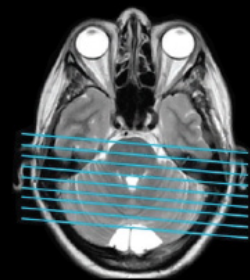
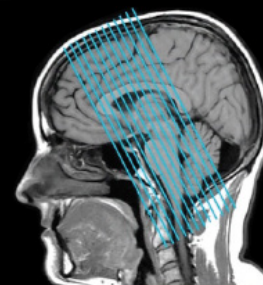
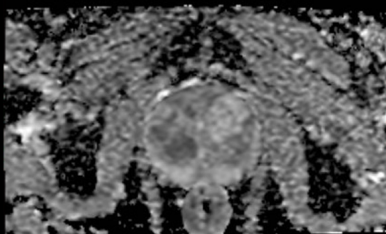
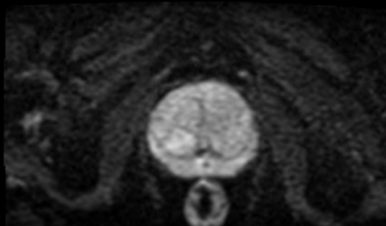
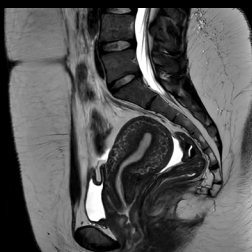
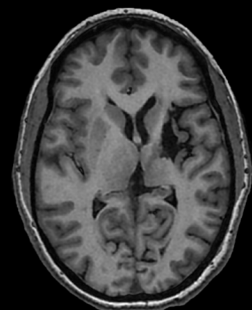




# SIGNA™ Works AIR™ IQ Edition

Streamline your MR department with intelligent applications that boost image quality, productivity and enable growth



## Making MR imaging intelligently efficient.

That is the goal of SIGNA™ Works AIR™ IQ Edition, GE's latest software release that introduces simply better technologies and improvements to your MR scanner. Whether it's simplifying scan setup, accelerating image reconstruction or improving patient comfort, the addition of the AIR™ family of technologies to the SIGNA™ Works platform packs innovations that deliver versatility, productivity and consistent quality to all users. SIGNA™ Works AIR™ IQ Edition also includes new, advanced applications and enhancements to existing ones to solve your daily challenges and empower any technologist to deliver high quality images with remarkable clarity.

**The AIR™ advanced technologies are game-changers in MR that strengthen clinical power and enable radiologists to achieve improved workflow, enhanced patient comfort and reduced exam times.**

**Hatem Abou El Abbass Ghonim, PhD**  
Professor & Senior Consultant  
Radiologist, Al Qassimi Hospital

# ENABLING INTELLIGENT SCANNING WITH THE AIR™ FAMILY OF TECHNOLOGIES

AIR™ has truly transformed the entire MR experience, bringing the concept of an intelligent scanner closer to reality. The transformation began with lightweight, flexible coils that not only conform to the body, but enable the functioning of smart applications that help automate workflow. And now, we're adding an all-new, deep-learning-based reconstruction algorithm, **AIR™ Recon DL**†. It removes image noise and artifacts directly within the reconstruction, leveraging raw data, to foundationally improve the quality of MR images.

## AIR x™ Edison

Using a deep-learning algorithm based on over 36,000 brain images and 200,000 knee images, AIR x™ is our revolutionary workflow tool that automatically prescribes slices to drive consistent and reproducible slice placement, time and time again. No matter who is scanning, with AIR x™, you get the right slice every time regardless of the patient's age, pathology or position in the magnet. Studies have shown 5x faster set-up time and 4x fewer clicks with AIR x™ so technologists can zip through set up and ease through exams. AIR x™ is available for both brain and knee†††.

## AIR Touch™


Accelerate your scanning process the minute the patient gets on the table with AIR Touch™, a workflow application that automates coil selection and landmarking. With AIR Touch™, you simply use IntelliTouch™, GE's 1-touch landmarking tool, to select and optimize the best coils based on your FOV. AIR Touch™ optimizes for the anatomy and the protocol parameters with a single touch, delivering a 59%†† productivity gain from plan to scan.

## AIR™ Recon

Reconstruction is at the heart of every scan, and reducing noise during reconstruction is critical to achieving clear images. The SIGNA™Works AIR™ IQ Edition extends AIR™ Recon, GE's smart reconstruction algorithm, to all of your daily scans. AIR™ Recon uses data acquired during prescan and then weights the receive channels according to their noise level. This means you automatically get cleaner, crisper images without having to overcompensate in your scanning protocol on every scan as a standard feature.

## AIR™ Recon DL Edison

And for those who want to take their imaging up a level, SIGNA™Works AIR™ IQ Edition introduces AIR™ Recon DL. The DL stands for deep learning, and this pioneering software is the advanced option of AIR™ Recon in that it uses a deep-learning-based reconstruction algorithm that improves SNR and image sharpness with Intelligent True Resolution, enabling shorter scan times. It's not a DICOM image post-processing technique. It improves image quality at the foundational level by making use of raw data to remove image noise and ringing. With the ability to set your preferred SNR improvement level at low, medium and high, you can acquire higher SNR without a time penalty and get images virtually free of artifact.

 **I can have the best of both worlds. I don't have to choose between improving the quality of the exam and shortening the exam time.**

**Pascal Roux, radiologist**

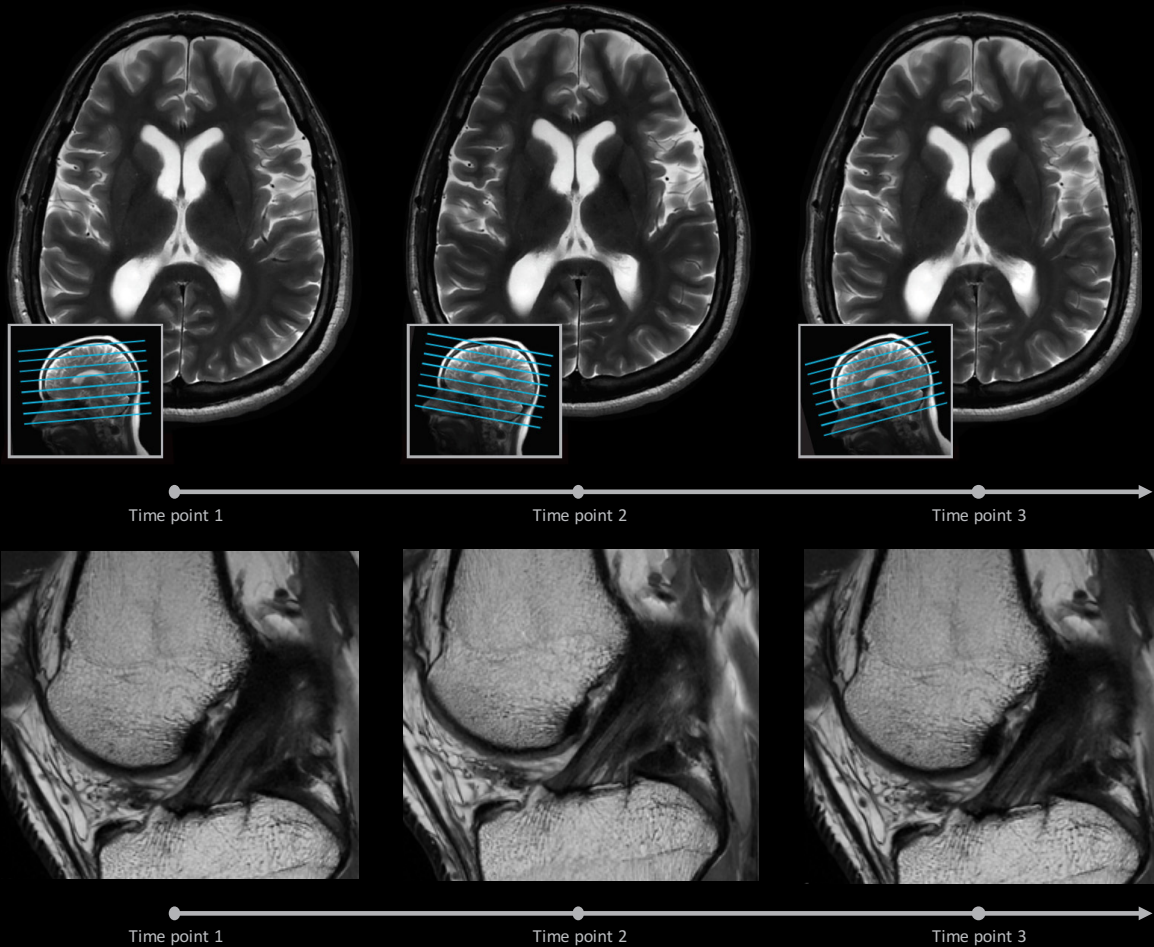
Centre Cardiologique du Nord, Paris

† Not yet CE marked for 1.5T. Not available for sale in all regions.

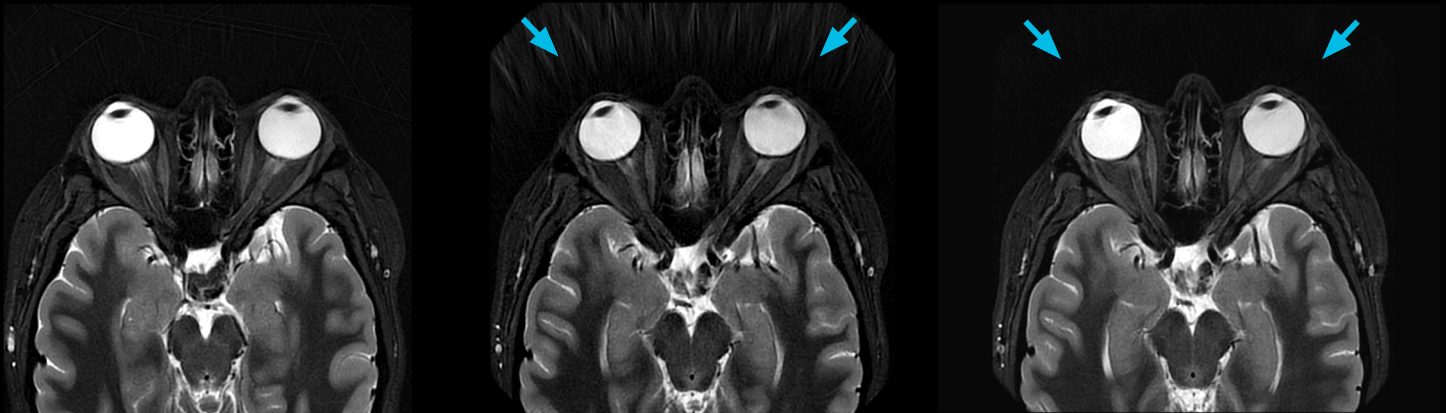
†† Results may vary.

††† Not yet CE marked. Not available for sale in all regions.

# AIR x™ – Brain & knee



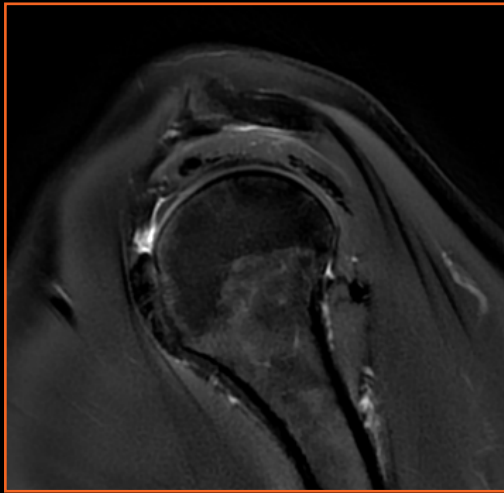
## AIR™ Recon



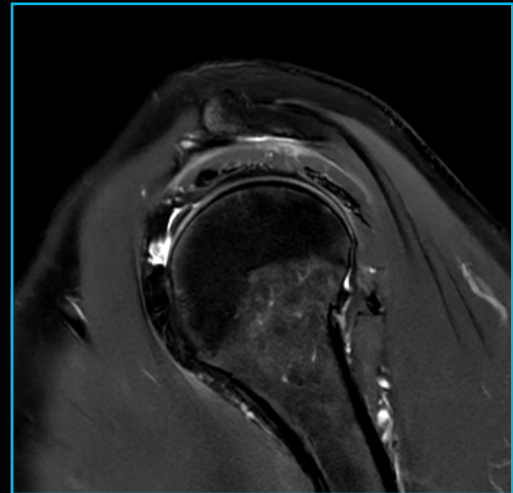
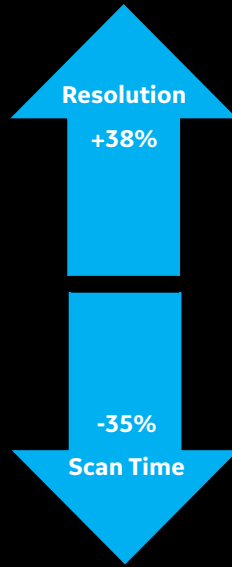
- |          |  |          |  |          |  |
|----------|--|----------|--|----------|--|
| <b>A</b> | <b>Before</b><br>Axial T2 STIR PROPELLER<br>0.5 x 0.5 x 2.5 mm<br><b>4:33 min</b><br>1.7 NPW | <b>B</b> | <b>Before</b><br>Axial T2 STIR PROPELLER<br>0.5 x 0.5 x 2.5 mm<br><b>3:33 min</b><br>1.3 NPW | <b>C</b> | <b>Using SIGNA™ Works<br/>AIR™ IQ Edition</b><br>Axial T2 STIR PROPELLER<br>0.5 x 0.5 x 2.5 mm<br><b>3:33 min</b><br>1.3 NPW with AIR™ Recon |
|----------|--|----------|--|----------|--|

(A) Typical scanning reconstruction requires significant oversampling (NPW) to prevent out-of-FOV artifacts. This causes the user to scan more than is needed, which has a direct impact on scan time. (B) If we reduce the oversampling factor (NPW), we're able to lower the scan time but introduce out-of-FOV artifacts (arrows). (C) With AIR™ Recon, we can achieve shorter scan times and remove the out-of-FOV artifacts and improve the quality.

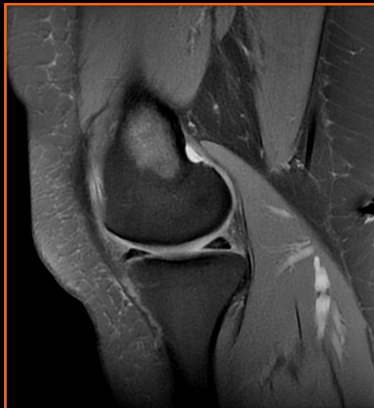
# AIR™ Recon DL



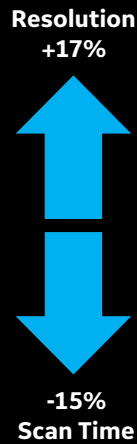
**Conventional**  
Sagittal T2 FatSat  
0.5 x 0.5 x 3.5 mm  
2:18 min/16 Slices



**AIR™ Recon DL**  
Sagittal T2 FatSat  
0.4 x 0.4 x 3.5 mm  
1:31 min/16 Slices



**Conventional**  
Sagittal PD FatSat PROPELLER  
0.55 x 0.55 x 4 mm, 3:16 min.  
Voxel Size: 1.21 mm<sup>3</sup>



**AIR™ Recon**  
Sagittal PD FatSat PROPELLER  
0.5 x 0.5 x 4 mm, 2:46 min.  
Voxel Size: 1 mm<sup>3</sup>



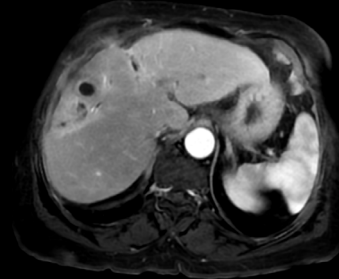
**AIR™ Recon DL**  
Sagittal PD FatSat  
0.4 x 0.47 x 3 mm, 2:15 min  
Voxel Size: 0.56 mm<sup>3</sup>

## Free-breathing, motion-free abdominal imaging

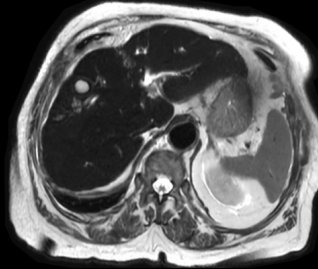
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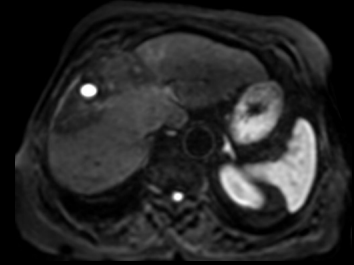
Snapshot SSFSE + AIR™ Recon DL



DISCO Star



Snapshot SSFSE + AIR™ Recon DL



eDWI + AIR™ Recon

## oZTEo<sup>+++</sup> for MR bone imaging

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# ADD CAPABILITIES THAT WERE PREVIOUSLY OUT OF REACH

New applications and advancements in the SIGNA™ Works AIR™ IQ Edition give you unique capabilities. From bone imaging to complete free-breathing exams for motion-free abdominal imaging, you can reach beyond limitations and do more.

## Stop holding your breath! Free-breathing, fast and consistent body scans are here.

Take the variable of motion out of the MR equation with the body imaging suite of applications in SIGNA™ Works AIR™ IQ Edition. Regardless of the patient's age, pathology or condition, these motion-free body imaging applications help you overcome challenges you face daily with critical sequences like T2, diffusion and dynamic T1, SnapShot SSFSE T2, eDWI and FOCUS. The latest additions to our portfolio of free-breathing navigators include DISCO Star<sup>‡</sup> and LAVA Star<sup>‡</sup>. With a push-button, worry-free dynamic or delayed imaging for liver, pancreas, or renal imaging, you no longer have to rely on the patient for excellent results. And you can take your body scans to the next level with the added benefits of AIR™ Recon DL.

## Improve image quality with additional motion correction

SIGNA™ Works AIR™ IQ Edition also includes several applications to minimize the effects of motion on routine imaging with an enhanced version of PROMO for motion robust neuro imaging and motion-corrected time course for cardiac perfusion imaging.

## See bones like never before with oZTEo

Expand your MSK scanning capabilities with oZTEo. With this new application for imaging cortical bone surfaces, based on the radial ZTE application, you can be a one-stop shop for bone imaging and add considerable clinical value to your orthopedic exams. oZTEo is inherently motion-insensitive and complements a conventional MR soft-tissue exam to deliver 3D isotropic imaging with familiar bright bone contrast. And take oZTEo even further with Volume Illumination to create realistic 3D renderings.

## Accelerate scan times with HyperWorks

The HyperWorks package is now extended to include the next generation of HyperSense<sup>‡</sup> and HyperMAVRIC SL. Looking to acquire high-resolution 3D images in less time? HyperSense now offers additional sequences like dynamic

T1 imaging for breast, liver, and prostate, as well as everyday scans like MENSA for MSK and MP-RAGE for the brain. And HyperMAVRIC SL automatically tailors the acquisition to the patient's MR-Conditional implant, scanning 40% faster with higher resolution. It also enables isotropic imaging.

## Take advantage of diverse, advanced diffusion imaging

The next generation of diffusion imaging is here. Reduce distortion with PROGRES, increase spatial resolution with MUSE, image smaller FOVs with FOCUS, or reduce scan time on FSE-based diffusion with PROPELLER DWI. The SIGNA™ Works AIR™ IQ Edition also includes MAGiC DWI, which synthetically generates higher b-value imaging to offer scan time savings and improved SNR. And with SIGNA™ Works AIR™ IQ Edition, your workflow will also benefit with the automatic generation of ADC maps and other advanced diffusion tools to help solve for your daily challenges.

## Rest easier with improved security

Your MR system is safeguarded from physical harm by the walls of your hospital or clinic and by your insurers. But what about harm that's unseen? With the McAfee™ AntiVirus option, you can better protect the SIGNA™ MR scanner from cybersecurity threats.

## MAXIMIZE YOUR INVESTMENT THE SMART WAY

Technology is changing fast, and it's easy to feel left behind. That's why we've made staying up to date with MR technology simpler and more affordable. MR Smart Subscription\*\*, an annual software subscription plan, allows you to spread the costs of staying current over time. An added perk of the program is that you get the latest MR software and updates as soon as they're available.

Want to update to SIGNA™ Works AIR™ IQ Edition but are worried about cost? Smart Subscription could be an easy solution. Contact your GE sales representative to learn more.

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\*\* Not available in all regions.

‡ Not yet CE marked for 1.5T. Not available for sale in all regions.