SOMATOM go.Open Pro
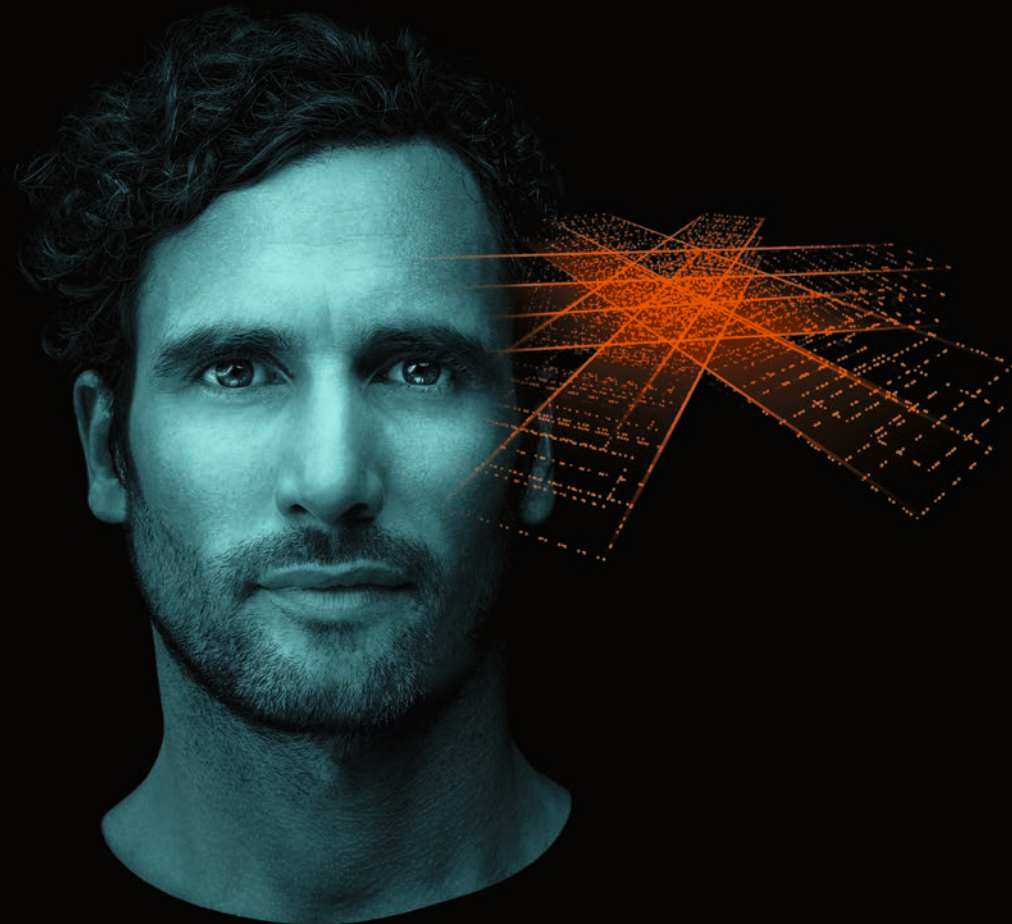
Together, moving ahead

siemens-healthineers.com/radiotherapy/ct-for-rt/somatom-go-open
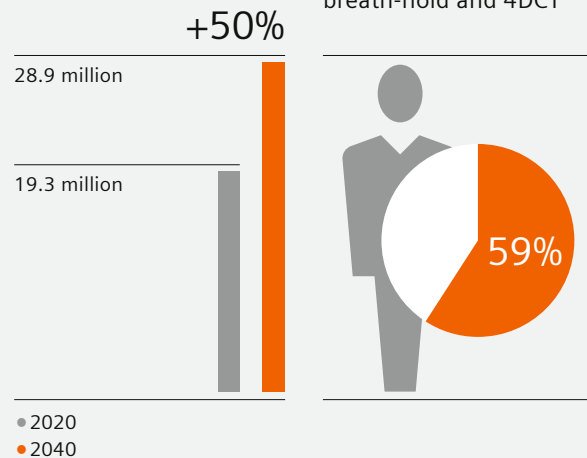
SOMATOM go.Open Pro

Staying competitive in a growing market

Healthcare providers are under increasing pressure to deliver radiotherapy to more patients than ever. This demands innovative, efficient solutions that will achieve better patient outcomes – particularly in challenging cases.

A growing problem

Total new cases worldwide[1]

+50%

28.9 million

19.3 million

- 2020
- 2040

59% of cancer cases involve body regions that require breath-hold and 4DCT[2]

59%

With cancer cases expected to surge between now and 2040[1], RT departments will have to treat more patients than ever. Motion will be a major obstacle in many of these cases.

Challenging cancers are on the rise

2.2 million (126%)

2.6 million (126%)

2.9 million (138%)

2.2 million (126%)

1.2 million (114%)
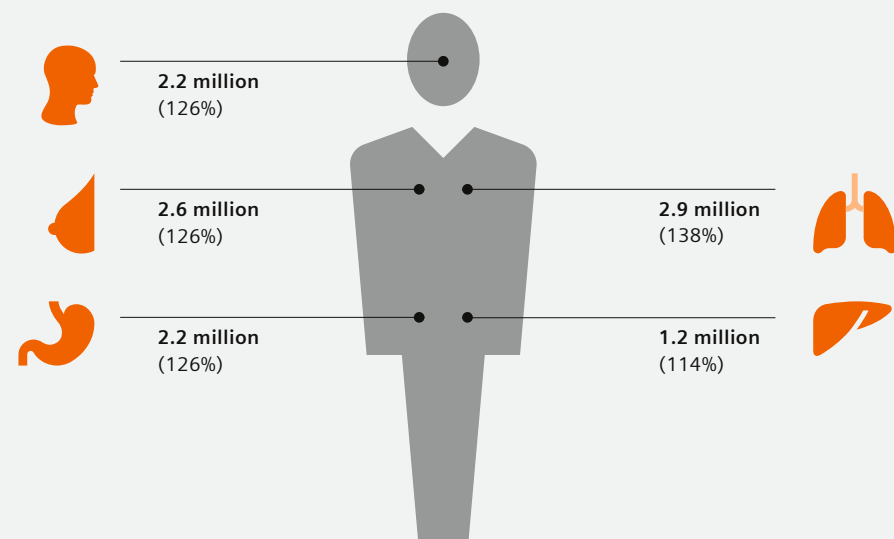
The number of patients with conditions that present challenges for treatment (e.g., head and neck, breast, lung, liver, stomach, and esophageal cancer) is set to grow significantly. To manage this trend, you need technology that can push clinical boundaries and help you lead your field for years to come.

Together, moving ahead

Curative intent, hypofractionated, and image-guided treatments hold enormous potential for patients. Yet they are only possible if the treatment planning data are absolutely precise. Many patients with conditions that present major challenges – such as the inability to hold their breath – miss out on the benefits because current CT simulation cannot manage the individual complexities they present.

SOMATOM go.Open Pro is designed to provide clinicians with the right starting point to support new treatment approaches with the necessary tools for managing the individual complexities of patients. By harnessing the power of the detector width, improved tumor contrast, and intelligent real-time breathing adaptation, it delivers exceptional clarity for confident treatment planning. Input from RT specialists guided the design, so the fully integrated hardware and software are specifically tailored to your requirements. This streamlined solution was created to help reduce errors in a complex workflow and potentially reduce time to treatment. It simplifies your tasks and saves you valuable time.

With SOMATOM go.Open Pro, you and everyone on your team can push your clinical boundaries and remain at the forefront of your field for years to come.

Imaging, the foundation of radiation therapy
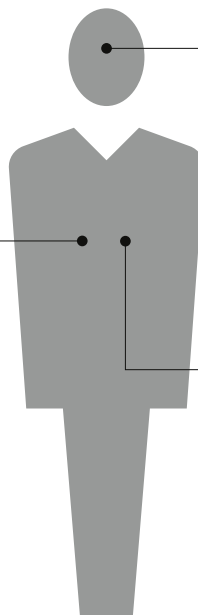
SOMATOM go.Open Pro
Together, moving ahead

A CT simulator that provides seamless patient marking and reduces unwarranted variations, SOMATOM go.Open Pro can break down the barriers to modern treatments and individualized care, allowing you to push the boundaries for challenging cases.

Head & neck cancer

TwinSpiral Dual Energy[3] is a new form of dual-energy acquisition. It uses a Tin Filter for optimal spectral separation.

Aim for precise target delineation with TwinSpiral Dual Energy and Monoenergetic Plus[3].

Lung cancer

Direct i4D[3,4] is the world's first 4D CT scan mode that intelligently adapts to the patient's breathing in real time.

Make 4D CT available for more patients and significantly reduce 4D CT motion artifacts.

Breast cancer

With wide detector coverage and fast rotation times, SOMATOM go.Open Pro makes deep inspiration breath-hold (DIBH) feasible for more patients. It enables automatically triggered DIBH image acquisition to help you in your daily routine.

Improve access to tailored treatment and boost image quality for more confident contouring.

With streamlined efficiency

Reduce unwarranted variations with high-quality OAR contours

AI-powered DirectORGANS[3] delivers consistent organs-at-risk (OAR) autocontouring. It offers the world's first contours generated by a CT simulator using an optimized reconstruction and deep learning.

Save time by eliminating manual steps with DirectORGANS (e.g., ribs, sternum, and lung lobe contours).

Pave the way for research in the field of cardiac toxicity with cardiac chamber segmentation.

85 cm

AI

Co-creation

Leading the patient journey with quality

SOMATOM go.Open Pro reinvents simulation for multiple cancer types, emphasizing precision and prioritizing the well-being of both patients and users. Developed in collaboration with the radiotherapy community, it incorporates fully integrated hardware and software customized to meet your specific needs. The flexible and intuitive system seamlessly synchronizes data across all integrated components, operating through a unified user interface and requiring only a single vendor service contract.

Spend less time managing CT simulation and more time focusing on your patients.
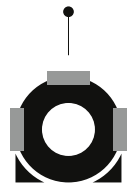
Key technical data

sFOV	Acquired slices / reconstructed slices	Z-axis coverage	Rotation time	Power	Max. table load
60 cm	64 / 128	3.84 cm	0.353, 0.5, 1.0 s	75 kW	227 / 307[3] kg (TG-66 compliant tables)

Take integration further

Help to reduce the potential of human errors with automated QA.

Direct Laser[3] provides an automated laser QA procedure with integrated patient-marking lasers, and removes the need to switch workstations or interfaces.

Tailor images for precise target contouring.

Open the door to dose calculation using one calibration curve. **DirectDensity**[3,6] enables you to personalize kV settings for each patient, eliminating the need for tube voltage-dependent calibration in the TPS.

Enhance tissue contrast and progress in sophisticated radiotherapy procedures.

Through **Dual Energy**[8] acquisition with **DirectSPR**[3] reconstruction, proton stopping power images are directly accessible. This reduces potential systematic errors associated with HU to stopping power conversion.

+ RTP laser

+ Simulation software on tablet and workstation

+ Acquisition workstation

+ Contouring station

Enhance workflow efficiency.

Simplify the simulation process with an integrated prescription driven workflow[10] that uses **myExam Companion** for clinical decision support and the automatic selection of scan protocols, and straightforward patient documentation via **DirectSetup Notes**[3,9], all seamlessly integrated into the **Mobile Workflow** to reduce complexity.

*Courtesy of Leopoldina
Krankenhaus Schweinfurt, Germany* [7]

Optimize images specifically for consistent OAR contours and fewer side effects after treatment.

DirectORGANS[3] offers the world's first contours generated by a CT simulator using an optimized reconstruction, and deep learning.
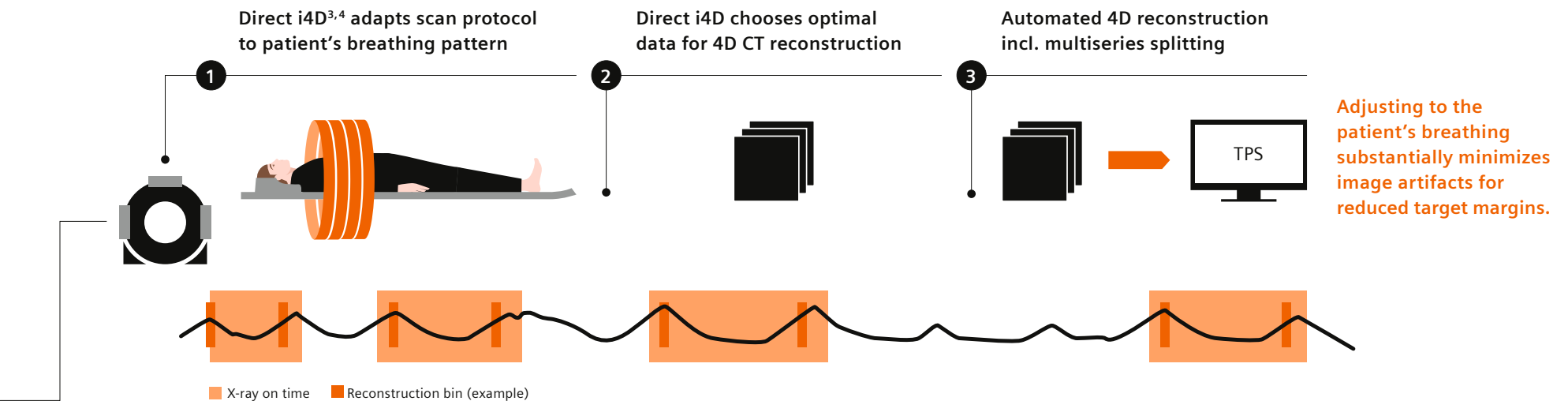
Other features:

- **4D CT scanning and Respiratory Motion Management**[3] with FAST 4D provides automated and reproducible results.
- **iMAR**[3] is our proven metal artifact reduction algorithm for improved tumor visualization.
- **TwinSpiral Dual Energy**[3] aims to deliver images with sharp contrast for excellent soft tissue visualization.

Powered by co-creation

Co-creation

To explore what really matters to you, we spoke to over 300 RT specialists: radiation oncologists, medical physicists, dosimetrists, RTTs, and financial decision-makers. We learned about your biggest challenges and created a CT simulator to address them.

Direct i4D offers intelligent precision: Reduce motion artifacts with real-time breathing adaptation

Direct i4D[3,4] adapts scan protocol to patient's breathing pattern

Direct i4D chooses optimal data for 4D CT reconstruction

Automated 4D reconstruction incl. multiseries splitting

1 **2** **3**

TPS

Adjusting to the patient's breathing substantially minimizes image artifacts for reduced target margins.

■ X-ray on time   ■ Reconstruction bin (example)

Direct i4D: a real-time adaptive 4D CT sequence that synchronizes with the patient's breathing.

Throughout the 4D CT scan, SOMATOM go.Open Pro intelligently adjusts scanning parameters in real time to accommodate the individual breathing pattern. This capability allows the system to adapt to changes in breathing frequency and amplitude. Automated 4D reconstruction and optimized binning additionally diminish breathing-induced artifacts, enhancing image quality. This has the potential to reduce target margins, resulting in decreased reliance on user and patient input.

Expand possibilities in lung and liver cancer treatment with:

• Reliable and straightforward 4D image acquisition for users, reducing the need for rescans and time-consuming edits[5]
• Reduced motion artifacts for precise visualization of moving tumors
• Enhanced confidence in treatment planning, potentially allowing for smaller target margins
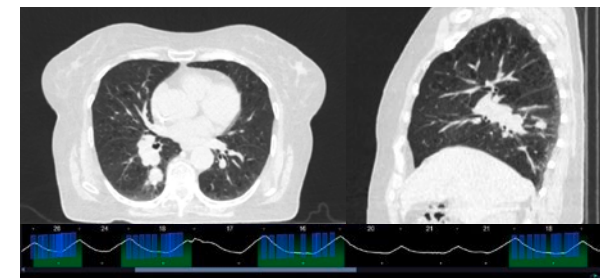
Courtesy of Universitätsklinikum Erlangen, Germany

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 Healthineers sales organization worldwide.

Availability and packaging may vary by country and is subject to change without prior notice. Some or 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 that do not always have to be present in individual cases.

Siemens Healthineers reserves the right to modify the design, packaging, specifications, and options described herein without prior notice. Please contact your local sales representative from Siemens Healthineers for the most current information.

Note: Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

For more information please scan:

The products/features mentioned herein are not commercially available in all countries. Their future availability cannot be guaranteed.

[1] *Union for International Cancer Control (UICCI), https://www.uicc.org; Cancer Research UK, www.cancerresearchuk.org*

[2] *International Agency for Research on Cancer, https://www.iarc.fr*

[3] *Optional.*

[4] *Online gating device such as RGSC or Anzai is required.*

[5] *Evaluation based on 189 clinical breathing curves from abdominal and thoracic RT patients. Werner et al. Intelligent 4D CT Sequence Scanning (i4D CT). Best of Physics at ASTRO 2018.*

[6] *As shown by measurements with a Gammex 467 Tissue Characterization Phantom comparing standard reconstruction and DirectDensity reconstruction. Image value to relative electron/mass density conversion for the standard reconstruction was based on a two-linear-equations approach with individual calibration for each tube voltage.*
For DirectDensity images, a single tube voltage-independent linear conversion was used. DirectDensity reconstruction is designed for use in Radiation Therapy Planning (RTP) only. DirectDensity reconstruction is not intended to be used for diagnostic imaging.

[7] *Volume-rendered image is for illustration purposes only and not part of DirectORGANS.*

[8] *Only available in combination with DirectORGANS.*

[9] *DirectSetup Notes is intended for digitalizing patient setup documentation to ease the RT workflow. The operation and the configuration of the feature must be conducted by trained healthcare professionals.*

[10] *Requires: syngo CT VB20, ARIA 18.1 MR2 or higher, FHIR4ARIA 4.6 or higher and Oncology Exchange.*