



Performance in CT SOMATOM Sensation

“With the SOMATOM Sensation and z-Sharp Technology, the future of volume imaging for cardiac and non-cardiac applications has arrived. This scanner is the standard to which other systems will be measured.”

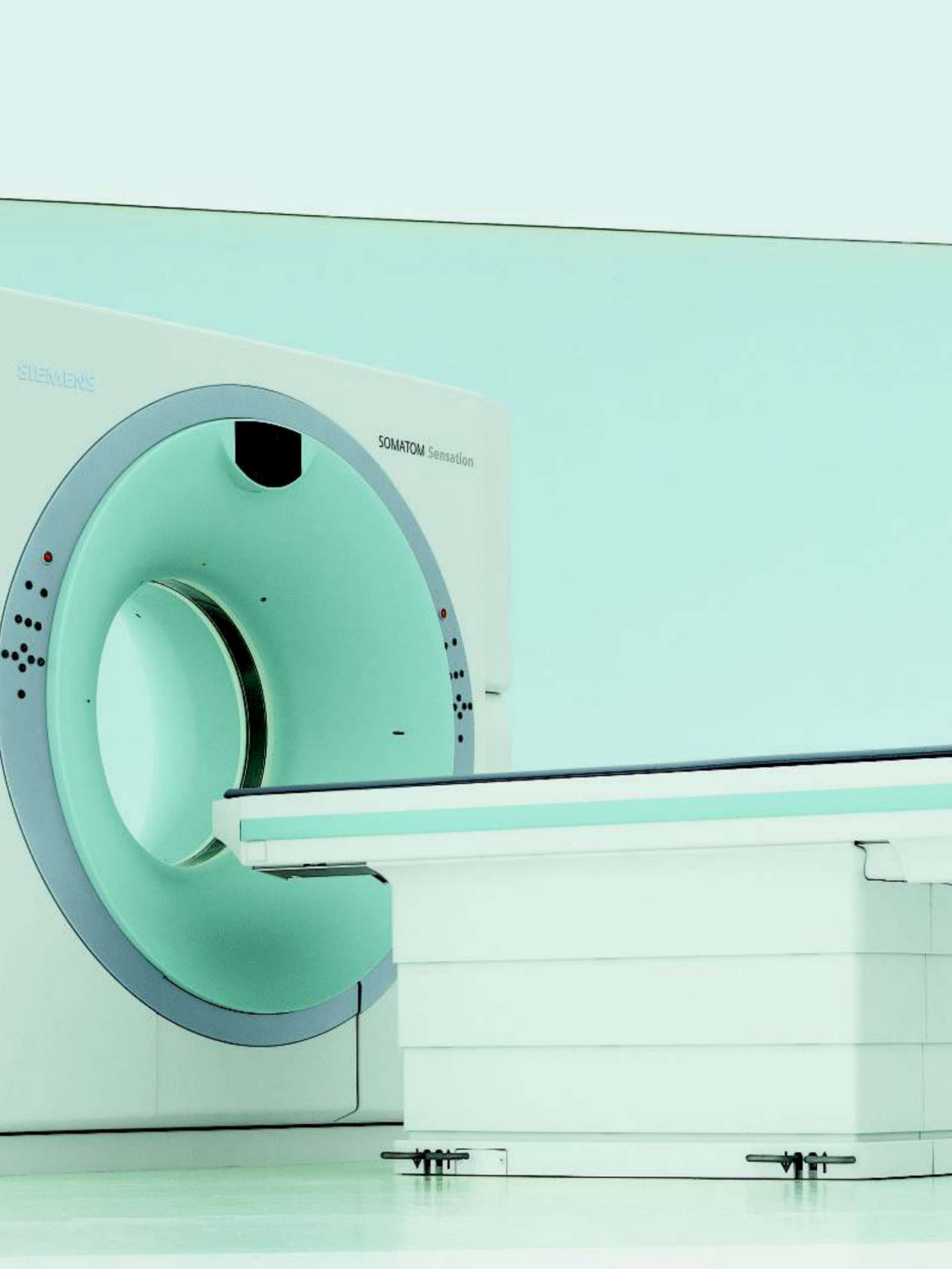
Elliot K. Fishman, MD,
Director Diagnostic Radiology and Body CT,
The Johns Hopkins Hospital, Baltimore, USA





SOMATOM Sensation





SIEMENS

SOMATOM Sensation

The New SOMATOM Sensation





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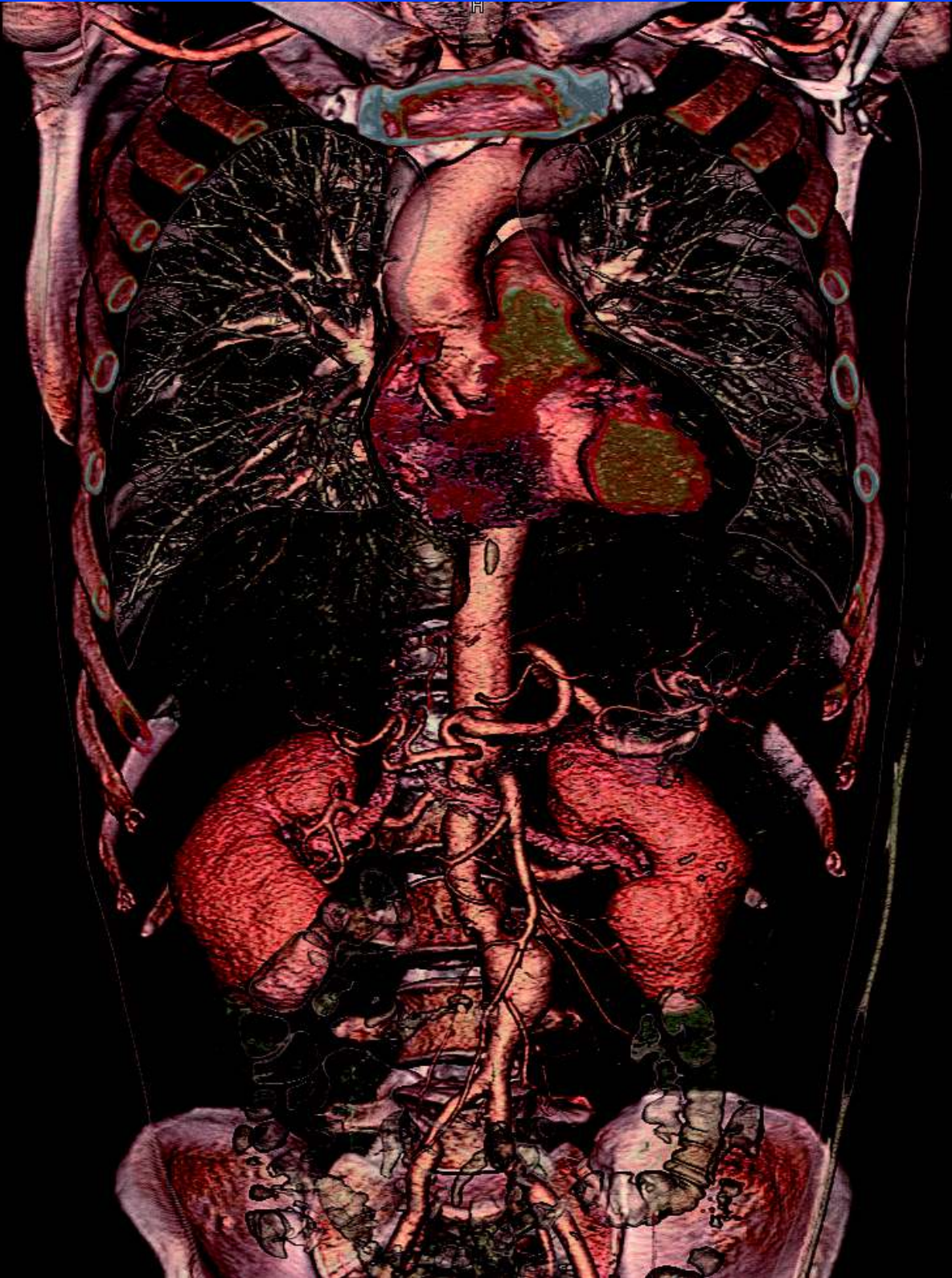
For more than 30 years, Siemens Medical Solutions has been the leader in CT innovation. Our philosophy has been to integrate cutting-edge imaging technology into daily clinical practice, thus ensuring the highest level of patient care possible. We continued this tradition by firmly establishing a new industry benchmark for diagnostic excellence with the world's first 64-slice CT scanner. Leading healthcare institutions and clinical experts trust SOMATOM® Sensation's excellent performance in both daily routine and clinical research. The result: an amazing success story with the industry's largest installed base of 64-slice CT systems worldwide.

A close-up photograph of a Siemens CT scanner's control panel. The panel is light blue and features a black control area with a digital display. Above the display, the labels 'kV', 'mA', and 's' are visible. The display itself is currently blank. Below the display are several navigation buttons, including a small circle on the left and two sets of yellow arrow buttons (left and right) on the right. The background shows the curved, light blue surface of the scanner's gantry.

Siemens –
The Trendsetter in CT

“SOMATOM Sensation
allows for maximal
diagnostic detail at the
fastest acquisition
speed and the lowest
possible radiation dose.”

Alec Megibow, MD,
New York University Medical Center,
New York, USA



The New SOMATOM Sensation – Performance in CT



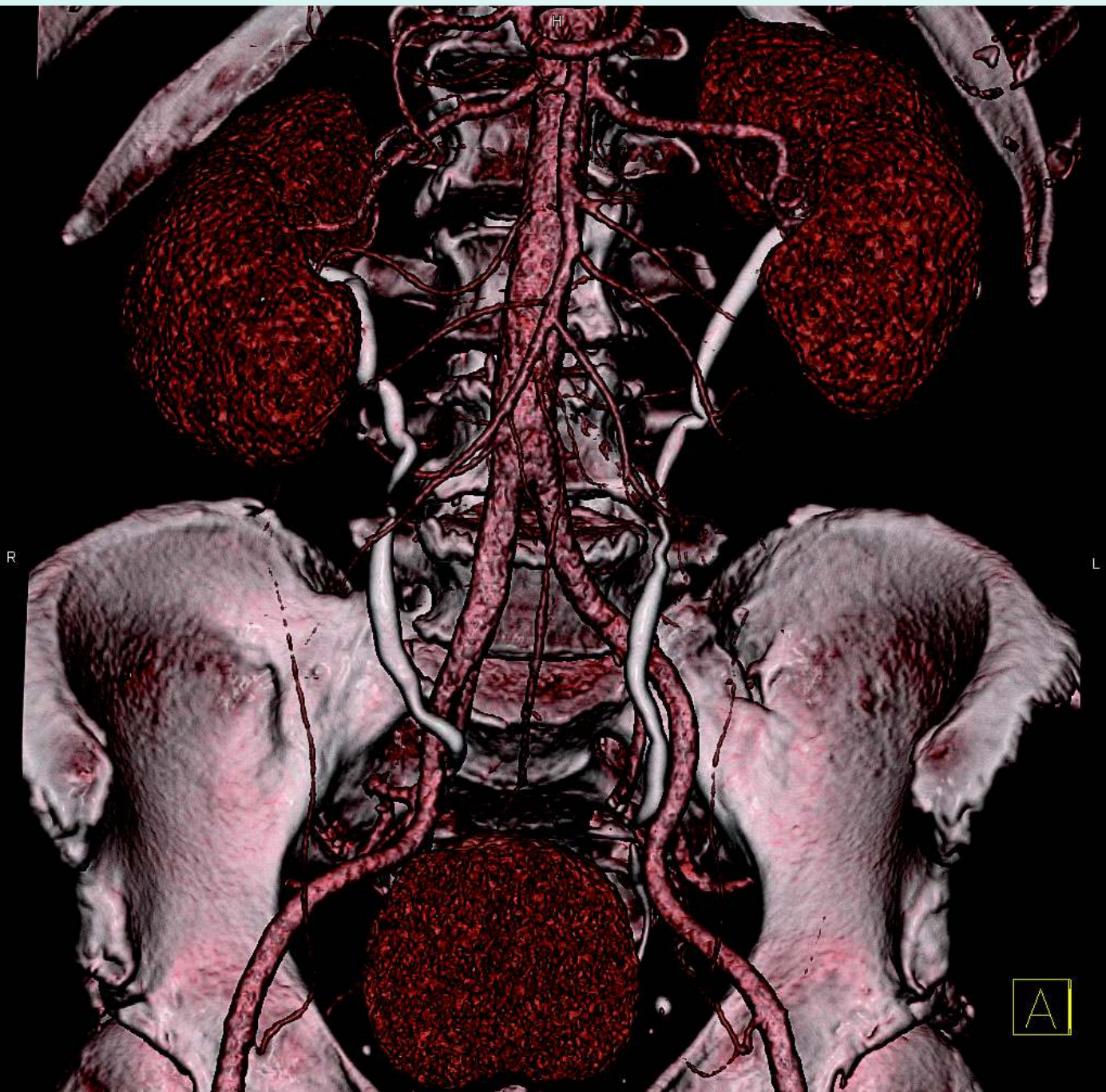


Our new SOMATOM Sensation demonstrates leadership in innovative technology and clinical applications never before achieved. A significant improvement in visualization of the finest details, in combination with fast acquisition speed and simplified workflow, is what physicians expect from the latest CT technology. SOMATOM Sensation meets these requirements by combining Siemens' unique STRATON® X-ray tube, revolutionary z-Sharp™ Technology and comprehensive CT Clinical Engines – pushing the boundaries of temporal and spatial resolution to new levels and reducing the time needed for confident diagnoses.

Both the 40- and 64-slice configurations of our award-winning SOMATOM Sensation offer the industry's highest routine isotropic resolution of below 0.4 mm, visualizing the smallest pathology and finest anatomical structures with exceptional quality, whether complex inner-ear bones or the finest vessels of the coronary tree. SOMATOM Sensation provides comprehensive CT Clinical Engines, allowing you to perform everything from fast and confident diagnosis to comprehensive reporting in only a matter of minutes. With the fastest gantry rotation speed available of 0.33 seconds and high volume coverage, SOMATOM Sensation allows you to not only examine the entire vascular system without venous contamination, but also to robustly image the heart and the coronary arteries in only a few seconds. Additionally, you can perform accurate stenosis measurements and stent planning. And all this at the lowest possible dose, due to our CARE solutions. Our computer-assisted reading tools also enable early detection, fast evaluation, and precise follow-up of malignant disease – with all information available at the scanner before the patient is off the table.

Invest in a future-proof product platform, feel the pulse of innovation, and experience first-hand the meaning of high performance in CT – SOMATOM Sensation.

Benchmark in Clinical Performance





Unprecedented Image Quality and Detail

Obtain up to 64 slices per rotation with previously unknown sharpness, diagnostic detail, and clarity with the industry's highest routine isotropic resolution of below 0.4 mm.

Fastest Single Source CT Imaging

Routinely scan a thorax using submillimeter collimation in only 4 seconds* or virtually freeze the heart's motion with the industry's fastest gantry rotation time of 0.33 seconds.

Lowest Patient Exposure


Reduce dose up to 68%* while maintaining optimal image quality with Siemens' unique CARE solutions.

Diagnostic Speed and Confidence in CT

Enhance clinical performance and substantially reduce processing time with our CT Clinical Engines, the intelligent combination of workflow solutions and advanced applications.





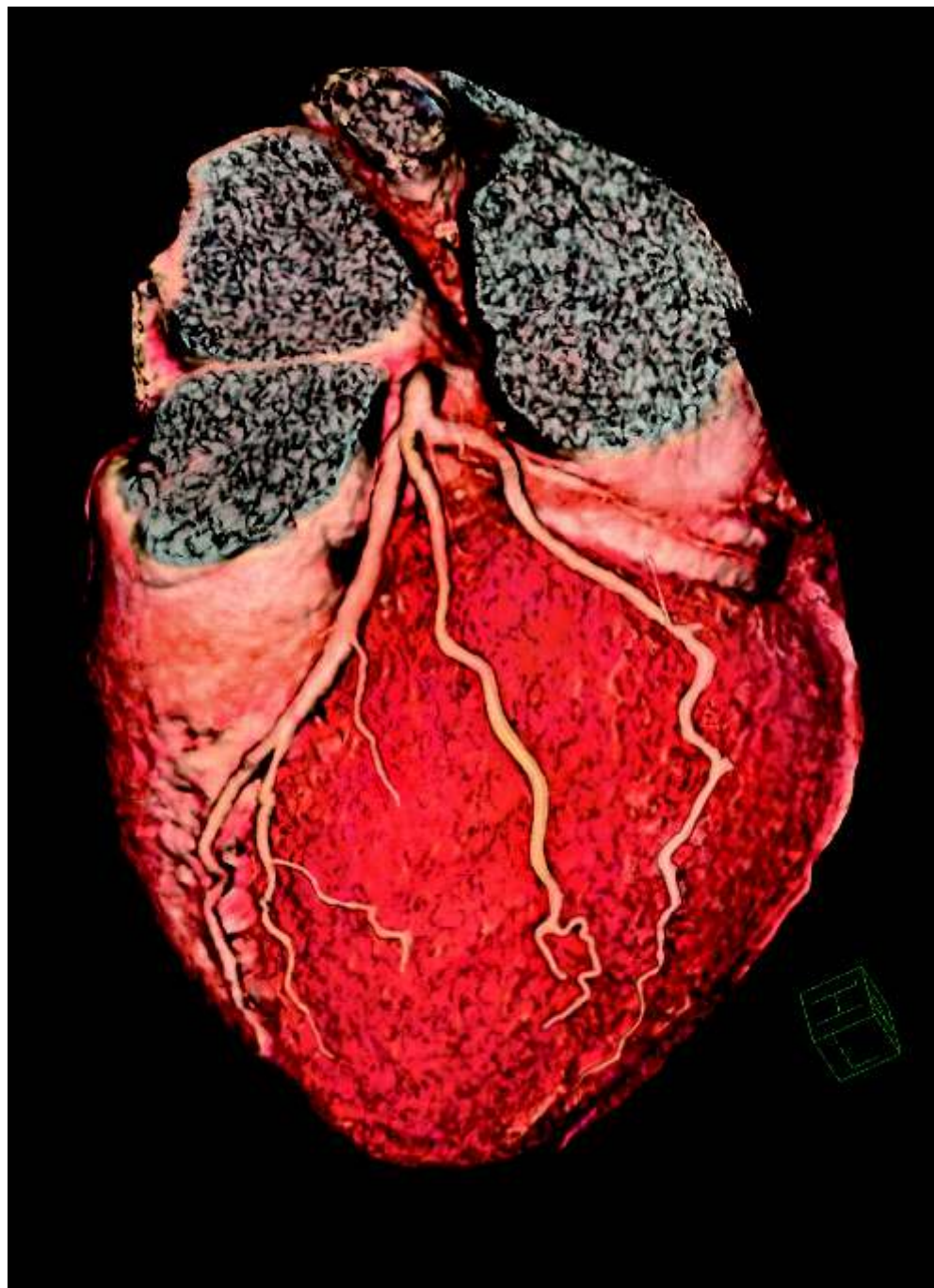
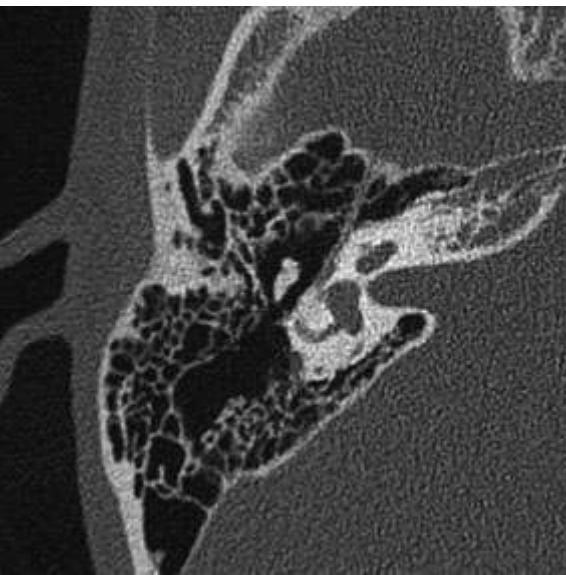


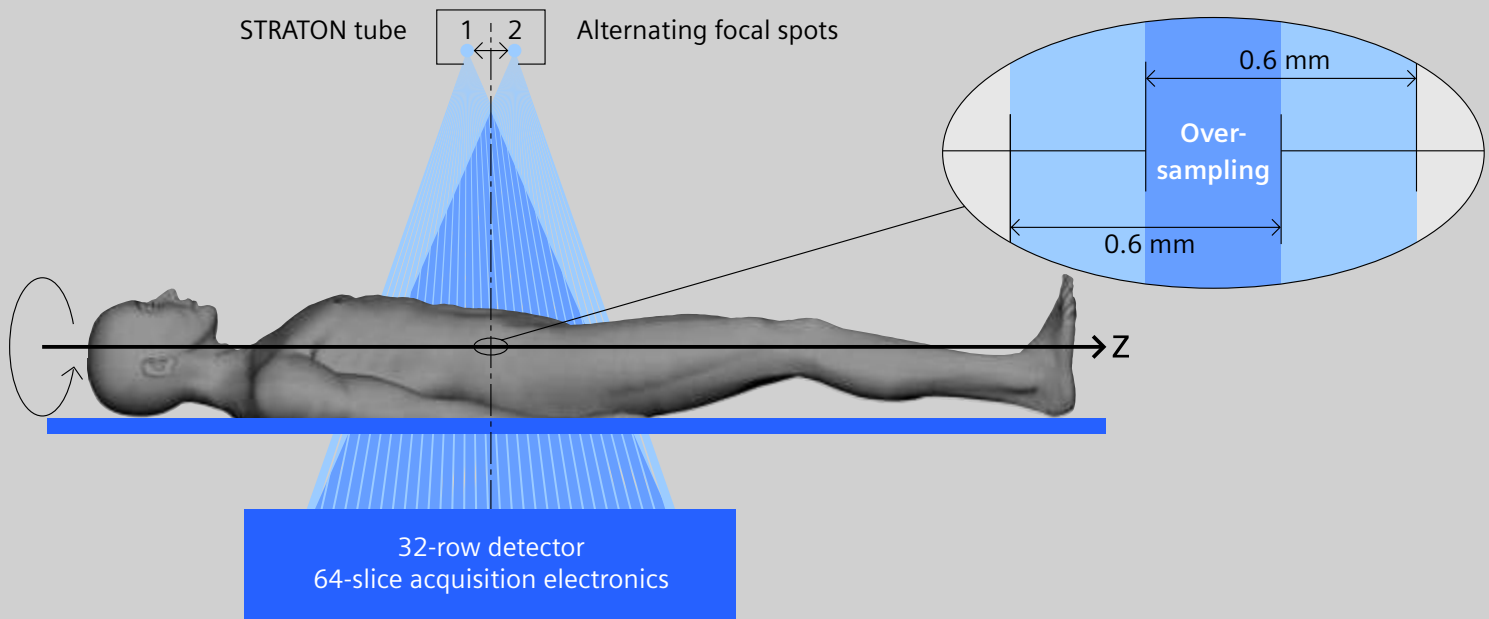
“SOMATOM Sensation with z-Sharp Technology impresses with its ability to accurately visualize small atherosclerotic lesions and side branches in the coronary arteries; coronary calcium is clearly separated from coronary lumen.

High resolution and low noise really make a difference in the assessment of coronary arteries by CT.”

Stephan Achenbach, MD,
Department of Internal Medicine II,
University Erlangen-Nuremberg,
Erlangen, Germany

Unprecedented Image Quality and Detail





Siemens always aims to offer you the perfect solution for your clinical work. The most decisive factor is image quality. We know that only the sharpest CT images showing the finest diagnostic detail and clarity give you the confidence you need for an accurate and reliable diagnosis. This is why we equipped SOMATOM Sensation with a combination of Siemens' proprietary cutting-edge technologies, providing CT images with previously unknown sharpness, diagnostic detail, and clarity.

Instead of decreasing the detector elements' size necessary for improving the spatial resolution, z-Sharp Technology utilizes two overlapping X-ray beams resulting in a significantly increased resolution without a corresponding increase in dose. It provides you with the industry's highest isotropic resolution of below 0.4 mm at any scan and rotation speed and at any position within the scan field. Additionally, z-Sharp Technology provides previously unknown sharpness and clarity with complete elimination of visible spiral artifacts. The finest anatomical details – such as the entire coronary artery tree or the finest vascular structures – are now shown in high quality images without compromise.

With our proprietary z-UHR Technology, we push the boundaries of spatial resolution even further. For ultra-high resolution bone imaging, such as wrist, joint or inner ear studies, z-UHR provides unparalleled 0.24 mm isotropic resolution – until now seen only with research flat-panel and Micro CT technology.

Both z-Sharp and z-UHR Technology enable you to visualize unprecedented diagnostic detail, as you have never seen before.

Clinical Benefits:

- Previously unachieved image quality with 40 or 64 slices per rotation.
- Visualization of smallest anatomical structures with the industry's highest isotropic resolution of below 0.4 mm at any scan speed and any position within the scan field.
- Exceptional image quality with complete visible spiral artifact elimination.
- Ultra-high resolution bone imaging with 0.24 mm isotropic detail.





“STRATON’s unique direct cooling and the resulting gantry rotation speed, the fastest on the market, provide us with consistently highest image quality.”

Jonathan Goldin, MD,
University of California,
Los Angeles, USA

Fastest Single Source CT Imaging

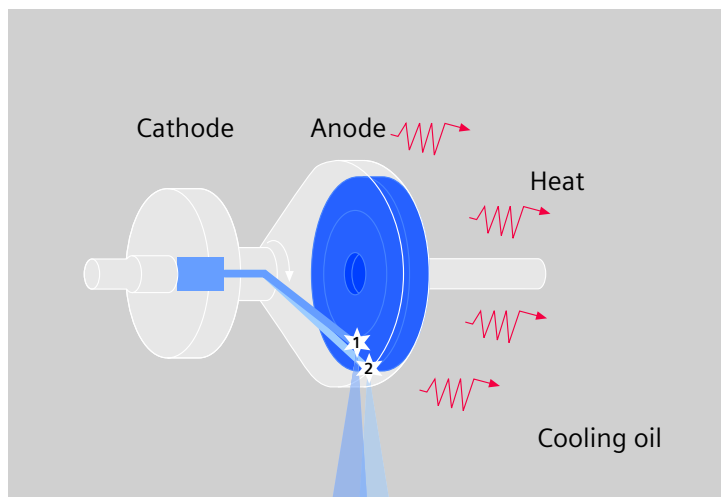
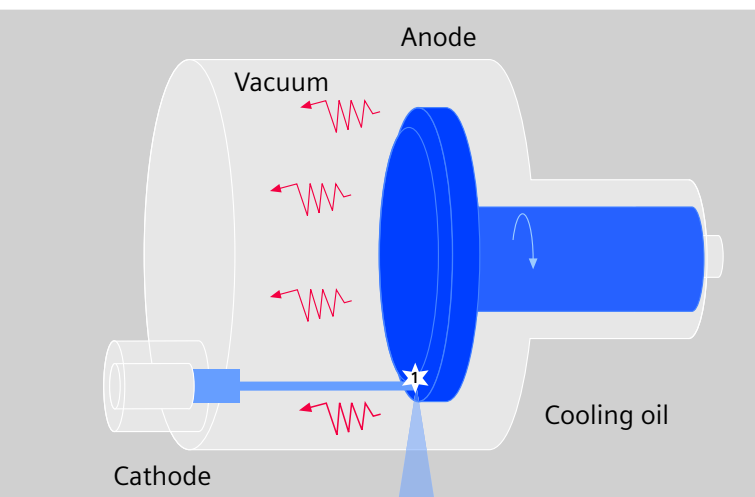


STRATON X-ray tube and mobile phone shown in comparison.



Conventional anode heats up quickly and cools down slowly after exposure.

Due to real-time anode cooling, STRATON never accumulates heat during exposure.



Taking our role as innovation leader seriously, we aim to revolutionize CT in every aspect. Our goal is to give you the latest and most advanced technology, like our proprietary STRATON X-ray tube that enables the industry's fastest gantry rotation time, resulting in imaging free of motion artifacts.

Our unparalleled 0 MHU STRATON X-ray tube is a paradigm shift in CT imaging. It offers you the combination of maximum speed and exceptional image quality. The tube's direct anode cooling eliminates the need for heat storage capacity, permitting a compact design and the industry's fastest CT gantry rotation time of 0.33 seconds for all applications. You will not experience cooling delays, even after long range scans or scanning obese patients.

By selecting SOMATOM Sensation, you get great performance in CT.

Clinical Benefits:

- Industry's fastest gantry rotation speed of up to 0.33 s per rotation for robust and motion artifact free cardiac imaging.
- Fastest submillimeter scanning with up to 87 mm/s for increased diagnostic confidence.
- Virtually unlimited power reserves provide 80/100 kV imaging without usual mA limitations, increasing soft tissue contrast visualization while reducing dose.
- 0 MHU anode heat storage capacity combined with the unique cooling rate of 5 MHU/min eliminates any cooling delays and maximizes patient throughput.





“CARE Dose4D and its real-time mA adjustment provides best image quality at the lowest dose. Based on a 1,000 patient study we achieved up to 68% dose reduction in comparison with fixed mA while maintaining excellent image quality.”

Tom Mulkens, MD,
Heilig Hart Ziekenhuis Hospital,
Lier, Belgium

Lowest Patient Exposure

The desire for as little radiation exposure as possible lies at the heart of our CARE research and development philosophy. Based on this, we have developed a wide range of dose-reduction solutions that provide exceptional image quality at the lowest possible dose.

With SOMATOM Sensation, saving dose starts right at the point where image data is acquired – the Ultra Fast Ceramic (UFC™) detector. This highly efficient detector requires the smallest possible dose to deliver exceptional image quality. Another breathtaking example of our focus on CARE is our exclusive CARE Dose4D™ – an unparalleled combination of maximum image quality at minimum dose. Because every patient is unique in terms of size, weight, and anatomy, we have developed a fully automated dose management system. The tube current is adapted in real-time to the anatomy of each individual patient's organ. By using this automated dose management your patients will benefit from a dose reduction of up to 68%*. Additionally, ECG-pulsing, our innovative heart rate-controlled dose modulation, applies the dose necessary for excellent cardiac images during the diastolic phase, resulting in a cardiac dose reduction of up to 50%*. What's more, you personally gain from our CARE solutions as well. With HandCARE™, for instance, the tube's current is automatically switched off to avoid direct X-ray exposure to your hands during CT-guided interventions.

The combination of our CARE solutions significantly reduces dose while providing exceptional image quality.

SOMATOM Sensation opens the door to a higher level of patient care – setting the benchmark in CT performance.

Clinical Benefits:

- CARE solutions provide lowest possible dose while preserving exceptional image quality.
- Siemens' proprietary UFC detectors provide up to 30%* dose reduction compared to conventional CT scanners.
- CARE Dose4D provides up to 68%* dose reduction compared to fixed mA examinations.
- ECG-pulsing enables up to 50%* dose reduction compared to cardiac CT with constant mA.
- HandCARE yields dose savings up to 70%* to physician's hands during CT-guided interventions.

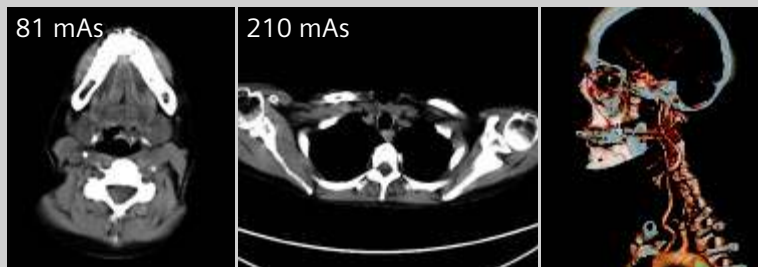
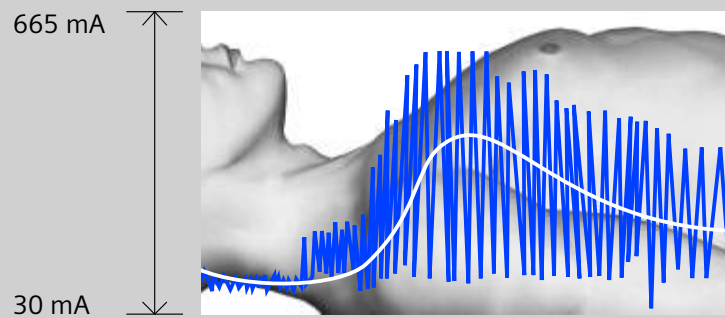
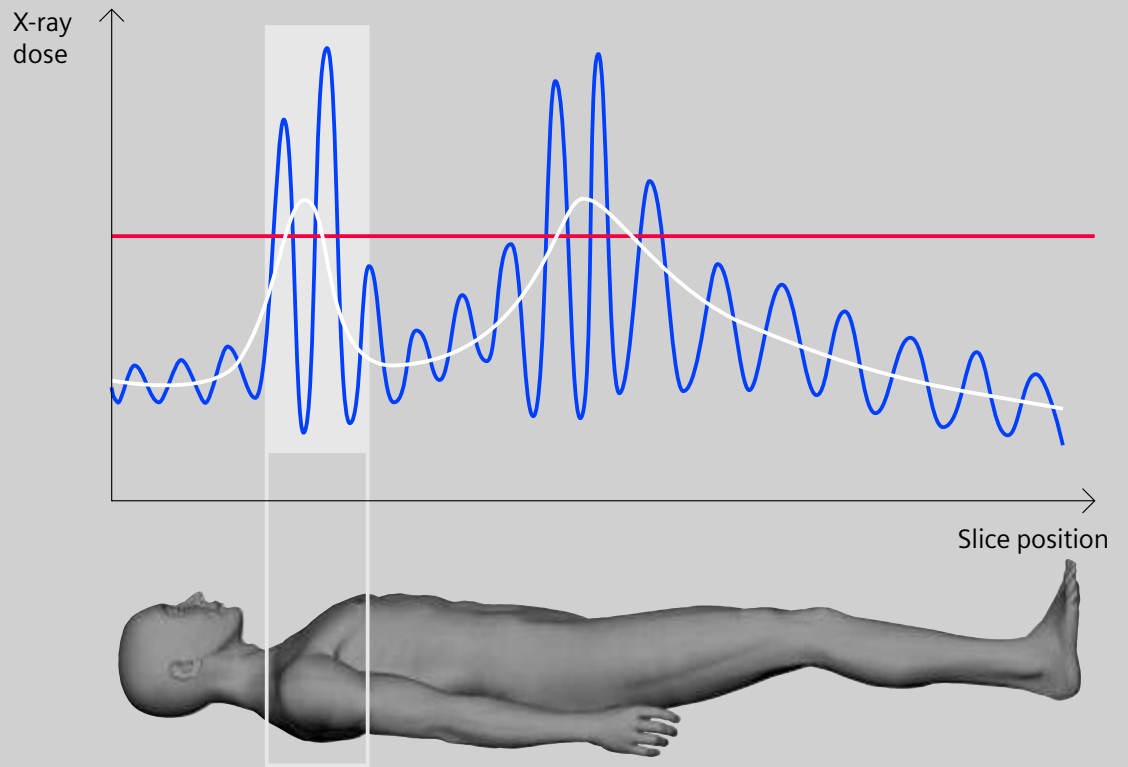
*Available functionality depends on system configuration.
* Results may vary. Data on file.*

Advantage of CARE Dose4D at a glance: only the radiation that's really needed is applied to your patient – not more, not less.

Scan with constant mA

Reduced dose level based on topogram

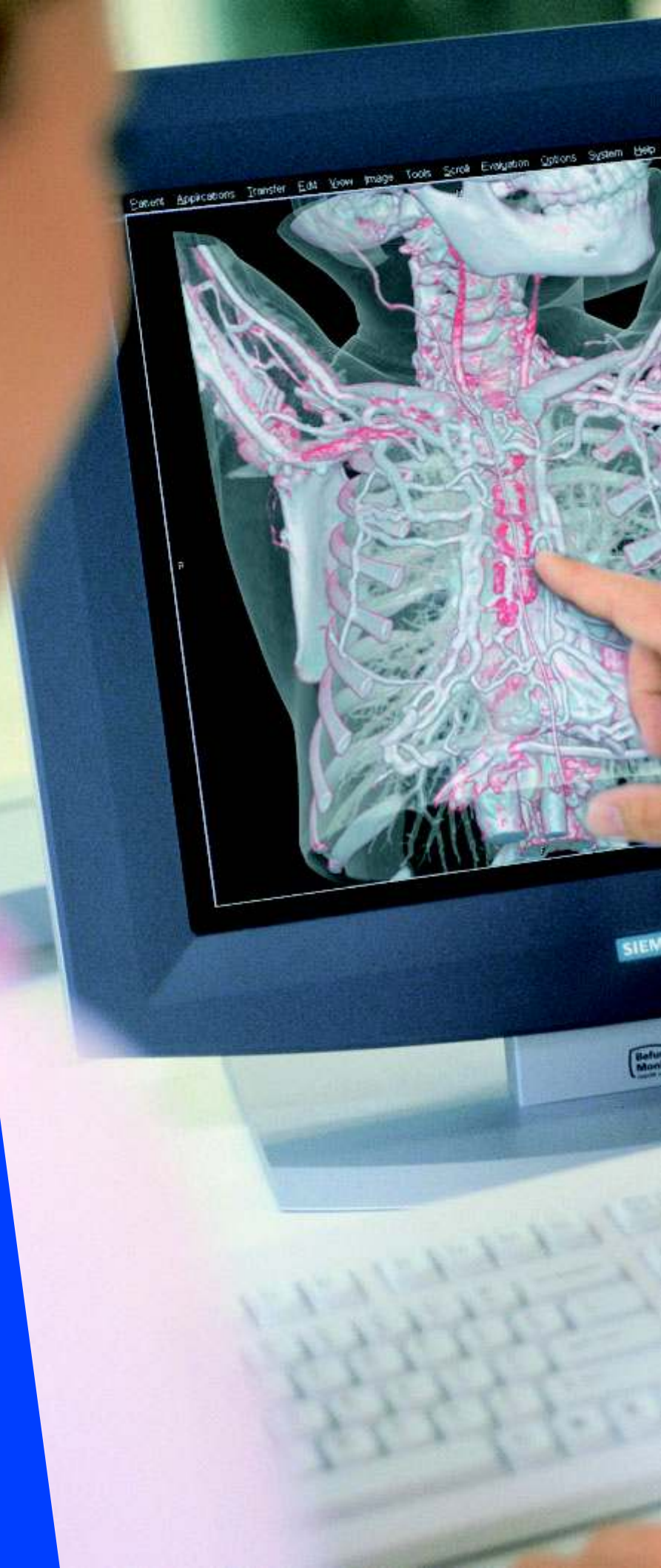
Real-time angular dose modulation



Available functionality depends on system configuration.

Elliot K. Fishman, MD,
Director Diagnostic Radiology
and Body CT,
The Johns Hopkins Hospital,
Baltimore, USA

“In my opinion,
what makes
Siemens CT so
special, is the
seamless
integration of
high image
quality with
superb clinical
workflow.”



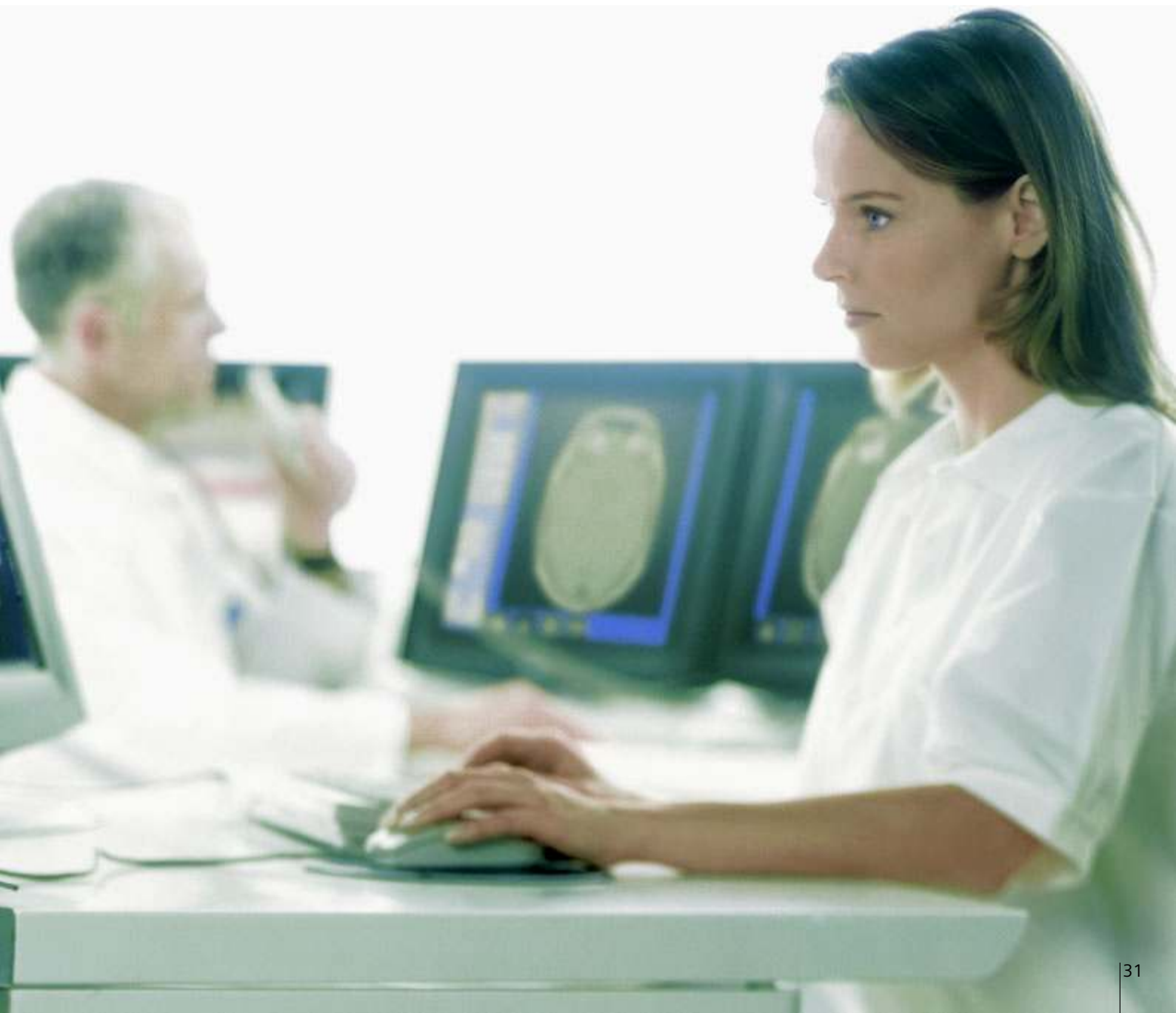


syngo – It's All About You

syngo[®], our unique solution for the diagnostic and therapeutic cycles, knows how you work. What you need. What's most important. Fast, easy, and intuitive, *syngo* brings together all of the solutions critical to you – and your patients. Uniquely role-based for your workflow, *syngo* completely integrates your day, your department and beyond. Leading to a whole new level of clinical excellence. And a partnership you can grow with. It's the beginning of a virtualized, "always on, anywhere" world of healthcare.

The time to *syngo* is now.





CT Clinical Engines – Diagnostic Speed and Confidence in CT

Our new generation of CT Clinical Engines provides you with the optimal clinical configuration for a CT designed to simplify your clinical workflow. Focus on delivering exceptional clinical outcomes with speed and increased diagnostic confidence. CT Clinical Engines are a unique combination of Siemens' innovative CT technology and *syngo* solutions – intelligently integrated into clinical solutions. They are available for oncology, neuro, cardiovascular, and acute care imaging in order to maximize the clinical performance of your SOMATOM Sensation.

With CT Clinical Engines, you benefit from synergy across your entire clinical workflow – with everything you need for optimal image acquisition and quality, exceptional visualization, comprehensive evaluation, robust quantification, and flexible reporting, all in one intuitive *syngo* environment.

The CT Oncology Engine provides high precision scanning – vital for highly sensitive tumor staging – together with excellent tools for early detection, evaluation, follow-up, and biopsy of tumors from head to toe. For time-critical neuro exams, the CT Neuro Engine delivers the scan speed, high image quality, and fully automated diagnostic workflow you need for stroke, intracranial bleeding, and other brain evaluation treatment planning. The CT Cardiac Engine delivers the exquisite image quality and automated evaluation tools you need for non-invasive cardiovascular diagnosis and interventional planning. The CT Acute Care Engine delivers high speed, reliable scanning and fast interactive access to image data for emergency and trauma exams.

The outstanding performance of the CT Clinical Engines is driven by *syngo* CT.3D – automatic image reconstruction and interactive 2D, 3D, and 4D postprocessing tools configured on a powerful *syngo* MultiModality Workplace. Build on your *syngo* CT.3D – choose one or more CT Clinical Engines for one or multiple workplaces, creating a *syngo* workplace world that is configured to meet the demands of your clinical environment.

Diagnostic speed and confidence with CT Clinical Engines – the easy way to answer complex clinical questions.



syngo CT.3D offers you flexibility to configure a workplace or multiple workplaces in addition to your *syngo* Acquisition Workplace. *syngo* CT.3D is a unique, powerful workflow solution designed for maximum speed and efficiency for image reconstruction, reformatting, and postprocessing. It combines the flexible tools you need to handle high exam volumes, large datasets, and faster scan times for interactive *syngo* 2D, 3D, and 4D image processing.

You can choose from two configurations of *syngo* CT.3D: a dedicated CT workplace configuration or a multi-modality workplace configuration. Whichever configuration you choose, you will benefit from state-of-the-art *syngo* 3D and 4D processing tools. Everything at your fingertips – you will have fast access to viewing, filming, MIP, MinIP, MPR, SSD, VRT modes, 4D interactive, image fusion, and bone removal tools for easy everyday use. Both configurations can be enhanced by a selection of *syngo* clinical application solutions, depending on your clinical needs.

A dedicated *syngo* CT Workplace configuration offers you the possibility to maximize your postprocessing throughput, offering remote direct 3D reconstruction – of particular benefit for departments with a high patient throughput or where a high number of multiphase cardiac exams are performed.

A multi-modality configuration is your gateway to the world of CT Clinical Engines. You can configure your *syngo* MultiModality Workplace with one or more CT Clinical Engines, according to your clinical needs. What's more, you can choose from our comprehensive portfolio of *syngo* clinical application solutions for MR, molecular imaging, conventional angiography, and radiation therapy planning. The ultimate flexibility across your entire radiology environment.

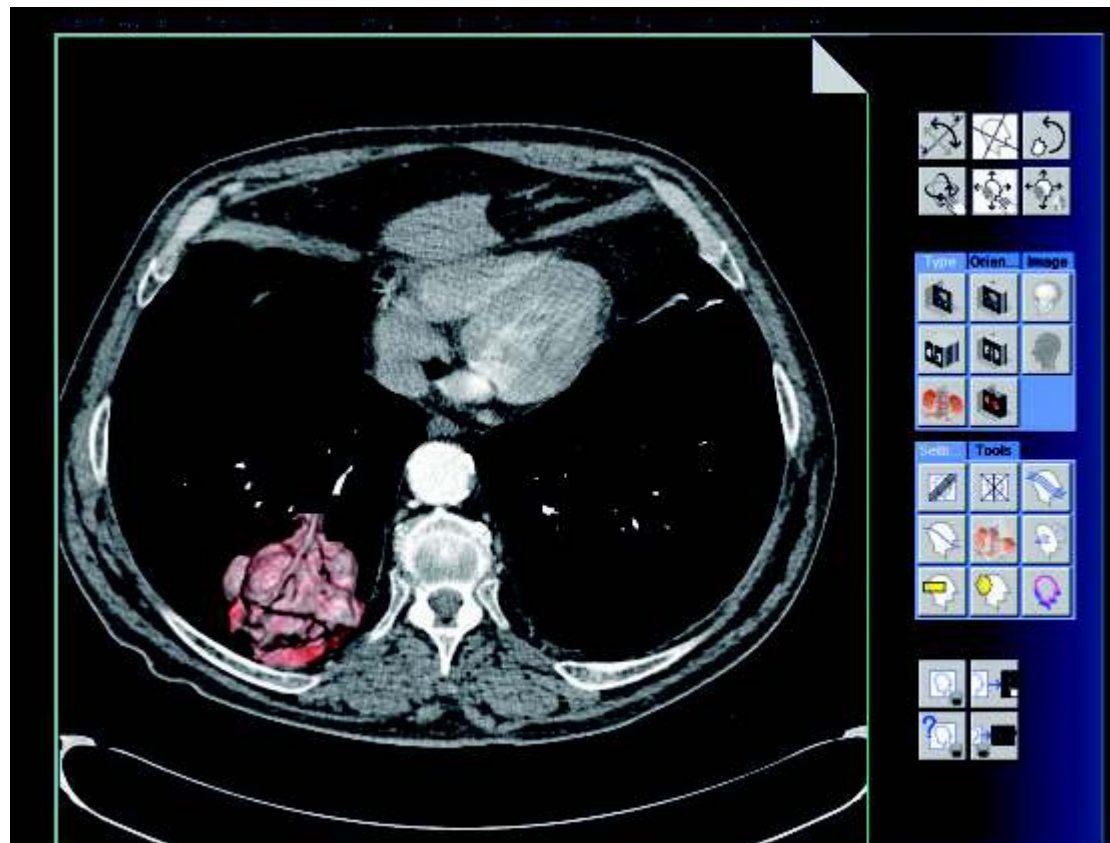
syngo CT.3D – your gateway to a more efficient clinical workflow.



CT Oncology Engine

The CT Oncology Engine offers you a unique combination of the most innovative scanner and *syngo* solutions for diagnostic imaging, evaluation, and follow-up in your diagnostic oncology setting. Our intuitive *syngo* computer-assisted reading tools, combined with intelligent evaluation, automated follow-up, and image guided intervention, offer you a new level of confidence for preventive care, staging, follow-up exams, and real-time guided biopsies. Comprehensive tumor perfusion enables a fast and easy visualization of tumor enhancement and aids you in differentiating tumors. Fusing images from PET or SPECT with high resolution CT images helps you not only to better localize tumors, but also in therapy planning.

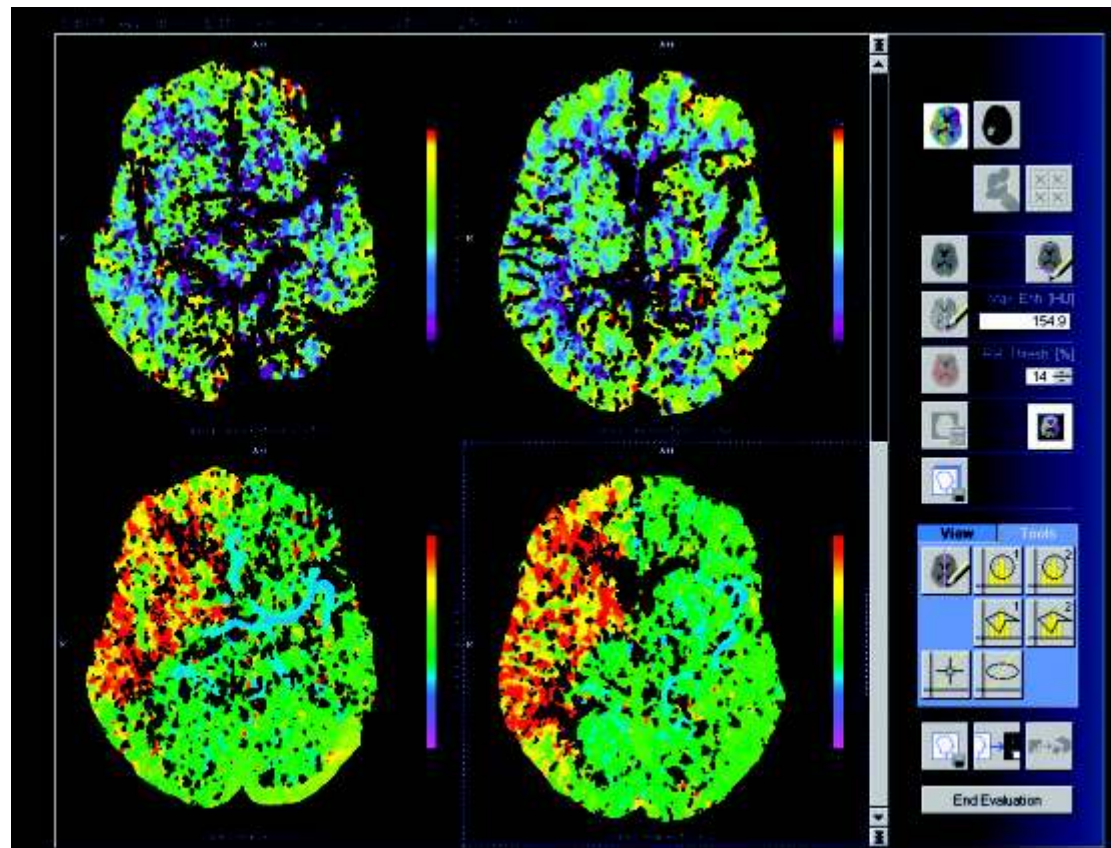
Our solutions for interventional CT extend your clinical spectrum towards differential diagnosis and treatment, turning data into a diagnostic outcome within minutes.



CT Neuro Engine

The CT Neuro Engine delivers the technology required to perform artifact-free imaging with the high spatial and temporal resolution you need for fast and accurate visualization of complex neurological disorders of head, neck, and spine as well as injuries and stroke.

Our unique portfolio of *syngo* automated software tools for neuro CT, will help you deliver excellent diagnostic outcomes – with bone subtraction in neuro CT DSA studies for comprehensive evaluation of complex vascular structures, with fast brain perfusion for stroke patients, and differentiation of brain tumors. Your diagnosis will be fast and confident, turning data into a diagnostic outcome within minutes.



CT Cardiac Engine

From scan to diagnosis, your CT Cardiac Engine covers everything you need to achieve a streamlined cardiovascular workflow. State-of-the-art ECG-synchronized acquisition, image reconstruction techniques and intuitive ECG-editing to exclude extra beats before image reconstruction ensure optimal image quality. The lowest possible dose for your patient's safety is provided with intelligent ECG-pulsing. An innovative, dedicated cardiovascular imaging user interface simplifies your daily workflow and ensures highest throughput.

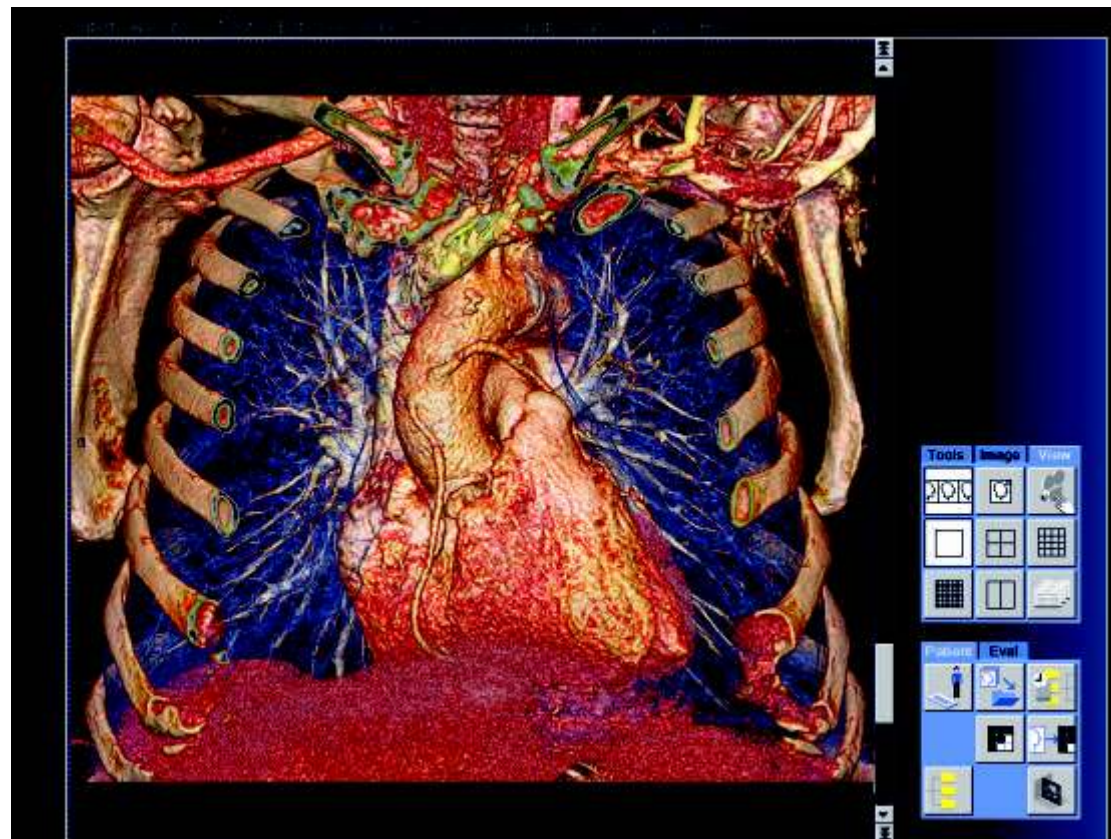
syngo will help you deliver excellent diagnostic outcomes with dedicated software solutions to cover the entire field of cardiovascular imaging. From vascular analysis with accurate stenosis measurement to stent planning. From cardiac morphology to coronary artery stenosis measurement to functional analysis concluding in a comprehensive report, turning data into a diagnostic outcome within minutes.



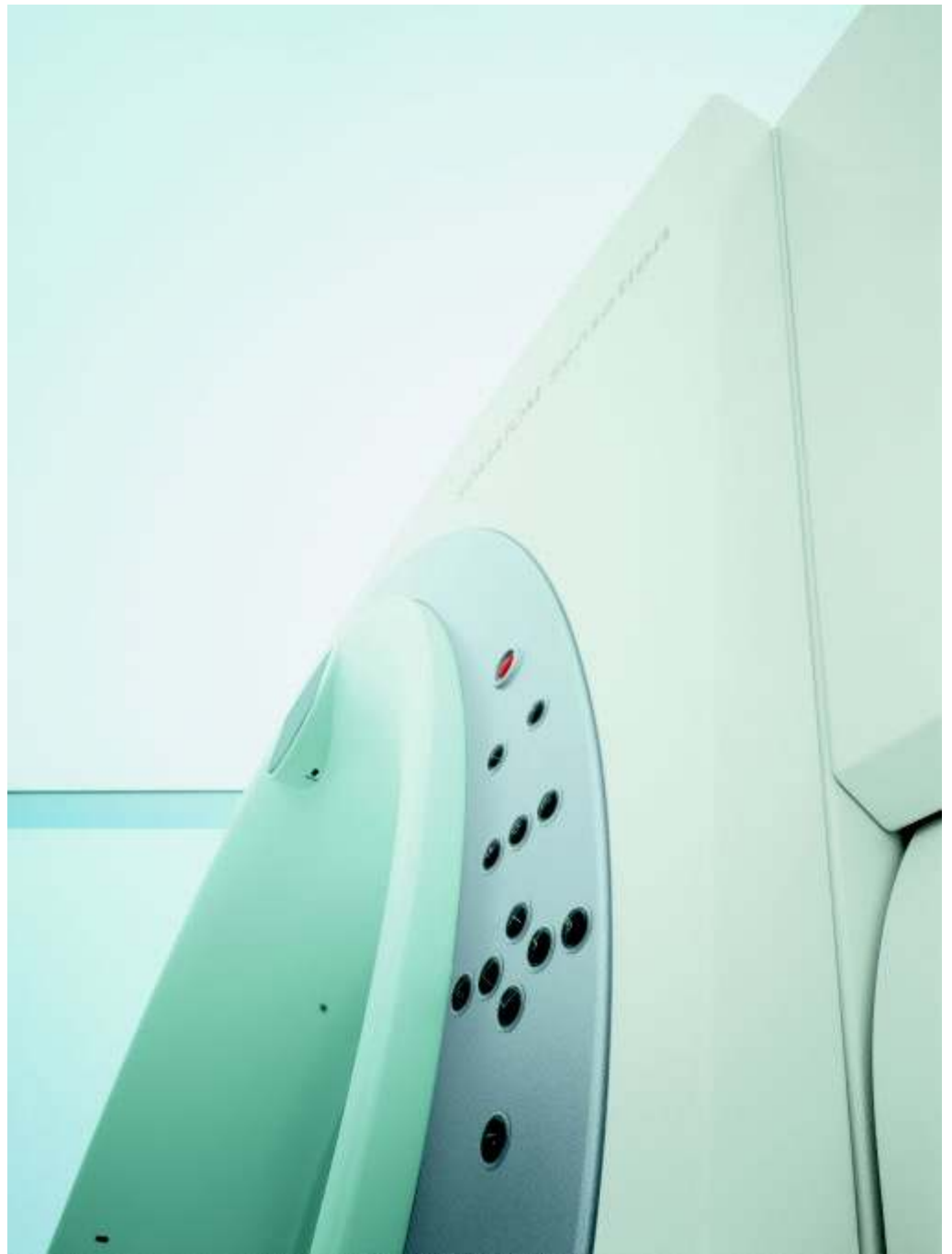
CT Acute Care Engine

In acute care, the requirements for CT imaging are very challenging and diverse – from acute chest pain patients to complex poly-trauma to stroke assessment, every second counts. The CT Acute Care Engine delivers you the complete solution you need to make fast and confident decisions. By combining state-of-the-art functions for cardiac, vascular, and neuro CT imaging, and adding innovative workflow features and high-resolution acquisition, the CT Acute Care Engine provides the complete clinical portfolio for imaging emergency patients from head to toe. Using fast, direct 3D reconstruction, you will be reviewing the images before the patient is off the table.

syngo will streamline your clinical workflow for cardiac, vascular, musculo-skeletal, and stroke evaluation, turning data into a diagnostic outcome within minutes.



Configuration Overview



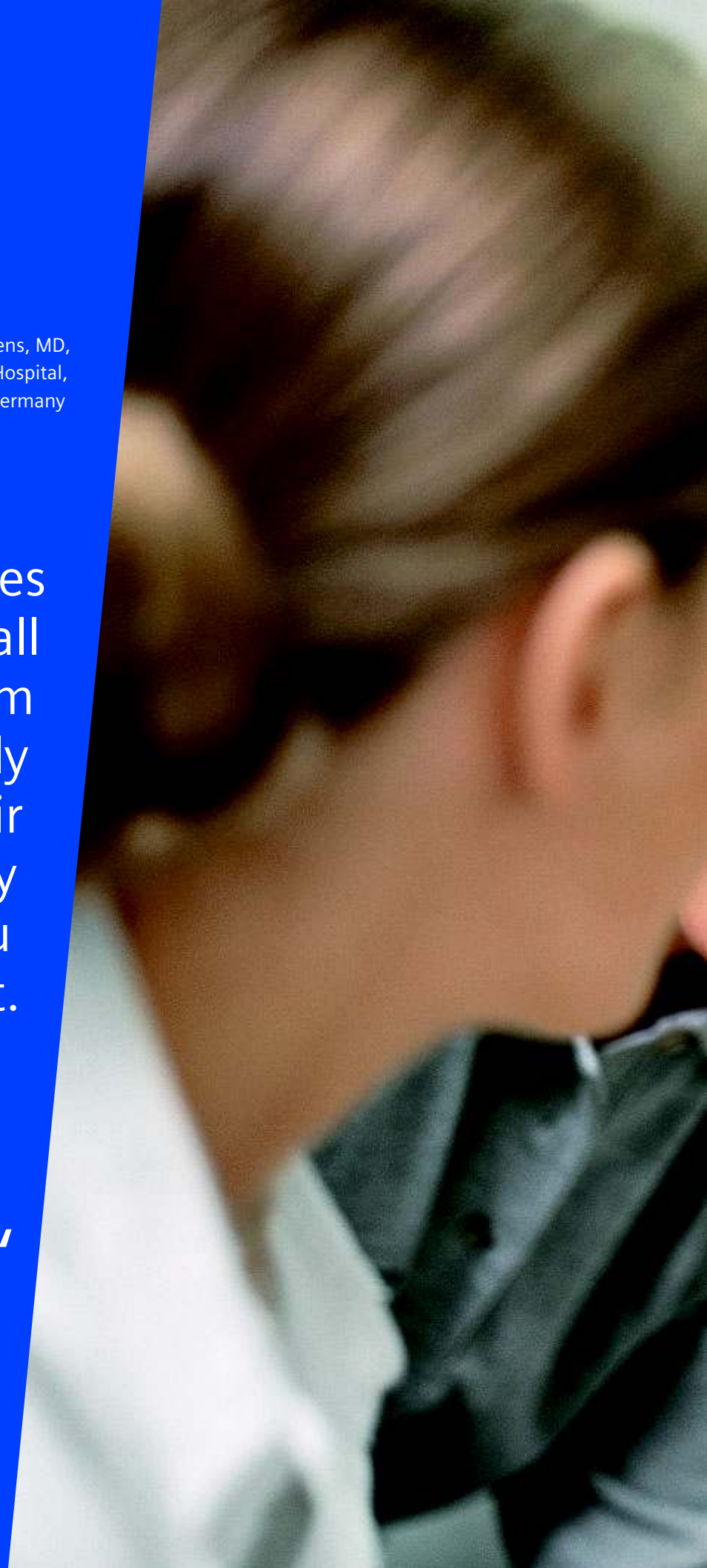
	SOMATOM Sensation 40-slice configuration	SOMATOM Sensation 64-slice configuration
Technical specification		
<i>Ultra high isotropic resolution</i>	–	0.24 mm*
<i>z-Sharp Technology</i>	yes	yes
<i>Industry's highest routine isotropic resolution at any scan speed and any position within the scan field</i>	< 0.4 mm (0.33 mm)	< 0.4 mm (0.33 mm)
<i>Maximum table speed with submillimeter resolution</i>	48 mm/s	87 mm/s
<i>Fastest rotation time</i>	0.37 s	0.33 s*
<i>Data acquisition (slices/rotation)</i>	40	64
<i>0 MHU STRATON X-ray tube</i>	yes	yes
	5 MHU/min cooling rate	5 MHU/min cooling rate
<i>Generator peak power</i>	70 kW	80 kW
CT Clinical Engines*		
<i>syngo CT.3D</i>	yes	yes
<i>CT Oncology Engine</i>	yes	yes
<i>CT Neuro Engine</i>	yes	yes
<i>CT Cardiac Engine</i>	yes	yes
<i>CT Acute Care Engine</i>	yes	yes
syngo Clinical Applications*		
	yes	yes
CARE Solutions*		
	yes	yes

* Optional

Johann-C. Steffens, MD,
Israeli Hospital,
Hamburg, Germany

“What really pleases me is the overall customer care from Siemens – not only regarding their products. They care about you as a client.

And that’s one of many reasons why I chose Siemens.”





Life – Get the Most from Your Investment

Life is the unique customer care solution from Siemens that helps you get the most from your CT investment. From the moment of your purchase, Life surrounds you with an array of programs and support that enables the continuous development of your **skills, productivity, and technology**. Allowing you to broaden your capabilities. Increase profitability. And take patient care to the next level.

Skills

Maximizing your skills and clinical know-how is the central key for getting the most out of your system. Life, our customer care solution helps you with a full range of learning programs – from start up training and application support to clinical training. And because we have designed Life to adapt to your needs at all times, you can learn online or offline, onsite or offsite – or from our clinical partners in workshops, fellowships, and at symposia.

Productivity

Our aim is to help you run your system at peak performance every day. This is why Life provides you with a comprehensive and individual range of assistance that assures your system's availability from safety checks and pro-active remote services to updates and spare parts. Additionally, Life supplies you with analytic tools to assess performance and utilization data* in order to maximize uptime, increase patient throughput, and optimize system utilization. Because we want to help you improve your system's performance.



Technology

Keeping you at the technological and clinical cutting-edge is what we designed Life for. So you can easily keep on top of software and computer hardware upgrades and updates. Because we want you to benefit from the latest workflow improvements, clinical applications, and diagnostic functions – in addition to the most advanced computer technology. What's more, we let you try out the latest, most promising clinical developments before you buy. And when it's time to upgrade, Life helps you make an effortless transition to the new platform.



SOMATOM LifeNet*

SOMATOM LifeNet is our unique information and service portal. Designed to help you in your daily work, it connects your CT scanner console directly with Siemens via an Extranet. This enables you to easily access information and services immediately from your console – including Frequently Asked Questions, learning programs, and the possibility to download the newest scan protocols. Additionally, as a SOMATOM LifeNet user you are able to receive many of our new software applications for a 90-day trial period, free of charge, and with the option of future purchase.

Take advantage of the many services of SOMATOM LifeNet and profit from an easier work routine.

Siemens Remote Service

Siemens Remote Service (SRS) offers you an efficient and comprehensive infrastructure for the entire spectrum of remote services for your CT scanner. Your benefits? Services that formerly required onsite visits are now easily available via data transfer. And some of our remote services guarantee maximum system availability and continuous support in your daily work routine.

* Powered by Siemens Remote Service.

Werner A. Bautz, MD,
Chairman, Department of Diagnostic Radiology,
University Erlangen-Nuremberg,
Erlangen, Germany



“Imaging of this quality, sharpness, and speed gives us the opportunity to study the human anatomy at a level that has only been dreamt about.”





Proven Outcomes.

This is what Siemens is helping to deliver right now. Outcomes that result from truly efficient workflow. Outcomes that improve your bottom line. Outcomes that lead to a level of care that feels exceptional to both the patient and the care provider. Proof positive of the value of integrating medical technology, IT, management consulting and services. In a way that only Siemens can.

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

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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www.siemens.com/medical-accessories

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Solutions that help

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