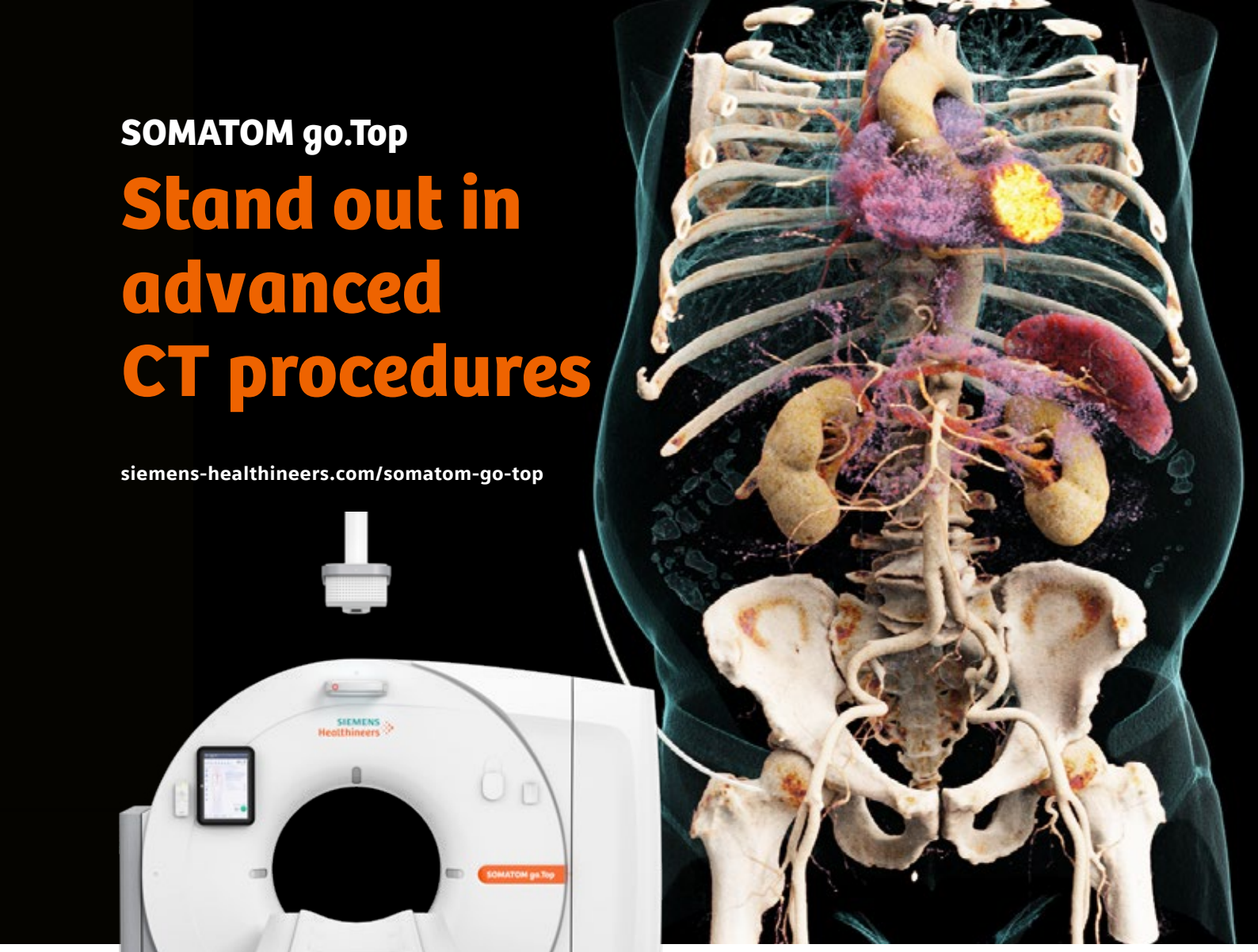
SOMATOM go.Top

Stand out in advanced CT procedures

siemens-healthineers.com/somatom-go-top



SIEMENS Healthineers

"Your needs drive what we do. If the challenges on the right-hand side are yours, read on. You'll find good answers how to tackle them."

Dr. Philipp Fischer
Head of Business Line Computed Tomography
at Siemens Healthineers

Do you find these healthcare trends challenging?

Concerned that patients may leave your institution dissatisfied?

Patient satisfaction

"Improving patient satisfaction with their CT experience" is ranked top priority by CT department responsibles.[1)]

Wondering if you are operating your CT scanner at its full potential?

Scanner operation

"The use of protocols and radiation dose varies greatly," studies[2)] that analyzed millions of CT examinations worldwide showed. And this is not because of the equipment characteristics, but mainly because of the choices of the individual users.

Curious about the use of AI in your CT system? But also skeptical about it?

Artificial Intelligence

"Already, 77% of the devices anyone of us uses feature one form of AI or another."[3)]

Contents

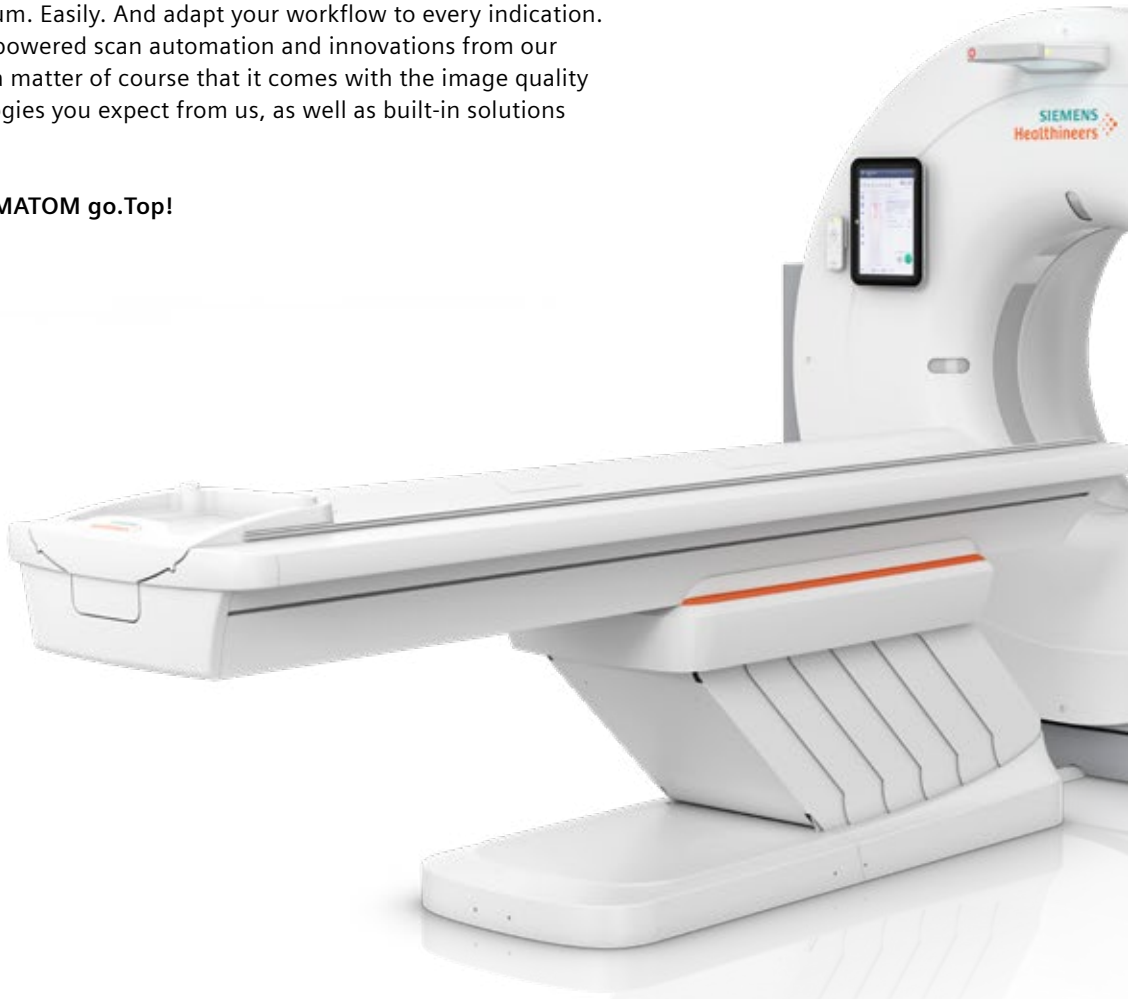
Focus on your patients

Healthcare providers have to thrive in a highly competitive market that is driven by value-based reimbursement. To keep the business growing, you need to improve patient experience and expand your clinical portfolio.

Make CT diagnostics personal with SOMATOM® go.Top. We upgraded our successful scanner with our unique Mobile Workflow and smart tools that help you stay with your patients longer and provide closer care.

Cover the full clinical spectrum. Easily. And adapt your workflow to every indication. SOMATOM go.Top offers AI-powered scan automation and innovations from our high-end scanners. And it's a matter of course that it comes with the image quality and dose reduction technologies you expect from us, as well as built-in solutions for lower lifecycle costs.

Discover the enhanced SOMATOM go.Top!



Why this CT scanner is your CT scanner

The SOMATOM go. platform originates from the medical community. As a member of this platform, SOMATOM go.Top was co-created with 500 of our customers, from CEOs to the wonderful people who care for patients every single day. After some successful years, we decided to turn more user requirements into solutions. This wouldn't have been possible without you. Thank you.

Improve patient experience
with mobile devices that let you focus on your patients

Increase standardization
with GO technologies powered by Artificial Intelligence

Transform care delivery
with preset patient pathways for various clinical applications

Enhance efficiency
with AI-based patient positioning and remote scanning assistance for technologists

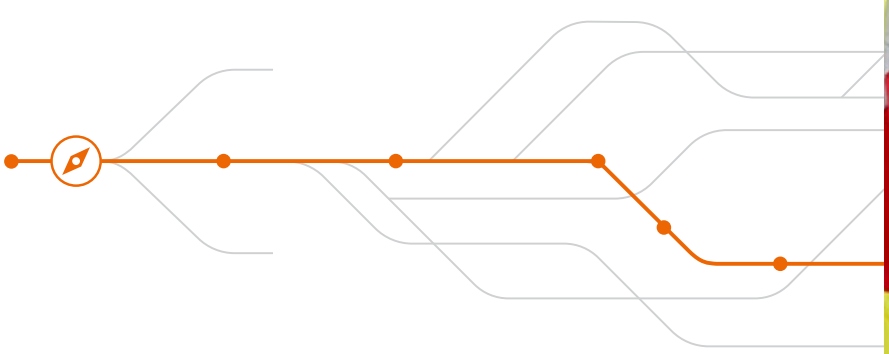
Optimize the diagnostic experience
with, for example, the ambient mood lighting and low noise

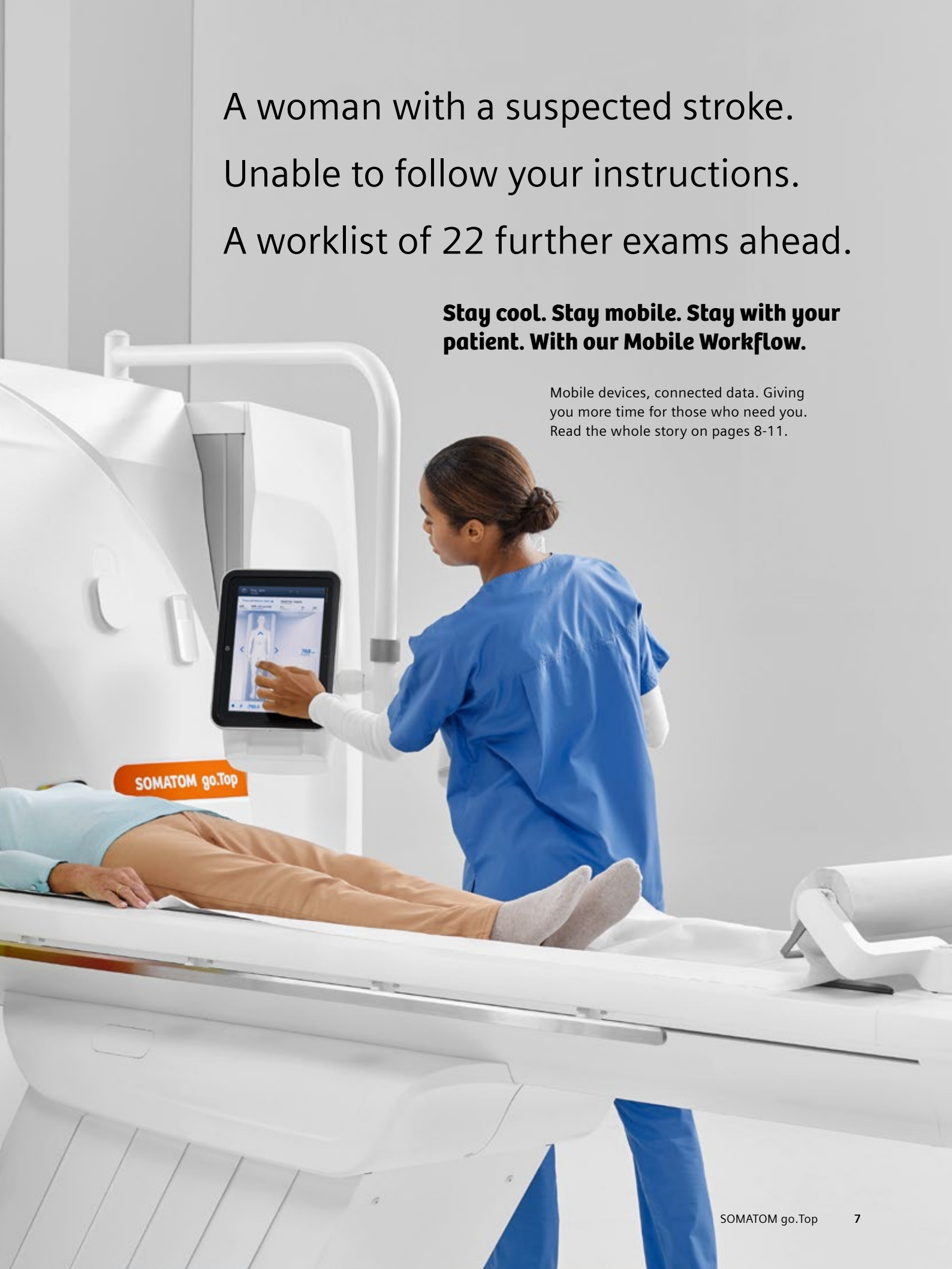
“Did the symptoms occur within the last 6 hours?”

“Is there bleeding present?”

myExam Companion takes you to the predefined scan strategy

Answer a handful of simple questions. And myExam Companion guides you quickly and safely through any procedure. More on page 14.





A woman with a suspected stroke.

Unable to follow your instructions.

A worklist of 22 further exams ahead.

Stay cool. Stay mobile. Stay with your patient. With our Mobile Workflow.

Mobile devices, connected data. Giving you more time for those who need you. Read the whole story on pages 8-11.

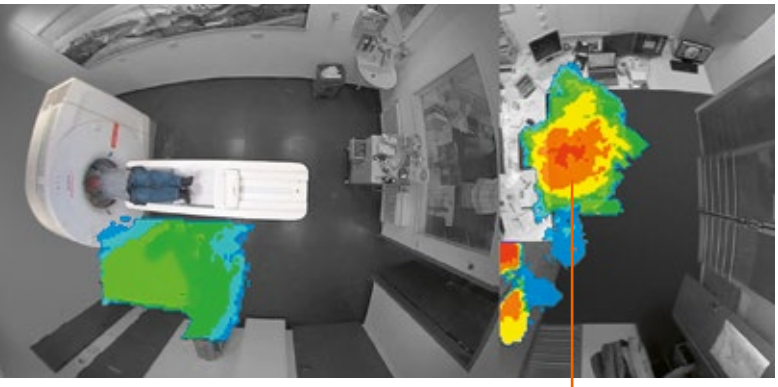
Improve patient experience with trendsetting workflows

Patient expectations are increasing and patients are becoming more vocal about their healthcare experience. With the Mobile Workflow of SOMATOM go.Top, your patients feel personally attended to and experience their treatment more positively.

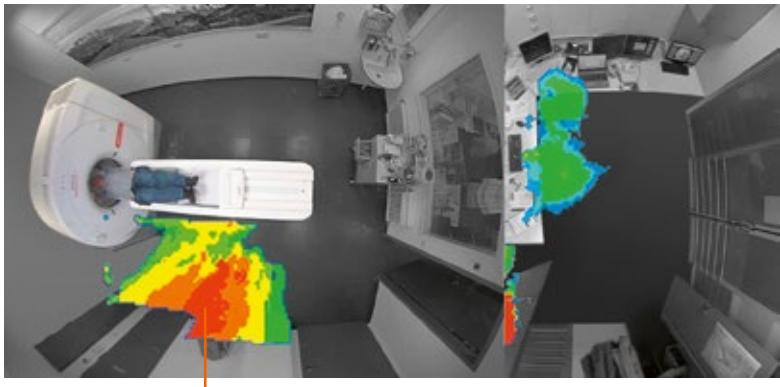
Workstation – use it where you need it

Thanks to tablet-based operation and gantry-integrated computers, SOMATOM go.Top gives you complete flexibility over where you position the workstation. Depending on your needs and infrastructure, you can choose where to set it up. Find out more on page 24.

Less time in the control room, more with the patient



A standard workflow – with most of the operator's time spent in the **control room**.



The unique Mobile Workflow with SOMATOM go.Top – a huge shift toward spending most of the time **with the patient**.[4)]

Average time spent on location:

Low — High

Higher efficiency, higher patient comfort, fewer motion artifacts

Thanks to mobile devices and connected data, you can stay close to the patients who need attention most, like small children, and put them at ease. This also helps improve image quality and thus diagnostic confidence.

Empirical results show that staying close to patients can substantially improve their examination experience.

The Mobile Workflow – figures tell the story

20%
faster patient preparation[4)]

62%
increase in positive patient experience[4)]

90%
more time spent in the same room with the patient, plus higher freedom of movement for radiologists[4)]

39%
increase in patients who feel more satisfied from the medical service they receive[4)]

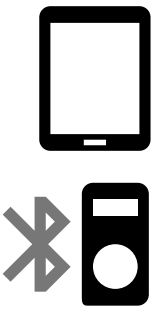
Figures compared to conventional workflow.

"The Mobile Workflow: More than ever, the patient is in the center of the whole examination."

Carla Susana Ribeiro Pinto
CT radiographer at Centro Hospitalar de São João, Porto, Portugal

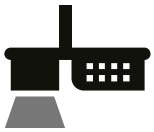
A new workplace design – a new working experience

Focus on your patients and improve not only their experience and satisfaction, but also yours. Here's the technology that puts each patient into the center while making your working experience enjoyable.

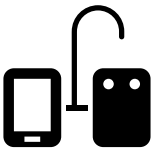


With the tablet, you can ...
- have total freedom over how you work
- stay close to the patient at all times:
  - preparing all scans right at the gantry
  - previewing images directly at the tablet
- use up to three tablets simultaneously
- dock and charge the tablets at the docking station

The remote control helps you to ...
- simplify patient positioning
- start the scan remotely, complementing the tablet for a true Mobile Workflow



The FAST 3D Camera opens up new ways to ...
- capture the patient's shape, positioning, and height in 3D
- even recognize body contour (e.g., when patients are wearing thick clothes)
- use this data for accurate and reproducible patient positioning



The gantry-mounted injector arm lets you ...
- position the injector where you need it, when you need it
- flexibly move it to other positions
- work in a neat and patient-centered environment without a blocking injector cart

The gantry-integrated camera makes it easy to ...
- keep an eye on the patient
- calm down patients thanks to ambient mood lighting
- visualize the scan duration using the integrated digital countdown for breath-hold

The gentle voice and sound design lets you ...
- increase patient comfort and improve your working environment with a low noise level even during peak operation
- give patients gentle voice guidance of breathing instructions

Smart helpers that let you go for any pathway

SOMATOM go.Top features smart helpers to standardize and simplify your departmental processes – from patient setup to image distribution, archiving, and reading. Prevent repetitions. Skip routines. And dedicate your energy to patients and results.

myExam Companion

myExam Companion launches the era of intelligent imaging. Using the new possibilities of digitalization, it turns data into built-in expertise. This helps users efficiently achieve reproducible results – by unlocking your modality's full potential.

myExam Companion guides users through any procedure, so they can interact easily and naturally with both patient and technology. No matter the user, patient, or throughput, it helps generate consistent, comprehensive results.

AI-Rad Companion

AI-Rad Companion is our family of vendor-neutral, multi-organ augmented reading solutions. Taking over basic, repetitive tasks, they support experienced staff in working at the top of their license. AI-Rad Companion reading solutions automatically prepare the clinical input: They identify and quantify relevant anatomies and abnormalities and put findings into a diagnostic context – allowing for a faster and more accurate diagnosis.

Scan&GO

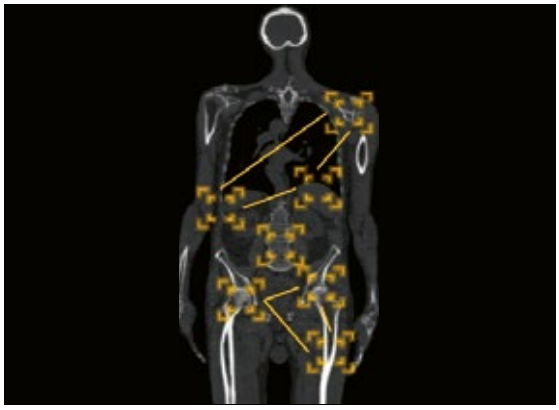
Anticipate potential breathing artifacts: Train breath-hold with your patients using Scan&GO. It also lets you control scans remotely and check images quickly, right after the scan, on your tablet – so you can spend more time with your patients. What's more: You can enhance your degree of freedom by using up to three tablets in perfect sync.

Check&GO

Based on big data, the intelligent algorithms from Check&GO identify potential errors with organ coverage or contrast media volume and distribution plus the presence of wearable metal objects (e.g., belts, necklaces). This helps you take immediate action or correction.

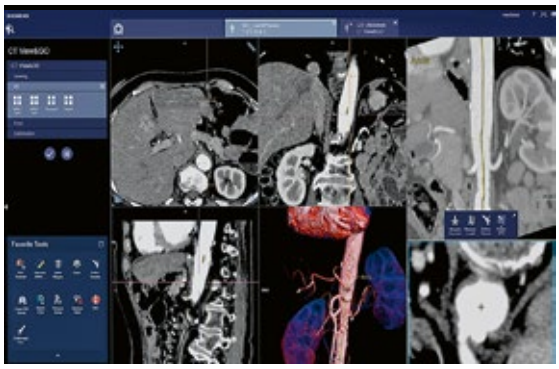
Recon&GO

Recon&GO delivers fast and standardized results irrespective of the operator. With AI recognizing patient landmarks and anatomies, it automates postprocessing tasks to reduce repetitive workflow steps. Even spectral imaging becomes routine, since Recon&GO automatically creates zero-click results. It offers a fully automated recon process for any organ – including all vascular views for contrast-enhanced CT reporting.



CT View&GO

CT View&GO enables smooth reading in one workflow right at the scanner. Advanced CAD algorithms and applications boost diagnostic confidence. Communication within your department is easy, since CT View&GO automatically films and distributes images and results according to your settings.

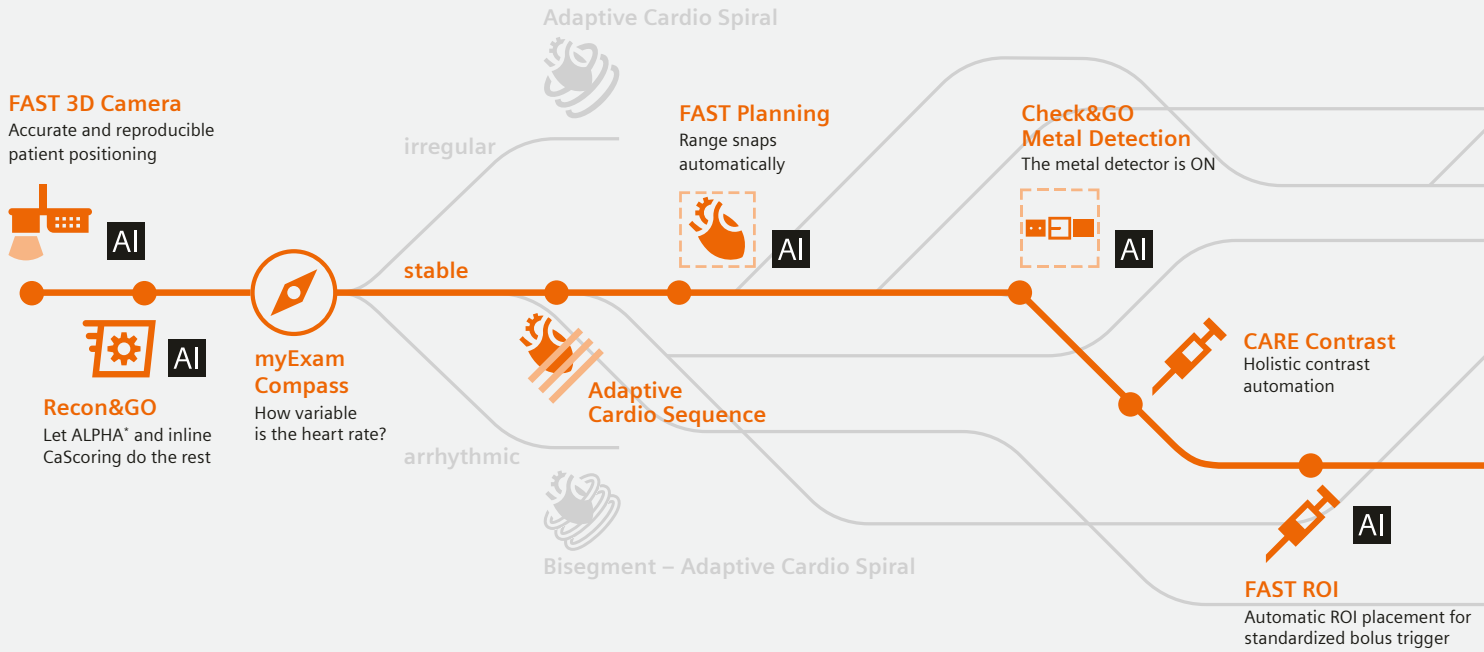


Transform care delivery with your new patient pathways

With every patient and clinical indication being different, fast and easy adaptation is key to success. Confidently offer advanced CT procedures and optimally adapt to each type of patient: SOMATOM go.Top offers clear patient pathways that help you turn challenging clinical fields into daily routine.

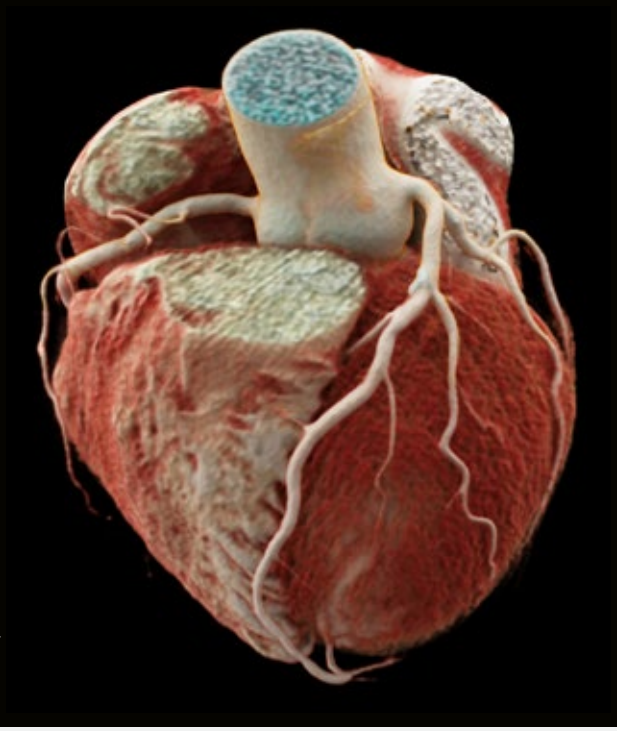
On this and the following pages, discover the example of three clinical pathways plus the enabling technologies, most of which were adopted from our high-end scanners.

myExam Companion guides you through your cardiac examination

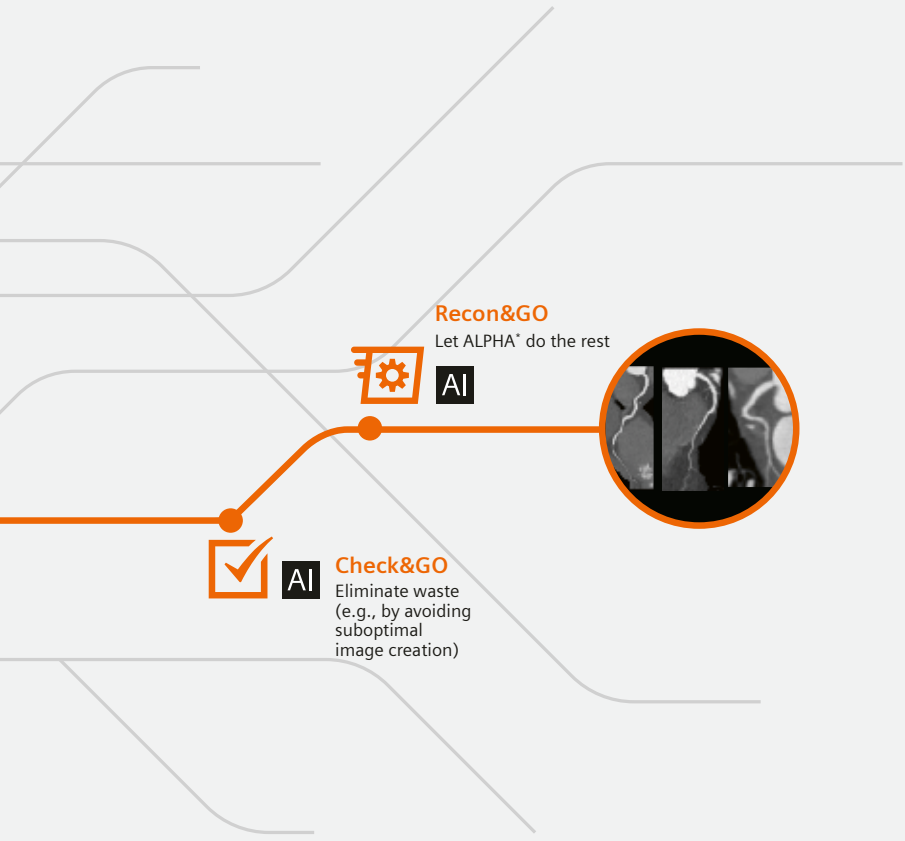


AI *Artificial Intelligence inside* *Automatic Landmarking and Parsing of Human Anatomy

Still think that this outcome is difficult for you to get?
The new patient pathway leverages the full potential of technologies automatically and takes you there.



Courtesy of Erlangen University Hospital, Erlangen, Germany

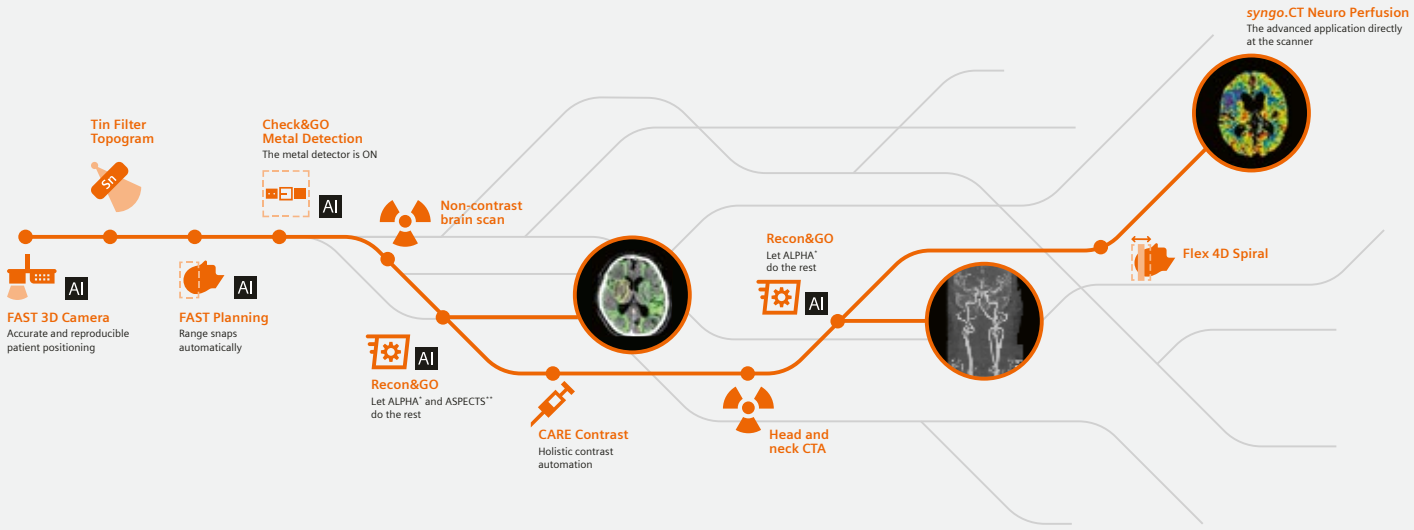


Cardiac CT made easy with SOMATOM go.Top: myExam Compass, breathing training, and other smart helpers let you focus on what is most important, your patient. Minimize motion artifacts and optimize image quality by relying on the fast temporal resolution and the highest tube current of its class. And let automated postprocessing do the rest, providing you with comprehensive results for your cardiac assessment.

For more information on the technologies, see pages 20-22.

What exam do you GO for today?

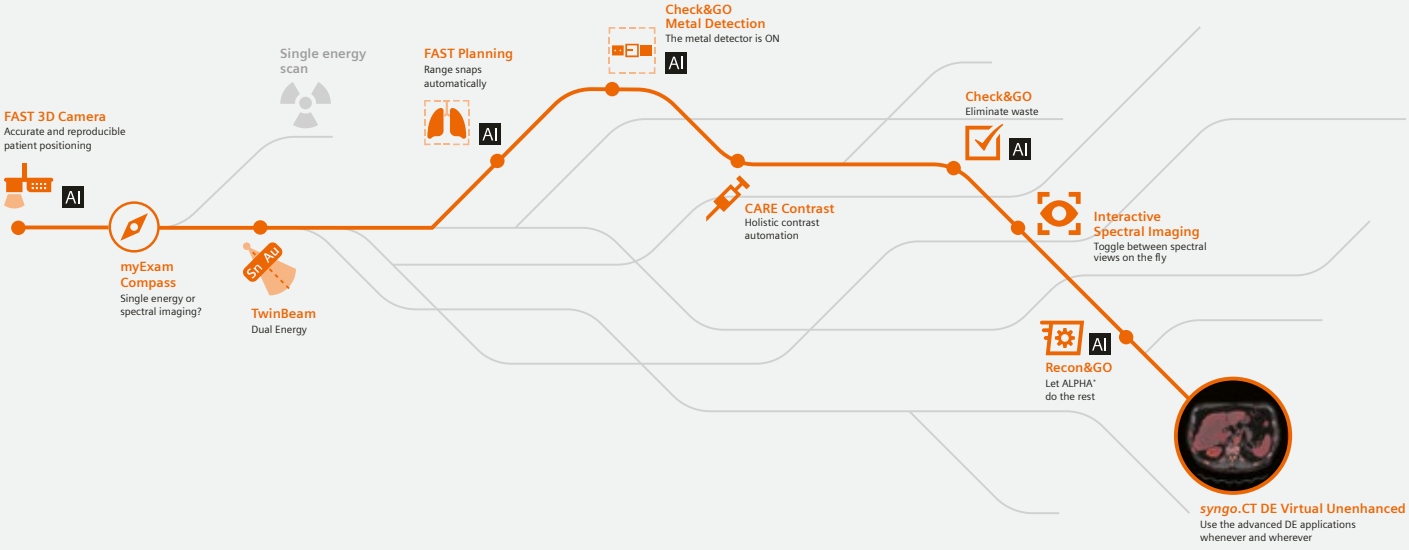
myExam Companion guides you through your stroke examination



AI *Artificial Intelligence inside*
**Automatic Landmarking and Parsing of Human Anatomy*
***Alberta Stroke Program Early CT Score*

Coverage beyond the physical detector size: With Flex 4D Spiral Neuro, you can perform dynamic CT neuro imaging with a larger coverage than with the actual physical detector size.

myExam Companion guides you through your oncological assessment with spectral imaging



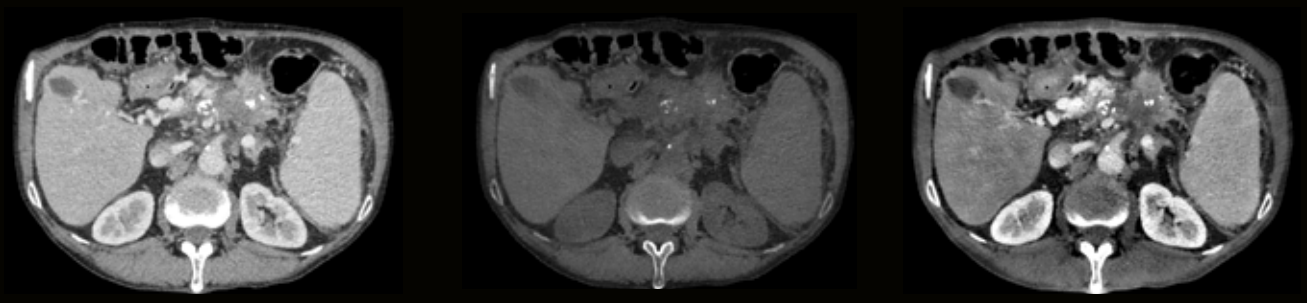
AI *Artificial Intelligence inside*
**Automatic Landmarking and Parsing of Human Anatomy*

Spectral imaging revisited: A thorough solution for your oncological assessment with various postprocessing capabilities available directly at the acquisition workplace.

Missing your pathway? Coronary CTA, stroke examinations, and oncological assessment with spectral imaging are just three of many. Discover the full clinical spectrum at:
siemens-healthineers.com/somatom-go-top-pathways

See it with your own eyes

Whether routine imaging in neurology, oncology, and pediatrics or more complex exams: Equipped with premium technologies, SOMATOM go.Top delivers excellent image quality – always on.

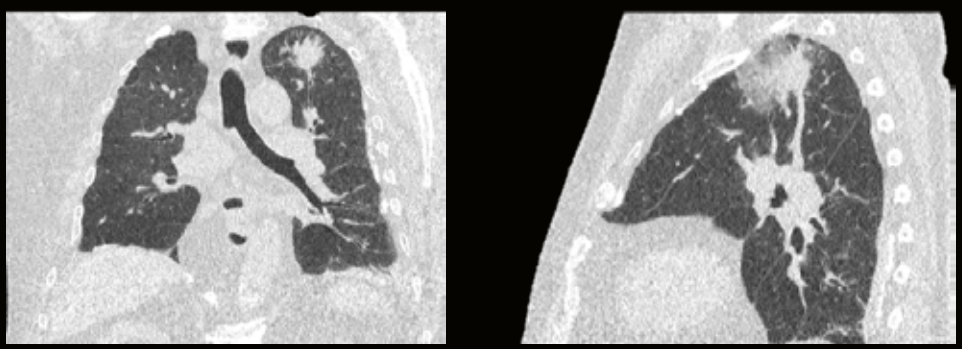


Spectral imaging with TwinBeam Dual Energy
- Mixed, Virtual Non-Contrast (VNC) and Monoenergetic Plus (40 keV)
- Tube current: AuSn120 kV
- $CTDI_{vol}$: 6.1 mGy

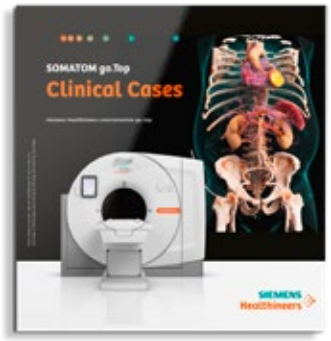
Courtesy of Erlangen University Hospital, Erlangen, Germany

Ultra-low-dose lung scan after intervention
- 1 mm MPRs
- Tube current: Sn110 kV
- $CTDI_{vol}$: 0.45 mGy

Courtesy of Erlangen University Hospital, Erlangen, Germany

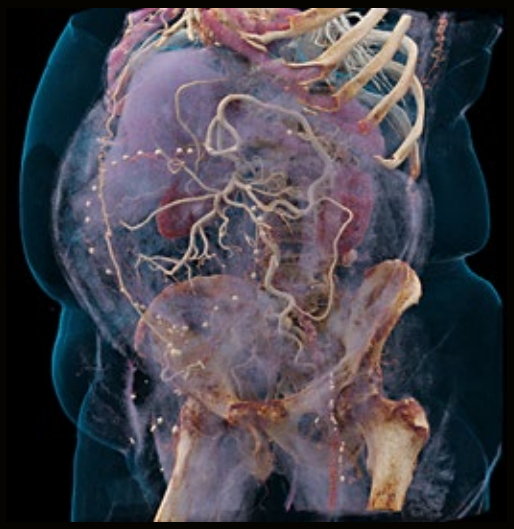


See more cases in our clinical case booklet



It's impossible to show all the clinical values of SOMATOM go.Top on just two pages. That's why we created a booklet containing a collection of different cases and clinical images – all acquired with SOMATOM go.Top.

Please ask your local Siemens Healthineers Sales Representative for the dedicated booklet and discover for yourself the great clinical outcomes you can achieve with SOMATOM go.Top.

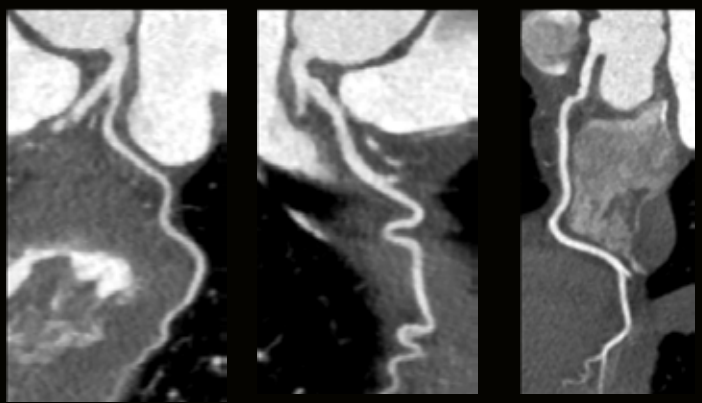


Low-kV imaging in obese patients
- 1 mm MPR and Cinematic VRT
- Tube current: 90 kV
- $CTDI_{vol}$: 15.2 mGy

Courtesy: Data on file

Adaptive cardio sequence
- Curved MPRs
- Tube current: 70 kV
- $CTDI_{vol}$: 2.77 mGy
- Heart rate: 65 bpm

Courtesy: Data on file



The secrets of low dose and excellent image quality

SOMATOM go.Top allows you to serve the full clinical spectrum. Equipped with premium technologies, it lets you confidently integrate specialized CT procedures into daily routine.

Stellar detector

Reduces image noise in every scan, while the advanced iterative reconstruction SAFIRE[5)] delivers excellent image quality at very low dose. Due to an increased channel density and a new geometry, the detector provides excellent and homogenous image quality, even in complex areas.

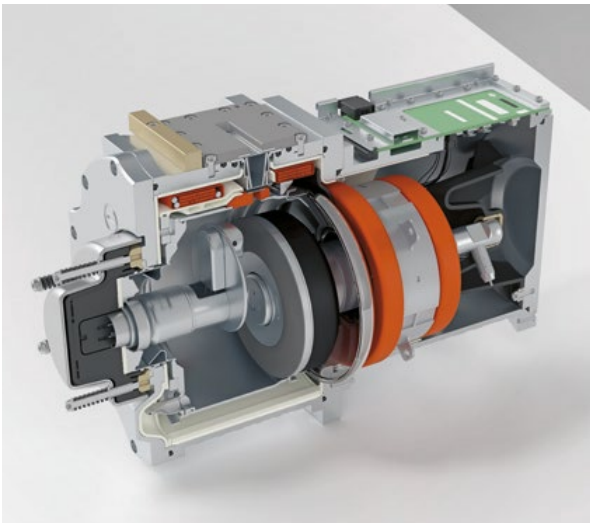
The Stellar detector:

- Up to **50% less dose** to achieve equivalent image noise compared with conventional detectors
- Up to **45% fewer streak artifacts** through regions of high attenuation (e.g., shoulder)[6)]

High Power, 10 kV Steps & CARE kV

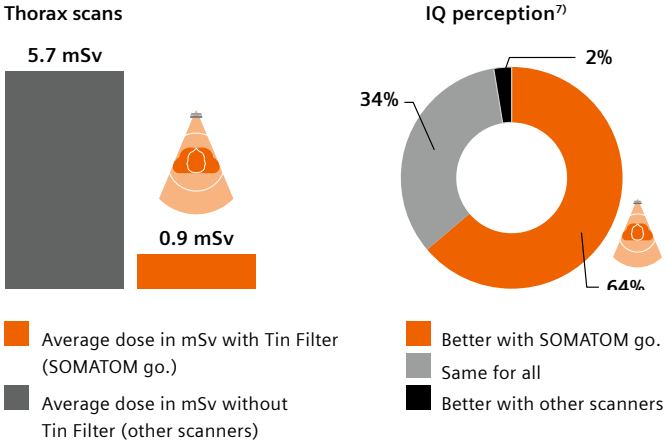
Allows you to scan at the highest tube current in its class: up to 825 mA even at 70 kV – thanks to the Athlon™ X-ray tube. This achieves better iodine contrast for sharper images, even in small distal vessels. As a result, you can considerably reduce contrast media and thus scan more patients, deliver better patient care, and reduce examination costs.

Furthermore, the tube voltage is automatically tailored to each patient and clinical indication by CARE kV. Voltage levels can be adjusted at intervals of 10 kV for less dose and high contrast resolution and are aligned with respective tube currents. This keeps dose low, while image quality stays excellent.



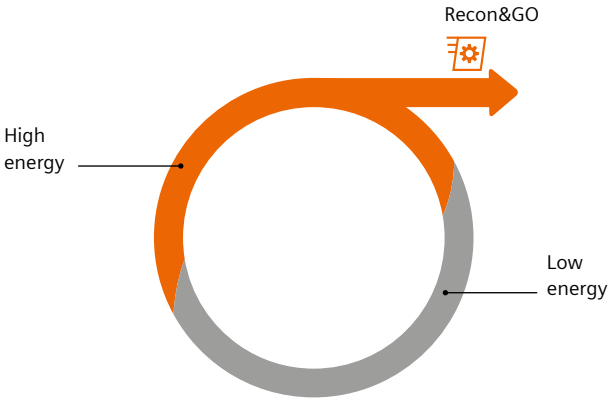
Tin Filter

Achieves ultra-low dose levels by cutting out lower energies and optimizes image quality at the interface between soft tissue and air. This unique technology from Siemens Healthineers has direct benefits in lung and colon imaging, for example. Clinical experience also shows that the unique Tin Filter technology reduces beam-hardening artifacts and improves image quality in bony structures.



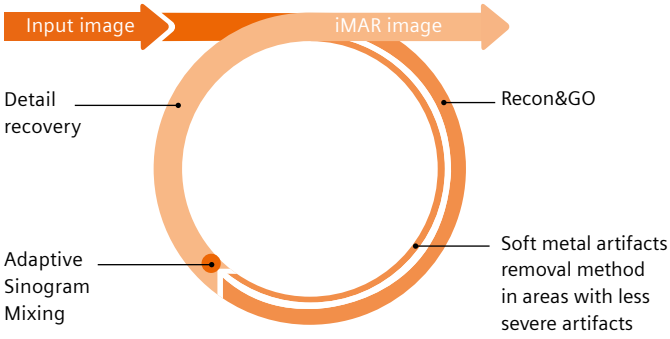
Spectral imaging

Launches the next generation of spectral imaging in clinical routine: The holistic solution with two Dual Energy modes prepares you for virtually all clinical questions. TwinBeam Dual Energy acquires low- and high-kV data sets in a single scan, providing an unparalleled wealth of diagnostic information. TwinSpiral Dual Energy provides both morphological and functional information in non-contrast scans by a new workflow concept of two scans integrated into a single acquisition. With an improved spectral separation due to the Tin Filter, better dose distribution, and the well-known GO technologies, this makes a holistic solution – routine-ready with extra advanced automation.



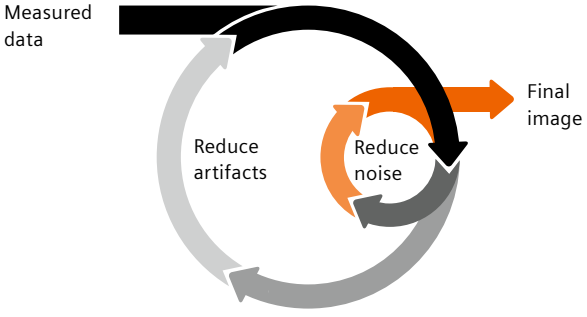
iMAR

Reduces metal artifacts for better image quality without increase in dose. The high-end algorithm can handle a wide variety of metal implants for smoother, more efficient workflows. iMAR[8)] – iterative metal artifact reduction – helps you handle metal implants such as dental fillings, pacemakers, and extremity implants.



SAFIRE

SAFIRE (sinogram affirmed iterative reconstruction) is an iterative reconstruction algorithm that delivers excellent image quality at low dose.[5)] It is fast, simple to use, and can be easily implemented into daily routine.



Rounding out your daily experience

Discover more smart tools that help facilitate your daily routine.

Guide&GO

The first tablet-based solution for CT-guided interventions. Control and monitor the entire procedure via the tablet and remote control:

- Enjoy a streamlined workflow with a fast, image-based definition of the target position and a flexible patient table move concept.
- Perform accurate measurements and plan a secure needle path with 2D-Needle guidance, using intuitive image manipulation functions.
- Safeguard and monitor needle placement using FAST i-Sequence with fast repetition of multiple low-dose control scans.

syngo.via View&GO

syngo.via View&GO is an intuitive multimodality reading and viewing solution that provides smart access to speed up your daily routine. The flexible stand-alone software solution is equipped with a wide range of clinical tools. You can start right away to read and evaluate your studies with ease – located in one familiar and intuitive environment. *syngo*.via View&GO drives performance and simplicity by bringing the same look and feel for the scanner and reading environment.

Easily download and install *syngo*.via View&GO on various types of hardware – for example, on your computer.

1 Download the software packages from the internet.

2 Receive your user information input and registration via email and the activation key from your local Siemens Healthineers Sales Representative.

3 Validate your registration information online.

4 Install the software packages on your computer.

Your product services in the digital era

SOMATOM go.Top's equipment service is based on Siemens Healthineers' matchless service infrastructure around the world:

>207 billion
data points for >5,000 patterns in neural network

>40,000
updates & upgrades per year

>50%
remote solving rate

>27,000
active systems and >2,000 service engineers

Advance Plans with AdvanceNow: The service plan in the digital era

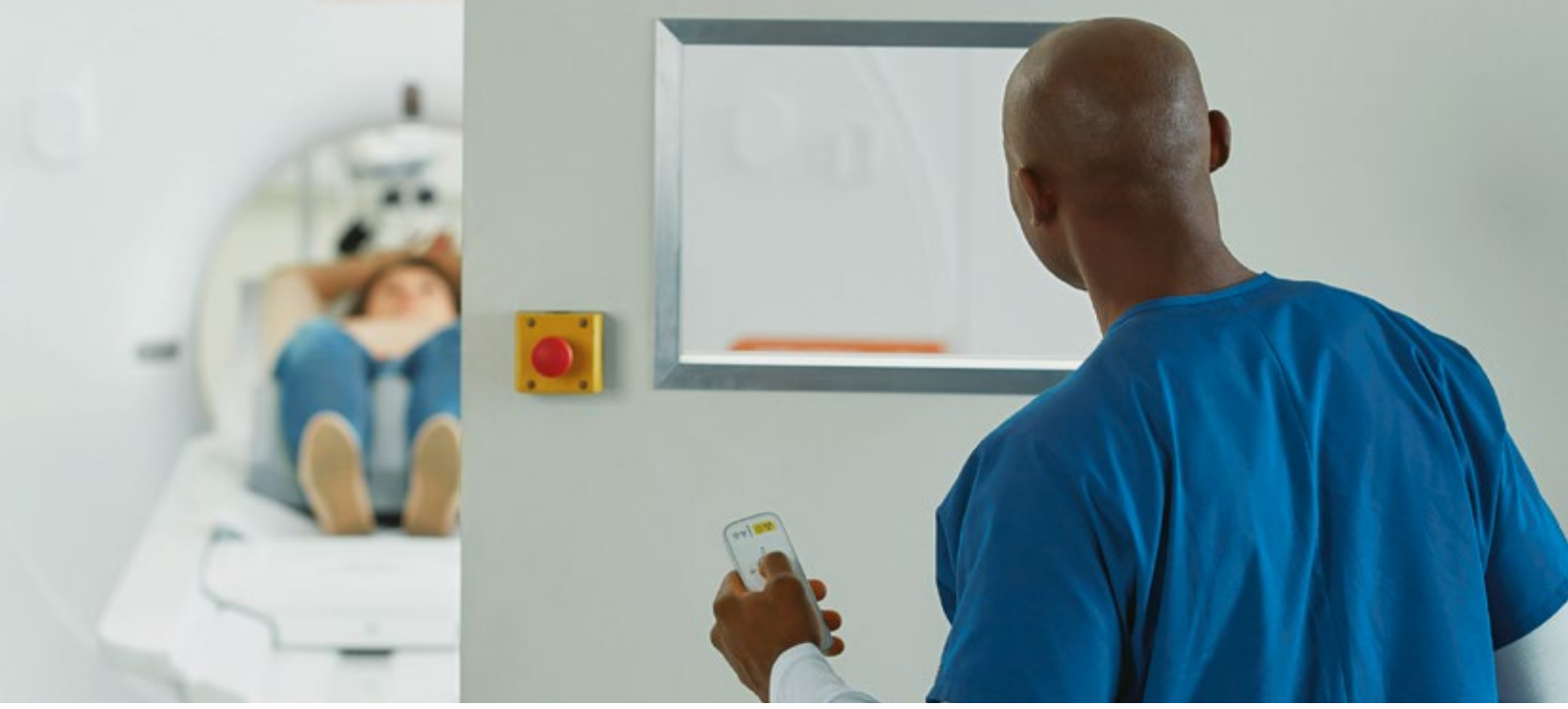
The Advance Plans are Siemens Healthineers' service agreements for maximized efficiency and excellent clinical outcome in the digital era. They comprise a wealth of innovative and intelligent services that keep you cutting-edge, connected, and competitive. At the core of every service contract is Siemens Healthineers' continuous update and upgrade service, AdvanceNow. This key component provides frequent software updates and upgrades – including cybersecurity patches – and replacement of computer hardware as required, enabling you to benefit from advancements in intelligent imaging. Keep your imaging equipment up-to-date, constantly and easily.

Based on this exceptional infrastructure and connected through our Smart Remote Services, SOMATOM go.Top offers unique services to continuously ensure system availability:

Condition-based maintenance
Reduced maintenance downtime through system load-specific maintenance intervals. Key components and parameters of the system are constantly monitored with regards to maintenance tasks.

Remote technical support
Improved equipment uptime through fast access to technical expertise and usage of advanced tools. Technical experts provide you with fast and efficient support to restore your operations and increase the availability of your equipment remotely.

PEPconnections
The competency-based online education solution that offers instant access to education, performance support, and expertise. Personalize the education experience of individual employees with customizable learning plans. Assign, create, track, and manage the education of entire groups.

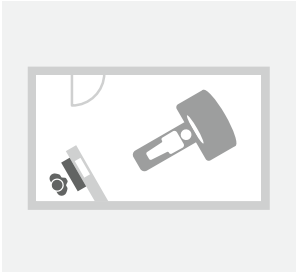


Improve profitability with a smart investment

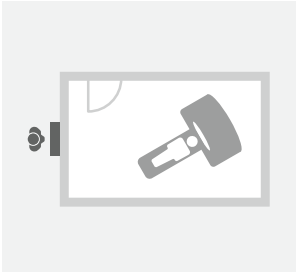
With reimbursements and budgets shrinking, the initial investment and the Total Cost of Ownership (TCO) become key factors of your CT system. That's why SOMATOM go.Top has been designed for clever savings, reduced lifecycle costs, and easy fleet management.

Initial investment: Outsmarting installation costs

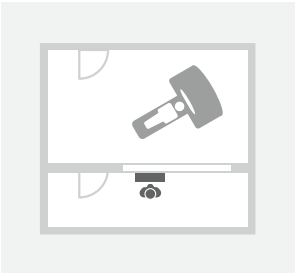
SOMATOM go.Top comes with low installation costs. Thanks to gantry-integrated computers and the flexible room concept, you no longer need to invest in a separate control room. Whatever concept you choose, your operators are fully protected while the X-ray is on:



Niche setup in the examination room



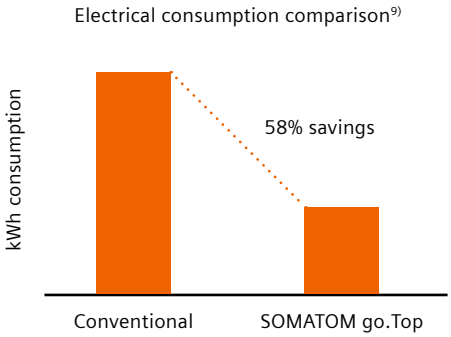
Workstation outside the room, e.g., in the corridor



Traditional two-room setup with separate control room

Reducing operational costs

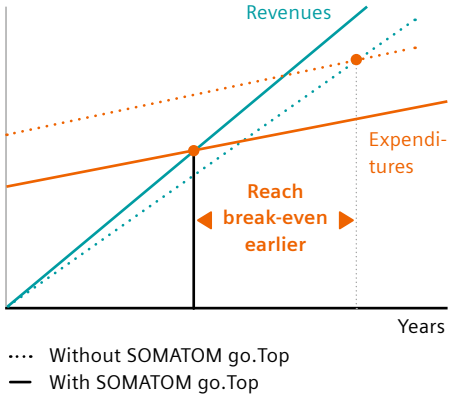
SOMATOM go.Top is designed with an eye to reducing operational costs. A clear focus was put on minimizing standby consumption, which represents 90% of the total electrical consumption costs.



A boost for your business

SOMATOM go.Top has everything you need to give your CT business a new push forward. You can:

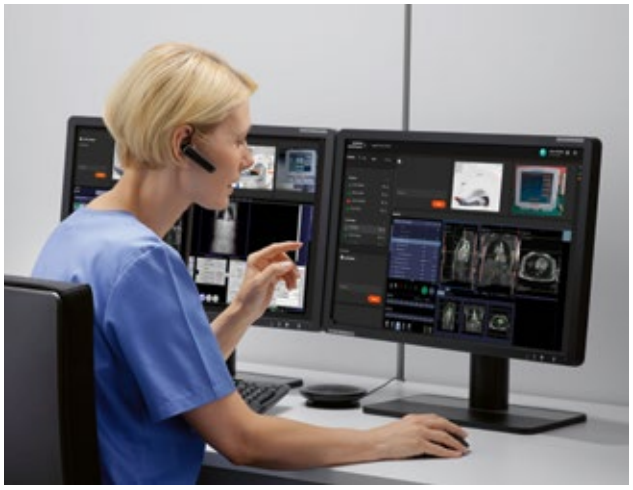
- Unlock more reimbursement opportunities thanks to intuitive workflows
- Increase patient throughput and thus revenue due to faster positioning, simplified workflows, and the ability to scan more kinds of patients
- Decrease installation costs thanks to the flexible room concept
- Cut running costs with ultra-low energy consumption during scanning and standby



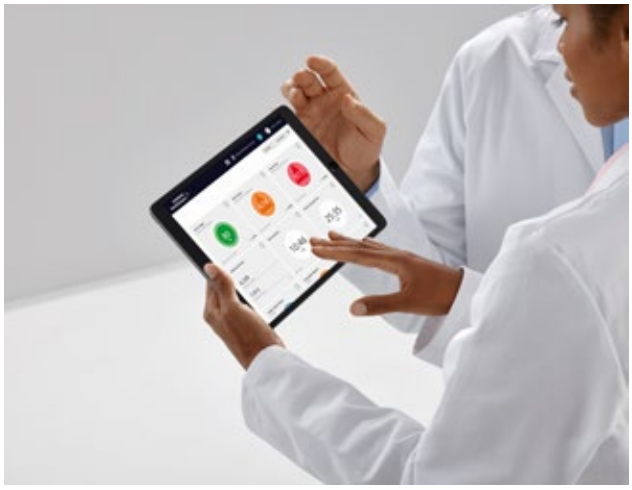
Fleet management: Enhance standardization and drive efficiency

syngo Virtual Cockpit is designed to assist scan procedures from a distance. Enabled by *syngo* Expert-i, expert colleagues receive access to the scanner and can support less experienced technologists – for reproducible results across your entire CT system fleet.

And with our cloud-based performance management solution teamplay, you get a transparent overview of your system data. Easily identify areas for improvement and monitor your Siemens Healthineers fleet's performance.



Enable remote scanning assistance with *syngo* Virtual Cockpit.



Optimize scanner performance with teamplay.

Technical specifications

Discover what's inside your SOMATOM go.Top.

Key data

Slices	128 Max. 384
Rotation times	up to 0.33 s
Tube	7.0 MHU (17.5 MHU equivalent value with SAFIRE [5)])
Power	75 kW (187 kW equivalent value with SAFIRE [5)])
High voltage	70–140 kV in 10-kV steps, Sn100, Sn110, Sn120, Sn130, Sn140
mA	up to 825 mA (2.06 A equivalent value with SAFIRE [5)])
z-coverage	64 x 0.6 mm
Max. table load	up to 307 kg

Innovative hardware
The patient table is equipped with newly designed accessories such as a paper roll holder, an infusion stand, and a storage box on the side.

Why Siemens Healthineers?

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

An estimated 5 million patients globally everyday benefit from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics and molecular medicine, as well as digital health and enterprise services.

We are a leading medical technology company with over 120 years of experience and 18,500 patents globally. With more than 50,000 dedicated colleagues in more than 75 countries, we will continue to innovate and shape the future of healthcare.

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 sales organization of Siemens Healthineers worldwide.

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1) IMV (2016): 2016 CT market outlook report.
2) Smith-Bindmar R, et al., International variation in radiation dose for computed tomography examinations: prospective cohort study. BMJ 2019;364:k4931.
3) https://techjury.net/stats-about/ai/ (last visited July 26, 2019)
4) Wetzl M, et al., Mobile Workflow in Computed Tomography of the Chest. Journal of Medical Systems:43, November 2018.
5) In clinical practice, the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.
6) Duan X, et al., Electronic Noise in CT Detectors: Impact on Image Noise and Artifacts, AJR:201, October 2013.
7) Arenas-Jimenez J, et al. Image quality and radiation dose at routine unenhanced chest-CT using a tin filter in a new single-source CT model: Comparison with other chest-CT scans in the same patient. Poster presented at: Joint ESTI – ESCR Annual Scientific Meeting 2018; May 24-26, 2018; Geneva, Switzerland.
8) iMAR is designed to yield images with a reduced level of metal artifacts compared to conventional reconstruction if the underlying CT data is distorted by metal being present in the scanned object. The exact amount of metal artifact reduction and the corresponding improvement in image quality achievable depends on a number of factors, including composition and size of the metal part within the object, the patient size, anatomical location, and clinical practice. It is recommended to perform iMAR reconstruction in addition to conventional reconstruction.
9) Multi-vendor standardized COCIR energy consumption for total standby/idle mode measurement based on the self regulatory initiative. Conventional technology refers to previous equivalent scanners. Data on file.

International version.
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Published by Siemens Healthcare GmbH · Order No. CT-09342-42C1-7600 · *Printed in Germany · 8587 0120 ·*