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# Artis one

Designed around you.



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# Artis one

## Designed around you.

**Imagine a system that leaves the beaten track.  
Marking a new approach to interventional imaging,  
because it's different in many ways.**

Artis one delivers proven state-of-the-art technology – like the MEGALIX Cat Plus X-ray tube featuring the Siemens-unique flat emitter. It also offers next-generation tools for uncompromised imaging, such as CLEARstent Live to verify stent positioning in real time.

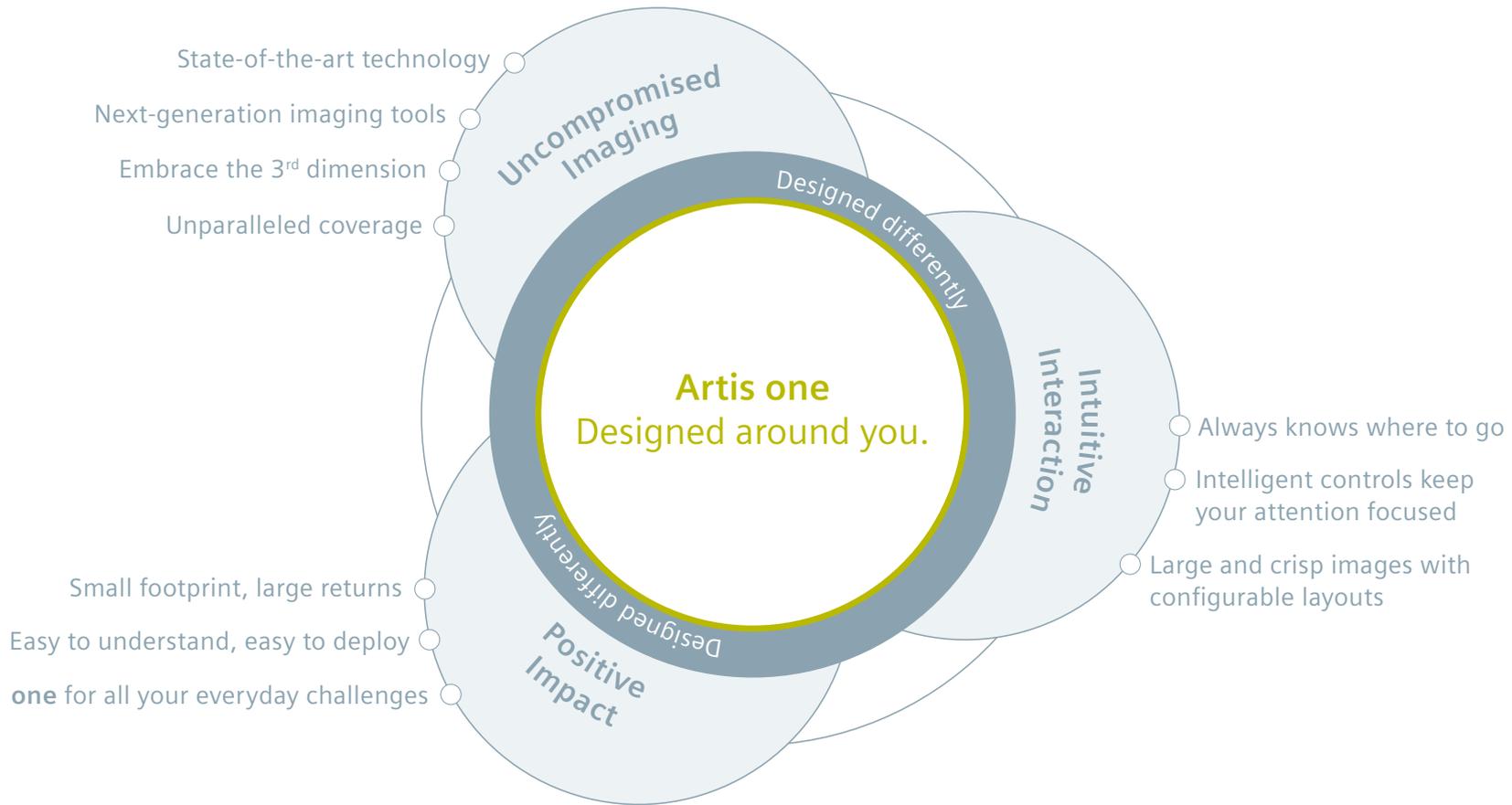
Intelligent operation is enhanced by a new, display-driven user interface, enabling intuitive interaction with the system. So you can keep your attention where you need it.

And because Artis one is quickly installed and understood, it will have a positive impact on your organization. Now you can broaden your procedure mix and hit the sweet spot of your business.

**Artis one. Designed differently.  
Artis one. Designed around you.**



# A new approach to interventional imaging





# Uncompromised Imaging

From unique flat emitter technology to real-time stent enhancement, Artis one offers proven technology along with next-generation imaging tools.

From X-ray generation to image processing, Artis one features an image quality comparable to the successful and well established Siemens Artis zee angiography system line. The CARE+CLEAR package comes standard, ensuring the perfect balance of optimal image quality at the lowest reasonable dose.

# Great contrast resolution

## MEGALIX Cat Plus angiography X-ray tube with flat emitter technology

With more than 5,000 installations worldwide, the MEGALIX Cat Plus X-ray tube is already used by many satisfied customers. As the first angiography tube in the world, it introduced the unique flat emitter technology that allows a tube current of 250 mA during fluoroscopy while keeping the voltage low. This ensures great contrast resolution even in steep angulations required during cardiac procedures.

To reach these steep angulations, which is important during cardiac procedures, Artis one comes with a redesigned conically-shaped collimator. Naturally, the collimator features StraightView to always see upright images of objects that are not aligned with the table and independent of the C-arm position.

# Comfortable coverage

## as30 flat detector for a broad range of examinations

Artis one comes with the new as30 mid-sized format flat detector, based on amorphous silicon. Its active detector matrix of 29 cm x 26 cm allows enough coverage for peripheral examinations while not limiting C-arm angulations during cardiac procedures. The detector resolution of 1560 x 1420 pixels enables native 1.5K imaging and display for depiction of finest vessel or stent structures.



Uncompromised imaging also for steep angulations: MEGALIX Cat Plus X-ray tube with slimline collimator plus new as30 flat detector



# CARE+CLEAR

## Optimal image quality at the lowest reasonable dose

Image quality is key to successful procedures. On the other hand, there is increasing awareness and demand for dose reductions to protect both, patients and staff.

These two areas seem to be conflicting. With CARE+CLEAR however, Artis one like any other Siemens angiography system, features a comprehensive portfolio of image quality improvement and dose-saving tools. For optimal image quality at the lowest reasonable dose.

CARE+CLEAR supports you in making confident decisions in diagnosis and treatment and increases the safety of both your patients and staff. A Siemens exclusive: CARE+CLEAR is standard with every Artis angiography system and unmatched since 1994.

## CARE

Siemens has always been a pioneer in reducing radiation dose for patients and staff. The philosophy behind our Combined Applications to Reduce Exposure (CARE) is simple: They are designed to help you deliver better care at the lowest reasonable dose.

## CLEAR

Whether your patients are tall or short, heavy or light-weight – you want to have optimal image quality. Our CLEAR image processing automatically enhances image quality and thus helps increase certainty during interventions.





Uncompromised Imaging

# All standard projections in one sweep

## Dual-axis rotational angiography with HeartSweep

Imagine being done with a diagnostic coronary examination after only 5 seconds and using a single contrast injection only. In one run, HeartSweep covers all standard coronary diagnostic projections, allowing you to quickly assess the coronary vessels afterwards. After identification of a coronary lesion, the HeartSweep scene can be stopped at the ideal view and using the Automap feature, the C-arm can automatically be moved into the corresponding projection.



HeartSweep acquires all cardiac diagnostic standard projections in a single movement

HeartSweep images of the left coronary artery showing significant stenosis in the LAD



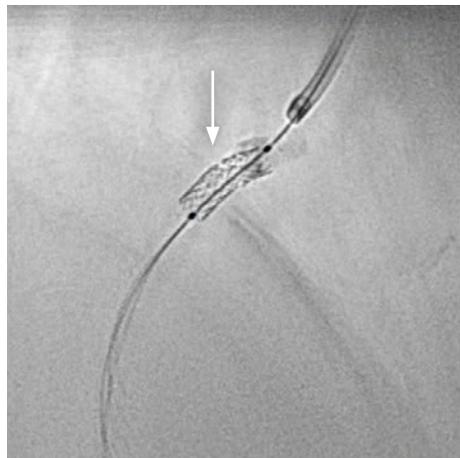
# Clear stent imaging

## Static stent enhancement with CLEARstent

CLEARstent allows to precisely assess the fit of an implanted stent and to document it. It can also be used to get an overview of previously implanted stents, e.g. in case of fracture or in-stent restenosis.

Depending on the presence of contrast agent, you can get a high-quality enhanced image of the stent or a CLEARstent Dynamic view alternating between stent and contrast-filled vessel. CLEARstent uses dedicated acquisitions or previously acquired scenes. The results are saved in DICOM format for review using any DICOM viewer, e.g. on the physician's office PC for use during patient conversations.

CLEARstent image of stent fracture causing in-stent restenosis

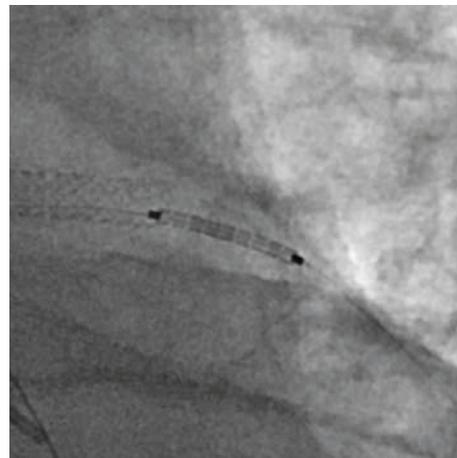


## Real-time stent enhancement with CLEARstent Live

With CLEARstent Live, stent enhancement takes place in real-time, eliminating cardiac motion in the image during an ongoing acquisition. This allows you to verify the stent position relative to cardiac anatomy or to stents deployed previously. The CLEARstent Live enhanced images are displayed side by side with the acquisition, and the operator can still move the device facilitating bifurcational stentings or long lesion treatments.

Besides providing you with more positioning accuracy, CLEARstent Live can help speed up procedures and lower the amount of contrast agent needed. There is no additional workstation needed for CLEARstent Live and the results are saved according to the DICOM standard for external review.

CLEARstent Live used in long lesion treatment to minimize stent overlap



*All images on this page courtesy of University Hospital Erlangen, Erlangen, Germany*

# 3D imaging: overview in three dimensions

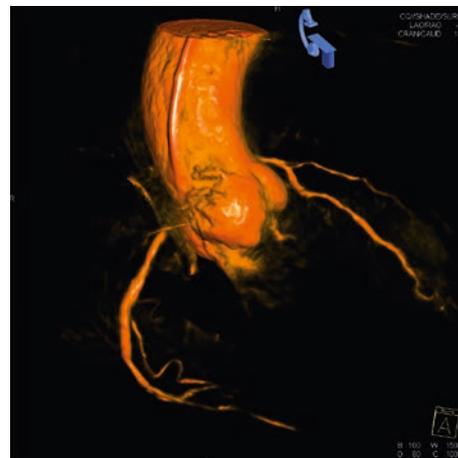
## Embrace the third dimension

Artis one features two different five-second protocols for acquisition of high-contrast 3D images. The dose-saving protocol acquires 133 images suitable for larger vessel structures. The second was optimized for quality and acquires 248 images and can bring advantages for imaging of finer vessels.

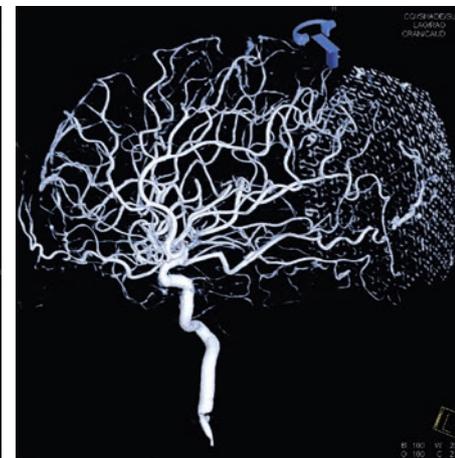
Artis one is also capable of opening and displaying 3D images from other modalities, e.g. *syngo*® DynaCT, multi-slice Computed Tomography or MRI.

An automated LA segmentation allows one-click segmentation of the left atrium for EP procedures and, together with the integrated interface, automated transfer to a 3D mapping system\*.

3-dimensional image of aortic root and coronary arteries



Courtesy of  
University Hospital Erlangen,  
Erlangen, Germany



3-dimensional digital subtraction angiography (3D-DSA) of brain vessels

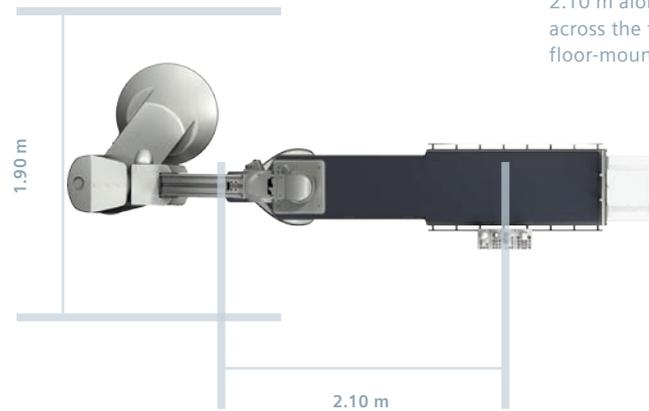
Courtesy of  
Shenzhen Second People's Hospital,  
Shenzhen, P.R. China

# Ceiling-like movements, floor-mounted

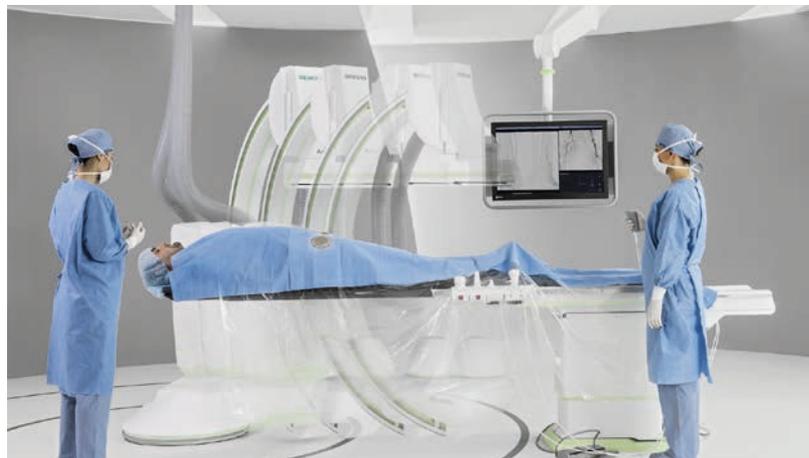
## Unparalleled patient coverage

Artis one can cover 2.10 m (6 ft 10 in) along and 1.90 m (6 ft 3 in) across the table – patient coverage rivaling that of a ceiling-mounted system. With motorized stand movements, this allows peripheral run-offs without the need of moving the patient.

The unparalleled patient coverage also allows acquiring images of objects next to the table, e.g. an outstretched arm during a dialysis shunt revision often increasing patient comfort.



Ceiling-like coverage of 2.10 m along and 1.90 m across the table on a floor-mounted system



left: Motorized gantry stepping for peripheral bolus chase without moving the table

right: Bilateral angiogram of renal arteries

*Courtesy of  
University Hospital Erlangen,  
Erlangen, Germany*

The image shows two surgeons in blue scrubs and masks operating a Siemens Artis one C-arm in an operating room. The C-arm is a large, white, curved machine with a monitor on top. The surgeons are standing on either side of the patient, who is lying on a table covered with a blue drape. The room has a clean, modern aesthetic with a white floor and walls. The Siemens logo is visible on the C-arm.

# Intuitive Interaction

Artis one was designed to be operated intuitively so the user's attention is left undistracted.

Artis one smoothly adapts to procedure-specific needs and provides optimal patient access during all procedures – at the press of a button or automatically. It keeps the patient's head free for anesthesia as well as for transesophageal echocardiography and leaves room to move during an emergency.

# Optimal patient access

## Motorized system positioning for optimal patient access

Intuitive interaction also means you interact with the system only when you want to, not because you have to. Artis one positioning around the patient is fully motorized and requires only a button press. This ensures optimal patient access during all procedures.

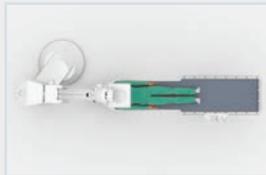
For cardiac positions, the system can be positioned at the head – as most frequently used – or on the left side if access to the patient's head is needed, e.g. for anesthesia or intubation.

For vascular procedures of the lower extremities, a left-side system position with a rotated table allows maximum patient coverage without table movement. And for pacemaker implantations, the system can simply be moved to the patient's right side to allow access from the left.

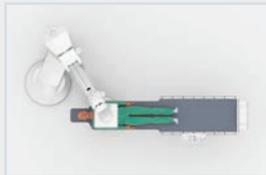
Park position



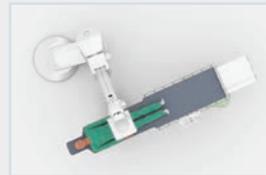
PCI position



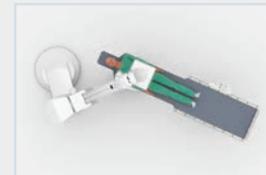
TAVI position



Abdominal position



CRT position



# Large and crisp images

## 30" display with selectable layouts

Artis one features a 30" display with user-selectable layouts displaying up to three internal (Live, Reference, 3D) and four external image sources. Compared to a 19"/4:3 screen, images are shown up to 90% larger, which would correspond to a 26"/4:3 screen. This level of magnification allows to see also fine details.

The display is also home to the heads-up display, allowing you to keep constant track of the most important system parameters, like C-arm position or image settings. And the revolutionary on-screen menu in combination with the re-designed tableside control allows intuitive interaction with the system – without the need to look down. This way, the user's attention stays where it's needed.

The single 30" display configuration is recommended for systems used mainly for vascular applications. The dual-display configuration is recommended for cardiac applications and features an optional second screen (standard 21") that is able to connect, for example, to the hemodynamic monitoring system.

Digital subtraction angiographies  
of brain vessels in 2D and 3D

*Courtesy of  
Shenzhen Second People's Hospital,  
Shenzhen, P.R. China*



Post-deployment assessment of implanted stent in left coronary artery (LCA)



Clinical images of University Hospital Erlangen, Erlangen, Germany



Intuitive Interaction

# Positive Impact

**Artis one was designed for positive impact, saving time, space, energy, and resources.**

Artis one has a small footprint but offers large returns. Its floor stand fits into rooms as small as 25 square meters which is not necessarily larger than a patient room. Still it can do ceiling-like system movements – without requiring the usual 45 ceiling-like square meters. Thanks to dedicated tools in 2D and 3D and easy-to-understand system controls, rotating teams can handle the system quickly and the room can be used to cover a broad procedural range – the smartest way to hit the sweet spot of your business.



# one for all everyday challenges

## Dedicated tools for a broad range of examinations

Artis one was designed to broaden the procedure mix of the angiography suite. It features state-of-the-art technology for brilliant images at low dose and offers dedicated tools in 2D and 3D to facilitate cardiac and vascular procedures alike. Flexible system positioning allows ceiling-like movements on a floor-mounted system and ensures optimal patient access during all procedures.

The revolutionary display-driven user interface allows a new and intuitive way of interaction and is easy to understand. And because Artis one is easy to operate, even rotating teams can get up to speed quickly.



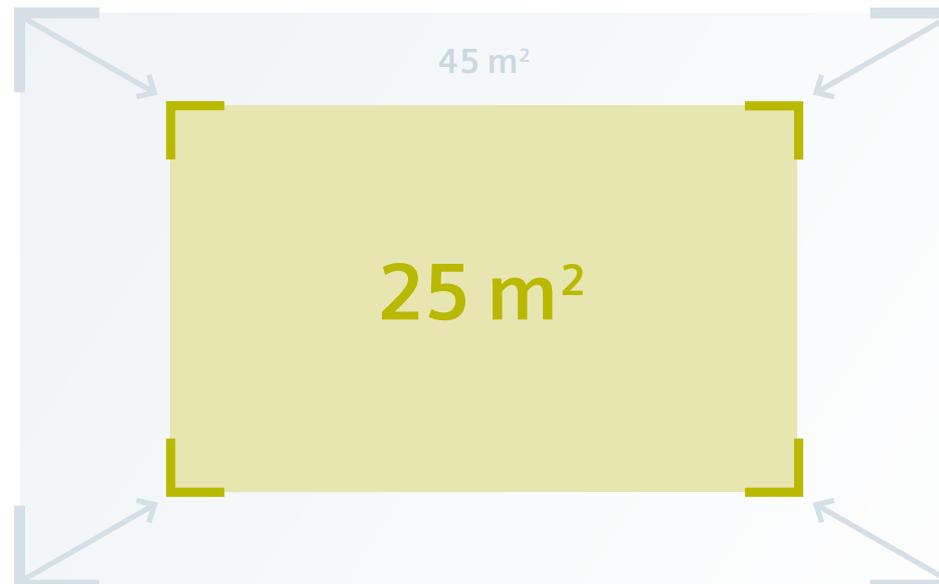
# Small footprint, large returns

## Only 25 square meters required

Artis one enables ceiling-like flexibility on a floor-mounted system. This means there is no need for a reinforced ceiling, and the unit can fit into rooms of only 25 m<sup>2</sup> instead of the 45 m<sup>2</sup> commonly required for a ceiling stand.

Siemens-built industry-proven components are expected to have lower failure rates resulting in significant servicing advantages. Besides, during routine examinations, Artis one uses over 20 percent less energy than Artis zee floor.

And because hardware options that drive complexity have been reduced, the system can be installed more quickly than the Artis zee floor. During system replacements, this means the room can be used to generate revenue faster than before.



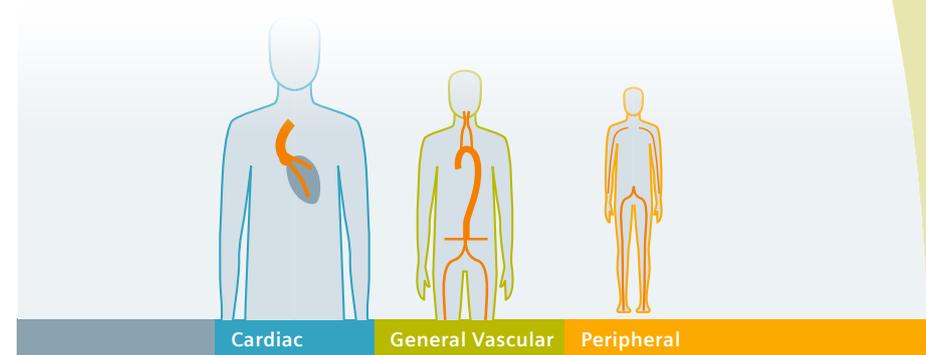
Artis one fits into rooms as small as 25 m<sup>2</sup>

# Cover a broader procedure mix

## From cardiac to general vascular to peripheral procedures

Artis one offers dedicated tools in 2D and 3D to support cardiac, general vascular and peripheral procedures. For example it covers the whole coronary workflow, from diagnosis and real-time image guidance to assessment of procedural outcome using CLEARstent, CLEARstent Live, and HeartSweep. This facilitates procedures and can lead to time and contrast savings.

3D imaging and visualization help during cardiac and vascular procedures. 1.5K imaging and ceiling-like patient coverage are great features for general vascular and peripheral procedures. And optimal system positions enable optimal patient access and even leave enough space for larger, multi-disciplinary teams.



	Cardiac	General Vascular	Peripheral
CLEARstent*	✓		
CLEARstent Live*	✓		
HeartSweep*	✓		
LA segmentation with mapping system interface*	✓		
Slimline collimator	✓	✓	✓
StraightView	✓	✓	✓
Integrated 3D*	✓	✓	✓
as30 flat detector	✓	✓	✓
Flexible stand positioning	✓	✓	✓
Peristepping without table movement*			✓
2.1 m longitudinal coverage			✓

\*Option

Positive Impact



# Artis one – at a glance:



## Uncompromised Imaging

- MEGALIX Cat Plus X-ray tube with flat emitter technology and new as30 flat detector
- Unparalleled 2.10 m longitudinal coverage, 1.90 m lateral
- Static and real-time stent enhancement with CLEARstent and CLEARstent Live
- CARE+CLEAR included
- Optional 3D imaging



## Intuitive Interaction

- Ideal system positions enabling optimal patient access for every procedure
- Display-driven user interface through on-screen menu and heads-up display for intuitive system operation and undistracted operator attention
- Large, crisp images with configurable layouts in a single- or dual-display configuration



## Positive Impact

- One system for all everyday challenges thanks to dedicated 2D and 3D tools
- Small footprint of 25 sqm, large returns thanks to energy savings
- Cover a broader procedure mix from cardiac through general vascular to peripheral procedures



Artis one

SmartMap  
Precision Guide Wire System

Artis one with Sensis for EP

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TEMPUR-EP

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Order No. A91AX-31402-27C2-7600 | Printed in Germany | CC AX 3529 11151.5 | © Siemens Healthcare GmbH, 2015

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