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Artis
zeego
with PURE®

Artis Q

Artis zeego
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Artis zeego

The future is flexible

Answers for life.



Artis zeego – the future is flexible

Bring unparalleled flexibility to your operating room and interventional suite. The Siemens unique robotic technology enables smoother, swifter, and trouble-free patient positioning and execution of procedures. Enhance your reputation and safeguard the future of your investment with cutting-edge procedures enabled by this unique flexibility and unmatched on-the-spot imaging capabilities.



Artis zeego brings unmatched flexibility to patient positioning, procedures, and room use.

Image-guided surgical and advanced interventional procedures require cutting-edge technology for exceptional performance.

The trend towards minimally invasive treatment increases the importance of advanced, intra-procedural X-ray imaging to positively impact the results of procedures

Change the game in surgical and interventional procedures with the Artis zeego by offering state-of-the-art surgical and interventional treatment options with an angiography system that enables trendsetting technologies.

Today's informed patient and prospective clinical employees are looking for a healthcare provider who invests in new technologies to enable state-of-the-art procedures.

Make a clear commitment to innovative approaches to improve outcomes and reduce complication rates. Further, increase the range of treatment provided to make your institution highly attractive to patients, staff, and healthcare payers.

Your procedure room equipped with the Artis zeego can play the pivotal role in making advanced treatments possible and complex workflows more efficient.



Experience the full potential of Artis zeego

Artis with PURE[®]

Adding smooth to smart.

PURE adds smooth use to Siemens' smart technologies in the angio suite and helps you increase your process efficiency, leverage the full potential of your system, and enhance your patient outcomes. For a PURE experience in angiography.

Take your Artis zeego even further with our PURE platform to make interventional and surgical imaging easier and improve your system's performance. For example, keep your focus on the patient: With the new heads-up display, there is no longer any need to look down at the control panel. And the 3D Wizard enables all users to perform 3D runs with step-by-step expert guidance integrated into the system.



Artis with
PURE[®]

Smooth interaction

Save time during procedures. Fewer steps. More efficiency.

Smart performance

Expand your capabilities. More confidence. Better outcomes.

Artis zeego's unique flexibility and unmatched imaging

supports you in the following clinical fields:



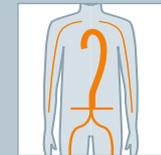
Surgery



Minimally Invasive Surgery
Hybrid Surgery



Interventional Cardiology



Interventional Radiology

Flexible room use

with different table options for surgical, interventional, and hybrid procedures.

Integrated surgical tables

allow easy system handling and full surgical procedure support with surgical tables from Siemens, Trumpf, and Maquet.

Floor-mounted

for straightforward installation and to avoid interference with ceiling-mounted devices. Highest hygienic standards in the OR are supported even when the FD detector is above the patient.



Unmatched 3D and soft tissue imaging

extend your field-of-view for real-time decision-making right in the room.

Flexible isocenter

for an adjustable working height and unmatched positioning flexibility.

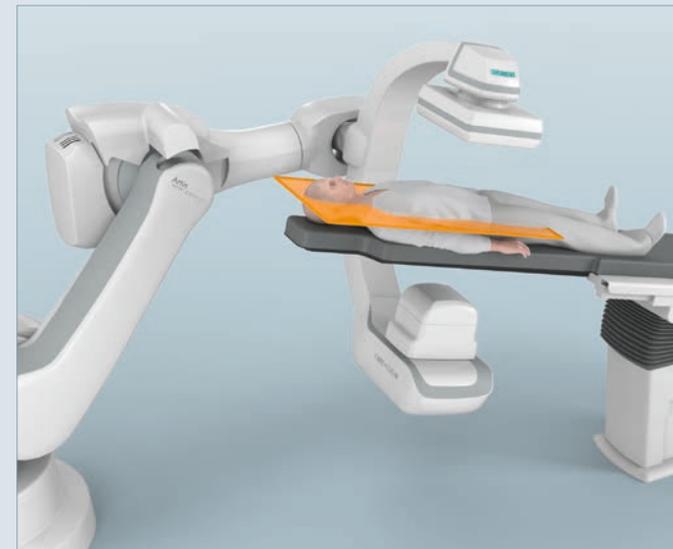
Optimal patient positioning

brings ease to the preparation and execution of the procedure.

Flexible procedure execution

Increase procedural efficiency by providing uninterrupted, unobstructed access to your target area, and positively impact your workflow by bringing full flexibility to patient positioning.





Smoother and safer procedures

Surgeries and hybrid procedures can be challenging. For the best possible outcome, you and your team need uninterrupted, unobstructed access to the area of interest.

Artis zeego shortens the transition from open surgery to imaging as the C-arm moves smoothly and quickly from the park position to the table.

Advanced intra-operative imaging delivers you essential information exactly when it is needed, enabling you to validate the current procedure course or to alter your strategy if necessary.

Unmatched patient positioning

Ideal patient positioning is key to a smooth procedure. Patient repositioning or rearrangement of equipment setup caused by limitations of the C-arm must be avoided.

Unlike any other C-arm system, Artis zeego's unique robotic technology supports table angulations to bring ease to the execution of the procedure. The C-arm follows the tilted table as easily as any flat tabletop.

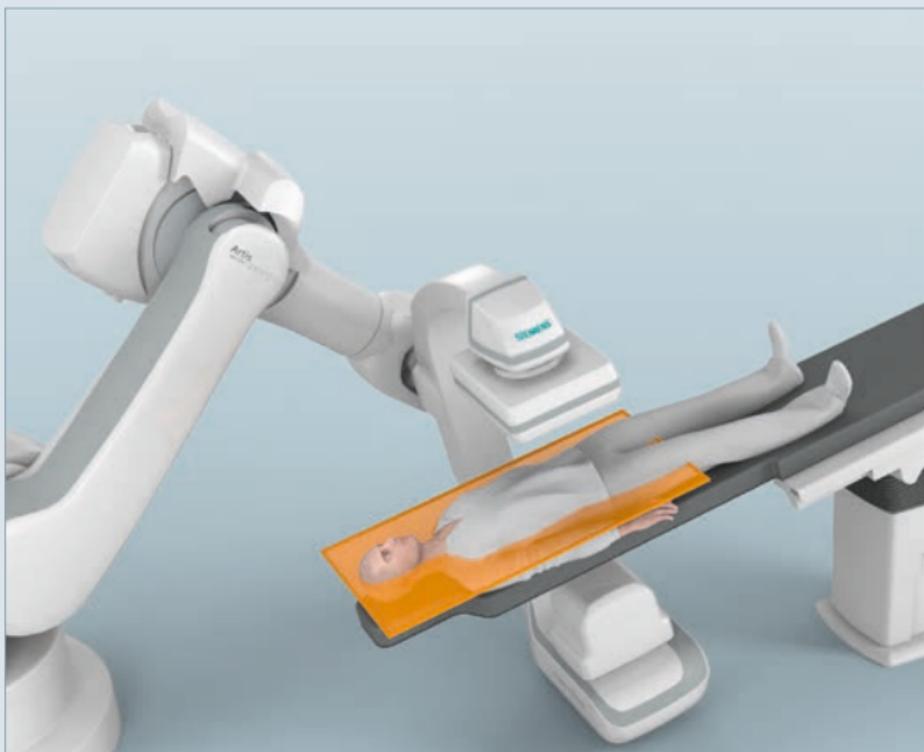
This saves time, allows individual patient positioning, and supports the hemodynamic situation of the patient.

Flexible isocenter – the key differentiator

The isocenter is the most important area for imaging. An isocenter available in any position within the reach of the C-arm makes a world of difference in terms of patient positioning, procedure time, and physical comfort since the focus of the physician can remain on the treatment area – not disrupted by repositioning of the patient, table, or any equipment.



Experience the flexible isocenter



With its robotic design, only the Artis zeego is able to position the C-arm in all three dimensions keeping the isocenter at the center of the action. This delivers unmatched flexibility and allows the patient to always be positioned as best fits procedural needs.

This saves time – but also contrast media and dose.

Repositioning the table or patient is only triggered by procedural demands – not to compensate for limited flexibility of the system.



Ease the work of your team

The team's attention is always on the patient – any distraction must be avoided to ensure a smooth workflow and optimal outcomes.

Adapting the table height to suit the performing physician makes standing easier, especially when wearing heavy lead aprons.

The industry-unique flexible isocenter of the Artis zeego enables the adaptation of the table to the needs of the team. The focus can be on the procedure and on the patient.

A patient is lying on a surgical table in an operating room. The room is equipped with various pieces of medical technology, including robotic arms and monitors. One robotic arm is labeled 'Aris' and another is labeled 'MAQUET'. There are several monitors displaying medical images, including a chest X-ray. The room has a clean, modern aesthetic with white walls and a blue floor.

Flexibility – supporting cutting-edge procedures and in-room assessment

Real-time 2D, 3D, and soft tissue visualization enables immediate decision-making and facilitates instant control for better outcomes. Outstanding imaging allows you to understand the current situation and double-check your results while the patient is on the table.



Image 1

Safeguard your investment and competitive edge with your procedure mix

For upcoming treatment trends, Artis zeego is the ideal imaging component in hybrid operating rooms equipped to perform the very latest – and widely demanded – interventional procedures.

Highly complex procedures such as prostate artery embolization or uterine fibroid embolization are enabled by 3D imaging.

syngo Embolization Guidance can ease the execution of the procedure. With just a few clicks, guidance is available to accurately reach tiny feeding vessels.

Image 1
Volume Rendering Technique (VRT) for 360° assessment of a liver tumor.
Courtesy: PD Bernhard Meyer, M.D., Hannover Medical School, Germany



Image 2

Achieve better decision-making during the procedure with intra-procedural 3D imaging

A high quality image right at the table can support the outcome and provide the visualization needed when deciding whether to adapt the treatment or how to react to complications.

Whenever imaging is needed, the Artis zeego moves into the imaging position and is able to provide key details about the procedure without disturbing the setup.

Image 2
Overlay of the vessel outlines and perpendicularity ring on live fluoroscopy during EVAR.
Courtesy: Lieven Maene, M.D., Onze-Lieve-Vrouw Hospital (OLV), Belgium



Image 3

syngo DynaCT – the gold standard

Supporting procedures with soft tissue imaging is important to facilitate decision-making, adaption of the treatment to new situations, documentation, and confirmation of results while the patient is on the table.

Artis zeego supports treatment through real-time soft tissue imaging with *syngo* DynaCT®.

Image 3
Multiplanar reconstruction (MPR) of a *syngo* DynaCT micro acquisition taken during a wrist arthrography procedure.
Courtesy: PD Bernhard Meyer, M.D., Hannover Medical School, Germany

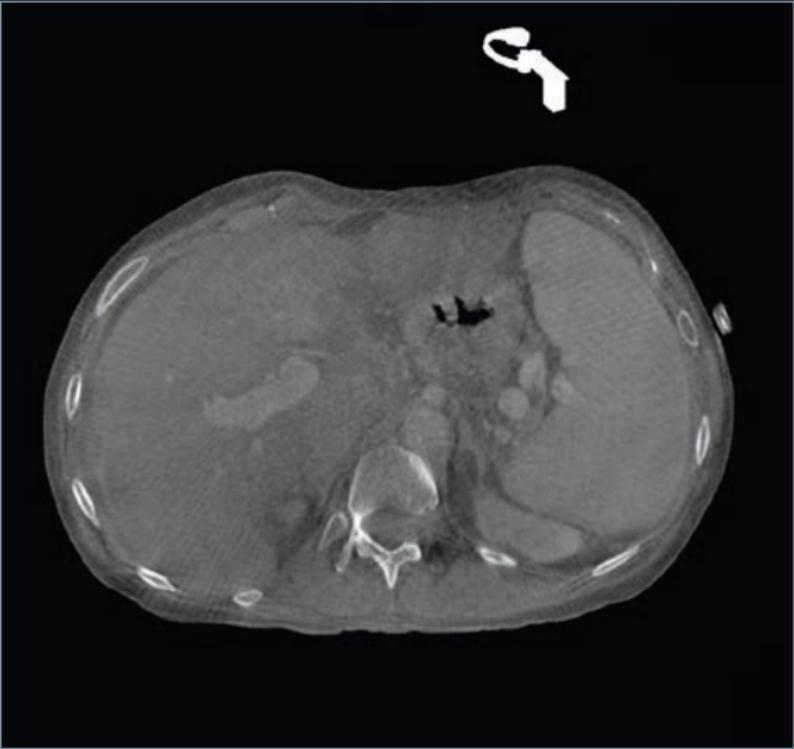


Image 4

syngo[®] DynaCT 360 and *syngo* DynaCT Large Volume enable rotational imaging in a time frame of just 6 or 14 seconds for soft tissue visualization of a broad area measuring 45 cm in diameter and 18 cm in height. The flexibility of the robotic-assisted C-arm of the Artis zeego makes it unique in the industry.

Large volume datasets are particularly helpful in spinal, abdominal, and neuro scans as large sections of the patient's body can be visualized.

Image 4

syngo DynaCT Large Volume showing an axial slice at the level of the right portal vein after IV contrast injection.

Courtesy: Prof. Ulf Teichgraber, M.D., University Hospital Jena, Germany

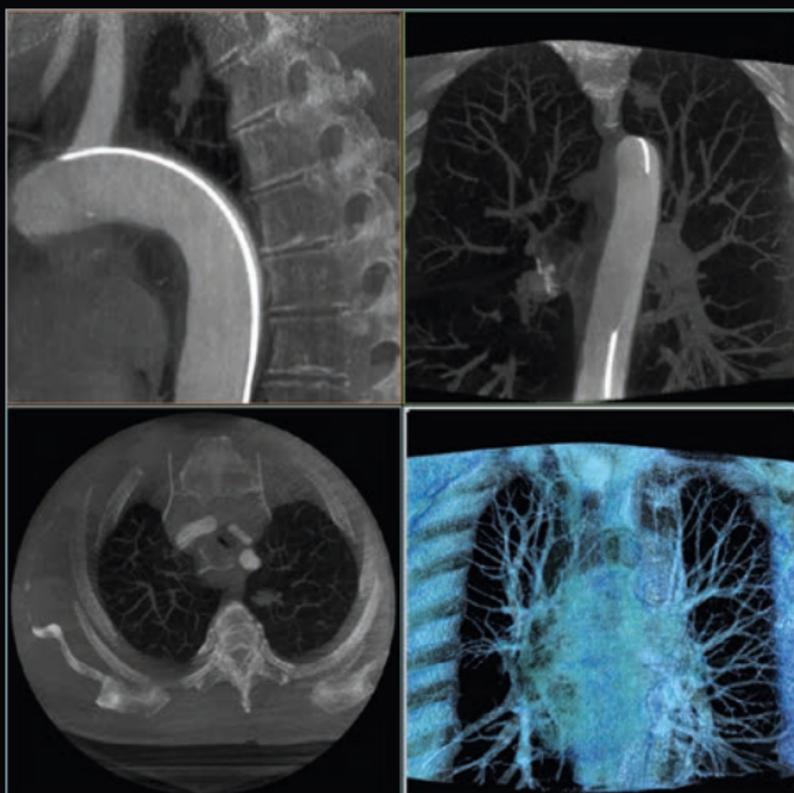


Image 5

Improve the outcome of procedures and reduce your readmission rates

The goal is to have the patient in the procedure room only once – independent of the complexity of the procedure. This is the best way to reduce cost and improve treatment quality. More and more healthcare providers are already enforcing this to reduce reoperations and related cost.

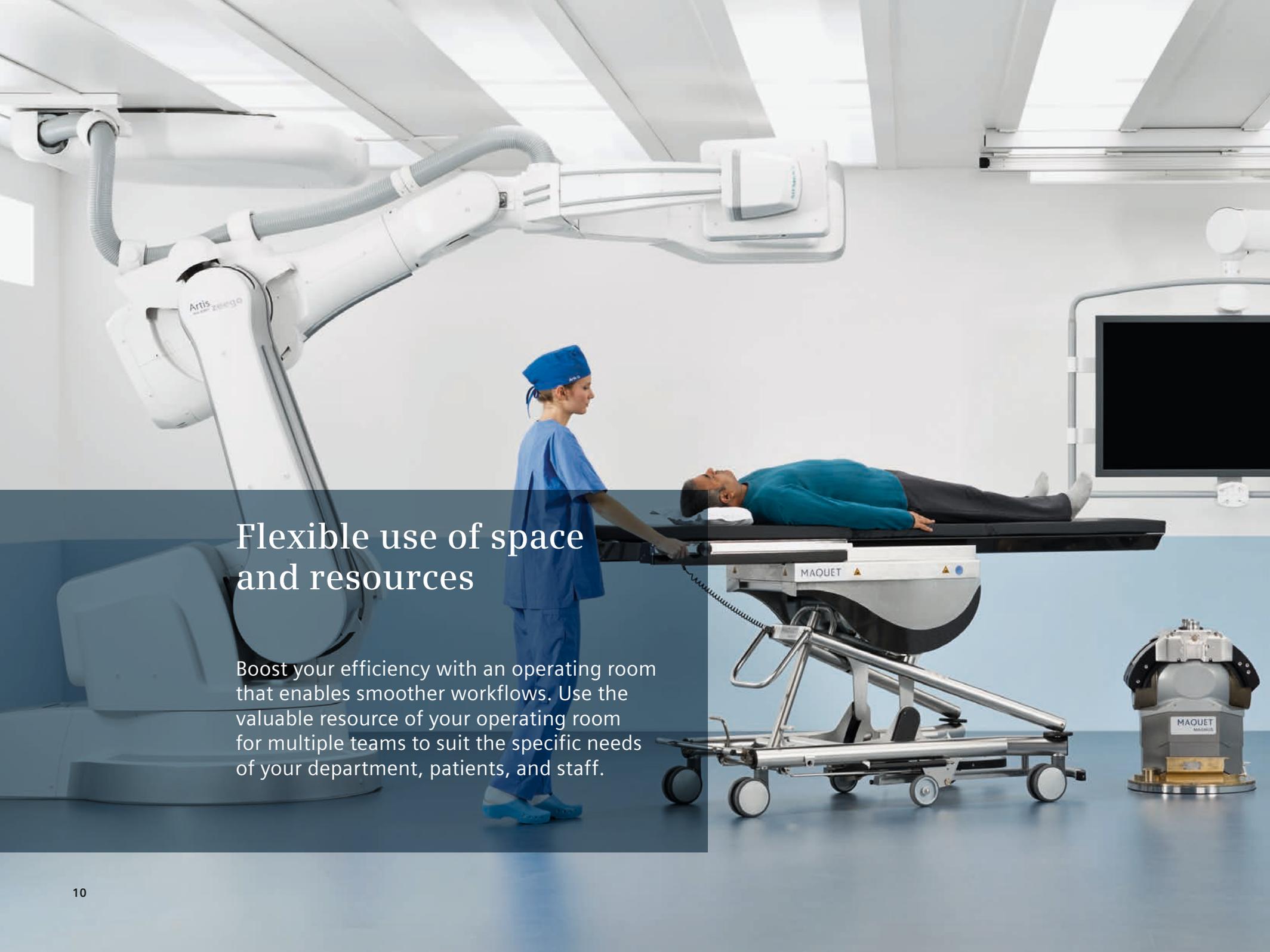
Contrast media can harm patients, especially with renal issues and can cause further complications, e.g. temporal cancelation of a procedure.

syngo Dyna3D High Speed helps to improve outcomes by providing visualization of moving organs with improved sharpness at a minimized contrast bolus time with a scan time of just 3 seconds.

Image 5

Reconstruction of pulmonary vessel tree following a *syngo* Dyna3D HighSpeed acquisition.

Courtesy: Prof. Thomas J. Vogl, M.D., University Hospital of Frankfurt/Main, Germany



Flexible use of space and resources

Boost your efficiency with an operating room that enables smoother workflows. Use the valuable resource of your operating room for multiple teams to suit the specific needs of your department, patients, and staff.



Support your clinical team with flexible use of space

Due to the demands on rooms and operating costs, it is often not possible or desirable to set aside a particular operating room for just one purpose.

Artis zeego supports surgical, interventional, or hybrid procedures and facilitates multiple room usage, improving the throughput of the department.



Leverage space to perform a broader range of advanced procedures

When imaging is not required, space needs to be freed-up by parking the C-arm away from the table to allow the team best access to the patient. In many setups, ease of access and hygiene are essential for a smooth workflow.

Artis zeego rapidly makes space by parking in the corner of the room or high up under the ceiling. The short transition time from surgery to imaging allows a very fast use of imaging to verify decisions or to document the results of the procedure.

These measures can significantly improve the department's outcomes.



Maintain highest hygienic standards by keeping the laminar airflow steady

Hygienic conditions during a procedure are key to avoiding potential infection and later complications.

With its floor-mounted installation and sleek design, Artis zeego allows uninterrupted laminar airflow – critical for the highest hygiene standards.

Due to this, surgical procedures with highest hygienic requirements can be performed enabling you to increase your room utilization.



Flexible table integration for surgical procedures

Make use of the tabletop that matches the needs of the surgical procedure for ideal access to the target area. Give the anesthesia team the best access and freedom to move.



Integrated surgical tables provide ideal access to the region of interest

When performing surgery, you need your patient to be in the best possible position for easy and accurate access.

Depending on your preferences or the demands of the particular procedure, a flat carbon-fiber tabletop or a segmented tabletop can be shuttled to the system.

Artis zeego delivers unmatched patient positioning by allowing you to position the patient as desired. This brings ease to the execution of many procedures.

Artis zeego knows how the tabletop and the patient are positioned and moves smoothly into the requested position at the user's request. Moving the C-arm is easy and safe for the operator – allowing the team to focus on the patient.

Unique for C-arm systems, Artis zeego is the only system that enables intra-procedural 2D, 3D, and syngo DynaCT imaging even when the patient is sitting on a segmented tabletop or lying flat on a tilted tabletop. This adds valuable information during neuro and spine procedures.





Flexible patient positioning for interventional procedures

Improve patient outcomes considerably with a system that allows fast reaction to a patient's changing condition. Additionally a cooperative patient is able to make the overall process smoother and more efficient.

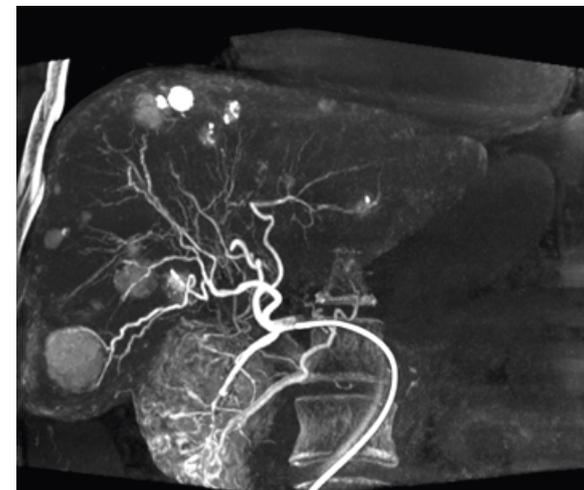


Achieve smoother outcomes with flexible patient positioning

In interventional procedures it is not uncommon for non-sedated patients to be nervous, possibly in pain, and sometimes restricted in their movements.

Artis zeego's maneuverability helps the patient to remain calm and cooperative due to the space perceived. A relaxed patient is able to respond quickly to instructions to keep still or hold their breath so that the best possible images can be obtained to support decision-making and treatment.

Artis zeego's flexible patient positioning helps produce clinically relevant images at the first attempt with the added benefit of reduced contrast agent and dose for the patient and the team in the room.



Contrast-enhanced *syngo* DynaCT soft tissue liver imaging – arterial phase with delay.
Courtesy: Interventional Radiology, Hannover Hospital & Medical School, Germany



Flexibility in technologies

Your procedure mix and imaging needs define the right choice when selecting your imaging system family.



Artis zeeo

The systems of the Artis zee family are equipped with the MEGALIX CAT plus tube and 30x40 detector. The impressive number of more than 5,500 installed Artis zee systems is proof that this system is well-established when it comes to interventional imaging and imaging in surgical suites.

Technologies driving the Artis zee family

- MEGALIX X-ray plus tube – the world's first tube with a flat emitter for fluoroscopy is unmatched on the market. This is a prerequisite for high image quality during challenging procedures.
- The 30x40 detector provides comprehensive X-ray coverage of the patient's body. Thanks to the slim housing, access to the patient is made easy.

Artis zeeo with Q Technology

The Artis Q is a visionary breakthrough in X-ray generation and detection that takes performance and precision to the next level.

The GIGALIX X-ray tube of Artis Q concentrates high pulse power on small square-shaped focal spots. This maximizes contrast and improves the image quality.

Technologies equipping the Artis Q

- Powerful GIGALIX X-ray tube – its flat emitter technology provides unparalleled performance for excellent image quality at the lowest possible dose.
- High dynamic range detector – enhances 3D image quality and boosts *syngo* DynaCT studies especially in interventional radiology and neuroradiology.
- True 16-bit imaging chain – the 16-bit readout throughout the entire imaging chain generates more than 65,000 gray scale values, leading to enhanced soft tissue contrast in 3D imaging.

Artis with PURE[®]

Adding smooth to smart.

Artis with
PURE[®]

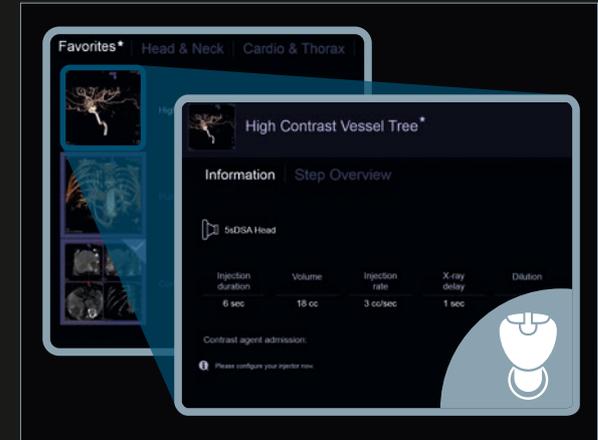
Smooth interaction

Save time during procedures. Fewer steps. More efficiency.

Smart performance

Expand your capabilities. More confidence. Better outcomes.

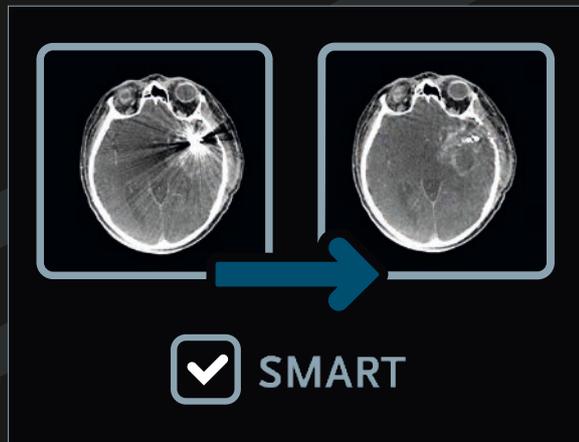
Highlights of the PURE[®] platform:



3D Wizard

Simplify 3D imaging with expert guidance

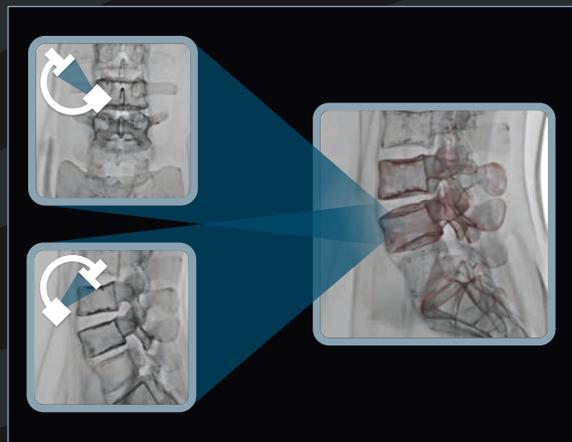
Choosing an optimal 3D protocol is not always easy. The 3D Wizard provides step-by-step expert guidance to achieve the desired imaging results. Increase your confidence when using 3D and get the full benefits from your system.



syngo DynaCT SMART

Reduce metal artifacts to see the unseen

Important diagnostic information can be obscured by metal artifacts. Reduce these artifacts – with *syngo DynaCT SMART*. This helps to increase diagnostic confidence and increases the chance for visualizing complications such as bleedings close to metallic objects.

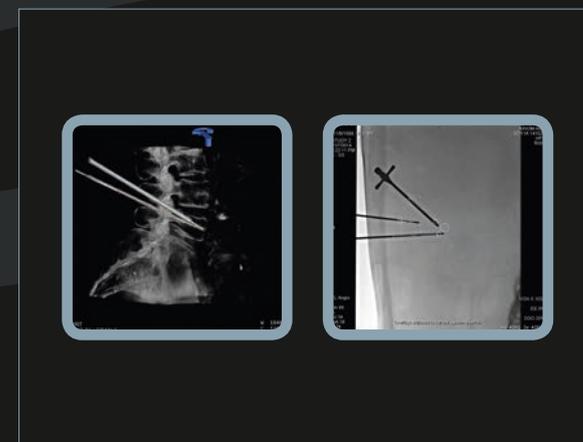


syngo 2D/3D Fusion

Save 99% dose when integrating pre-op volumes for live image guidance¹

Pre-op CT, MR, or PET data is often available, but remains unused in the angio suite. With *syngo 2D/3D Fusion*, only two fluoro projections are required to easily fuse 3D volumes from other imaging modalities for live image guidance. Expand your capabilities while saving radiation dose and contrast media.

¹This measurement was performed with an Alderson phantom using Fluoroscopy with 10 images per 2D projection and a low-dose 6s DCT Body program. Results in actual clinical practice may vary



Multiple Needle Guidance

Save time by planning multiple needle paths in one step

In complex interventions, placing multiple needles is time-consuming. Multiple Needle Guidance allows you to plan several needle paths in one step. Simply call up each path individually during the intervention to streamline your procedure.



CARE+CLEAR

Reducing dose and maintaining the best image quality is very important for patients and staff. The philosophy behind the Siemens Combined Applications to Reduce Exposure (CARE) is simple: They are designed to help you deliver better care at the lowest reasonable dose. CLEAR applications automatically enhance image quality and thus help increase certainty during interventions.

CARE+CLEAR



Reducing dose in surgical and interventional procedures is increasingly important for both patients and clinical staff.

CARE+CLEAR, our comprehensive portfolio of image quality and dose-saving tools, which is standard with every Artis angiography system supports this.

Everything in life should be well balanced. We can support you in attaining a balance for your patients, you, and your staff – with a perfect interplay of the optimal image quality and the lowest reasonable dose.

The advantages are clear:

- Reduced radiation dose for your patients and the team in the room
- Optimized image contrast and sharpness without increasing dose
- Efficient and transparent dose monitoring, reporting, and documentation



Artis Large Display

It's time to see the whole picture on one monitor.

See all the information in one place and keep fully focused on the treatment. The Artis Large Display supports this by showing all necessary information in a customizable layout suitable for the current procedural situation.

With the Artis Large Display, 9, 18, or 24 video signals can be connected to the screen. The screen layout can be changed from the tableside.



Artis Cockpit



It's time to clean up the control room.

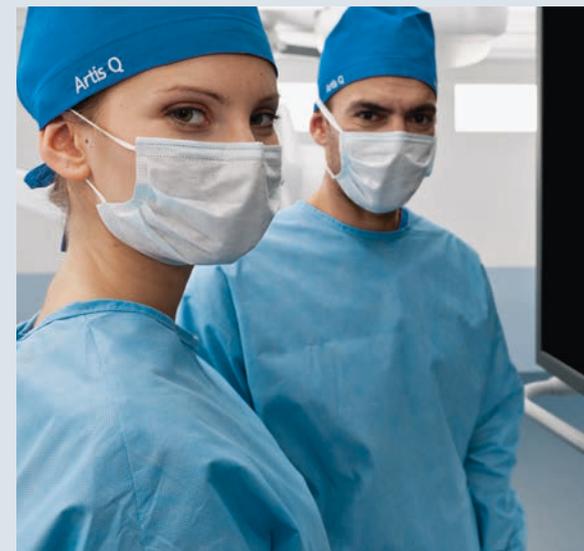
Stop running from one system to the next – let the Artis Cockpit consolidate all your information in one workplace. The 30-inch medical-grade monitor offers 4-megapixel resolution and high brightness for excellent image display. Up to 9 inputs can be simultaneously displayed and controlled, with a choice of four different layouts. The position of the system inputs on the screen can be easily rearranged using the unique drag & drop functionality.

Artis Cockpit offers one single workplace that can be equipped with one or two keyboards and monitors. With so much more efficiency in the control room, you can focus on your procedure and your patient.



Artis zeego – benefits to support you

Artis zeego is the ideal imaging partner: Its robotic-assisted C-arm allows ultimate flexibility in positioning and provides uninterrupted workflows to improve staff and patient comfort.



Flexible procedure execution

- Procedures can be made smoother and safer by providing uninterrupted, unobstructed access to the target area
- Unmatched patient positioning allows you to focus on the procedure by offering table tilting, cradle, and height that bring ease to the execution of the procedure

Enabled by:
Flexible isocenter – Siemens-unique

Flexible for cutting-edge procedures and in-room assessment

- Safeguard your investment and competitive edge with your procedure mix
- Achieve better decision-making during the procedure with CT-like real-time imaging
- Improve the outcome of procedures and potentially reduce your readmission rates

Supported by:
syngo DynaCT – the gold standard

Flexible use of space and resources

- Support your clinical team with flexible use of space and meet the demands on rooms and running costs
- Leverage the space to perform a broader range of advanced procedures by parking the C-arm away from the table

Customer voices

Gain insight into how flexibility is supporting these physicians in executing their procedure mix.



Christian Raftopoulos, M.D.
Head of Neurosurgery Department, University Hospital Saint-Luc, Brussels, Belgium

Dr. Raftopoulos talks about the improvements he experienced by using the Artis zeego for spine surgery:

“So far surgeons control what they are doing 48 hours after the intervention. With Artis zeego we can do it right there on the operating table.

In spinal implants, using Artis zeego saves money because we avoid second operations. That way the patient is happy, the surgeon is happy and the hospital is happy. Avoiding second surgeries and medical-legal problems is a big plus.”



Prof. Ulf Teichgräber, M.D.
Director of the Department of Radiology (IDIR) at Jena University Hospital, Germany

Prof. Teichgräber makes a statement about the procedure time savings he is able to gain in interventional radiology:

“Smoother workflows with the robotic-assisted C-arm means not only less pressure on the medical team, but also time savings of 20 – 30%.

This translates into a corresponding potential increase in patient numbers.”



Prof. Florian Gebhard, M.D.

Director of Orthopedic Traumatology, Hand, Plastic, and Reconstructive Surgery, University Ulm, Germany

Prof. Gebhard talks about the integration of 3D navigation:

“For this, the Artis zeego delivers high-resolution images of large areas, such as of multiple vertebrae. That’s never existed before in this form.

Being able to use the Artis zeego in the routine OR setting, having an intraoperative 3D option and the combination with a navigation system is optimal for a trauma surgeon.”



Alan B. Lumsden, M.D.

Medical Director, Methodist Hospital DeBakey Heart and Vascular Center, Houston, Texas, USA

Dr. Lumsden explains the benefits of DynaCT and the robotic C-arm:

“We had angio suites, but we didn’t have CT scanners in the angio suite until *syngo* DynaCT. Now we have a whole new set of imaging modalities that we can work from.

Right now, I think it’s the ease of positioning the patient. So that’s why the robotic component of the Artis zeego is pretty exciting.”



Prof. Dittmar Böckler, M.D.

Medical Director Vascular Surgery, Heidelberg University Hospital, Germany

Prof. Böckler explains the changes in treatment of vascular diseases:

“For us, however, the Hybrid OR was a quantum leap.

We can now use new endovascular methods that would have been impossible without top-level imaging.”

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For accessories, go to: www.siemens.com/medical-accessories

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The products shown from Brainlab, Draeger, Trumpf, and Maquet are not sold by Siemens. They have to be ordered, installed and serviced on separate contract with the vendor.

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