



Ultra-High-Field MRI Combines Forces with Artificial Intelligence: AIR Recon DL Receives FDA 510(k) Clearance on SIGNA 7.0T

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- **Industry-first, deep learning image reconstruction technology, AIR Recon DL, now available on entire GE MR portfolio, including SIGNA 7.0T scanner**

[GE Healthcare's AIR Recon DL on SIGNA 7.0T](#)
[IMAGE/PNG - 0.98 MB](#)

Waukesha, WI – May 13, 2021 – Ahead of this year's virtual ISMRM meeting, GE Healthcare is excited to announce that AIR Recon DL, the industry's first deep learning image reconstruction technology that works across all anatomies, is now FDA 510(k) cleared on SIGNA 7.0T magnetic resonance imaging (MRI) scanners – the world's most advanced FDA-cleared MRI device. Since it first launched on GE Healthcare's 3.0T and 1.5T MRI scanners, AIR Recon DL has benefited over a half a million patients around the world, improving the patient experience through shorter scan times while also increasing diagnostic confidence with better image quality.

AIR Recon DL, a deep learning image reconstruction technology, makes full use of all the raw data coming off the MRI scanner, maximizing image quality and resolution even with shorter scan times. Feedback from clinical users has been overwhelmingly positive, including observations of sharper and less noisy images as well as a 30-50% reduction in exam times^[1].

"The images truly are amazing," explains Garry Gold, MD, Professor of Radiology at Stanford and clinical reviewer of GE Healthcare's FDA application. "AIR Recon DL for SIGNA 7.0T takes everything we love about the ultra-high-field 7.0T's strength—namely its ability to visualize high-resolution tissue structures – and brings it to the next level by reducing noise and edge ringing. As a result, AIR Recon DL with 7.0T helps reveal a more complete picture – providing greater clinical insight for improved patient outcomes and opening up new opportunities for research across various care areas."

With a powerful 7.0 Tesla (7.0T) magnet at its core, SIGNA 7.0T^[2] can be used for both research and clinical purposes to image anatomy, function, metabolism and microvasculature in the brain and joints with incredible resolution and detail, for a broad range of applications across neurologic and musculoskeletal diseases. The completely new system features UltraG gradient technology, GE's state-of-the-art, whole-body gradient coil with 113 mT/m and 260 T/m/s, to meet the demands of ultra-high field imaging speed, contrast, resolution, advanced diffusion, and functional brain imaging.

AIR Recon DL on SIGNA 7.0T joins a host of other state-of-the-art applications in GE's latest SIGNAWorks software platform, enabling more clinical translation of research and development between GE Healthcare MRI systems – from the ultra-high-field 7.0T to the more commonly available 1.5T and 3.0T scanners in clinical settings.

"We are thrilled to make our industry-leading AIR Recon DL technology available on SIGNA 7.0T, our most powerful scanner," says Jie Xue, President and CEO, MR, GE Healthcare. "SIGNA 7.0T is a powerful tool in research for the visualization of smaller structures and subtle pathologies across various, evolving areas of study, including: neurological disorders like Alzheimer's disease, psychological disorders like depression, and articular cartilage degradation in osteoarthritis. AIR Recon DL – which has received overwhelmingly positive user feedback and fast, broad adoption – further extends the capabilities of GE Healthcare's completely new SIGNA 7.0T system, empowering our research and clinical partners to pursue new frontiers in neuroscience and musculoskeletal imaging."

AIR Recon DL, developed on GE Healthcare's Edison intelligence platform, is available as an upgrade or with new system purchases. It is currently available on GE Healthcare 1.5T, 3.0T, and 7.0T MR systems.

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About GE Healthcare:

GE Healthcare is the \$18 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.

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[1] GE Healthcare data on file

[2] SIGNA 7.0T is not yet CE marked. Cannot be placed on the market or put into service until it has been made to comply with CE marking. Not available in all markets.

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