

The Most Popular CT in the World*

SOMATOM Emotion















Siemenschwissen Vision



Today's reality

The justification for the existence of the entire medical industry is, of course, better healthcare for all patients. But the realities of clinical practice often make this simple-to-understand goal quite difficult to realize: stay within budgets, reduce hospital stays, speed up time to diagnosis, and deal with personnel issues while maintaining high clinical standards and volume/throughput. At the same time, patients demand better and faster results.

Our approach

In order to meet our share of responsibility in addressing these challenges, Siemens, from the earliest stages of research, product development and design, relies upon the advice and recommendations

of external medical experts to determine our focus – and this focus has been on the needs and demands of our end users. Over the year this focus has been sharpened to four key areas:

- to lead technological and medical advancement
- to maximize workflow efficiency
- to make state-of-the-art CT affordable
- to set the standard in customer care.

Our vision

As a partner of our customers, we create CT innovations, that lift clinical practice to a next level of excellence and enable wide access to better patient care. We believe that even the farthest technical horizons are temporary and can be surpassed with consistent dedication to improved health care. This visionary



approach, backed up by the, by far, largest R&D budgets in the healthcare industry, has made Siemens the undisputed innovation leader in CT over the last 35 years. And our ambitious global team continuous to set the trend in an always changing environment, providing *Answers for Life*.

Leading patient care

Siemens' customer-focused philosophy has always been to continually integrate cutting-edge imaging applications into the daily clinical routine, providing high quality patient care while simultaneously lowering costs. This philosophy is easily recognized in the SOMATOM® Emotion where the very latest Siemens technologies that improve image quality and patient care are implemented in the SOMATOM Emotion family. The same leading detector material and dose control

systems offered in the market leading SOMATOM Definition Flash are also central to the SOMATOM Emotion. This is another example of the Siemens research and development investment improving patient care throughout all CT segments.

The most popular CT in the world*

The success of Siemens' philosophy of innovation leadership is also easily recognized with over 7,000 satisfied and knowledgable customers who have purchased the SOMATOM Emotion – making the SOMATOM Emotion the most popular CT in the world.* This amazing success comes as no surprise to medical professionals. After all, Siemens has been a leader in CT innovation since 1974.

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^{*} Based on the number of systems sold worldwide



The success story continues

The unparalleled success story of over 7,000 SOMATOM Emotion installations continues in an increasingly competitive and rapidly changing healthcare market. While patients continue to expect higher diagnostic accuracy, healthcare institutions and physicians are being forced to reduce time to diagnosis and unnecessary hospitalization. To meet these and tomorrow's demands for higher quality and cost-efficient healthcare, Siemens developed the SOMATOM Emotion. With both 6-slice and 16-slice configurations offering Siemens' newest

technology advances, CT scanning has never before been so efficient. The SOMATOM Emotion achieves the image quality for which Siemens is known through the application of many of the same market leading technologies offered in our unrivalled super high-end systems.

High-end imaging with a compact scanner

You can expect, and will receive, highend imaging performance from an unbelievably compact scanner that can continuously protect your investment.

The modern design and efficiency of the SOMATOM Emotion means an old style inefficient generator is no longer required. The SOMATOM Emotion produces clinically excellent results, while reducing ongoing costs, and protecting your business through superb system reliability. Siemens also continues to offer a consistent software platform, syngo®, throughout all product lines to make training faster, more efficient, and less expensive to your facility. If you are a radiologist, technologist, or financial administrator, you will also enjoy the knowledge that you own the world's most popular CT scanner.*

^{*} Based on the number of systems sold worldwide

SOMATOM Emotion





"The SOMATOM Emotion delivers unbelievable high-end image quality and detail. And the intelligent programs offered allow me to concentrate my efforts on diagnosis and on my patients. Simply amazing."

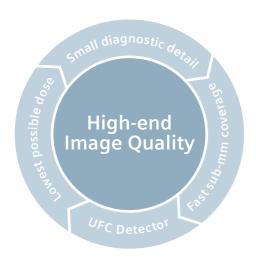
G. Mostbeck, MD
Otto Wagner Spital, Vienna, Austri

Perfection in Image Detail

From the very beginning of CT technology, image quality has been the first priority. This is still true today and was a constant focus during development of the new SOMATOM Emotion 6- and 16-slice CT systems. This focus, along with over three decades of CT experience, is clearly demonstrated in every image from the SOMATOM Emotion. Perfection in image detail is achieved through a superbly designed imaging chain that precisely balances the tube, detector and supporting electronic technologies, and the compact system geometry for constant, optimal image detail. The unsurpassed image quality is one of the key reasons that makes the SOMATOM Emotion the world's most popular CT system.*

^{*} Based on the number of systems sold worldwide

Perfection in Image Detail



Ultra Fast Ceramic Detector exceptional image detail at minimum dose

As the leading innovator for high-end CT systems, Siemens continually pushes CT technology beyond generally accepted technical boundaries of previous CT generations. One example of this innovation is our leading Ultra Fast Ceramic (UFC)™ Detector. The UFC detector included with the SOMATOM Emotion is identical to the material and technology that underpins the quality of our super high-end system, the SOMATOM Definition Flash. UFC detector material is designed to deliver exceptional images while maintaining minimum dose and is a key factor in the image quality you can expect of all Siemens SOMATOM CT systems.

See the small diagnostic detail

Having the industry's leading detector material is only one important step towards perfection in image detail. Siemens take this leadership further with the SOMATOM Emotion family of CT systems by offering the segment leading 1476 active effective detector channels. With the smallest focal spot size in its class and fine detector collimation of 6 x 0.5 mm and 16 x 0.6 mm, the **SOMATOM Emotion family of scanners** provides the clarity and sharpness you require for accurate diagnoses.

High speed without compromises

Perfection in image detail is further underpinned with Siemens' proprietary SureView™ concept, a dedicated spiral image reconstruction algorithm that makes challenging long scans routine.

The key to the success of the SureView algorithm is elimination of the traditional trade-off between scan speed and image quality that is a limitation of all conventional multi-slice reconstruction algorithms. For example, SureView enables you to scan at high speed with high pitch settings and obtain superb, sub-mm lung scans without reduced axial image quality.

Reducing dose to a minimum

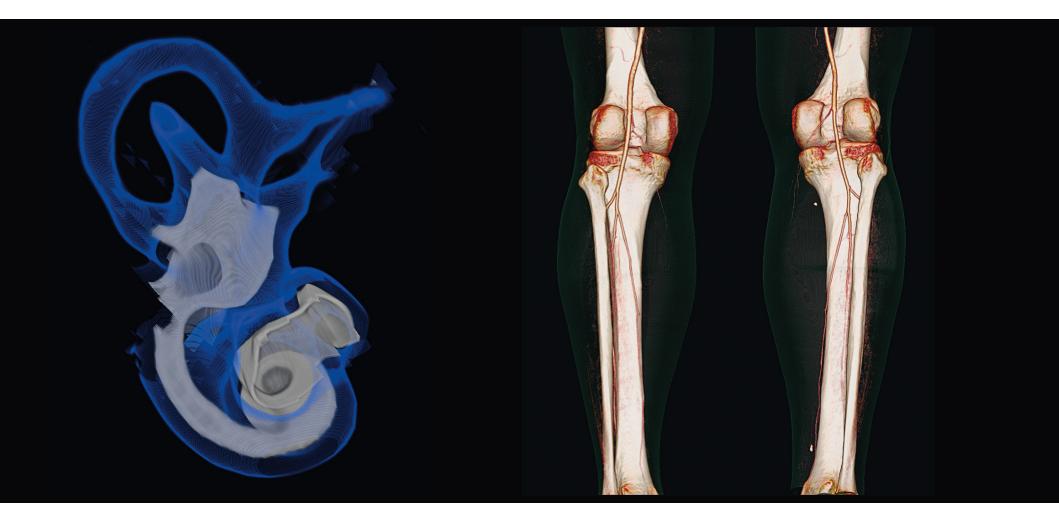
A further key to improving the outcomes for our patients comes from Siemens' leadership position in reducing dose.

CARE Dose4D™ – Siemens' fully automated, real-time dose management – reduces dose to a minimum while ensuring that the required image quality is always met. Unlike other dose modulation attempts, CARE Dose4D achieves this through a truly real-time modulation of the tube current during patient scanning enabling dose reduction of up to 68%.

Visualization of smallest diagnostic detail with a combination of:

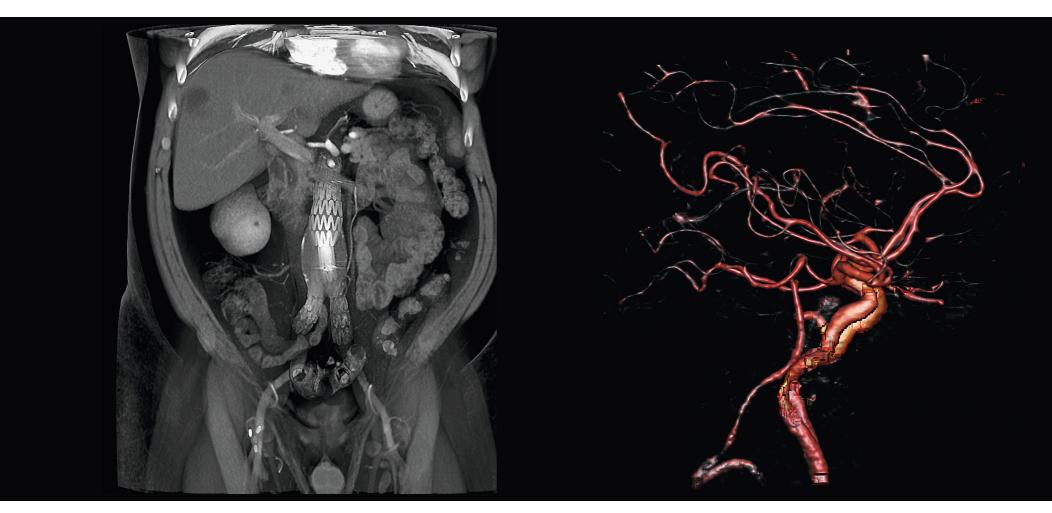
- Smallest focal spot
- UFC detector
- Higher number of effective detector channels
- ▶ Fine collimation
- Small gantry geometry
- Up to 68% dose reduction with CARE Dose4D

Perfection in Image Detail



Sharpness and astonishing detail, illustrated by this ductus semicirculares

Brilliant visualization of small vessels



Phenomenal stent imaging even on larger patients

Excellent visualization of intra- and extracranial vessels with automated bone subtraction algorithms of *syngo* Neuro DSA CT





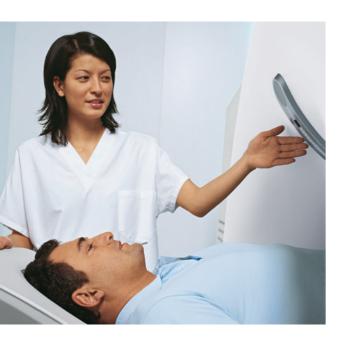
"As an outpatient center, we work in a very competitive environment. With our SOMATOM Emotion we can offer full clinical performance within the smallest space. I know I've made the right decision."

J. F. Casoria, Business Manager Hartsdale Imaging, Hartsdale, New York, USA

Clinical Efficiency Simplified

As the demand for faster and more certain diagnosis increases, workflow concepts and clinical applications become increasingly important. The SOMATOM Emotion beautifully illustrates Siemens' attention to even the smallest details of your CT day. Through this constant commitment to detail, we are able to offer developments that make your workday easier and clinically more successful. The SOMATOM Emotion offers optimum workflow enhancements, from patient preparation and scanning, through to post-processing and reporting.

Clinical Efficiency Simplified



Excellent image quality is, of course, the main criterion for every CT system, however, a successful workday in CT is also made up of dozens of highly important factors that increase efficiency and throughput. In the preparation phase of the CT examination, for example, the simple but practical CT storage box that holds all basic CT positioning accessories within easy reach greatly facilitates the ease of patient positioning. The certainty of image quality for lung examinations is also improved with the visual breath-hold indicator on the gantry that reduces breathing artifacts and the necessity for repeat scans. Another valuable workflow improvement is the automatic e-Logbook that makes often-illegible handwritten entries obsolete.

Streamlined workflow for intervention

Dedicated biopsy and intervention modes will significantly enhance your workflow in these often time-consuming procedures. A simple in-room joystick control allows

you to quickly and easily move to the position of the last scan or a saved table position without the need for constant support from the CT control room.

An additional giant step in comfort for you, your staff, and your patients is the excellent access permitted by the gantry's flared opening and the industry's smallest gantry depth of 69 cm (27 in). With only 26.4 cm (10.4 in) between the front of the gantry and the scan plane, the SOMATOM Emotion offers not only a new level of patient comfort, but also adequate freedom of movement during interventional procedures. A less frequent requirement to remove the patient from the gantry during intervention increases your speed and accuracy in these exacting procedures.

Simultaneous planning, scanning, and post-processing

The addition of a second, dedicated syngo CT Workplace permits instant access to patient data through a shared database

with the syngo Acquisition Workplace without the need to send images through the network. This allows you to process data from a first patient, while a second patient is being scanned which keeps your acquisition workplace free for increased patient throughput. In addition, WorkStream4D™, combined with up to 16 images per second reconstruction, virtually eliminates the need for timeconsuming, manual reconstruction steps. Oblique and double-oblique reconstructions are immediately available, enabling faster examinations and the complete elimination of traditional processing methods with a 3D task-card.

Confidence in diagnosis – extend your clinical capabilities

But speed alone is not sufficient. We want to make your diagnoses as confident, and your workday as comfortable as possible. With oncology related examinations making up approximately 60% of CT examinations, increasing speed and accuracy has always been a major consideration of CT development at Siemens. Therefore, we offer a broad spectrum of dedicated applications such as *syngo* CT Oncology, *syngo* Colonography CT, and *syngo* Neuro DSA that offer superb post-processing capabilities as well as new marketing opportunities for your CT service for increasing revenue.

Finally, in the event you or your CT technologists require a second opinion from a colleague when scanning or post-processing, syngo Expert-i allows you to view and manipulate diagnostic data with a clinician sitting in a different room or different department. Remote access and control through syngo Expert-i is available for all syngo CT Workplaces, including the scanning console, to further streamline your CT workflow for higher throughput and better financial returns.

- Patient breathing indicator for improved patient breath-hold
- Streamlined workflow with CT storage box
- Remote access with syngo Expert-i
- Freedom of movement for faster intervention
- Increased efficiency with linked database, fast reconstruction, and WorkStream4D





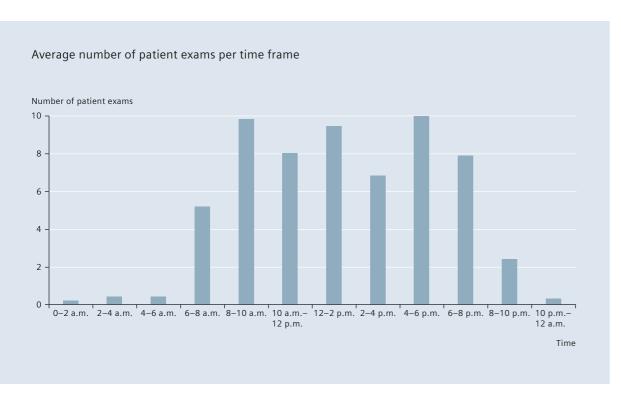
"With the SOMATOM Emotion CT we are able to scan 90 patients per day on average. Moreover we optimized our hospital workflow with the fast scan protocols of SOMATOM Emotion."

Dr. Yurdasiper Yunus Emre State Hospital, Eskisehir, Turke

Savings in Every Scan

From the time of installation, even before you have made your first scan, the SOMATOM Emotion makes the first step in savings. The modern, compact design permits easy and efficient installation and requires very little of your expensive floor space. Requiring a total of only 18 square meters – including a scan room as small as 15 square meters – the SOMATOM Emotion has the potential to save you money over the entire life of your CT system.

Savings in Every Scan



Example report from the Utilization Management Software

Compact system for giant steps in cost reduction

Due to its very small footprint, the scanner fits into rooms that are often too small for conventional CT scanners. You will immediately realize giant steps in cost reduction and appreciate the minimal disruption to your busy schedule. And this is just the beginning of the savings story. Due to lowest power requirements and cooling demands, you will achieve savings in every scan.

Uptime is the only time you can afford

Preventive maintenance is a standard requirement for any CT system but can be a frustration when patient access to the system is restricted due to scheduled downtime. In this regard, the SOMATOM Emotion also has the potential to save you additional money with a lower requirement for preventive maintenance, meaning greater uptime and higher productivity. The newly designed, modern, high-quality construction of

The SOMATOM Emotion is more than robust, it is virtually indestructible. But at Siemens, uptime means more than just a perfectly functioning scanner. Siemens also offers you the tools such as Utilization Management to track your CT performance and utilization data to help you maximize uptime, increase patient throughput, and optimize financial results.

You profit from Siemens' unique service offerings

The savings with the SOMATOM Emotion are further enhanced with Siemens' unique service offerings. As an optional part of your service contract, syngo Evolve increases the functionality of your existing software applications and allows you convenient, cost-effective access to improved features as they are developed. This factory-backed program gives you the peace of mind of knowing that your system will remain up-to-date and keep you competitive for many years to come. syngo Evolve offers certainty in budget planning, feature enhancements, access to new applications, and lower cost upgrades to your system.

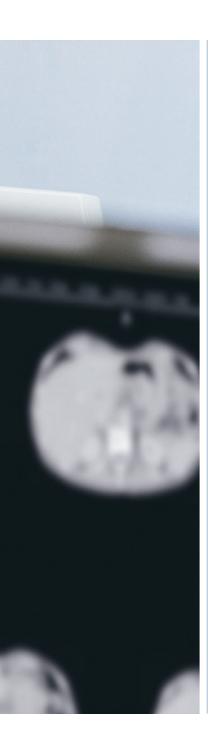
In addition Siemens offers innovative service solutions based on Siemens Remote Service (SRS) technology. The unique Guardian Program further reduces your costs for unscheduled downtime through proactive monitoring of your CT system to detect potential problems before they affect your CT service. This detection allows you to schedule service visits for proactive maintenance outside of normal operational hours, meaning your system continues to serve patients and earn revenue without interruption.

Reduce costs for increased return on investment

The SOMATOM Emotion was designed specifically to reduce the ongoing costs of CT and to increase your returns through maximum uptime. Your confidence in the system is assured by the known quality of Siemens' engineering and the unique Siemens service offerings. The amalgamation of these factors offers you savings in every scan.

- Less down-time with fast installation and reduced scheduled maintenance requirements
- Smallest installation space for reduced rent
- Lower ongoing costs reduced power and air-conditioning requirements
- Unique Guardian Program for increase up-time
- syngo Evolve certainty for CT upgrades





"Siemens is a technology leader in CT, and has been so for a long time. The way they integrate innovations into my clinical routine is simply fantastic."

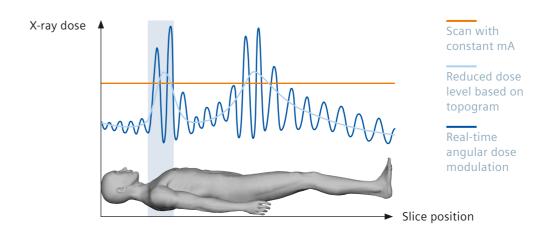
G. Mostbeck, MD Otto Wagner Spital, Vienna, Austria

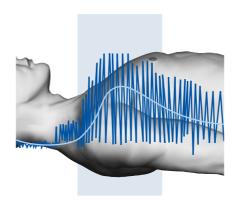
The Underlying Technology

It has always been the philosophy of Siemens Healthcare that innovations that lead to increased image quality and decreased patient dose should be included throughout the Siemens CT portfolio. For this reason many of the leading concepts that have maintained Siemens' leadership at the cutting edge of high-end CT technology are offered also on our entry-level and mid-range systems. Examples of such technology include our leading detector material, Ultra Fast Ceramic (UFC), true real-time dose modulation with CARE Dose4D, and reconstruction techniques that remove the traditional trade off between speed and image quality that are a standard limitation of other systems in the market place today.

CARE Dose4D / OTKS

CARE Dose4D, an unparalleled combination of maximum image quality at minimum dose, is an example of our philosophy to provide a wide range of dose-reduction solutions. Because every patient is unique in terms of size, weight, and anatomy, we developed a fully automated dose management system. The tube current is adapted in real-time and according to the anatomy of each individual patient's organ.





CARE Dose4D provides up to 68 %* dose reduction compared to fixed mA examinations

^{*} Results may vary. Data on file.

Hufc Detector VOIKS

Siemens has a long history of unrivaled expertise regarding detector technology – from scintillators and photodiodes to electronics – where only a few thousandths of a millimeter make the difference. The Ultra Fast Ceramic (UFC) detector system is the central part of all Siemens' CT scanners and part of the technology that make innovations such as the SOMATOM Definition Flash possible. Due to this component alone, many clinical innovations have been achieved. Speed, image quality, and low dose are what Siemens UFC detectors make possible.

Speed

Conventional ceramic scintillator material has a long afterglow effect. Siemens' ceramic UFC scintillators excel in fast decay behavior and an extremely short afterglow time.

Image quality

As CT systems become faster, the role of image quality becomes more important. Siemens' UFC scintillators acquire large patient volumes quickly and provides high image resolution.

Low dose

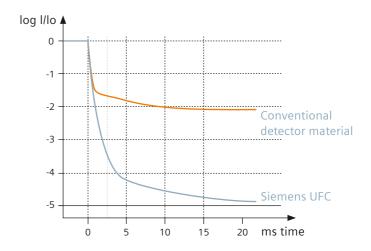
UFC ceramic scintillators allow for the lowest possible dose. Due to their luminous efficiency with an optimized wavelength, the detectors allow for the applied X-ray dose to be optionally evaluated according to the patient's anatomy.



Conventional detector material



Siemens UFC



Comparison of decay time and afterglow (for different detector materials)

HsureView T WOIKS

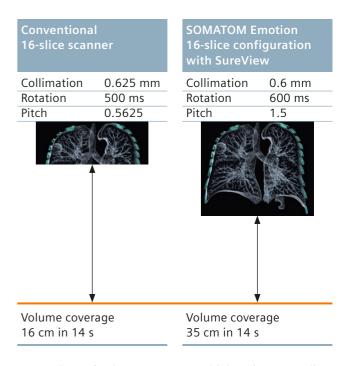
The introduction of Multislice CT has opened the door to a new era of clinical applications. However, it also introduced certain limitations resulting from the increased complexity in image acquisition, reconstruction procedures, and algorithms. But there are innovative ways to overcome such pitfalls.

The solution Siemens offers is the fast spiral image reconstruction software SureView, With SureView, Siemens CT users do not need to make a selection either to scan at a high speed or at a high quality. With the SureView reconstruction algorithm you can have remove this trade off and achieve both speed and quality in every scan.

High-quality imaging at low dose

To facilitate consistent image quality at any pitch even for long scans, Siemens invented SureView – the dedicated spiral image reconstruction algorithm. SureView features easy-to-use scan protocols, where the user only needs to select the scan range, mAs, scan time, and slice width.

All other parameters are automatically calculated by the scanner. The result is consistent image quality and simple, easy to learn dose selection techniques. In addition, high power reserves are there when required and allow for up to 100 seconds of uninterrupted spiral acquisition.

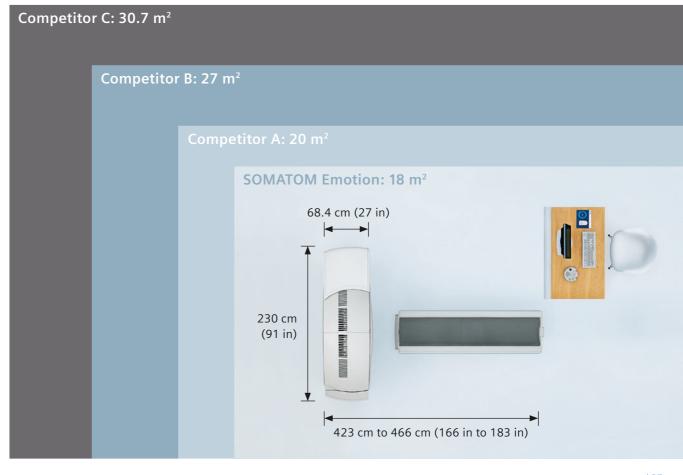


Comparison of volume coverage at highest image quality

Compact, Modern System Design

The introduction of a modern, efficient system into the 6 and 16-slice market has changed this market segment. With the introduction of the SOMATOM Emotion Siemens has removed the need for larger high voltage generators to overcome the limitations of oversized, outdated gantry designs and inefficient detector materials. The combination of the Ultra Fast Ceramic detector material, real-time dose modulation, and a generator and tube specifically designed for a compact, modern gantry is another reason why the SOMATOM Emotion is the most popular CT in the world.*

In addition to superb image quality, the modern, efficient gantry also leads to lower power costs, and lower airconditioning requirements due to reduced mAs requirements and reduced heat output.



^{*} Based on the number of systems sold worldwide

S y dditional Benefits

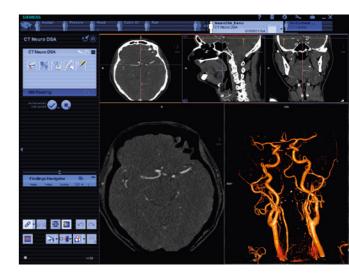
syngo.via

syngo.via* - the new imaging software, creating an exciting experience in efficiency and ease of use - anywhere **. Every syngo.via already includes standard CT applications that provide an extensive range of functions and tools for the most frequent clinical tasks. To complement the standard syngo.via configuration of applications, clinically-tailored Engines with an impressive range of advanced applications are also available.

CT Neuro Engine

From scan to diagnosis in under 10 minutes

CT Neuro imaging is very often a matter of life-and-death therapeutic decisionmaking. From infarctions caused by stroke and extensive bleeding, to subarachnoid hemorrhage and a ruptured aneurysm. The new CT Neuro Engine provides tools and workflows that to help deliver a complete and accurate status of the vascular structures and the brain tissue for these patients – from scanning to diagnosis in less than 10 minutes.



- *syngo.via can be used as a standalone device or together with a variety of syngo.via-based software options, which are medical devices in their own rights.
- ** Prerequisites include: internet connection to clinical network, DICOM compliance, meeting of minimum hardware requirements, and adherence to local data security regulations.



CT Oncology Engine

Holistic Oncology Imaging

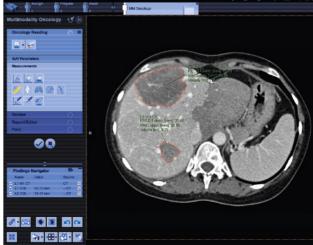
Cancer threatens the entire body. Irrespective of whether potential lesions are found in lung, liver, lymph nodes or other organs, and regardless of whether the chest or the abdominal radiologist makes findings, or whether lesions are discovered in CT, MRI or PET: Everybody involved in early detection, diagnostics and the treatment of cancer can retrieve the most complete information.

CT Oncology Engine Pro

Increase Oncology advantages further with computer assisted detection

You easily can upgrade your CT Oncology Engine's features to the "Pro" edition that provides additional tools for computer assisted detection such as the LungCAD and the Colon PEV algorithms. The CT Oncology Engine Pro will not only help you achieve the most accurate results in just a few moments. The Oncology Engine Pro also provides a marketing advantage for your practice to differentiate your Oncology CT capabilities from your competitors.



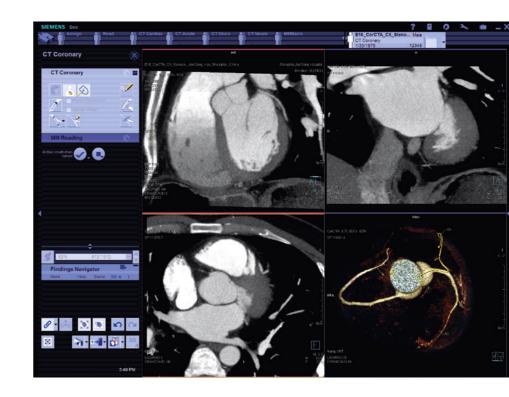


Sydditional Benefits with syngo.via

CT Acute Care Engine

Make lifesaving decisions, when every second counts

The CT Acute Care Engine provides tailored, disease-oriented workflows which allow lifesaving diagnostics when every second counts. The workflows consist of dedicated scan modes and software modules. They cover the wide variety of challenging acute situations, from efficient abdominal imaging, trauma assessment to neurovascular and stroke imaging.

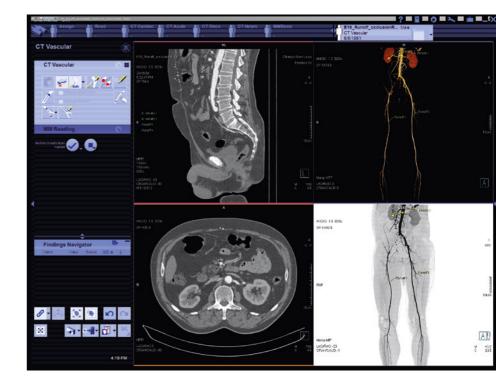




CT Cardio-Vascular Engine

Speed in routine – power in challenging cases

The CT Cardio-Vascular Engine provides tailored, disease-oriented workflows which allow lifesaving diagnostics when every second counts. The workflow consists of dedicated scan modes and software modules. They cover the wide variety of Cardio-Vascular examinations, from cardiac risk assessment to efficient abdominal imaging and vascular/neurovascular assessment.



Dedicated to Your Success

Remain one step ahead and tap the full potential of your Siemens CT system with our customer care program, Life. As a worldwide innovation leader in medical imaging, Siemens has gained an unmatched knowledge in Computed Tomography. You can profit from excellent CT systems and innovative, flexible and comprehensive service solutions that enable you to concentrate on what is most important for you: patient care. The customer care program, Life, is the unique solution from Siemens that helps you to maximize the return on investment throughout the entire life cycle of your system.

Upgrades and migration: Evolve, Expand, Elevate

Stay competitive with up-to-date systems

Due to increasing healthcare demands you have to stay on the cutting edge to be competitive. We will help you to keep your solutions up-to-date and to keep pace with the latest technological advancements through the *syngo* Evolve program. *syngo* Evolve offers certainty in budget planning, feature enhancements for your CT, access to new applications, and lower cost upgrades for your CT system.

Services and suppor

Feel confident with our proactive service solutions

High system availability, diagnostic confidence and optimized workflow are crucial for the success of your CT service. To meet your performance expectations, we systematically focus on being proactive. Based on real-time system monitoring we detect system errors and alert you before problems occur. The Siemens Guardian Program™ helps to make unplanned downtime a thing of the past.

Education and training

Broaden your knowledge and expertise

Know-how is the key to success. With our extensive portfolio of education and training programs you can deepen your knowledge and clinical expertise. We show you how to maximize the benefits that can be achieved with our advanced technology. This will help you to optimize your workflows so you can offer an even higher quality of care for your patients.

Information and communication

Be informed – get connected

To ensure you are always up-to-date on what is happening in the CT world, we offer you a variety of information services including easily accessible information portals, monthly newsletters, our customer magazine SOMATOM Sessions, and the SOMATOM World Summit, our scientific user conference.



Sconfiguration overview motion



SOMATOM Emotion 6-slice configuration Technical specification	SOMATOM Emotion 16-slice configuration
Technical specification	
High-quality CT at low costs yes	yes
Number of slices 6 x 0.5 mm/6 x 3 mm	16 x 0.6 mm/16 x 1.2 mm
Rotation time 0.8 s/0.6 s*	0.6 s/0.5 s with HeartView CT*
Reconstruction speed 8 images/s	16 images/s*
Highest number of effective 1,472 detector channels	1,472
Smallest footprint 18 m² (194 ft²)	18 m² (194 ft²)
including control room	including control room
Slimmest gantry 69 cm (27 in)	69 cm (27 in)
Smallest focal spot size 0.8 x 0.5/0.8 x 0.7	0.8 x 0.5/0.8 x 0.7
High-end detector material yes	yes
Practical storage box yes	yes
2 nd CT Workplace with yes* shared database	yes*
syngo.via yes*	yes*
Software options	
Wide application portfolio yes*	yes*
CAD tools yes*	yes*
SureView yes	yes
CARE Dose4D yes	yes
WorkStream4D™ yes*	yes*
e-Logbook yes*	yes*
syngo Expert-i yes*	yes*
CT Clinical Engines	
CT Oncology Engine yes*	yes*
CT Neuro Engine yes*	yes*
CT Acute Care Engine yes*	yes*
CT Cardio Vascular Engine yes*	yes*
Services and programs	
Guardian yes*	yes*
Utilization Management yes*	yes*
Evolve yes*	yes*
e-Tune yes*	yes*

^{*} Optional

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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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