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**SIEMENS**



CT C-Level Benefits – SOMATOM Definition Flash

[www.siemens.com/somatom-definition-flash](http://www.siemens.com/somatom-definition-flash)

## Multiply Your Potential – C-Level View Generation Flash

### Unique Innovations

- Heart-rate independent temporal resolution of 75 ms
- Tube power: 30 MHU, 7.3 MHU/min
- Focal spot size: Small: 0.7 x 0.7 mm / Large: 0.9 x 1.1 mm
- Generator power: 200 kW
- kV settings: 70/80/100/120/140 kV
- 3D voxel size: 0.24 mm / 0.33 mm
- Coverage perfusion: 14 cm @ 50 cm FOV
- Coverage 4D CTA: 48 cm @ 50 cm FOV
- Bore size: 78 cm
- Scan range: 200 cm
- Max. table load: Up to 307 kg / 676 lbs
- Reconstruction performance:  
Up to 50 ips (1 oncology staging exam with 1000 images in up to 20 sec.)
- SAFIRE\*
- Adaptive Dose Shield for any spiral CT examination
- X-CARE
- Pediatric CT protocols
- Adaptive ECG-Pulsing including MinDose
- 4D Noise Reduction
- Selective Photon Shield
- Flash Spiral with 458 mm/s scan speed
- 1 kW Scan room heat dissipation
- Tube Guard
- Siemens Remote Services
- FAST Planning
- FAST Spine
- FAST Cardio Wizard
- FAST Scan Assistant
- FAST Adjust
- CARE kV
- CARE Child
- CARE Configurator
- CARE Contrast III
- CARE Profile
- CARE Dashboard

\*The information about this product is being provided for planning purposes. The product is pending 510(k) review, and is not yet commercially available in the U.S.



The SOMATOM Definition Flash, Siemens' latest high-end scanner, was especially designed to make CT exams much healthier for your patients.

Its core innovation – the revolutionary Flash Spiral – can be summarized in four words: Flash speed. Lowest dose.

Answers for life.

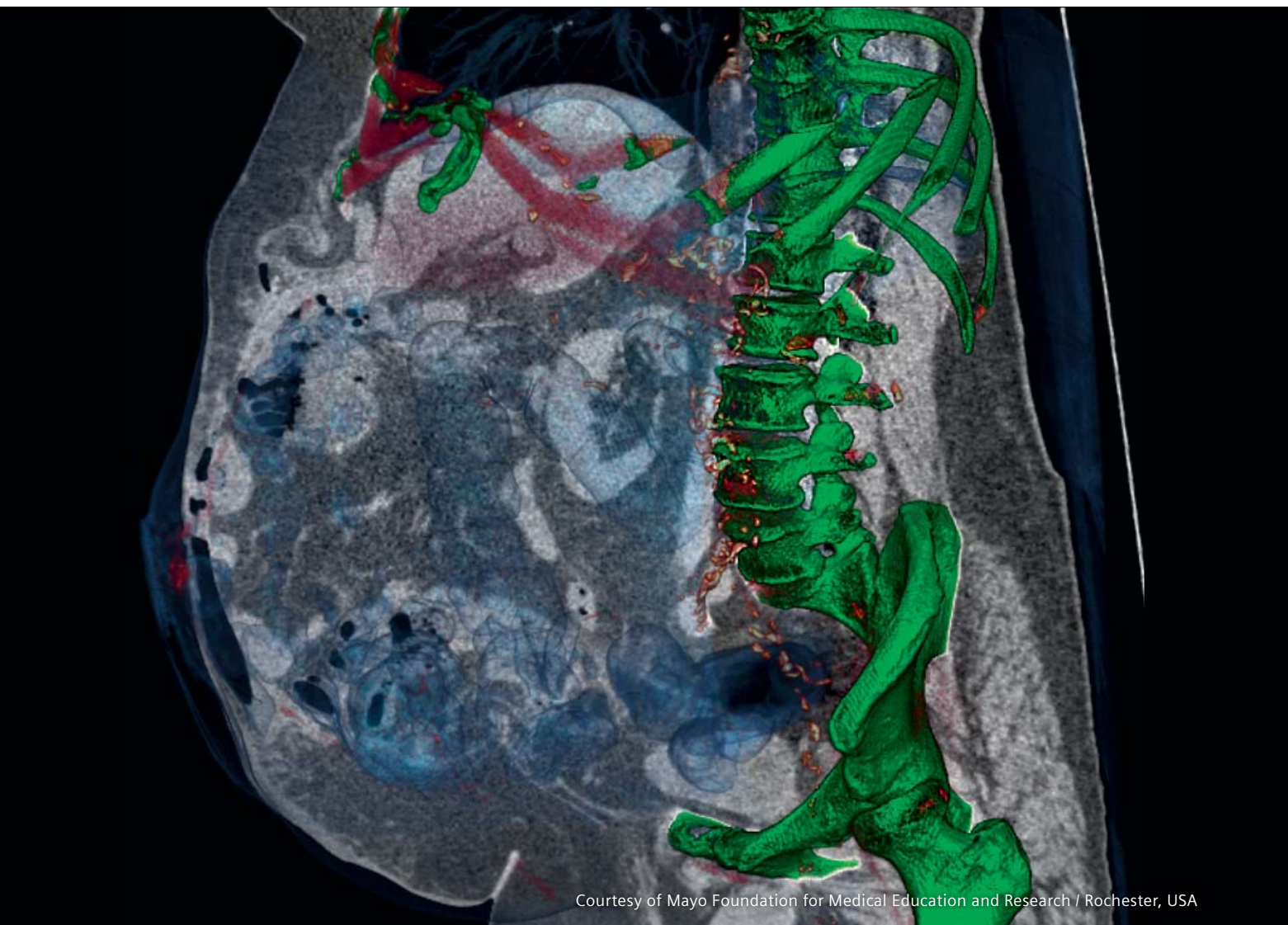


## No Patient Exclusions

## Caring Partner for You and Your Patients

## Saving Time

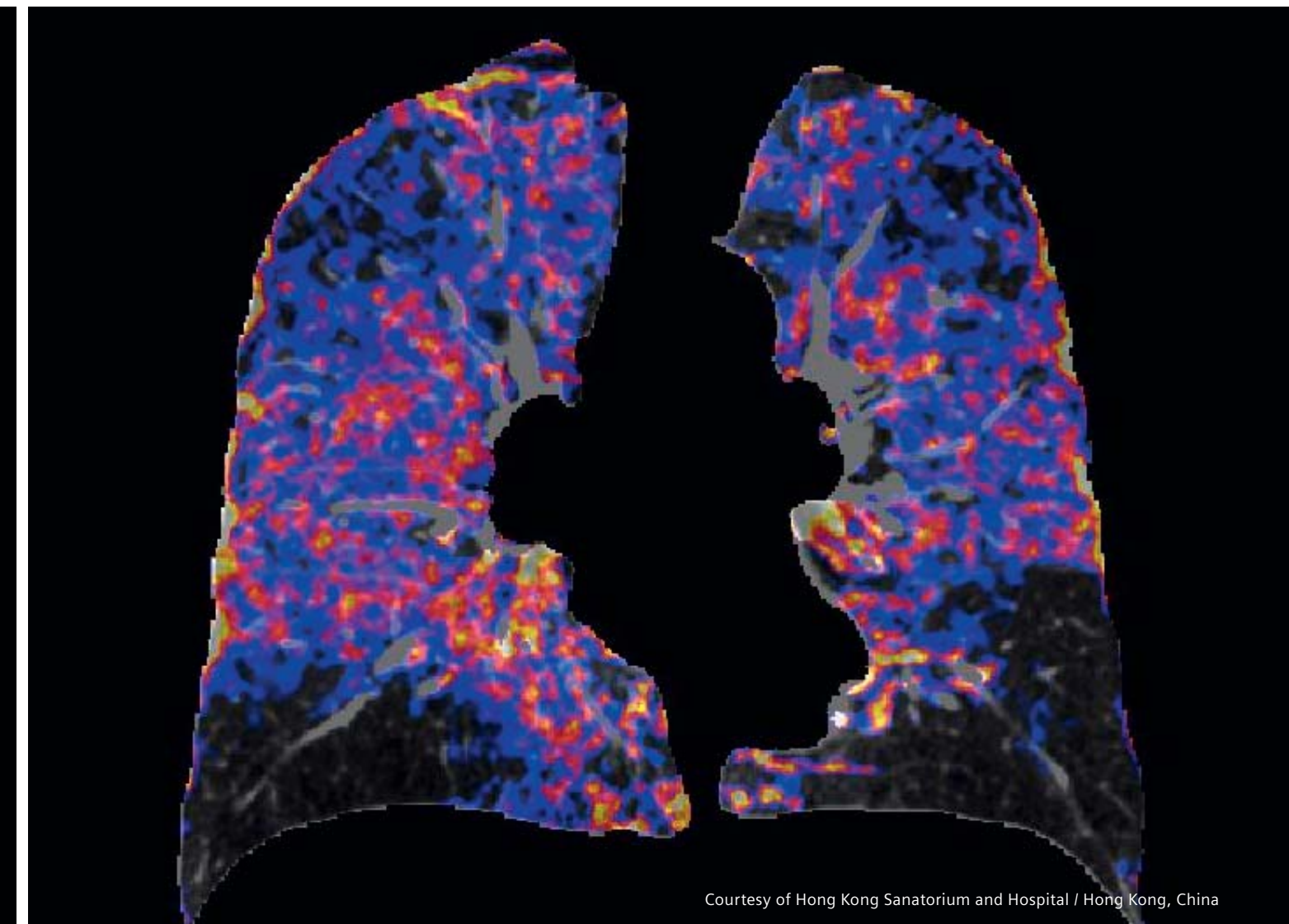
## Saving Money



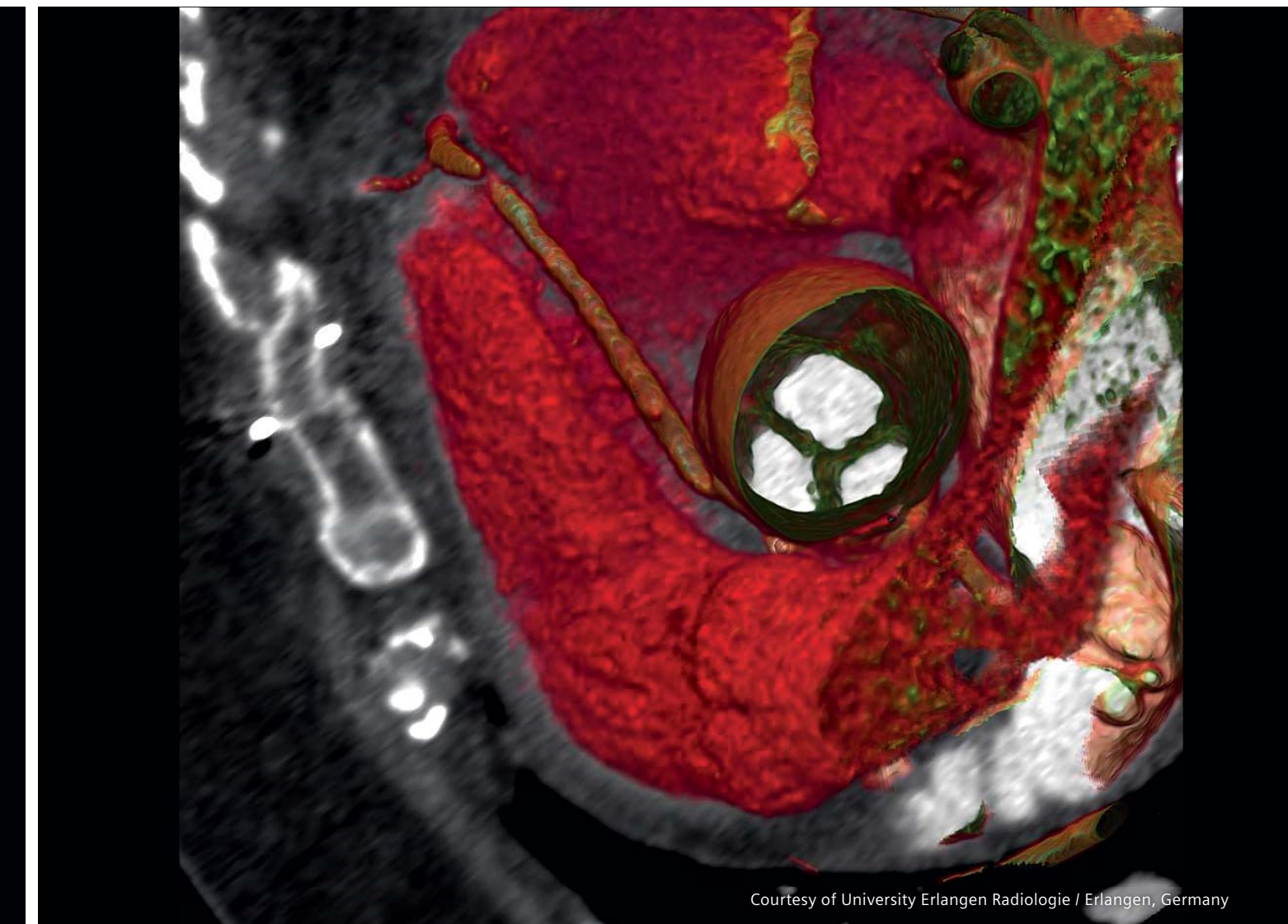
Courtesy of Mayo Foundation for Medical Education and Research / Rochester, USA



Courtesy of Universitaets-Spital Zurich / Zurich, Switzerland



Courtesy of Hong Kong Sanatorium and Hospital / Hong Kong, China



Courtesy of University Erlangen Radiologie / Erlangen, Germany

Diagnostic images in any situation for any patient. 2x100 kW provides excellent images even in patients up to 300 kg. Scanning even at high and irregular heart rates is possible because the temporal resolution of 75 ms freezes any motion – not only in cardiac. All at a spatial resolution of 0.33 mm<sup>3</sup> over 2 m scan length. With Flash Spiral, sedation in babies and breath holding is obsolete. Low dose exams in very dose-sensitive patients, e.g. babies, women are possible.

collimation: 128 x 0.6 mm  
spatial resolution: 0.33 mm  
scan time: 18 s  
scan length: 497 mm  
rotation time: 0.5 s  
140 kV,  
447 effective mAs  
DLP: 2235 mGycm  
CTDIvol: 44.81 mGy  
eff. dose: 33.5 mSv

*“Our study demonstrates that chest CT in the HPM [high-pitch mode] allows for the diagnostic visualization of lung parenchyma even without suspended respiration.”*

Baumueeller S et al. Computed tomography of the lung in the high-pitch mode: is breath holding still required? Invest Radiol. 2011 Apr;46(4):240-5.

Your patients depend on CT availability and the tube is therefore absolutely vital: Tube Guard can predict the majority of all potential CT tube failures, making up to 99% uptime possible. Siemens' long tradition in low dose CT and technologies like CARE Dose4D™, the new CARE KV, SAFIRE\*, X-CARE, and the Flash Spiral achieve dose levels of 2.4\*\* mSv and below in 72% of the standard scan protocols. Our trainings, the 24/7 availability, or the remote desktop help you fully utilize your system.

*Coronary CT Angiography in high-pitch mode in patients with low heart rates “[...] is associated with high diagnostic accuracy for the assessment of coronary artery stenoses at sub-milli-Sievert doses.”*

Leschka S et al. Diagnostic accuracy of high-pitch dual-source CT for the assessment of coronary stenoses: first experience. Eur Radiol. 2009 Dec;19(12):2896-903.

collimation: 128 x 0.6 mm  
spatial resolution: 0.33 mm  
scan time: 3.0 s  
scan length: 699 mm  
rotation time: 0.28 s  
140 kV, 150 effective mAs  
DLP: 627 mGycm  
CTDIvol: 45.46 mGy  
eff. dose: 9.4 mSv

\*The information about this product is being provided for planning purposes. The product is pending 510(k) review, and is not yet commercially available in the U.S.

The new Fully Assisting Scanning Technology (FAST) offer a new level of automation and speed. Additionally, our 12 FDA-approved Dual Energy applications help save time. For instance, syngo DE Virtual Unenhanced imaging provides excellent non-contrast image quality without an additional unenhanced scan. Flash Spiral accelerates the workflow with uncooperative patients. Sedation in babies is obsolete, saving valuable preparation time of up to 80 min., and cardiac CT without beta blockers saves up to 68 min. per patient.

*“This approach significantly reduces reading times and cuts radiation exposure by almost 50%.”*

Graser A et al. Single-phase Dual Energy CT allows for characterization of renal masses as benign or malignant. Invest Radiol. 2010 Jul;45(7):399-405.

collimation: 64 x 0.6 mm  
spatial resolution: 0.33 mm  
scan time: 8 s  
scan length: 300 mm  
rotation time: 0.28 s  
80/5n140 kV, 50/40 effective mAs

\*\*Average background radiation-source: Sources and Effects of Ionizing Radiation, UNSCEAR 2008 Report. United Nations Scientific Committee on the Effects of Atomic Radiation, New York, 2010

The rule-out of Coronary Artery Disease due to the 99% negative predictive value can save \$1,000 - \$10,000 for a diagnostic cardiac cath. The cath lab is free for more valuable, therapeutic, percutaneous interventions, such as stent placing or TAVI. The Flash's unique dose saving could increase referrals by up to 10 - 15% within the first 6 months\*\*\*. Flash Spiral can save around 25% in contrast media cost. Scanning babies without sedation saves costs for anesthetic services that can easily be 1,200 USD/hour.

*“Total procedural time was reduced and less personnel tied up, whereas image quality was increased at the same time using HPM [high-pitch mode].”*

Lell MM et al. High-pitch spiral computed tomography: effect on image quality and radiation dose in pediatric chest computed tomography. Invest Radiol. 2011 Feb;46(2):116-23.

HR independent  
temp resolution: 75 msec  
collimation: 128 x 0.6 mm  
spatial resolution: 0.33 mm  
scan time: 4 s  
scan length: 125 mm  
rotation time: 0.28 s  
120/120 kV, 368 mAs / rotation  
heart rate: 56 bpm

\*\*\*Bob Day, Chief Technical Officer  
Zwanger-Pesiri Radiology, Long  
Island, New York, USA, 2010