

**PHILIPS**

Magnetic Resonance

Ingenia 1.5T

Evolution

Boost your **MR performance,**  
**and confidence**



# Boost your **MR performance,** **and confidence**

Healthcare organizations around the world face challenges to cut costs or increase revenue by improving efficiency and productivity. To succeed in this competitive environment, you must also differentiate your services through an outstanding patient experience and imaging excellence.

The Philips Ingenia 1.5T Evolution can boost your performance with innovative SmartWorkflow solutions that include AI-driven patient sensing technology, in-room guidance and exam automation. Compressed SENSE allows you to scan up to 50% faster with virtually equal image quality, in both 2D- and 3D scanning and for all anatomies.<sup>1</sup> A positive patient experience is supported through an immersive audio-visual experience that calms patients and guides them through MR exams. The Ingenia 1.5T Evolution also provides clinical confidence, with consistent and reproducible high image quality even for challenging anatomies.

<sup>1</sup> Compared to Philips scans without Compressed SENSE.

<sup>2</sup> Ingenia 1.5T Evolution is a special configuration of Ingenia 1.5T registered product.



## SmartWorkflow

Patient-centered productivity

4

## Ingenia 1.5T Evolution<sup>2</sup>

Up to 50% faster MRI exams with virtually equal image quality<sub>1</sub>

15

Confident diagnoses and efficiency in your daily practice

25

Dramatically improve the patient experience

45

Enhance the value of your MR investment

52

# Patient-centered productivity

With a growth in the elderly population and constant demands to do more with less, the pressure on healthcare providers is immense. This pressure is also evident in radiology departments and imaging centers. The increasing use of MR to diagnose a variety of conditions and illnesses has led to demands for greater efficiency, even as departments try to manage a shortage of MR operators and variability in staff expertise. Too often, it seems that productivity is at odds with giving patients the time and attention they desire.

With SmartWorkflow, you can achieve high productivity while enabling your staff to focus on patients. It reduces and simplifies the number of steps needed in a conventional MR exam workflow, using technology to guide and coach where required, and automate where possible. An end-to-end workflow solution that directly boosts efficiency through reduced variability and task automation, while supporting a better patient and staff experience, resulting in patient-centered productivity.



PHILIPS



**Auto patient centering**

Put your patients at ease, while manual steps in the workflow are automated



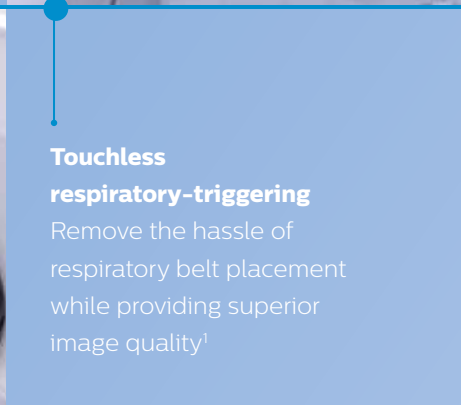
**In-room exam start**

Increase productivity and free up time for other tasks<sup>2</sup>



**Guided exam set-up**

A virtual coach guiding exam set-up; allowing your staff to focus on the patient



**Touchless respiratory-triggering**

Remove the hassle of respiratory belt placement while providing superior image quality<sup>1</sup>



**In-room exam start**

Increase productivity and free up time for other tasks<sup>2</sup>

# SmartWorkflow in **the exam room**

## **Guided exam set-up and automation, to increase productivity and free up time to focus on the patient**

In the exam room, SmartWorkflow provides guided exam set-up and automation, to increase productivity and free up time to focus on the patient. Even new operators who have never worked with the scanner can proceed with confidence. Allow your staff to focus less on technology, and fully engage with patients. Enjoy reduced variability in patient positioning and quality of respiratory triggering, supporting consistent, high-quality studies. SmartWorkflow decreases patient set-up to less than a minute<sup>3</sup>, and allows operators to initiate the start of the exam with a single touch directly at the MR scanner, starting immediately after closing the door.

**“ The entire workflow is smooth: Patient positioning and set-up; launching the scan as soon as we leave the exam room; the intuitive touchscreen on the gantry; Touchless patient sensing... All of these things are much better than on our old system.”**

*Lauro Barlow, RTMR, MRI Technologist Supervisor at the University of British Columbia*

1 Compared to respiratory belt based signal. Requires an unobstructed line-of-sight.

2 With VitalScreen, initiating the exam at the patient side.

3 Based on in-house testing.

# SmartWorkflow in **the control room**

**Reduce operator workload, with standardized results and increased throughput**

In the control room, SmartWorkflow automates exam planning, scanning and processing, improving staff experience and driving efficiency by freeing time to check imaging results or prepare for the next exam. Decreased exam variability results in imaging excellence supporting confident diagnoses while automated patient coaching enhances patient experience. Furthermore, with SmartWorkflow you can confidently offer imaging to patients with MR Conditional implants. The guided and automated workflow supports the staff, which gives them more time for the patient, resulting in patient-centered productivity.

**“ We don’t have to manually direct the patient to breathing and not breathing. We can go ahead and let the machine do the work of the breathing instructions while we continue our planning of the exam.”**

*Carlos Avila, RT, technologist at Miami Cardiac & Vascular Institute*





**Automated patient coaching**

Reduce your workload while patients are put at ease and guided through the exam



**Confidence for MR Conditional implants**

Increase efficiency while providing access to patients with MR Conditional implants<sup>2</sup>



**Automated planning and scanning**

Standardize results with reduced variability and increased efficiency<sup>1</sup>



**Automated post-processing**

Remove the burden of repetitive post-processing to support increased throughput<sup>1</sup>



<sup>1</sup> With SmartExam, automated geometry planning and execution of complete MR exams.

<sup>2</sup> With ScanWise Implant, providing step-by-step guidance to enter the condition values as specified by the implant manufacturer.



John Doe

ID 65856345

DOB 01-Jan-1967 (50y)

Gender Male

Weight 80 kg



### Heart

2 min remaining

dS Anterior

11 scans, 4 first level SART

✓ dS Base

0 SED, 0.2 expected

### VCG

Please Connect for this scan

### Respiratory belt

Please connect for recording patient's breathing.



3/5

0/5

## A virtual coach **guiding exam set-up**

Increase staff confidence and speed up patient set-up through automated real-time guidance and insights on the details of the current patient study. Achieve high quality results, independent from staff's expertise level. VitalScreen provides guidance at your staff's fingertips. Two 12-inch interactive touchscreens on the scanner provide coaching and visual guidance on recommended patient position, study laterality, coil and accessory placement. Moreover, feedback is provided on important exam details, including physiology signals (both VCG and respiratory) and – if applicable- contrast usage and breath- hold guidance.

## **Put your patients at ease**, while manual steps in the workflow are automated

Free up your staff from monotonous, manual steps and enable them to focus on the patient through automatic placement of the region of interest in the scanner iso-center. The manual use of a laser light visor for iso-center positioning has become obsolete. VitalScreen automatically detects landmarks for selected anatomies and places the region of interest in the iso-center of the magnet. Once the patient is positioned on the table, only the push of a button is required to position the patient in the center of the bore.

## **Increase productivity** and free up time for other tasks

Start exams as soon as possible, eliminating extra steps for your staff and decreasing the time the patient has to spent in the magnet, resulting in a more positive patient experience. VitalScreen allows staff to initiate the exam with a single touch of a button at the patient side. The exam starts immediately after the operator has closed the exam room door, so no time is wasted.

## Continuous and robust respiratory signal providing superior image quality

Relieve your staff from the burden of positioning – and re-positioning – a respiratory belt. Positioning a belt shifts the operator's focus from the patient to the technology at a moment when it is critical that the patient is comfortable and reassured. Enjoy optical sensing and AI to automatically detect patient respiratory patterns. VitalEye touchless patient sensing provides a fast detection of patient's breathing without any operator interaction. With VitalEye, the technologist no longer needs to set up an old-fashioned respiratory belt but receives a continuous and robust respiratory signal without any interaction. This revolution in touchless patient sensing helps your staff to keep a caring eye on your patient. The quality of the physiology signal detected by VitalEye is better than a belt-based approach providing superior image quality, for a broad range of patient sizes.

**“It always works, and it's always there.”**

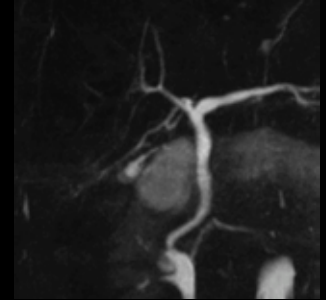
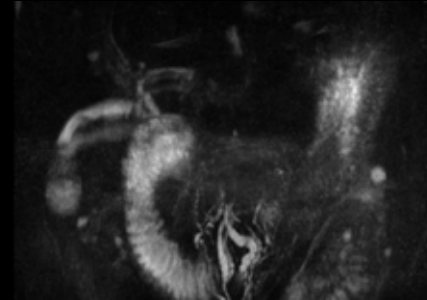
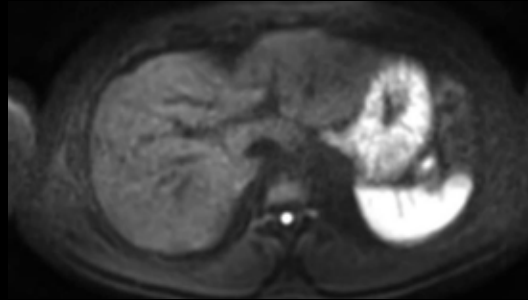
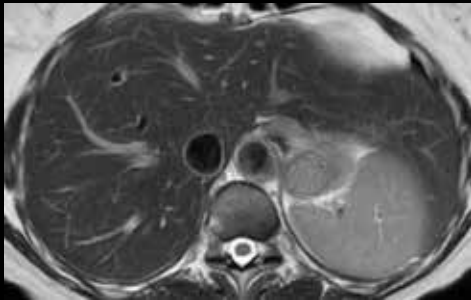
MR operator, University of Bonn, Germany



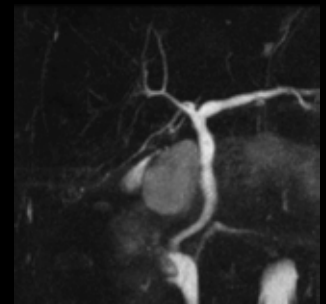
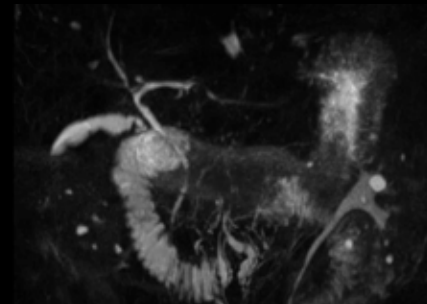
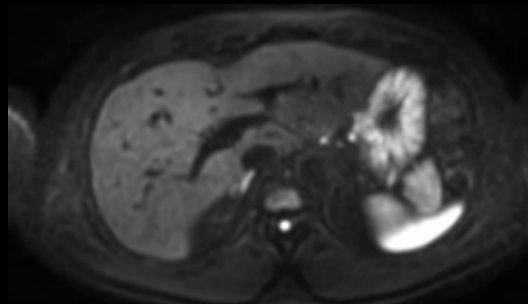
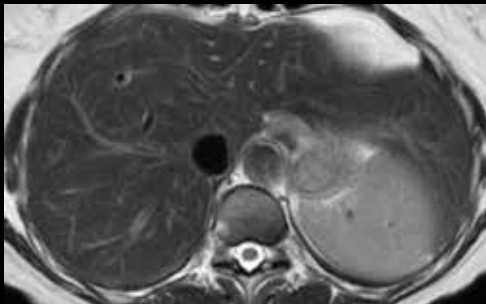
# Touchless patient sensing

Superior image quality with VitalEye<sup>1</sup>, consistently

Respiratory belt



VitalEye



Female, 68kg (150 lbs), 1.65m

Male, 92kg (203 lbs), 1.84m

Male, 90kg (198 lbs), 1.83m

Female, 68kg (150 lbs), 1.65m

<sup>1</sup> Compared to Philips belt-based signal. Requires an unobstructed line of sight. Results from case studies are not predictive of results in other cases. Results in other cases may vary.



# Up to 50% faster MRI exams with virtually equal image quality<sup>1</sup>

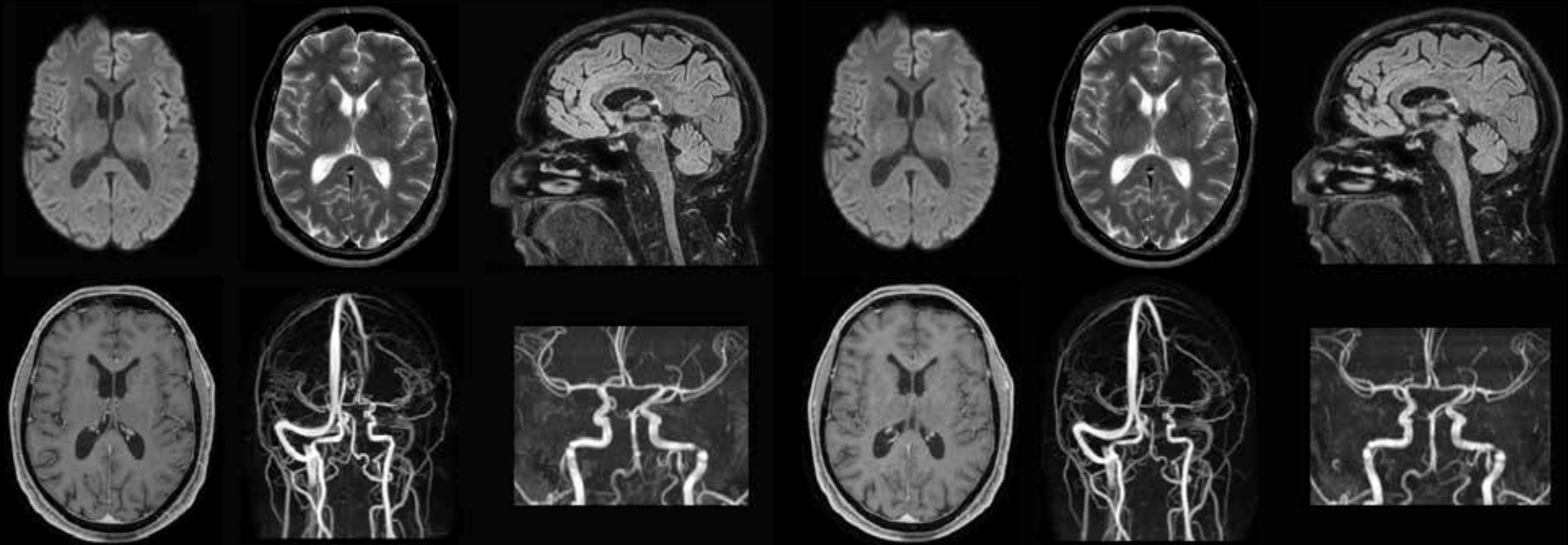
Time is one of the most precious commodities you have in your MR department. What if we told you there was a way to recover time you have been losing during your MR examinations? And use the time you do have more wisely? Imagine how that could help you make better use of your scarce resources and better meet the demands of referring physicians.

That's exactly what Compressed SENSE can do for your MR department. It accelerates your existing MR scans by up to 50% with virtually equal image quality, frees up time to improve your patient experience and can provide up to 60% higher resolution to enhance diagnostic confidence.<sup>1</sup>

Compressed SENSE is suitable for all anatomies and can be used for all anatomical contrasts, in both 2D- and 3D scanning.

# Up to 50% faster MRI exams with virtually equal IQ<sup>1</sup>

## Brain ExamCard with 2D and 3D protocols



26:17 min

DWI (b1000)	1.4 x 2.0 x 3.0 mm	2:20 min
T2w MultiVane XD	0.6 x 0.6 x 4.0 mm	2:32 min
3D T2w FLAIR	1.1 x 1.1 x 1.1 mm	5:02 min
3D T1w TFE	1.0 x 1.0 x 1.0 mm	5:36 min
3D PCA	0.9 x 0.9 x 1.6 mm	6:49 min
3D Inflow	0.6 x 0.9 x 1.4 mm	3:58 min



17:24 min

DWI (b1000)	1.4 x 2.0 x 3.0 mm	2:20 min	0%
T2w MultiVane XD	0.6 x 0.6 x 4.0 mm	2:32 min	0%
3D T2w FLAIR	1.1 x 1.1 x 1.1 mm	3:41 min	32%
3D T1w TFE	1.0 x 1.0 x 1.0 mm	2:55 min	52%
3D PCA	0.9 x 0.9 x 1.6 mm	3:31 min	49%
3D Inflow	0.6 x 0.9 x 1.4 mm	2:25 min	37%

<sup>1</sup> Compared to Philips scans without Compressed SENSE. Results from case studies are not predictive of results in other cases. Results in other cases may vary. Courtesy: Kantonsspital Winterthur, Switzerland, Ingenia 1.5T



## Spine ExamCard with 2D protocols



Sag T2w TSE	0.8 x 1.0 x 4.0 mm	3:10 min
Sag T1w TSE	0.8 x 1.1 x 4.0 mm	2:01 min
Cor T2w SPAIR	0.9 x 1.2 x 4.5 mm	1:53 min
Ax T2w TSE	0.6 x 0.8 x 4.0 mm	3:23 min



10:27 min

Sag T2w SE	0.8 x 1.0 x 4.0 mm	2:09 min	33%
Sag T1w TSE	0.8 x 1.1 x 4.0 mm	1:18 min	41%
Cor T2w SPAIR	0.9 x 1.2 x 4.5 mm	1:19 min	22%
Ax T2w TSE	0.6 x 0.8 x 4.0 mm	2:08 min	35%



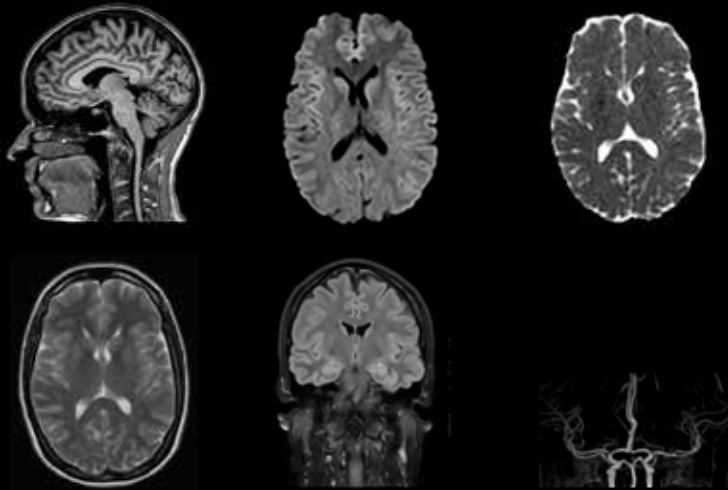
6:54 min

# Fast push button exams



Brain

6:17 min



Sag 3D T1w TFE  
Ax DWI  
Ax T2w TSE  
Cor T2w FLAIR  
Cor 3D TOF

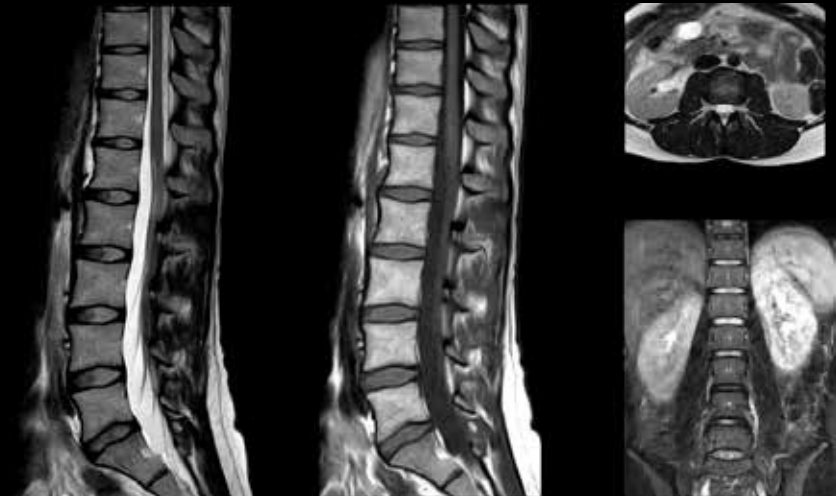
1.1 x 1.1 x 1.1 mm  
2.0 x 2.0 x 5.0 mm  
0.7 x 0.9 x 6.0 mm  
0.9 x 1.1 x 6.0 mm  
0.8 x 0.8 x 1.2 mm

1:26 min  
0:36 min  
0:31 min  
1:28 min  
2:16 min



L-Spine

4:21 min



Sag T2w TSE  
Sag T1w TSE  
Ax T2w TSE  
Cor STIR

0.9 x 1.2 x 4.0 mm  
0.9 x 1.2 x 4.0 mm  
0.7 x 1.0 x 4.0 mm  
1.0 x 1.5 x 4.0 mm

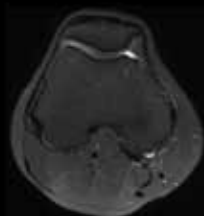
1:04 min  
0:56 min  
1:04 min  
1:17 min

# Enabled by Compressed SENSE and SmartWorkflow



Knee

4:17 min



Sag T1w TSE  
Sag PDw TSE  
Cor PDw FatSat  
Ax PDw FatSat

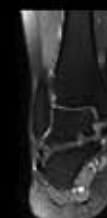
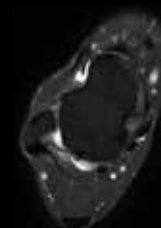
0.4 x 0.6 x 3.0 mm  
0.4 x 0.5 x 3.0 mm  
0.5 x 0.9 x 3.0 mm  
0.5 x 0.8 x 3.0 mm

0:57 min  
0:53 min  
1:16 min  
1:11 min



Ankle<sup>2</sup>

7:46 min



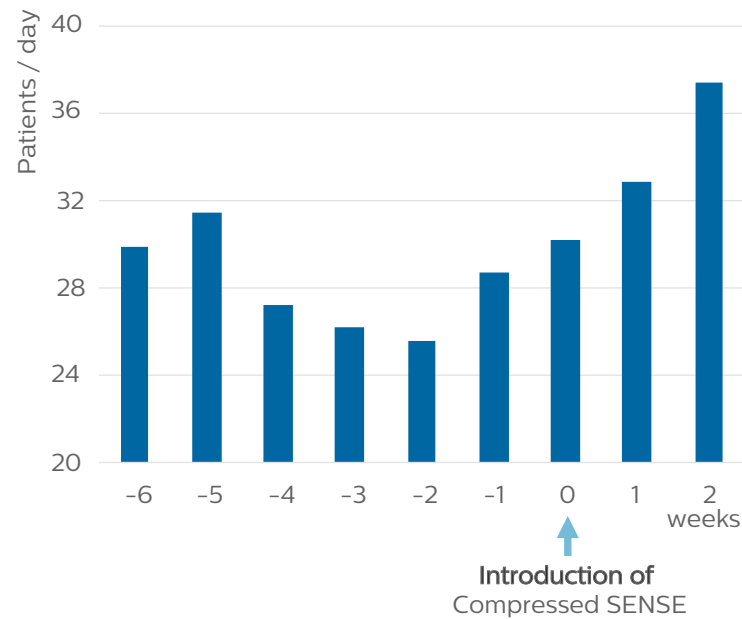
Sagittal PDw TSE mDIXON (W+IP)  
Axial PDw TSE FatSat  
Coronal PDw TSE FatSat  
Coronal T1w TSE

0.5 x 0.7 x 3.0 mm  
0.4 x 0.6 x 3.0 mm  
0.5 x 0.7 x 3.0 mm  
0.4 x 0.5 x 3.0 mm

2:39 min  
2:36 min  
1:24 min  
1:07 min

## Add extra patient slots to your daily MRI schedule

Many radiology departments and imaging centers are looking for ways to increase the utilization of their MR equipment to meet the rising demand for MRI services. A full MRI exam performed with Compressed SENSE, for example, can save minutes compared to a conventional MRI exam. This could free up one or two extra exam slots in your daily schedule, which can result in much higher productivity and shorter waitlists without adding more operator hours.



Radiologie Dr Wagner in Gottingen, Germany can accommodate >5 more patients per day<sup>1</sup>, within the same scanning hours, after the introduction of Compressed SENSE.

Results from case studies are not predictive of results in other cases. Results in other cases may vary.

## Easily fit in unplanned patients

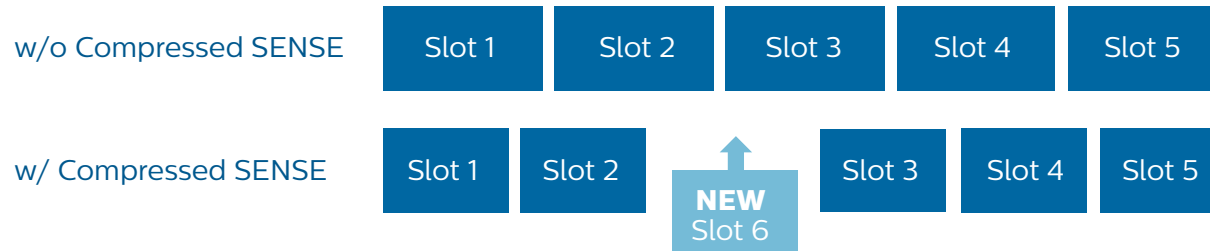
Do unscheduled patients disrupt your daily schedule and put extra stress on your staff?

With Compressed SENSE you can create a buffer to easily handle emergency cases or urgent patients that are referred on the same day. This extra capacity can help you serve patients and referring physicians faster and make daily workflow go smoother.

**“We can now provide a more flexible and faster MRI service to our patients and referring physicians. For instance, when a referring physician is requesting it, we can now quite smoothly insert an additional MRI examination without previous appointment on the same day.”**

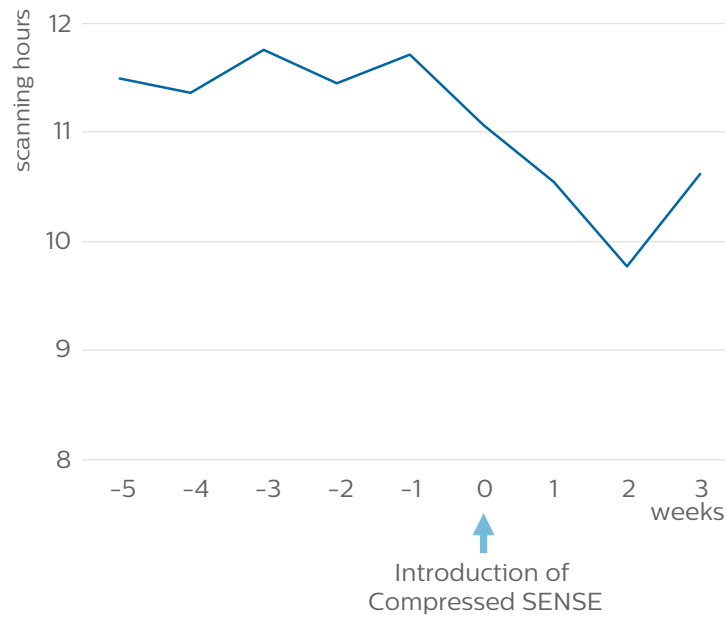
Hideki Koyasu, MD, Neurosurgical Clinic in Kanagawa, Japan

### Easily fit in unplanned patients



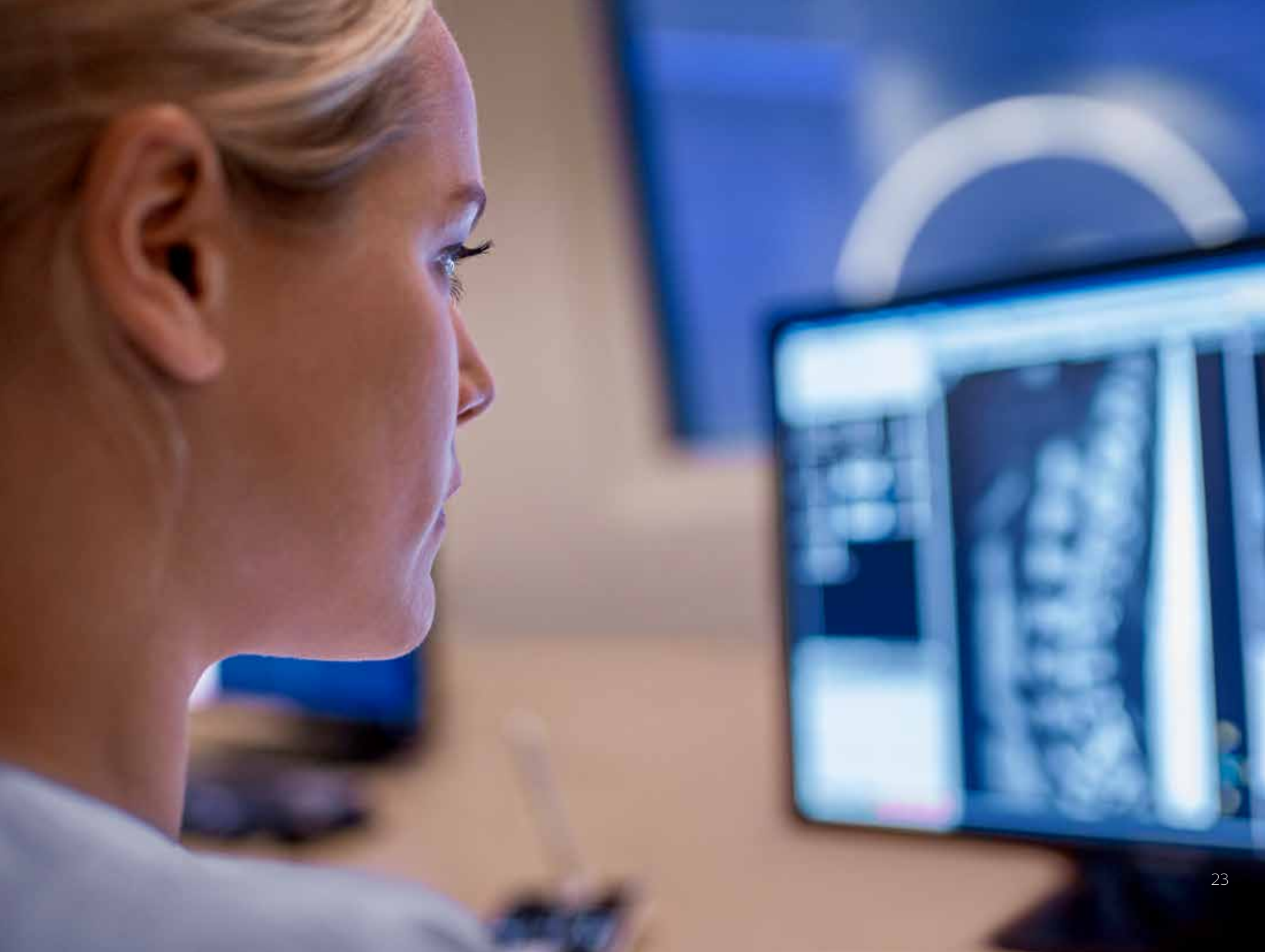
## Reduction in overtime, while maintaining same patient throughput per day

Having to work overtime is a recurring issue for many radiology departments and imaging centers that can impact staff satisfaction and run-up operational costs. The stress caused by heavy workloads and overtime hours greatly contribute to burnout among radiology technologists, not to mention long-term mental and physical health issues.<sup>1</sup> By reducing MRI scan times and improving scheduling flexibility, Compressed SENSE helps patients and staff to get home on time. This can improve the experience for all involved.



**ComputerTomography Institut in Innsbruck, Austria has been able to reduce overtime by more than one hour, keeping the same patient throughput per day, after the introduction of Compressed SENSE.**

<sup>1</sup> Vinu, Raj. Occupational stress and Radiography. NCBI. Nov-Dec 2006. <https://www.ncbi.nlm.nih.gov/pubmed/17119177>  
Results from case studies are not predictive of results in other cases. Results in other cases may vary.







# **Confident diagnoses** and efficiency in your daily practice

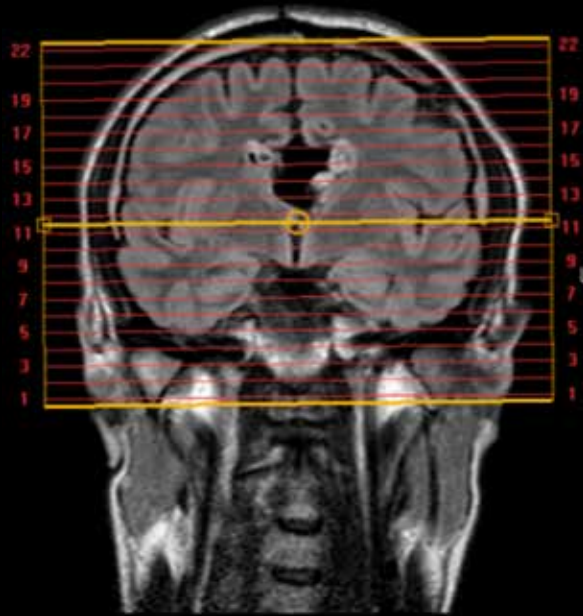
The Ingenia 1.5T Evolution provides clinical confidence, with consistent and reproducible high image quality even for challenging anatomies. It leverages fast scanning methods to deliver images with outstanding quality, including fat-free and motion-free images. To help you become the preferred partner within your referral network, the system also facilitates access to new clinical capabilities, such as high-resolution breast and pelvic imaging, whole body MR from eye to thighs in under 15 minutes, and MR Conditional implant imaging.

## **Standardize results** with reduced variability and increased efficiency

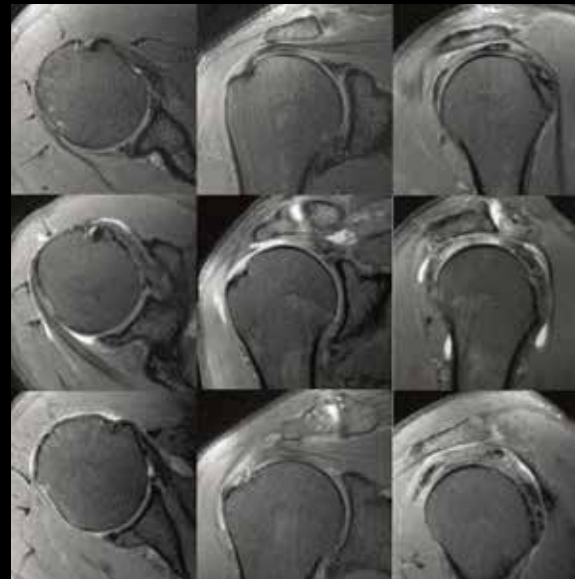
Reduce imaging variability through automation, so you can schedule less-experienced staff with confidence, knowing your results will be consistent and exam planning and scanning will be efficient.

SmartExam automates geometry planning and execution of complete MR exams. The time for the low-res survey scan has reduced from 60 seconds to just 10 seconds. Based on this survey the system automatically plans the geometry of the scans in the ExamCard. Supporting brain, spine, knee, shoulder and breast exams, SmartExam assists in delivering reproducible planning results in more than 80% of procedures. This is particularly valuable when conducting and comparing multiple studies of the same anatomy and/or patient. SmartExam also automates coil element selection based on optimal SNR.

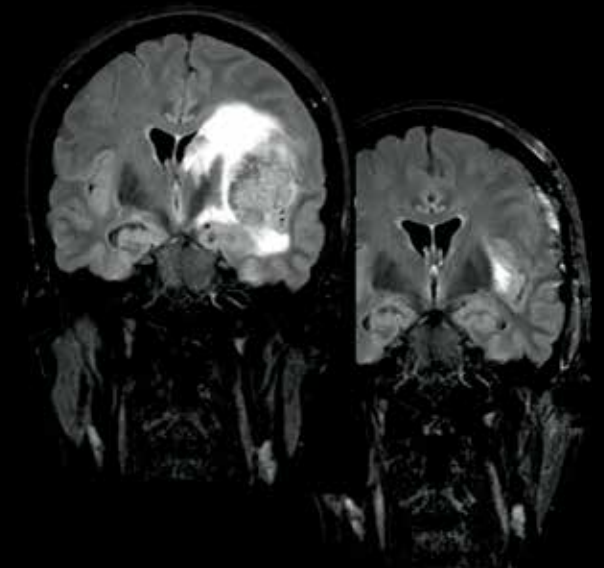
# Reduce imaging variability through automation



Automated geometry planning and execution of complete MR exams



Reproducible planning results in more than 80% of procedures

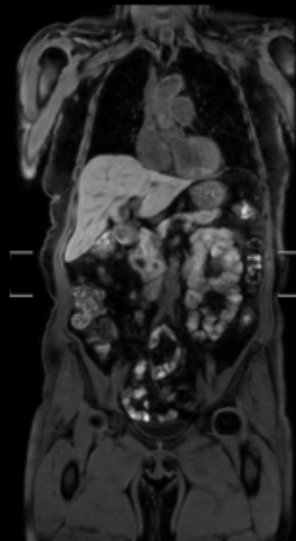


Easily compare multiple studies of the same anatomy and/or patient

# Fast, uniform, complete and consistent fat-free imaging



T2w TSE mDIXON XD – Compressed SENSE  
Water only + In Phase  
0.8 x 1.1 x 4.0 mm  
5:20



T1w FFE mDIXON XD – Compressed SENSE  
Water only  
1.6 x 1.8 x 2.0 mm  
0:29 min



T2w TSE mDIXON XD – Compressed SENSE  
Water only  
0.9 x 1.1 x 5.0 mm  
1:55min

Courtesy: Radiologie am St Josef Stift, Bremen, Germany

Courtesy : Radiologie am St Josef Stift, Bremen, Germany

## Consistent high quality for challenging cases

Despite the increased speed of image acquisition, repeating even one scan can put you behind schedule, increasing patient waiting times and staff overtime. The Ingenia 1.5T Evolution offers a series of fast, robust scanning methods specially designed for challenging anatomies and patients – providing the consistent quality you need to achieve efficiency and satisfy your referrals.

Bring a new dimension to fat suppression by providing uniform, complete and consistent fat-free imaging, even over large field-of-views and in challenging anatomies such as head/neck, spine or MSK.

Provide up to four image types in one single scan, including with/without fat suppression contrasts, in routine scan times and resolution simultaneously, you can easily replace your favorite routine TSE scans with it. mDIXON XD TSE will enable you to enhance your imaging strategies by simplifying your routine TSE procedures.

Deliver high resolution diagnostic images even in the case of severe patient motion by providing motion correction to a full range of anatomies, in short scan times.<sup>1</sup> MultiVane XD works in multiple orientations and for various contrasts (T1w, T2w, FLAIR) helping you to increase your diagnostic confidence.

Improve visualization of the brachial and lumbar plexus. 3D NerveVIEW provides you with a high resolution T2w TSE acquisition with reduced remaining intra-lumen signal of the veins.<sup>2</sup> In addition, the 3D isotropic imaging method allows for reformats in any plane (including oblique) without loss of resolution helping you to save scan time and improve spinal nerve plexus assessment.

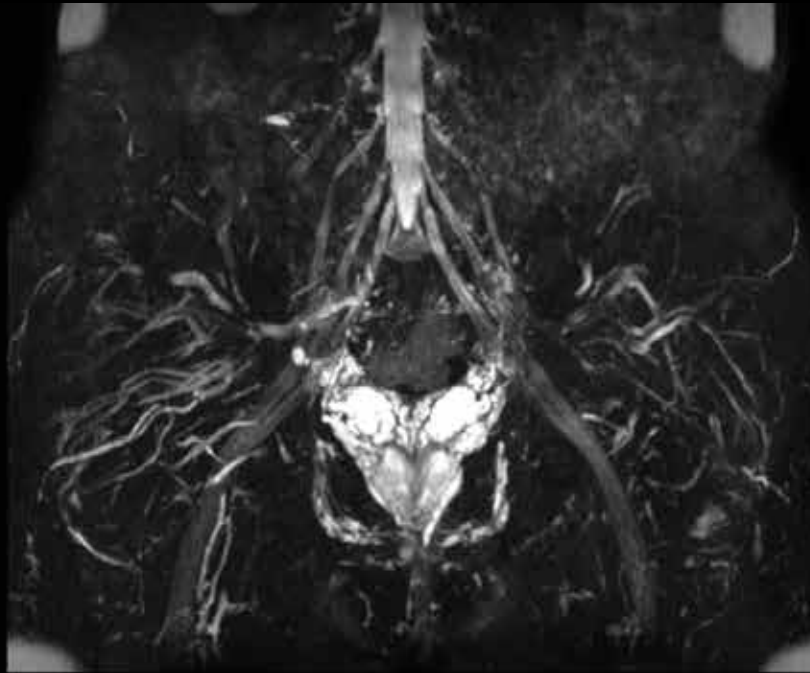
<sup>1</sup> Compared to MultiVane, thanks to compatibility with dS SENSE.

<sup>2</sup> By use of MSDE black blood pre-pulse with STIR/SPAIR, compared to our STIR/SPAIR sequence without MSDE pre-pulse.

# Improve visualization of the nerve plexus



Reformat Left



3D NerveVIEW  
1.2 x 1.2 x 1.0 mm  
5:50 min



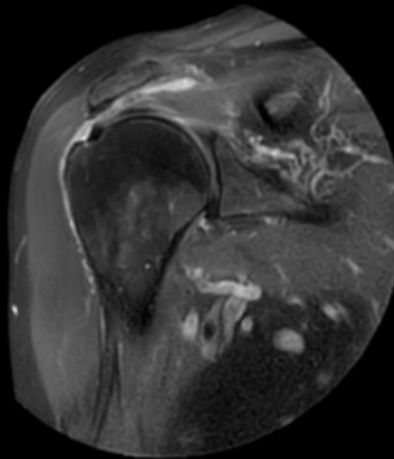
Reformat - Right

# Motion correction in short scan times



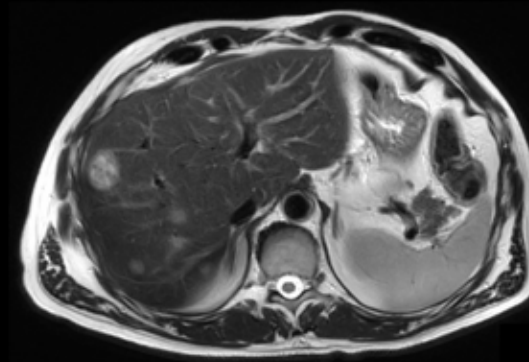
T2w TSE MultiVane XD  
0.7 x 0.7 x 3.0 mm  
2:42 min

Courtesy: University  
Hospital, Geneva



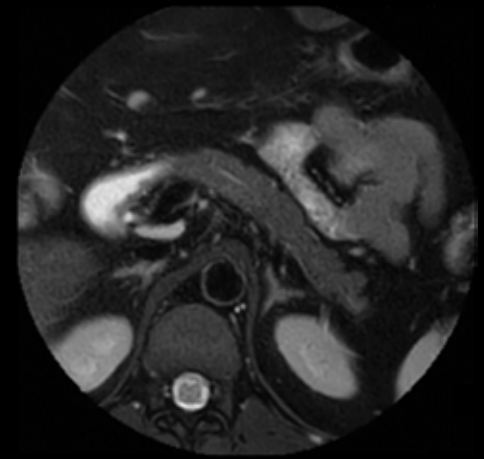
PDw TSE FatSat  
MultiVane XD  
0.8 x 0.8 x 3.0 mm  
2:55 min

Courtesy:  
Lahey Danvers, USA



T2w TSE MultiVane XD  
1.0 x 1.0 x 5.0 mm  
3:09 min

Courtesy: Kantonsspital Winterthur, Switzerland

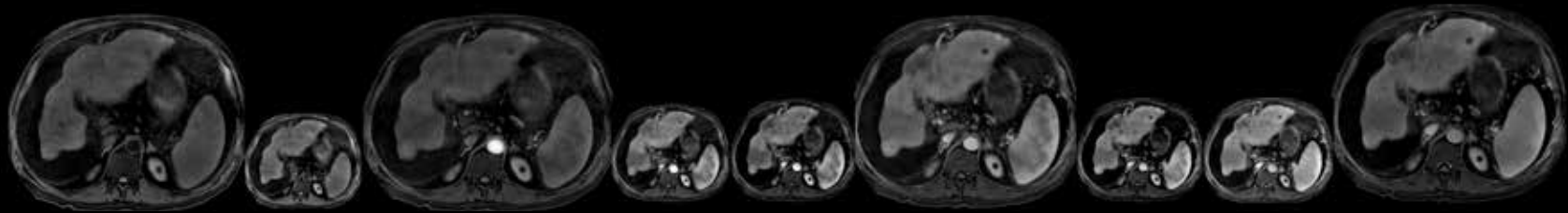


T2w TSE FatSat MultiVane XD  
1.1 x 1.1 x 3.0 mm  
3:36 min

Courtesy: Toyonaka Municipal Hospital, Japan

With 4D FreeBreathing, you can now offer free-breathing MRI liver exams to patients who have difficulty holding their breath or find it difficult to follow breathing instructions. It allows you to obtain excellent image quality from multi-phase liver studies, with a temporal resolution down to 3 seconds per phase<sup>1</sup>, performed without breath holds. 4D FreeBreathing is compatible with VitalEye external sensor for touchless respiratory triggering, delivering reliable results that can improve imaging confidence.<sup>2</sup>

1 Dynamics are reconstructed at prescribed temporal resolution and will contain data shared from earlier and later time points.  
2 Compared to eTHRIVE in subjects unable to hold their breath.



**Dyn 1**  
(plain)

**Dyn 5**  
(arterial)

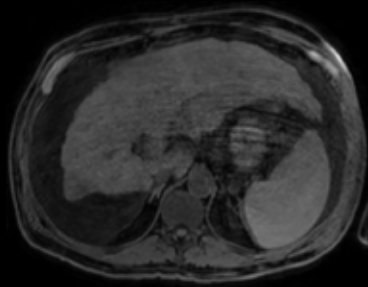
**Dyn 9**  
(portal)

**Dyn 15**  
(delayed)

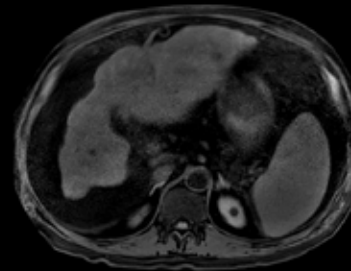
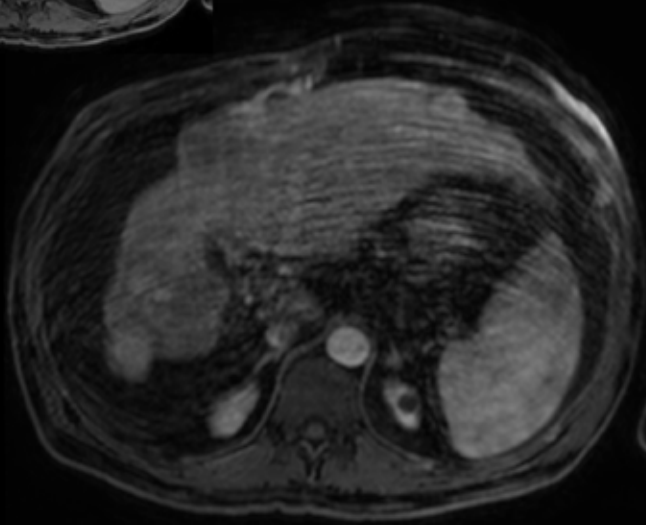
4D FreeBreathing, 1.7 x 1.7 x 1.8 mm, 3 sec /dynamic  
Courtesy: Kantonsspital Winterthur, Switzerland



# Free breathing, multi-phase liver studies



mDIXON BH (plain and arterial)  
2.0 x 2.0 x 2.0 mm  
13 sec /dyn  
**FAILED BREATHHOLD**



4D FreeBreathing (plain and arterial)  
1.7 x 1.7 x 1.8 mm  
8 sec /dyn  
**FREE BREATHING**



Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Courtesy: Kantonsspital Winterthur, Switzerland, Ingenia 1.5T

## Enhance confidence in breast and pelvic imaging

After lung cancer, breast and prostate cancers have the second largest incidence in women and men respectively. With the aging population, their incidence is expected to grow even further. Ingenia 1.5T Evolution can enhance your confidence, offering exceptional MR imaging for detection and characterization of tumors, and staging and therapy monitoring in breast and prostate cancer patients.

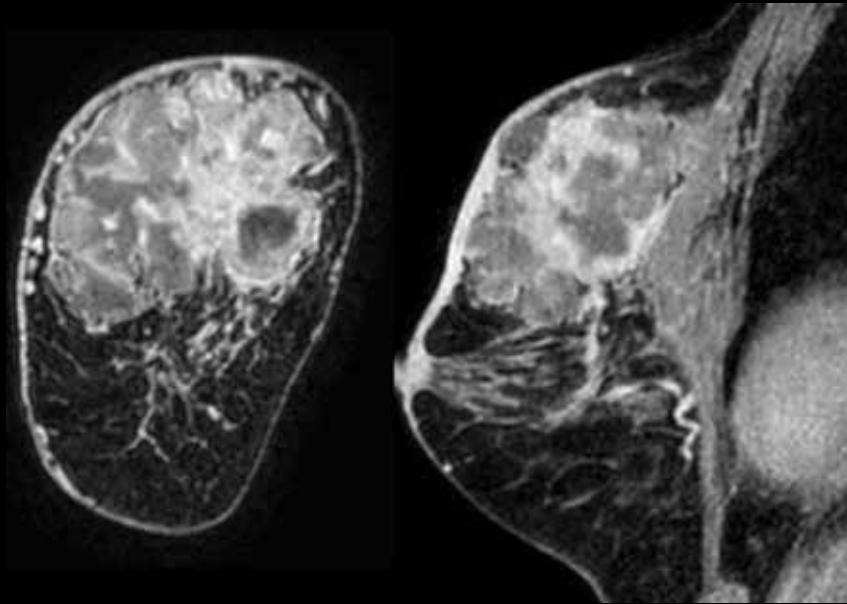
With Compressed SENSE, you can obtain up to 25% higher resolution in similar scan time in breast and pelvic imaging, which can potentially help detect smaller lesions and enable better delineation of lesions<sup>1</sup>. Computed DWI brings the information you extract from your diffusion scans to the next level. You can generate on the MR console high b-value images that were not acquired, which decreases your overall exam time, enhances clinical workflow and allows you to find the optimal contrast for lesions.

**“In addition to a high temporal resolution, we also require high spatial resolution, which helps us to see details of the internal structure of the lesion and to see lesions separately from normal anatomic structures. We can also see if a lesion extends into adjacent organs and anatomic structures.”**

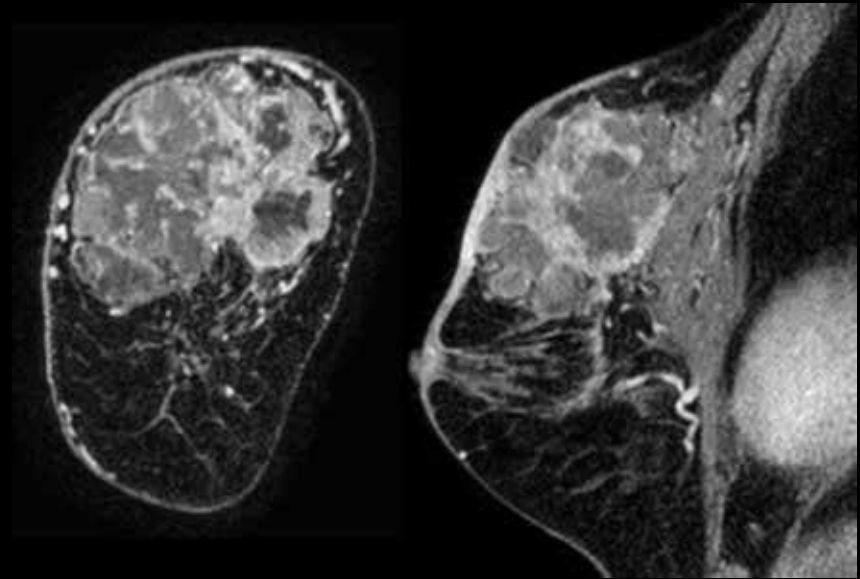
Takashi Koyama, MD, PhD, Kurashiki Central Hospital, Japan

<sup>1</sup> Compared to Philips scans without Compressed SENSE.

# Up to 25% higher resolution in similar scan time



3D T1w FFE - mDIXON XD  
1.0 x 1.0 x 1.0 mm, 2:22 min



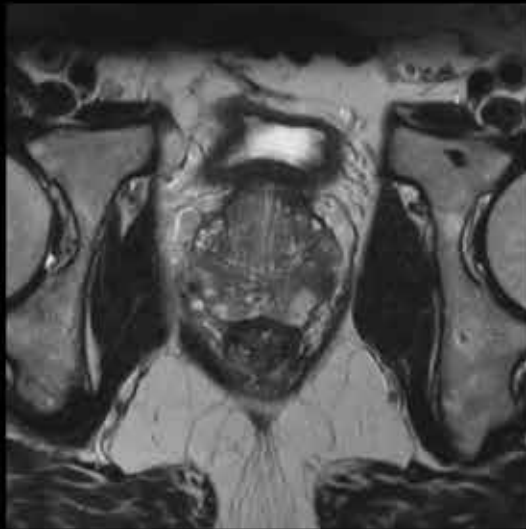
3D T1w FFE - mDIXON XD with Compressed SENSE  
0.8 x 0.8 x 0.8 mm, 2:21 min

Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Courtesy: Kurashiki Central Hospital, Japan, Ingenia 1.5T

# Up to 25% higher resolution in similar scan time

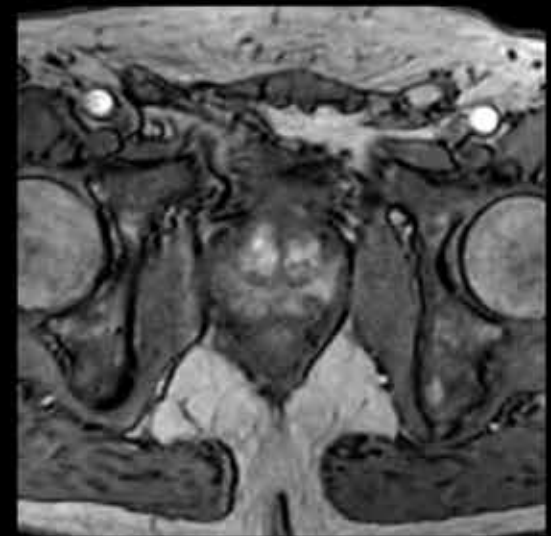
Parameters according to PI-RADS recommendation



T2w TSE – Compressed SENSE  
0.7 x 0.4 x 3.0 mm  
5:30 min

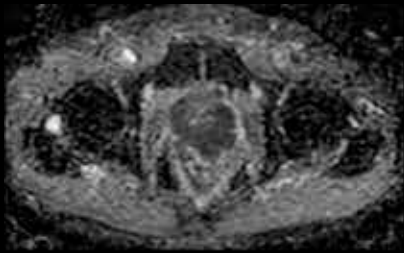


mDIXON XD FFE – Compressed SENSE  
1.0 x 1.0 x 2.0 mm  
1:28 min

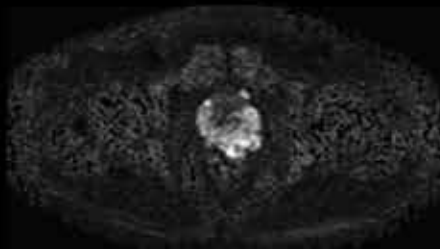


Dynamic 3D T1w FFE – Compressed SENSE  
1.2 x 1.3 x 3.0 mm  
8 sec /dyn

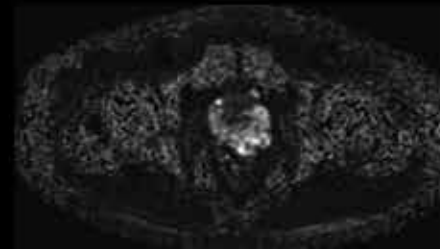
# Bring your diffusion scans to the next level with Computed DWI



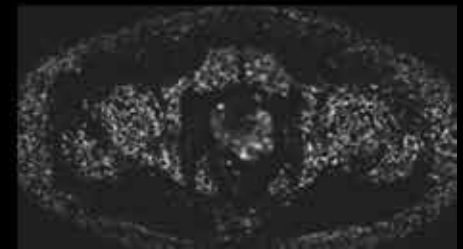
Acquired DWI, b1000 + ADC  
3.1 x 2.6 x 3.0 mm, 2:15 min



Computed DWI, b2000



Computed DWI, b3000

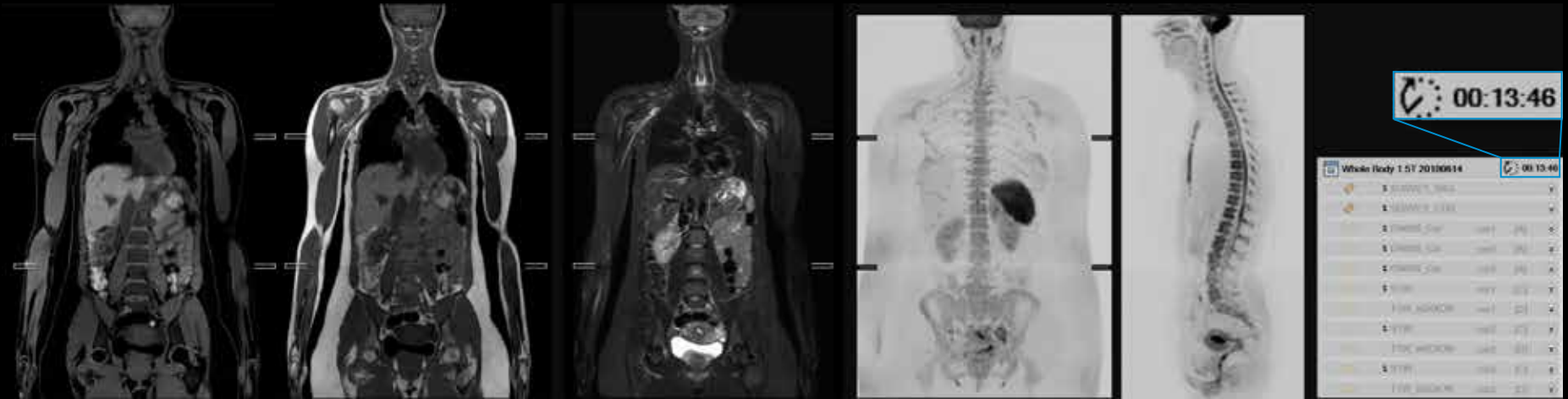


Computed DWI, b5000

Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Courtesy: : Shimane University, Japan, Ingenia 1.5T

# Whole body MR from eye to thighs under 15 minutes



T1w FFE mDIXON XD – Compressed SENSE  
Water only + In Phase  
2.5 x 2.5 x 2.5 mm  
0:50 min /station

STIR TSE – Compressed SENSE  
1.5 x 1.6 x 6.0 mm  
0:30 min /station

DWIBS  
4.4 x 4.5 x 5.0 mm  
3:00 min /station

## **Expand your imaging services** for your referrals

The use of whole body MRI for staging and therapy monitoring of prostate and breast cancer is a valuable option for metastases imaging, especially for bone metastases. This creates a new opportunity for you to expand your imaging services for your referrals. The Ingenia 1.5T Evolution provides high-quality eye to thighs ExamCard protocols under 15 minutes, drawing on our unique Compressed SENSE, mDIXON XD, and DWIBS whole-body diffusion techniques. Compressed SENSE enables up to 50% acceleration with virtually equivalent image quality<sup>1</sup>, completed by other workflow simplification tools like SmartShim for automated image-based shimming method or easy multi-station pasting like MobiView and MobiFlex.

The Ingenia 1.5T Evolution large field-of-view and highly linear gradients support switching to fast, high-quality coronal whole body DWIBS, a game changer for increasing referrals.

<sup>1</sup> Compared to Philips scans without Compressed SENSE.

## Confidence for **MR Conditional implants**

Confidently offer MR imaging to a growing and potentially undeserved subset of the patient population: those with MR Conditional implants. Advanced software boosts productivity by reducing time-consuming manual calculations, while also potentially increasing referrals. ScanWise Implant provides step-by-step guidance to enter the condition values as specified by the implant manufacturer. Your MR system then automatically applies these values for the entire examination helping you to simplify your scanning process and stay within the specified limits for patients with MR Conditional implants.

MR Conditional implants often have metal parts that cause artifacts, making it difficult to visualize soft tissue and bone in their vicinity. O-MAR XD (Metal Artifact Reduction for Orthopedic implants) reduces in- and through-plane susceptibility artifacts<sup>1</sup> caused by metal implants and supports the most relevant image contrasts (T1w, T2w, PDw, and STIR), so you can better visualize the area around MR Conditional orthopedic implants.<sup>2</sup> This allows you to offer post-operative MR imaging to patients with implants who could develop implant-related conditions.

Is your daily schedule disrupted by the long scan times required to scan patients with MR conditional implants? It can be challenging to scan these patients because of the specified SAR levels required. By integrating Compressed SENSE into your ExamCard, you can reduce your total MRI exam time whilst keeping the SAR levels within the limits as specified by the MR Conditional implant manufacturer.

<sup>1</sup> Compared to standard high bandwidth spin-echo based techniques.

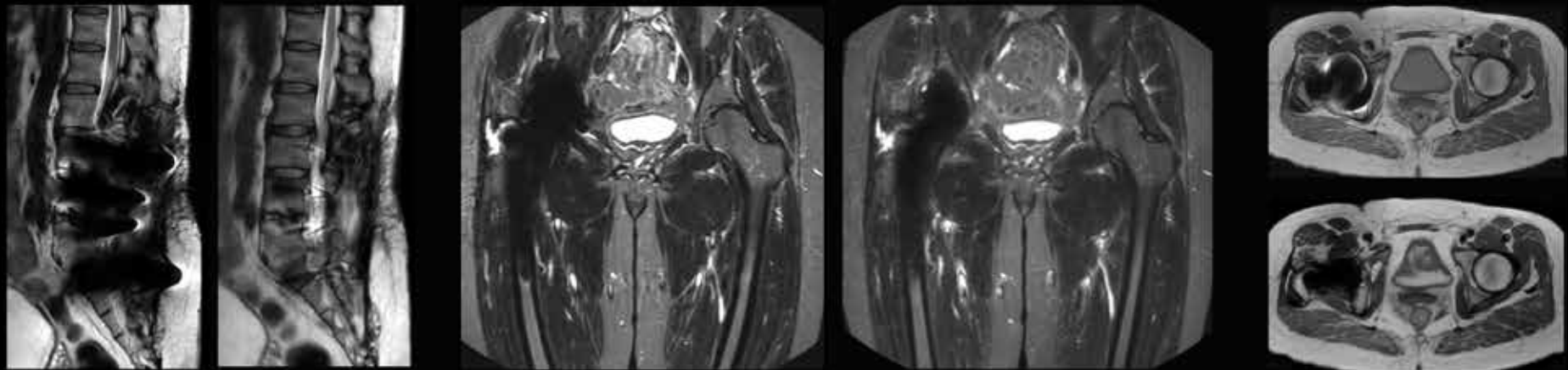
<sup>2</sup> Only for use with MR Safe or MR Conditional implants by strictly following the Instructions for Use.





IMAGING ANATOMY  
MUSCULOSKELETAL

# Reduce in- and through-plane susceptibility artifacts<sup>1</sup>



T2w TSE  
0.9 x 1.1 x 4.0 mm  
2:51 min

T2w TSE – O-MAR XD  
1.1 x 1.4 x 4.0 mm  
7:12 min

STIR TSE  
1.7 x 2.0 x 5.0 mm  
1:51 min

STIR TSE – O-MAR XD  
1.7 x 1.7 x 5.0 mm  
7:16 min

PDw TSE  
1.1 x 1.4 x 3.0 mm  
2:38 min

PDw TSE – O-MAR XD  
1.3 x 1.6 x 3.0 mm  
7:55 min

<sup>1</sup> Compared to standard high bandwidth spin-echo based techniques.  
Results from case studies are not predictive of results in other cases. Results in other cases may vary.

# Reduce your total MRI exam time whilst keeping the SAR levels within the limits



**Lumbar spine of a post-operative patient with a deep brain stimulator**  
Compressed SENSE + ScanWise Implant + selectable B1+rms, resulting in exam time **< 30 minutes**, complying with implant conditions and good IQ

T2w TSE  
Compressed SENSE  
0.8 x 0.9 x 4.0 mm  
5:28 min

T1w TSE, post-gado  
Compressed SENSE  
0.9 x 1.0 x 4.0 mm  
5:33 min

T2w TSE  
Compressed SENSE  
0.6 x 0.9 x 4.0 mm  
7:11 min

T1w TSE, post-gado  
Compressed SENSE  
0.9 x 1.0 x 4.0 mm  
4:44 min

Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Courtesy: MRI Specialists, Boynton Beach, Florida, USA, Ingenia 1.5T



# Dramatically improve the **patient experience**

Your patients are at the heart of Ingenia 1.5T Evolution – which includes an MR experience that enhances comfort and compliance. With up to 80% acoustic noise reduction<sup>1</sup>, voice guidance, immersive in-bore visuals and a comfortable table mattress, Ingenia 1.5T Evolution helps your patients feel at ease, resulting in smooth, fast exams.

<sup>1</sup> Compared to scanning without ComforTone.

## Provide an **immersive visual experience**

Your patients' scanning experience is significantly enhanced with Ingenia 1.5T Evolution. Designed to offer a relaxing sensory experience, Ambient Experience provides positive distractions for patients by incorporating dynamic lighting, projection and sound, contributing to a positive, engaging environment to benefit quality of care. From the moment a patient is moved into the scanner (the point at which people report the most stress), through completion of the scan, the In-Bore Connect solution can help patients to relax, follow directions and minimize motion. In a study, conducted using our in-bore solution, Herlev Gentofte University Hospital in Denmark managed to reduce the number of rescans by up to 70%<sup>1</sup>. A case study at Radiologisches Zentrum am Kaufhof, Lübeck, Germany showed that the number of patients needing sedation was reduced by 80%<sup>2</sup>.

**“ We’ve had a lot of patients provide compliments on the environment.  
We have the Ambient solution in there that creates a soothing environment.”**

Carol Melvin, COO, Miami Cardiac and Vascular Institute



<sup>1</sup> Compared to the average of the other 5 Philips Ingenia MR scanners without Ambient Experience and In-Bore Connect. Results from case studies are not predictive of results in other cases. Results in other cases may vary.

<sup>2</sup> Results from case studies are not predictive of results in other cases. Results in other cases may vary. \*The tranquilizer referred to is a valium-based derivative called "Diazepam".



“





## **Comfort** in every detail

Because no detail is too small when it comes to helping your patients feel comfortable, Ingenia 1.5T Evolution includes the ComfortPlus mattress. On average, 90% of patients in severe discomfort find it easy to lie still on the ComfortPlus mattress. Overall comfort for this group of patients can increase by up to 36%.<sup>1</sup>

**“The most frequent comment we are getting from our technologists, is that for patients who have had scans on other Philips scanners, this new mattress is really significantly more comfortable.”**

Dr. Oswood, Hennepin County Medical Center

## **Put your patients at ease** and guide them through the examination

Be confident that your patients know what to do and what to expect through automated, consistent instructions, relieving some of the anxiety of an MR exam. AutoVoice supports exam compliance by guiding your patients through the MR examination. Including automatically announcing scan duration and table movements in your choice of 30 languages and dialects. In addition, providing breath hold instructions, with either manual timing or timing synchronized to fit the patient's respiratory cycle.

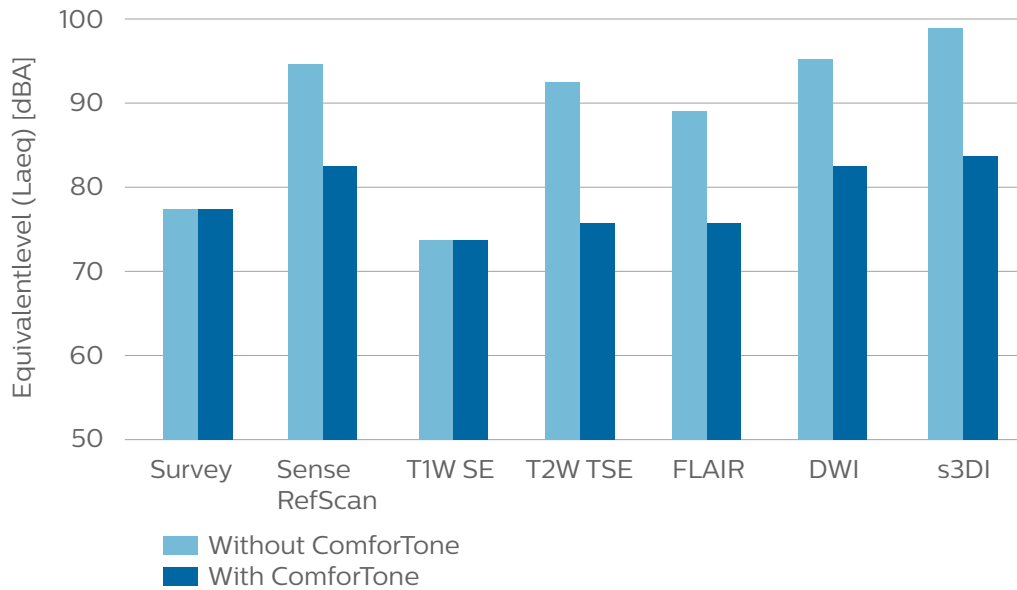
**“AutoVoice enables us to shift our focus from having to manually give the breathing instructions to the patient to now planning the exam.”**

Carlos Avila, RT, Miami Cardiac and Vascular Institute, USA

<sup>1</sup> Compared to using a standard mattress.

## Reduce acoustic noise for your patient

No matter how short the exam, a noisy MR scanner can make it seem unbearably long. The Philips unique ComforTone solution achieves up to 80% reduction in acoustic noise<sup>1</sup> with similar image quality and contrast within the same time slot. You can use ComforTone in routine exams such as brain, spine and MSK. Thanks to our ready-to-use ExamCard protocols, ComforTone is simple to implement and use, requiring just a few clicks to get started.



<sup>1</sup> Compared to scanning without ComforTone  
 Results from case studies are not predictive of results in other cases. Results in other cases may vary.



# Enhance the value of your MR investment

Imaging is both a clinical and an economic challenge. You need to manage a host of financial obligations and opportunities, all while keeping your focus on your patients. We can help, by putting together a package of offerings that keep total cost of ownership in check while providing you with tailored solutions for maintenance, fleet management, cybersecurity, education and financing.



500

parameters are monitored on an MR



+90,000

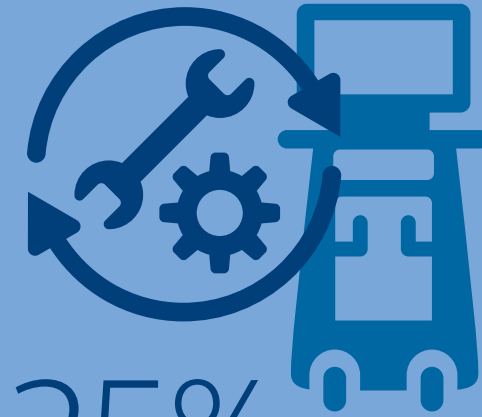
remote connections across

25,000

healthcare facilities in

139

countries<sup>3</sup>

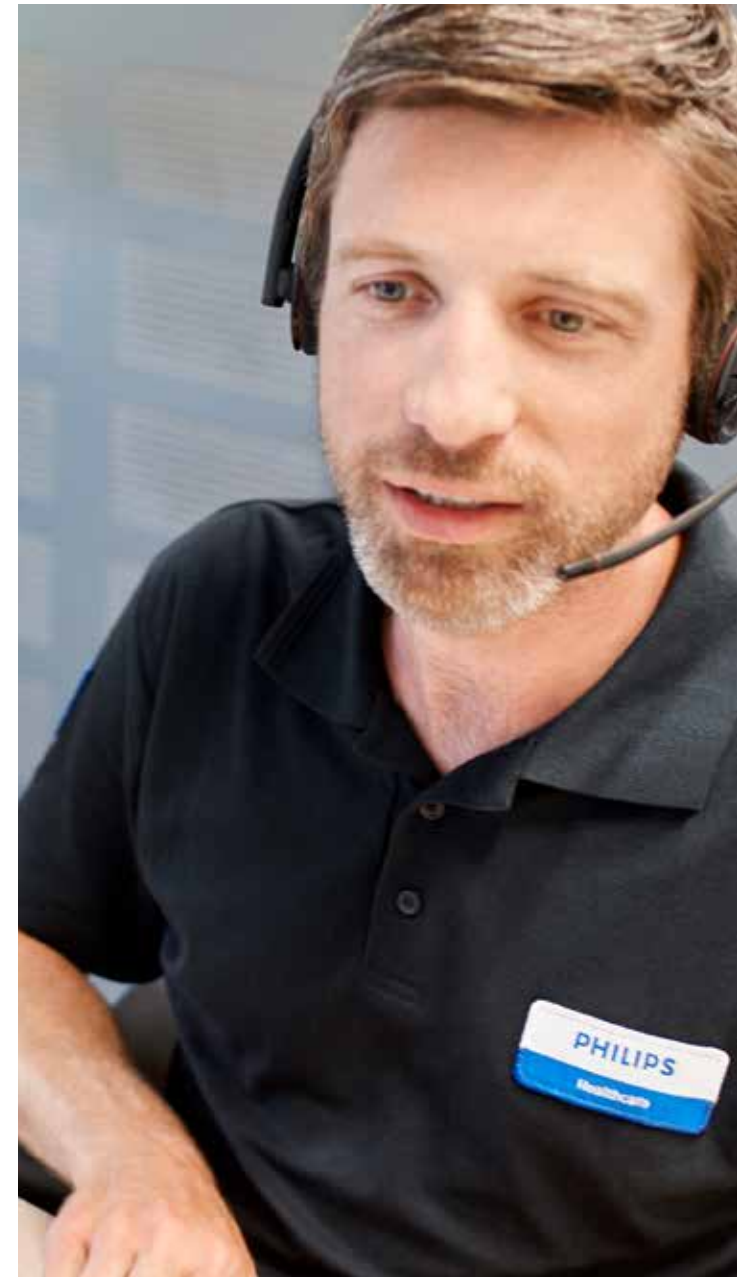


25%

connected Philips MR service cases<sup>2</sup> are resolved before they cause downtime, due to proactive monitoring

>50%

of MR service cases are resolved remotely<sup>1</sup>



<sup>1</sup> For the Philips diagnostic imaging installed base

<sup>2</sup> Based on data collected between July '18 and July '19 on all service events registered on remotely connected Philips MR systems [globally]. Downtime does not include time due to planned maintenance

<sup>3</sup> Based on global Philips only data.



## **Prevent issues** before they occur

Scanner downtime can disrupt your schedule and delay patient care. We offer maintenance agreements that are suited to your needs, enabled by the latest service innovations and including an uptime guarantee. We prevent issues before they occur through proactive remote monitoring, remote diagnostics and remote and field service support. With e-Alerts and other remote data, we monitor more than 500 parameters of your MR system from a distance, detecting and resolving issues without impacting your department's operations. In fact, more than 50% of MR service cases are resolved remotely.<sup>1</sup> Our Philips-qualified service experts can also proactively resolve issues on-site, fix your system before it causes any disruption, and provide reliable and knowledgeable support.<sup>2</sup>

## **Protecting your MR equipment** from patient data breaches and cyber-attacks

Protecting patient health information requires constant vigilance. To keep health information and medical devices secure, we employ best practices in medical device security. Our multi-layered defense barriers include security policies, procedures, access controls, technical measures, training, and risk assessments. The Technology Maximizer Plus subscription program conveniently keeps your MR systems up-to-date through access to the latest cybersecurity patches and mandatory safety fixes via regular and ongoing software upgrades and hardware refreshes.

<sup>1</sup> Based on global Philips-only data.

<sup>2</sup> Requires minimum maintenance contract. Conditions apply. Offerings are available in selected countries and for selected products only.

## **Standardize your MR fleet** at a fixed annual cost

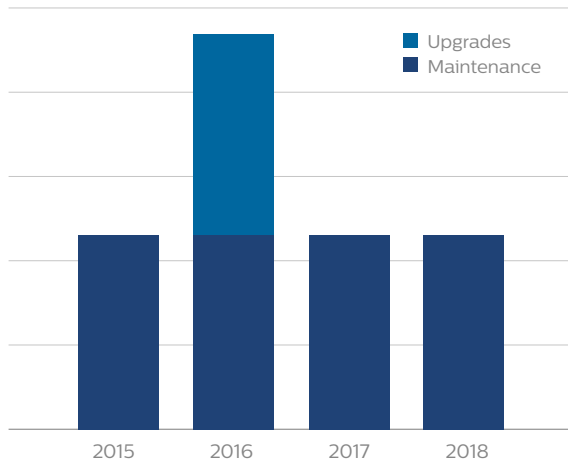
If you own more than one Philips scanner, standardizing under the same software release can enhance efficiency through one user interface for operators to learn and use the same ExamCards across multiple scanners. The Ingenia 1.5T Evolution is delivered with the latest available software release, providing a perfect opportunity to upgrade your fleet to this release and enter into a Technology Maximizer Plus subscription program.<sup>1</sup> Under the program, your Ingenia 1.5T Evolution and the rest of your fleet will receive software updates whenever available, giving you the benefits of software improvements and cyber-security advances while maintaining all your MR systems on the same level.

***“It was consistently a challenge to plan for annual upgrades and predict their costs. Thanks to Technology Maximizer, we can now continue to have the latest versions of software for all of our MRI systems.”***

Eliseo Vañó Galván, MD, Cardiovascular radiologist, Chairman of the CT & MR Department at Hospital Nuestra Señora del Rosario, Madrid, Spain

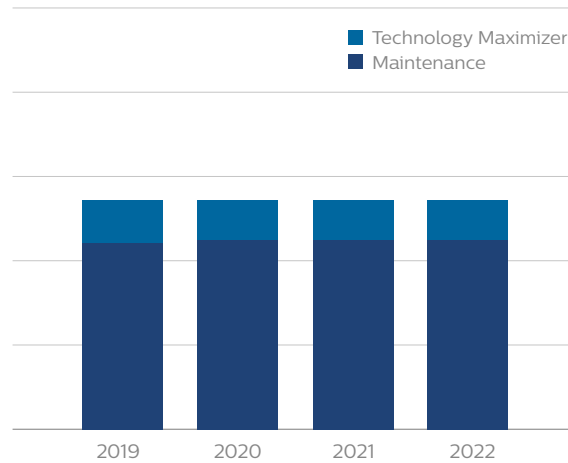


Cost of maintenance and upgrades in **previous years**



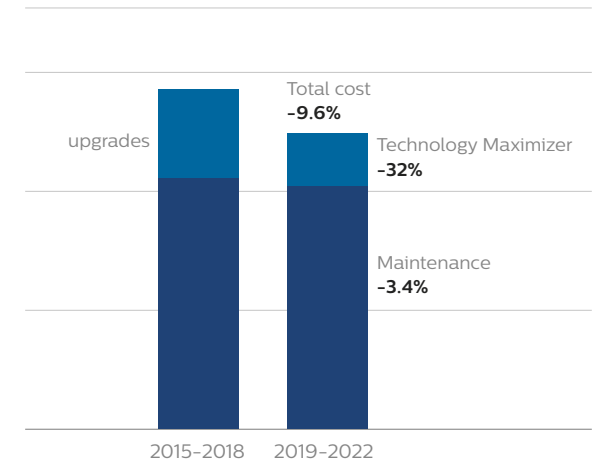
- Large variation in annual cost
- Upgrading once in 4 years

Cost of maintenance and upgrades with **Technology Maximizer program**



- ✓ Fixed annual cost
- ✓ Yearly updating

**Reduction in accumulated cost of maintenance and upgrades over 4 years**  
Before vs with Technology Maximizer



- ✓ Technology Maximizer saves cost and provides more frequent updates

## Achieve excellence through **ongoing education**

Delivering consistent healthcare day-in and day-out is a challenge, particularly when faced with staff shortages and the need to cross-train department personnel. Our Philips MR Healthcare Education can help unlock the full potential of your staff, technology, and organization through innovative and meaningful healthcare education, delivered on-site or as e-Learning. For example, the Philips MR Technologist Development Program at Burjeel Hospital for Advanced Surgery (BHAS), a leading orthopedic and joint care center in Dubai, UAE, resulted in an average of 30% improvement in image quality across all procedures.<sup>1</sup> Team knowledge increased 30–40% in the key areas of patient care<sup>1</sup>, imaging procedures, data acquisition and physics of image formation. The comprehensive, clinically-relevant courses, programs, and learning paths are designed to support clinical excellence, enhance operational efficiency and provide high-quality patient care.

## **Tailored financing solutions** in line with your cash flow needs, budgets, and business strategy

Providing access to best-in-class healthcare is a leading priority for facilities like yours around the globe. At the same time, financial security and protecting your assets over time are also high on the agenda. To manage your financial challenges, you need to know whether your healthcare investments are sustainable – and how to get the most from your equipment. Financing your Ingenia 1.5T Evolution helps you exchange variability and unpredictability for visibility and certainty. This helps you avoid the burden and risk of upfront expenditures and benefit from transparent, predictable cost structures. As a result, you can manage and plan budgets more efficiently and free up capital that would otherwise be tied up in fixed assets.





**How to reach us**

Please visit [www.philips.com/mri](http://www.philips.com/mri)  
[www.philips.com](http://www.philips.com)  
[healthcare@philips.com](mailto:healthcare@philips.com)