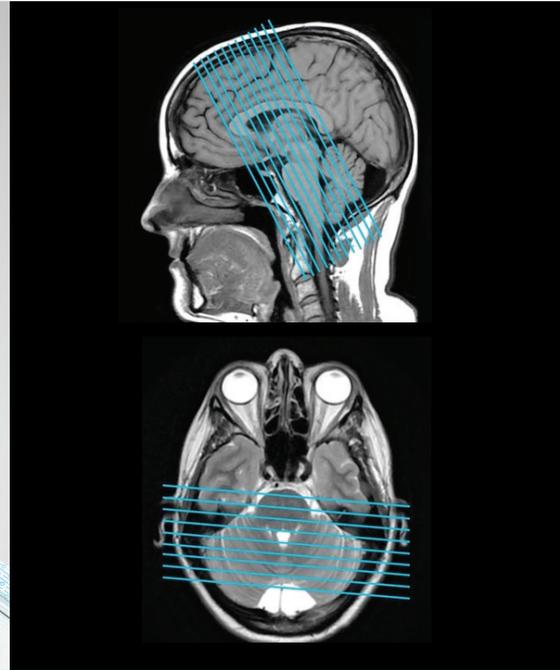
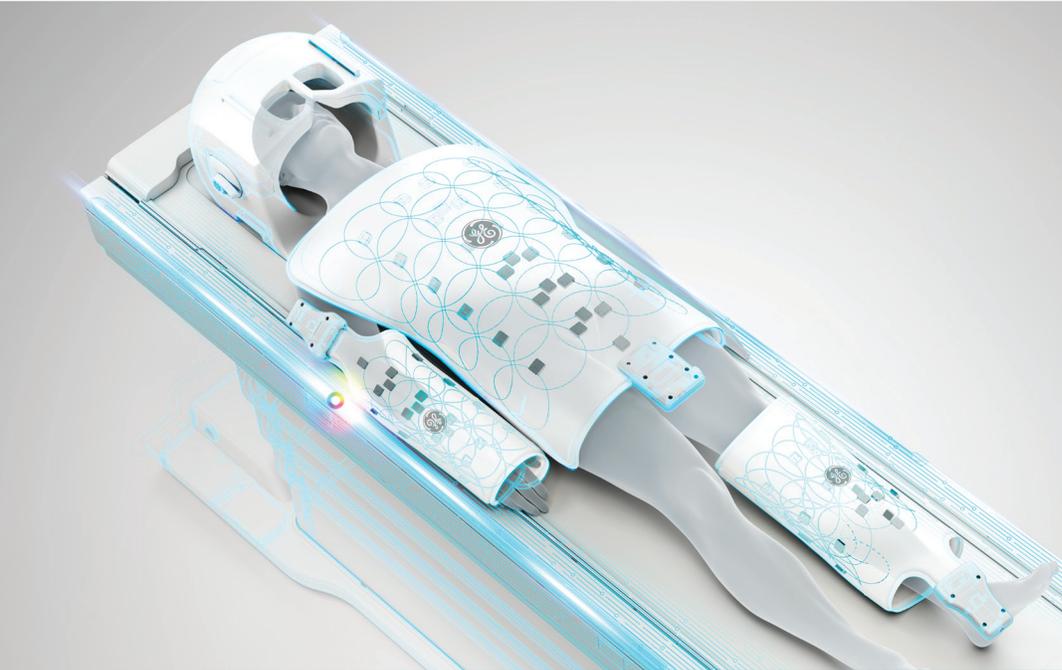


TOMORROW TODAY



# SIGNA™ Works AIR™ Edition

Exceptional versatility, productivity and image quality



Imagine a software package that can help you do more with less.

This is the goal of SIGNA™ Works AIR™ Edition, GE's latest software release which introduces simply better technologies and improvements to your MR scanner. Whether it's simplifying scan setup, accelerating image reconstruction or improving patient comfort, AIR™ packs innovations that deliver **versatility**, **productivity** and **consistent quality** to all customers. In addition, this release brings new applications along with enhancements to existing applications with the goal of empowering any technologist to deliver images with remarkable clarity.

“ We always seek the latest innovative technology to provide the best clinical performance and patient care... This upgrade completely meets our expectations. ”

**Masatoshi Hori, MD, PhD**  
Associate Professor Department of Radiology, Osaka University Hospital

[gehealthcare.com/mr](http://gehealthcare.com/mr)

SIGNA™ Works AIR™ Edition (MR28) is not available on all systems. Please contact your local GE representative for more information.

AIR™ is not available in all regions. Simply better than conventional coil technology.

# RELEASE HIGHLIGHTS

## AIR™

A family of simply better workflow applications that automate the scan process to drive consistency and image quality.

- **AIR x™\*** – Automatic slice prescription for brain scans. Studies have shown 5x faster set-up time and 4x fewer mouse clicks with AIR x™ technology.
- **AIR Touch™\*** – Improve workflow and productivity up to 59% from plan to scan with automated coil selection and landmarking.
- **AIR™ Recon** – Cleaner, crisper images without having to overcompensate in your scanning protocol.

## Standard applications

- **Cube** – Now includes T1 FLAIR and STIR contrasts
- **MP-RAGE** – Improves gray/white matter contrast
- **DISCO\*\*** – Drives temporal resolution in dynamic T1 imaging with expanded enhancements for quality and consistency
- **MAVRIC SL\*\*\*** – T2-weighting, Flexible No Phase Wrap (NPW) and an automated-parameter setting for streamlined workflow

## Advanced applications

- **MUSE\*** – Delivers high-resolution diffusion images with reduced distortion
- **PROGRES\*** – Cleans up distortion artifacts on diffusion images
- **HyperBand fMRI\*** – Provides expanded simultaneous multi-slice coverage for the DWI/DTI and EPI
- **HyperMAVRIC SL\*** – Use with MAVRIC SL to accelerate scans around MR-Conditional implants

\* Purchasable option.

\*\* Purchasable option. Enhancements included if purchased previously.

† MAVRIC SL should only be used with MR-Conditional implants and within the MR conditions specified for those implants.

†† Results may vary.

## AIR™

Many new features are powered by AIR™, which includes intelligent workflow applications that automate the scan process to drive consistency. When paired with advanced imaging applications, these workflow and processing improvements deliver simply better versatility and productivity gains along with industry-leading image quality. AIR™ applications include **AIR x™**, **AIR Touch™** and **AIR™ Recon**.



Using a **deep-learning algorithm** based on over 36,000 images, AIR x™ is our revolutionary workflow tool for brain exams that automatically prescribes slices to help eliminate error-prone, manual slice placements. Studies have shown 5x faster set-up time and 4x fewer clicks with AIR x™ so technologists can soar through set up and ease through exams. No matter who is scanning, with AIR x™, you'll get the consistent and precise prescription set up for patients regardless of their age, pathology or position in the magnet.

## AIR Touch™

Accelerate your scanning process the minute the patient gets on the table with AIR Touch™, a new workflow application that automates coil selection and landmarking. With AIR Touch™, you simply use **IntelliTouch™**, GE's 1-touch landmarking tool, to activate an optimized set of coils that is selected based on the patient's anatomy. This advanced technology selects from unlimited coil combinations such as the posterior array (PA) and flexible coils, to efficiently set up patients. With the anatomical-based protocol optimization, AIR Touch™ optimizes for the anatomy and the protocol parameters with a single touch, delivering a 59%†† productivity gain from plan to scan. AIR Touch™ automatically integrates all calibration scans, providing uninterrupted workflow for the technologist. Further scan times savings are realized with **Flexible No Phase Wrap (NPW)** to scan only what you need while allowing you to focus on your patient, not the scanner.

## AIR™ Recon

Reconstruction is at the heart of every scan, and reducing noise during reconstruction is critical to achieving clear images. With AIR™ Recon, GE's new reconstruction algorithm available on several key applications like PROPELLER, Cube, FSE and Flex, you can reduce background noise and out-of-FOV artifacts while **improving SNR**. The result is cleaner, crisper images without having to overcompensate in your scanning protocol.



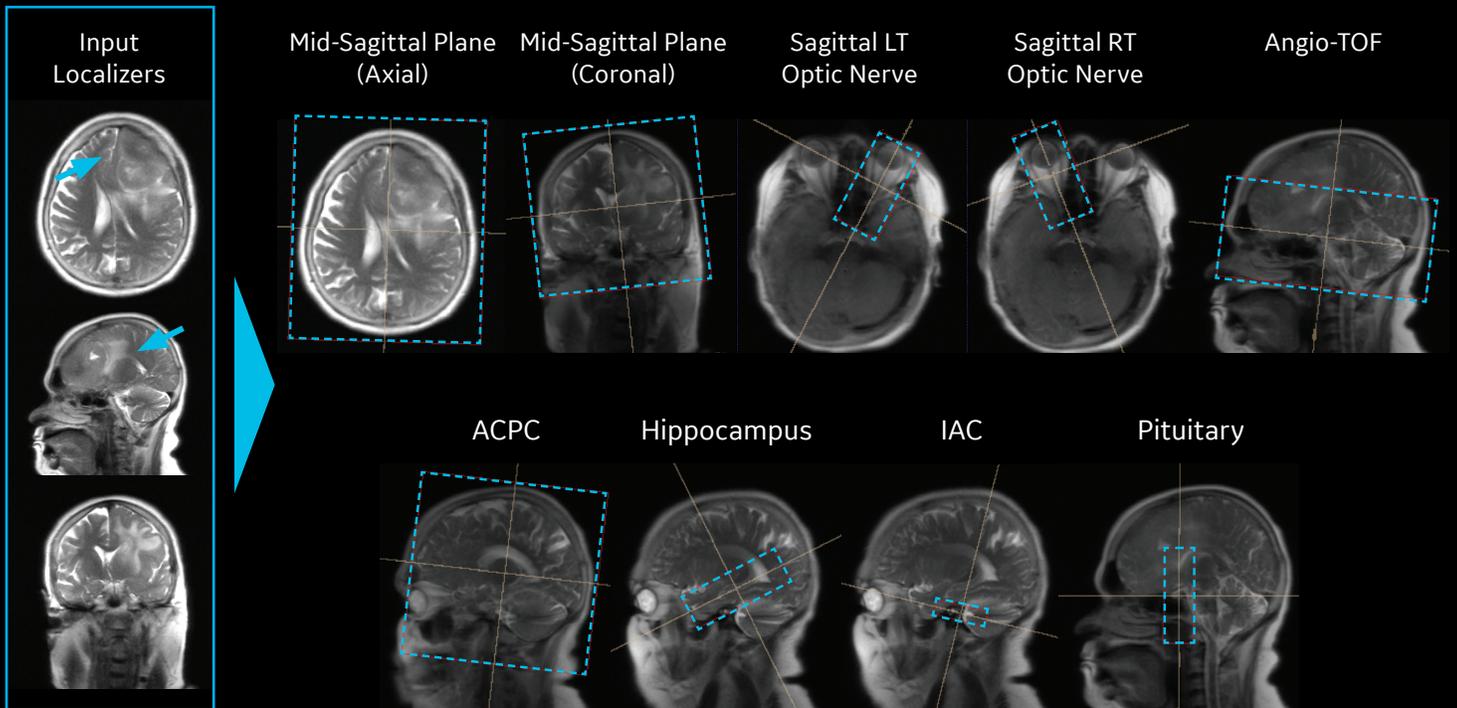
Using AIR™ is very simple. The AIR™ Anterior Array Coil is not only light and comfortable for the patients, but also for us... the workflow is much improved with AIR Touch™. We only define the ROI with the IntelliTouch™ strip and the system manages all the needs for the acquisition. We no longer have to pay attention to coil selection or calibrations, and we forget that we used to have to manage the coil: it makes us so happy!



## Brendan Bakker

Technologist, Erasmus MC

# AIR x™



# 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 over 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.

## STANDARD APPLICATIONS

This release includes new standard applications that deliver exceptional image quality in everyday scans:

### Cube enhancements

Cube, GE's 3D FSE-based sequence which allows for submillimeter volumetric scans, just got a boost to make it a key 3D sequence for the brain, spine, pelvis and MSK. In addition to T1, T2, PD, T2 FLAIR and Double IR (DIR white matter and gray matter) contrasts, Cube now includes **T1 FLAIR** and **STIR** contrasts. In addition to the expanded contrast, Cube benefits from SNR gains of up to 30%<sup>††</sup>. You can continue to drive productivity and performance by pairing it with HyperSense and HyperCube to reduce scans times even further.

### MP-RAGE

This long-awaited 3D isotropic, volumetric T1-weighted sequence further optimizes gray/white matter contrast.

### DISCO enhancements<sup>\*\*</sup>

DISCO makes critical scans achievable by driving speed and performance without sacrificing spatial resolution on dynamic T1 imaging. DISCO is commonly used in liver, prostate, and breast imaging, and lets you choose your fat suppression (LAVA, LAVA Flex or none), your breathing options (free breathing or breath hold), and how you review it (source images or as an MRA).

### MAVRIC SL<sup>‡</sup> enhancements<sup>\*\*</sup>

GE's industry-leading, first application for imaging in the presence of metal implants, MAVRIC SL now includes **T2-weighting** (in addition to T1, PD and STIR), **Flexible No Phase Wrap** and an automated-parameter setting for streamlined workflow. The release also introduces HyperMAVRIC SL<sup>\*</sup>, which automatically tailors the acquisition to the patient's implant. When used with MAVRIC SL, **HyperMAVRIC SL** can enable 40% shorter scan times, and as a 3D acquisition, it can provide isotropic resolution that can lead to improved lesion conspicuity.

\* Purchasable option.

\*\* Purchasable option. Enhancements included if purchased previously.

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## ADVANCED APPLICATIONS

With the SIGNA™Works AIR™ Edition software release, GE broadens access to advanced scanning capabilities with the addition of the following advanced applications:

### MUSE\*

Clearer diffusion imaging scans can be yours with MUSE (MULTIplexed Sensitivity Encoding). MUSE delivers sharper DWI/DTI images by reducing blurring and susceptibility induced distortions compared to conventional parallel imaging techniques. Use MUSE in areas vulnerable to susceptibility artifacts, such as the brain and prostate.

### PROGRES\*

Improve diffusion image quality even more with the distortion correction of PROGRES. PROGRES cleans up unwanted distortion artifacts on DWI/DTI images as well as enables up to 300 diffusion tensor directions.

### HyperBand fMRI\*

This application continues to extend the simultaneous multi-slice acceleration from DWI/DTI to EPI and functional MRI, enabling whole-brain fMRI coverage in ~700 ms.



“A key motivation behind the upgrade was the ability to acquire AIR™, including the AIR™ 48-channel Head Coil, along with new MR sequences available in SIGNA™Works, specifically MUSE, PROPELLER MB (multi-blade), MP-RAGE and distortion correction with diffusion-weighted imaging (DWI) like PROGRES.”



### Pär-Arne Svensson

MR research radiographer,  
The Queen Silvia Children's Hospital