SOMATOM go. platform for RT

Intelligence serving your patients

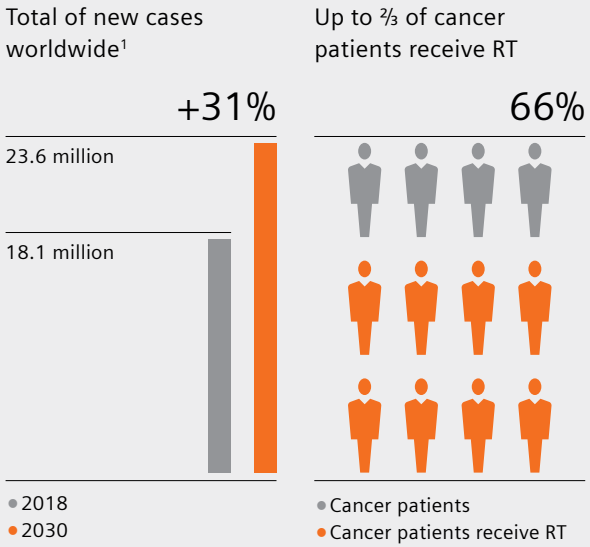
siemens-healthineers.us/rt-go-platform

SIEMENS Healthineers

Staying competitive in a growing market

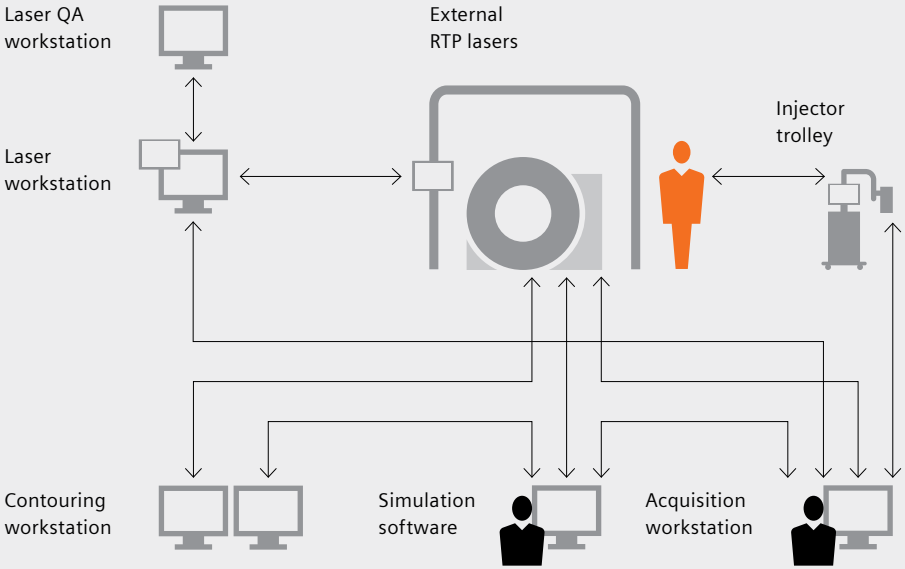
Today's healthcare providers are under increasing pressure to deliver radiotherapy to more patients than ever before. This demands innovative solutions that will allow you to work more efficiently and lay the foundations for the best possible treatments and optimal patient outcomes.

A growing problem



With cancer cases expected to surge by 31% between 2018 and 2030, RT departments will see a huge rise in the number of patients requiring their support.

An imperfect workflow



The rise in RT patient numbers will add further pressure to the already complex and challenging RT workflow. Patients go through a multi-step process that involves multiple data exchanges. At Siemens Healthineers, treatment preparation is our area of expertise. That's why we want to optimize this part of the process by addressing the lack of integration in existing systems.

The challenges in CT Simulation

1 the contouring process is a major source of variability in RT[2]

75% of all 4D patients breathe irregularly which causes artifacts[3]

60% of all RT incidents are caused by human errors[4]

Do you know how much time is lost while your patients wait for treatment after their CT Sim? Time-consuming contouring, staff availability, and image artefacts can slow down the time to therapy. This can negatively impact patient satisfaction, treatment efficacy, and departmental efficiency.

The SOMATOM go. platform for RT was created for one reason—to limit potential errors in Radiation Treatment and ultimately reduce time to treatment. By optimizing the acquired data set with AI-assisted auto-contouring, the platform uniquely reduces variability and provides you with a consistent starting point for therapy planning in the blink of an eye.

In addition, you can reduce 4DCT image artefacts because the SOMATOM go. platform for RT adapts in realtime to the patient's breathing pattern. This unmatched technology has the potential to allow more patients to benefit from 4DCT.

Because your staff wants and needs to focus on your patients, we integrated as many hardware and software components as possible—such as the uniquely integrated lasers with automated QA. Give time back to your staff, shorten procedure time, and help minimize errors in a complex environment with this platform.

Driven by intelligence and automation, the SOMATOM go. platform for RT accelerates your process and allows you to focus on what is, truly, most important—your patients' therapy outcome.

Welcome to a new world of CT simulation.

SOMATOM go. platform for RT

Beyond integration - intelligent simulation

Reduce errors[5] with a revolutionary and intelligent simulation process

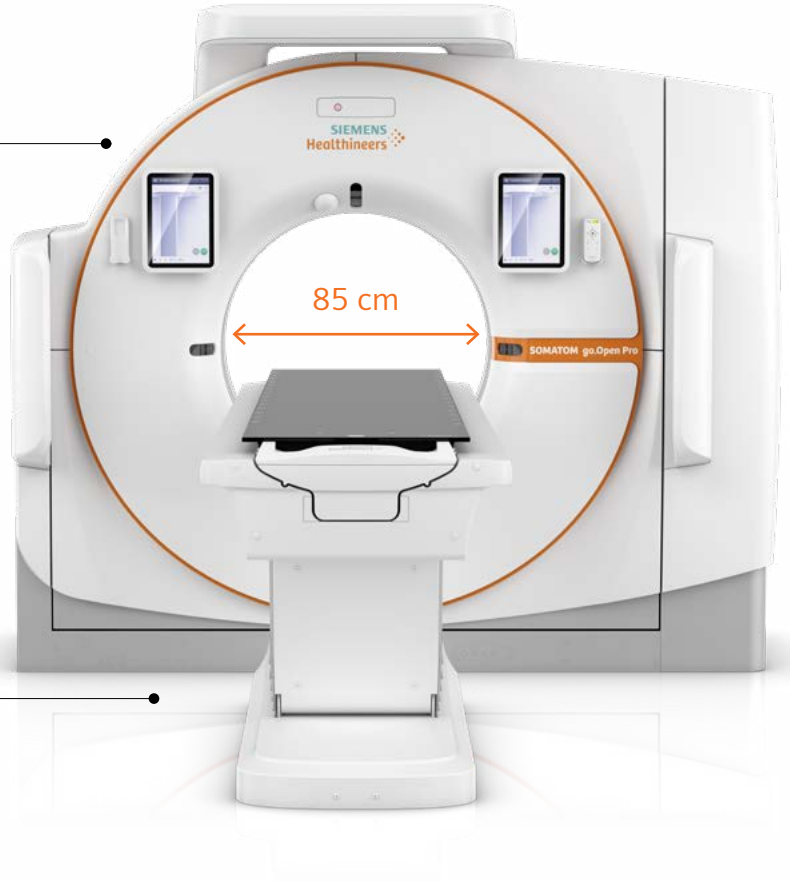
Click to learn more +

Create a consistant starting point with AI

Click to learn more +

Reduce 4D artefacts for peace of mind in 4D studies

Click to learn more +



Key technical data

sFoV	Acquired slices / reconstructed slices	Z-axis coverage	Rotation time	Power	Table load
60 cm	32 / 64 (go.Sim) 64/128 (go.Open Pro)	2 cm (go.Sim) 4 cm (go.Open Pro)	0.35[6], 0.5, 1.0 s	75 kW	227 / 307[6] kg (TG-66 compliant)

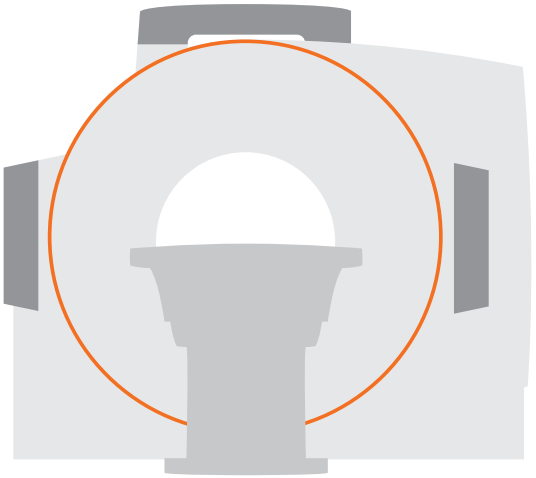
Integration and mobile workflow

Reduce errors[5] with a revolutionary and intelligent simulation process

Increase flexibility in your workflow
Remote control

Operate the system wherever you are
Mobile tablet[9]

Reduce complexity in implementation and operation
Direct Laser[6]: Automatically tailor



Never lose sight of your patient
Patient observation camera

Minimize errors
Integrated and automated workflow

More space with less clutter
Integrated injector arm

Enable a consistent starting point
Integrated AI auto-contouring

The new mobile workflow is an integrated solution that makes CT simulation smoother and less error-prone. The system contains everything you need, and you operate it using a single mobile tablet. This highly innovative setup gives you more time with patients, unparalleled flexibility for your simulation tasks, and greater TCO transparency.

In short, the new mobile workflow supports certainty in simulation and cares for patients and users.

Other features:
- **DirectDensity**[6,7]—tailor kV settings for each patient and use one calibration curve
- **iMAR**[6]—proven metal artifact reduction with 8 types of implants
- **TwinSpiral Dual Energy**[6]—even sharper contrast for excellent soft-tissue visualization
- **DirectSPR**[6,8]—directly use stopping power images for automatic, calibration-free dose calculation for proton planning

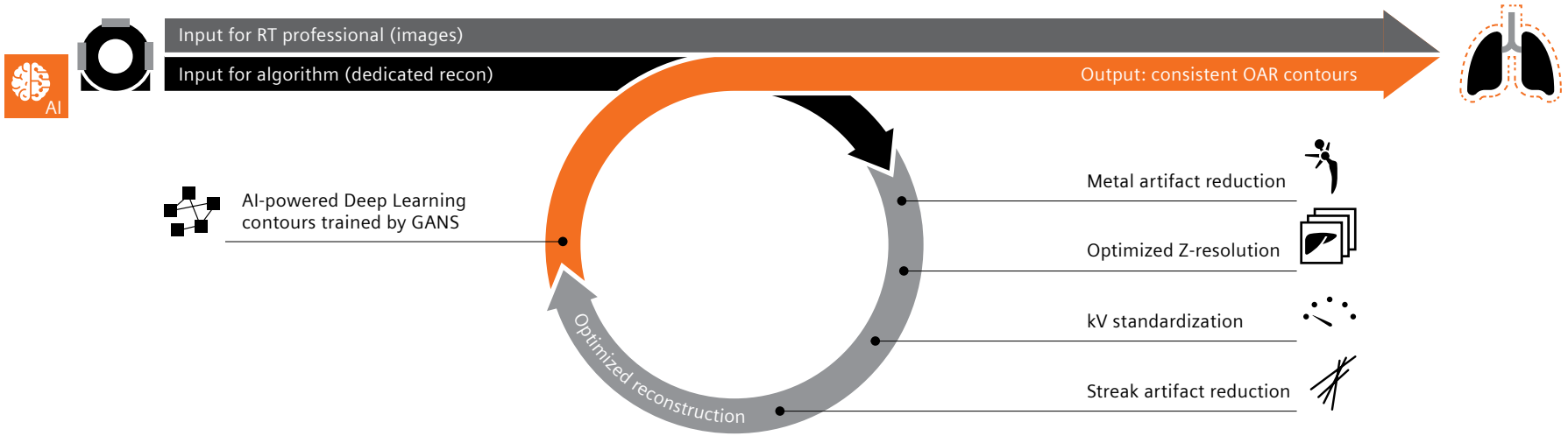
Co-creation

Powered by 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.

DirectORGANS

Create a consistent starting point with AI



DirectORGANS[6] (Optimized Reconstruction based Generative Adversarial Networks)[5] is a revolutionary, AI-based organs-at-risk (OAR) contouring solution.

It optimizes images designed for the deep-learning algorithm and delivers consistent OAR contours. The result reduces unwarranted variations with high-quality contours that approach the level of consensus-based contours.

Experience the world's first contours generated by a CT simulator using a dedicated reconstruction.

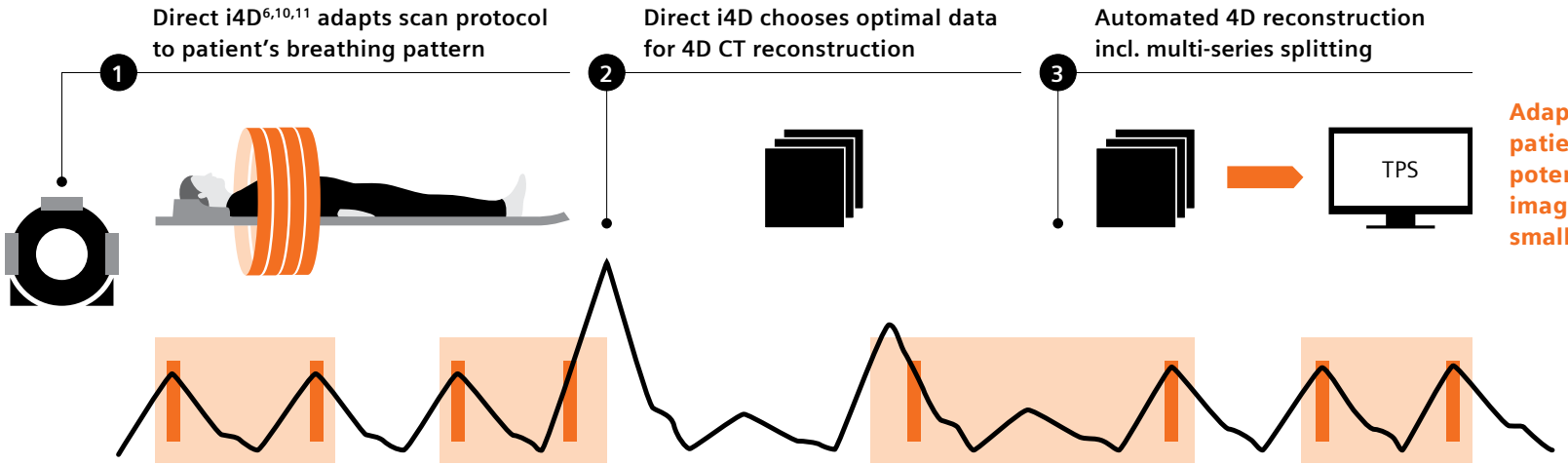
Drive precision for contouring

- OAR contouring directly at the system, no need for manual interaction
- Leverage the power of optimized recon and deep learning to streamline organs-at-risk contouring
- Reduce unwarranted variations with high-quality contours that approach the level of consensus-based contours

Courtesy of Radiologische Allianz, Hamburg, Germany

Direct i4D

Reduce motion artifacts with real-time breathing adaptation*



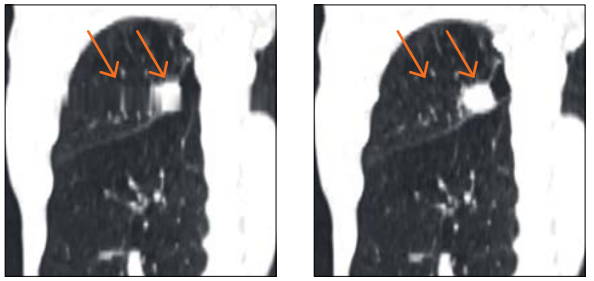
Adapting to the patient's breathing potentially reduces image artifacts for smaller target margins

Direct i4D delivers the world's first 4D CT that adapts to the patient's breathing in real time.

During the 4D CT scan, SOMATOM go.Open Pro intelligently adapts the scanning parameters to the individual breathing pattern in real time. Automated 4D reconstruction and optimized binning then produce 4D images with virtually no artifacts caused by incomplete breathing cycles. This reduces unwarranted variations in the images that can potentially decrease target margins, and leads to less dependency on user and patient.

Push the boundaries for lung cancer treatment

- Robust and simple 4D image acquisition for every user, with potential to avoid re-scans and time-consuming edits
- Fewer motion artifacts for exceptionally accurate visualizations of moving tumors
- More confident treatment planning with potential for smaller target margins



Without Direct i4D | With Direct i4D (simulation)

Courtesy of MAASTRO clinic, The Netherlands

**This feature is only available on the SOMATOM go.Open Pro*

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

An estimated 5 million patients globally benefit every day 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're a leading medical technology company with over 120 years of experience and 18,500 patents globally. With about 50,000 dedicated colleagues in over 70 countries, we'll continue to innovate and shape the future of healthcare.

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[1]Union for International Cancer Control (UICCI), https://www.uicc.org; Cancer Research UK, www.cancerresearchuk.org.
[2]Vinod S, Jameson M, Min M, Holloway L. Uncertainties in volume delineation in radiation oncology: A systematic review and recommendations for future studies. Radiotherapy and Oncology. 2016 Aug [cited 2019 Aug]. Available from: https://www.thegreenjournal.com/article/S0167-8140(16)34331-6/pdf.
[3]Werner R, Hofmann C, Mucke E, Gauer T. Reduction of breathing irregularity related motion artifacts in low-pitch spiral 4D CT by optimized projection binning. Radiation Oncology, 2017.
[4]Greenwalt J et al. Reducing errors in radiation therapy through electronic safety checklists. Applied Radiation Oncology. 2014: 5–9.
[5]Reduce the potential of errors by removing the need to switch between different user interfaces.
[6]Optional.
[7]As shown by measurements with a Gammex 467 Tissue Characterization Phantom comparing [T]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.
[8]Optional. syngo.via and syngo.via CT Dual Energy DirectSPR is required.
[9]Up to 4 additional tablets are optional.
[10]Only available on the SOMATOM go.Open Pro.
[11]Requires an interface to connect to one of the many compatible third-party gating devices, like RGSC and ANZAI.

Siemens Healthineers Headquarters
Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 9131 84-0
siemens-healthineers.com

USA
Siemens Medical Solutions USA, Inc.
Healthcare
40 Liberty Boulevard
Malvern, PA 19355-9998, USA
Phone: +1-888-826-9702
siemens-healthineers.us

Published by Siemens Medical Solutions USA, Inc. · Order No. RO-20-NAM-1060 · Online · 07.2020 ·