SOMATOM go.Up

Expand your successful CT business

siemens-healthineers.com/somatom-go-up

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

Today's healthcare market is highly competitive. And with patients turning into critical consumers, it's becoming increasingly important to optimize their diagnostic experience in order to stay successful.

Improve patient experience and focus on your patients throughout the CT imaging workflow with SOMATOM® go.Up. 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.

SOMATOM go.Up also includes intuitive, AI-powered scan automation and new clinical features – making advanced procedures like preventive care available for daily practice. Of course, the CT scanner 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.Up!

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.Up 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**
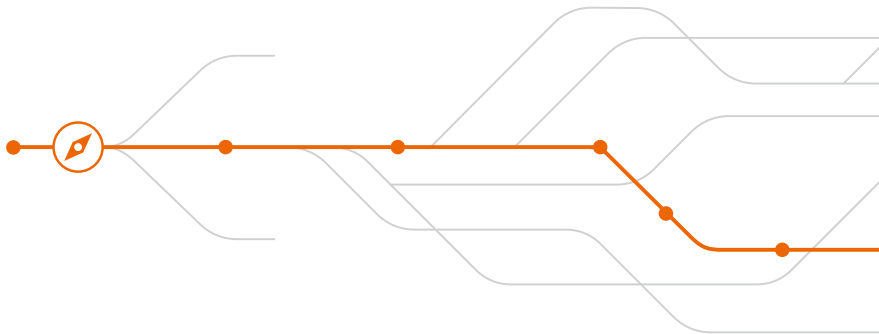with, for example, the ambient
mood lighting and low noise

"Which shoulder is to be reconstructed?"

"Does the patient have metal implants?"

"Single or spectral imaging?"

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.

An obese patient.

Suffering from claustrophobia.

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.Up, 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.Up 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
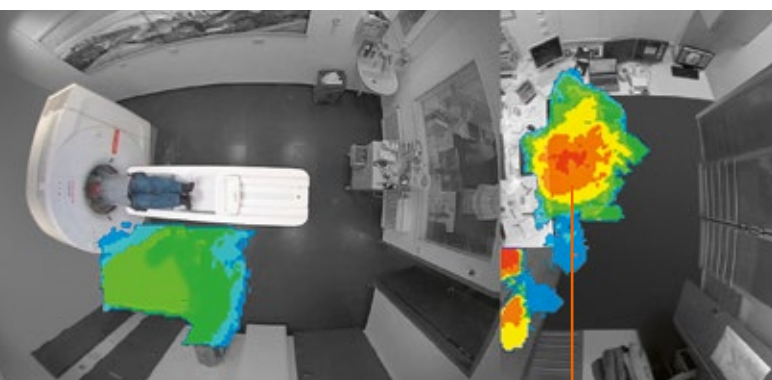
A standard workflow – with most of the operator's time spent in the **control room**.
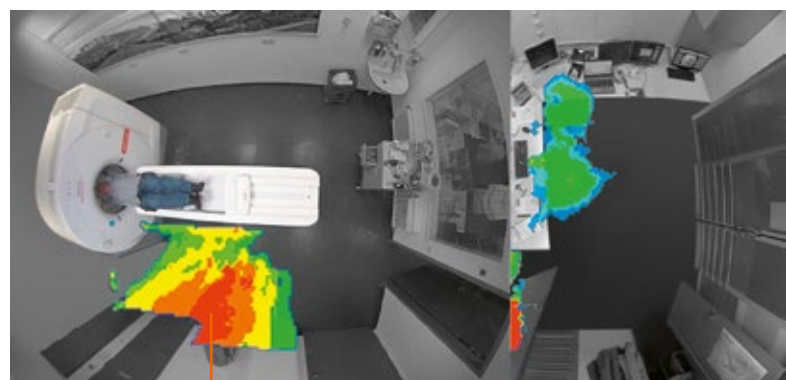
The unique Mobile Workflow with SOMATOM go.Up – a huge shift toward spending most of the time **with the patient**.[4]

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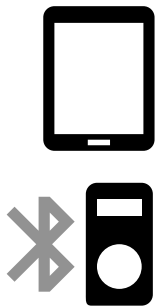
Carla Susana Ribeiro Pinto
CT radiographer at Centro Hospitalar de São João, Porto, Portugal

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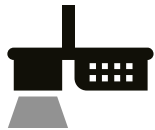
The FAST 3D Camera opens up new ways to …
- capture the patient's shape, positioning, and height in 3D
- even recognize body contour (e.g., when patients are wearing thick clothes)

- use this data for accurate and reproducible patient positioning
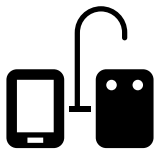
The gantry-mounted injector arm lets you …
- position the injector where you need it, when you need it
- flexibly move it to other positions

- 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.Up 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.
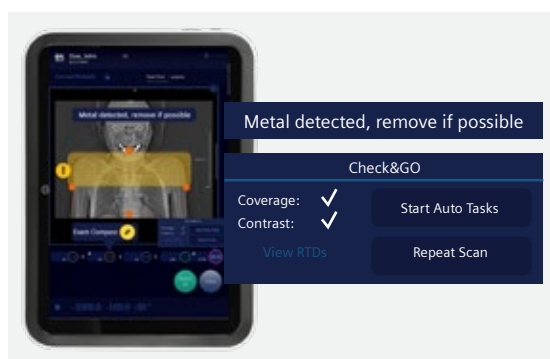
Recon&GO

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.
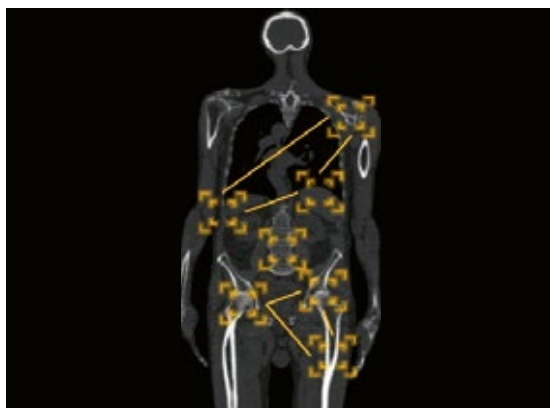
CT View&GO

CT View&GO enables smooth reading in one work-flow 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.
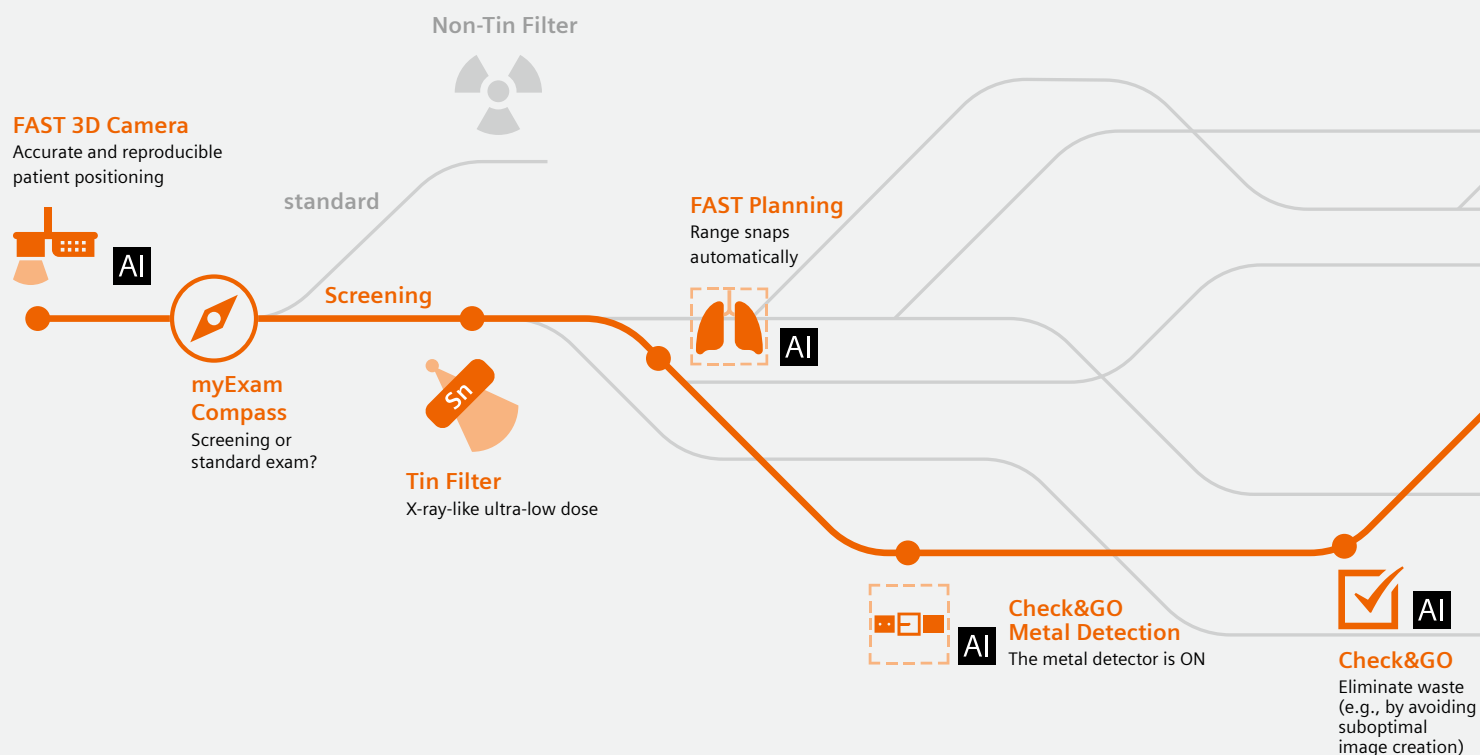
Transform care delivery with your new patient pathways

Every patient and clinical indication is different. With its patient pathways, SOMATOM go.Up easily takes you beyond routine: Expand your clinical portfolio and confidently perform advanced procedures like preventive care, RT planning, or cardiac assessment via calcium scoring examinations.

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 thorax examination

Non-Tin Filter

FAST 3D Camera
Accurate and reproducible patient positioning

AI

standard

Screening

myExam Compass
Screening or standard exam?

Sn

Tin Filter
X-ray-like ultra-low dose

FAST Planning
Range snaps automatically

AI

Check&GO Metal Detection
The metal detector is ON

AI

Check&GO
Eliminate waste (e.g., by avoiding suboptimal image creation)

AI

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.
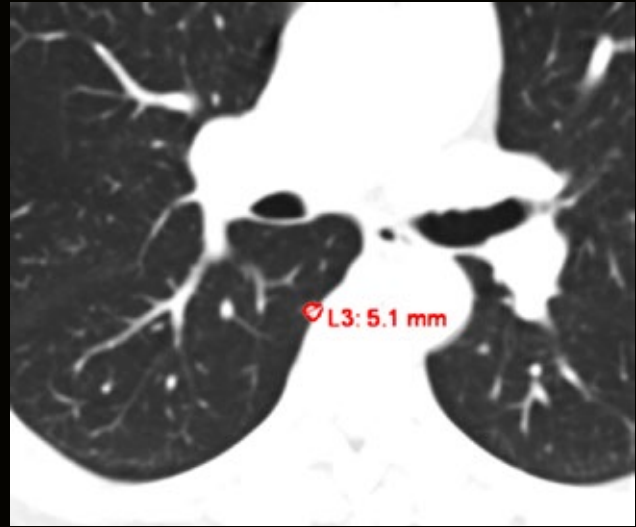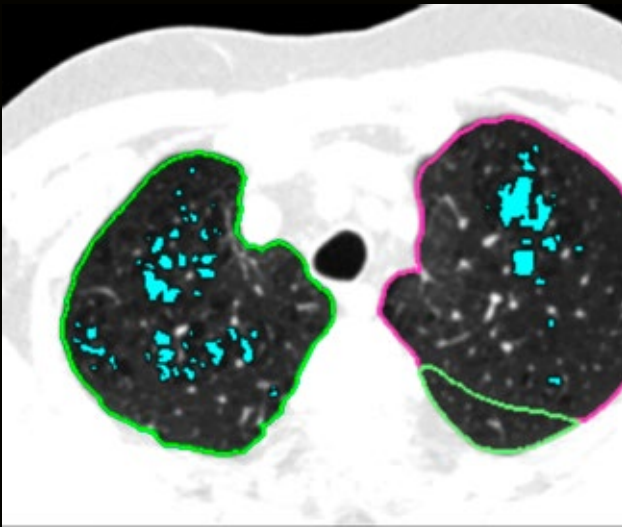
Courtesy of Erlangen University Hospital, Erlangen, Germany

AI-Rad Companion AI
Automatic identification of anatomies
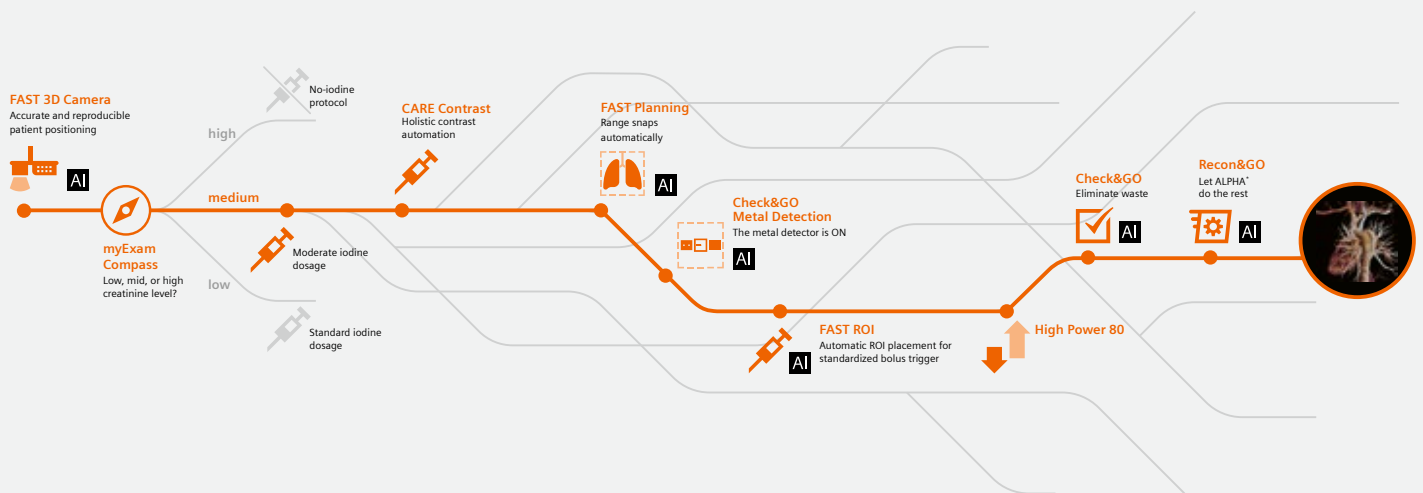and abnormalities in chest CT

Recon&GO
Let ALPHA* and
LungCAD do the rest

With SOMATOM go.Up you can achieve
ultra-low-dose thoracic examinations
powered by the Tin Filter. The AI-Rad
Companion complements the workflow
with your augmented reading aide.

For more information on the technologies,
see pages 20-22.
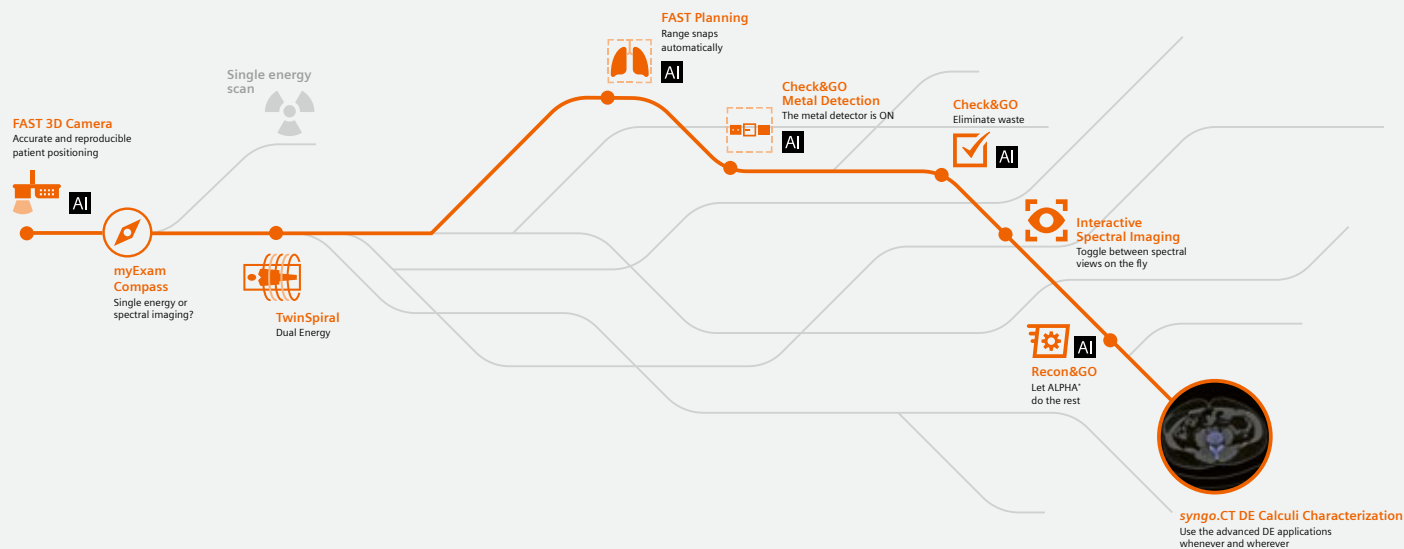
What exam do you GO for today?

myExam Companion guides you through your CT angiography

FAST 3D Camera
Accurate and reproducible patient positioning

myExam Compass
Low, mid, or high creatinine level?

high

medium

low

No-iodine protocol

Moderate iodine dosage

Standard iodine dosage

CARE Contrast
Holistic contrast automation

FAST Planning
Range snaps automatically

Check&GO Metal Detection
The metal detector is ON

FAST ROI
Automatic ROI placement for standardized bolus trigger

High Power 80

Check&GO
Eliminate waste

Recon&GO
Let ALPHA* do the rest

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

SOMATOM go.Up allows high-quality CT angiography exams with excellent iodine contrast and precise timing.

# myExam Companion guides you through your spectral imaging of calculi

FAST Planning
Range snaps automatically
`AI`

FAST 3D Camera
Accurate and reproducible patient positioning
`AI`

Single energy scan

Check&GO Metal Detection
The metal detector is ON
`AI`

Check&GO
Eliminate waste
`AI`

myExam Compass
Single energy or spectral imaging?

TwinSpiral
Dual Energy

Interactive Spectral Imaging
Toggle between spectral views on the fly

Recon&GO
Let ALPHA* do the rest
`AI`

syngo.CT DE Calculi Characterization
Use the advanced DE applications whenever and wherever

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

Spectral imaging revisited: Experience the improved spectral separation with the Tin Filter and benefit from various postprocessing capabilities for your color-coded images.

Missing your pathway? Thorax, CT angiography, and spectral imaging of calculi are just three of many. Discover the full clinical spectrum at:
siemens-healthineers.com/somatom-go-up-pathways

See it with your own eyes

Whether routine imaging like lung cancer screening and angiography or more complex exams: Equipped with premium technologies, SOMATOM go.Up delivers excellent image quality – always on.
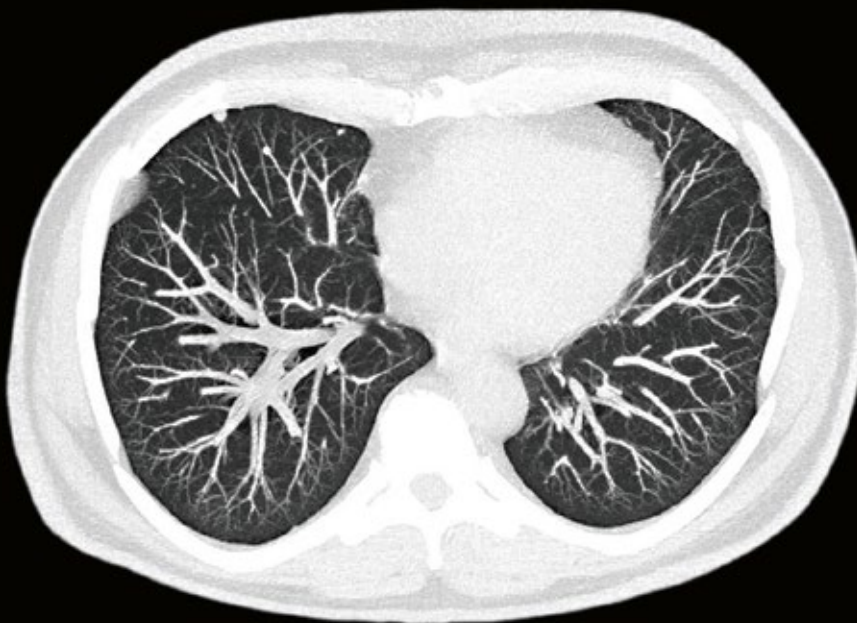
Low-dose lung imaging for nodule visualization
- Thick-slice MIP and coronal and sagittal MPR
- Tube voltage: 110 kV + Tin Filter
- $CTDI_{vol}$: 1.28 mGy

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.Up 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.Up.

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.Up.
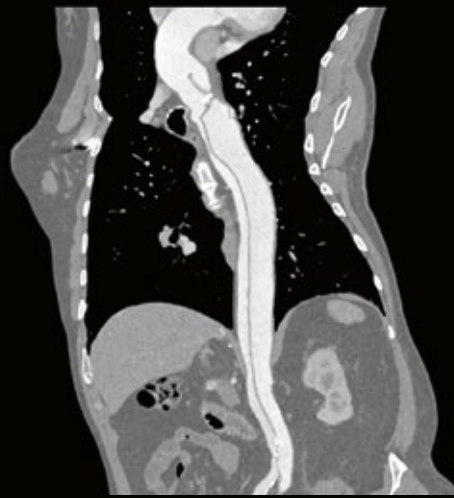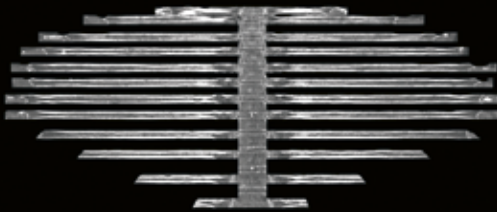

High-end study of the aorta
- Oblique VRT
- Tube voltage: 110 kV
- $CTDI_{vol}$: 5.61 mGy

Courtesy of Centro Hospitalar de São João, Porto, Portugal

Cinematic VRT performed with syngo.via

Rib unfolding study
- Inline rib ranges
- Tube voltage: 130 kV
- $CTDI_{vol}$: 4.19 mGy

Courtesy of Erlangen University Hospital, Erlangen, Germany

Simultaneous spine and rib labeling
- Axial and coronal MPRs
- Tube voltage: 130 kV
- $CTDI_{vol}$: 4.19 mGy

Courtesy of Erlangen University Hospital, Erlangen, Germany

The secrets of low dose and excellent image quality

SOMATOM go.Up helps you integrate complex exams into daily practice. Equipped with premium technologies, it delivers results you would not expect from a routine system.

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]
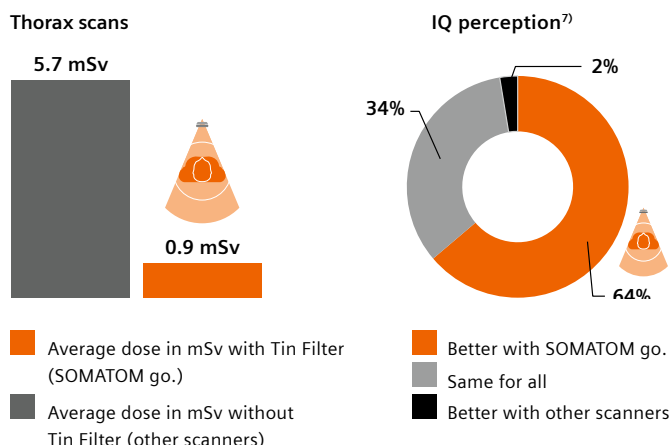

High Power 80

Allows you to scan at the highest tube current in its class: up to 400 mA at 80 kV – thanks to the Chronon™ 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.

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.

Thorax scans

5.7 mSv

0.9 mSv

IQ perception[7]

2%

34%

64%

- Average dose in mSv with Tin Filter (SOMATOM go.)
- Average dose in mSv without Tin Filter (other scanners)

- Better with SOMATOM go.
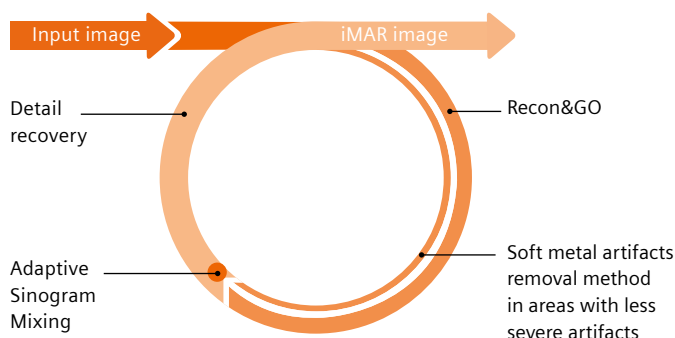- Same for all
- Better with other scanners

Spectral imaging

Launches the next generation of Dual Spiral Dual Energy in clinical routine: Get both morphological and functional information in non-contrast exams by acquiring data sets at two different energies. Key factor for the high image quality is the improved spectral separation due to the Tin Filter and better dose distribution – supported by a new workflow concept of two scans integrated into a single acquisition. The well-known GO technologies are now introduced for the first time in spectral imaging for extra advanced automation.

Recon&GO

High energy

Low energy
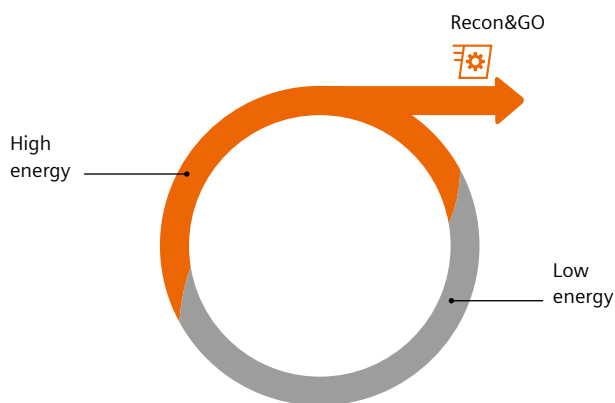
iMAR

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.

Input image

iMAR image

Detail recovery

Recon&GO

Adaptive Sinogram Mixing

Soft metal artifacts removal method in areas with less severe artifacts

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.

Measured data

Final image

Reduce artifacts

Reduce noise
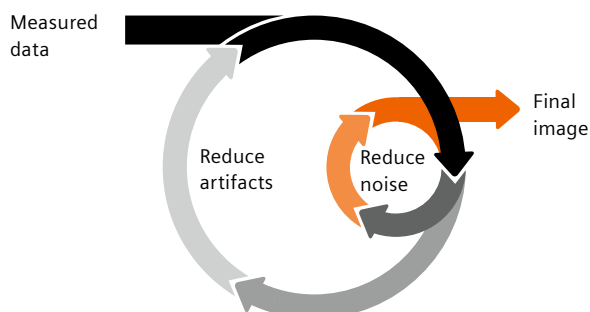
Rounding out your daily experience

Discover more smart tools that help facilitate your daily routine.

Guide&GO

The first tablet-based solution for CT-guided inter-
ventions. 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.Up'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.

AdvanceNow
Digital Platforms
Maintenance & Service Options

Based on this exceptional infrastructure and connected through our Smart Remote Services, SOMATOM go.Up 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.Up has been designed for clever savings, reduced lifecycle costs, and easy fleet management.

### Initial investment: Outsmarting installation costs

SOMATOM go.Up 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:
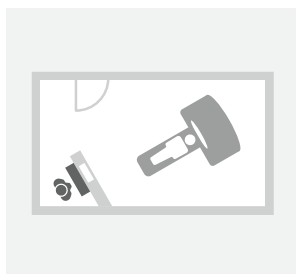

Niche setup in the examination room
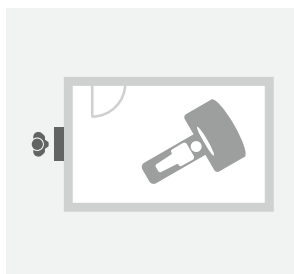
Workstation outside the room, e.g., in the corridor
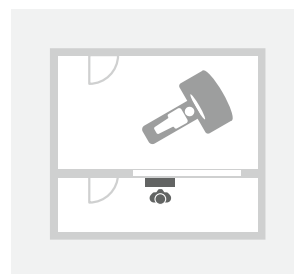
Traditional two-room setup with separate control room

Reducing operational costs

SOMATOM go.Up 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.

Electrical consumption comparison[9]

kWh consumption

72% savings

Conventional   SOMATOM go.Up
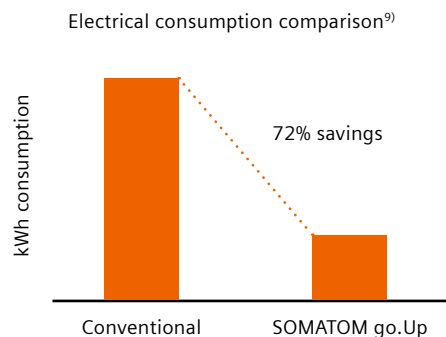
TCO: Down to new efficiency levels

Keep your running costs low with SOMATOM go.Up and benefit from:
- Longer lifetime of the Chronon tube, cutting replacement costs and minimizing downtime
- Ultra-low energy consumption during scanning and standby

Tube survival

Chronon

Dura

Scan seconds

Comparison of tube survival: Dura vs. Chronon[10]
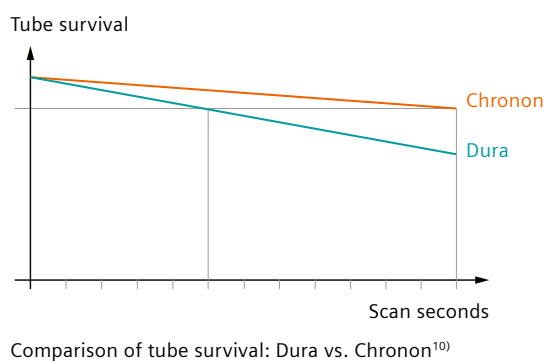
Fleet management: Enhance standardization and drive efficiency

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.
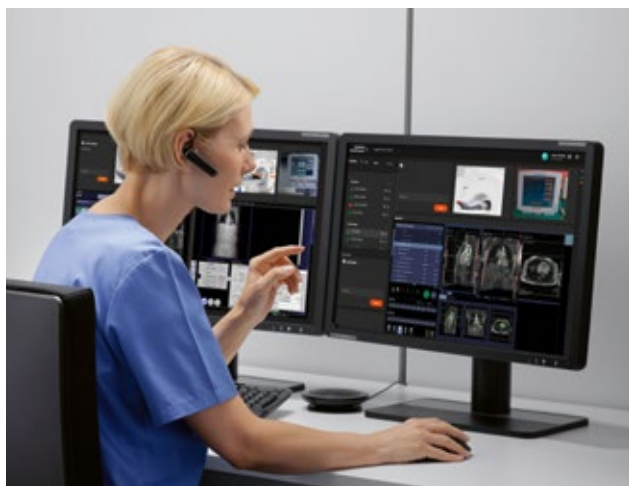
Enable remote scanning assistance with *syngo* Virtual Cockpit.
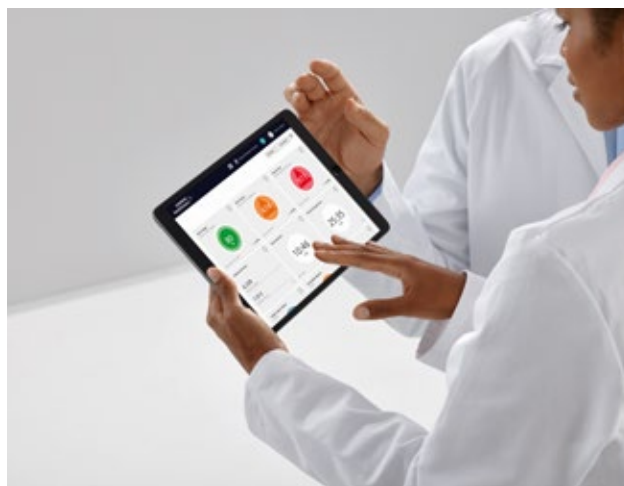
Optimize scanner performance with teamplay.

Technical specifications

Discover what's inside your SOMATOM go.Up.

Key data

Slices 64
Rotation times .... up to 0.8 s
Tube .... 3.5 MHU (8.75 MHU equivalent value with SAFIRE[5])
Power .... 32 kW (80 kW equivalent value with SAFIRE[5])
High voltage .... 80, 110, 130 kV
mA .... up to 400 mA (1,000 mA equivalent value with SAFIRE[5])
z-coverage .... 32 × 0.7 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.

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 andoptions as well as standard and optional features which do not always have to be present in individual cases.

The statements by customers of Siemens Healthineers 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.

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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.
10) Tube lifetime can vary depending on usage. The graph values are real testing data. Data on file.

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