ARTIS one
Edition X

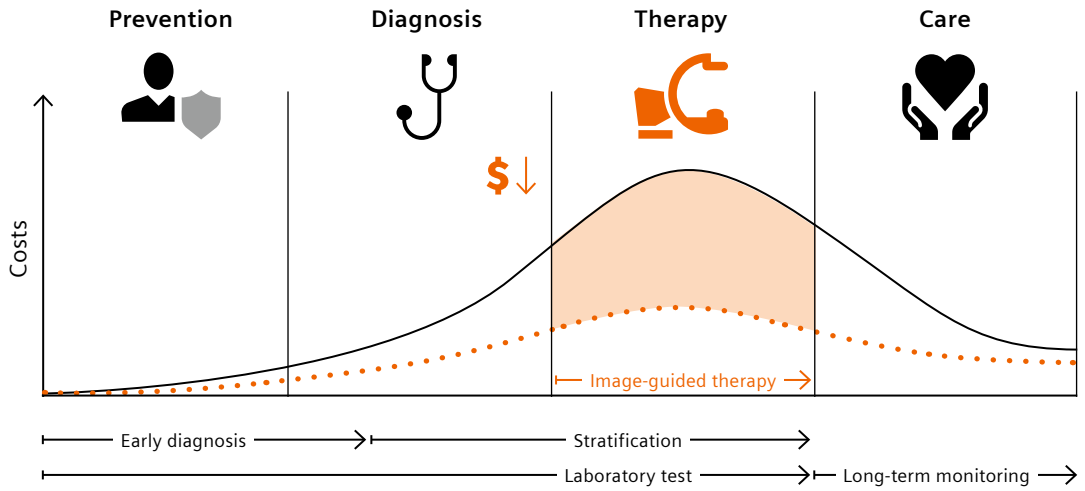
True universality in cardiovascular imaging

SIEMENS Healthineers

Investing intelligently for long-term sustainability

Healthcare costs make up a significant proportion of most countries' GDP, and have risen almost continuously over the last two decades. Considering these increasing costs and the ever-evolving technology, it is clear that an investment such as an angiography system must not only be cost effective; ideally, it should also serve you reliably for many years to come.

Imaging is essential in therapy and can result in better patient care and lower costs



Spending during conventional treatment path
Potential spending – optimal integration of diagnostics into therapy

Only when they deliver correct and reliable results, can medical imaging and clinical lab tests support optimized and individualized treatment – and help lower costs.

Source: OECD (2022): Health expenditure and financing: Health expenditure indicators, OECD Health Statistics (database), https://doi.org/10.1787/data-00349-en

All set for future trends?

New technical developments and techniques are constantly changing the face of care delivery. What's customary today can be outdated tomorrow. Only a flexible angiography system that can easily adapt to new requirements is a future-safe investment.

Interventional Radiology

Increase in interventional stroke treatment due to superiority of mechanical thrombectomy.

Stroke

New and established embolization procedures are on the rise, ranging from, e.g., TACE to PAE.

TACE

Use of endovascular recanalizations to minimize amputations in patients with CLI.

CLI

Cardiology

Atrial fibrillation (AFib) is the most common and most frequently diagnosed form of arrhythmia. There are 33.5 million patients worldwide.[1]

ARR

PCIs are on the rise. There are now more than one million PCIs performed around the world every year. This number has been increasing since 2013, including a 30 percent increase in elective PCI.[2]

CAD

A total of 300,000 SHD procedures per year worldwide. A 4-year increase of +14 percent (CAGR 2017–2022).*

SHD

[1] Lippi G, Sanchis-Gomar F, Cervellin G. Global epidemiology of atrial fibrillation: An increasing epidemic and public health challenge. Int J Stroke. 2021 Feb;16(2):217-221. doi: 10.1177/1747493019897870.
[2] Lahoud R, Dauermann H. Fall and Rise of Coronary Intervention. Am Heart Assoc. 2020;9:e016853./ JAHA.120.016853
** Data from countries (DRG): LAAC: USA, Germany, Japan; TAVI + TMV: USA, Colombia, Brazil, Mexico, Argentina, Germany, UK, Italy, Spain, France, Japan, Australia, China, India, South Korea*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ARTIS one
Edition X

True universality in cardiovascular imaging

A proven approach to interventional imaging

Contents

ARTIS one Edition X at a glance

1. As30 flat detector (29cm x 26cm)
2. Rotatable collimator with slimline housing MEGALIX Cat Plus 2-focus tube
3. Multiaxis floor stand
4. ARTIS one table (250 kg patient weight)
5. Panoramic Display
6. Wireless footswitch
7. Pilot module


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"We were looking for a safe, fast, and reliable system, which also met our high expectations regarding image quality and reduced radiation dose – we found all this in ARTIS one. "

Christian Schlundt, MD
Cardiologist
CardioCenter Ansbach, Germany

True universality in cardiovascular care: ARTIS one Edition X

Patients with cardiovascular diseases are a key population for hospitals today. However, technicians who are qualified to operate imaging systems for the broad range of necessary procedures are in high demand. Attracting staff to your institution is almost as challenging as retaining them long term. Given the high turnover, you need a cardiovascular imaging solution that even new staff with limited prior experience can master quickly. Furthermore, the system needs to be so intuitive that users can stay focused on patients despite demanding workloads.

Discover opportunity

Investing in a new system can be cost prohibitive. This is particularly true when you are concerned about underutilization. ARTIS one Edition X is a cost-effective solution that lets you maximize the value of your investment.

- Expand your procedure mix
- Keep your total cost of ownership low
- Stay productive

Jumpstart productivity

High staff turnover can take its toll on even the leanest and smartest of enterprises. ARTIS one Edition X is so easy and convenient by design that many common onboarding requirements are simply obsolete.

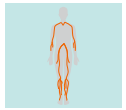
- Easy onboarding of new staff
- Reduce complexity of routine system interaction
- Intuitive system interaction

Discover opportunity

Cover a broader procedure mix

From cardiac and 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 eases procedures with the potential for time and contrast savings.

3D imaging and visualization help during cardiac and vascular procedures. 1.5K imaging and ceiling-like patient coverage are beneficial features for general vascular and peripheral procedures. The flexible system positioning enables optimal patient access and even leaves enough space for larger multidisciplinary teams.

		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
Cardiovascular Care		✓	✓	✓	✓	✓	✓	✓	✓	✓		
General Vascular						✓	✓	✓	✓	✓		
Peripheral		✓				✓	✓	✓	✓	✓	✓	✓

*Optional

Keep your total cost of ownership low

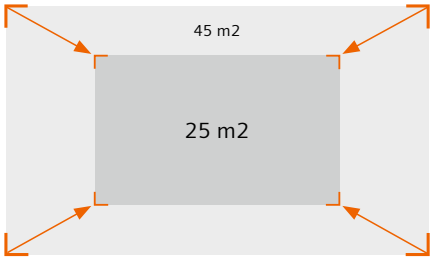
thanks to the floor mount design that cuts down on space and weight requirements

Small footprint, large returns

Only 25 m² required
ARTIS one enables ceiling-like flexibility with a floor-mounted system. This means there is no need for a reinforced ceiling, and the unit can fit into rooms of only 25 m² instead of the 45 m² commonly required for a ceiling stand.

Industry-proven components built by Siemens Healthineers 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.

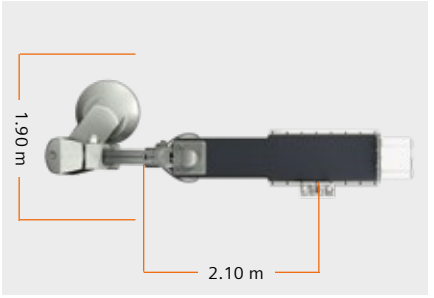


ARTIS one fits into rooms as small as 25 m²

Ceiling-like movements, floor-mounted

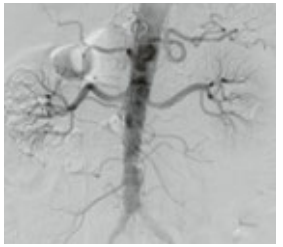
Full head-to-toe patient coverage
ARTIS one can cover 2.10 m (6 ft 10 in) along and 1.90 m (6 ft 3 in) across the table – patient coverage rivaling that of a ceiling-mounted system. With motorized stand movements, this allows peripheral runoffs without the need to move the patient.

The excellent patient coverage also allows you to acquire images of objects next to the table, for instance 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

Motorized gantry stepping for peripheral bolus chase without moving the table or patient

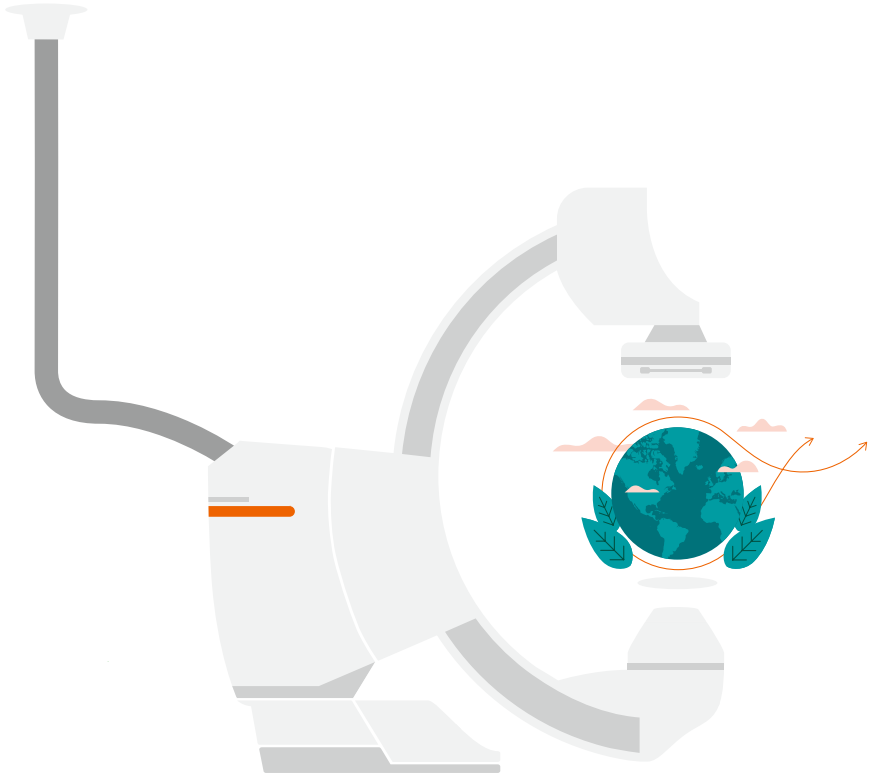


Bilateral angiogram of renal arteries

Courtesy of Universitätsklinikum Erlangen, Germany

*Compared with previous ARTIS generation

ARTIS one uses your resources efficiently



97%

of the material used
is **recyclable**.

As part of the Siemens product disposal program, angiography systems are refurbished and components and replacement parts reused whenever possible. Our systems are made for more than just a single lifetime.

Efficient room usage
Thanks to the floor mount design, ARTIS one fits into rooms no bigger than 25m².

Energy savings
ARTIS one uses over 20 percent less energy than Artis zee floor.

Improved lab utilization
ARTIS one enables a broad procedure mix to improve utilization of your cath lab.

Jumpstart productivity

Empower new staff to start working in no time thanks to the easy-to-learn workflows and the intuitive operating philosophy

Keeping the focus where it's needed – on the patients

The display is home to the on-screen menu, allowing you to keep constant track of the most important system parameters, such as C-arm position or image settings.The on-screen menu is operated by mouse joystick and allows easy change of system settings and quick access to functionalities such as 3D capabilities.

The combination of the on-screen menu and the 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.

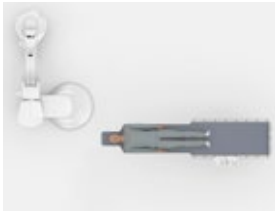
Twelve buttons can be freely configured to speed up access to frequently used functions, thereby reducing the complexity of routine interactions with the system.

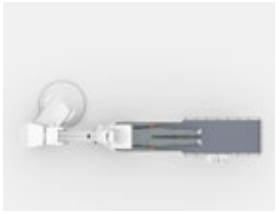
Fully motorized system positioning

Motorized system positioning for optimal patient access
ARTIS one positioning around the patient is fully motorized and requires just the push of a button. This enables optimal patient access during all procedures.

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


TACE position


Abdominal position


CRT position

Holistically manage your staff's education

High staff turnover can take its toll on even the leanest and smartest of enterprises. Therefore, it is crucial to manage the education of your workflow holistically to optimizie operations, increase performance, and to maintain employee satisfaction.

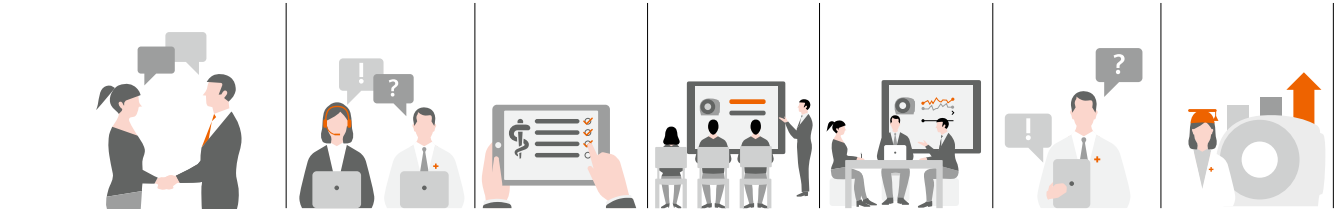
38% of employees leave due to lack of development opportunities and "training"[1]

only **38%** of people feel they have access to long-term development at work[2]

Education Excellence Services

Healthcare providers have very demanding jobs: The well-being of patients depends on their staff's skills and abilities. Keeping up with the ever-evolving standards, staying on top of technology, as well as sharing know-how can make a decisive difference.

With our Siemens Healthineers Education Excellence Services, we share the latest technical and clinical knowledge enabling you to continuously and strategically build and develop your job- specific skill sets to provide optimal patient care.



Equipment Installation | **Continuous care and evolution during equipment lifecycle**

Equipment Demo	Equipment Handover Training	UpSpeed Remote Support: Remote Assist	UpSkill Education & Training: Tailored Hands-on	UpSkill Education & Training: Classroom Training	UpSkill Education & Training: Clinical Workshop	UpSkill Education & Training: Self-Study	UpSkill Optimization & Consulting

[1] *https://blog.accessperks.com/employee-engagement-loyalty-statistics-the-ultimate-collection*
[2] *https://www.statista.com/statistics/739741/learning-hours-used-per-employee/.*

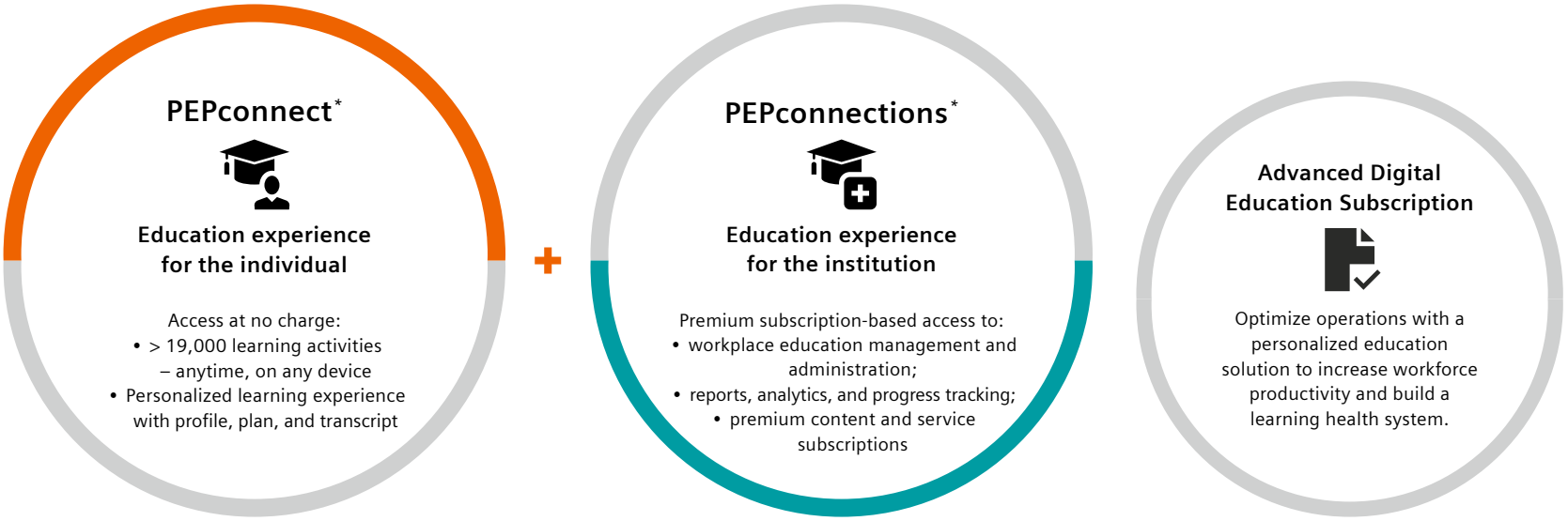
The smarter connection to knowledge in digitalizing healthcare

PEPconnect* and PEPconnections*

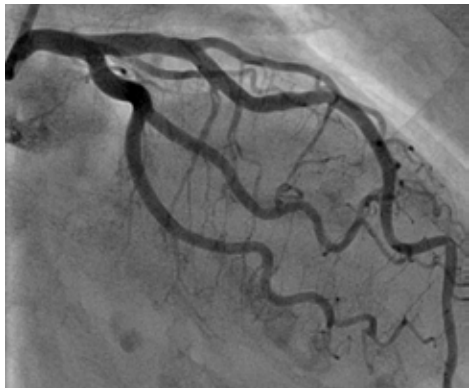
Standardization of care is high on the agenda of clinical institutions. It is seen as helping achieve excellent clinical results, increasing safety, and reducing costs. Have you ever considered education as a lever for realizing this goal? The know-how and skill level of staff members affects their performance. Continuous education and training can enhance their confidence as well as consistency.

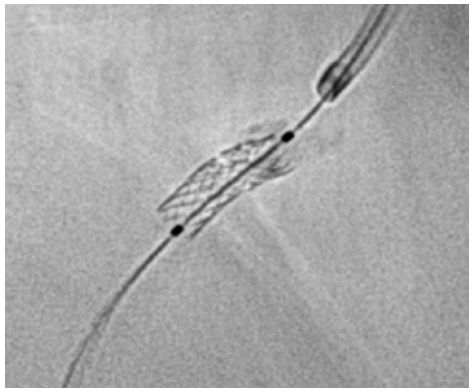
PEPconnect* is our personalized online education experience designed for healthcare professionals, which is customized to their role and learning behavior – designed to increase their competency, efficiency, and productivity.

PEPconnections* is a PEPconnect* premium subscription, which supports your clinical institution's performance growth with integrated workforce education management and administration features.



**Subscription required. Availability of subscription depends on country.*





Courtesy of Universitätsklinikum Erlangen, Germany (1,2)
Courtesy of Secomedic Hospital, Japan (3)

How to get the full picture

ARTIS one Edition X is a system that everyone will appreciate. This truly universal angiography system offers the right combination of flexibility and features for optimally treating cardiovascular patients. From unique flat emitter technology to real-time stent enhancement, ARTIS one offers proven technology with next-generation imaging tools.

Great contrast resolution

MEGALIX Cat Plus angiography X-ray tube with flat emitter technology
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 provides great contrast resolution even at the steep angulations required during cardiac procedures. To achieve these steep angulations, ARTIS one Edition X comes with a redesigned conically shaped collimator. In addition, the collimator features StraightView allow you to always see upright images of objects that are not aligned with the table and regardless of the C-arm position. Furthermore, you have the option to equip your system with a special tube shielding to reduce potential interferences with other modalities in the cath lab.

Comfortable coverage

as30 flat detector for a broad range of examinations
ARTIS one comes with the as30 midsized 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 fine vessel or stent structures.

Excellent image quality at low dose following the ALARA principle

CARE+CLEAR is our comprehensive portfolio of image quality and dose-saving tools – standard with ARTIS.
Image quality is key to successful procedures. Yet there is increasing awareness and demand for dose reductions to protect both patients and staff.

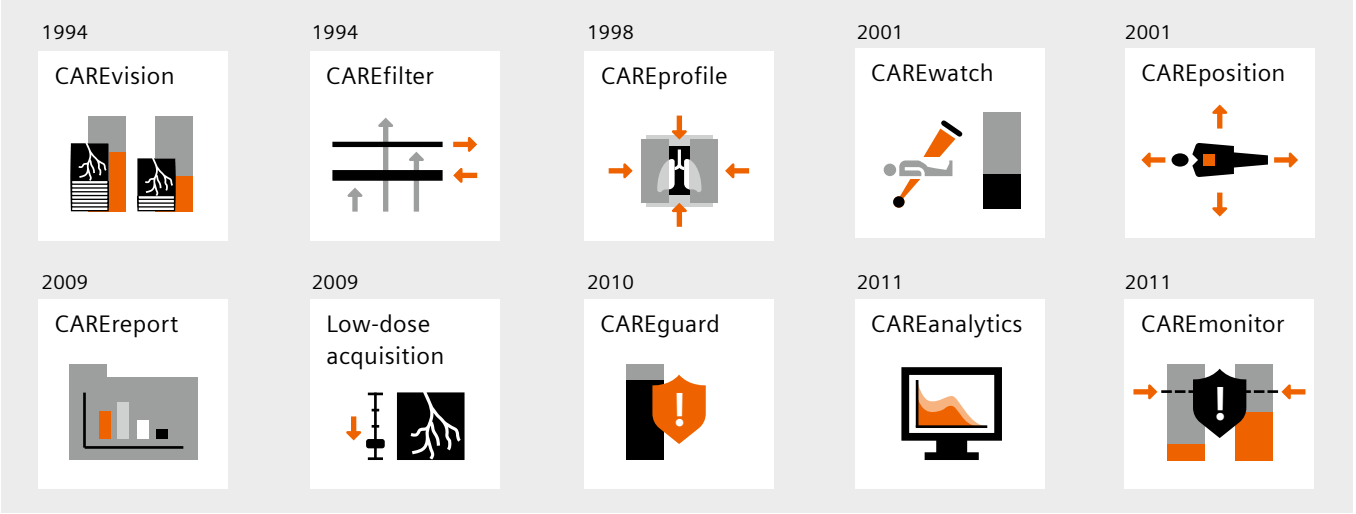
These two areas seem to conflict. With CARE+CLEAR, however, ARTIS one Edition X, like any other angiography system from Siemens Healthineers, features a comprehensive portfolio of image quality improvement and dose-saving tools. For excellent image quality at low dose following the ALARA principle.

CARE+CLEAR supports you in making confident decisions in diagnosis and treatment, while also increasing the safety of both your patients and staff.

An exclusive from Siemens Healthineers: CARE+CLEAR has been standard with every ARTIS angiography system since 1994.

CARE
Siemens Healthineers 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 reasonably achievable dose.

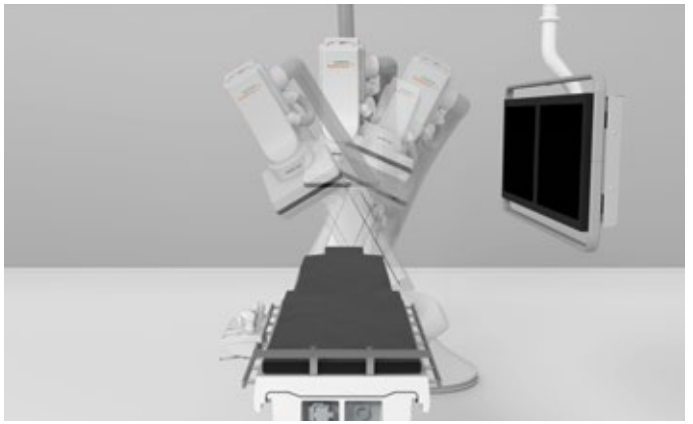
CLEAR
Whether your patients are tall or short, heavy or light – you want to have optimal image quality. Our CLEAR image processing automatically enhances image quality and thus helps increase certainty during interventions.



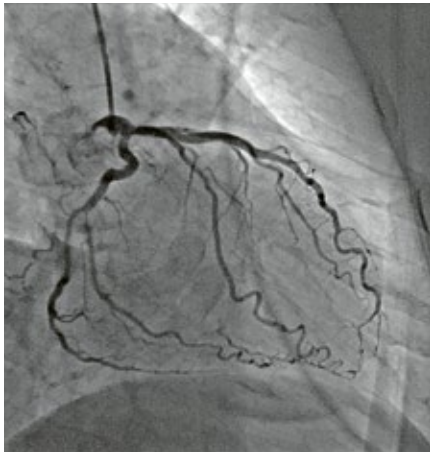
Almost 20 years of innovations from Siemens Helathineers to reduce, monitor, and report dose in angiography

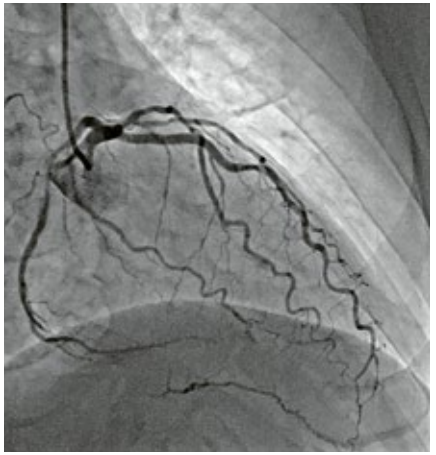
All standard projections in one sweep

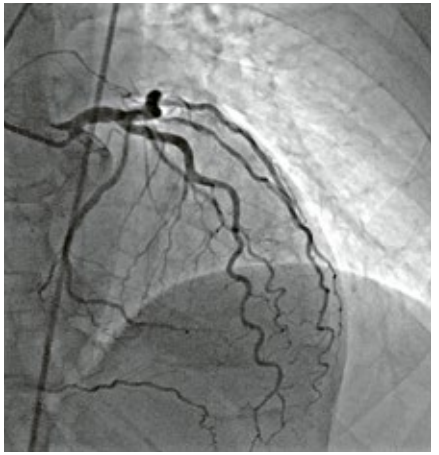
Dual-axis rotational angiography with HeartSweep
HeartSweep supports efficient diagnosis of coronary artery disease and improves standardization of diagnostic procedures. In one run, HeartSweep covers all standard coronary diagnostic projections, allowing you to quickly assess the coronary vessels by using only a single contrast injection. After identifiying a coronary lesion, the HeartSweep scene can be stopped at the ideal view and the C-arm can be automatically moved to the corresponding projection using the Automap feature.



HeartSweep acquires all cardiac diagnostic standard projections in a single movement







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

Courtesy of Universitätsklinikum Erlangen, Germany

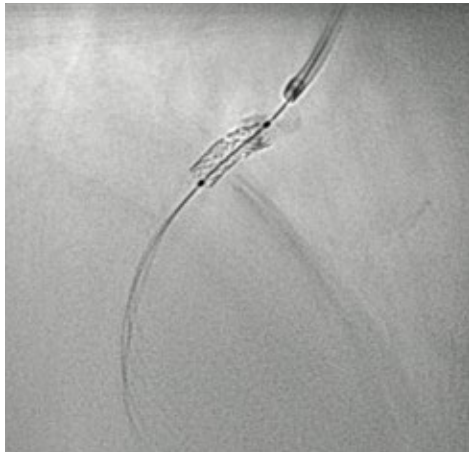
Clear device imging

Static stent enhancement with ClearStent
ClearStent provides support for assessing and documenting the fit of an implanted stent. It can also be used to get an overview of previously implanted stents, e.g., in the 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, for instance on the physician's office PC for use during patient conversations.

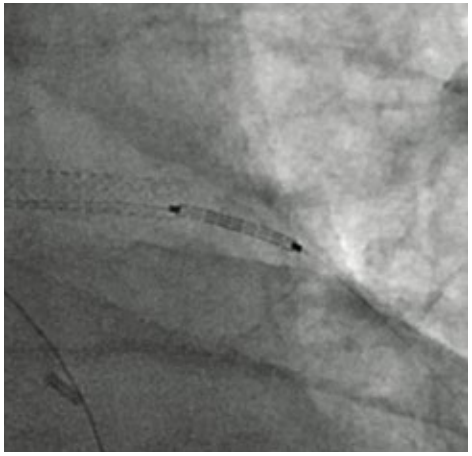
Real-time stent enhancement with ClearStent Live
With ClearStent Live, stent enhancement takes place in real time, eliminating cardiac motion in the image during an ongoing acquisition. This allows you to verify the stent position relative to cardiac anatomy or to previously deployed stents. The ClearStent 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 supporting you to verify accurate stent positioning, ClearStent Live can help speed up procedures and lower the amount of contrast agent needed.* There is no additional workstation required for ClearStent Live and the results are saved according to the DICOM standard for external review.



ClearStent image of stent fracture causing in-stent restenosis

Courtesy of Universitätsklinikum Erlangen, Germany



ClearStent Live used in long lesion treatment to minimize stent overlap

Courtesy of Universitätsklinikum Erlangen, Germany

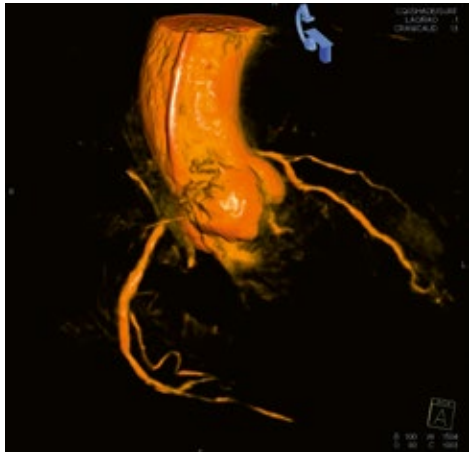
* *This is the experience of individual users. Results may vary.*

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 first dose-saving protocol acquires 133 images suitable for larger high-contrast vessel structures. The second was optimized for quality and acquires 248 images. This can have advantages for imaging of finer vessels.

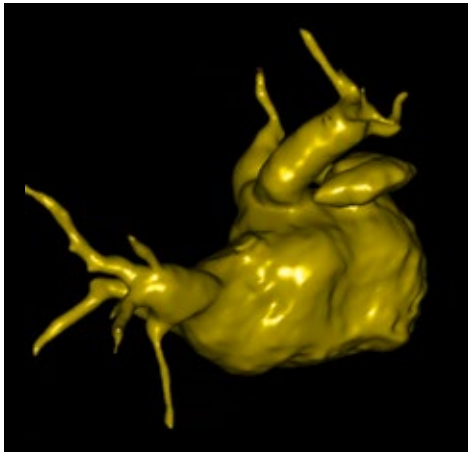
ARTIS one is also capable of opening and displaying 3D images from other modalities, e.g., *syngo* DynaCT®, multislice computed tomography, or MRI.

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 from Abbott or Biosense Webster.



Three-dimensional image of aortic root and coronary arteries

Courtesy of Universitätsklinikum Erlangen, Germany



Three-dimensional segmentation of the left atrium

Courtesy of University of Insubria, Varese, Italy

Large and crisp images

ARTIS one displays with configurable layouts
ARTIS one Edition X features a 30 inch display with configurable layouts displaying up to three internal (Live, Reference, 3D) and four external image sources as standard. Optionally, the ARTIS one offers additional display solutions that allow either larger display of images or the connection of multiple image sources.

With these options, the ARTIS one also meets the needs for more complex procedures and makes it a perfect fit for a broad procedural spectrum.

The display is also home to the heads-up display, allowing you to keep constant track of the most important system parameters, such as C-arm position or image settings. The combination of the on-screen menu and the 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.

ARTIS one 30" Standard Display
Up to three internal and four external image sources

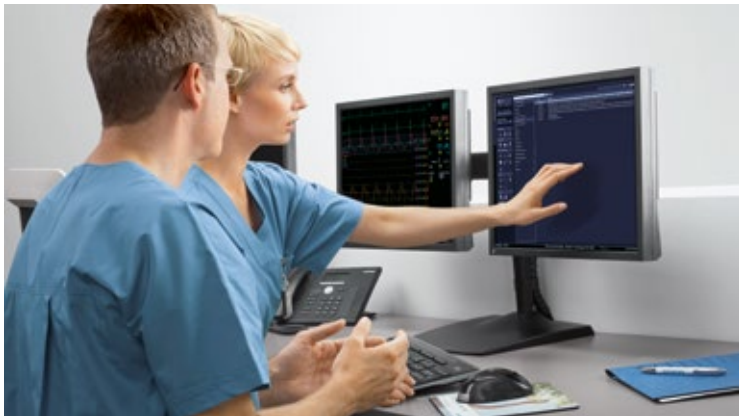
ARTIS one 30" Standard Display + 21" Hemo Display
Up to three internal and four external image sources + one additional image source

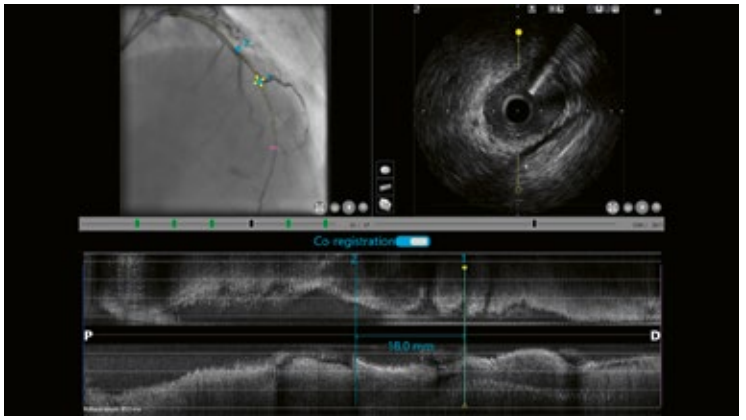
ARTIS one Panoramic Display
Up to three internal and four external image sources and up to nine additional external signal sources on the second screen

ARTIS one 55" Large Display*
Up to three internal and four external image sources

**Disclaimer: The products/features (mentioned herein) are not commercially available in all countries. Their future availability cannot be guaranteed.*

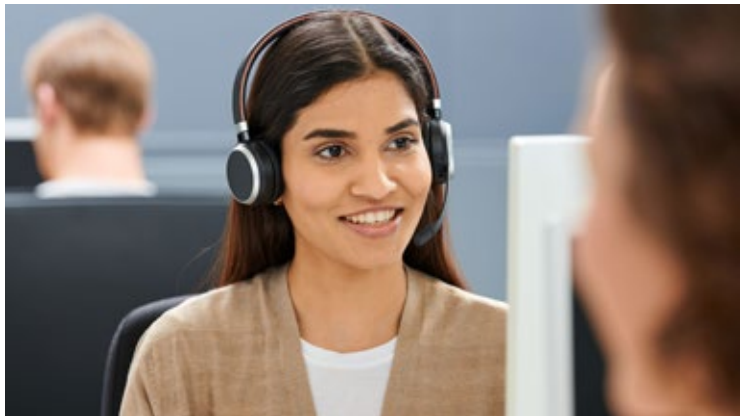
Additional products and services

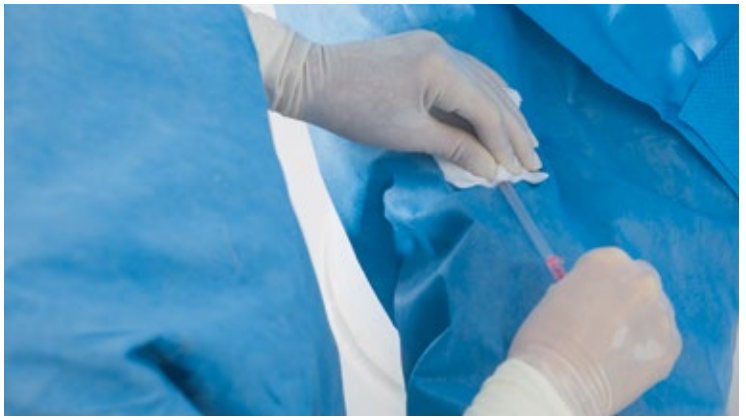




Sensis Vibe
Cath labs are busy places where many things are happening at once. Even if a procedure is routine, all moves need to be synchronized, and the entire team has to be on the same wavelength. Documenting the procedure must blend into this flow. Sensis Vibe® is the vital core where all events, decisions, measurements, and data from your procedures are captured. It reduces administrative effort and standardizes documentation and reporting across interventional entities. Sensis Vibe intuitively blends into the rhythm of the interventional floor and tunes up your workflow efficiency.

Caas IV-LINQ
This allows real-time coregistration between angiography and IVUS/OCT for a more detailed view of the lesion and its exact location in the coronary tree. Coregistration allows you to perform an accurate assessment for precise stent placement. In addition, diameter and area measurements can be performed in a cross-sectional view of IVUS and OCT.





Advanced system support
ARTIS one can be connected via our fast, secure, and powerful data link, Smart Remote Serivce (SRS), to our experts, who provide you with proactive and interactive services that support you in your daily routine and speed up your running operations.

STARSystem*

STARBoard: Armboard for radial access
Crafted in carbon fibre for superior strength, radiolucency, and durability, the STARBoard is extremely lightweight and compact. The unique, one-piece design makes it easy for nursing staff to handle and means it takes up minimal storage space.

STARTable
STARTable not only provides clinicians with an adjustable work surface, the vertical shield also reduces X-ray scatter at neck height.

**STARSystem is manufactured by and is a registered trademark of Adept Medical. Claims have not been verified by Siemens Healthineers.*

Technical specifications

Installation
- Floor-mounted system with ceiling-like flexibility

C-arm
- Highly flexible and quick positioning
- Single joystick for patient-angle oriented C-arm and detector movements
- Integrated computerized collision protection
- C-arm depth 92.5 cm (36.4”)
- Stand rotation motorized programmable positioning

Detector
- Amorphous silicon flat detector with 39 cm diagonal entrance plane
- Imaging size 29 cm x 26 cm
- Image display matrix 1560 x 1420 pixels

X-ray tube
- MEGALIX Cat Plus tube with flat emitter technology
- Max. exposure voltage (IEC 60613) 125 kV
- Focal spot (0.4, 0.8)

Operating modes
- Digital pulsed fluoroscopy, at 7.5, 10, 15 and 30 p/s
- Acquisition at 7.5, 10, 15, and 30 f/s; acquisition, display, and storage in original matrix, 12-bit
- High-speed acquisition at 10/15/30 f/s for DR and DSA

Technologies
- CARE+CLEAR for dose reduction and image quality
- ClearStent and ClearStent Live
- HeartSweep – angulations required for coronary diagnostics in one single sweep

Display setup
- Single 30” display (up to three internal and four external image sources)
- Single 30” display + additional 21” display for hemodynamics
- Panoramic Display: Two 30” displays (up to nine additional external image sources)
- ARTIS one Large Display: 55" display (up to three internal and four external image sources)

Integrated 3D imaging
- Two high-contrast acquisition modes

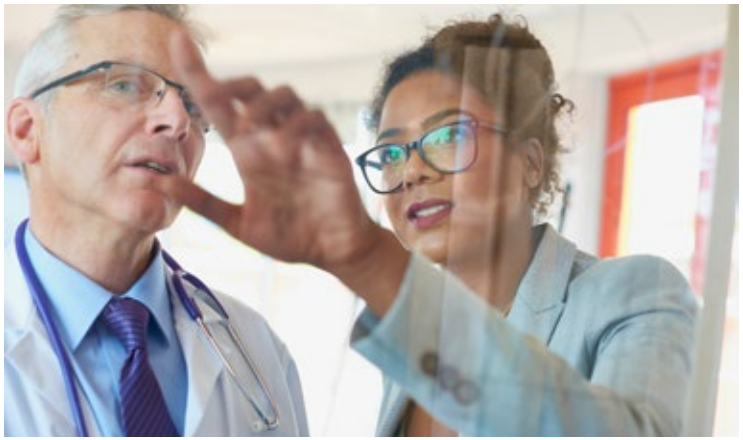
Intelligent controls
- Intuitive heads-up display combined with tactile system operation

Why Siemens Healthineers?

At Siemens Healthineers, we pioneer breakthroughs in healthcare. For everyone. Everywhere. By constantly bringing breakthrough innovations to market, we enable healthcare professionals to deliver high-quality care, leading to the best possible outcome for patients.

Our portfolio, spanning from in vitro and in vivo diagnostics to image-guided therapy and innovative cancer care, is crucial for clinical decision-making and treatment pathways. With our strengths in patient twinning, precision therapy, as well as digital, data, and artificial intelligence (AI), we are well positioned to take on the biggest challenges in healthcare. We will continue to build on these strengths to help fight the world's most threatening diseases, improving the quality of outcomes, and enabling access to care.

We are a team of 66,000 highly dedicated employees across more than 70 countries passionately pushing the boundaries of what's possible in healthcare to help improve people's lives around the world.



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Built on a history of innovation going back more than 125 years and with unique strengths in patient twinning, precision therapy, as well as digital, data, and artificial intelligence (AI), we are well positioned to take on the biggest challenges in healthcare. We will continue to build on these strengths to help fight the world's most threatening diseases, improving the quality of outcomes, and enabling access to care.

As a leader in the industry, we aspire to create better outcomes and experiences for patients no matter where they live or what health issues they are facing. We innovate sustainably to develop scalable solutions that can be tailored to the needs of healthcare providers, and the local health infrastructures.

Motivated by our purpose and guided by our values, we are building an inclusive culture, where we embrace diversity in all its forms. We are a team of 66,000 highly dedicated employees across more than 70 countries passionately pushing the boundaries of what's possible in healthcare to help improve people's lives around the world.

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

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