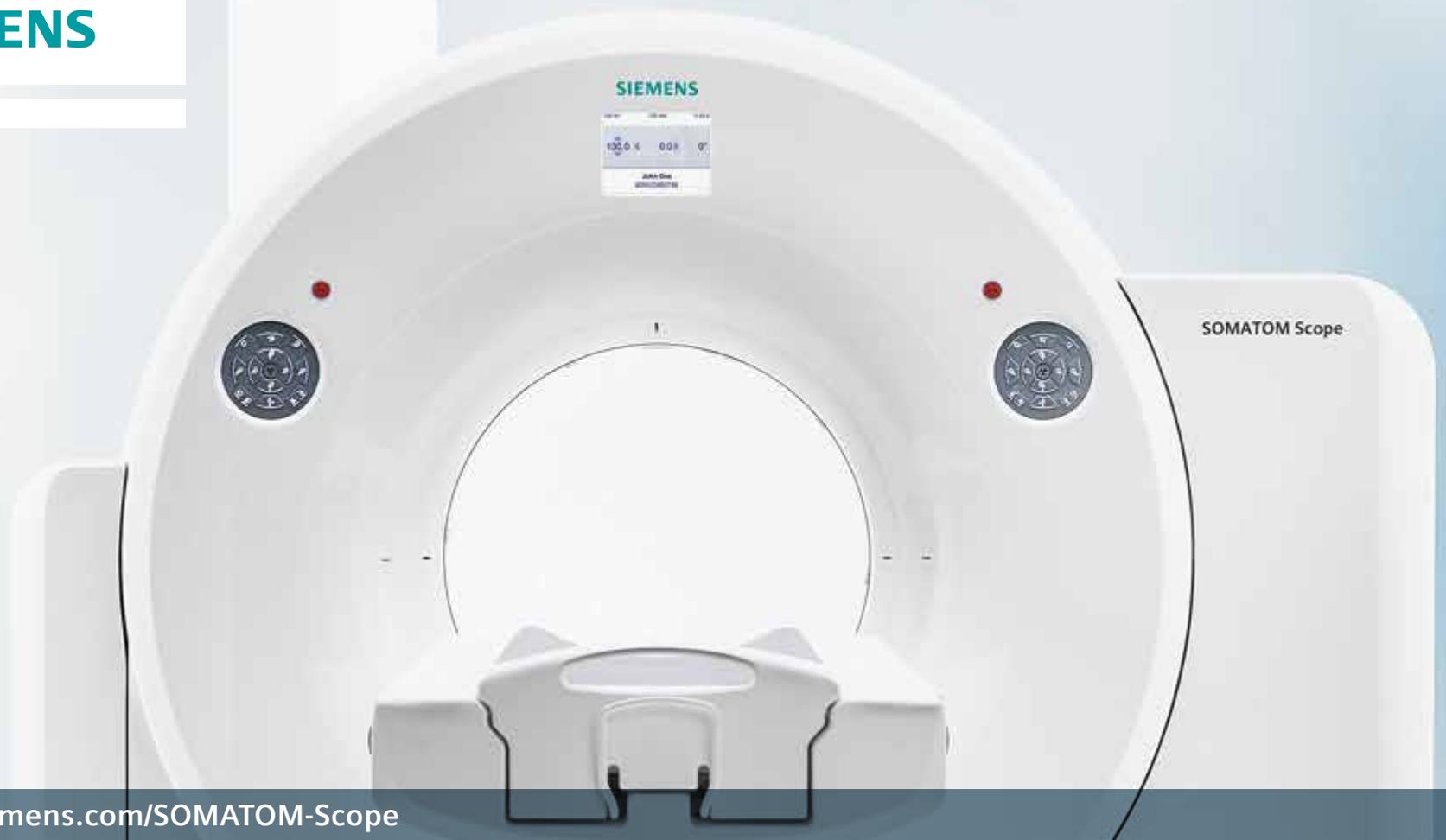


**SIEMENS**



[www.usa.siemens.com/SOMATOM-Scope](http://www.usa.siemens.com/SOMATOM-Scope)

# SOMATOM Scope

Answers for life.



**“Focus on the essence”  
VS. “Compromise on what matters”**

**Second best is not an option.**

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# SOMATOM Scope

**“Focus on the essence” VS. “Compromise on what matters”  
Second best is not an option.**

Healthcare facilities around the globe are under major pressure to change. They face the challenge of extending high-quality, affordable care to as many people as possible—in the age of shrinking budgets. To succeed, they must become more efficient. By doing more with less.

The key to mastering this new environment is knowing what really matters: the patients you see every day. To effectively meet their requirements, you need to ensure your scanning hardware cuts no corners when it comes to performance. But how can you achieve this while keeping costs in check?

SOMATOM Scope provides an answer—by focusing on the essence of CT. This cost-efficient scanner delivers outstanding image quality, at the right dose. Highly reliable and easy to use, it saves you time and effort throughout your daily routine. Moreover, a flexible service model helps keep overheads under control, safeguarding your facility’s long-term competitiveness.





# Benefits



# Focus on clinical excellence

**SOMATOM Scope supports your daily routine while helping you strike the perfect balance between the right dose and image quality.**

## Image quality matters

Image quality is essential for accurate diagnosis. SOMATOM Scope delivers crystal-clear images across a wide range of clinical applications. At the core of this innovative CT is a 24-row adaptive detector array that collects 16 slices of data simultaneously, with sub-millimeter isotropic accuracy. Featuring the high-performance UFC™ (Ultra Fast Ceramics) detector material, it delivers bright, crisp images. Moreover, proven Siemens tube technology enables small focal spot sizes for greater detail, and enhances results on the x-y plane resolution with Flying Focal Spot technology.

Thanks to the SureView™ reconstruction algorithm, SOMATOM Scope can produce first-rate images even at higher scan speeds. This feature provides that the scanner selects the right pitch value for the defined coverage and scan time, while retaining slice thickness and image integrity. This can be particularly valuable for performing submillimeter lung scans without reducing axial image quality. Plus, Siemens' breakthrough Iterative Reconstruction in Image Space (IRIS) accelerates reconstruction while reducing image noise.

Even in the most challenging cases, SOMATOM Scope produces excellent image quality. Adaptive Signal Boost amplifies low signals when high attenuation is present—such as when imaging obese patients or patients with metal implants. This reduces streak artifacts, ensuring correct HU values are maintained without compromising on spatial resolution. By analyzing signal quality and integrating information from neighboring detector elements into areas with low signals, it can reduce image noise.



Biopsy and intervention modes for CT-guided intervention enhance precision and streamline your workflow.

### Right dose matters

Maximizing patient safety means minimizing dose, in particular for sensitive groups such as children or people requiring multiple follow-up scans. To this end, SOMATOM Scope includes a comprehensive package of Combined Applications to Reduce Exposure (CARE). It enables patients receive the right dose for their imaging requirements. For example, CARE Dose4D delivers fully automated, organ-sensitive real-time dose modulation. And CARE Filter, a bowtie filter installed at the tube collimator, further optimizes X-ray exposure.

### Daily routine matters

Each SOMATOM Scope scanner includes the *syngo* Scope one console: a workplace solution combining powerful hardware with a complete clinical application suite. The intuitive, easy-to-use software provides radiology staff with all the tools they need to support their daily routine. WorkStream4D™, for example, enables faster access to diagnostic MPRs, and vessel analysis with Automated Bone Removal assists in angiography CT workflows. Integrated Fully Assisting Scanner Technologies (FAST) expedite time-consuming processes: FAST Planning accelerates manual scan

preparation by automatically applying the correct ranges, and FAST Spine delivers complex vertebrae reconstructions in just 30 seconds. Further applications include for example *syngo*.CT Neuro DSA for fast and easy neurovascular evaluation and *syngo* CT Oncology for advanced diagnostic oncology, staging, and follow-up. In addition, SOMATOM Scope includes special functionality for emergency procedures, and a number of features for CT-guided interventions—such as an in-room joystick and the CARE Vision CT mode for minimizing dose for staff and patients.



# Focus on cost efficiency

**SOMATOM Scope keeps your costs in check: with innovative service benefits, a small footprint for optimum use of space, and features that help lower your TCO by up to 35%.**

## **Low operating cost matters**

In an increasingly competitive healthcare environment, the pressure to cut costs has never been higher. This is where SOMATOM Scope adds tangible value—with the unique eCockpit suite. It comprises three innovative features designed to support highly economic scanner usage and reduce overhead costs. The benefits begin as soon as the scanner is turned on after an extended period of non-use with eStart. It gradually warms up the tube reducing wear and tear associated with cold starts.

eMode automatically provides the optimum balance between dose, efficiency and image quality—supporting cost-effective operation and further extending the scanner's lifespan. And eSleep minimizes electricity consumption while the scanner is not in use, for example at night, keeping running costs in check. Together, these three features can significantly reduce total cost of ownership (TCO) and help extend the scanner's lifespan.

SOMATOM Scope was designed to lower costs by minimizing overall energy consumption. The scanner has low power requirements, and includes numerous innovative energy-saving features. In addition, thanks to its low heat output, less air conditioning is needed. All this adds up to up to 65%\* energy savings compared to previous-generation scanners. This is ideal for lean budgets—and for a greener planet.



SOMATOM Scope enables you to provide high-quality efficient care while lowering operating costs.

### Small footprint matters

With space at a premium in cities and megacities around the globe, every square meter counts. With a small footprint of just 130 square feet, SOMATOM Scope fits into virtually every room. It is lightweight, needs no additional support, and has low power requirements, making installation quick and easy. And with less space required for the scanner, more room is available for additional beds and equipment—so your facility can care for more patients.

### Investment protection matters

Every day, you strive to offer best-possible healthcare while making the most of your budget. Siemens supports this goal: wherever you are, with unprecedented flexibility. Performance plans specially designed for SOMATOM Scope allow customers to combine modules and options in line with their facility's specific requirements. These plans provide continuous support for the scanner, including the X-ray tube, ensuring fewer interruptions for preventative maintenance.

Siemens' large team of well-trained customer service engineers is dedicated to increasing reliability and maximizing uptime of customers' equipment by taking a systematic approach supported by service technology. Siemens Remote Service (SRS) is a new dimension of system support. It proactively monitors the scanner, allowing easy error identification and efficient remote repair. This cuts down on the number of on-site visits and drives down costs.



# Boost your scanner with *syngo.via* Element CT

***syngo.via* Element CT helps you get the most out of your SOMATOM Scope by optimizing your scanning workflow, enhancing teamwork between the radiologist and technologist, and helping you make more confident diagnoses.**

## **Advanced image processing**

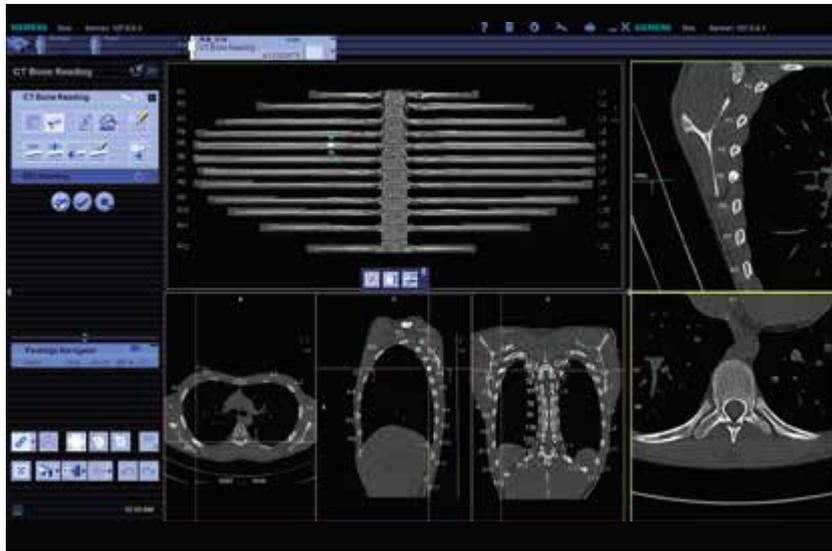
*syngo.via* Element CT is a convenient and flexible CT workplace for fast preparation and accurate evaluation of CT image data scaled to the needs of small and mid-sized facilities. Designed to complement SOMATOM Scope, it streamlines image preparation with features such as automated pre-processing and pre-fetching of prior examinations, and provides advanced image processing and powerful clinical applications tailored to your specialty.

## **Higher patient throughput**

The user-friendly *syngo.via* Element CT takes your clinical workflows to the next level. It allows you to create an all-in-one environment for image acquisition and diagnostics: with the radiologist and technologist working side-by-side, in the same room. This not only eliminates the need for a reading room, but also improves communication—leading to higher-quality images and greater throughput.

## **More confident diagnoses**

Thanks to advanced image processing and state-of-the-art tools for a wide range of clinical fields, radiologists can complete readings with ease and confidence—even for complex CT studies. What's more, *syngo.via* Element CT supports well-informed follow-up readings by searching all connected archives (PACS) for previous exams and reports, placing a complete imaging history right at radiologists' fingertips.



**syngo.CT Bone Reading—**  
Fast rib and spine assessment  
suitable for a wide range of  
trauma cases (left).

**Rapid Results Technology—**  
Standardized, automated image  
creation for more reproducible  
results and greater efficiency  
(right).

### Choice of clinical applications

syngo.via Element CT gives you the choice of specialized clinical CT applications spanning the entire medical spectrum, including cardiology, neurology, oncology, and functional CT. Even better, the selection includes the latest and most exciting innovations such as Bone Reading, and Rapid Results Technology. This provides a perfect fit for your facility's specialty and case mix.

### Bone Reading

syngo.CT Bone Reading enhances the visualization of bones in CT data sets for more rapid diagnoses. All ribs and vertebrae are displayed spread out in one plane, labeled and numbered for time-efficient reporting of potential lesion locations. Moreover, interactive functionality enables you to scroll and rotate images for efficient assessment of the complete anatomy—and the supplemental second-reader computer-aided detection (CAD) helps identify suspicious lesions of the spine.

### Rapid Results Technology

Rapid Results Technology enables you to automatically visualize general vessels in various types and orientations. It allows you to tailor your protocols to your daily work—and to pause their execution at any time to provide tips to colleagues. This is especially useful for training your team and ensuring a consistently high quality of care. Moreover, it makes procedures standardized, reproducible and automated—saving a significant amount of time in clinical routine.





**Clinical images**

**collimation:**  
16 x 1.2 mm

**scan time:**  
23 s

**scan length:**  
168 mm

**rotation time:**  
1.5 s

**tube settings:**  
130 kV, 190 mAs

**CTDIvol:**  
40.8 mGy

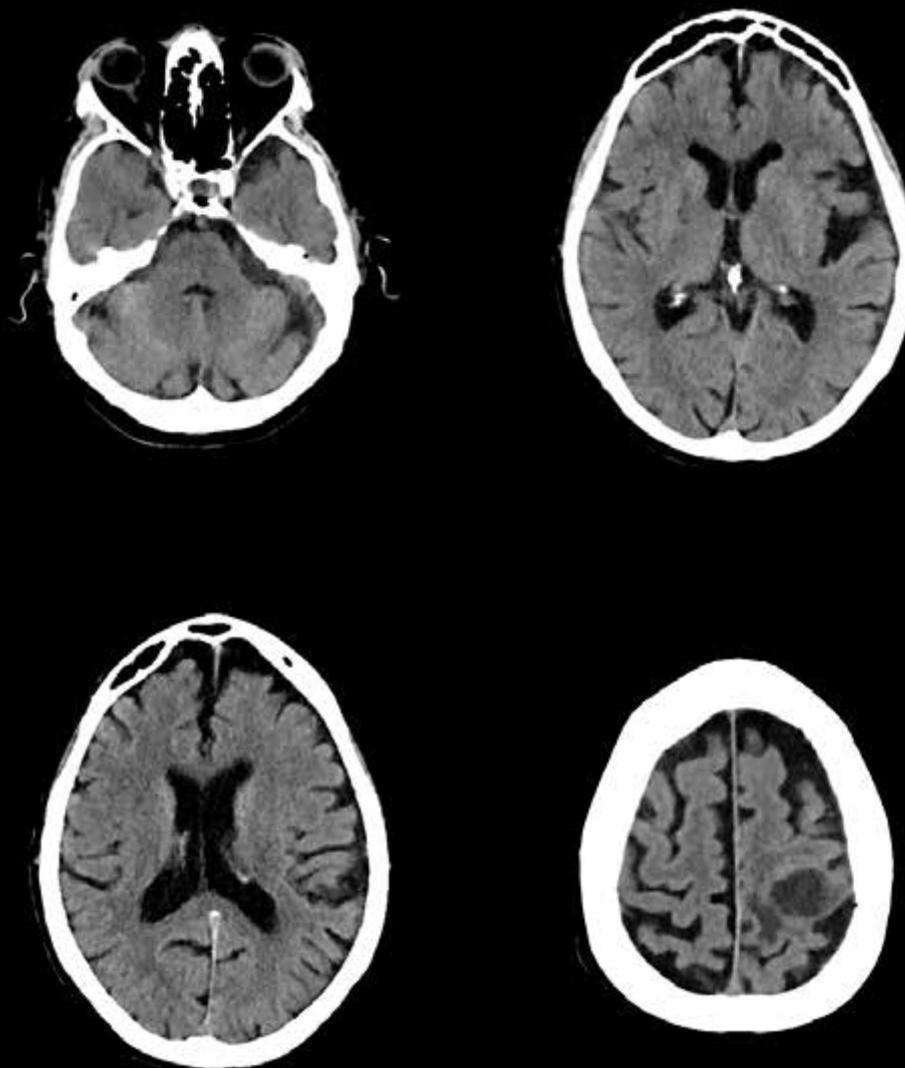
**DLP:**  
827.4 mGy cm

**effective dose:**  
1.73 mSv

**scanned with:**

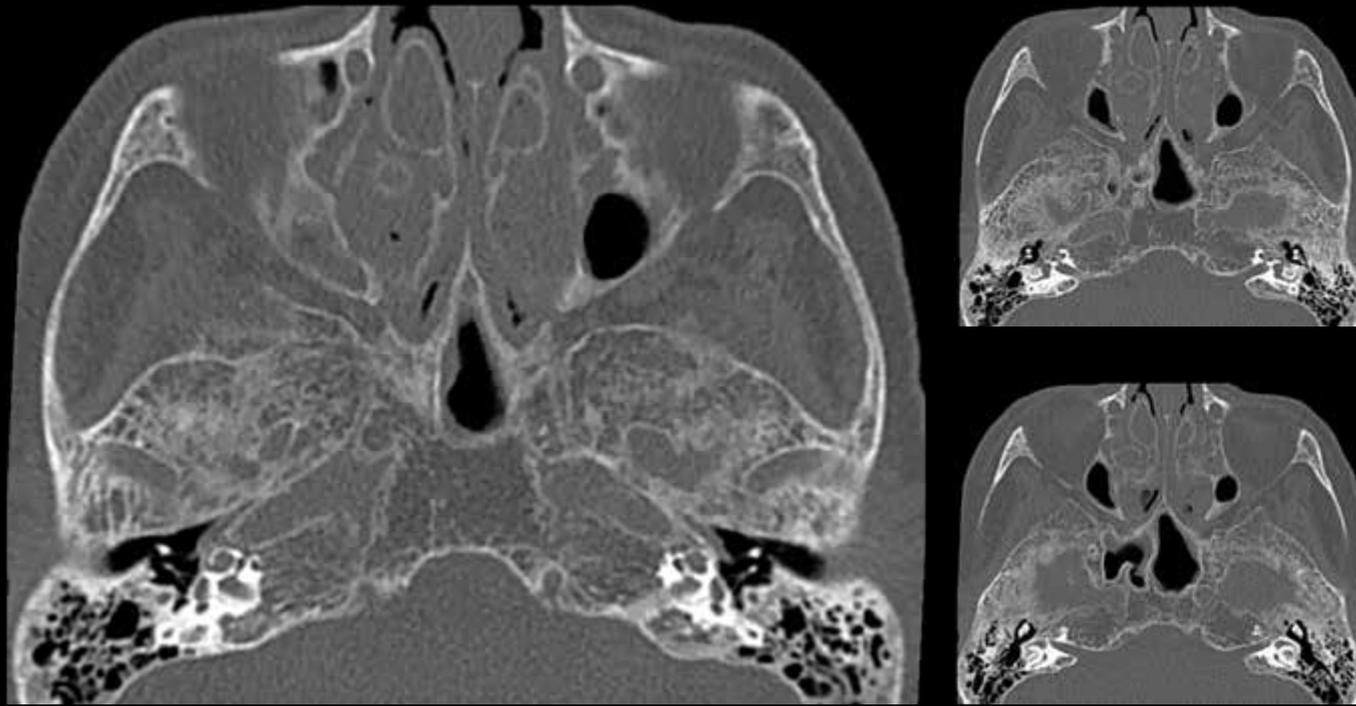


eMode



**Brighter images**  
In this scan, SOMATOM Scope's  
high number of effective  
detector channels enabled  
excellent gray-white matter  
differentiation.

Courtesy of Instituto Português de Oncologia de Lisboa, Portugal



**collimation:**  
16x0.6 mm

**scan time:**  
8.7 s

**scan length:**  
67.2 mm

**rotation time:**  
1 s

**tube settings:**  
130 kV, 50 mAs

**CTDIvol:**  
11.78 mGy

**DLP:**  
101.66 mGy cm

**effective dose:**  
0.21 mSv

**scanned with:**



eMode

**Outstanding image detail**  
Small focal spots enabled by SOMATOM Scope tube technology made it possible to display very fine bone structures.

**collimation:**  
16x0.6mm

**scan time:**  
23.8 s

**scan length:**  
342 mm

**rotation time:**  
1 s

**tube settings:**  
130 kV, 26 mAs

**CTDIvol:**  
3 mGy

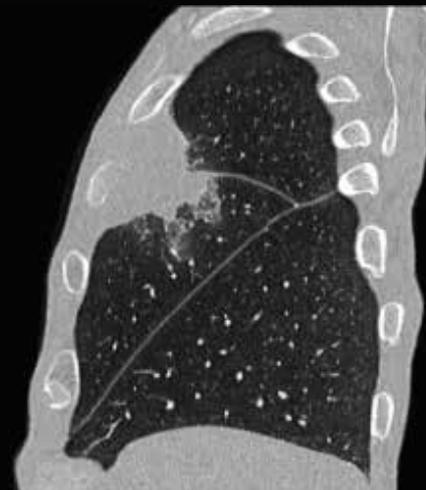
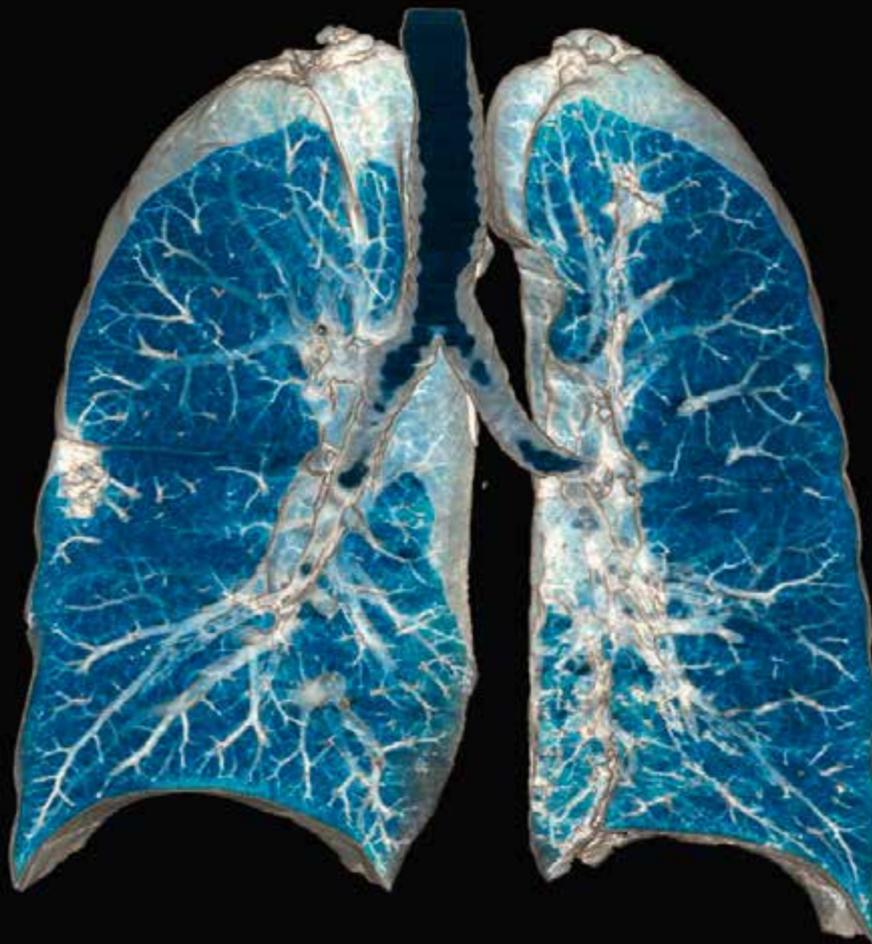
**DLP:**  
110.6 mGy cm

**effective dose:**  
1.55 mSv

**scanned with:**

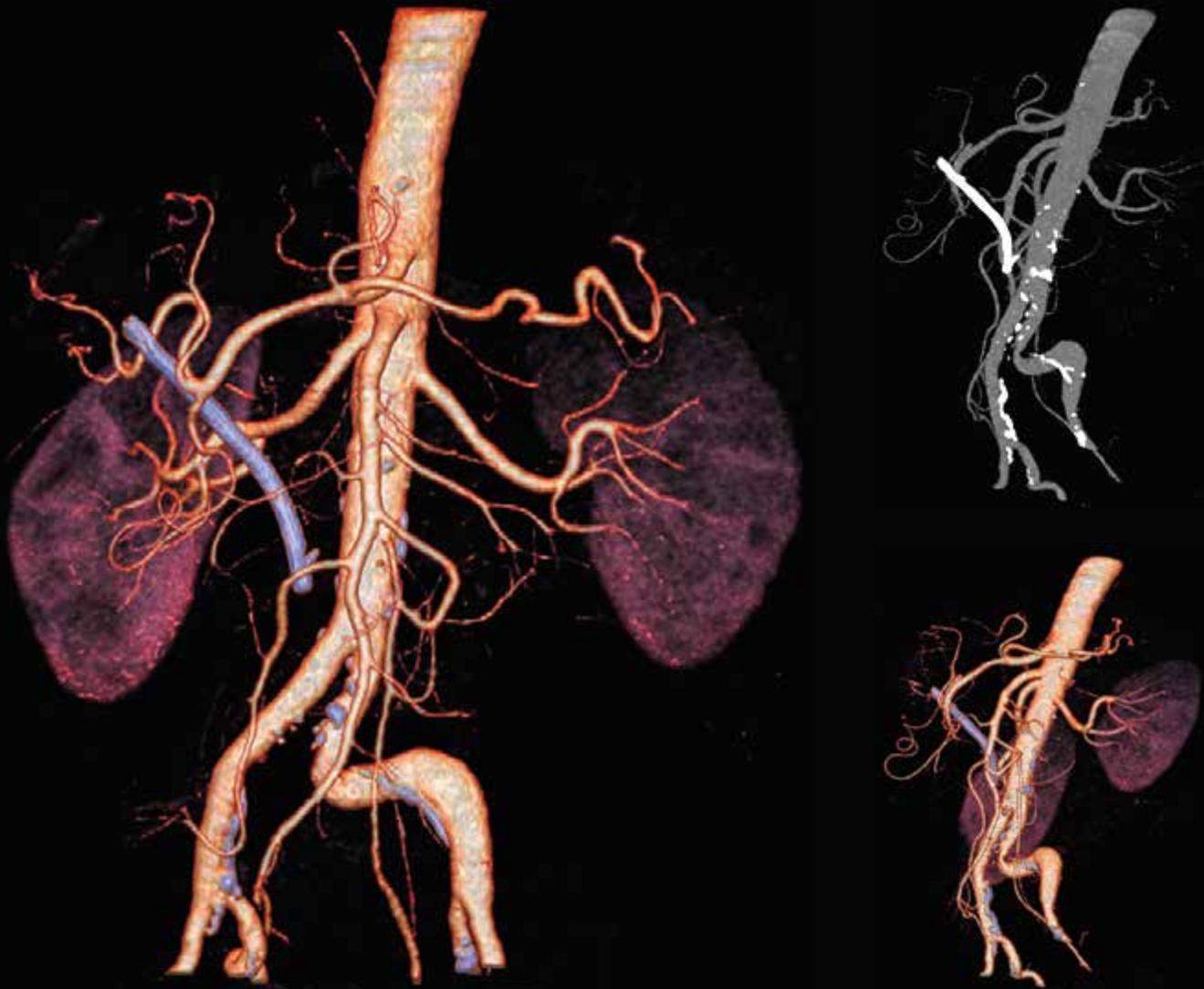


eMode



**Clear visualization of detailed tumor contours**

For this scan, the SureView reconstruction algorithm automatically selected the right pitch for the defined coverage and scan time.



**collimation:**  
16x0.6 mm

**scan time:**  
10.8 s

**scan length:**  
260 mm

**rotation time:**  
0.6 s

**tube settings:**  
130 kV, 74 mAs

**CTDIvol:**  
8.44 mGy

**DLP:**  
241 mGy cm

**effective dose:**  
3.6 mSv

**scanned with:**

  
eMode

#### Detailed images

High spatial resolution enabled the sharp delineation of small vessels and the visualization of multiple calcified plaques in the aorta and its branches.

**collimation:**  
16x0.6mm

**scan time:**  
20 s

**scan length:**  
561 mm

**rotation time:**  
0.6 s

**tube settings:**  
130 kV, 63 mAs

**CTDIvol:**  
6.46 mGy

**DLP:**  
451.5 mGy cm

**effective dose:**  
6.7 mSv

**scanned with:**

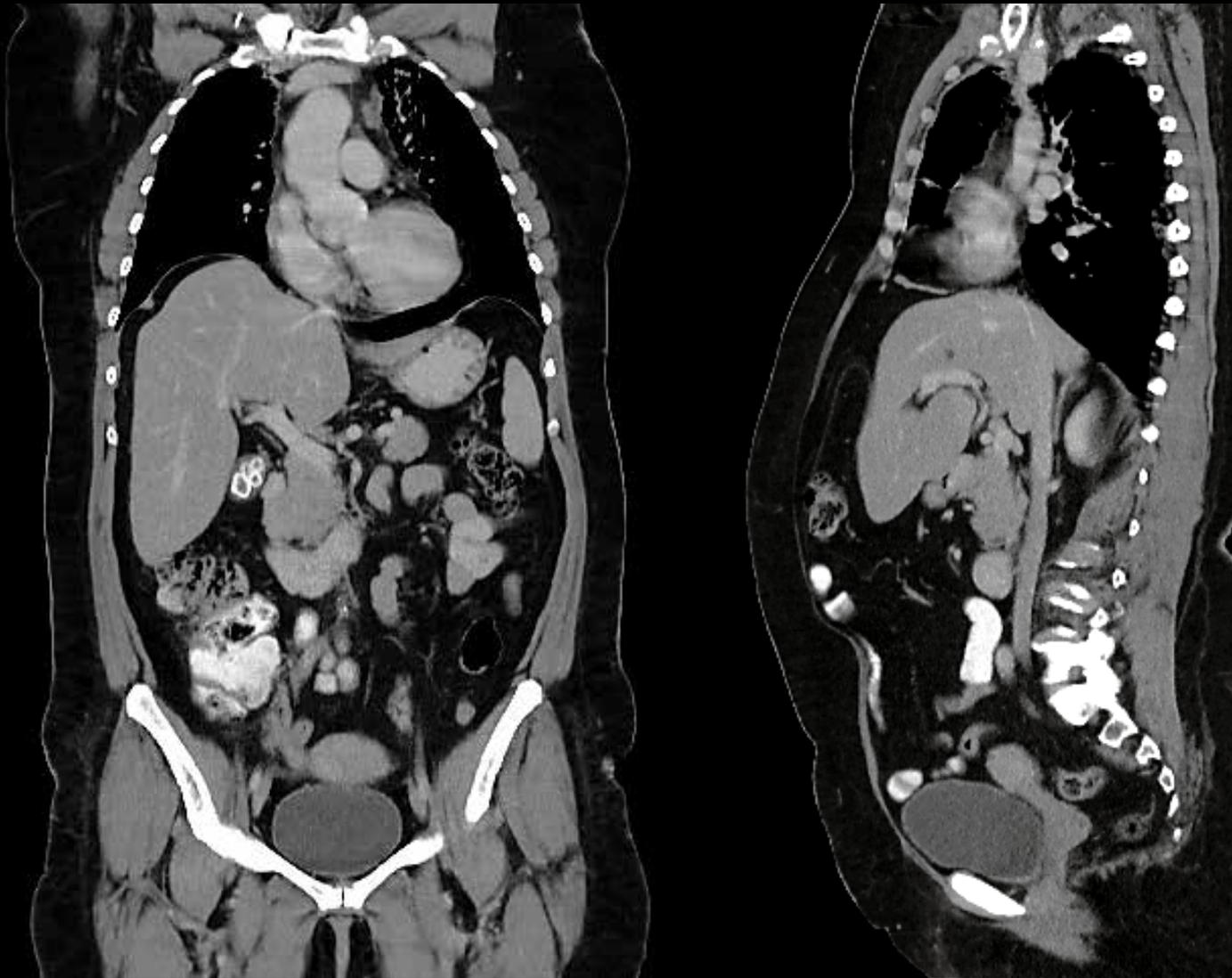


eMode



Excellent image quality, even  
for large volume coverage.

Courtesy of Instituto Português de Oncologia de Lisboa, Portugal



**collimation:**  
16 x 1.2 mm

**scan time:**  
36 s

**scan length:**  
661 mm

**rotation time:**  
1 s

**tube settings:**  
130 kV, 150 mAs

**CTDIvol:**  
15.4 mGy

**DLP:**  
1,068.8 mGy cm

**effective dose:**  
15.7 mSv

**scanned with:**



eMode

**Optimized image quality**  
For this obese patient (BMI: 43 kg/m<sup>2</sup>), Adaptive Signal Boost technology amplified low signals in areas of the image where attenuation was high.

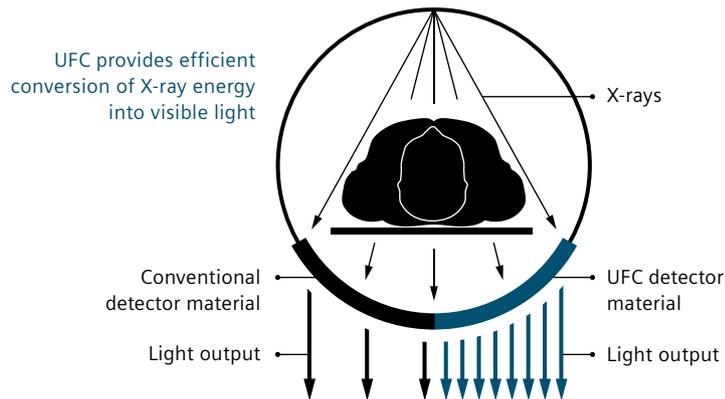




**Core technologies**

# UFC and IRIS

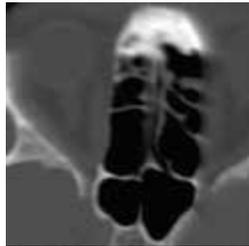
UFC and IRIS deliver crisp, detailed images at low dose—quickly and efficiently.



## UFC—leading-edge detector material

Using Siemens' proprietary Ultra Fast Ceramics (UFC), SOMATOM Scope provides excellent image detail even at low radiation doses. This industry-leading material\*—also used in our top-of-the-line scanners—achieves exceptional overall efficiency thanks to high X-ray absorption combined with extremely effective conversion of X-ray energy into visible light, reducing noise in the images. In addition to absorption, the decay constant and the afterglow of the detector material are crucial in CT.

After one millisecond—the typical duration of a projection—no significant signal may be left. UFC's signal drops extremely quickly after exposure, with only 0.01% remaining after the projection. This prevents blurring, delivering crystal-clear images even for the most dose-sensitive patient groups. SOMATOM Scope features the latest version of UFC, which has been continuously improved over the last years.

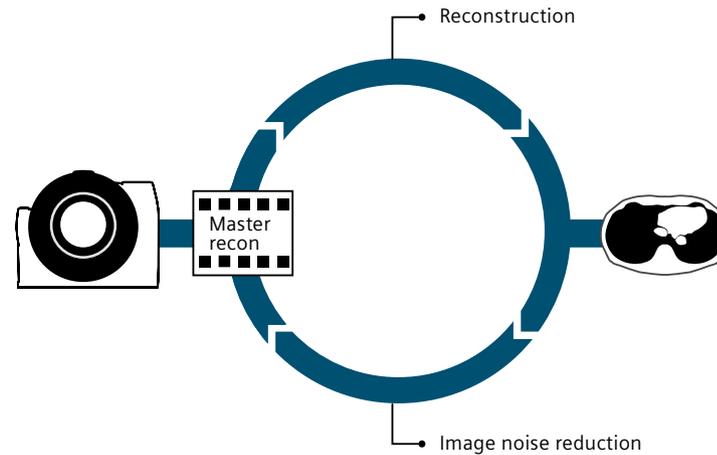


Conventional detector material



UFC

Long decay times and afterglow can lead to a cancellation of fine structures. Only optimized detector material such as UFC offers high image detail in combination with high-dose efficiency.



In a series of iterative steps, IRIS identifies and reduces noise while retaining sharpness by comparing each new image to the raw data.

### IRIS—efficient iterative reconstruction

Siemens' proprietary Iterative Reconstruction in Image Space (IRIS) delivers the same image noise reduction as raw-data-model-based iterative reconstruction, but in a fraction of the time—as the raw data is reconstructed only once. This innovative technology is ideal for cost-effective scanners: it significantly enhances spatial resolution while lowering image noise, enabling further dose reductions across a wide range of clinical applications. This is of particular benefit to

children and patients requiring multiple scans. In addition, IRIS can improve image quality for obese patients, as it reduces the image noise caused by attenuation—boosting diagnostic confidence and efficiency. IRIS uses raw data to generate a high-resolution master image, which includes all information contained in the original, but at the cost of significant noise. A series of iterative corrections is then applied to “clean up” the image, identifying and efficiently reducing image noise

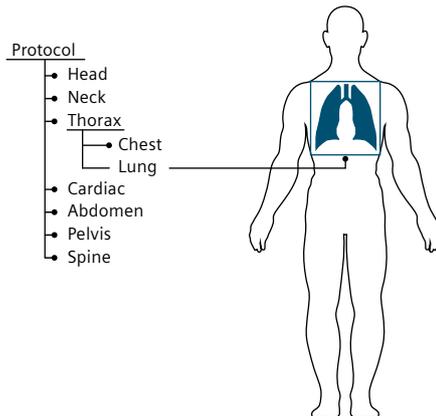
without compromising sharpness by comparing it to the master image—eliminating the need for time-consuming repeated forward and back projections, and expediting the scanning process. IRIS also helps maximize patient throughput without sacrificing dose reduction and image quality. The tube's heat storage capacity is utilized at a slower pace, reducing cooling times and allowing more patients to be scanned within the same time window.

\*Based on the number of installed systems using UFC.

# FAST Planning and FAST Spine

FAST Planning and FAST Spine automate time-consuming manual processes—boosting efficiency and reproducibility.

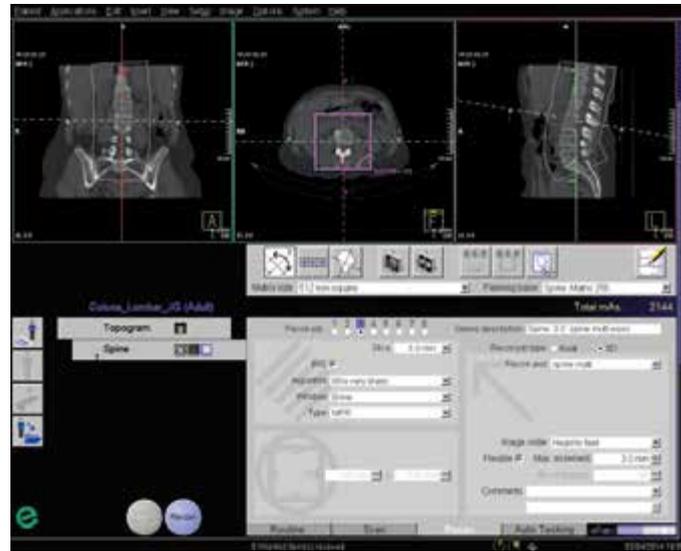
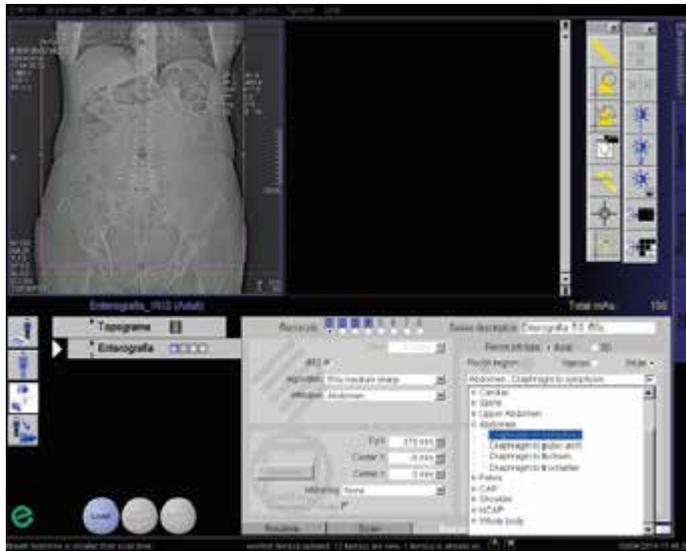
FAST Planning expedites scan preparation with anatomic protocols.



## Fully Assisting Scanner Technologies

Efficient workflows are key in today's medical facilities. This is why SOMATOM Scope is equipped with Fully Assisting Scanner Technologies (FAST) that optimize the entire imaging process—from planning to reading. These leading-edge technologies make complex processes faster and more intuitive, increasing productivity and freeing medical professionals to spend more time with their patients. In addition, FAST's automatic settings boost reliability and reproducibility, reducing the risk of

rescanning due to user error. This translates into improved workflows and optimized resource utilization—and greater profitability. What's more, it decreases wait times for appointments, driving patient satisfaction.



**FAST Planning** detects the lung based on anatomical landmarks and automatically sets the scan range (left).

**FAST Spine** automatically identifies and labels the vertebrae in the whole spine, e.g. for thoracic vertebrae (right).

### FAST Planning

Streamlining scan preparation is a vital factor for reducing examination time. FAST Planning automatically detects and rapidly applies desired ranges, eliminating the need for complex manual adjustments. Thanks to this technology, defining a scan and recon range is as simple as clicking on an anatomic region of interest (ROI) from a pre-programed list. FAST Planning takes care of the rest: it detects the ROI based on organ characteristics, and sets the scan parameters accordingly. This makes CT scan

set-up simple and intuitive, even for less experienced technicians. This function can be used in critical clinical situations where there is no time for extensive manual preparation. In addition, FAST Planning helps increase patient safety. The automatic parameter setting enables precise organ coverage without overscanning, and limits the need for rescans due to incorrect positioning. Moreover, the high degree of standardization increases reproducibility and reliability, boosting diagnostic confidence.

### FAST Spine

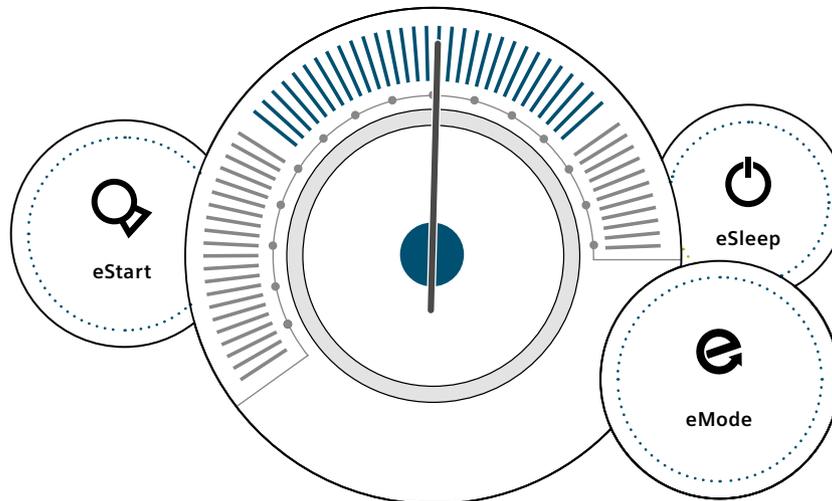
FAST Spine helps streamline another highly time-intensive task: the preparation of anatomically aligned spine reconstructions. The software detects and labels vertebrae within a predetermined scan area, and calculates their position for anatomically correct image reconstruction. This delivers a complete spine reconstruction in just 30 seconds\*, while reducing the risk of mislabeling associated with manual preparation.

\*Data on file.

# eCockpit

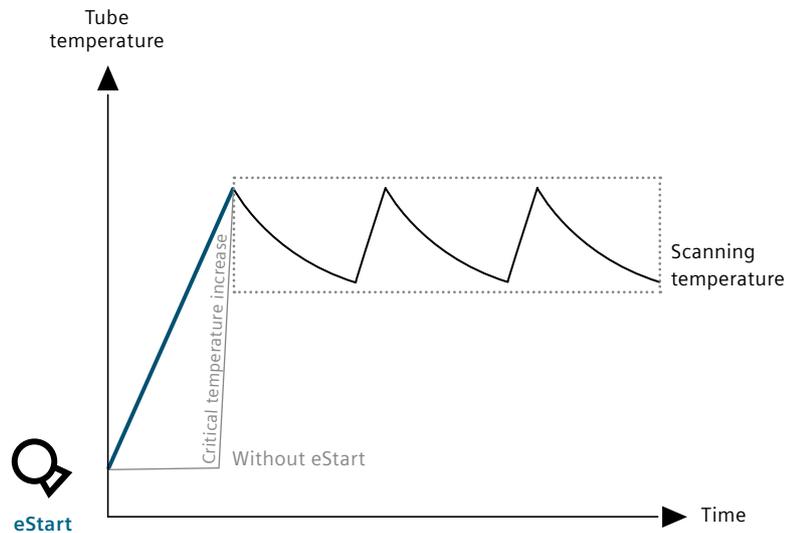
The eCockpit suite extends the scanner's lifespan, keeps operating costs in check, and seamlessly integrates into your daily routine.

The unique eCockpit features eStart, eMode and eSleep.



## eCockpit

The unique eCockpit suite, standard on all SOMATOM Scope scanners, enables more cost-efficient operation. The entire working day of a CT system was taken into consideration, from start-up to scanning to scan breaks. The features eStart, eMode and eSleep extend the scanner's lifespan by preventing unnecessary wear and tear, and reduce overhead costs by minimizing energy consumption. And thanks to a high degree of automation, the features can be easily integrated into everyday workflows.

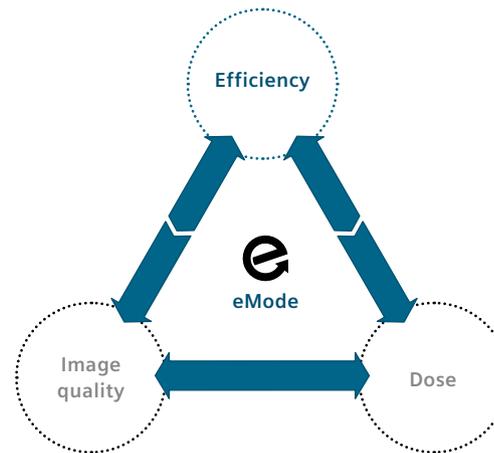


### eStart

The pioneering eStart feature gently warms up the tube after extended periods of non-use, more frequent in smaller hospitals. This reduces deterioration associated with cold starts, extending the tube's lifespan. For urgent cases, for example in traumatology, it is of course possible to start the scan without eStart—saving time where it counts.

### eMode

The easy-to-use eMode enables effective and patient-friendly operation by striking the right balance between dose, image quality, and efficiency. Once the user has prepared a scan protocol and entered all required information, eMode analyzes the parameters in real time and instantly fine-tunes the scan. This enables that the system is not operated at peak or system limit values, reducing wear and tear of all moveable parts while maximizing image quality.



**eStart** (left) gradually warms up the tube over a longer period of time, extending its lifespan.

**eMode** (right) fine-tunes the scan for optimum efficiency, image quality, and dose.

### eSleep

eSleep minimizes electricity consumption while the scanner is not in use, keeping operating costs in check. SOMATOM Scope automatically enters eSleep mode following extended periods of non-use, such as at night or during staff lunch breaks. What's more, the system rapidly returns to scan-ready mode when needed, allowing user to resume their normal routines in no time.

# Service offerings

A range of innovative service offerings to help you drive quality and cost efficiency.

## Customer Services

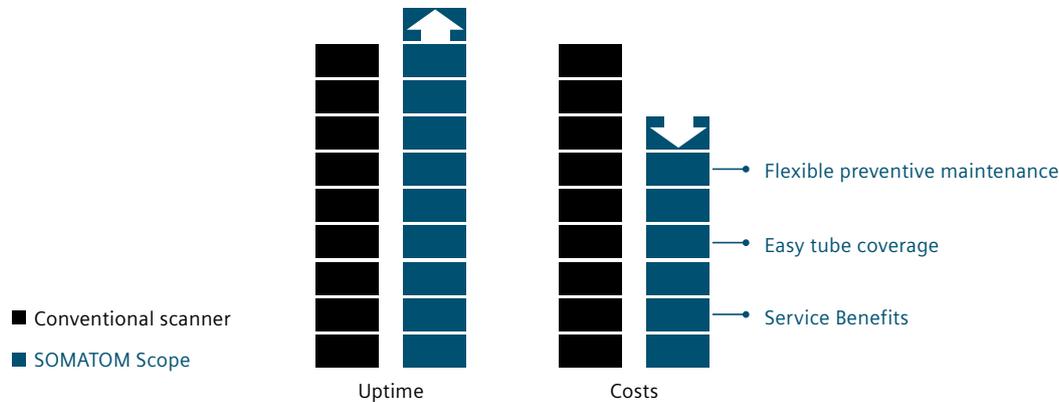
Customer Services efficiently delivers high quality care anytime, anywhere—around the globe. This enables customers to provide high-quality healthcare today and tomorrow, and to get the most out of their investment. Customer Services delivers smart, sustainable investment protection and predictable total cost of ownership (TCO). Additionally, custom-tailored service offerings are available for specific needs, including consulting programs, allowing you to broaden your capabilities and increase profitability.

## Siemens Performance Plans

Service and maintenance are crucial for preventing unscheduled downtime. Siemens Performance Plans are designed to streamline operations and improve workflows—with predictable costs, lower risks, and increased efficiency. Tailored packages are available for SOMATOM Scope, offering scalability for preventive maintenance events and providing continuous support for your scanner to reduce running costs—including for the X-ray tube.

## Keeping you on track for success

Siemens Remote Service (SRS) provides an efficient, comprehensive infrastructure for the complete spectrum of equipment-related remote services. Services that used to require on-site visits are now available via data transfer, e.g. Siemens Guardian Program™, including simple error identification and immediate remote repair. And that's not all: by proactively monitoring your systems, we can detect parameter deviations before problems occur. These features are just the foundations of a new dimension of system support.



Innovative service offerings significantly reduce overall costs while increasing uptime.

### Service benefits\* with eRatio

With a Siemens service contract customers can receive additional service benefits. The system is analyzed every 12 months to determine the eRatio usage: if eMode and eStart were used for at least 80% of all scans, customers are entitled to select one of the valuable service benefits. Users can reap significant rewards from this option—subject to country-specific offerings—and leverage the efficiency potential of their scanners.

### Innovative service offerings

The FAST Contact™ feature is the easiest way to contact our Customer Care Center for technical and clinical applications support. It also tracks and archives issues reported to Siemens via this feature—directly from the scanner console. What’s more, Utilization Management monitors scanner usage 24/7, tracking and summarizing every scan in a report. This provides exact information detailing CT performance indicators such as system utilization and dose information, plus usage statistics.

### Education and training

Knowledge is the key to success. With the extensive Siemens portfolio of education and training programs, healthcare practitioners can deepen their knowledge and clinical expertise. The portfolio offers a wide range of choices:

- Individual on-site training
- Classroom training
- Web-based training
- Fellowships
- Remote assistance

\*Service benefits are subject to country-specific offerings. Please contact your local Siemens representative to find out more.

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

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