



The revolution begins now.

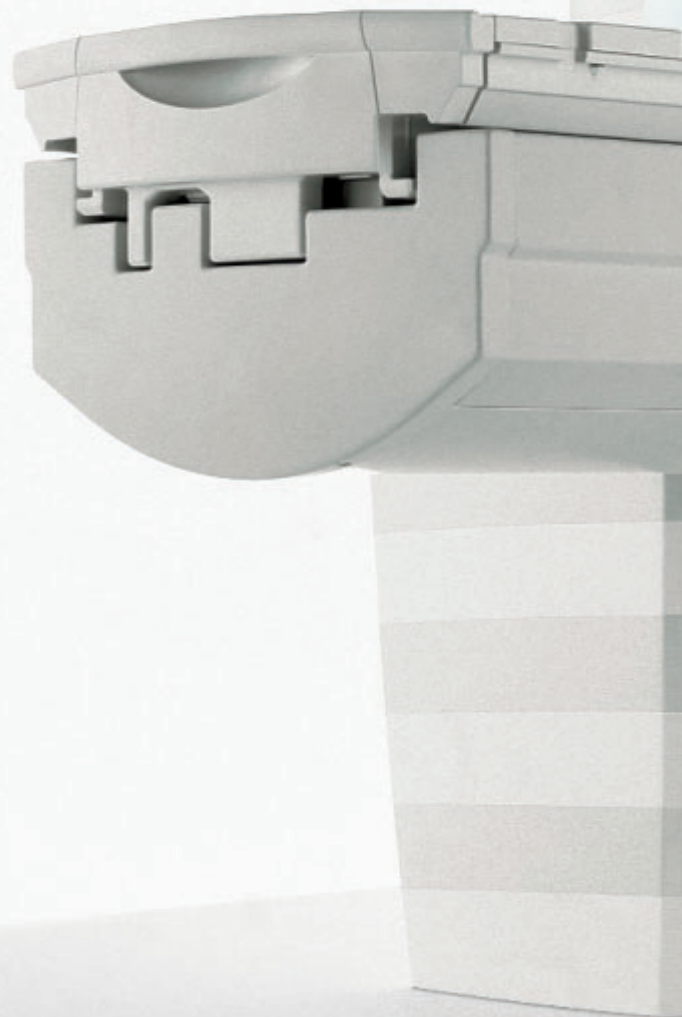
**SIEMENS**  
medical



It's something extraordinarily different no matter how you look at it. A new MR system that incorporates the most innovative RF technology with a radically new matrix coil concept. Introducing **MAGNETOM Avanto with Tim – Total imaging matrix technology.** For true whole-body anatomical coverage. For ultra-fast image acquisition. For a **dramatic reduction in acoustic noise without compromising gradient performance.** For the most comprehensive application range available today. For truly seamless, almost **effortless workflow automation.** MAGNETOM Avanto. From a clinical, business, and patient perspective, it looks different. It sounds different. And it works differently, too. Welcome to the new world of MR. From now on, nothing will be the same.

# MAGNETOM Avanto.

The first Total imaging matrix MR.







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# Tim

will change MR forever.

It's a whole new way to think about MR. Going beyond incremental enhancements in magnet technology and gradient power to something radically different. A transforming technology that shifts the spotlight onto a new and tremendously innovative RF system and matrix coil concept. Tim technology is a unique combination of features that will launch the next era in powerful MR advances. From revolutionary acquisition quality to breakthrough applications and remarkable profitability. It's opening up new worlds of possibility.

- Tim is a revolutionary. **Select exams, not coils.** [76x32] Up to 76 seamlessly integrated matrix coil elements and up to 32 RF channels combined to create one Total imaging matrix.
- Tim sees all. **Local becomes total.** True 205 cm (6' 9") seamless, whole-body anatomical coverage with no coil reconfiguration or patient repositioning.
- Tim knows no boundaries. **Parallel in all directions.** Head to toe, front to back, and side to side for unlimited Parallel Imaging.



Tim™ has met his match.

The beauty of it all.

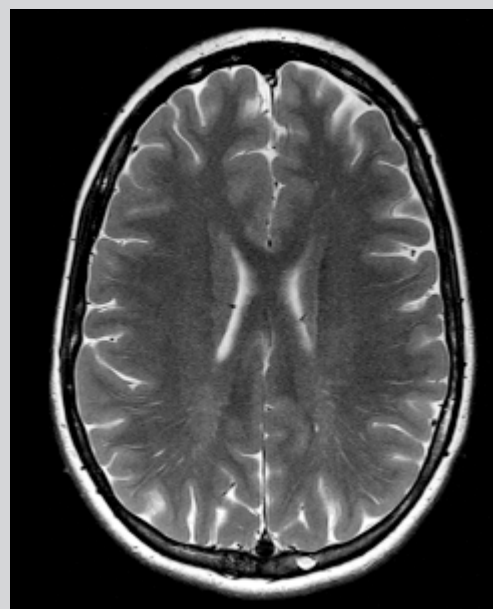
*Revolutionary Tim technology shows details more than ever before. The entire CNS is imaged without repositioning the patient. This composed three step whole CNS study was acquired using the Head Matrix, Neck Matrix, and the Spine Matrix.*



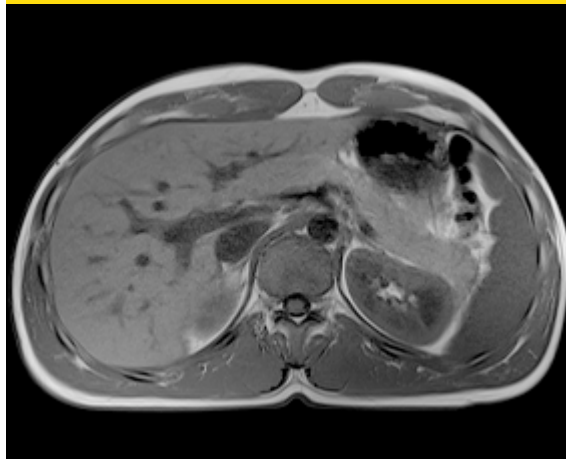




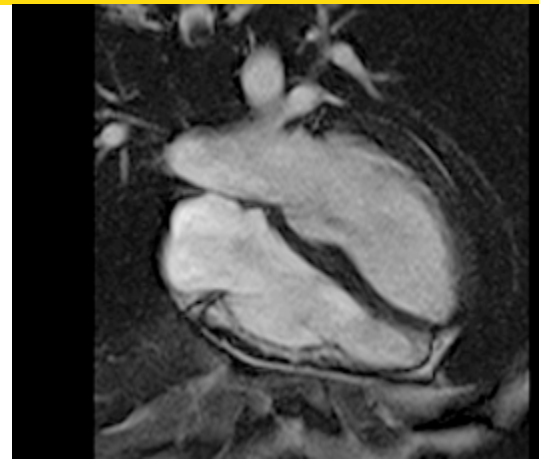
*The 12 coil element Head Matrix demonstrates higher signal-to-noise particularly in the periphery, thanks to the new Total imaging matrix technology. This high resolution 3D Time of Flight (ToF) MR Angio example demonstrates excellent visualization of peripheral vasculature. Tim will show you more than ever.*



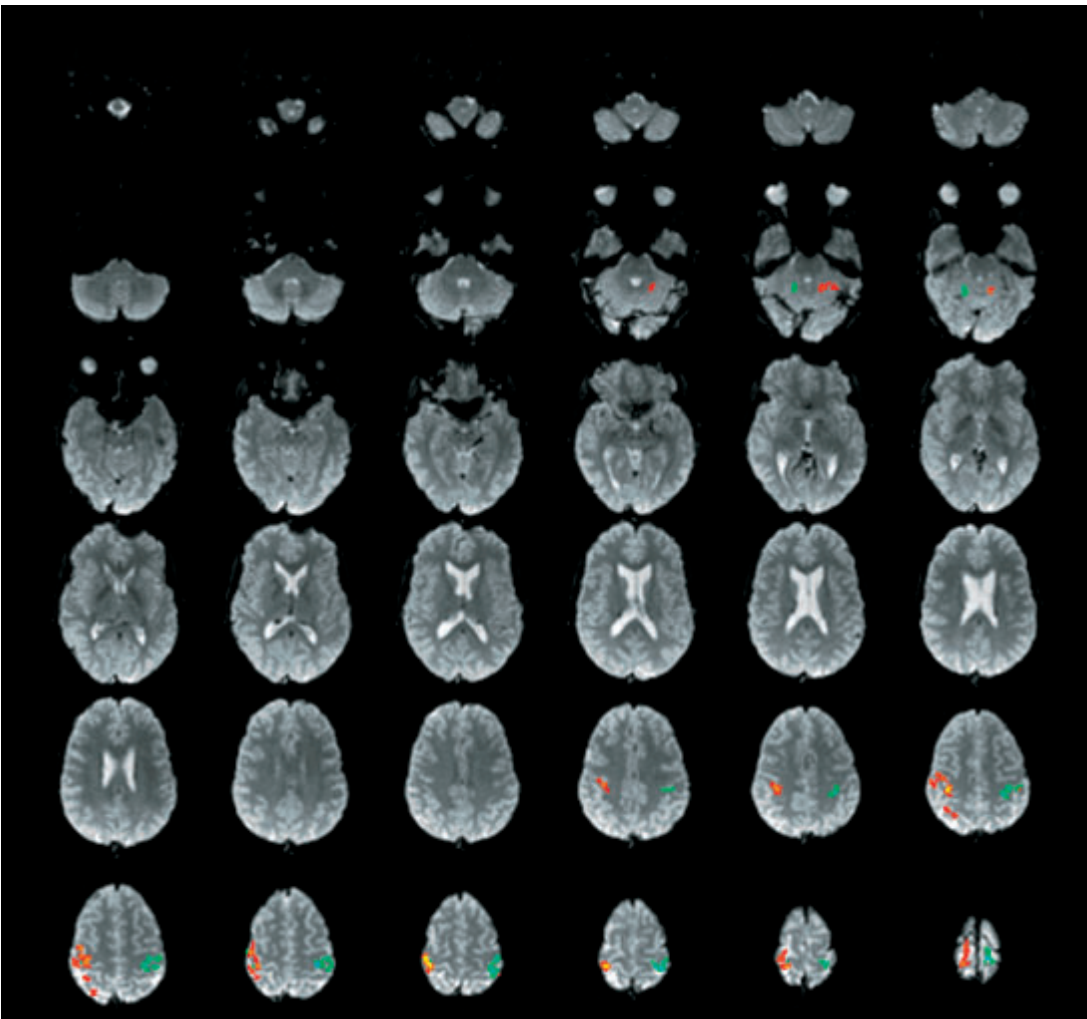
*This very high resolution, fast (512 matrix, 2 mm thin slice, 3 min) T2-weighted RESTORE image example demonstrates revolutionary acquisition quality. The Total imaging matrix utilizes the highest signal-to-noise ratio possible.*



The MAGNETOM Avanto has the highest magnet homogeneity across the entire field of view. This T1-weighted FLASH 2D fat suppressed transverse image is from a multi breath-hold examination. Siemens unique 2D PACE (prospective motion correction) with Inline Technology helps to generate excellent body images even in a free breathing mode.



MAGNETOM Avanto has the strongest gradients in the industry. Cardiac MR applications benefit from this power. This is a dark fluid morphology four chamber view in breath-hold.



This high resolution EPI BOLD fMRI mosaic image shows color motor cortex (neuronal) stimulation. MAGNETOM Avanto is an epitome of high performing gradients and quietness. The fMRI example aptly brings forth the benefits of MAGNETOM Avanto's dramatic acoustic noise reduction technology – AudioComfort.

FROM A CLINICAL PERSPECTIVE:

## Revolutionary acquisition quality.

The story of MAGNETOM Avanto with Total imaging matrix technology begins where it should. With a focus on exceptional, distinctive images. MAGNETOM Avanto utilizes the highest signal-to-noise ratio possible. A gain of up to 100%. Bottom line? You'll see more than ever. Detailed morphology, leading to an unparalleled level of confidence in all physicians' diagnoses. Full iPAT functionality in all directions, including iPAT<sup>2</sup> with PAT factors up to 12. For the most clinically exceptional and relevant images possible today. MAGNETOM Avanto has the strongest gradients in the industry, built for a new level of acquisition speed. And the highest magnet homogeneity across the entire field of view. Clearly with MAGNETOM Avanto, the beauty is in the details.



*The Matrix Coils combine seamlessly to achieve large coverage and high resolution images without sacrificing SNR. This head-neck ce-MRA with excellent separation of the arteries from the veins could be achieved with MAGNETOM Avanto's world-class gradients. The Head Matrix, Neck Matrix, Body Matrix anteriorly, and the Spine Matrix posteriorly were used.*



*Higher signal-to-noise is achieved with the new Total imaging matrix. This increase in signal ensures best image quality even with highest PAT factors. Newer Parallel Imaging techniques like iPAT<sup>2</sup> where PAT factors up to 12 can be achieved. iPAT<sup>2</sup> applies Parallel Imaging in the phase encoding as well as partition (slice) select direction simultaneously, thus ultrafast, high resolution clinically exceptional and relevant images can be acquired.*



FROM A CLINICAL PERSPECTIVE:

## Revolutionary application spectrum.

Now, from what you see to what you can do, has expanded. Exponentially. MAGNETOM Avanto with Tim can give you, for the first time ever, true whole-body functionality. No patient repositioning. No coil changes. No manual table operation. And all without sacrificing the highest SNR. MAGNETOM Avanto and Tim. Together, they're changing the whole playing field. No matter how you look at it.

- 205 cm (6' 9") seamless imaging.
- Unlimited whole-body iPAT.
- Telescopic patient table optimized for whole-body workflow – not to mention your own room space.
- Aids the physician in fast and precise evaluation of systemic diseases like colon cancer, metastasis imaging, vessel diseases, and preventional exams.



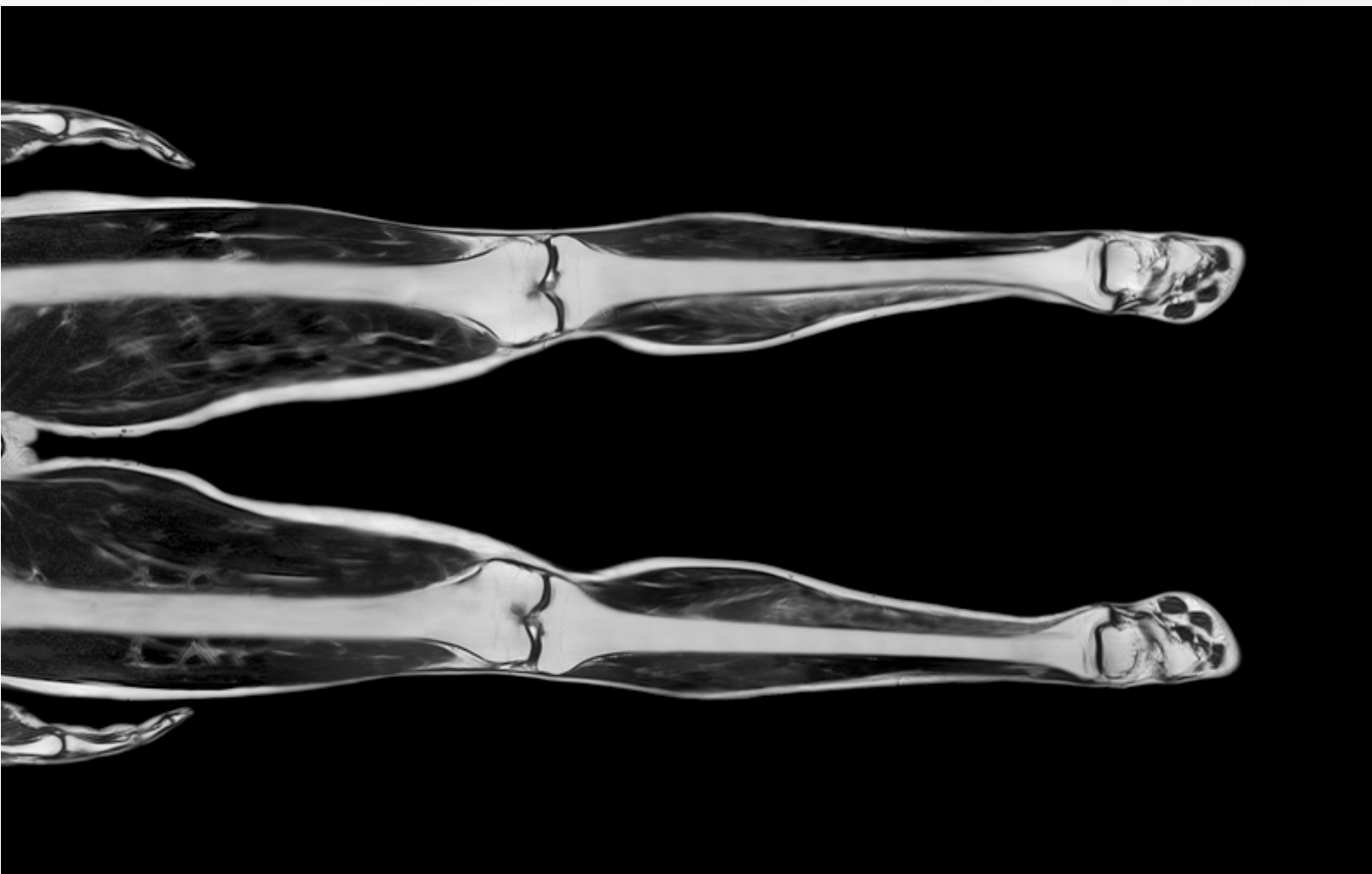


205cm (6' 9")



When you push the boundaries,

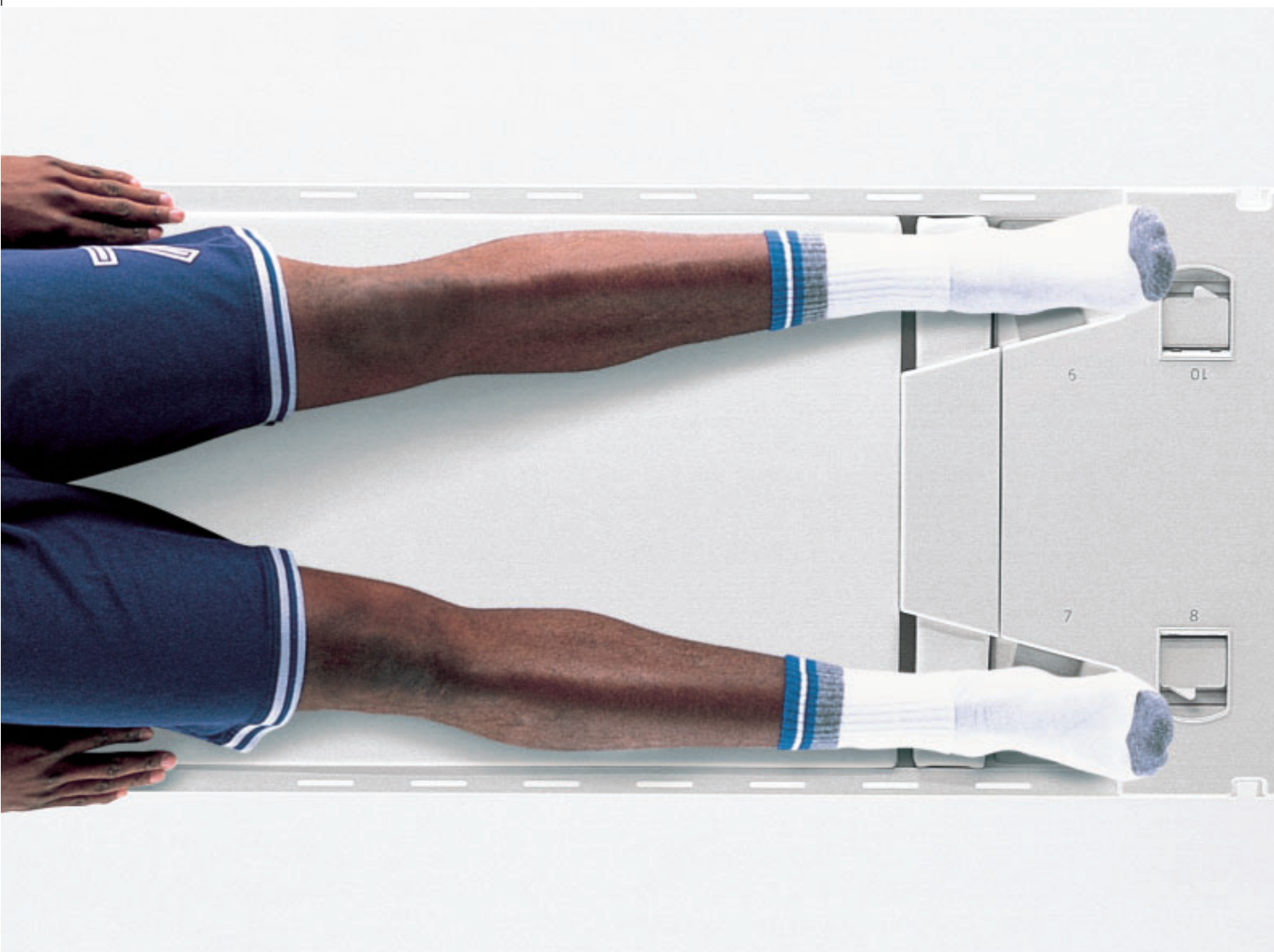
Total FoV —————→



you optimize the possibilities.











When you push the boundaries,

FROM A BUSINESS PERSPECTIVE:

## Revolutionary workflow.

It's all about helping you manage your limited resources in a way that is responsive. Intelligent. Remarkably productive. And rather amazingly easy. From preparation to scanning to evaluation. With MAGNETOM Avanto, time is about to take on a whole new meaning.

- Inline Technology offers the advantage of processing instead of post-processing. Many manual steps are virtually eliminated. Get immediate clinical results from prospective motion correction (PACE), diffusion, perfusion, MR angio, and fMRI (BOLD experiments).
- Phoenix, unique to Siemens, gives you superior reproducibility based on your image, not on protocols. What you see is what you get.
- AutoAlign revolutionizes MR workflow by enabling automatic slice positioning. Delivering highest reproducibility with uniform, consistent results.
- Intelligent Coil Control offers new freedom. With Automatic Coil Position Detection of all coil elements both fixed and flexible, you're just a click away from faster exam set-up with little interaction from you.



1. Technologist places Head Matrix.

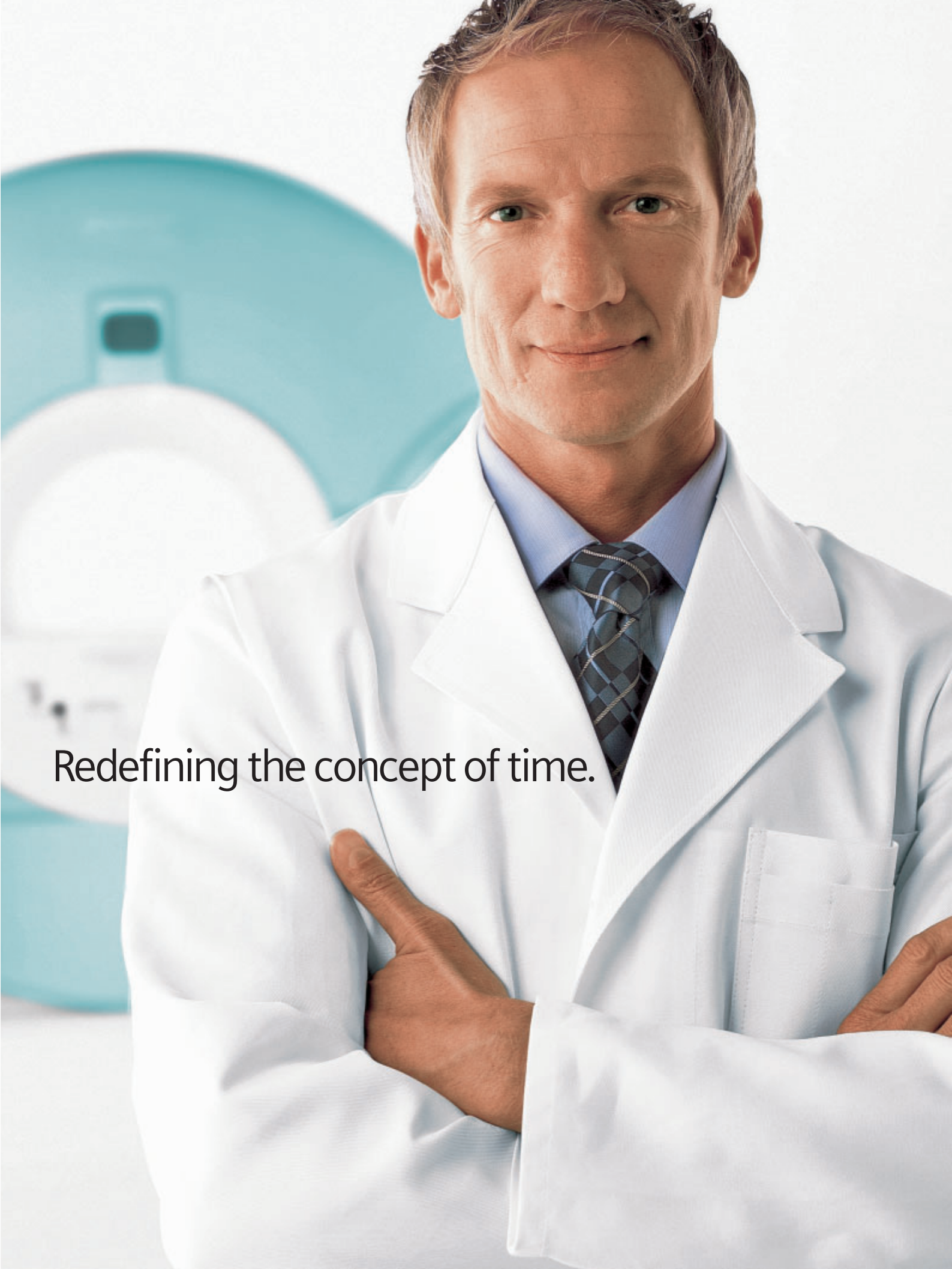


2. Technologist places Body Matrix.



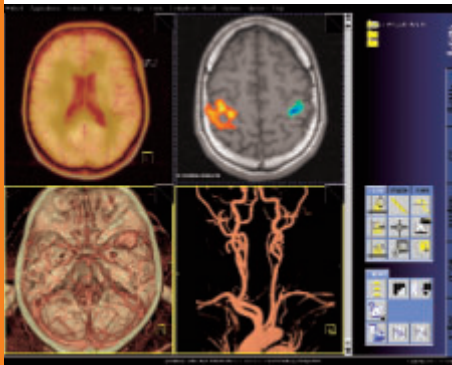
3. Technologist places PA Matrix.

**Three steps — no repositioning ever needed.  
It's that fast. That efficient. That simple.**



Redefining the concept of time.





# Imagine what you can accomplish

*MAGNETOM Avanto gives a whole new meaning to a comfortable working environment. Wherever you have to interact with the system, MAGNETOM Avanto knows your next steps and supports you with a logical workflow path. Software and hardware user interfaces, such as syngo® MR, as well as coils and plugs are optimized for ergonomic use. It helps to make your workday more comfortable and MR more efficient. Everything about MAGNETOM Avanto, from the way it looks to the way it helps you work, underscores Siemens' commitment to providing ergonomic and leading-edge medical designs.*

*syngo®, the unique software platform for medical applications and systems integrates all patient related information, physiological, and imaging data across your entire clinical workflow. In every workplace syngo's innovative user interface allows you to know intuitively what to do. Its intelligent automation features accelerate your examination, enabling smooth, efficient workflow, across modalities, departments, and people. With syngo, your workplace is uniquely customized to the way you work.*

## FROM A BUSINESS PERSPECTIVE:

### Revolutionary return

Everything about MAGNETOM Avanto has been created to help you do more. In new ways. Faster than ever. So you can expand into new application areas. Market to your patients in a differentiating way. Broaden your service offerings. And ultimately, improve quality

across the board leading to a whole new level of return. It begins with dramatically improved workflow efficiency. MAGNETOM Avanto with Tim can speed up your exams and allow for increased patient throughput. Patient set-up is faster than ever. So are scan times and processing. All of which will increase patient satisfaction and generate revenue. Not to mention create a work environment that will feel better for everyone.



lish now.



### Quality

- Diagnostical confidence
- Patient throughput
- Enhanced application spectrum
- Workflow efficiency

- Installation
- Operation
- Education and training

### Costs

With MAGNETOM Avanto you also have zero helium boil-off with typical clinical use. Which not only cuts downtime for refilling,

but helps to increase system uptime. Of course, while short-run results are important, it's long-term value that

gives you peace of mind. Which is why with MAGNETOM Avanto you get the best price-performance ratio and the knowledge that through Life, our integrated customer care solution, you'll know that your ever-evolving business needs are being met. Constantly. Effectively. Throughout the entire life cycle. So you stay ahead of change. Instead of running to catch up with it. We think it's a formula for success. Long into the future.



Ultimately it's about helping people feel better.





### 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, a technologist has no repositioning to worry about, so their job feels a little lighter, too.



## Whisper quiet with high gradient performance.

With special casting for gradient coils, special magnet suspension, and unique MR sequence design, MAGNETOM Avanto's AudioComfort takes sound to a new, and very low, level. Up to a 97% noise reduction. Yet it still delivers the kind of high gradient performance needed for the most demanding applications.



## 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 feetfirst exams for nearly all MR procedures. For obese patients, MAGNETOM Avanto supports up to 200 kg (400 lbs), without table movement restrictions.



FROM A PATIENT PERSPECTIVE:

## Revolutionary comfort.

We asked ourselves: How could we lower patient anxiety? Lessen discomfort? Make every part of an MRI exam easier? The answer that came through, loud and clear, was the need to reduce acoustic noise. The challenge was to not lose power in the process. The result? MAGNETOM Avanto's AudioComfort technology. AudioComfort enables up to a 30 dB(A) acoustic noise reduction, that means nearly all clinical routine sequences are running under 99 dB(A). So ear protection or headphones are no longer mandatory. For pediatric and elderly patients, headphones are still recommended. Yet our gradient power is stronger than ever. MAGNETOM Avanto is truly without peer when it comes to acquisition speed. Exam times are shorter. Anxiety is decreased. And for frail patients who have trouble with breath-holds, this will bring a welcome sigh of relief.



We see a way to provide you with an MR protocol from 1 image

We see a way to reduce acoustic noise during MR exams up to 97%

We see a way

## MAGNETOM Avanto with Tim

We see a way to dramatically reduce patient anxiety with feetfirst MR exams for virtually all applica

We see a way to reduce MR helium consumption

in 1 second with Phoenix

to do Parallel Imaging in all three directions

changes everything.

tions

to zero with typical use

Proven Outcomes. This is what Siemens is helping to deliver right now. Outcomes that result from truly efficient workflow. Outcomes that improve your bottom line. Outcomes that lead to a level of care that

# Proven O

feels exceptional to the patient and the care provider. Proof positive of the value of integrating medical technology, IT, management consulting, and services. In a way that only Siemens can.

utcomes.



FROM A PERFORMANCE PERSPECTIVE:

## Revolutionary choices.

MAGNETOM Avanto. Performance that exceeds. At all levels.

- **MAGNETOM Avanto Tim [76 x 32]**

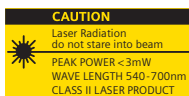
Top of the line. Excellent for the most demanding, as well as all future applications, including interventional approaches. Utilizes highest SNR. Superb image quality. Full iPAT functionality from clinical routine to demanding research. Comes standard with the strongest gradient in the industry – SQ-engine (45 mT/m @ 200 T/m/s). With 50 cm FoV.

- **MAGNETOM Avanto Tim [76 x 18]**

For clinical routine up to demanding research. Offering full iPAT functionality. Utilizes highest SNR. Superb image quality. Choose Q-engine (33 mT/m @ 125 T/m/s) or SQ-engine (45 mT/m @ 200 T/m/s) with 50 cm FoV.

- **MAGNETOM Avanto Tim [32 x 8]**

Tim performance for clinical routine. Standard iPAT. Utilizes highest SNR. Superb image quality. Q-engine (33 mT/m @ 125 T/m/s) with 50 cm FoV.



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.

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