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Powerful reading

What's new with *syngo*.via VB50

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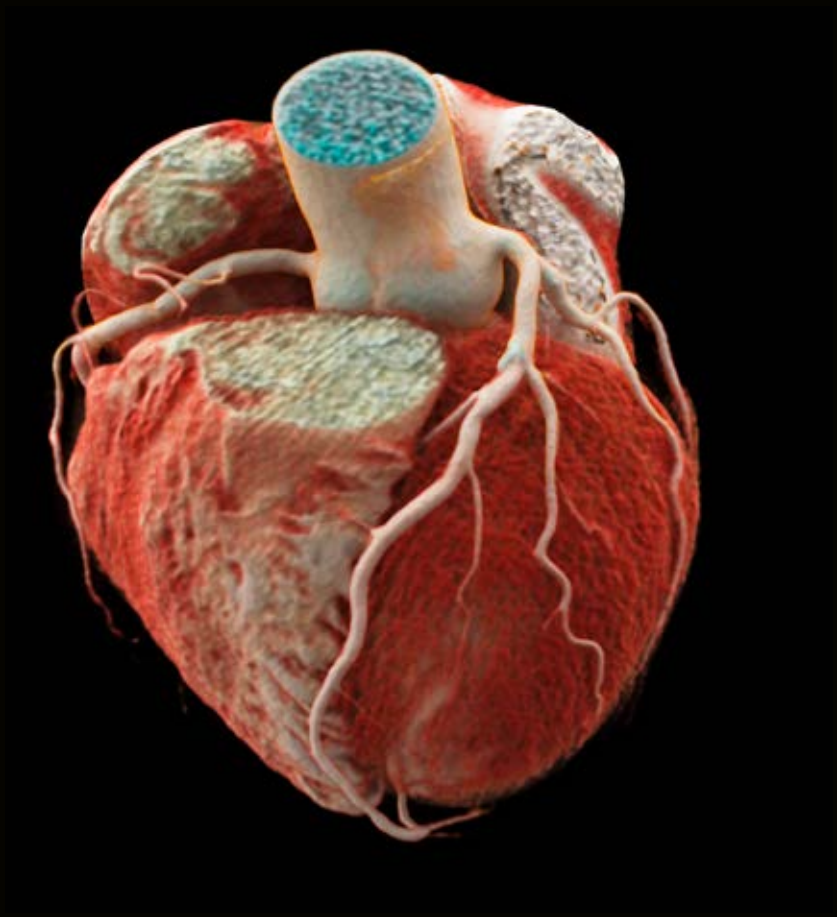
SIEMENS Healthineers

Courtesy of University Hospital of Erlangen, Erlangen, Germany



Contents

A vast treasure of data from various modalities

Waiting to be turned into better diagnoses

Radiologists face growing clinical demands. While the radiology workforce generally remains stable, there is a significant increase in data from various modalities and cases. As a consequence, radiologists work under more time pressure.

Unfortunately, routine tasks in reading software often take up a lot of time – with manual workflow steps, complex navigation, and inconsistent user experience. As an intelligent, integrated imaging software, *syngo*.via helps you to address and overcome these issues.

Imaging workload is continuously growing

Imaging workload **doubled every year** in the past five years[1]

More and more data needs to be turned into insights

Volume of **medical data expected to grow 50x p.a.** until 2020[2]

Let's advance the digitalization of healthcare with *syngo*.via

Be fast and accurate with powerful tools and actionable results that are accessible for better care

With the latest release of *syngo*.via, we focus on streamlining the processes around reading and reporting. *syngo*.via unifies and centralizes intelligent tools in a powerful diagnostic workflow to make your routine tasks more convenient and efficient. At the same time, *syngo*.via optimizes report creation by integrating established solution with real-time findings transfer. It delivers actionable image-based results that are consolidated in one high-quality report.

[1] *"Clinical Radiology workforce consensus 2017 report", Royal College of Radiology, 2018*
[2] *"Taking the Pulse of Health Care Transformation", Harvard Business Review Analytic Services Pulse Plus Survey, October 2017*

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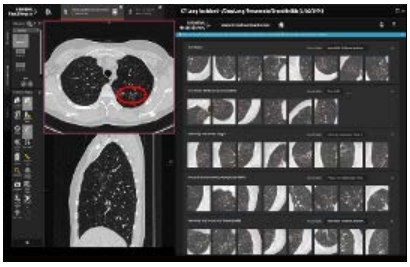
Powerful reading

With the latest release of *syngo*.via, routine reading becomes more efficient and convenient. Powerful tools in our workflow help you simplify your diagnostic process – both for advanced visualization and routine reading. *syngo*.via seamlessly integrates advanced tools and algorithms. As a result, it offers a centralized, intelligent, and customizable control center with everything in one place. Reduce complexity, increase productivity – and let *syngo*.via help you advance digitalization in healthcare.



What's New & Syngo News

- "What's New" in this version feature will inform you about the latest changes and feature updates.
- Simply click through the sliders to see what has changed and access them all after closing through your help menu.
- Syngo News provides you with short messages that contain the latest updates, tips & tricks, and resources regarding your *syngo*.via.

Lesion Quantification

- Provides automatic 3D segmentation of lung nodules based on nodule type
- Includes automatic and semi-automatic quantification of lung nodules
- Quantification results are populated to the report

Similar Patient Search

- Similar Patient Search (SPS) WebService provides an Artificial Intelligence driven similar pattern search for similar cases for Interstitial Lung Disease (ILD).
- Including the known diagnosis of the similar case and up-to-date clinical reference content from Thieme eRef in order to enhance imaging diagnostics.

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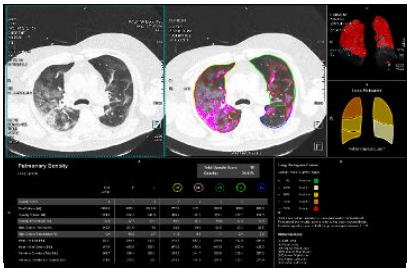
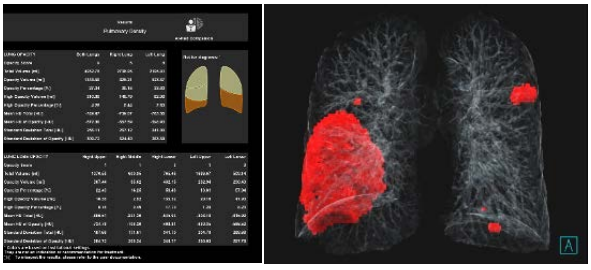
Powerful reading

Pulmonary Density Plug-In

From prototype to clinical application in 6 months.

Our answer to COVID-19 and other pulmonary infections providing users with automated lung segmentation and opacity quantification.





Pulmonary Density Plug-In

- CT-based quantitative assessment of lung areas with elevated and high opacities, which may occur in the context of pneumonia.
- It provides automated evaluation and documentation by 3D quantification of lung lobes, left, and right lung.
- The CT Pulmonary Density has been shown to generate quantifiable results on COVID-19 infected lungs.

Measuring GGOs and Densities

The plug-in provides users with various tabulated measurements, i.e.

- relative (“percentage of opacities”) and absolute volume of opacities,
- mean and standard deviation of HU values between lung parenchyma
- and the detected opacities which are exportable.

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One centralized workflow

We have integrated dedicated tools[1] that are relevant for CT, MRI and MI but also multimodality reading. All of them simplify routine reading by providing a comprehensive post-processing solution in one workflow.

Multimodality routine reading

General Radiology

- Cinematic VRT
- ALPHA Technology
- Anatomical Registration
- Spine & Rib Labeling
- Rapid Results Technology
- Automatic and interactive contouring tools

Oncology

- Lung CAD
- Lesion Quantification
- CT Lung Assistant (Similar Patient Search)
- CT Lung Change
- SUV Display
- Basic Onco Tool

Advanced Tools

- Interactive Spectral Imaging
- MR Generic tools (incl. Calculation, Motion Correction, Image Filter, ADC & b-value calculation, and composing)
- 4D Analysis – Time Curve Tool
- Fusion

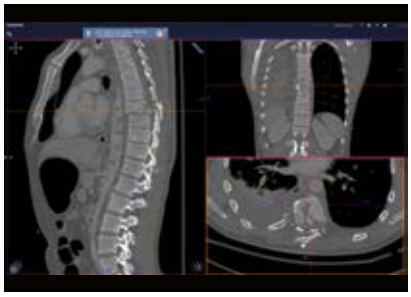
Cardiovascular

- Vessel Extension for CT & MRI
- Heart Isolation & Coronary Tree visualization

[1] *Some features are available with optional license only.*

Artificial intelligence leveraging healthcare powered by *syngo*.via

There are many new challenges to solve with an increased amount of available data and an increased number of examinations. *syngo*.via helps you to address and overcome these issues. Siemens Healthineers has served as a pioneer in AI development for more than 20 years and can offer a broad AI-driven portfolio across multiple modalities for routine reading.

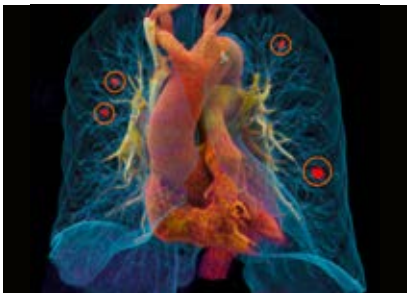


Anatomical Intelligence: ALPHA

- ALPHA technology automatically detects anatomical landmarks and structures in medical images
- Automatic spine/rib labeling
- Anatomical range pre-sets: ranges and projections are automatically initialized with respect to the underlying anatomy (parallel, curved or radial)
- Anatomical registration: multiple timepoint registration based on anatomical landmarks

Anatomy Visualizer

- Includes extended automatic and semi-automatic segmentation tools for Lung, Heart, and Aorta



***syngo*.CT Lung CAD**

- Computer-aided detection of solid pulmonary nodules
  - Assistance during review of CT examinations of the chest
  - Alerts radiologists to ROI that may have been initially overlooked

***syngo*.via OpenApps**

Your gateway to innovation

Do you want to boost your clinical capabilities? *syngo*.via OpenApps provides you direct and open access to a world of innovation.
Get access and run an ever-growing variety of clinical applications from Siemens Healthineers and our partners – directly on your *syngo*.via.

Smart and growing portfolio

- Increase clinical capabilities with apps from Siemens Healthineers and its partners
- Benefit from an evolving app portfolio with no additional infrastructure investment or maintenance
- Flexibly subscribe to applications with no additional service charges

Fast access to innovation

- Browse the Siemens Healthineers Digital Marketplace and instantly test any application
- One-click installation on a central server – and apps are ready to use for all clients
- Security scanned by Siemens Healthineers

Seamless user experience

- Experience any of the available applications as part of your *syngo*.via and make your workflow more efficient
- Seamless integration of apps in your existing IT environment
- Efficient service management with single point of contact connecting to application experts

Applications from the following partners are available for download on the Digital Marketplace. Stay tuned for many more to come!

cvi42

Best-in-class cardiovascular post-processing software for the analysis of MRI and CT images, providing rapid analysis with unparalleled accuracy.

mediCAD Classic

A global orthopaedic planning solution that helps to ensure a high level of operational quality that provides information to determine, display, calculate and document the most effective alternatives before surgery.

4D MR Flow, CT Structural Heart

Cardiac MRI (CAAS MR Solutions), Structural Heart MSCT planning (3mensio), Software for PCI analysis (CAAS Workstation, IntraVascular).

Mimics inPrint

With Mimics inPrint, users can setup an efficient in-house anatomical modeling and 3D printing activity to advance your clinical practice.

SyMRI

SyMRI delivers multiple adjustable contrast images and quantitative data for objective decision support from a single 5 minute scan.

Cercare Medical

Perfusion Analysis and Decision Support: Neurosuite provides perfusion maps of unparalleled precision together with AI-driven modules for stroke assessment and progression analysis.

Segment CMR

Segment CMR is for complete and advanced CMR analysis, providing with reliable and extensively validated methods of analysis, that increases the confidence of the cardiovascular diseases diagnose.

ADAS 3D

ADAS 3D is for cardio-vascular enhanced Magnetic Resonance (MR) images and Computed Tomography Angio-graphy (CTA) images to aid in non-invasive pre-procedural planning for patients with cardiac arrhythmias.

Ferri Smart

Measurement of Liver Iron Con-centration (LIC) assisting clinicians in diagnosis and management of patient liver iron overload, to inform drug dose adjustment, iron chelation the-rapy for conditions such as thalassaemia.

Suiteheart

NeoSoft's Suiteheart provides users with fully automated segmentation via preprocessing for function, flow, and myocardial characterization.

Siemens Healthineers is neither the provider nor reseller nor legal manufacturer of any partner-applications mentioned here. Any claims made for this product are under the sole responsibility of the legal manufacturer. Additionally, the partner applications may not be commercially available in all countries. Please contact the legal manufacturer for more information.

***syngo*.via Frontier**

Your glimpse at the future

syngo.via Frontier gives you direct access to an ever-growing variety of multi-modality **research prototypes** in the fields of Cardio-Vascular imaging, Dual Energy CT, Neurology, Oncology, physics, or general usability. Now powered by the Digital Marketplace.

Explore the unseen

- All prototypes are provided through the *syngo*.via-built-in Digital Marketplace, making it even faster and easier to manage and update them!
- Additionally, *syngo*.via Frontier is hardware-independent.

Create Innovation

- The *syngo*.via Frontier Development Kit allows you to easily translate clinical requirements into programming language and define individual tools for your research.
- Open to the external development software (incl. Visual Studio, Python, and a Linux Docker Container).
- Share your prototypes with other *syngo*.via Frontier users by simple file transfer or make them available on the Digital Marketplace for a wider audience to access.

Join the pioneer community

- Get direct access to the exclusive Frontier User Forum and the Frontier Development Community.
- Exchange ideas, read about the latest updates on favorite prototypes, and get direct access to Siemens Healthineers R&D amongst others.

syngo.via Frontier Research Prototypes are for Research Only. Not for Clinical Use.

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Anatomy meets Cinema

syngo.via Cinematic Rendering (Cinematic Reality)– Exceptionally real-time photo-realistic 3D visualization of CT and MR images, combined with Microsoft HoloLens2, blends mixed reality holograms with the real medical world

Being able to bring a Cinematic Rendered image (cVRT) in the real 3-dimensional space, allows you to make the most out of your clinical images and transform your clinical collaboration and teaching. Cinematic Reality[1] in combination with the Microsoft HoloLens2 supports complex anatomy in actual 3-dimensional space. The new Cinematic Reality application lets you rotate and pan images as well as zooming in and out of them. With intuitive gestures to control the application it really is as easy to understand as the images themselves.

Benefits at a glance

- Enhances the education and training of medical staff
- Improves referrer & patient communication with easy-to-grasp clinical images

Future potential fields[1]

- Assists surgeons in choosing the right surgical strategy
- Increases the precision of surgical procedures

[1]*The product is in prototype state and not intended for medical use. Its future availability cannot be ensured. Please Note: Additional technical pre-requisites apply. Users need at least syngo.via VB30 to access the Siemens Healthineers Digital Marketplace. After the 90 day trial version a syngo.via Frontier license is required.*

syngo.via can be used as a stand-alone device or together with a variety of *syngo*.via-based software options, which are medical devices in their own right.

syngo.via, *syngo*.via Frontier, and the Digital Marketplace are not yet commercially available in all countries. Due to regulatory reasons, future availability cannot be guaranteed. *syngo*.via Frontier Research Prototypes are for Research Only. Not for Clinical Use.

Please contact your local Siemens Healthineers organization for further information.

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