Shorter Scans and Better Image Quality: Deep Learning-Based MR Image Reconstruction Tech from GE Healthcare now FDA Cleared

May 27, 2020

Waukesha, WI – May 27, 2020 – GE Healthcare today announced U.S. FDA 510(k) clearance of AIR Recon DL. This pioneering technology, using a deep learning-based neural network, improves the patient experience through shorter scan times while also increasing diagnostic confidence with better image quality across all anatomies. AIR Recon DL, developed on GE Healthcare's Edison intelligence platform, seamlessly integrates into the clinical workflow to generate AIR Recon DL images in real-time at the operator's console.

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IMAGE/PNG · 0.55 MB

Until now, there was an inherent compromise in MR between image quality and scan time. Better image quality achieved through higher signal-to-noise (SNR) and/or spatial resolution needed to show anatomical detail necessitated long scan times. Shorter scans, aimed to improve patient comfort and productivity, compromised image quality and diagnostic confidence. Now with AIR Recon DL, clinicians and technologists will no longer have to choose between image quality and scan time.

> **"In our experience, [AIR Recon DL] enables us to back off on the number of [signal] averages or achieve a higher matrix, to either save on scan time or achieve a higher resolution image," said Dr. Hollis Potter, chairman of the department of radiology and imaging at Hospital for Special Surgery in New York City.**

Unlike conventional post processing-based approaches that can obscure image detail, AIR Recon DL is a deep learning-based reconstruction engine making full use of raw data for maximum image quality. In addition to improving SNR, this technology features a unique intelligent ringing suppression that preserves fine image details, helping address two common pain points for radiologists and technologists—image noise and ringing.

AIR Recon DL was developed in partnership with global institutions and has been evaluated on thousands of cases across a wide range of anatomies and patient demographics. Feedback from clinical users has been overwhelmingly positive, including users noticing sharper and less noisy images enabling shorter scan times, increased reader confidence, reducing the need for repeat scans, and more scan-to-scan consistency.

> **"We are proud to bring the next generation of MR image reconstruction to the industry leveraging the latest technological revolution in artificial intelligence," said Jie Xue, president and CEO of GE Healthcare MR. "AIR Recon DL benefits clinicians, technologists and patients alike. As we transition to a post-COVID world, MR providers face a significant backlog of patient exams. AIR Recon DL can not only help providers scan more patients per day, but also allows more time to disinfect equipment between patients."**

Partners in the development and clinical validation of AIR Recon DL included Hospital for Special Surgery, University of California San Francisco, RadNet, University of Wisconsin-Madison, MD Anderson Cancer Center, Medical College of Wisconsin, Centre Cardiologique du Nord in France, Erasmus Medical Center in the Netherlands, Centro Cardiologico Monzino in Italy, University of Yamanashi and Keio University in Japan, and Asan Medical Center and Haeundae Paik Hospital in Korea.

AIR Recon DL was developed on GE Healthcare's Edison intelligence platform, which helps GE and strategic partners design, develop, manage, secure and distribute advanced applications and AI algorithms quickly.

AIR Recon DL is available as an upgrade or with new system purchases. It is currently available on GE Healthcare's 3.0T MR systems.

*Based on 2019 IMV data and GE service data

About GE Healthcare:

GE Healthcare is the $16.7 billion healthcare business of GE (NYSE: GE). As a leading global medical technology and digital solutions innovator, GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world. *Follow us on Facebook, LinkedIn, Twitter and Insights , or visit our website www.gehealthcare.com for more information.*

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