



# MRI Excellence in 1.5 T

MAGNETOM Avanto

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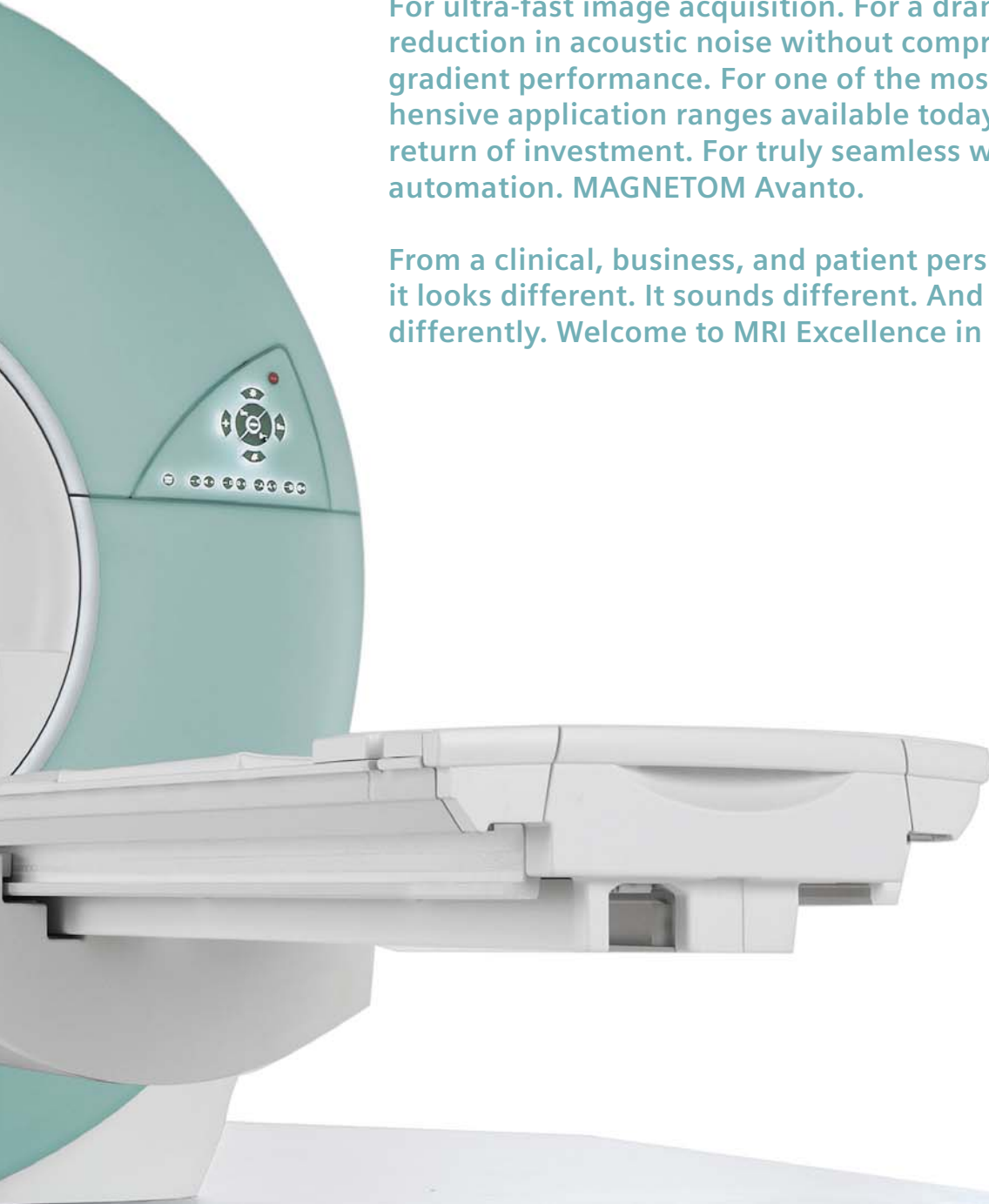
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MAGNETOM **Avanto**  
A Tim System

# MRI Excellence in 1.5T

For ultra-fast image acquisition. For a dramatic reduction in acoustic noise without compromising gradient performance. For one of the most comprehensive application ranges available today. For fast return of investment. For truly seamless workflow automation. MAGNETOM Avanto.

From a clinical, business, and patient perspective, it looks different. It sounds different. And it works differently. Welcome to MRI Excellence in 1.5T.

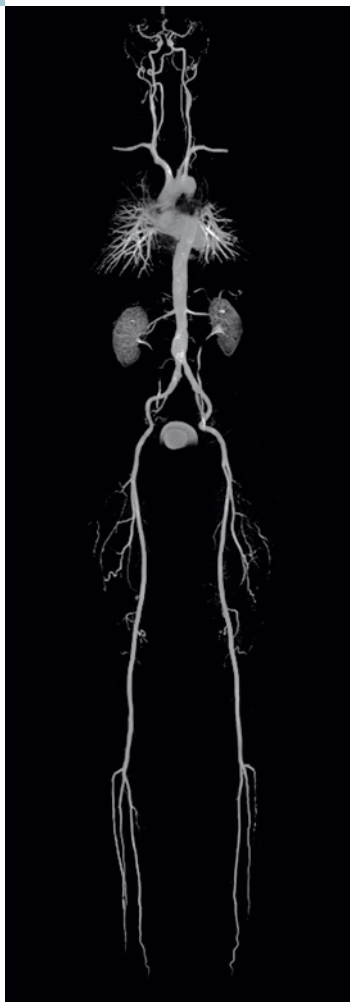




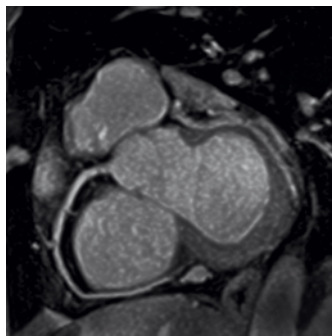
## Excellence in image acquisition technology: Exploit the full power of high-end imaging.

MAGNETOM Avanto provides a new level of pristine image quality with unprecedented acquisition speed and ease of use. The unique combination of leading magnet and gradient technology together with revolutionary image acquisition techniques provides unsurpassed clinical benefits:

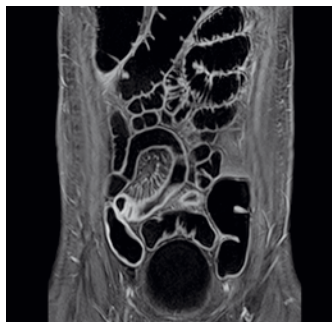
- High diagnostic confidence due to exceptional magnet homogeneity for excellent fat saturation
- Large 50 cm Field of View (FoV)
- Strong gradients for high resolution and short scan times
- Unparalleled flexibility, accuracy, and speed thanks to Tim (Total imaging matrix) technology



**wholeANGIO.**  
With the flexibility of Tim's coil combinations, any Field of View up to 205 cm can be addressed. Accurate to see tiny vessels. And fast with Parallel Imaging from head to toe: TA 1:27 min.



**Fat saturation.**  
MAGNETOM Avanto excels in cardiac MRI. With strong gradients, superb Parallel Imaging with *syngo* GRAPPA, and high magnet homogeneity. Everything desired for heart MRI.



**Large Field of View.**  
50 cm Field of View provides a perfect view of pathologies.



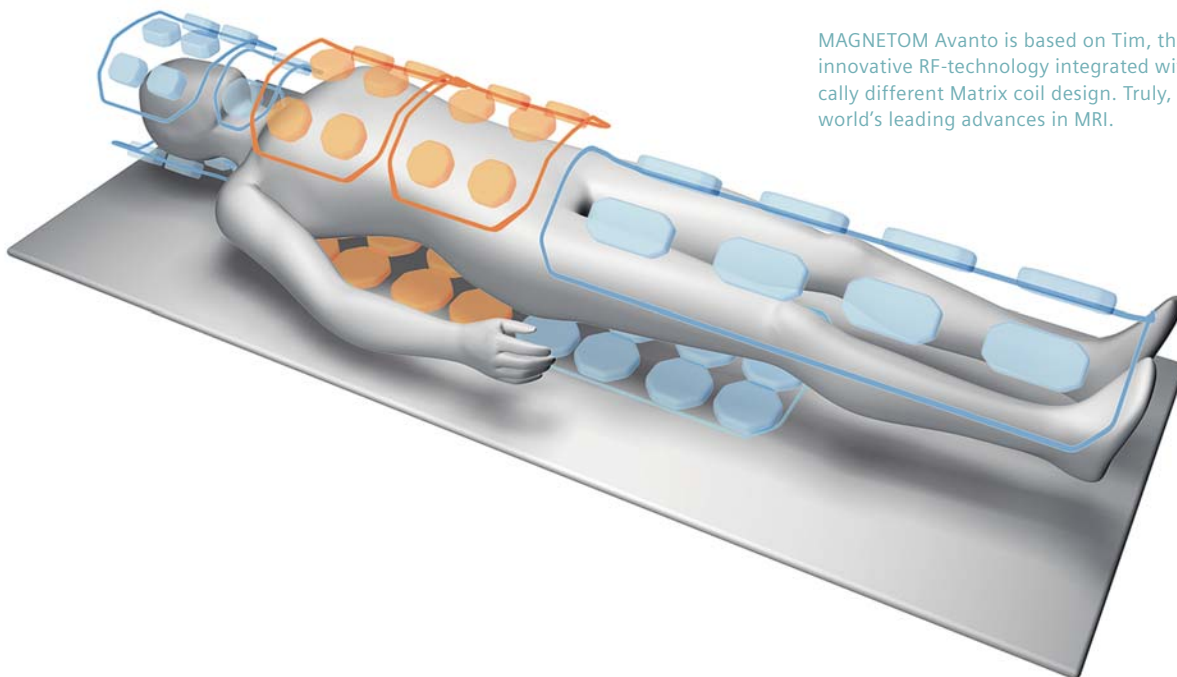
**Functional MRI.**  
With strong gradients, MAGNETOM Avanto is ready to go for the most advanced applications.



## Tim has changed MRI forever.

Today's clinical practice requires fast and accurate diagnosis without compromising business demands. Tim (Total imaging matrix) was created to increase flexibility, accuracy, and speed, making every aspect

of your workflow more efficient and productive. No one else can offer the workflow benefits that Tim provides. And with thousands of installations, Tim keeps proving it every day.



MAGNETOM Avanto is based on Tim, the most innovative RF-technology integrated with a radically different Matrix coil design. Truly, one of the world's leading advances in MRI.



**Flexibility.**  
Select exams, not coils.

[76x32]. Up to 76 seamlessly integrated matrix coil elements and up to 32 independent RF channels combined to create one Total imaging matrix. A matrix adjustable to both the pathology under examination and the individual patient.

**Accuracy.**  
Local and total.

Matrix coils unleash the high Signal-to-noise ratio (SNR) only local coils provide. Extreme precision from single organ up to whole-body exams. From 5 mm to 205 cm Field of View (FoV). Without coil or patient repositioning. For all applications. With up to 100% more SNR.

**Speed.**  
Parallel in all directions

Head to toe, front to back, and side to side for unlimited Parallel Imaging. Up to PAT 16. Even for double oblique slice orientation. Without restrictions in coverage. With the high SNR of standard Matrix coils.



## Excellence in applications: Diagnose extremely challenging diseases quickly and with more confidence.

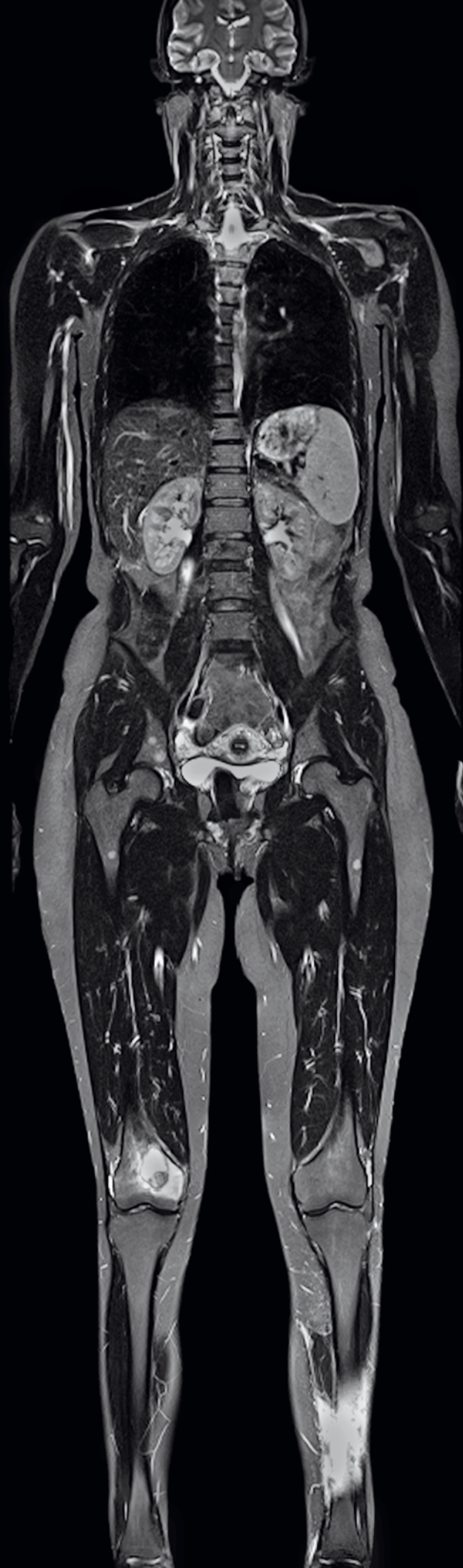
Stroke. Spinal abnormalities. Liver cancer. Disk herniation. Heart disease. With MAGNETOM Avanto, you can diagnose extremely challenging diseases with more confidence. Evaluate the most complex pathologies. And handle difficult patients with ease.

Siemens' *syngo* MRI applications help you to do things never before possible. Faster. With increased accuracy.

In each clinical field, *syngo* MR applications, powered by Tim, are helping to create the future of MRI.

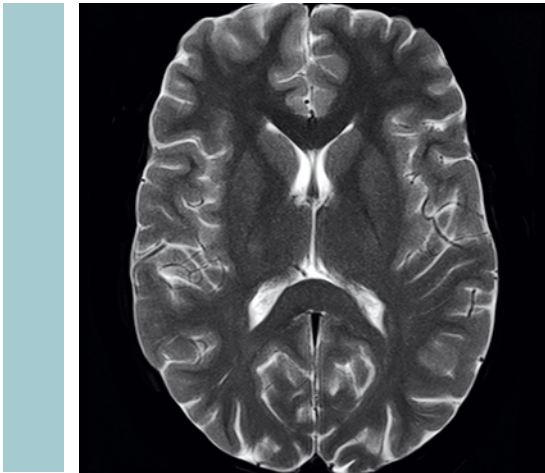


Head, shoulder, knee, or toe?  
MAGNETOM Avanto gives you total  
flexibility, with innovative applica-  
tions for each part of the body.  
And Tim seamlessly scans up  
to 205 cm with no patient reposi-  
tioning or coil changes. For true  
whole-body functionality.



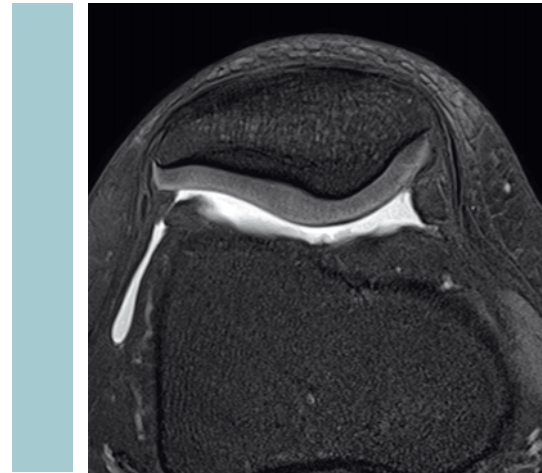
# Standard Tim Application Suite

MAGNETOM Avanto is fully equipped with a broad range of dedicated applications. In each clinical field the Tim Application Suite will help you to address your clinical needs without any additional costs.



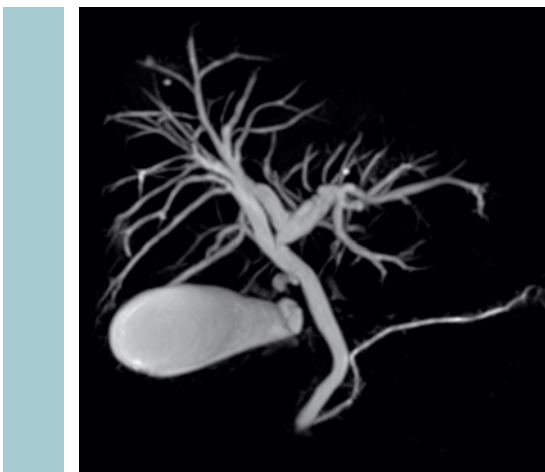
## Neuro

Evaluate from disc herniation to acute stroke with high-quality morphological and functional techniques.



## Ortho

Examine ligament tears to cartilage degeneration with high-resolution imaging.



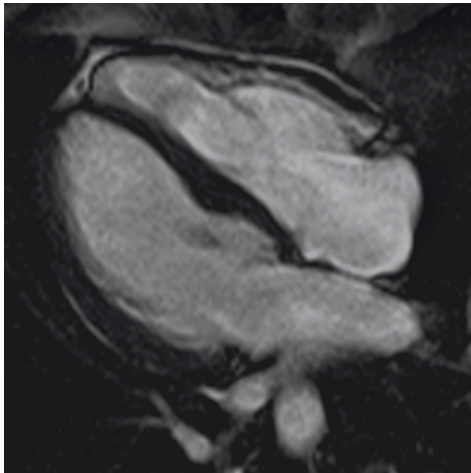
## Body

Perform free-breathing high-resolution MRCP to pancreatic and pelvic studies, with ease.



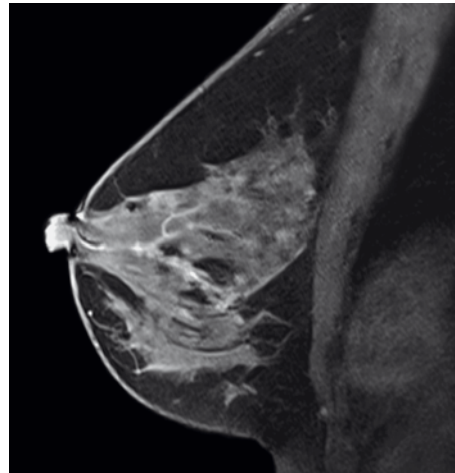
## Angio

Depict vessel diseases with a wide range of contrast and non-contrast enhanced techniques.



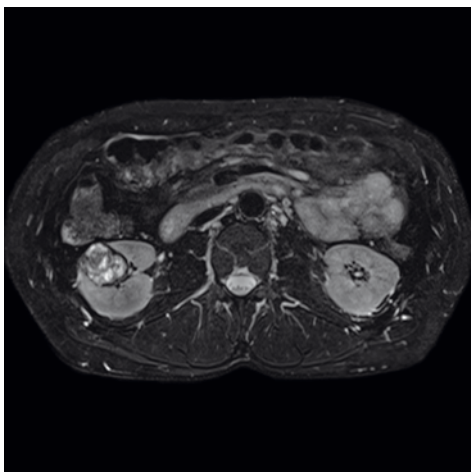
### Cardiac

Easily answer clinical questions, from cardiomyopathies to ischemic heart disease, and valvular to congenital heart diseases.



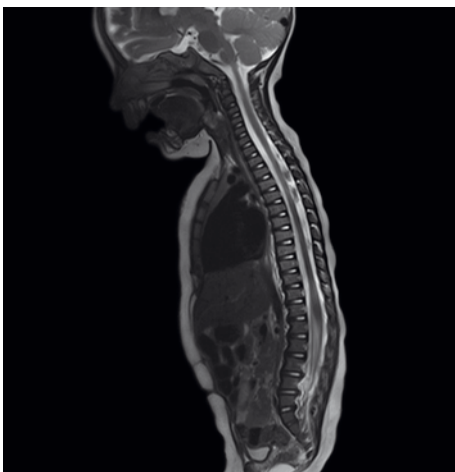
### Breast

Streamline your workflow in clinical cases, including lobular cancer, breast implant assessment, and therapy monitoring.



### Onco

Provide state-of-the-art oncology services for tumor detection and staging of prostate, liver cancers, and more.



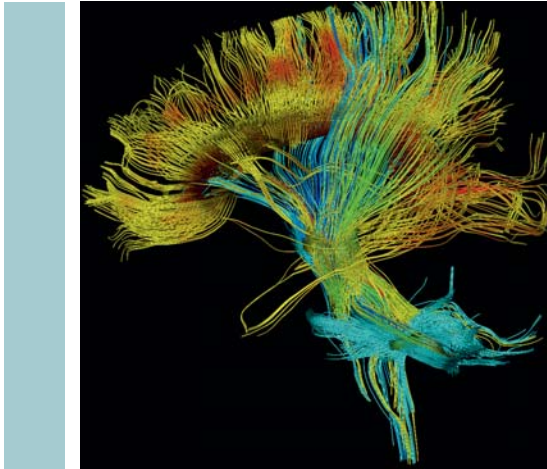
### Pediatric\*

Achieve excellent contrast and resolution with age-dependent protocols using ultra-fast and motion correction techniques.

\*The safety of imaging children under two years of age has not been established.

# Advanced Application

Experience cutting-edge MRI with high-end applications in all clinical fields.



## Advanced neuro imaging

### **syngo DTI Tractography**

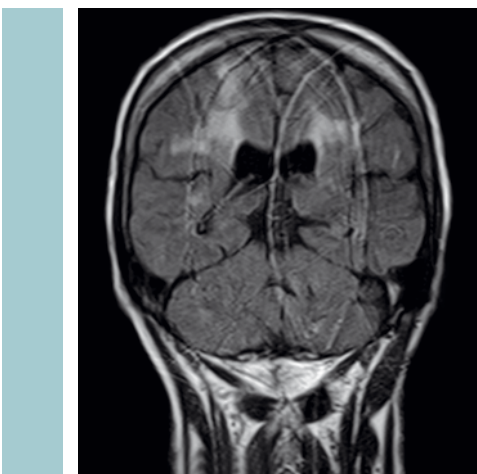
Advanced neuro imaging visualizes white matter fiber tracts.



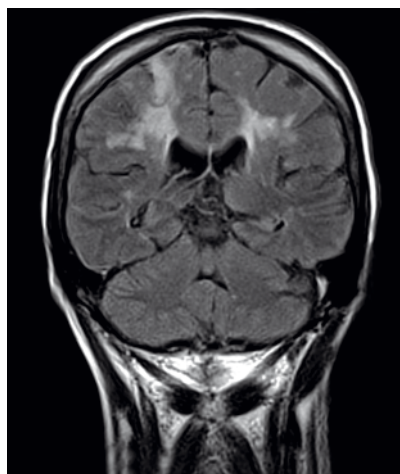
## Enhanced pathology visualization

### **syngo MapIt**

Allows the early detection of osteo arthritic pathology based on the T1, T2 and T2\* properties of the cartilage. The assessment of T1, T2 and T2\* properties of tissues in other body regions is possible as well.



without BLADE

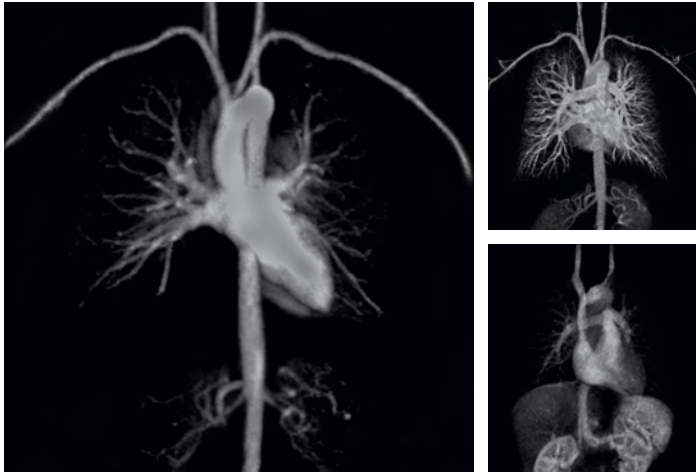


with BLADE

## Cutting edge motion correction

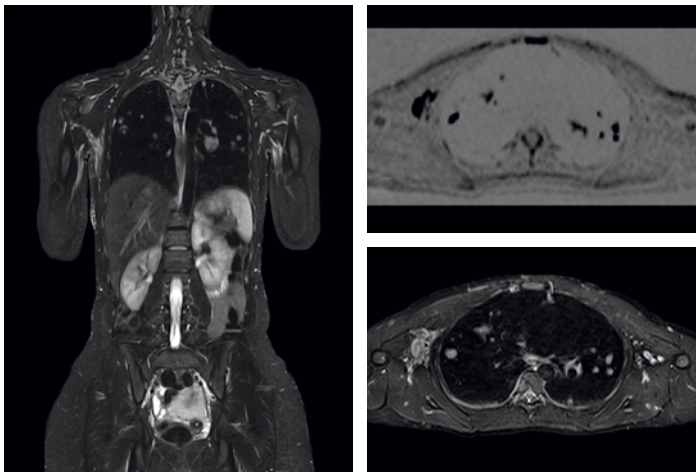
### **syngo BLADE**

Motion-insensitive Turbo Spin Echo sequence for any organ (head, joint, spine, abdomen), for any contrast (T1, T2, Dark Fluid), and for any orientation. Compatible with parallel acquisition technique.



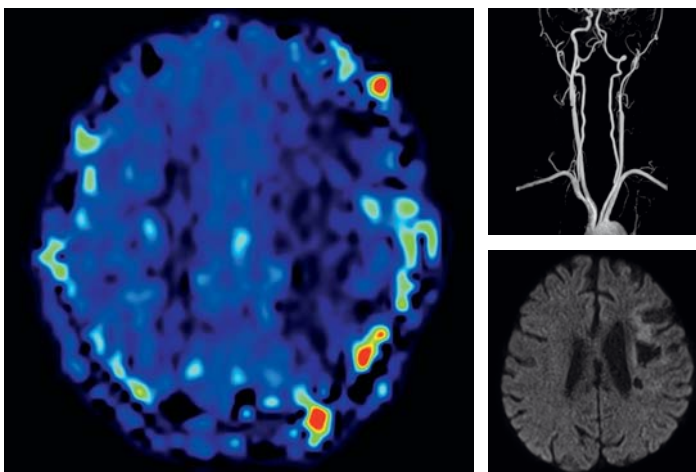
## Time-resolved MR Angiography

**syngo TWIST**  
4D MRA in all body parts  
with low contrast dose.



## Comprehensive metastasis screening

**syngo REVEAL**  
Body diffusion imaging to distinguish  
malignant from benign lesions.



## Non-contrast enhanced imaging

**syngo ASL**  
High spatial resolution perfusion imaging  
for evaluation of stroke, tumors, degenerative  
diseases, epilepsy.



## Excellence in examination comfort: Offer your patients a different kind of MRI experience.

### High gradient performance.

Whisper-quiet high gradient performance is now a reality. MAGNETOM Avanto's AudioComfort takes sound to a new, and very low, level. Special casting for gradient coils, special magnet suspension and unique MR sequence design all combine to reduce noise by up to 97%. With the excellence you need for the most demanding applications.

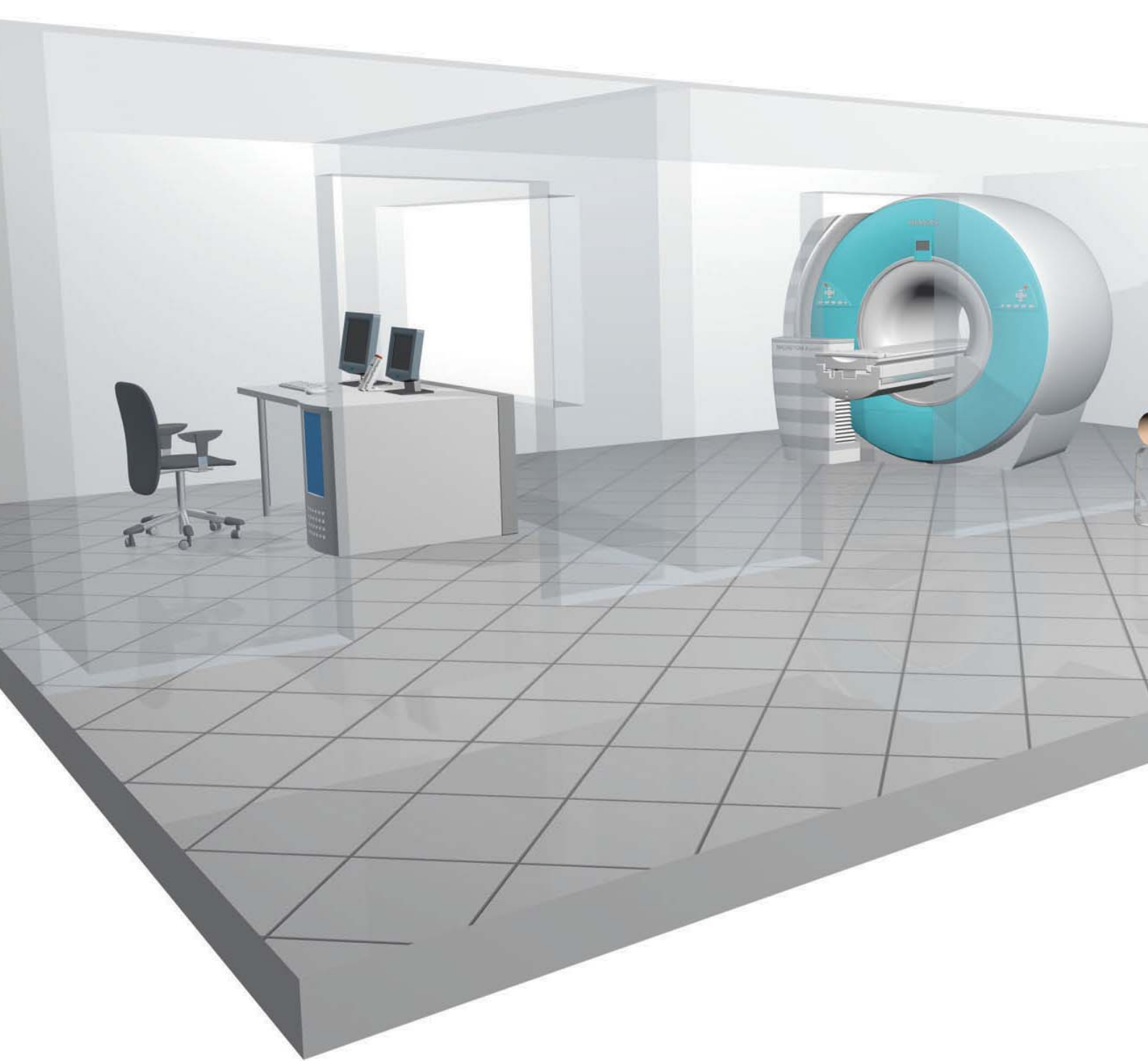


### Ultra-lightweight coils.

We've lightened the load. Literally. For example, our Body Matrix coil weighs only 950 grams (33.5 ounces). Much lighter than the industry average. Significantly more comfortable, especially for very sick cardiac or oncology patients. And with Tim's whole-body coverage, technologists have no repositioning to worry about, so their jobs feel a little lighter, too.

### Easier for everyone.

MAGNETOM Avanto's inviting design, with its low-to-the-floor table position of just 47 cm (18") makes it accessible for everybody. For claustrophobic patients, MAGNETOM Avanto enables feet-first exams for nearly all MR procedures. For obese patients, it supports up to 250 kg (550 lbs), without table movement restrictions.







- Low siting costs due to compact size (fits into 27m<sup>2</sup> / 290 sq ft only)
- Siemens' unique Zero Helium boil-off minimizes your life-cycle costs
- Low power and cooling requirements
- Higher patient throughput with short examinations times – thanks to Tim

## Excellence in economics: Profit from Siemens' innovative and intelligent system design.

With MAGNETOM Avanto, Siemens achieved the almost impossible: the combination of best in 1.5T and minimized life-cycle costs. The compact design permits easy, low-cost installation in minimal space. With Zero Helium boil-off and low power and cooling requirements, MAGNETOM Avanto significantly reduces costs. From the first day of operation.

And with Tim technology you get the most out of your investment. Tim dramatically improves workflow by speeding exams and increasing throughput. Patient set-up is faster, scan times are reduced and Inline Technology processes data automatically.

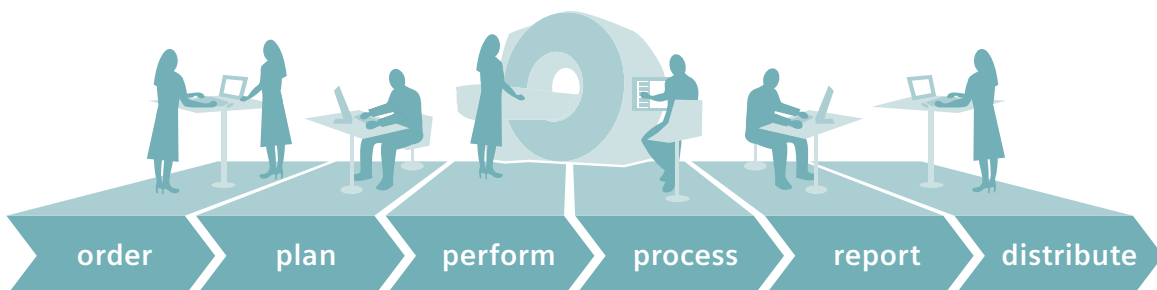


# Excellence in workflow: Streamline your MR examinations.

With the power of Tim and the simplicity of *syngo*, MAGNETOM Avanto streamlines the entire radiology process, from ordering through planning, performing exams, processing, reporting, and distribution.

## Workflow Innovations

- **syngo Inline Technology:** Allows you to perform certain processing steps as early as during image reconstruction and display them immediately after completion. That means processing instead of post-processing. Subtraction images, Maximum Intensity Projection, etc., are displayed immediately after completion of the scan.
- **syngo Phoenix and PhoenixZIP:** Enable simple exchange of MR protocols, quickly retrieving the entire protocol information in one easy drag-and-drop step. This allows reproducible follow-up examinations.
- **syngo AutoAlign solutions:** Facilitates reproducible slice positioning in the head and the spine. No manual adjustments are needed. This maximizes standardization and comparability in follow-up examinations.
- **syngo Expert-i:** Gives physicians and experts the ability to remotely access the MRI suite from virtually anywhere within the network, making it possible to address difficult clinical questions while a patient is being scanned.



MAGNETOM Avanto helps leading healthcare institutions around the world develop new approaches to clinical care. From all perspectives, MAGNETOM Avanto can keep you a step ahead. Now and for years to come.

## Excellence in 1.5T: Always a step ahead.

### Clinical perspective

- Exceptional magnet homogeneity for excellent fat saturation
- Large 50 cm Field of View
- Strong gradients for high resolution and short scan times
- Unparalleled flexibility, accuracy, and speed – thanks to Tim
- Broad range of dedicated applications

### Patient perspective

- Short scan times
- Ultra-lightweight Tim coils
- AudioComfort for up to 97% reduced acoustic noise
- Feet-first exams for nearly all MR procedures
- Obese patients up to 250 kg (550 lbs)

### Business perspective

- Easy siting conditions with no need for dedicated computer room
- Zero Helium boil-off
- Low power requirements and cooling demands
- Fewer purchases of dedicated coils
- Higher patient throughput with shortened examinations times – thanks to Tim

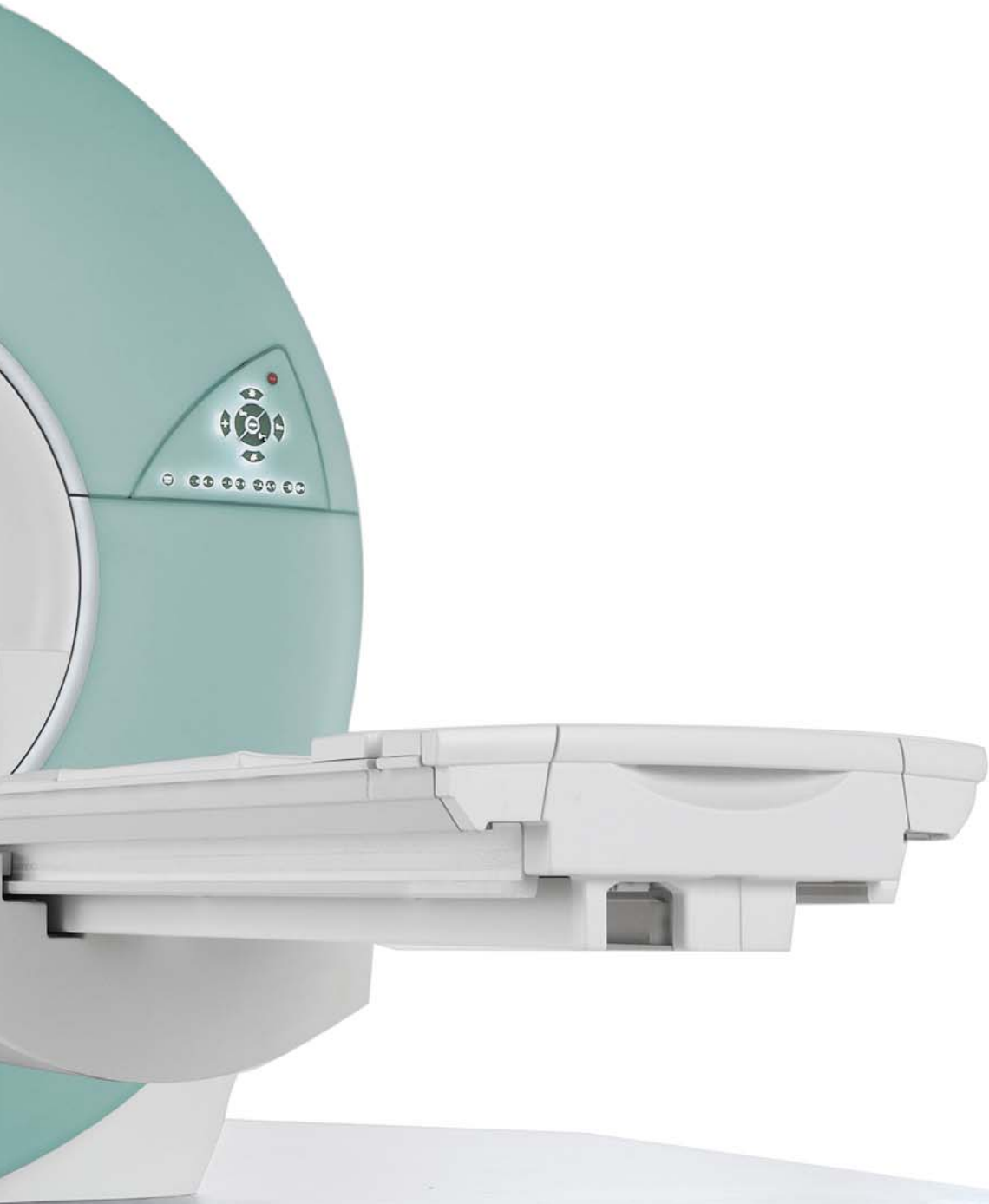






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**Acknowledgement:**

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

Siemens reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens Sales representative for the most current information.

*syngo* Evolve Package: In the event that upgrades require FDA approval, Siemens cannot predict whether or when the FDA will issue its approval. Therefore, if regulatory clearance is obtained and is applicable to this package, it will be made available according to the terms of this offer.

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Please find fitting accessories:  
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