

ARTIS icono

A breakthrough in neuro interventions

Transforming care delivery
in image-guided therapy.





After the randomized controlled trials have proofed the positive outcomes of mechanical thrombectomy in ischemic stroke, interventional neuroradiology is confronted with an increasing number of procedures.

A typical human brain has 86 billion neurons. Let's fight for every one.

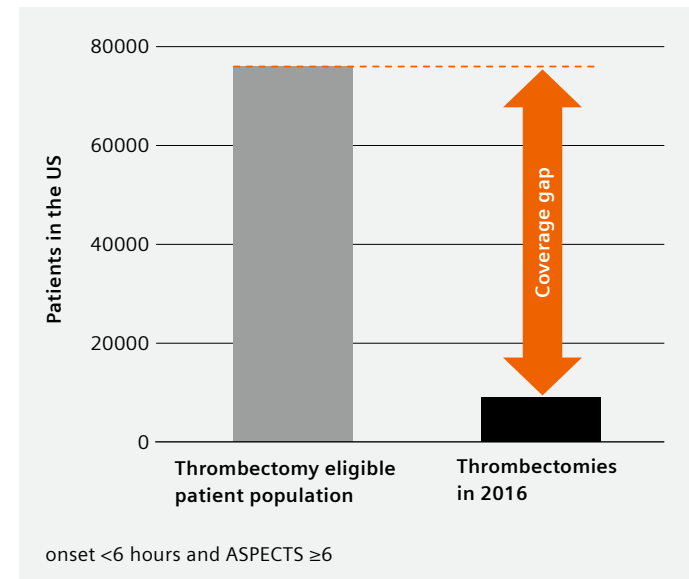
When a stroke occurs, every second counts in the battle to minimize neurological deficit. Many large vessel occlusion patients can benefit from interventional stroke management, where imaging and mechanical thrombectomy go hand-in-hand. This streamlined workflow has the potential to significantly enhance patient outcomes – and with more and more randomized controlled trials confirming the safety and success of mechanical thrombectomy, the number of stroke patients eligible for the procedure is growing steadily.

Procedure growth & coverage

So far, however, most of these eligible patients will not actually receive mechanical thrombectomy. To close the gap, more and more hospitals are now introducing comprehensive stroke services. As a result, the global growth rate for mechanical thrombectomy procedures is currently 26 percent per year*.

* Source: Decision Resources Group Medtech 360, CAGR 2017 – 2022

Coverage gap in mechanical thrombectomy



AT Procedure Data Tool, based on registries and market reports.
Source: Rai AT, et al., J Neurointervent Surg (9) 2017

ARTIS icono – Advancing therapy outcomes in neuro interventions

With the number of thrombectomy eligible stroke patients rising steadily, you and your colleagues face a double challenge: treating more patients overall, and treating each one faster.

Our ARTIS icono system is specially designed to help you do both. With next-generation features, this icon of innovation can help you streamline procedures and exploit new growth fields – by literally expanding precision medicine.

Contents

To a stroke patient, 30 minutes may be a lifetime	6
Clear and consistent 3D imaging from cranium to basal	8
Better patient outcomes in cerebral aneurysms	10
Better patient outcomes in arteriovenous malformations	12
Better patient outcomes in spinal interventions	13
Technical data	15



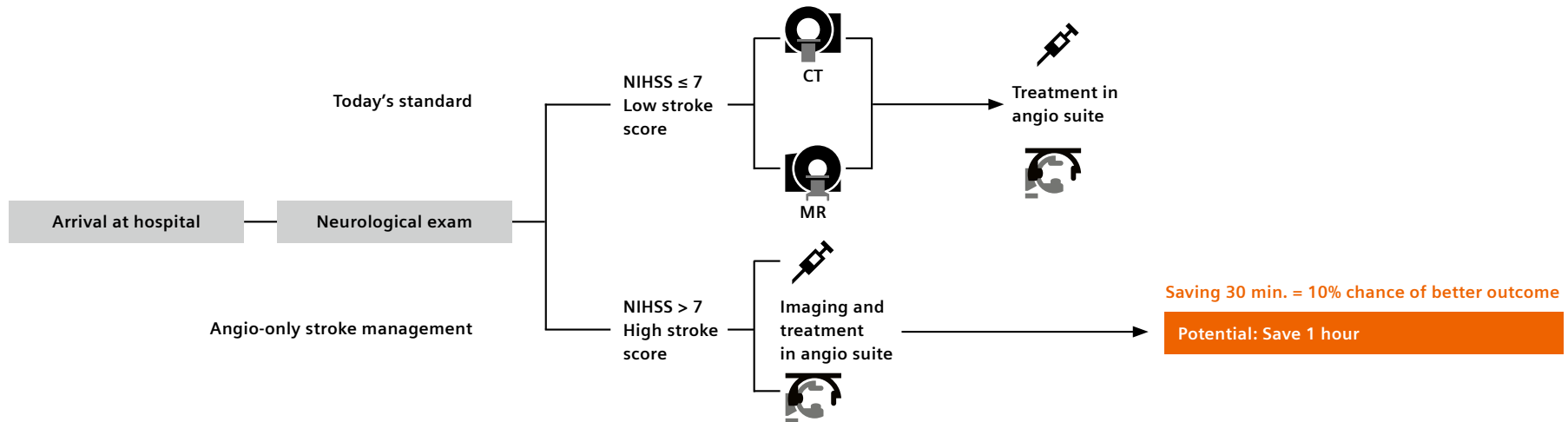


To a stroke patient, 30 minutes may be a lifetime

Switch smoothly and seamlessly between 2D and 3D imaging. Acquire CT-like images of unprecedented quality in moments. When every second counts, ARTIS icono delivers – fast.

Thanks to visualization of bleedings in the angio room, many patients with suspected stroke (NIHSS > 7, high stroke score) may no longer require conventional preliminary imaging. Instead, initial studies have shown that you can take them straight to the angio lab for diagnosis and subsequent intervention, possibly reducing time-to-thrombectomy by 34 minutes on average.

The Siemens Healthineers stroke workflow – “time is brain”

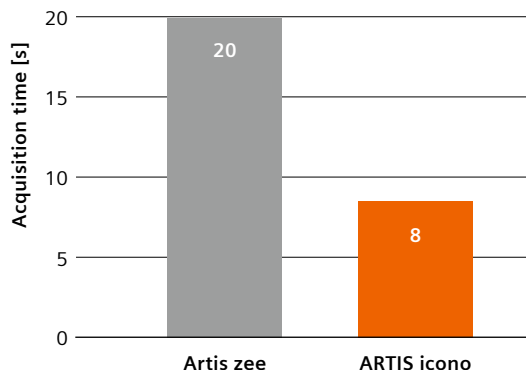


Faster and easier syngo DynaCT acquisition

syngo DynaCT High Speed reduces acquisition times significantly while raising the bar in CT-like image quality. In addition motion artifacts are reduced in syngo DynaCT with uncooperative patients by compensating movements. With the new Twin Spin feature you can smoothly switch between 2D biplane and 3D imaging and save precious time, and also reduce the risk of collisions with equipment (e.g., anaesthesia). You can now use biplane fluoroscopy to perform AP and lateral isocentering in a single step – no need to move the c-arm.

Faster diagnosis for faster treatment

ARTIS icono acquires DynaCT images in less than half the time

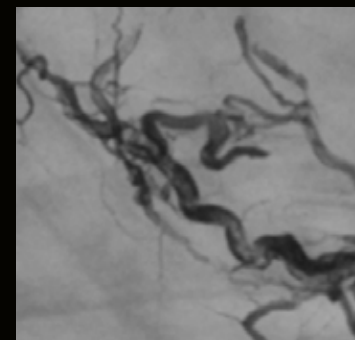


OPTIQ – A new approach to image quality and dose

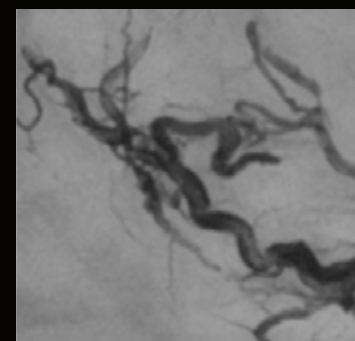
Regardless of procedure, patient size or C-arm angulation, OPTIQ provides image quality according to your personal flavor. This innovative system uses big data to maintain your image quality presets automatically throughout the procedure. For maximum dose efficiency without user interaction, OPTIQ uses a contrast-driven technique based on automatic parametrization supported by intelligent, self-adjusting algorithms.

- Siemens Healthineers exclusive 5-parameter-driven exposure control
- SID and collimation settings are factored in automatically
- Constant image quality at a new ALARA benchmark

Designed for faster diagnosis and faster treatment, ARTIS icono is a pioneer in the field of angio-only stroke therapy.

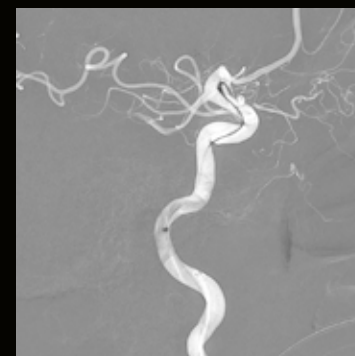


Conventional system with conventional dose



82% less dose with OPTIQ

Conventional system with conventional dose vs. OPTIQ with less dose (AVM treatment using tantalum containing material, same patient)
Prof. Bernhard Meyer, MD, Hanover Medical School, Hanover, Germany



DSA Roadmap with OPTIQ
Jan Gralla, MD, Inselspital Bern, Switzerland



syngo DynaCT Sine Spin: A combined LAO/RAO and CRAN/CAUD trajectory

Clear and consistent 3D imaging from cranium to basal

ARTIS icono delivers the consistent 3D whole-brain imaging quality you need for confident stroke diagnosis, treatment and optimal patient outcomes. With time-dynamic perfusion imaging tools at your fingertips, swift, smooth workflows become possible.

syngo DynaCT Sine Spin*: Visualize bleeding even near bony structures

syngo DynaCT uses a new double oblique trajectory to overcome artifacts from the massive bony structures that surround the basal part of the brain. With a homogeneous soft tissue resolution from cranium to basal, ARTIS icono takes whole-brain soft tissue imaging to new levels of quality and consistency. syngo DynaCT Sine Spin is ideal before performing thrombectomy, and after all neuro interventions.

syngo DynaCT Multiphase* – Cerebral collateral vessel visualization without transferring to CT

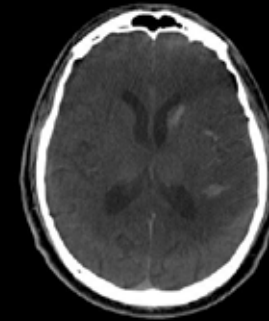
By making collateral status imaging an integral part of your interventional suite, syngo DynaCT Multiphase supports sound treatment decisions before mechanical thrombectomy. Rather than transferring the patient to CT, you can now save time by using time-resolved DynaCT instead.

syngo DynaCT Multiphase depicts up to 10 different time points within a period of ~60 seconds or less. The images can be processed with the RAPID™ software by iSchemaView**.

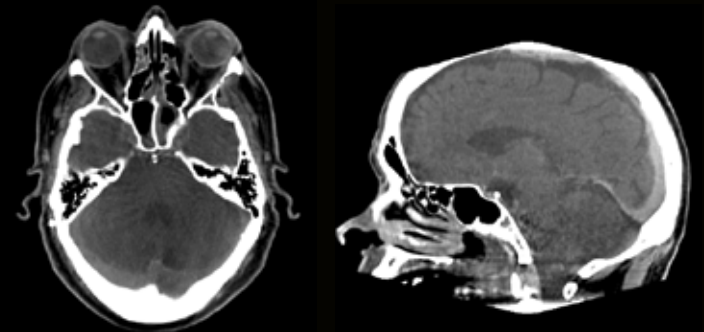
- Seamlessly integrate collateral status imaging into your interventional suite
- Sounder decisions based on time-resolved CTA information
- Save time by skipping the transfer to CT

ARTIS icono and iSchemaView's RAPID™

RAPID ANGIO** provides clear, easy-to-interpret CT perfusion maps. These help you to identify brain regions with reduced cerebral blood flow and blood volume, as well as delayed contrast arrival. RAPID based on CT images was used in the DAWN and Defuse3 multicenter studies.



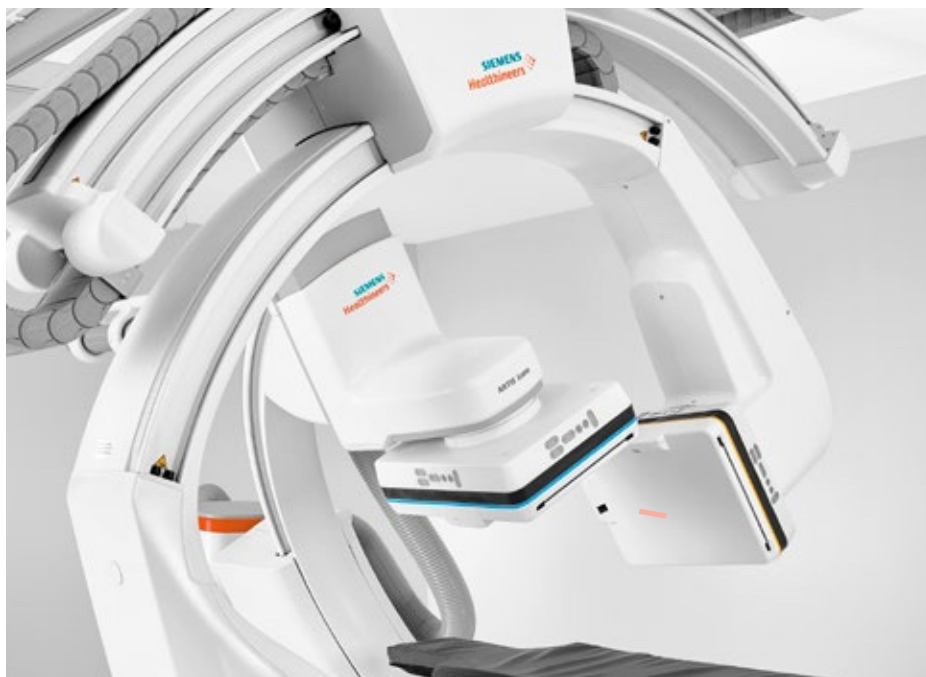
Visualization of bleeding with syngo DynaCT Sine Spin
René Chapot, MD, Alfried Krupp Krankenhaus Essen, Germany



Homogeneous image quality with syngo DynaCT Sine Spin
René Chapot, MD, Alfried Krupp Krankenhaus Essen, Germany

*optional feature

**Third party SW required.



Better patient outcomes in cerebral aneurysms

When you need to visualize flow characteristics clearly and identify regions with blood flow anomalies, ARTIS icono delivers.

syngo iFlow – dynamic flow evaluation

At the press of a button, *syngo iFlow** visualizes a complete DSA run in a single, color-coded image. It can display flow curves (e.g. time to maximal opacification, area under curve) for regions of interest, and evaluates the in- and outflow of contrast both before and after flow diverter placement.

syngo Dyna3D – high-contrast 3D acquisition and visualization

*syngo Dyna3D** acquires high-contrast 3D visualizations in just three seconds, saving you time and helping to save contrast media. You can either view contrast media and devices separately, or together in different colors. *syngo Dyna3D* supports both subtracted and unsubtracted acquisition and visualization.

“Over the years, for us the challenge for aneurysm treatment is to be able to treat more complex cases, smaller aneurysms and more complex anatomy.”

Mani Puthuran MD, The Walton Centre, Liverpool, UK

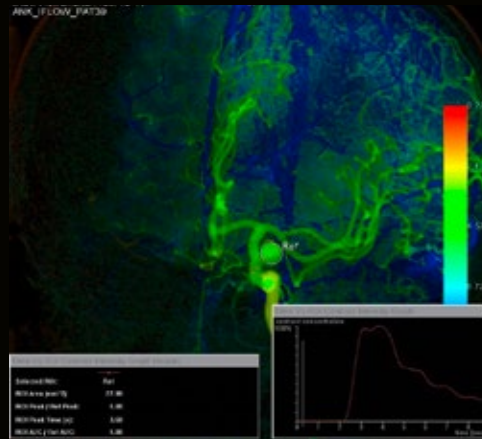
syngo DynaCT Micro – maximum resolution for very small vessels

With an outstandingly high spatial resolution of approx 0.14 mm, syngo DynaCT Micro* optimizes spatial orientation in very small anatomies and devices. It harnesses the power of every detector pixel to boost the level of detail – and raises the bar in 3D imaging resolution.

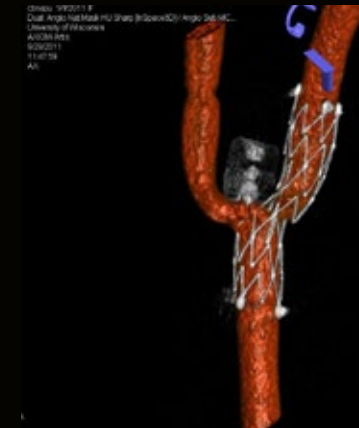
syngo DynaCT SMART – see the full picture around metal stents

syngo DynaCT SMART* reduces metal artifacts in a fully automated workflow in order to visualize regions in close vicinity of metal to make diagnosis possible. This makes it ideal for excluding in-stent stenosis or residual aneurysm filling.

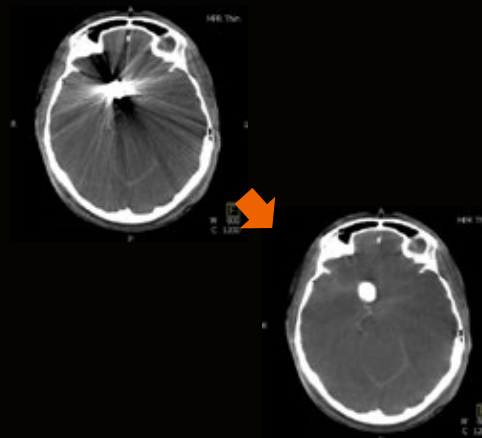
*optional feature



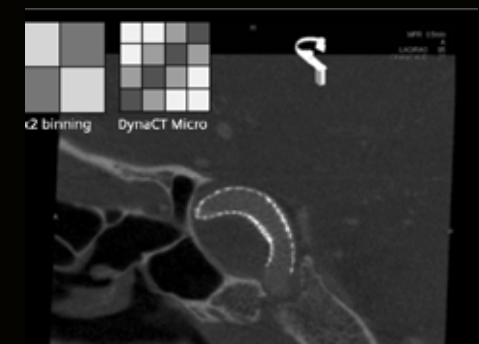
syngo iFlow
Saruhan Cekirge, MD, Hacettepe University, Ankara, Turkey



syngo Dyna3D with syngo DualVolume
Charles Strother, MD, Madison, Wisconsin, USA



syngo DynaCT SMART
Demetrius K. Lopes, MD, Rush University Medical Centre, Chicago, USA



syngo DynaCT Micro
Martin Skalej, MD, University Hospital Magdeburg, Germany

Better patient outcomes in arteriovenous malformations

When you're planning AVM treatments, clarity is key. ARTIS icono adds a new dimension to simplify the treatment of complex vessel anatomies.

syngo Dyna4D – better orientation for AVM treatment

syngo Dyna4D* is specially designed to help you plan AVM treatments with confidence. By combining 3D vessel tree and

temporal blood flow information in a single visualization, it brings outstanding clarity.

- Combine temporal and 3D information
- Sounder AVM treatment planning

“The ARUBA trial conclusion that medical management is superior to medical management with interventional therapy for all unruptured AVMs could be repudiated.”

Neurosurgery 2018 (391), The NASSAU (New Assessment of cerebral Arteriovenous Malformations yet Unruptured) Analysis

Better patient outcomes in spinal interventions

To enhance your flexibility, ARTIS icono biplane offers laser crosshairs in both planes.

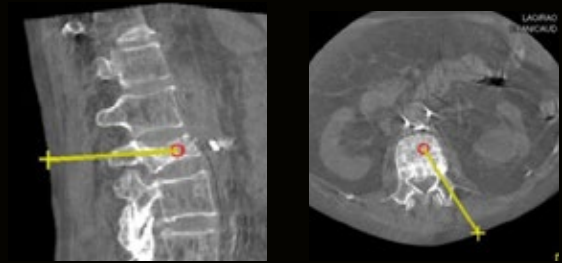
syngo Needle Guidance – faster, more comfortable needle procedures
syngo Needle Guidance* displays the length and direction of the needle path on the fluoroscopy image. The C-arm

positions automatically in bull's eye and progression view, while the integrated laser crosshair indicates both the planned entry point and the angle of the device.



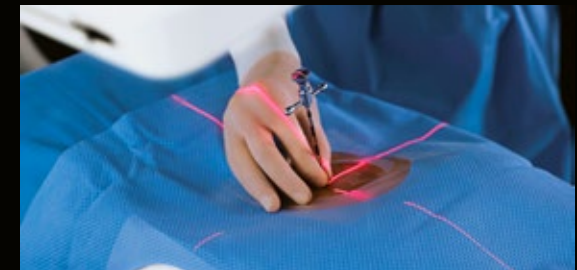
Full body coverage of up to 210 cm

*optional feature

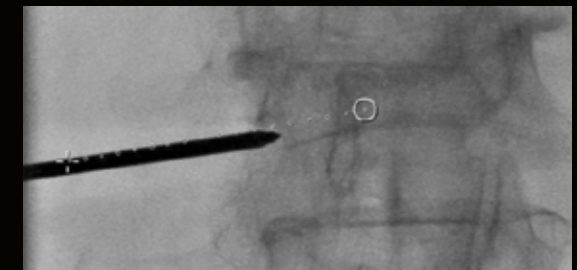


Needle path planning sagittal

Needle path planning axial view



Laser crosshair



Progression view



Technical Data

Installation

ARTIS icono is available as a biplane and floor-mounted system

Required room size

ARTIS icono floor requires a minimum room size of 25 m² with the Standard Table and 29 m² with the Multi-tilt Table

ARTIS icono biplane requires a minimum room size of 27 m² with the Standard Table and 29 m² with the Multi-tilt Table

Multiaxis floor stand

- Flexible C-arm positioning at patient's head, left and right side
- Longitudinal coverage of 210 cm, lateral coverage of 190 cm
- C-arm angulation speed up to 100°/s

Agile lateral plane

- Swivel range of 270° to reach detector position on patient's left and right side
- C-arm rotation of +/-100° relative to lateral position for full 3D capabilities*
- C-arm angulation speed of up to 60°/s

* not yet commercially available



Patient tables

ARTIS Multi-tilt Table

- Virtually no force required for repositioning
- Flexible tilting of +15° / -20° and Cradle: +15° / -15°
- Patient weight up to 280 kg

ARTIS Standard Table

- Free floating table top with lowest panning forces
- Patient weight up to 280 kg

OPTIQ imaging chain

- Offers constant image quality at a new ALARA benchmark. Regardless of procedure, patient size or C-arm angulation.
- Pre-set image quality level is maintained automatically throughout the procedure for maximum dose efficiency.
- Contrast driven technique based on automatic parametrization supported by intelligent, self-adjusting algorithms.

as40HDR flat detector

- 16-bit analog-digital conversion
- 65,000 differentiable gray levels
- Refresh rate of 270 Hz
- Images with a resolution up to 2480 × 1920 pixels

Why Siemens Healthineers?

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all supported by digitalizing healthcare.

An estimated 5 million patients globally benefit from our innovative technologies and services every day in the areas of diagnostic and therapeutic imaging, laboratory diagnostics and molecular medicine, as well as digital health and enterprise services.

We are a leading medical technology company with over 170 years of experience and 18,000 patents globally. With more than 48,000 dedicated colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

The clinical overlay on the title is not that of the individual pictured. It was modified for better visualization.

Siemens Healthineers Headquarters

Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 9131 84-0
siemens-healthineers.com

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products / services / features included in this document are available through the Siemens Healthineers sales organization worldwide. Availability and packaging may vary by country and are subject to change without prior notice. Some / All of the features and products described herein may not be available in the United States or other countries.

The information in this document contains general technical descriptions of specifications and options as well as standard and optional features that do not always have the present in individual cases.

The statements by Siemens' customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

The customers cited are employed by an institution that might provide Siemens product reference services, R&D collaboration, or other relationship for compensation pursuant to a written agreement.

Siemens Healthineers reserves the right to modify the design, packaging, specifications and options described herein without prior notice. Please contact your local Siemens Healthineers sales representative for the most current information.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources and waste conservation), we recycle certain components. Using the same extensive quality assurance measures as for factory-new components, we guarantee the quality of these recycled components.

Note: Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced. Caution: Federal law restricts this device to sale by or on the order of a physician.

For accessories, go to: [siemens.com/medical-accessories](https://www.siemens.com/medical-accessories)