



\* Artis zeego is 510k pending

# There's so much more to zee



The field of interventional imaging has never been more demanding. To see fine vessels and small devices is getting more and more important. Excellent image quality is a vital requirement for every system used in an interventional lab.

“See more, do more” is the philosophy of AX, the Angiography, Fluoroscopy and Radiography Systems Division of Siemens Medical Solutions when it comes to interventional imaging. After all, a radiologist or cardiologist can only treat what can be seen on the 2D fluoro or 3D images. By seeing more, such as vessel detail and device infrastructure, confident decisions for treatment can be determined and implemented.

To enhance patient outcomes and remain on the cutting edge, radiologists and cardiologists need an imaging solu-

tion that enables them to image and treat with greater speed, efficiency, and precision. Siemens’ answer to these needs is an entirely new line of interventional imaging systems: The Artis **zee** family.

Artis **zee** has been specially designed to benefit doctors in various ways. It features a totally new digital imaging chain\* that offers advanced image quality and advanced 3D imaging capabilities to enhance clinical decision making in the interventional suite. Its workflow improvements help clinical teams to treat

patients more confidently and work more efficiently. What’s more, Artis **zee** looks into the future. Choosing an Artis **zee** system, is an investment customers can make with confidence. The system platform is built for the future. It is designed for new applications and backed by one of the industry’s most comprehensive customer care program.

The new Artis **zee** family offers a complete portfolio of systems for virtually every clinical need. Siemens offers biplane, ceiling-mounted, and floor-mounted systems for cardiology and in-

## Artis zee for Interventional Radiology



Artis zee biplane



Artis zeego\*



Artis zee ceiling-mounted

## Artis zee for Interventional Cardiology



Artis zee biplane



Artis zeego\*



Artis zee ceiling mounted

terventional radiology and multi-functional systems for angiography and fluoroscopy.

## Ready to zee the future today?

Complimenting this already extensive product portfolio, the Artis zee family offers an exceptional highlight, the first multi-axis system with unprecedented positioning flexibility: Artis zee<sup>go</sup>\*

There has never been anything quite like Artis zee<sup>go</sup>. Inspired by advances in automated manufacturing, Artis zee<sup>go</sup> is the first multi-axis system that can be positioned exactly the way it is needed and controlled with far greater ease and precision than any traditional floor or ceiling-mounted system. Artis zee<sup>go</sup> gives the user greater positional flexibility and broader coverage. One of its main benefits is large volume cross-sectional imaging with up to 47 cm in diameter offering a broader coverage of anatomy, e.g. an enlarged liver. In addition, the Artis

zee<sup>go</sup> was designed with a variable isocenter. The clinician can adjust the working height of the system, reducing fatigue and backaches associated with fixed heights, long procedure time and lead aprons. Artis zee<sup>go</sup> can be parked compactly to give the clinical team easier access to the patient, making it an ideal solution for hybrid rooms.

Artis zee<sup>go</sup>'s multiple axes create flexible projections and angulations from head to toe enhancing workflow efficiency. The SafeMove function enables the operator to maneuver the Artis zee<sup>go</sup> with confidence around the patient and accessory equipment, such as anesthesiology.

## A dedicated system for the Operating Room

Financial responsibility is foremost on the minds of healthcare administrators. A hybrid OR room fosters the multidisciplinary approach to comprehensive patient care and management. Situations arise where the clinical team must quickly shift from an endovascular procedure to open surgery, a hybrid room eliminates the need to transfer the patient to the OR and increases workflow efficiency and patient care. But whatever the procedure, Artis zee<sup>go</sup>'s flexibility and advanced ergonomics enables clinicians perform with more efficiency, precision and comfort. Artis zee<sup>go</sup> helps make the most of available space available in the OR. It can be parked in a variety of positions, so surgeons have more work space and better access to the patient. The system can also be combined with an endovascular OR table, which enables a 15° tilting heads up and heads down, 15° lateral tilt for optimal patient positioning. Since Artis zee<sup>go</sup> is floor mounted, it easily meets laminar flow and other sterility requirements.

\* 510k pending



Artis zee floor-mounted



Artis zee multi-purpose



Artis zee floor-mounted



Artis zee Magnetic Navigation



Artis **zee**\* offers the most flexible park positions to stow the system out of the way when it is not needed.

## A new level of imaging

The Artis **zee** family features a new multi-host imaging system designed for acquisition and post-processing with high system reliability. The dual host architecture makes it an ideal platform for the future and opens up new multi-tasking applications for simultaneous imaging. Image quality is a vital requirement of an interventional suite, excellent imaging capabilities are a matter of course for Siemens Medical Solutions. And this is not only limited to 2D acquisition and fluoroscopy, but is also available for 3D imaging right at the tableside.

\* 510k pending

## Large Volume *syngo* DynaCT\*

There are completely new imaging capabilities available with Large Volume *syngo* DynaCT. For the first time in the industry it is now possible to acquire an extended volume with a flat detector. Due to the higher amount of data acquired, a larger anatomical area of 47 cm in diameter and 18 cm in height can be covered. This extended field of view, enabled by the large volume, is especially important when performing liver tumor treatment with chemoembolizations. Better coverage of the abdomen plays an important role when imaging obese

patients. Needle work such as biopsies and radio frequency ablations can now be done with full orientation, since the skin entry as well as the target point can be visualized in one image. Portrait *syngo* DynaCT offers an extended field of view with a 35 cm diameter and a 25 cm height which is especially suitable for spinal applications such as vertebroplasties, kyphoplasties, lumbar punctures and CT myelographies.

## *syngo* iGuide\*

A new application available for the entire Artis **zee** family is *syngo* iGuide. It is a useful tool to plan needle procedures



Imaging from head to toe.



Head access to the patient from all sides.

such as biopsies, radio-frequency ablations and vertebroplasties directly in the angio suite. In cases of obese patients and complex needle position planning, the angio suite provides better access than a conventional CT. *syngo* iGuide provides three easy steps to needle planning and positioning. By taking the user step-by-step through its intuitive workflow, *syngo* iGuide allows the user to plan the needle path and the skin entry point, and control the needle progression in one fluid process. By moving needle procedures from the CT scanner to the interventional suite the CT is freed up for more diagnostic cases.

### ***syngo* iPilot\***

*syngo* iPilot provides a simultaneous display of a live fluoro image and a matching 3D reconstruction to facilitate guidance during interventions. The system updates dynamically to movements of the C-arm, table and source-to-image distance changes to facilitate efficient workflow during interventional procedures. *syngo* iPilot enhances decision making and improves confidence during complex procedures by providing enhanced imaging capabilities that aid in verifying interventional treatment for example in the placement of coils into an aneurysm. Also, patient movements can be manually compensated.

### **From 2D to 4D in Cardiology**

The Artis **zee** family portfolio also features dedicated C-arm systems for interventional cardiology and electrophysiol-

ogy. In this special field of intervention, excellent image quality is key. Imaging a moving structure such as the heart has always been a challenge. Now, with the Artis **zee** imaging system, outstanding image quality is provided from 2D fluoroscopy and 3D imaging and even a 4D image application where the time phases of the heartbeat are taken into account. In 2D fluoroscopy, features like advanced temporal filtration use an intelligent motion detection algorithm. This technology separates moving from non-moving structures in real time to improve the clarity of therapeutic instruments. Intelligent noise reduction enables high image quality during live fluoroscopy and acquisition by significantly reducing quantum noise without an increase in dose.

Stent meshes can be difficult to see, especially in obese patients or when steep angulations are used. But IC Stent\* uses the balloon markers of the deployment balloon as reference points to shift and match images. Those images are then integrated to improve the signal-to-noise ratio to significantly enhance the visibility of stent meshes. For 3D applications, *syngo* IC3D helps to accurately measure lesions in the coronary arteries by using two projections. From these projections, a 3D model is generated so that a vessel can be rotated freely in space to precisely assess a lesion's diameter profile and the degree of stenosis. It also enables accurate measurement of lesion length to simplify appropriate stent selection. The latest application, *syngo* DynaCT Cardiac, widens the 3D spectrum to 4D. By using rotational angiography and special reconstruction algorithms, *syngo* DynaCT Cardiac creates CT-like images of the beating heart right in the cath lab. During acquisition, it can use an

ECG-triggered mode to collect image data to acquire only images from the same heart phase. With this feature it is now possible to reconstruct 4D images of the heart and its vessels in the cathlab.

### **Enhanced workflow**

As demand for interventional procedures increases, so does the need for the clinical team to work more efficiently. Artis **zee** meets the challenge with new, ergonomically designed controls that streamline workflow through every phase of care delivery. All 3D applications can be operated directly from tableside and displayed on the in-room display system together with previously acquired CT or MRI images. The new tableside user interface\* improves the workflow during the procedure. Its new smaller design offers easy-to-read *syngo* icons for quicker selection of task-cards. The new mouse-like control combined with the user interface is easier to operate. Due its modular design, it can be flexibly positioned to maximize operator comfort. For cardiology procedures a special task card has been included to provide direct access to the features required for cardiac imaging needs. The new menu-driven workflow enables faster acquisition of 3D images. To improve efficiency, the system automatically moves into the start position, eliminating the need for the operator to select the position manually. Previous manual steps become automated. Operator instructions are shown in real time on the data screen of the display system and guide the operator through different stages of the 3D acquisition. The operator can also select from a wide range of user-defined presets to ensure

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Better access from all sides, even during emergency procedures.

fast and consistent results, including high contrast results in real time, and soft tissue results at the tableside.

## A confident investment

A new interventional imaging system represents a substantial investment for any healthcare enterprise. The Artis **zee** family was specifically designed to provide value for your investment today and in the years ahead.

Artis **zee**'s advanced 3D imaging capabilities enhance the decision-making of clinicians and facilitate faster and more effective procedures. Its ergonomic controls streamline workflow and improve patient throughput. Its ability to generate cross-sectional images enables clinicians to perform pre- and post-surgical imaging in the OR and

frees up the CT suite for other diagnostic cases.

At Siemens, an investment in the new Artis **zee** family marks the beginning of an important relationship that will last over many years. The award winning customer care program, Life, offers customers access to an array of programs and services that drive skill development, optimize productivity and support technology enhancement.

Right from day one, Siemens customers enjoy world-class onsite applications training, helping to ensure that they realize the full imaging and workflow potential of Artis **zee**. Dedicated e-learning helps to maintain knowledge levels, and offers access to useful tricks and tips 24/7. A wide range of international clinical workshops and fellowships are also available for radiologists and cardiologists.

Artis **zee** customers also benefit from the modern proactive service technologies including the Guardian Program™, which significantly reduces unplanned downtime by detecting problems before they occur.

Artis **zee** and Artis **zeego** have been designed with the future in mind, and Siemens is committed to sharing that future with customers who invest in Artis **zee** today. *syngo* Evolve for Artis **zee** allows customers to participate in future innovations via a managed upgrade program. So, from initial on-site application training, pro-active uptime and system upgrade management to expanding the clinical portfolio.

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