

Digital European Congress of Radiology, 15th-19th of July 2020**Siemens Healthineers further expanding AI portfolio in the field of clinical decision-making**

- **The AI-Rad Companion product family supports customers in their daily routine of clinical decision-making**
- **Newest additions to the family are solutions for post-processing of X-ray images and organ contouring for radiation therapy planning**

The AI-Rad Companion family supports radiologists, radiation oncologists, radiotherapists and medical physicists through automated post processing of MRI, CT and X-ray datasets. It saves the clinicians' time and helps them to increase their diagnostic precision. The steady rise of radiology examinations and staff shortages lead to a limited amount of time per case as well as an increasing danger of missing clinically relevant findings. Siemens Healthineers is continuously working on further solutions to expand and enhance its AI-Rad Companion algorithms. These algorithms are trained, tested and validated against a substantial amount of data sets. The data sets are selected to reflect the diversity of the population, avoid bias and deliver reliable results. "Meanwhile I really trust the algorithm. It gives me a sense of additional security.", states Dr. med. Martin Reiss-Zimmermann, Radiology Erfurt, Germany, who is using the AI-Rad Companion Chest CT in clinical practice.

AI-Rad Companion Chest X-ray¹

The new CE-labeled **AI-Rad Companion Chest X-ray** helps to detect radiographic findings on upright Chest X-ray images from multiple vendors² and acts as a companion for the clinician. Its algorithms detect and characterize several findings in the lung and pleura such as pulmonary lesions, pneumothorax, pleural effusion, consolidation and atelectasis and indicate their probability with confidence scores.

AI-Rad Companion Chest X-ray supports the DICOM format and delivers PACS ready results while reading the original image. “AI-Rad Companion Chest X-ray is fully embedded in the reading workflow and the representation of outcomes is presented in a perfect manner. It delivers the right information in a short and crisp format.”, reports Dr. med. Karsten Ridder, MVZ Prof. Dr. Uhlenbrock und Partner, Dortmund, Germany.

AI-Rad Companion Organs RT³

AI-Rad Companion not only helps to improve diagnostic accuracy, it also supports in increasing efficiency in Radiation Therapy Planning. The new **AI-Rad Companion Organs RT**, CE-labelled, helps to handle the time-consuming manual contouring in multiple CT slice images, essential for Radiation Therapy Planning. Its AI algorithms help to achieve consistent high-quality contours through automated organs at risk contouring. “The use of AI-Rad Companion Organs RT makes our life easier. Especially the contouring of organs in the upper abdomen, leads to a noteworthy reduction of turnaround time.”, states Dr. Alexandros Papachristofilou at University Hospital Basel, Switzerland.

AI-Rad Companion Brain MR⁴ for morphometry analysis and AI-Rad Companion Prostate MR³ for biopsy support

AI-Rad Companion also assists in the interpretation of MR images of the brain. The assessment of different brain areas is not easy. The FDA cleared and CE-marked **AI-Rad Companion Brain MR** for morphometry analysis automatically segments different brain areas and quantifies each of their volumes. These results are compared to a normative database and can easily be assessed by the radiologist through a color-coded deviation map and a quantitative overview. “From a clinical point of view, deviation maps are the most relevant for us. We primarily focus on them to support clinical diagnosis of dementia subtypes based on imaging phenotypes”, highlights Dr. Máté Maros, University Medical Center, Mannheim, Germany. The AI-Rad Companion portfolio includes further offerings that use MRI images for AI-based image quantification. **AI-Rad Companion Prostate MR** for biopsy support automatically segments the prostate and allows the manual annotations of lesions, which can support in targeted biopsies under MRI and Ultrasound fusion imaging. Targeted, MRI-supported biopsies like this can make it easier for the urologist to detect significant prostate carcinomas and improve the quality of patient care.

AI-Rad Companion Chest-CT

The first member of the AI-Rad Companion family was launched in 2018. The **AI-Rad Companion Chest CT** offers a bundle of algorithms that help measure, highlight and segment relevant anatomies and abnormalities of thoracic CT images of the lung, heart, vertebrae and the aorta – all of them FDA-cleared and CE marked. The software automatically creates a standardized and quantitative report and sends its result to the reporting environment. “We processed 50 previously read studies as soon as we received AI-Rad Companion Chest CT. In 14 percent of the cases that were analyzed by the software, it delivered additional clinical valuable information that has not been noticed by the initial reading of the images”, states Dr. Ernesto Barrientos Manrique, Health Time Medica, Spain. “The findings in the remaining 86 percent of processed cases, were in line with the original reports submitted by our radiologists.”

All solutions in the AI-Rad Companion family are connected to the teamplay digital health platform. Applications in the cloud ensure that the customers’ clinical cases are processed in a secured and stable way. Moreover, customers easily receive the latest up-to-date algorithms via the platform and installation efforts are minimal.

¹ AI-Rad Companion Chest X-ray is currently under development; it is not for sale in the United States and other countries.

² Tested and validated on data from Siemens Healthineers, GE and Philips devices

³ AI-Rad Companion Organs RT and Prostate MR are 510(k) pending and are not yet commercially available in the United States.

⁴ AI-Rad Companion Brain MR is not commercially available in all countries, and its future availability cannot be ensured.

The statements by Siemens Healthineers’ customers described herein are based on results that were achieved in the customer’s unique setting. Because there is no “typical” hospital or laboratory and many variables exist (e.g., hospital size, samples mix, case mix, level of IT and/or automation adoption) there can be no guarantee that other customers will achieve the same results.

This press release and a selection of press images are available at

<https://www.siemens-healthineers.com/press-room/press-releases/companionoverview.html>

For further information on ECR 2020, please see

<https://www.siemens-healthineers.com/de/press-room/press-features/pf-ecr2020.html>

For more information about AI-Rad Companion, please see

[siemens-healthineers.com/ai-rad-companion](https://www.siemens-healthineers.com/ai-rad-companion).

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Siemens Healthineers AG (listed in Frankfurt, Germany: SHL) is shaping the future of Healthcare. As a leading medical technology company headquartered in Erlangen, Germany, Siemens Healthineers enables healthcare providers worldwide through its regional companies to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, improving the patient experience, and digitalizing healthcare. Siemens Healthineers is continuously developing its product and service portfolio, with AI-supported applications and digital offerings that play an increasingly important role in the next generation of medical technology. These new applications will enhance the company's foundation in in-vitro diagnostic, image-guided therapy, and in-vivo diagnostics. Siemens Healthineers also provides a range of services and solutions to enhance healthcare providers' ability to provide high-quality, efficient care to patients. In fiscal 2019, which ended on September 30, 2019, Siemens Healthineers, which has approximately 52,000 employees worldwide, generated revenue of €14.5 billion and adjusted profit of €2.5 billion. Further information is available at www.siemens-healthineers.com.