



# Imagine Now & Next

## **Echelon Smart - the intelligent 1.5 Tesla**

Fujifilm has consistently pursued its idea of MRI systems that are patient-, user-, radiologist-, and eco-friendly. Regardless of the magnetic field strength and the technology used to achieve it, our systems offer high quality while using a variety of techniques to eliminate patient stress and associated potential problems such as motion artifacts, the need to repeat sequences, or in extreme cases, the inability to perform the examination.

This is easy in open systems, but how does a traditional tunnel system such as Echelon Smart™ cope? As its name suggests, it's a system with intelligent solutions that turn a standard 1.5T into a reliable MRI - easy to use, patient-acceptable, with low operating costs but high-quality studies and a variety of clinical applications.

### **SynergyDrive™**

Echelon Smart™ equipped with SynergyDrive™, an examination automation and acquisition acceleration technology, allows for faster examination times than without SynergyDrive™, without sacrificing quality.

The system includes lightweight, Workflow Integrated Technology (WIT) receiving coils that enable a variety of combinations and reduce the need to change coils between stations, anatomies or patients. The system's tunnel with adjustable lighting and airflow, and quiet sequences allow the patient to relax during the exam. For many patients, noise is the most disruptive component of MR, and the ability to perform the entire exam with SoftSound™ technology helps them get through the procedure stress-free with SmartCOMFORT™.

# Echelon Smart Plus

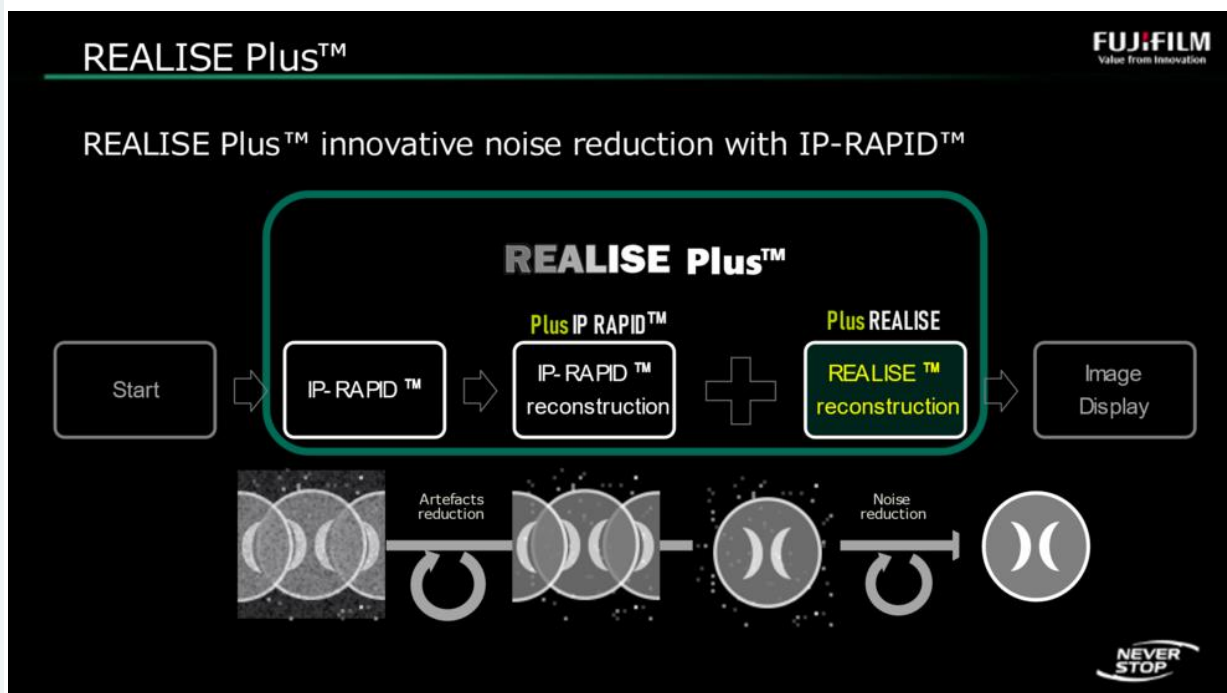
v8



**Echelon Smart Plus™** (Fig. 1) has the latest available software version 8 that offers **AutoExam™**, a completely automatic examination of the head and knee joint. With the press of a button, the entire procedure of positioning, acquisition, post-processing and transfer to a workstation or PACS system is completely automatic. **AutoPose™** is also available for the cervical, thoracic, lumbar spine and shoulder joint. This relieves the technician of the tedious task of manually positioning the layers, prevents possible positioning errors, and ensures repeatability of the position for follow-up examinations. As an added benefit, **Pause** and **Abort** options allow you to stop the acquisition at any time, for example, to calm down the patient, and then complete the acquisition without data loss or terminate the study and reconstruct images from incomplete data.

## SmartSPEED™ and REALISE Plus™

**SmartSPEED™** and **IP RAPID™**, the latest version of Compressed Sensing subsampling supported by the innovative **REALISE Plus™** background-noise-removing iterative reconstruction technology (Figure 2), can reduce exam time by up to 30% of the initial exam time, without sacrificing image quality. That is, in 70% of the time, you get an exam with the same signal-to-noise ratio.



With no restrictions on sequence, anatomy or receiving coil, REALISE Plus™ provides excellent quality with ultra-short examination times. It improves patient comfort by eliminating the need for patients to remain without movement in the scanner and reduces the incidence of motion artifacts caused by prolonged lying down of patients in pain or with limited contact. It streamlines lab workflow, allowing additional sequences (Figure 3) or MR examinations of more patients.

## REALISE Plus™ shorter scan time, plus sequences

16:34

5:55

16:34

**Plus**

Total 8:17

BSI 2:22

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### SmartQUALITY™

Echelon Smart Plus™ also includes SmartQUALITY™ - a whole range of clinical applications needed in neurological, orthopedic, angiographic and whole body examinations. Single- or multi-voxel CSI spectroscopy, unique SIRMMap™ or BeamSatTOF™, BSI™ microbleed imaging, isotropic sequences, perfusion and angiography with and without contrast agent, T2 and T2\* maps. SmartQUALITY™ gives you a full range of sequences and applications needed for diagnosis with short examination times and excellent quality.

RADAR™ and BeamNavi™ (Figure 4) enable a complete abdominal examination without the need for keeping the breath or respiratory gating. This is especially important when examining children and patients with limited ability to hold their breath.

## BeamNavi™ abdomen study with free breathing

T2WI

T2WI Navi(0:49)

HeavyT2WI

BASG Navi(1:10)

T2WI FS

T2WIFS Navi(0:40)

DWI

DWI Navi(2:05)

T1Dual Echo

T1WI Dual Navi(0:50)

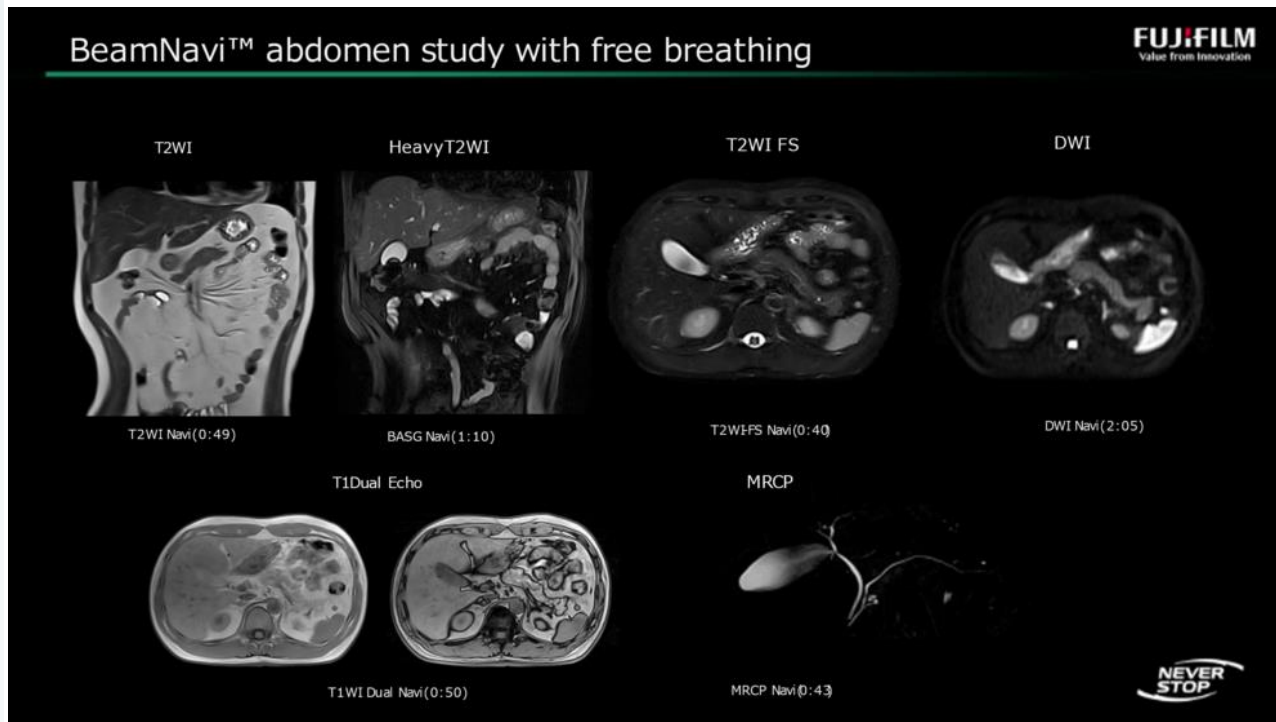
MRCP

MRCP Navi(0:43)

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With REALISE Plus™, the Echelon Smart Plus™ also enables head examination using an open head coil. The innovative noise removal technology compensates for the lower signal to noise ratio, making it possible to perform the examination in standard time with a customized receiving coil (Figure 5). This is very important when examining claustrophobic patients who cannot tolerate the usual closed coils. Claustrophobic patients already react nervously at the time of positioning and often refuse the examination. The feeling of closed space in a standard head coil causes them anxiety, associated with movement artifacts, and sometimes panic attacks.



### SmartECO™ and SmartSPACE™

Echelon Smart Plus™ is an ecological resonance equipped with SmartECO™ system, which reduces energy consumption. During downtime, for example between studies, some system components are switched off reducing power consumption. The system can be installed in a small room and all technical facilities can even be located on another floor. This flexibility when planning an installation with SmartSPACE™ helps to optimize the use of space in the MR site.

Thanks to the technologies used in our system, Echelon Smart Plus™ is a truly intelligent MRI - patient- and environment-friendly, facilitating the work of technicians, offering reliable and excellent examination quality to radiologists, ecological and economical. So - BE SMART!

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