



Changing views in CT

SOMATOM Edge Plus

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[siemens.com/somatom-edge-plus](https://www.siemens.com/somatom-edge-plus)

SIEMENS
Healthineers

Improving accuracy and advancing therapy results with CT

The number of people aged 60 years and older is expected to increase by 1.1 billion from 2015 to 2050¹ and will impact healthcare costs substantially. Furthermore rising expenditures and the need for more outcome oriented healthcare are putting reimbursement rates under pressure.

Today Computed Tomography is one of the most established modalities in diagnostic imaging. However, the pressure to reduce expenses remains high, resulting in an ever-increasing need for standardization and accuracy. At the same time, obesity and an aging patient population pose growing challenges to image quality and efficiency. So how can radiologists routinely get accurate images and – whenever possible – additional information in order to make confident decisions?

SOMATOM Edge Plus – Changing views in CT



Changing views on patient diversity – with personalized scanning

Increase your offerings to referrers: Scan virtually all patients with diagnostic confidence – including obese patients, children, and patients unable to cooperate.



Changing views on clinical paradigms – with advanced imaging

Improve your reputation with new levels of diagnostic insight – like functional information and tissue characterization – acquired with no dose or time penalty.



Changing views on patient positioning – with automated workflows

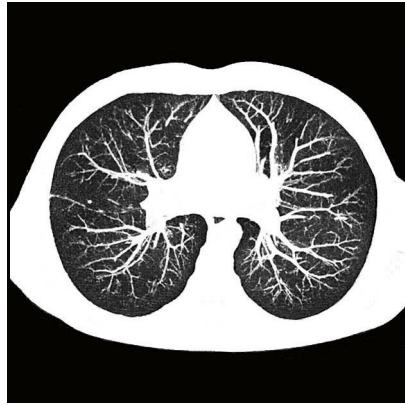
Save time and achieve consistent results – with intelligent automation for fast and precise patient positioning, scanning, and postprocessing.

Can you choose your patients?

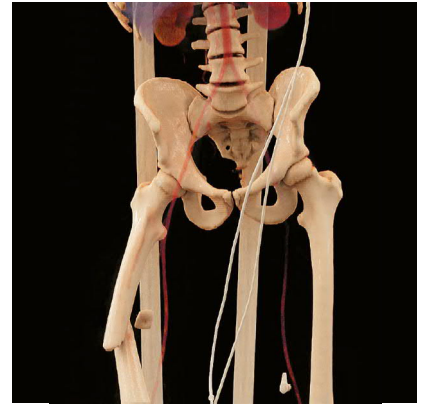
No two patients are the same, and some aren't easy to scan – but referring physicians and ordering clinicians expect you to accommodate all of their patients and deliver high-quality results.



Get powerful images of obese patients
SOMATOM Edge Plus smartly combines the Straton MX Sigma X-ray tube, High Power reserves throughout the entire spectrum from 70 to 140 kV in 10 kV Steps, and the Stellar^{Infinity} detector.



Gently scan the dose-sensitive ones
SOMATOM Edge Plus helps you achieve your dose goals with a valuable set of dose-reducing technologies: from the unique Tin Filter technology to the ability to process even low signals to the CARE Child solution set.



Freeze motion when your patient can't
SOMATOM Edge Plus combines High Power reserves enabling fast rotation at 0.28 s with high coverage of up to 23 cm/s in clinical routine, resulting in outstanding image quality in emergency cases.

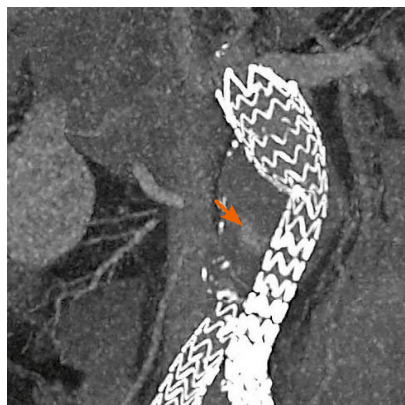
Are you getting the most profound diagnostic information possible?

Today tin-filtered scanning brings native CT scanning to dose levels similar to conventional X-ray. Dynamic and quantitative CT imaging offer proven advantages; however, they still aren't routine clinical tools.



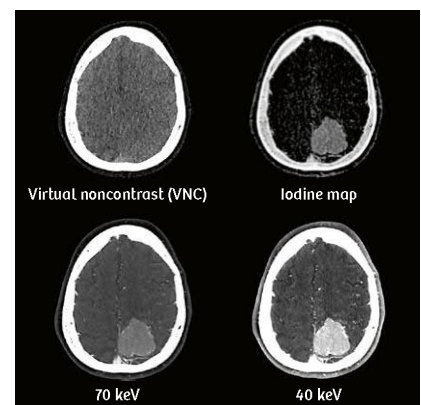
See more than ever before with tin-filtered scanning

SOMATOM Edge Plus helps you to deliver excellent results at dose levels comparable to conventional X-ray – for example, in noncontrast studies like lung and colon screening as well as orthopedic and sinus scanning.



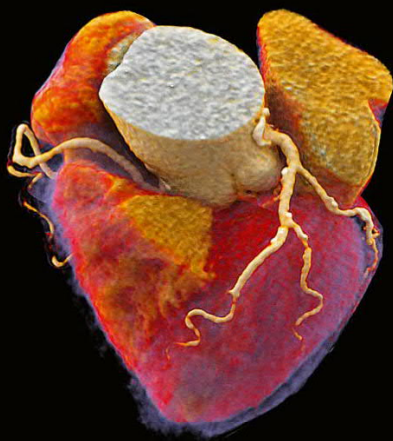
Add dynamic imaging to your clinical routine

SOMATOM Edge Plus helps you deliver the right dose and optimize contrast-to-noise ratios. Long dynamic ranges up to 48 cm allow scanning of all anatomical regions to generate dynamic information.



Get advanced quantitative information with no dose penalty

SOMATOM Edge Plus is equipped with unique TwinBeam Dual Energy technology, low-dose technologies, and low signal imaging – your keys to leveraging Dual Energy scanning in the clinical routine with no dose penalty.



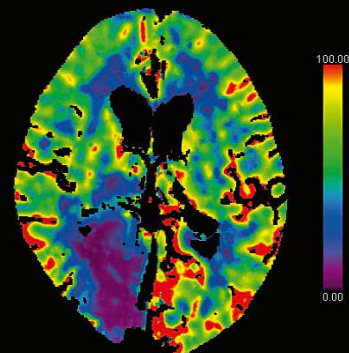
Cardiac imaging, 71-year-old female with chest pain; fast rotation time of 0.28 s and Stellar^{infinity} detector enable impressive cardio images²



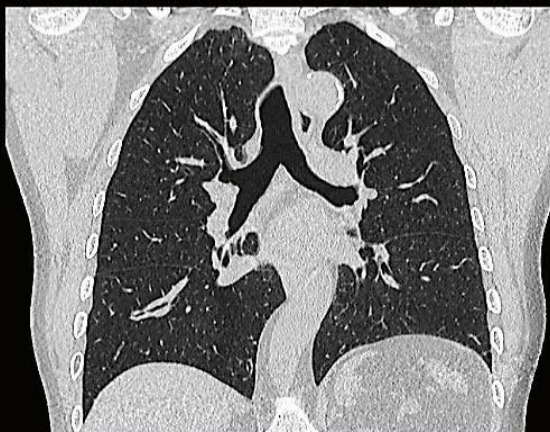
Body CTA, high-quality body CTA enabled by High Power 80²



CTA run-off, 54-year-old male, long run-off using High Power 80²



Neuro imaging, stroke case of 84-year-old female; volume perfusion scan enabled by Adaptive 4D Spiral showing perfusion deficit. Zero-click postprocessing thanks to Rapid Results Technology²



Thorax imaging, 61-year-old male thorax scan; high image quality and no motion artifacts using high rotation times and Stellar^{infinity} detector with integrated iterative reconstruction²



Bone UHR, ultra-high-resolution scan of wrist enabled by z-UHR combination²

How can you reduce unwarranted variations?

Accurate patient positioning is essential for safe, error-free CT imaging with no rescans and time loss. However, users are as individual as patients, and so the quality of results can differ enormously. The FAST Integrated Workflow helps technologists acquire the right body region at the right dose – in a reproducible way.

Make precise positioning your standard



Starting with 3D measurement

FAST 3D Camera captures the patient's shape, position, and height in three dimensions using infrared measurement.



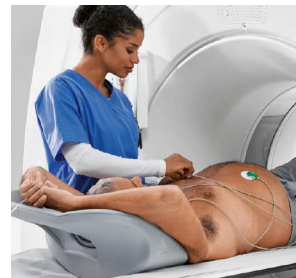
Calculating with accuracy

Algorithms use the measured data to calculate body regions, patient direction, table height and patient thickness.



Automating precision

Specialized applications support accurate and reproducible positioning.



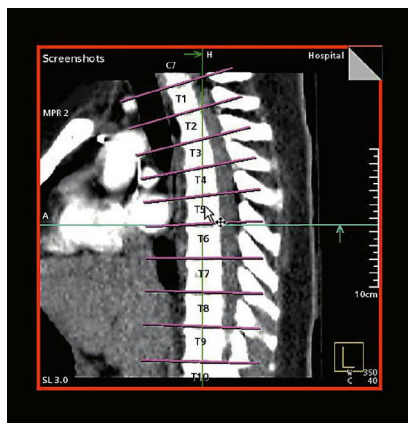
Staying in control – closely to your patients

Technologists can improve patient interaction with two front-side and two optional back-side Touch Panels.



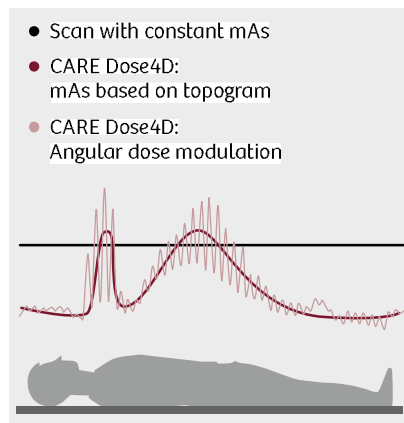
Safeguard correct and consistent positioning

The FAST 3D Camera in conjunction with FAST applications helps your team provide first-time-right scans, manage tight schedules, and potentially examine more patients. The Touch Panels allow you to stay close to your patients.



Optimize your process efficiency

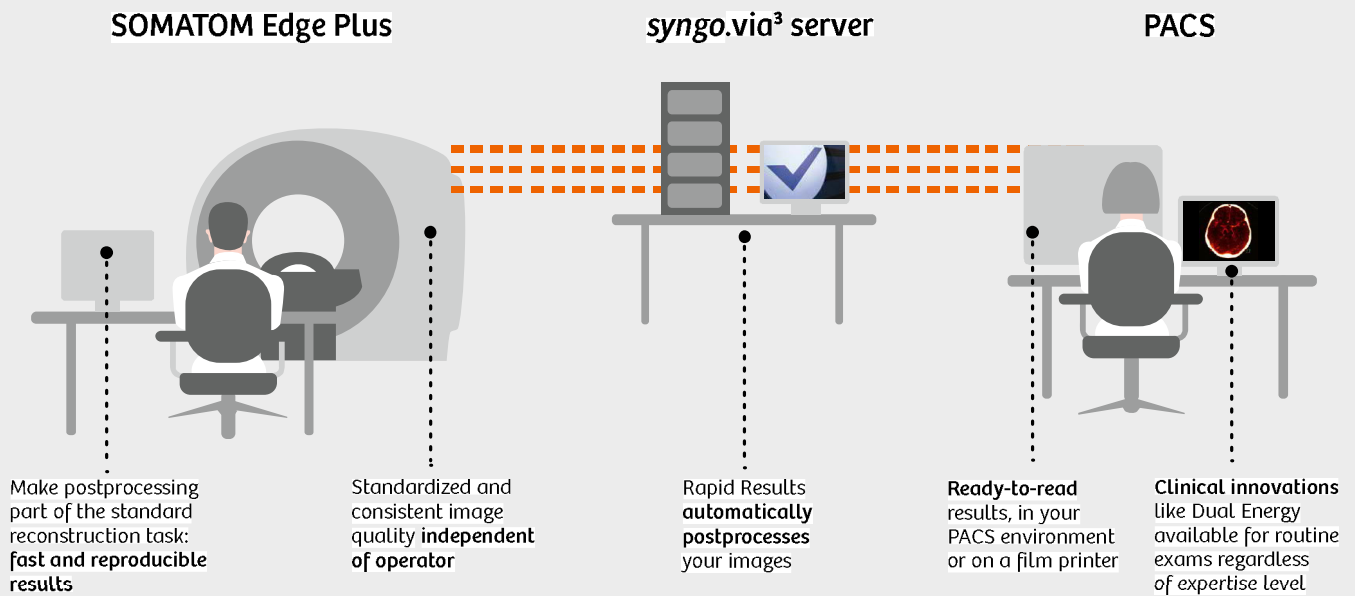
With our FAST technologies, you can accelerate a wide range of tasks – from preparing anatomically aligned spine recons to directly accessing Dual Energy results on your PACS.



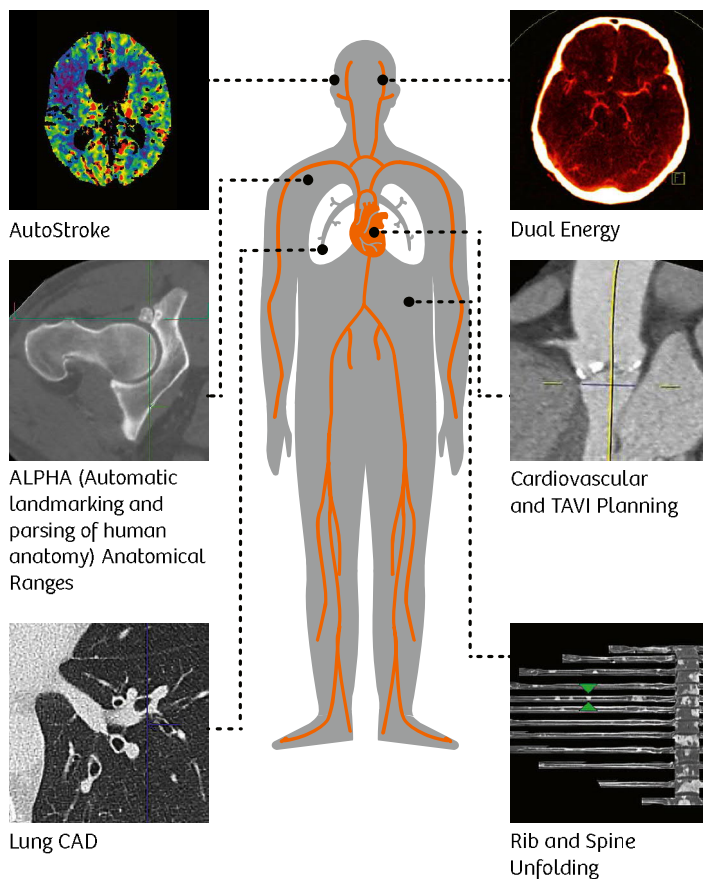
Right dose modulation for your patients

SOMATOM Edge Plus helps you optimize scanner workflows in terms of standardization, quality, speed, and dose. Our CARE technologies enable improved patient outcomes by delivering excellent image quality while lowering radiation exposure – even when scanning patients is challenging.

Rapid Results – zero-click postprocessing



Rapid Results applications available with SOMATOM Edge Plus and syngo.via



Technical specifications

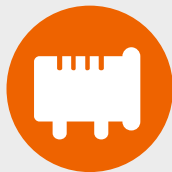
Detectors:	Stellar ^h finity detector
Number of acquired slices:	128 slices
Number of reconstructed slices:	384 slices
Spatial resolution:	0.3 mm
Rotation time:	0.28 s
Temporal resolution:	142 ms
Generator power:	100 kW
kV steps:	70–140 kV in 10 kV Steps
Max. scan speed:	23 cm/s
Table load:	up to 307 kg/676 lbs
Gantry opening:	78 cm

Technology overview



FAST 3D Camera – part of FAST Integrated Workflow

- Precise isocentering
- Correct patient positioning
- Exact topogram



Straton® MX Sigma X-ray tube and generators

- Precise power plus precise dose management
- Boost the power available at most kVs
- Allows fine-tuned dose modulation with 10 kV Steps
- Maintains the focal spot size
- Provides excellent spatial resolution with its flying focal spot and direct anode cooling



Stellar^{Infinity} detectors modules

- Create excellent image quality with low-kV and low-dose imaging due to its ability to process even low signals
- Helps significantly improve the detector system's efficiency



Integrated iterative reconstruction (IR)

- Acquires images with reduced noise as well as outstanding delineation and sharpness
- Advanced data coding techniques available right at the detector enhance your clinical routine: Now you can reduce dose, improve image quality, decrease preparation time, and speed up aftercare



Tin/Gold Split Filter

- The Split Filter allows you to simultaneously acquire two spectral energies, enabling dose-neutral TwinBeam Dual Energy scans in your clinical routine
- The Split Filter can be positioned in a way that the tin part covers the entire detector, enabling tin-filtered low-dose scanning for noncontrast studies



Fast scanning

- Fast rotation time of 0.28 seconds
- Maximum pitch of 1.7
- At 23 cm/s in routine
- High Power reserves with a generator power up to 100 kW



FAST Image Reconstruction System (IRS)

- Filtered back projection (FBP) reconstructions are calculated with up to 80 fps (frames per second)
- Iterative reconstructions (IR) are calculated with 40 fps
- Using FAST IRS, the often numerous reconstructions in polytrauma and emergency exams can be performed fast, when time until diagnosis really counts

SOMATOM Edge Plus is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

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

¹ World Health Organization (WHO). Media Centre: Ageing and health. Available from: <http://www.who.int/mediacentre/factsheets/fs404/en/> [Accessed October 9, 2017].

² Courtesy of Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands.

³ 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 right. syngo.via and the syngo.via-based software options are not commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

Courtesy of "Contrast enhanced 100 kV imaging at BMI 51 for whole-body evaluation" case image, "Ultra low-dose native (CTDI_{vol} 0.45 mGy) lung imaging in a 10-year-old child" case image, "Spectral-shaped sinusitis exam (Sn100 kV) at dose levels like conventional X-ray (0.1mSv)" case image, "4D CTA for follow-up of endovascular repair of an abdominal aortic aneurysm" case image and "Evaluation of a meningioma with TwinBeam Dual Energy CT" case image on page 3: Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands.

Courtesy of "Trauma scan after polytrauma reveals skull and femur fracture" case image on page 3: University of Tuebingen, Tuebingen, Germany.

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