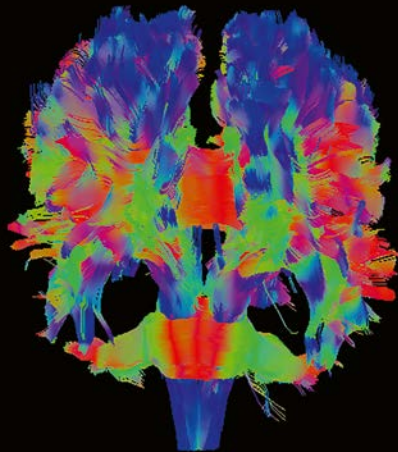
## Neurology

Ultra-fast, high SNR head and neck imaging with the Head / Neck 20 coil and Simultaneous Multi-Slice.

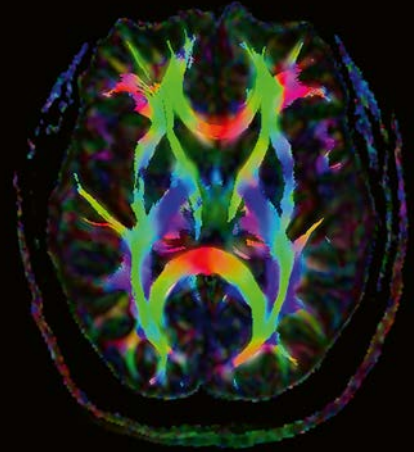
### Simultaneous Multi-Slice

Bringing advanced DTI into clinical routine

DTI fibertracking post-processed with syngo.via



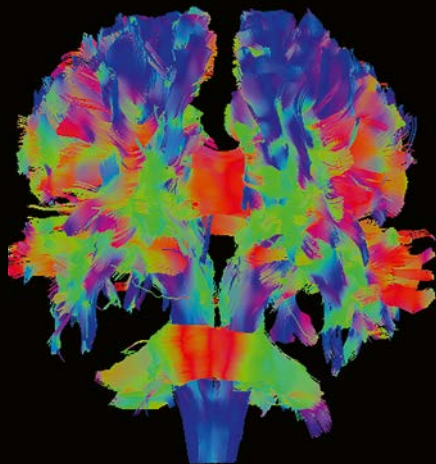
DTI, 20 directions  
PAT 2 + SMS 2, TA 3:35 min  
SL 4 mm  
Head / Neck 20



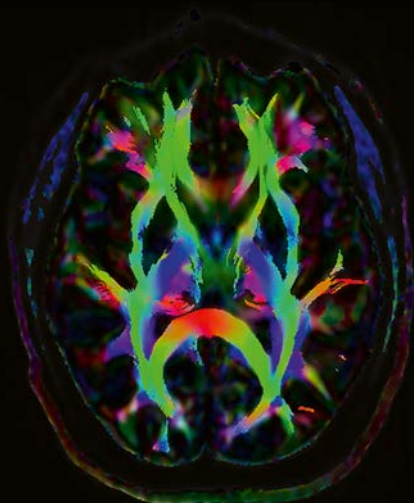
Colored fractional anisotropy (FA) map

### without Simultaneous Multi-Slice

DTI fibertracking post-processed with syngo.via

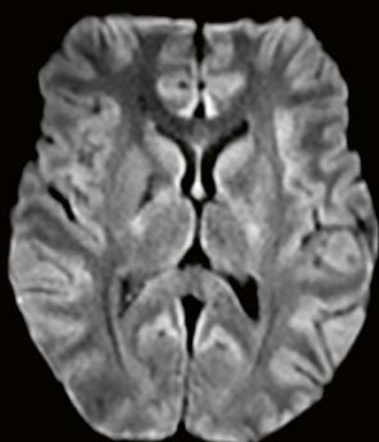


DTI, 20 directions  
PAT 2, TA 6:41 min  
SL 4 mm  
Head / Neck 20

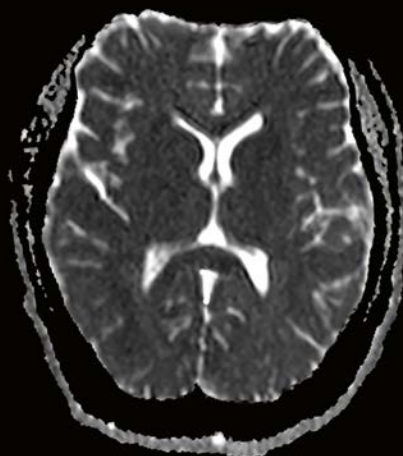


Colored fractional anisotropy map

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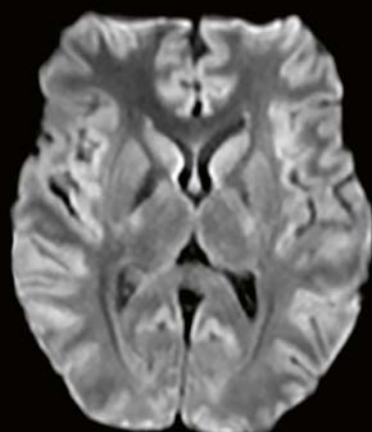


DWI, b1000  
PAT 2 + SMS 2, TA 1:14 min  
SL 4 mm  
Head / Neck 20

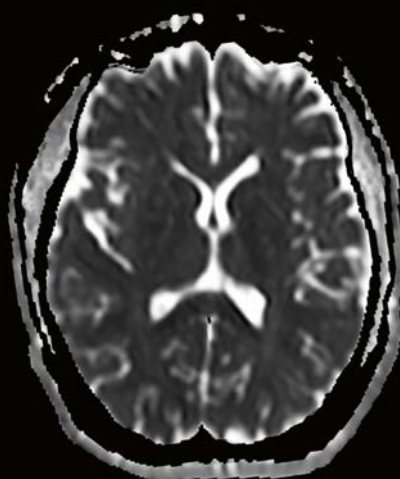


ADC map

**Simultaneous  
Multi-Slice**



DWI, b1000  
PAT 2, TA 2:02 min  
SL 4 mm  
Head / Neck 20



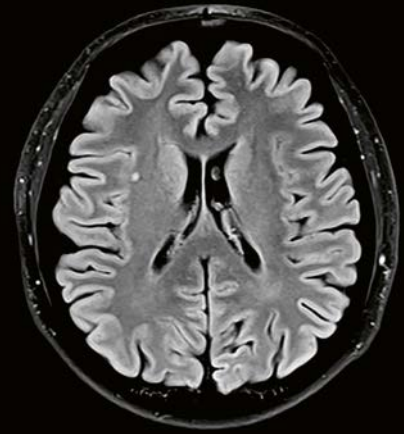
ADC map

**without Simultaneous  
Multi-Slice**

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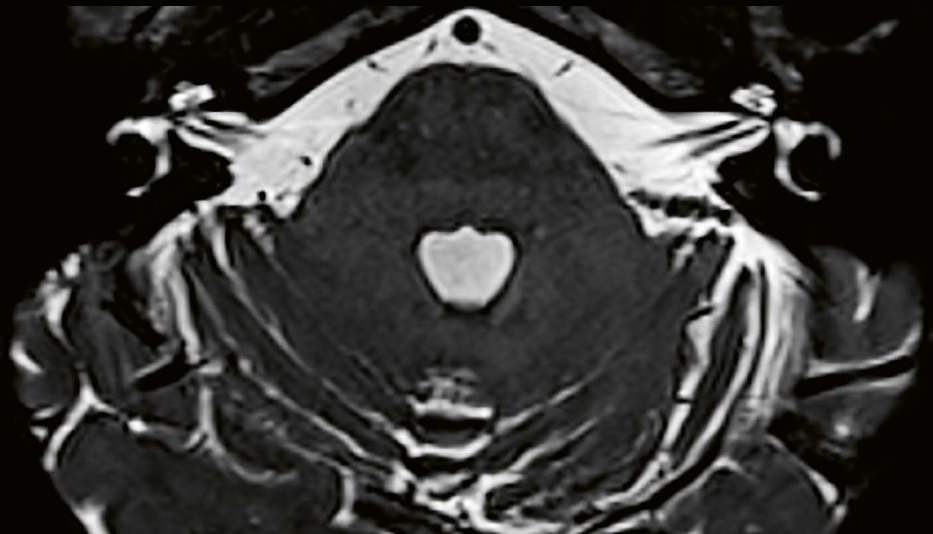


T2 TSE  
TA 4:22 min  
SL 4 mm  
Matrix 576 x 640  
Head / Neck 16



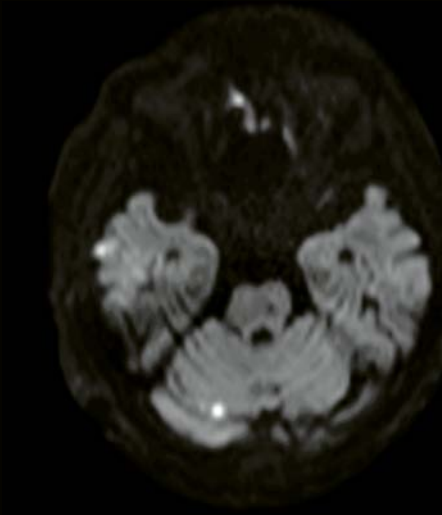
T2 TIRM Dark Fluid  
TA 5:34 min  
SL 3 mm  
Head / Neck 16

High-resolution isotropic  
3D CAIPI SPACE sequence  
of the inner ear

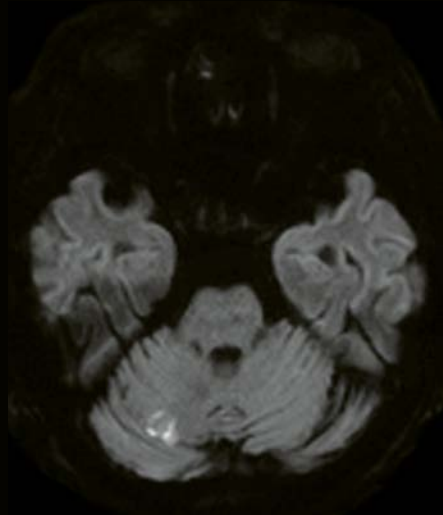


T2 3D SPACE  
TA 4:27  
SL 0.8 mm (interpolated)  
Head / Neck 16

2aaaa0023



EPI 2D DWI, b1000

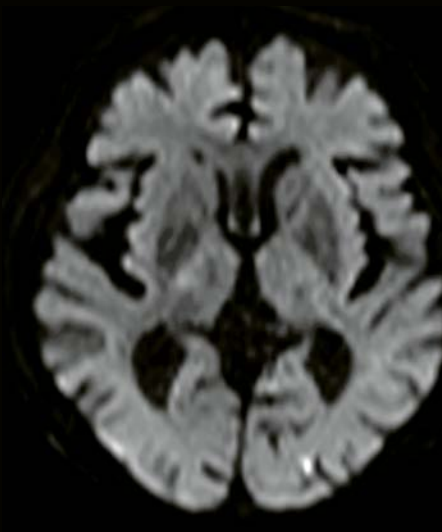


RESOLVE DWI, b1000

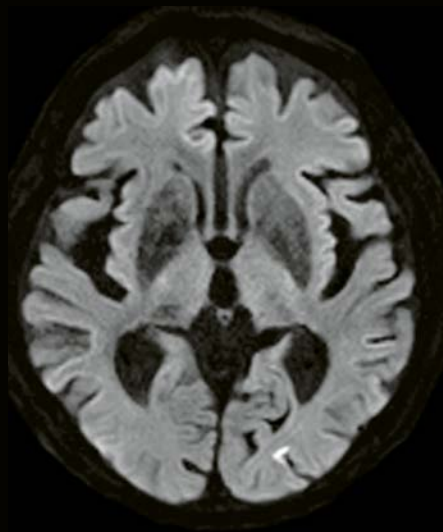
**RESOLVE:**

Experience outstanding diagnostic performance with sharp, high-resolution DWI and DTI of the brain and spine. RESOLVE allows to significantly reduce susceptibility artefacts.

*Rinku General Medical Center, Osaka, Japan*



EPI 2D DWI, b1000



RESOLVE DWI, b1000



## GOBrain

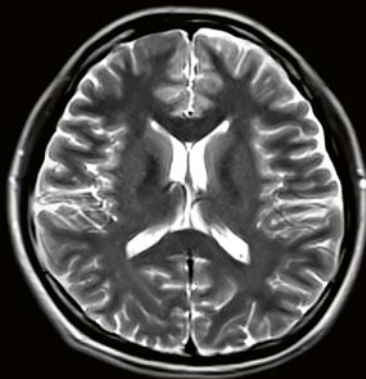
Providing push-button brain examinations at an exceptional speed of 5:16 minutes.<sup>3</sup>



AutoAlign Localizer  
TA 0:14 min



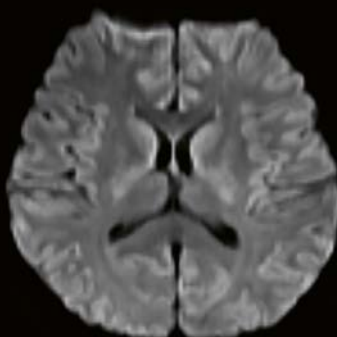
T1 fL2d  
TA 0:41 min



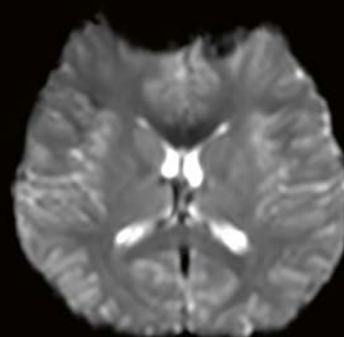
T2 TSE  
TA 1:02 min



T2 TSE DarkFluid  
TA 1:52 min



DWI, b800  
TA 1:21 min

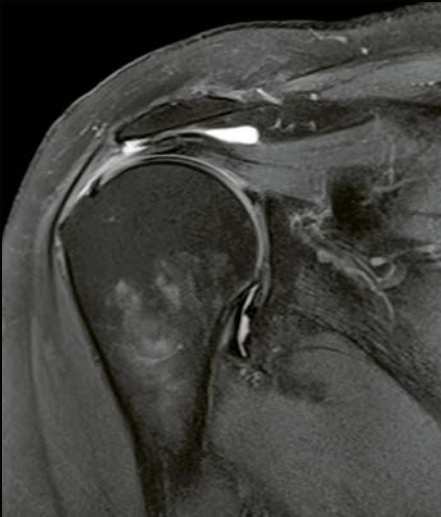


T2\* hemo  
TA 0:06 min

2aaaa1165

## Orthopedics

Ultra-high-density coils for orthopedic imaging with maximized SNR and anatomic coverage.



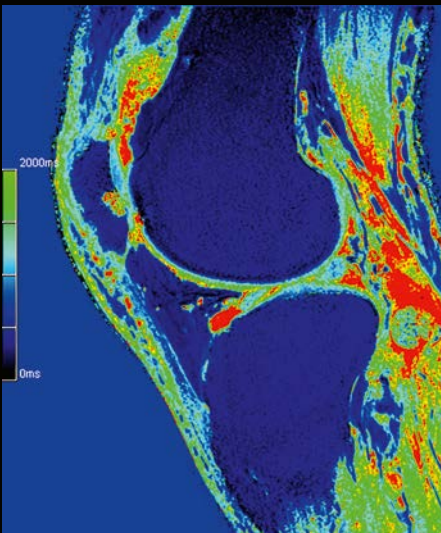
PD TSE fat sat  
TA 1:51 min  
SL 3 mm  
Matrix 448x512  
Shoulder Large 16

*Radiologische Praxisgemeinschaft, Oldenburg,  
Germany*



T1 TSE fat sat  
TA 3:06 min  
SL 3 mm  
Matrix 307x384  
Extremity 18

*Radiologie Muenchen Harlaching,  
Munich, Germany*



MapIt, T1 images  
TA 1:56 min  
SL 2.5 mm  
Extremity 18



T1 TSE  
TA 5:10 min  
SL 3 mm  
Extremity 18

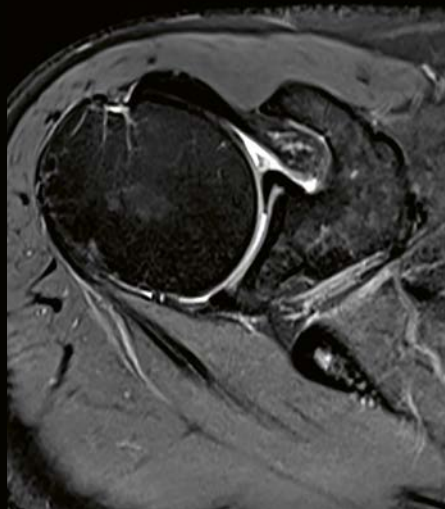
### Advanced WARP:

Serve a rapidly growing population of patients with artificial joints and implants.<sup>10</sup> The benefits are substantial: infections can be diagnosed earlier and there is a significant gain in image quality for any MR indication.

2aaaa1209, 2aaaa0369

## UltraFlex Coils

Maximize flexibility and SNR with the ultra-high density UltraFlex 18 Large & Small.



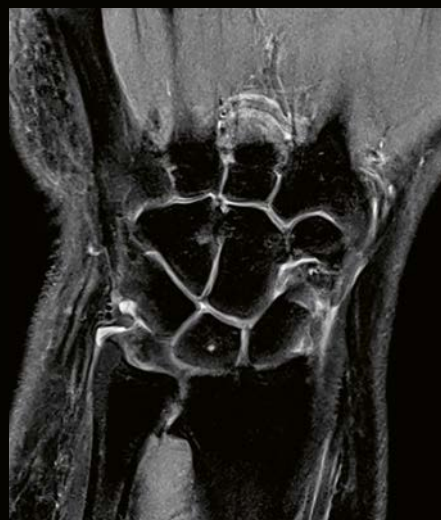
PD TSE fat sat  
TA 2:30 min  
SL 3mm  
UltraFlex Large 18



PD TSE fat sat  
TA 3:42 min  
SL 3 mm  
UltraFlex Large 18



PD TSE fat sat  
TA 2:36 min  
SL 3 mm  
UltraFlex Large 18



PD TSE fat sat  
TA 3:30 min  
SL 3 mm  
UltraFlex Small 18

2aaaa1211, 2aaaa0829, 2aaaa0369

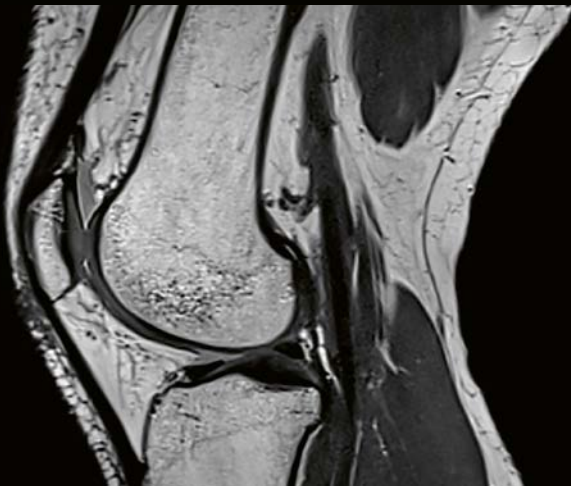


## GOKnee3D

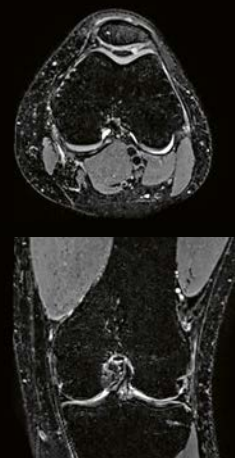
Provides clinically validated true isotropic high resolution 3D knee examinations in just 9:32 min.<sup>21</sup>



AutoAlign Localizer  
TA 0:14 min



3D IW / PD CAIPIRINHA  
SPACE<sup>23</sup>  
TA 4:37 min  
0.5 x 0.5 x 0.5 mm<sup>3</sup>



3D IW / T2 CAIPIRINHA  
SPACE fat sat<sup>11</sup>  
TA 4:41 min  
0.6 x 0.6 x 0.6 mm<sup>3</sup>

2aaaa1166

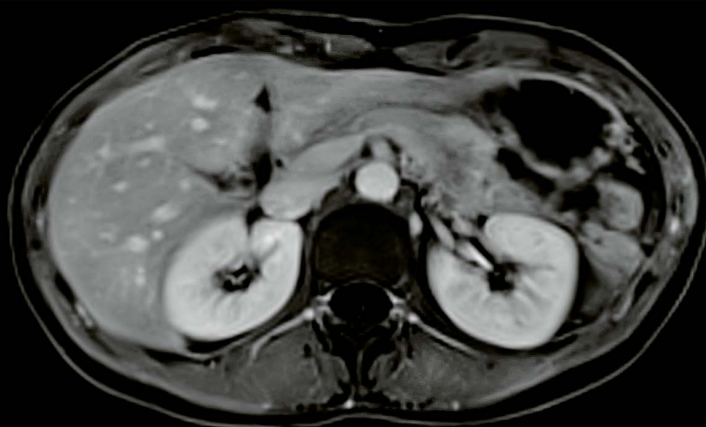
## Body imaging

High-channel body imaging thanks to the combination of ultra-high-density body and spine coils

### StarVIBE:

Enable freebreathing and contrast enhanced exams for a range of patient groups thanks to StarVIBE's intelligent insensitivity to motion artifacts.

*Gemeinschaftspraxis für Radiologie und Nuklearmedizin, Frankfurt / Bad Nauheim, Germany*



### FREEZEit:

Take abdominal imaging to the next level with our motion-embracing technology. MRI exams of the liver have become increasingly difficult due to contrast timing challenges and breathing motion. FREEZEit, which comprises TWIST-VIBE and StarVIBE, makes MRI faster and more robust than ever, overcoming previous limitations and significantly pushing the boundaries of what's possible.



TA 0:06 min



TA 0:08 min

### TWIST-VIBE:

Benefit from high temporal and high spatial resolution, to always achieve the right contrast in dynamic examinations.

*Gemeinschaftspraxis für Radiologie und Nuklearmedizin, Frankfurt / Bad Nauheim, Germany*



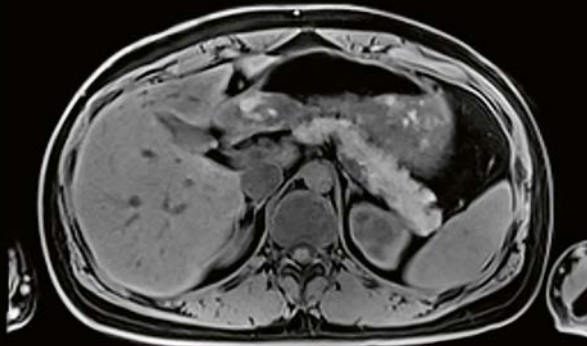
TA 0:10 min



TA 0:12 min

## Body 12 coil

High-density coil providing maximum SNR and acquisition speed for abdominal imaging



T1 VIBE Dixon  
PAT 4, TA 0:17 min  
SL 3 mm (interpolated)  
Body 12, Spine 24



T2 HASTE  
PAT 2, TA 2:24 min  
SL 5 mm  
Body 12, Spine 24



T1 VIBE fat sat  
PAT 4, TA 0:18 min  
SL 3 mm (interpolated)  
Body 12, Spine 24



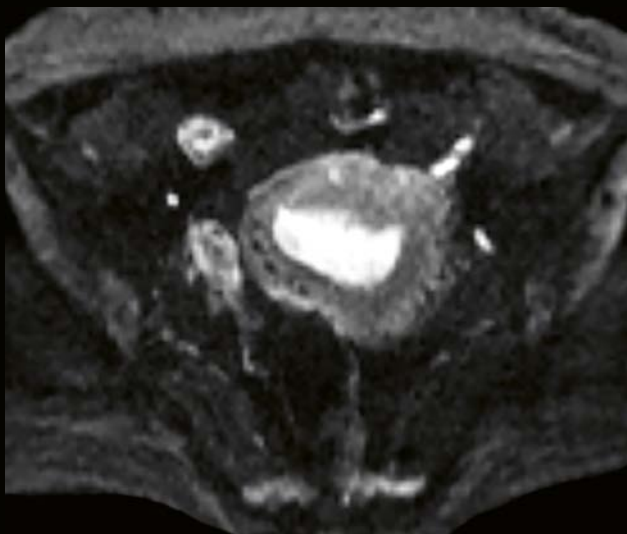
T2 HASTE  
PAT 3, TA 2:42min  
SL 5 mm  
Body 12, Spine 24

2aaaa1207



## Body 12 coil

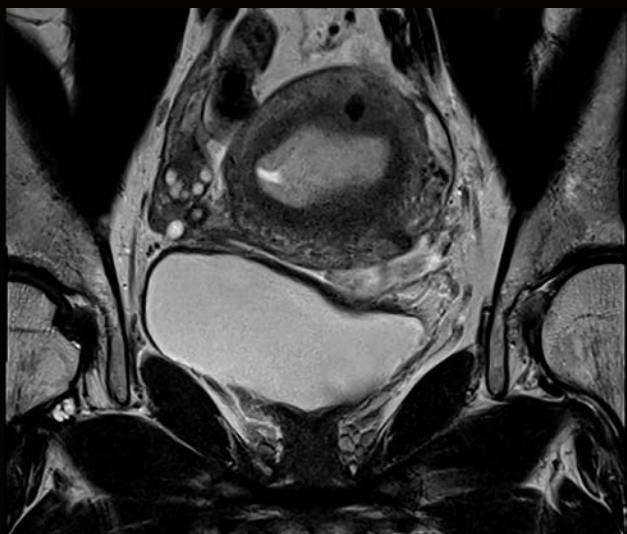
High-density coil providing maximum SNR and acquisition speed for examinations of the pelvis



DWI, b1000  
PAT 2, TA 4:54 min  
SL 4.5 mm  
Body 12, Spine 24



ADC map

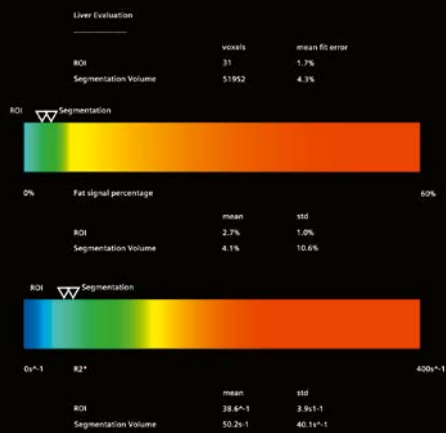
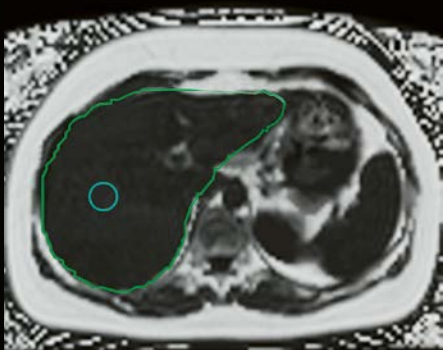


T2 TSE  
PAT 2, TA 4:18 min  
SL 3 mm  
Body 12, Spine 24



T2 TSE  
PAT 2, TA 4:14 min  
SL 3 mm  
Body 12, Spine 24

2aaaa1208



**LiverLab:**

Monitor cases of liver disease as they become increasingly common across the globe. LiverLab supports quantitative, non-invasive liver evaluation.

*Gemeinschaftspraxis für Radiologie und Nuklearmedizin, Frankfurt / Bad Nauheim, Germany*



T2 SPACE MRCP MIP  
TA 4:20 min  
SL 1 mm  
Body 6, Spine 24

**WHOLE BODY:**

Superior-quality imaging from meters to microns. Scan the entire length of the body up to 205 cm, with high resolution using the 512 matrix to see small details.

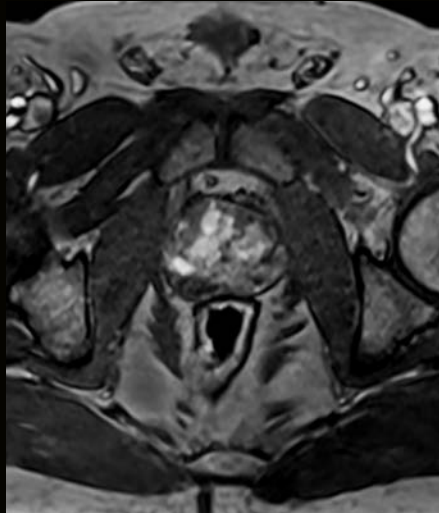


## Men's health

Comprehensive prostate exam according to PI-RADS 2



T2 TSE  
PAT 2, TA 3:43 min  
SL 3 mm (interpolated)  
Body 6, Spine 24



T1 VIBE dynamic  
PAT 2, TA 0:10 min  
SL 3 mm (interpolated)  
Body 6, Spine 24



RESOLVE, b 1400  
SL 3 mm  
Body 6, Spine 24



ADC map

*Radiomedicum  
Bad Nauheim, Germany*

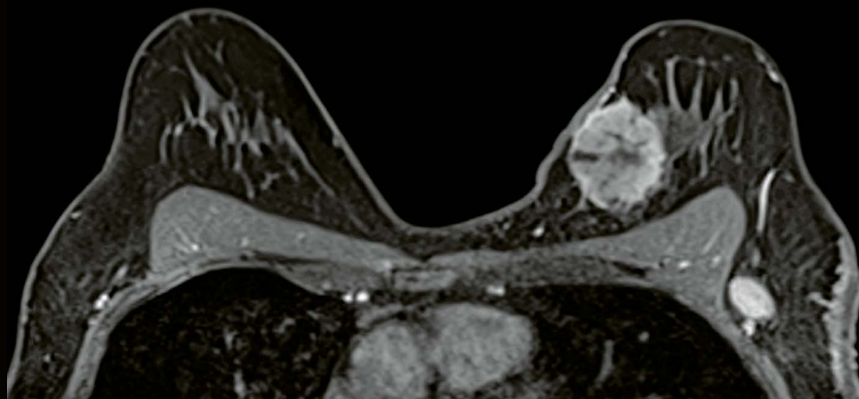
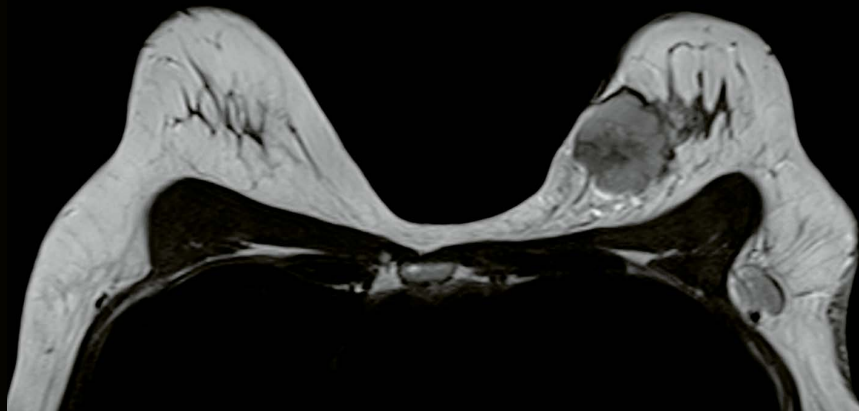
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## Women's health

Coils and imaging applications providing excellent diagnostic image quality for diagnosis and MR-guided breast interventions

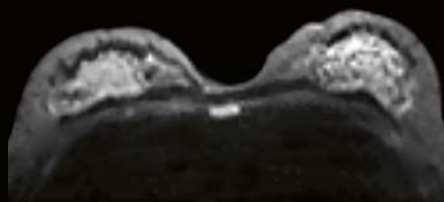
MAGNETOM Spectra and Tim 4G offer a wide selection of breast coils and outstanding image quality.

*IRM Paris Nord, Paris, France.*



### Simultaneous Multi-Slice

Significantly accelerating diffusion imaging



DWI  
PAT 2 + SMS 2, TA 1:55 min  
SL 5 mm  
Breast 18

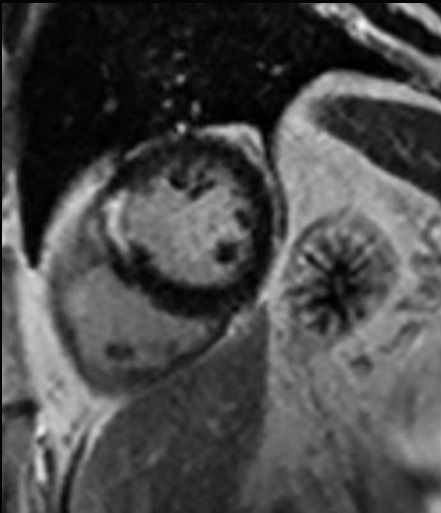
ADC map

2aaaa1163

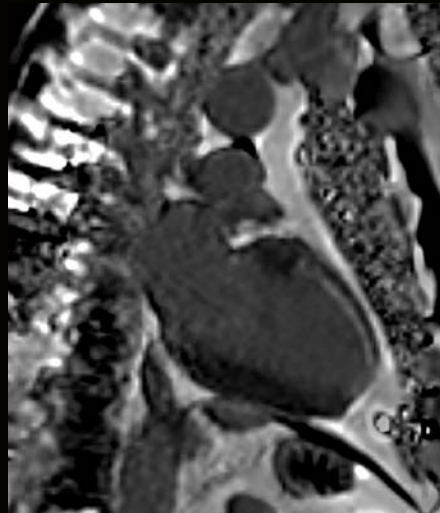


## CARDIOLOGY

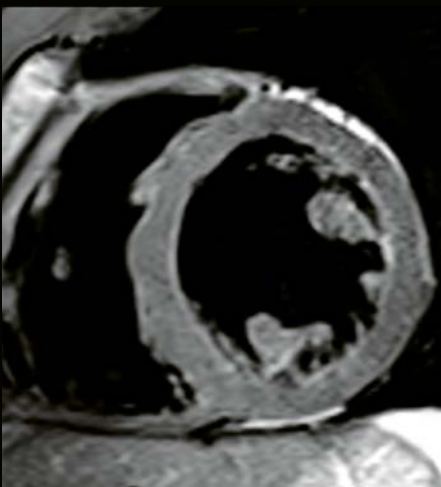
Cardiac examinations benefit from high SNR and increased parallel imaging factors in any direction to achieve ultra-fast acquisition times, from morphology, function, and perfusion, to viability.



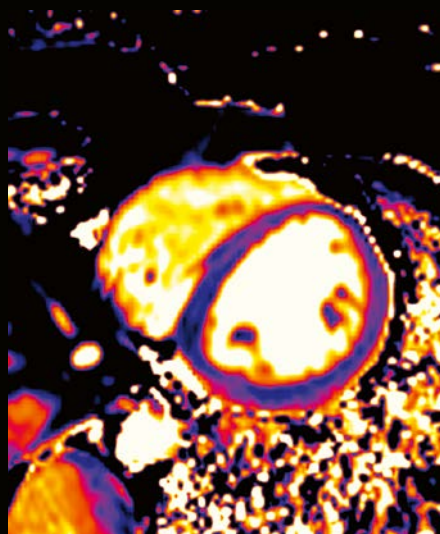
Delayed Enhancement Magnitude image  
TA 1:11 min  
Body 6, Spine 24



Delayed Enhancement Magnitude image  
TA 0:04 min  
Body 6, Spine 24



PD TSE dark blood  
TA 0:13 min  
Body 6, Spine 24



### MyoMaps:

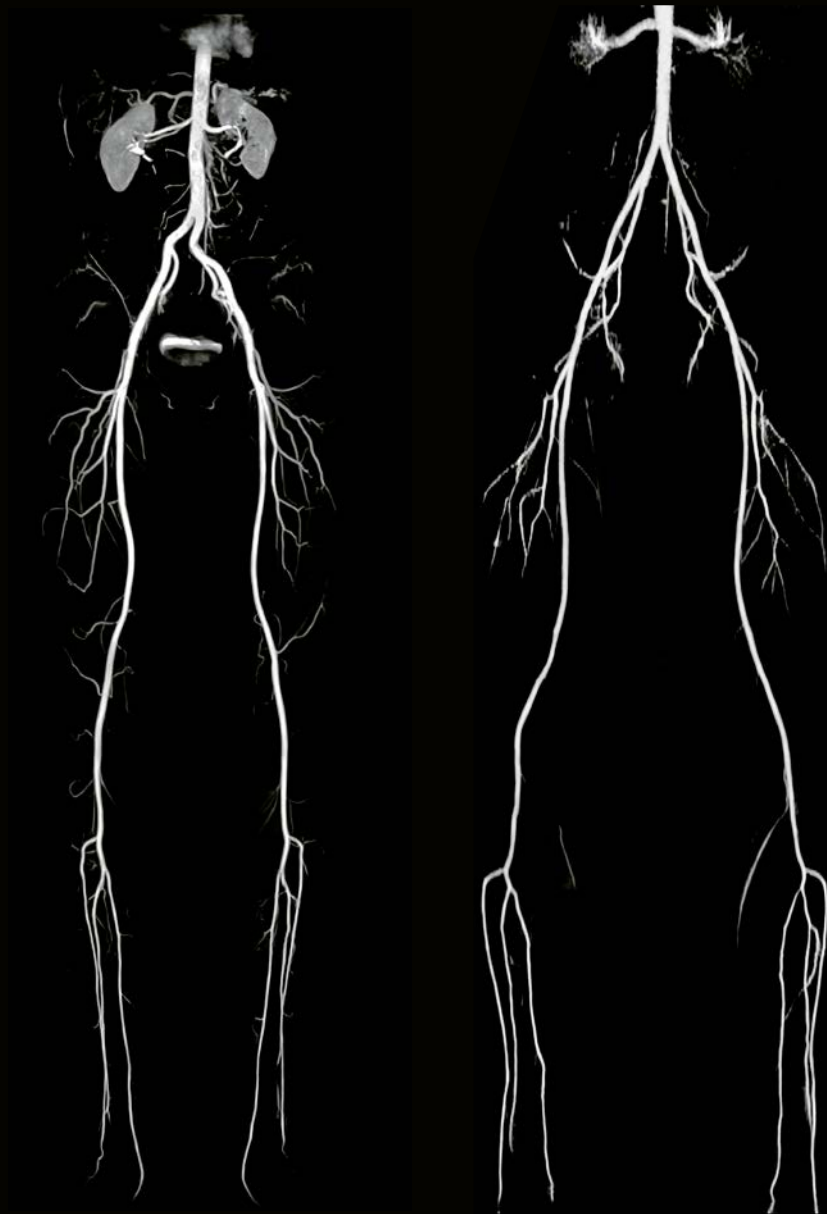
Benefit from inline myocardial quantification, detect normally missed global, diffuse, myocardial pathologies (T1 Map) and better depict cardiac edema (T2 Map) with MyoMaps, based on Siemens' unique HeartFreeze.

*Gemeinschaftspraxis für  
Radiologie und Nuklear-  
medizin, Frankfurt/  
Bad Nauheim, Germany*

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## Angiography

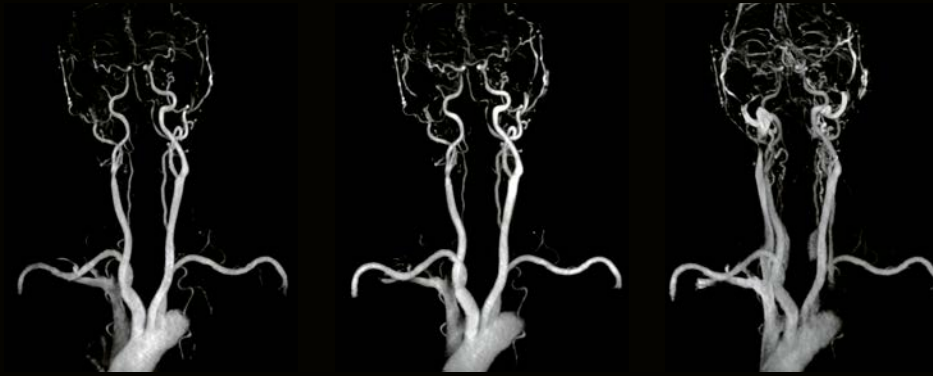
Tim 4G's new ultra high-density coils and 205 cm scan range allow you to perform high resolution whole-body angiography easily and without repositioning the patient.



Flash 3D  
TA 0:57 min  
SL 1.1 mm  
Body 6, PA 36, Spine 24

*Gemeinschaftspraxis für Radiologie  
und Nuklearmedizin, Frankfurt/  
Bad Nauheim, Germany*

QISS  
For non-CE peripheral MRI:  
QISS delivers accuracy  
comparable to contrast-  
enhanced MRI.



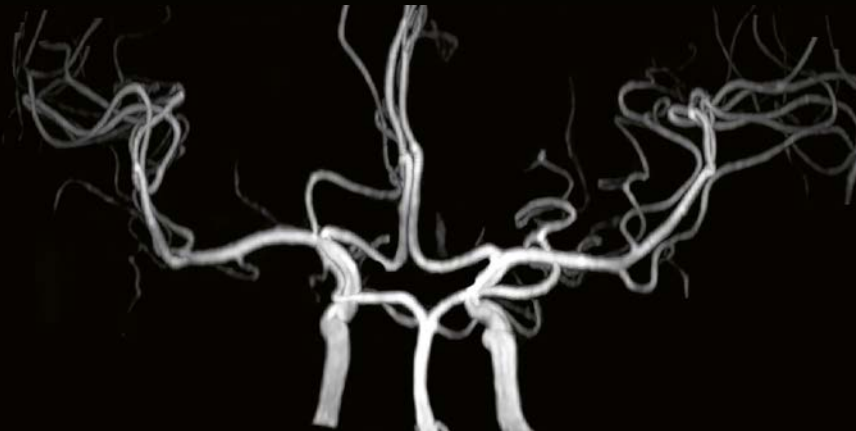
**Excellent SNR and large coverage:**

The Head / Neck 20 coil reveals great details and allows for large coverage – improving insights in neuroanatomy while reducing scan time and enhancing resolution.

*Kajikawa Hospital,  
Hiroshima, Japan*

*“MAGNETOM Spectra is so easy to use. Our technologists really like the new system, especially the Tim coils. We could easily shift our routine from 1.5T to 3T.”<sup>7</sup>*

**Dr. Chieko Wakabayashi,**  
Suisaikai Kajikawa Hospital, Hiroshima, Japan



**Segmented TOF**

By intelligently allocating the saturation pulses acquisition times for Segmented TOF can be reduced by up to 33 % in comparison with conventional time of flight examinations while keeping the image quality comparable.

Segmented TOF 3D  
TA 3:37 min  
SL 0.5 mm  
Head / Neck 20

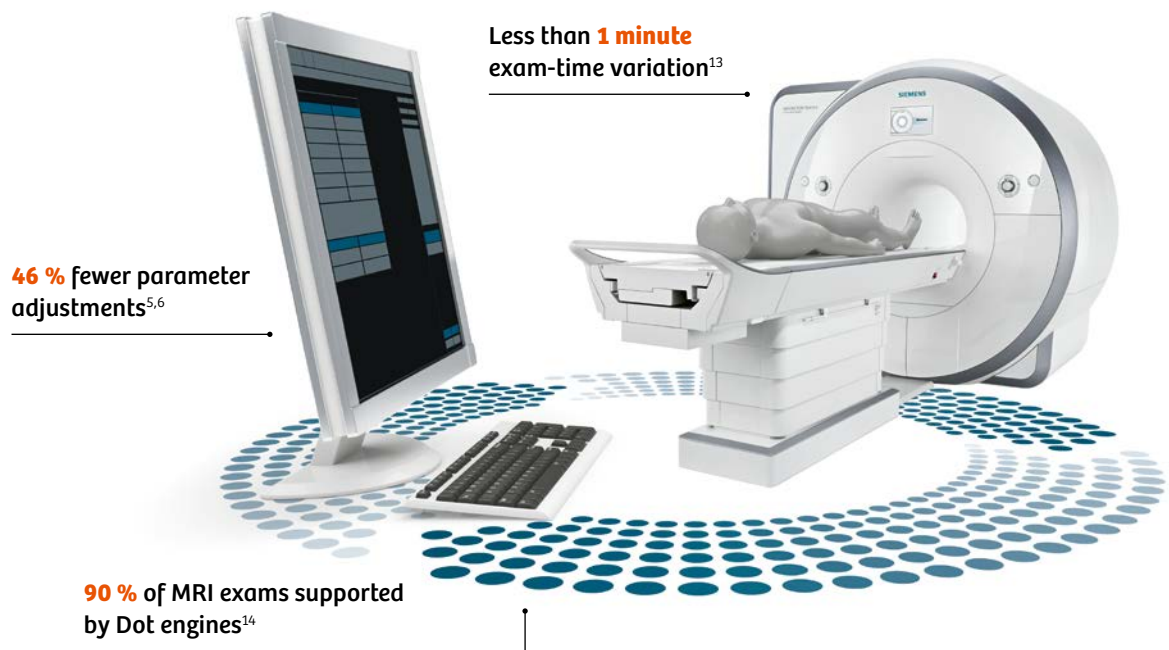


## Go for consistent results, efficiently

In the face of diverse patient needs and complex MR software functionality, greater standardization and consistency are vital. MAGNETOM Spectra allows you to tailor and manage protocols in line with your specific needs, improve flexibility and deliver reliably high-quality care. With DotGO,<sup>12</sup> you enjoy a comprehensive overview of processes, intuitive user guidance and smart automation – all integrated into a single user interface. The result is greater efficiency and excellence for each and every scan.



# Go for consistent results, efficiently with DotGO workflow



## Flexibility

With one central user interface to configure any protocol and flexibly create your exam strategies, DotGO empowers you to define a higher standard of care and service for more patients and referrers. And it lets you adjust strategies ad hoc to accommodate a multitude of clinical requirements, individual patient needs and changing scenarios.

*“The key feature of the new DotGO is the ability to quickly see your entire protocol on one page, as opposed to having to drill down multiple levels to see what your protocols actually are. It gives us a great overview of the protocol. You know exactly what’s in there at any given time just by glancing at it.”<sup>7</sup>*

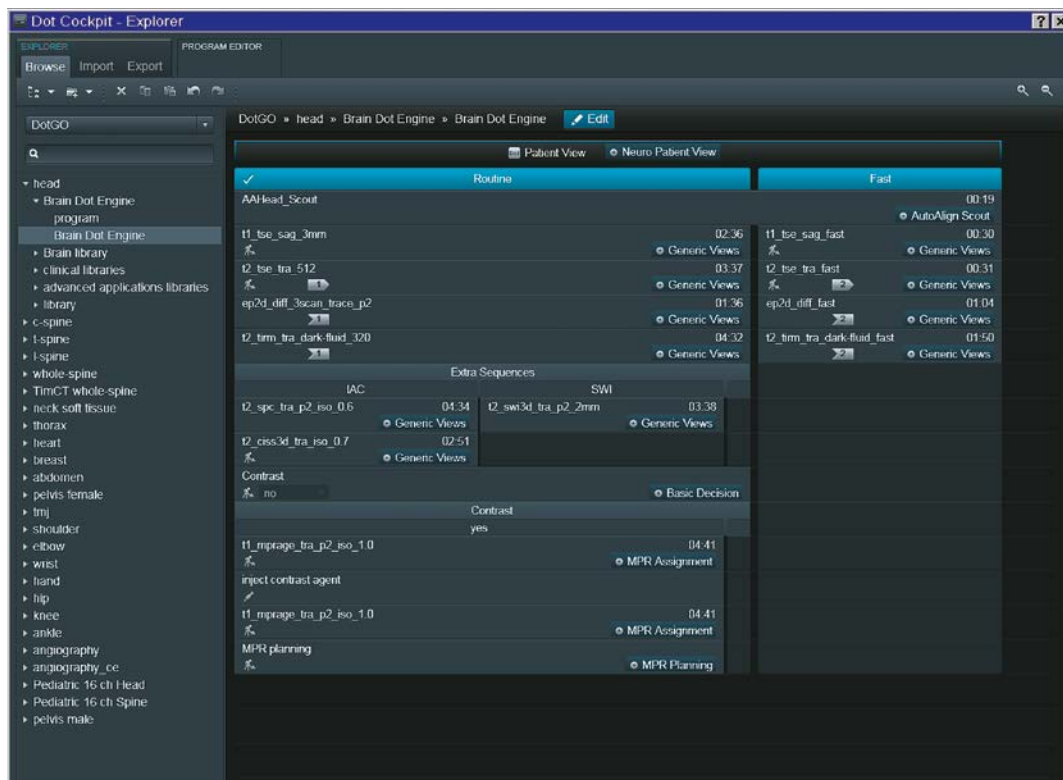
**Anthony Pavone,**  
Chief MRI Technologist  
Zwanger-Pesiri Radiology, New York, USA

### Consistency

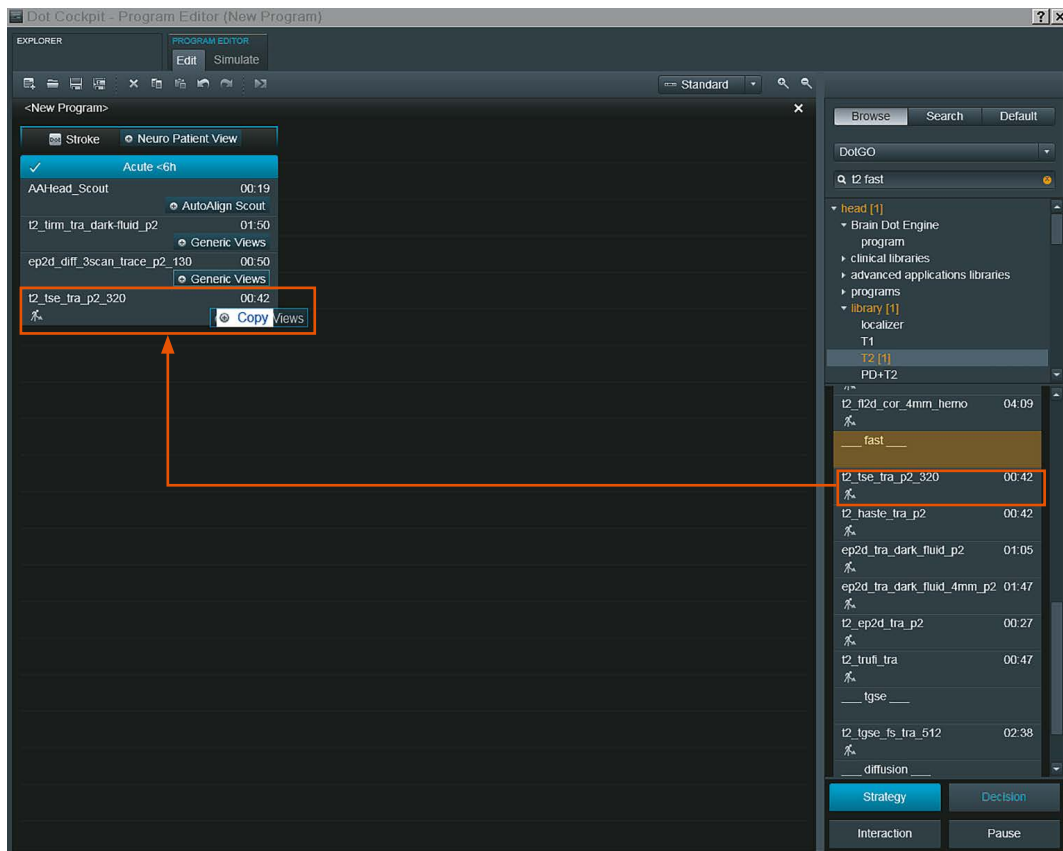
DotGO enables you to standardize your MRI operations with a comprehensive guidance system, predefined strategies and Dot engines that create reproducible, high-quality outcomes every time. This significantly reduces the need for rescans and allows any technician to perform any exam with consistent results – even for complex cardiac imaging.

### Efficiency

Thanks to DotGO’s automated functionalities, MAGNETOM Spectra dramatically improves the efficiency of your MRI workflow. Automatic slice positioning, voice commands, and organ labeling reduce the level of interaction required from technicians, freeing them up for other important tasks. Additionally, they standardize exams and lower costs.

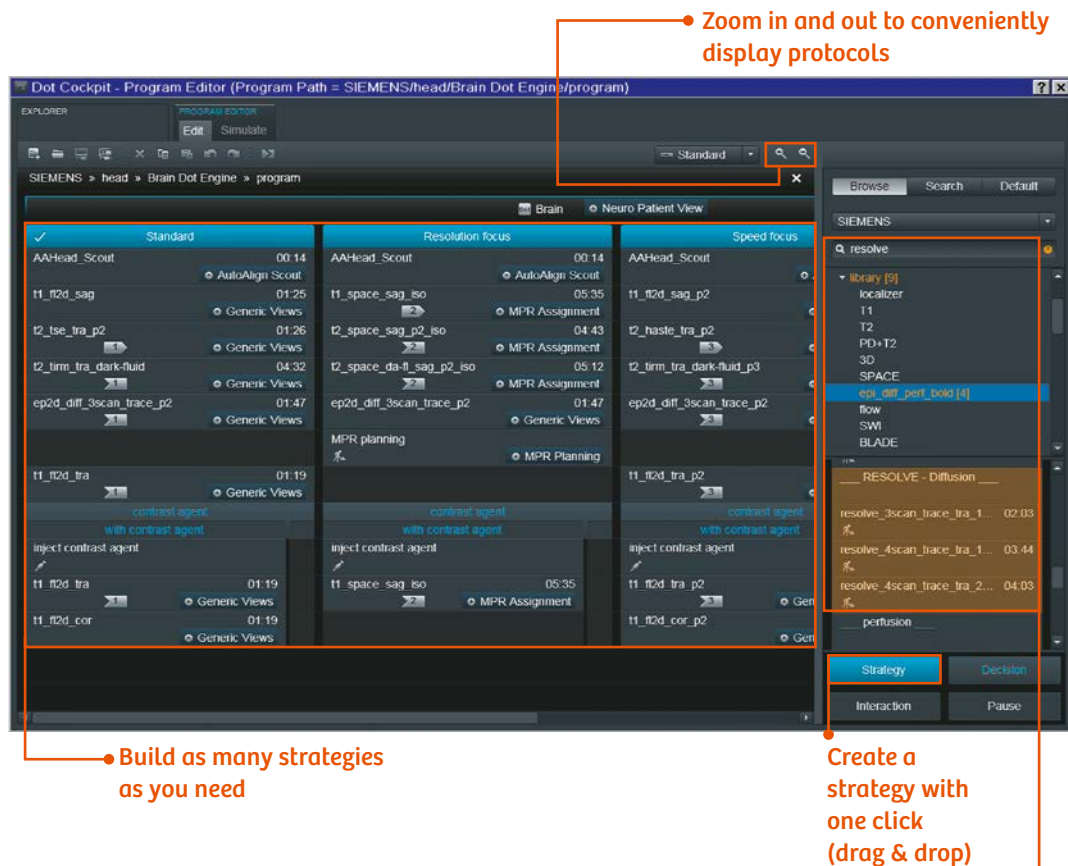
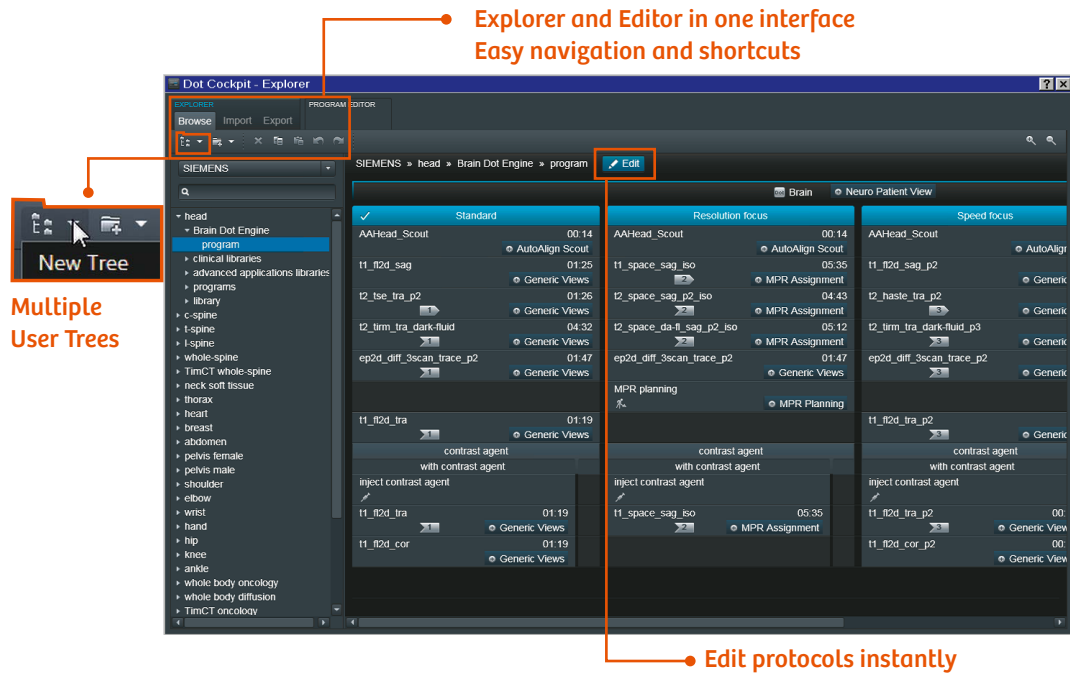


**Dot Cockpit:** A central user interface enables fast and intuitive protocol configuration and management. Dot Cockpit delivers up to 80 %<sup>12</sup> greater usability.



**Drag & drop from the sidebar in Editor**

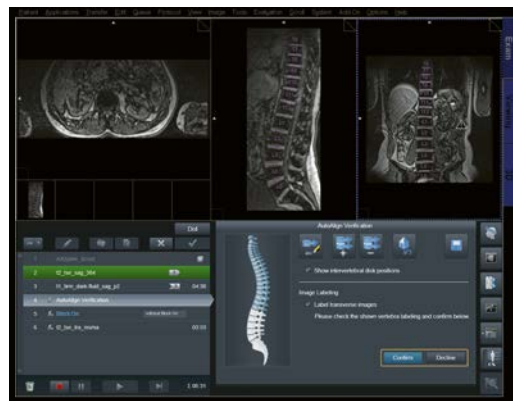






### Brain Dot engine

More efficient and reproducible brain exams.



### Spine Dot engine

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



### Breast Dot engine

Increased certainty in breast imaging.



### Cardiac Dot engine

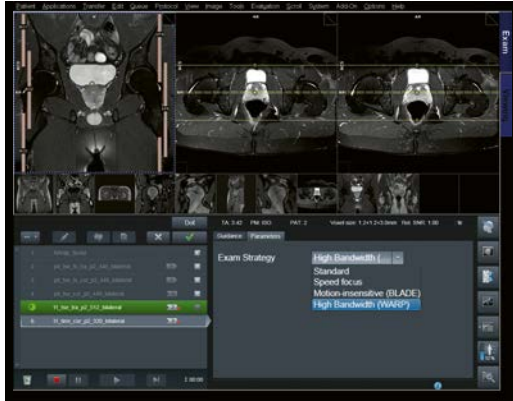
Up to 50 %<sup>15</sup> increase in patient throughput.

*"Dot engines really enhance our throughput in day-to-day scanning, but also improve quality reproducibility. Dot helps technicians and radiologists produce excellent images."*<sup>7</sup>

#### Anthony Pavone

Chief MRI Technologist

Zwanger-Pesiri Radiology, New York, USA



### Large Joint Dot engine

Increased consistency for all large joints – hip, shoulder, and knee.



### Abdomen Dot engine

Optimized bolus timing for dynamic liver examinations.



### Angio Dot engine

Optimally timed contrast images with interactive bolus timing.

*“The number of failed examinations has been drastically reduced by the Dot engines, and the angiographies have become better. Everything is simply much more standardized now.”<sup>7</sup>*

### Prof. Thomas Vogl

Interventional Radiology of the University Hospital Frankfurt, Germany  
Spokesperson of the Frankfurt Klinikallianz



## Improving patient experience

Healthcare users today have greater choice. Consequently, ensuring a positive patient experience plays a central role in securing revenue. MAGNETOM Spectra gives you a competitive edge by enhancing patient comfort. Expand your services to anxious patients, and those requiring specialized care – such as children<sup>16</sup> and the elderly – with a variety of applications. Reduce sound pressure during exams by up to 97 %, <sup>4</sup> and enable free-breathing and short set-up times for optimal results.

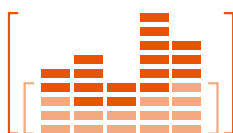


# Increase patient experience with Life Design and Quiet Suite

Up to **97 %** reduction in sound pressure with Quiet Suite<sup>4</sup>

**173 cm** ultra-short system length

Award-winning design in pure white



DirectConnect and SlideConnect for faster and easier patient set-up

## Enhanced patient comfort

A key element of Life Design is putting the patient first. The shortest magnets in the industry enable more exams to be performed with the head outside the bore. These and other leading-edge features increase satisfaction and allow you to serve more patient groups.





**SlideConnect:** Position coils simply, swiftly, and reliably – accelerating patient set-up.

*“Quiet Suite sequences are less loud and, even more importantly, have significantly less vibration, making the examination more comfortable for the patients. This ‘soft scanning’ comes at no compromise to image quality or scan time, an important factor for our busy practice.”<sup>7</sup>*

**Dr. Johan Dehem,**  
Chief Radiologist,  
Jan Yperman Ziekenhuis, Ieper, Belgium

#### Increased workflow efficiency

Life Design helps make your MRI operations more efficient and economical. And the central syngo user interface offers a consistent look and feel at every scanner, helping staff perform tasks faster and enhance their productivity.

#### Improved scanning experience

Diverse patient populations have diverse requirements. MAGNETOM Spectra incorporates Quite Suite and an ultrashort magnet to help address the needs of particularly anxious patient groups, or those that otherwise require special care. All in all, it helps provide a better scanning experience.



**Quiet Suite:** Conduct complete, quiet exams for neurology and orthopedics, with up to 97 % reduction in sound pressure.<sup>4</sup> Quiet Suite minimizes the need for sedation of certain groups of patients such as children<sup>16</sup> and the elderly – without compromising image quality. Because imaging is to be seen, not heard.



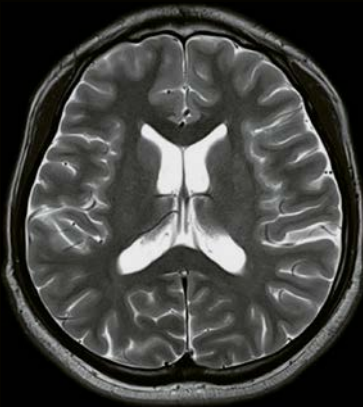
**Tim coil technology:** Tim 4G technology accelerates set-up and provides a high level of patient comfort.

## Quiet Suite

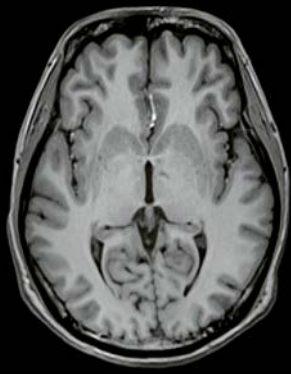
Imaging is to be seen, not heard. Complete, quiet examinations for neuro and orthopedics.

- Up to 97 % reduction in sound pressure
- No compromise on image quality, no need for hardware modification

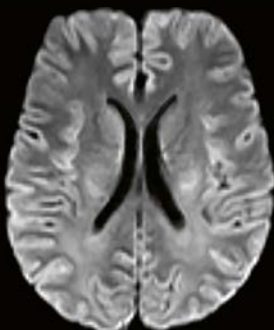
### Conventional



T2 TSE  
TA 2:08 min  
Matrix 512x512  
dB(A) 90

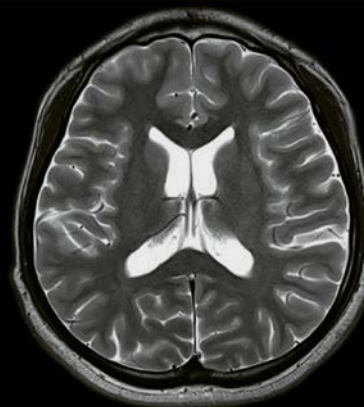


MPRAGE  
TA 4:21 min  
SL 0.94 mm  
dB(A) 96  
Head / Neck 16

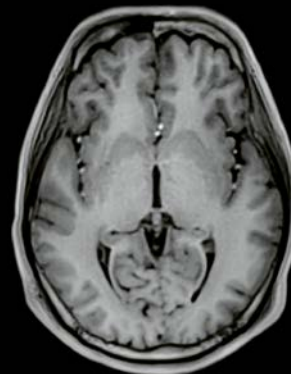


DWI  
TA 1:28 min  
Matrix 160x160  
dB(A) 97  
Head / Neck 16

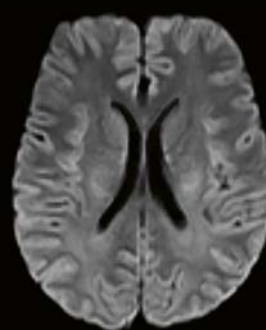
### Quiet Suite



T2 TSE QuietX  
TA 2:12 min  
Matrix 512x512  
dB(A) 79



PETRA  
TA 4:25 min  
SL 0.94 mm  
dB(A) 67  
Head / Neck 16



DWI QuietX  
TA 2:01 min  
Matrix 160x160  
dB(A) 84  
Head / Neck 16

SP\_018, 2aaaa1164

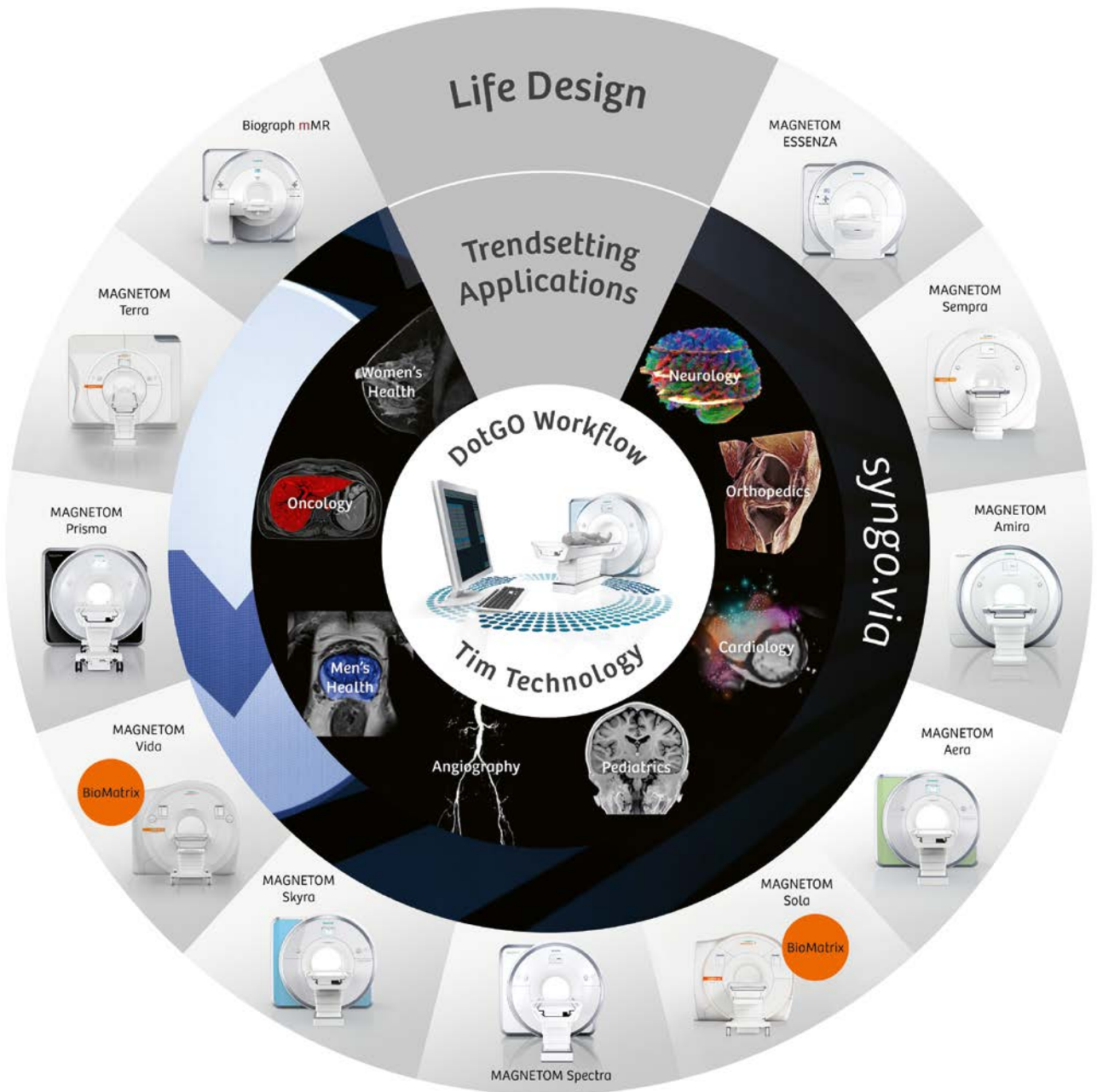


**MAGNETOM Spectra**  
**Technical specifications**

Field strength	3 Tesla
Bore size	60 cm
System length <sup>17</sup>	173 cm
System weight (in operation) <sup>17</sup>	5.5 tons
Minimum room size <sup>17</sup>	31 m <sup>2</sup> / 334 ft <sup>2</sup>
Maximum number of channels <sup>18, 19</sup>	96, 120 <sup>20</sup>
Number of independent receiver channels that can be used simultaneously in one single scan and in one single FOV, each generating an independent partial image	24
Gradient strength	33 mT / m @ 125 T / m / s
Helium consumption	Zero Helium boil-off technology

# Magnetic Resonance Imaging

Our innovative MRI technologies offer you exceptional image quality, efficiency, and speed, while providing patient friendliness and investment protection. Equipped with these technologies and a very strong global collaboration network, we enable you to lead in MRI.





## Why Siemens Healthineers?

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

An estimated 5 million patients globally everyday benefit from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics and molecular medicine, as well as digital health and enterprise services.<sup>21</sup>

We are a leading medical technology company with over 170 years of experience and 18,000 patents globally. With more than 48,000 dedicated colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

## Notes



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For accessories, please visit:  
[www.siemens.com/medical-accessories](http://www.siemens.com/medical-accessories)

- 1 Based on the scan time difference between an 18-channel set-up and a 4-channel set-up with otherwise identical parameters and the same SNR. Data on file.
- 2 Developed by the board-certified neuroradiologists at Massachusetts General Hospital, USA.
- 3 Fritz J, et al. GOKnee3D. 2017; Manuscript under preparation.
- 4 Decibel measurements and images acquired on MAGNETOM Spectra, 2016. Data on file. Results may vary.
- 5 Data collection through independent observer.
- 6 Case study by: Prof. Forsting, Prof. Antoch, Department of Diagnostic and Interventional Radiology and Neuroradiology, University Hospital Essen, Germany.
- 7 The statements by Siemens customers described herein are 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 others will achieve the same results.
- 8 Total cost of ownership based on 10 years of operation. Data on file.
- 9 Average European energy consumption in nonproductive modes, with a daily energy average of 209.57 kWh. Based on a survey of 454 sold units as reported in the 2013 COCIR SRI Status Report published in 2014.
- 10 The MRI restrictions (if any) of the metal implant must be considered prior to the patient undergoing the 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.
- 11 IW = intermediate weighted; according to Fritz J, et al. GOKnee3D. 2017; Manuscript under preparation.
- 12 Dot Cockpit Usability Study (2013) for Dot and non-Dot users.
- 13 Zhongshan Hospital Fudan University, CN, Abdomen Dot Engine Workflow Study.
- 14 Siemens Usability Evaluation of 9 million Siemens MR exams, 2013.
- 15 Data on file; results may vary.
- 16 MR scanning has not been established as safe for imaging fetuses and infants under two years of age. The responsible physician must evaluate the benefit of the MRI examination in comparison to other imaging procedures.
- 17 Minimum total space requirement for magnet, electronics, and console room.
- 18 Channels (coil elements) that can be connected simultaneously.
- 19 Optional with Tim Whole Body Suite.
- 20 With Tim Whole Body Suite.
- 21 Siemens AG, "Sustainable healthcare strategy – Indicators in fiscal 2014", pages 3-4.

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