

syngo.via RT Image Suite

Boosting efficiency

Simulation and
treatment preparation

siemens-healthineers.com/syngo.via



Edition
2019



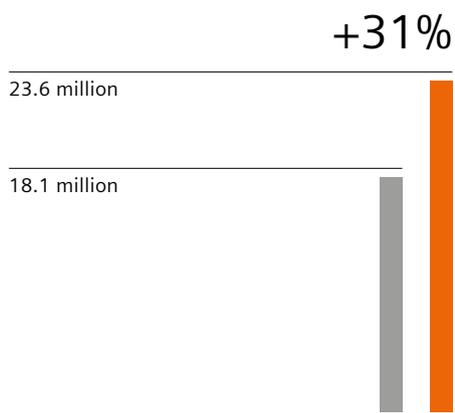
Radiation therapy in a dynamic healthcare environment

Like many other areas of healthcare, radiation therapy is a dynamic and fast-changing field. The number of patients receiving this type of therapy is continually rising.

At the same time, topics such as precision medicine, curative intent, and hypofractionated treatments have become increasingly relevant in recent years. More and more institutions in the U.S. are adopting stereotactic body radiotherapy (SBRT), and many are planning to offer stereotactic radiosurgery (SRS) in the future.

Rise in cancer cases

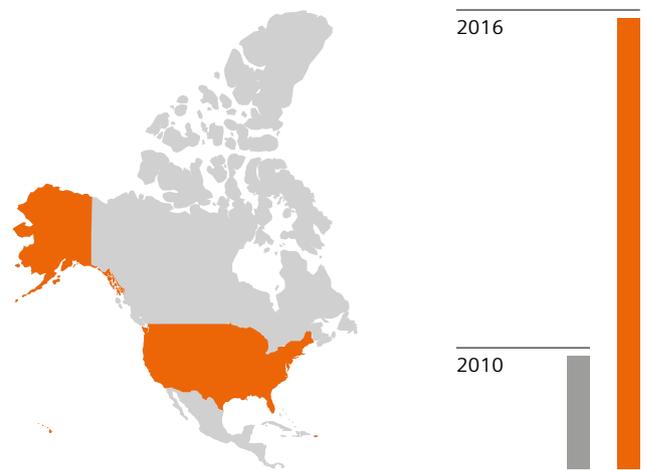
Total of new cases worldwide¹



- 2018
- 2030

Adoption of SBRT in the U.S.²

2010–2016



- 2010
- 2010-2016

To succeed in this environment, you need to treat more patients at a lower cost and master new treatments that will expand your clinical case mix.

¹ American Cancer Society, www.cancer.org

² IMV Radiation therapy survey 2015/16

Boosting efficiency in simulation and treatment preparation

Software applications have a key role to play here, and advances in treatment delivery methods will make them even more important. If the applications can support efficient workflows and deliver precision for advanced therapies, they will drive clinical excellence in RT today and into the future.

That's why we developed syngo.via RT Image Suite for radiation therapy. Our solution reduces virtual simulation time and gives you fast access to accurate clinical information, wherever and whenever you need it. Other features – such as a comprehensive respiratory motion management, a MR-only workflow, a dedicated breast RT workflow, state-of-the-art Deep Learning based AutoContouring directly triggered at the scanner, and comprehensive dose information – will expand your practice and support new treatments.

A particularly user-friendly tool, this software makes simulation, image assessment, and contouring easier and more integrated. It simplifies and standardizes your daily tasks, and gives you the capabilities you need to go beyond the current standard.

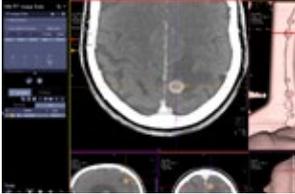
Ease what you do. Seize new opportunities.



Ease what you do

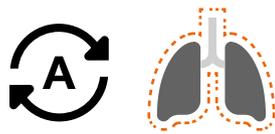
Work more comfortably with an efficient, straightforward, and well-integrated tool.

Faster marking, fewer errors



Create a fast, seamless, and more accurate workflow for patient marking with Direct Laser Steering¹

Simplified contouring



Have organ-at-risk contouring ready before you arrive, with AI-powered AutoContouring using the potential of atlas, model and Deep Learning technology



Advanced AutoContouring covers OARs such as ribs or cardiac substructures (e.g. Cardiac Left Ventricle, Left Ventricular Endocardium, Cardiac Right Ventricle, Right Atrium, Left Atrium)

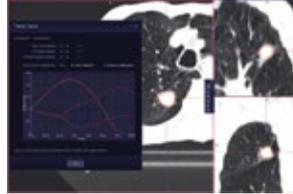


Simplify image assessment with smart contouring tools



Single-click breast isocenter placement with automated contouring of the breast

Tumor trajectory and mid-ventilation phase



Offer new treatments by visualizing tumor trajectory and capturing mid-ventilation phase for CT, PET-CT and MR



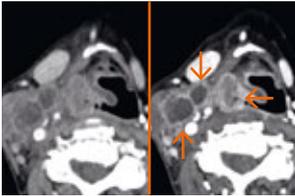
Evaluate beam geometry fast, adapted to the tumor's shape

¹ Optional

Seize new opportunities

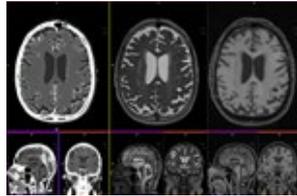
Go beyond today's standards.

Greater confidence



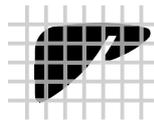
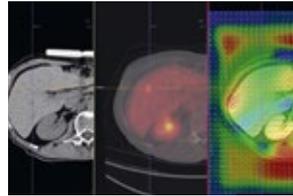
Gain more confidence in target delineation and target margins with *syngo*.CT Dual Energy advanced applications

MR-only workflow



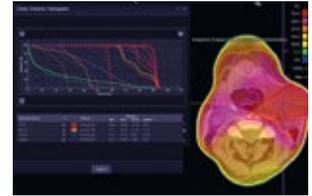
Use a straightforward MR-only workflow with Synthetic CT¹

Multimodality image management



Use multimodality images more confidently with Deformable Registration and Contouring Propagation

See the full picture



See the full picture for treatment decisions with RT Dose display¹



Discuss cases and get second opinions in real time with Expert-i



Access the whole world of *syngo*.via applications for support throughout the patient journey

¹ Optional

Ease what you do

For radiation oncologists, handling multimodality images can be cumbersome. Manual steps, awkward tools, and multiple workflows across unintegrated systems can all hamper the routine tasks of simulation, data preparation, and contouring.

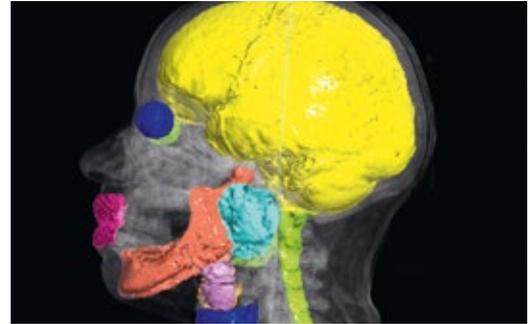
syngo.via makes many of your daily tasks more fluent, therefore your routine gets easier and more productive. With its fast, reliable, and seamless performance across all modalities, you can handle your clinical challenges with ease and confidence.

“We at CCGM shortened the virtual simulation step to an estimated 20 minutes, and thereby saved a significant amount of time for the radiation therapy department as a whole.”

Stéphane Muraro,
Centre de Cancérologie du Grand Montpellier (CCGM), Montpellier, France

AI-powered contouring

Triggered at the scanner, AutoContouring¹ makes virtual simulation part of the standard acquisition task. The AI-assisted technology uses machine learning to detect contours and organs for greater precision and reliability, regardless of the operator. It uses model-based, atlas-based and Deep Learning to segment contours and organs for greater precision and reliability, regardless of the operator. The AutoContouring results arrive fast, so you can devote more time to treating your patients.

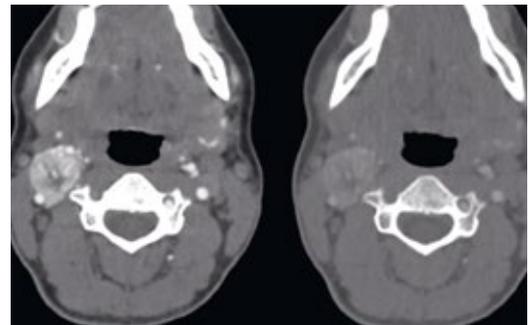


AI-based organs at risk contouring

Courtesy of MAASTRO Clinic Maastricht, The Netherlands

Sharper contrast for better contouring

syngo.CT DE Monoenergetic Plus¹ is an advanced CT application that optimizes image contrast for enhanced contouring. It gives you greater confidence in delineating tumors and defining target margins and allows you to leverage the full power of modern CT simulation. By providing both contouring and image-assessment tools, it helps you achieve a consistent starting point for your clinical routine.



Greater confidence

Courtesy of Radiology Department, Hospital Particular de Viana do Castelo, Viana do Castelo, Portugal

Fast, accurate patient marking

Integrated patient marking helps you work faster and avoid errors. Direct Laser Steering² transfers coordinates to a compatible LAP laser system with no need for an extra workstation. Virtual Laser View displays the laser line on a VRT as a visual reference for marking. AutoContouring of the breast and automatic placement of the isocenter requires just a single click.



Faster marking, fewer errors

Courtesy of MAASTRO Clinic Maastricht, The Netherlands

¹ Optional

² Requires compatible laser system

Seize new opportunities

As a radiation oncologist, you need to keep up with the demands of your field. New treatment techniques, accurate contouring and planning, and interdisciplinary cancer care demand state-of-the-art technology and collaboration tools that go much further than a simple sticky-note.

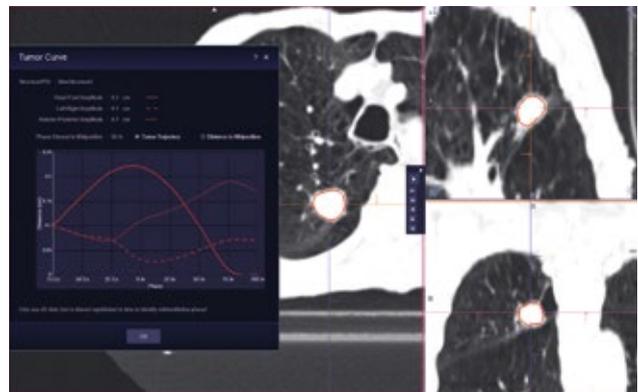
Clinical progress never stops and *syngo.via* is always up to date, applying the latest technologies like AI to help boost your clinical performance. As an open platform, *syngo.via* allows you to easily integrate your choice of apps and research prototypes, enabling you to pioneer new practices.

“The mid-ventilation approach helps to tailor the irradiating volume for a particular patient, avoiding excess irradiation of healthy tissue.”

Mirjana Josipovic,
senior medical physicist and PhD fellow, Rigshospitalet, Copenhagen, Denmark

Open up new treatment strategies with tumor trajectory and mid-ventilation phase

syngo.via VB40 for radiation therapy offers a new, convenient method for 4D lung imaging assessments: 4D contouring propagation with tumor trajectory. Semi-automatic contour propagation means you can easily propagate contouring over the different breathing phases and quickly generate an ITV. The software also visualizes quantitative 3D tumor trajectories and semi-automatically calculates the phase when the tumor is closest to mid-ventilation position. This is the mid-position of the trajectory taking into account the time the tumor spends at each location. This approach could help reduce the PTV, decrease toxicity, and open up lung SBRT to more patients.¹

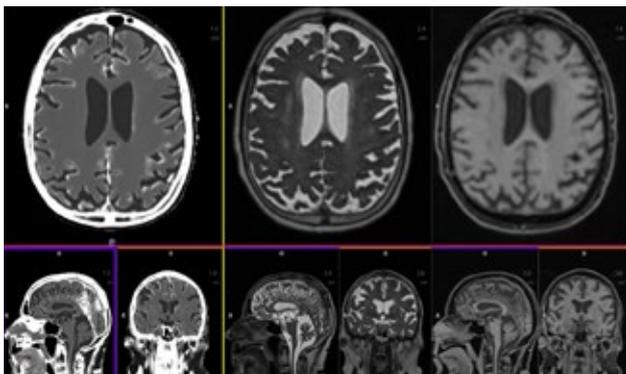


Tumor trajectory with mid-ventilation phase
 Courtesy of MAASTRO Clinic, Maastricht, Netherlands

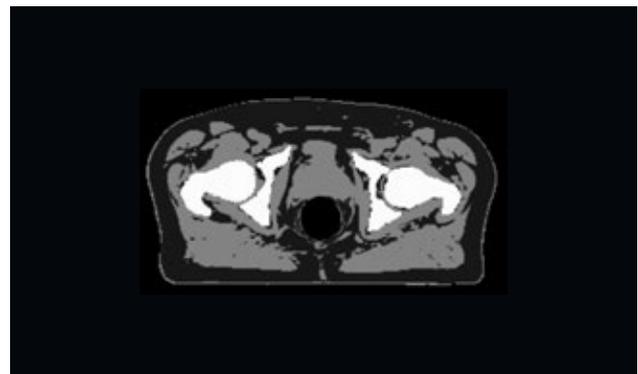
Acquire density information for dose calculations with Synthetic CT²

The MR-only approach offers a straightforward workflow that gives you the density information you need for dose calculations. It removes the problem of registration

errors between CT and MR in radiation therapy – and fast scanning protocols and automatic preprocessing allow it to fit seamlessly into your clinical practice.



MR-only workflow
 Courtesy of Centre hospitalier de l'Université de Montréal, Montreal, Canada

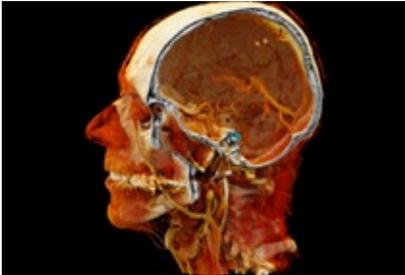


Courtesy of the University of Tuebingen, Tuebingen, Germany

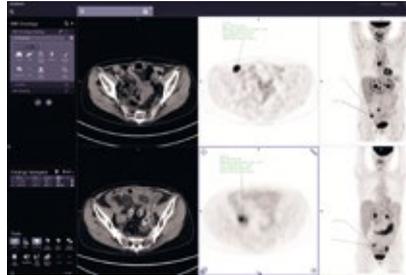
¹ Mid-ventilation based PTV margins in Stereotactic Body Radiotherapy SBRT – A clinical evaluation Peulen et al

² Optional

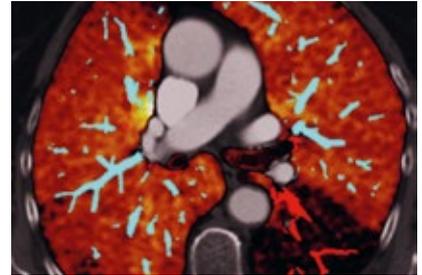
Additional advanced syngo.via applications



Cinematic VRT – Create photorealistic images with just one click²
Courtesy of University Hospital Heidelberg, Germany



Get the most out of your image, faster with syngo.MM Oncology³
Courtesy of University of Keio Gijyuku University Hospital, Tokyo, Japan



Visualize iodine concentration with syngo.CT DE Virtual Unenhanced¹
Courtesy of Ludwig-Maximilians Universität, Munich, Germany



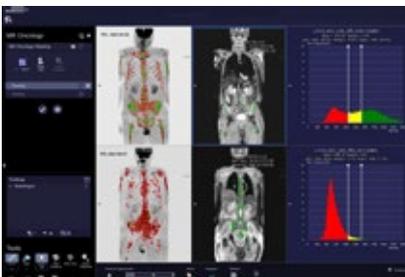
CT Dual Energy: Expanding precision medicine with DirectSPR
Courtesy of Hospital del Mar, Barcelona, Spain



Enable precision medicine with syngo.via Frontier prototypes (e.g., for investigating radiomics)⁴



Ready to use information with AI-Rad Companion Chest CT – personalize where it matters



ADC⁵-based whole-body tumor burden assessment with MR OncoTrend
Courtesy of Erlangen Imaging center (volunteer scan), Erlangen, Germany



A clearer view of complex pathologies, using patient-specific 3D models – Mimics inPrint on syngo.via OpenApps⁶

i Information

For more information about the technical specifications please visit: siemens-healthineers.com/syngo.via

¹ Optional

² Cinematic VRT is recommended for communication, education, and publication purposes and not intended for diagnostic reading.

³ The future availability of syngo.MM Oncology cannot be guaranteed.

⁴ For research use only. Not for clinical use.

⁵ Apparent Diffusion Coefficient The product is currently under development; is not for sale in the U.S. Its future availability cannot be guaranteed.

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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 170 years of experience and 18,000 patents globally. With more than 48,000 dedicated colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.



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