



**PHILIPS**

**Ingenia Elition S**

MR Systems

3.0T imaging  
**at your fingertips**

# 3.0T imaging at your fingertips

Healthcare is maturing daily – setting and adopting new standards in clinical pathways. At the same time, there is a need for high productivity, improved patient experience and excellence in imaging. Meeting these multifaceted requirements can be daunting. Ingenia Elition S lets you adapt to new directions easily, while enhancing productivity and providing referral value for your practice.

The Ingenia Elition S delivers superb image quality and performs MRI exams up to 50% faster.<sup>1</sup> High productivity is achieved with the help of imaging capabilities such as SmartExam<sup>2</sup>, 4D Multi-Transmit and ScanWise Implant<sup>3</sup>, combined with accelerations in both 2D- and 3D scanning.

These advances have been made possible by a combination of new gradient and RF designs, plus acceleration technologies like Compressed SENSE.

Furthermore, the Ingenia Elition S offers an immersive audio-visual experience to help calm patients and guide them through exams, enhancing the MR experience. 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>4</sup>, allowing radiologists to see more patients per day.

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

<sup>2</sup> SmartExam is not available to patients with MR Conditional implants

<sup>3</sup> Only for use with MR Safe or MR Conditional Implants by strictly following the Instructions For Use

<sup>4</sup> Compared to the average of the other 5 Philips 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

# Ingenia Elition

## The **confidence** of 3.0T

- ▶ Achieve **up to 60%<sup>1</sup>** higher resolution
- ▶ Enhance your diagnostic confidence
- ▶ 3.0T performance as easy as 1.5T

## Delivers speed without sacrifice – **every time**

- ▶ Accelerate your exams by **up to 50%<sup>1</sup>**
- ▶ Automate your scan planning





## Dramatically improve **patient experience**

- ▶ Enhance patient comfort
- ▶ Inform your patients



# A confident diagnosis

The Ingenia Elition S provides leading 3.0T image quality. Thanks to redesign of gradient and RF subsystems, enhanced by proven digital performance and easy-to-operate tools, there is no need for extensive 3.0T experience. With the Ingenia Elition S, you can achieve 3.0T image quality in default 1.5T scan-time slots.

Innovating on all fronts has enabled rich functions and features that support confident diagnosis. In addition to the high-fidelity gradient and RF design, the system combines innovative solutions such as Compressed SENSE and 3D APT to help you reach new levels of precision in anatomical and functional clinical imaging. This helps you diagnose even the most challenging clinical indications and answer more referral questions.

The redesign of gradient and RF subsystems is a result of more than 15 years' experience in short-magnet, wide-bore 3.0T MRI. 3.0T scanning has become routine because of innovations that were first introduced by Philips. These include B1 homogeneity with MultiTransmit, automated planning with SmartExam<sup>1</sup> and enhancing clarity for patients with MR Conditional implants thanks to ScanWise Implant.

<sup>1</sup> SmartExam is not available to patients with MR Conditional implants

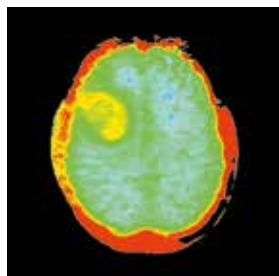
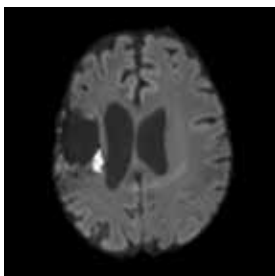


## Up to 60% higher resolution

Fully redesigned gradients combined with Compressed SENSE acceleration technology allow up to 60% higher spatial resolution<sup>1</sup> in the same scan time, revealing more details for greater precision. For example, accelerating isotropic 3D MSK imaging enables a switch from multi-orientation 2D imaging to a single high-resolution 3D efficient scan.

## Enhanced diagnostic confidence in neuro oncology

3D APT (Amide Proton Transfer) is a unique, contrast-free, brain MR imaging method that addresses the need for more confident diagnosis in neuro oncology. 3D APT uses the presence of endogenous cellular proteins to produce an MR signal that directly correlates with cell proliferation, an indicator of tumoral activity. 3D APT can support trained medical professionals in differentiating low grade from high grade brain gliomas and in differentiating tumor progression from treatment effect.<sup>2</sup>



## The basis of 3.0T image quality – Multi-Transmit RF

Philips was the first company to introduce Multi-Transmit RF to 3.0T imaging in 2008. MultiTransmit, with two different RF amplifiers, is standard for Philips 3.0T imaging. This stems from our belief that it is essential to support 3.0T image quality throughout the body.

## A key to confidence with MR Conditional implants

ScanWise Implant<sup>3</sup> software helps you confidently scan patients within the MR Conditional limits by providing step-by-step guidance to enter the condition values of the implant manufacturer. Your MR system then automatically applies these values for the entire examination, helping you simplify the scanning process for patients with MR Conditional implants. With ScanWise Implant, you can increase referrals of patients with MR Conditional implants to your institution by confidently offering exams for this growing patient population.

## One processing platform, one fully integrated solution to make your diagnosis

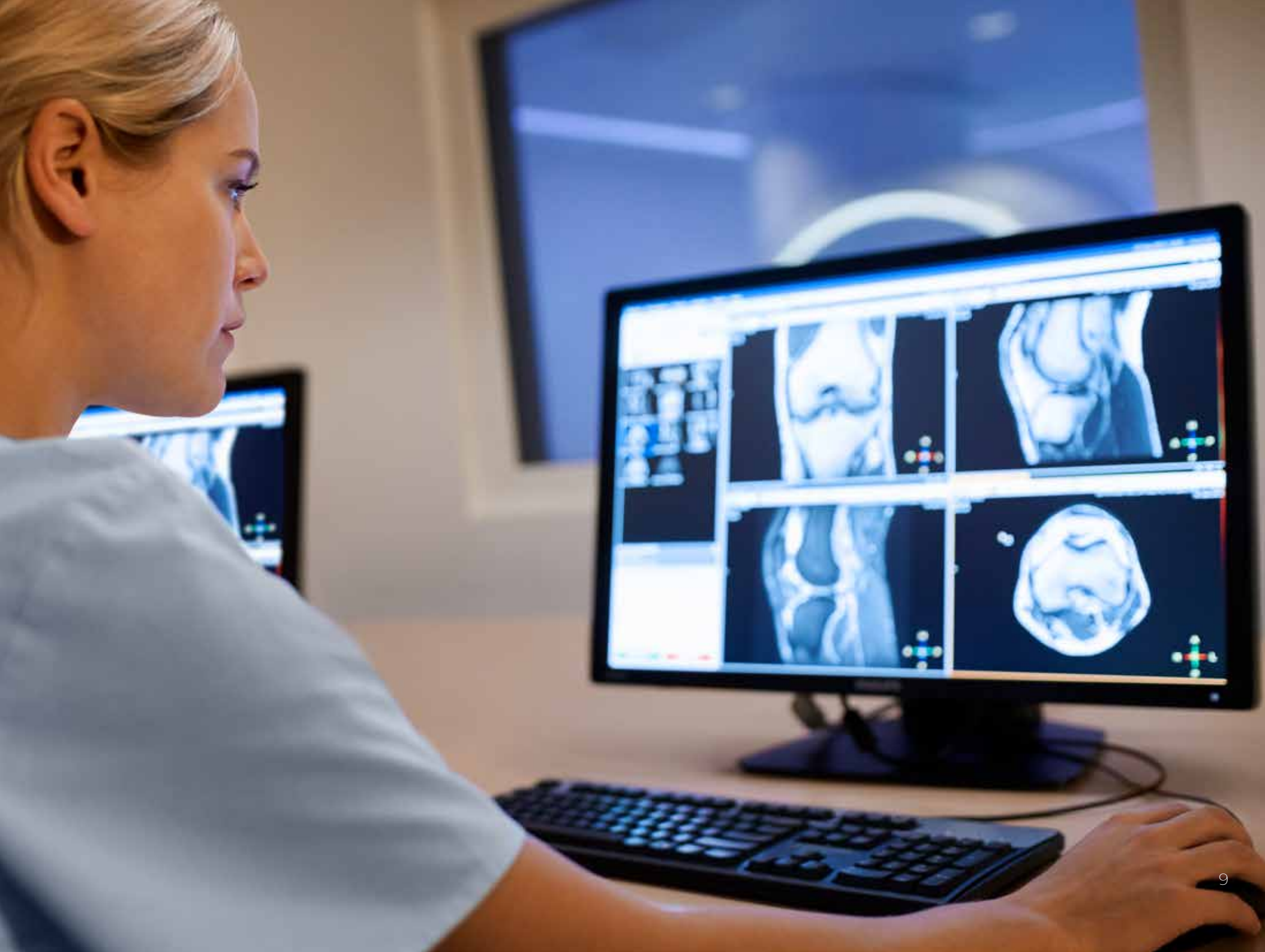
The comprehensive 3.0T imaging capabilities on the Ingenia Elition S increase the need for advanced processing. IntelliSpace Portal offers a comprehensive set of over 70 clinical applications in multiple clinical domains, including neurology, cardiology, vascular, oncology, and more. This all-round workstation provides you with the right processing tools when you need them.

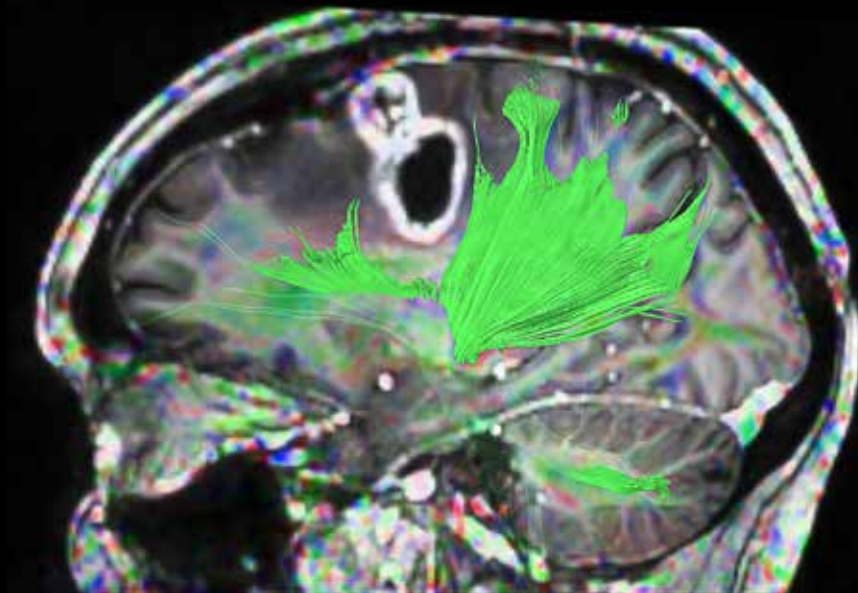
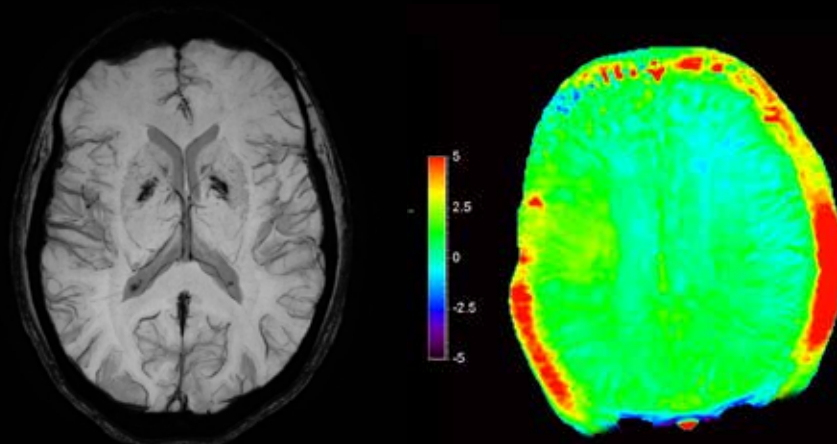
<sup>1</sup> Compared to Philips scans without Compressed SENSE

<sup>2</sup> Togao et al. (2014) Neuro-Oncology. Park KJ et al. (2016) Eur Radiol

<sup>3</sup> Only for use with MR Safe or MR Conditional Implants by strictly following the Instructions For Use

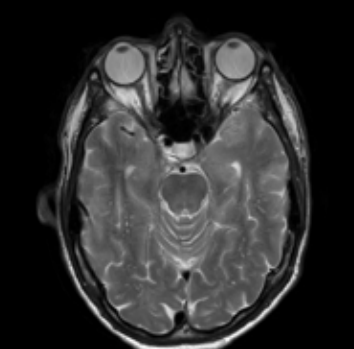
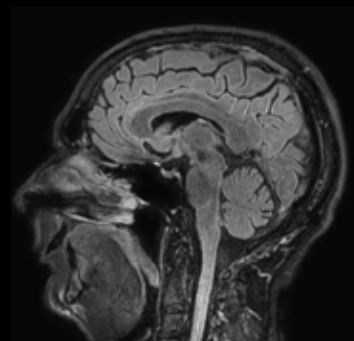
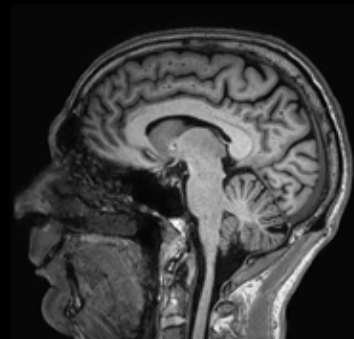




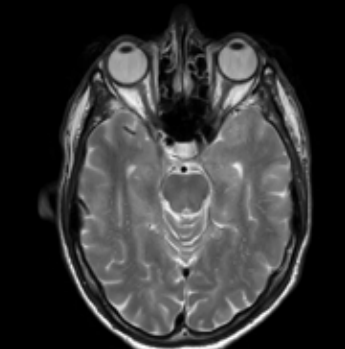
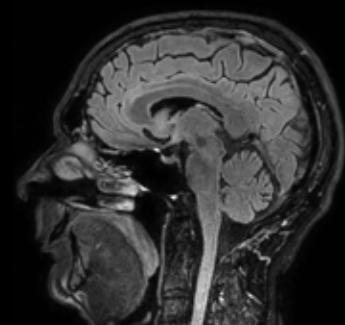
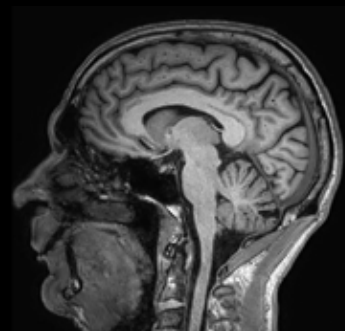


Axial 2D SWI,  $0.6 \times 0.6 \times 2.0$  mm, 2:59 min  
 Axial 3D APT, post-operative,  $1.78 \times 1.81 \times 6.0$  mm, 3:45 min  
 DTI 128 directions,  $2.0 \times 2.0 \times 2.0$  mm, 5:00 min

Without Compressed SENSE



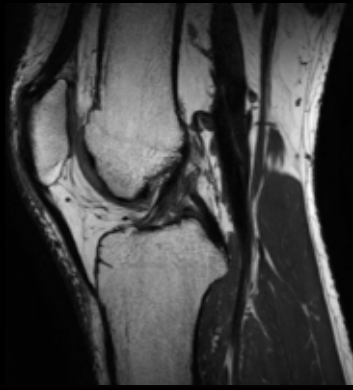
With Compressed SENSE



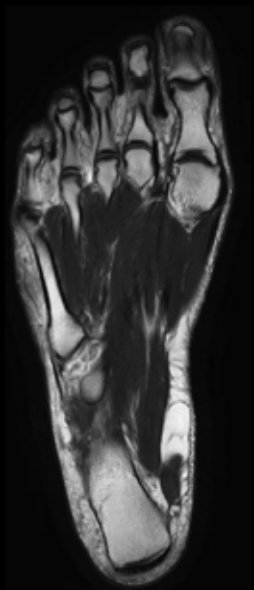
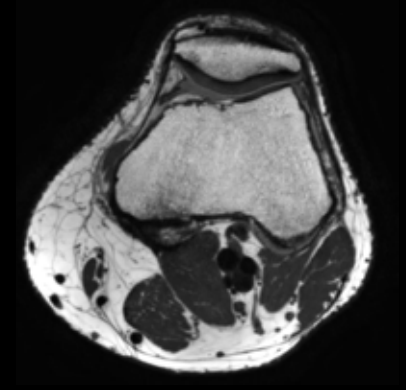
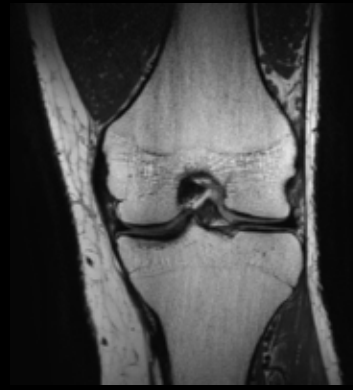
Sagittal 3D T1w TFE,  $1.0 \times 1.0 \times 1.0$  mm, 5:29 min / 3:02 min (45% acceleration)  
 Sagittal 3D BrainVIEW FLAIR,  $1.12 \times 1.12 \times 1.12$  mm, 4:34 min / 3:17 min (28% acceleration)  
 Axial 2D T2w TSE,  $0.55 \times 0.73 \times 4.0$  mm, 1:48 min / 0:54 min (50% acceleration)



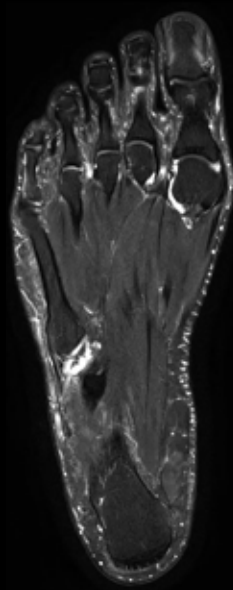
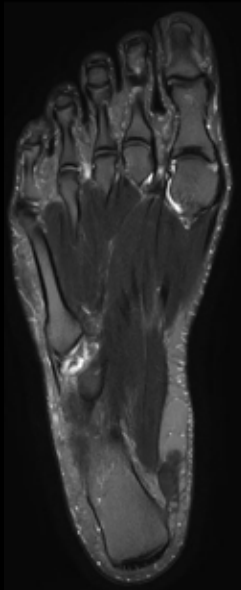
Sagittal 2D PDw TSE, with Compressed SENSE  
0.36 x 0.43 x 3.0 mm, 2:35 min



Sagittal 3D VIEW - PDw TSE with, compressed SENSE coronal and axial reformat  
0.45 x 0.45 x 0.52 mm, 4:29 min



Axial 2D T2w mDIXON XD TSE, with Compressed SENSE  
0.32 x 0.44 x 3.0 mm, 3:59 min



Without Compressed SENSE



With Compressed SENSE

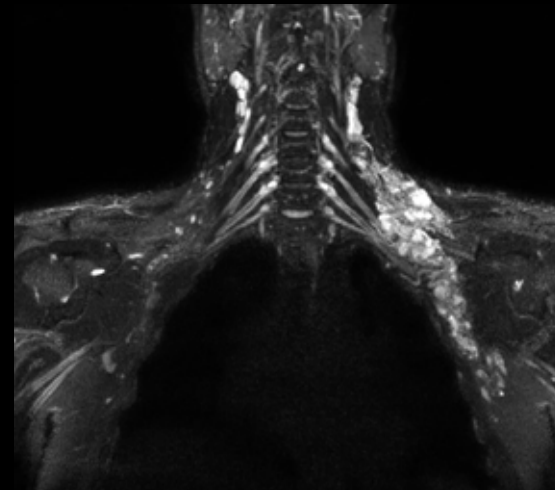
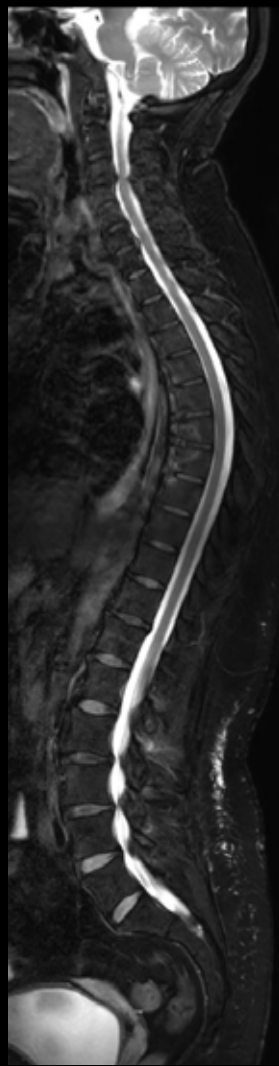
Sagittal 2D PDw TSE  
0.36 x 0.44 x 3.0 mm, 4:43 min / 0.30 x 0.37 x 3.0 mm, 2:52 min



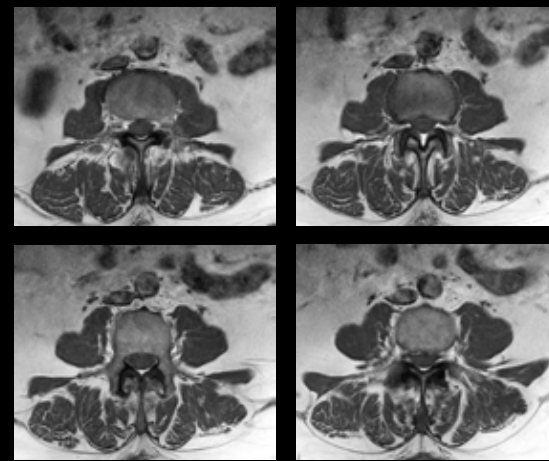
Sagittal 2D T1w TSE  
Compressed SENSE  
0.80 x 0.98 x 4.0 mm  
3:26 min /stack



Sagittal 2D T2w mDIXON XD TSE  
Compressed SENSE  
0.90 x 1.08 x 4.0 mm  
2:54 min /stack

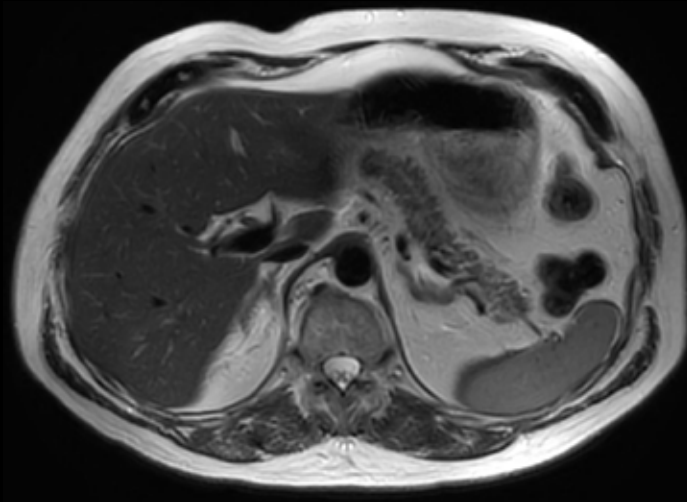


Coronal 3D NerveVIEW, Compressed SENSE  
1.20 x 1.20 x 8.0 mm, 3:29 min

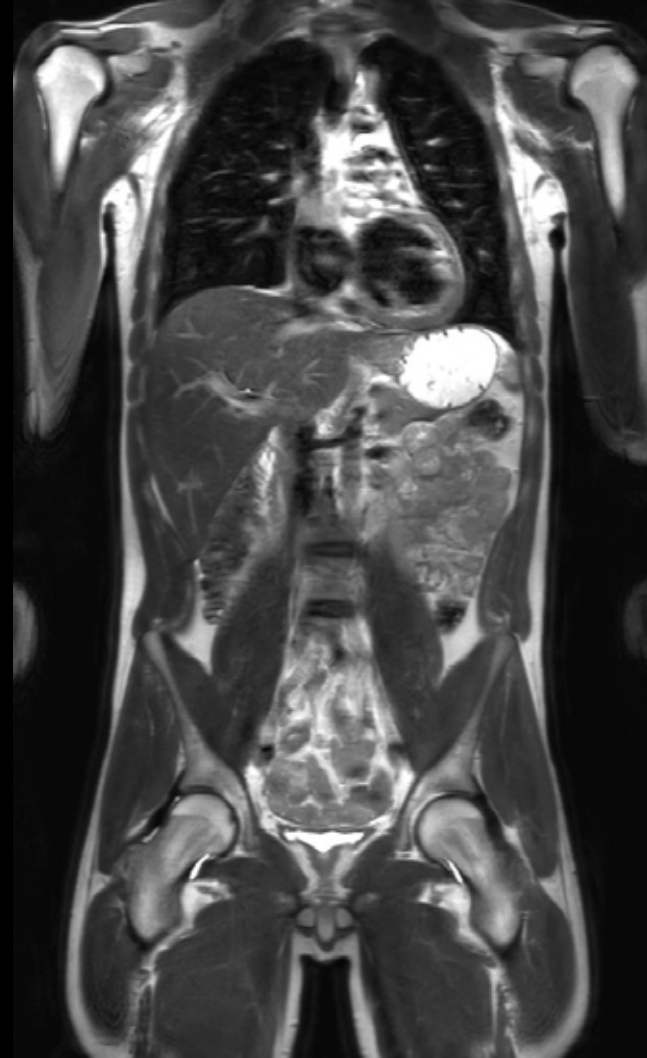
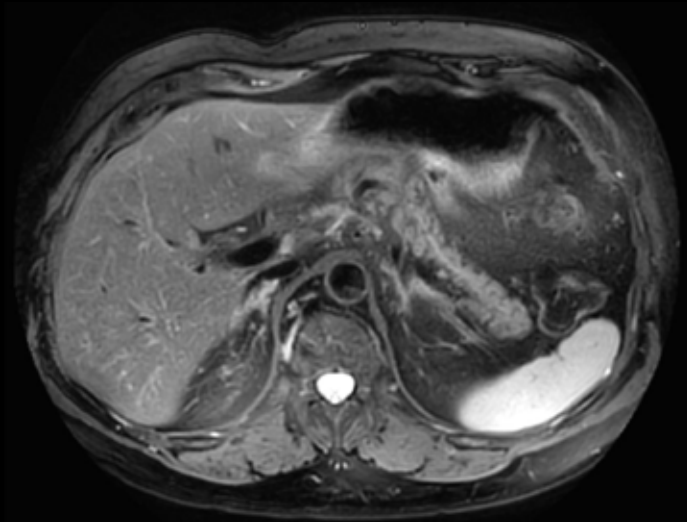


Axial 2D T1w TSE, Compressed SENSE  
0.60 x 0.68 x 4.0 mm, 2:36 min

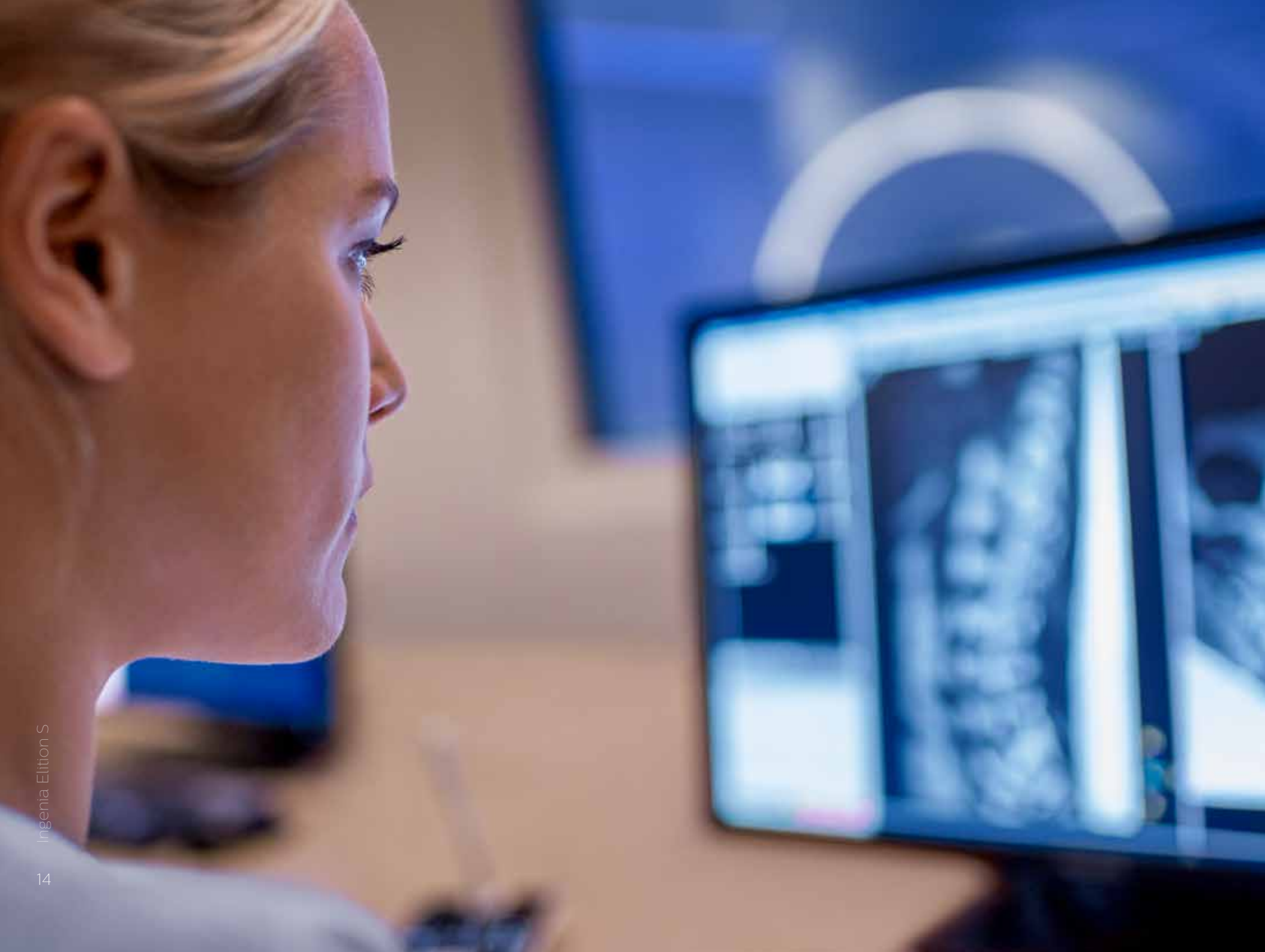




Axial T2w MultiVane XD, 150 x 150 x 5.0 mm, 2:15 min  
Axial T2w SPAIR MultiVane XD, 149 x 149 x 5.0 mm, 2:48 min



Coronal T2w TSE – Two stations  
1.4 x 1.6 x 5.0 mm, 1:48 min /station



# Delivers speed without sacrifice – **every time**

Ingenia Elition S speed and productivity stem from our vast experience with digital 3.0T imaging, as well as recent innovations to accelerate MRI exams. The unique Philips Compressed SENSE acceleration technique allows you to speed up the entire examination. With the Ingenia Elition S, you can scan more than five patients per hour<sup>1</sup>, delivering productivity when and where you need it.

<sup>1</sup> Based on in house testing, with brain, c-spine, l-spine, liver and knee exams, measuring exam times only





## Accelerate exams by **up to 50%**

Leveraging our long-standing leadership in scanning speed (i.e. SENSE), Philips now presents a breakthrough in productivity: Compressed SENSE accelerates 2D- and 3D scans by up to 50% with virtually equivalent image quality<sup>1</sup>.

Ingenia Elition S not only accelerates sequences, but the entire patient exam.

As a result, your staff has more time to focus on what matters most: attention to patient care. It's speed done right, every time.

## **Automate** your scan planning

SmartExam<sup>2</sup> supports reproducible planning results for over 80% of procedures. It uses adaptive intelligent software that automatically plans scanning geometries based on your validated scanning preferences. This lets you standardize your MRI exam process, helping you enhance consistency in follow-up exams of the same patient and from patient to patient. SmartExam<sup>2</sup> planning can be adapted and expanded to fit your changing requirements. What's more, you can share and apply automated geometry planning across different Philips MRI consoles.

## Patient setup in **under one minute**

Philips has combined superb patient comfort with enhanced clinical outcomes to bring you the Ingenia Elition S. The VitalScreen offers guidance and insights on the detail of the current patient study. This 12-inch interactive touchscreen provides information on exam duration, which coil to use, patient positioning, physiology signal captors (VCG) and — if applicable — contrast usage and breathhold guidance.

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

<sup>2</sup> SmartExam is not available to patients with MR Conditional implants





# Dramatically improves **patient comfort**

At Philips we will never forget that at the heart of everything we do, there is a patient. With the Ingenia Elition S, we can deliver an MR experience that enhances comfort and reduces the likelihood of rescans<sup>1</sup>. With up to 80% acoustic noise reduction, voice guidance, immersive in-bore visuals and a comfortable table, your patients are made to feel at ease, resulting in smooth, fast exams.

<sup>1</sup> Based on a study performed in Herlev hospital. Compared to the average of the other 5 Philips 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.





## Enhance **patient comfort**

Improving patient compliance with MR imaging starts with providing a comfortable environment during the exam. With the Ingenia Elition S, we're introducing our ComfortPlus mattress, which is much thicker than a standard mattress. Based on its viscoelastic properties, it reduces its thickness upon pressure and body warmth. On average, 90% of patients in severe discomfort find it easy to lie still on the ComfortPlus mattress.<sup>1</sup>

In addition, the environment is improved with our unique ComforTone solution which achieves up to 80% reduction in acoustic noise<sup>2</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 but can also apply it with high gradient settings, thanks to our ready-to-use ExamCards.



## Inform your patients

In addition to providing a comforting environment, Ingenia Elition S supports fully informed patients throughout the scanning process, both in terms of the ongoing scan and clarity on cooperation, e.g. with respect to breathholds.

AutoVoice is a fully integrated and automated solution that guides your patients through the MR examination. It indicates scan duration, announces table movements and offers breathhold guidance, helping you enhance patient comfort. The automated breathhold commands are synchronized with the patient's respiratory cycle and can be selected to fit patient conditions, such as expiration versus inspiration. AutoVoice is available in several languages and customizable for local pronunciation or for a staff member's voice if desired.

The unique Ambient Experience and In-Bore Connect allow you to offer patients something they would never have expected during an MR study: a truly personalized and supportive MR experience. You can create an atmosphere that transports them out of the imaging suite and into a relaxing environment of their choice. From the moment a patient is positioned in the scanner (the point at which people report the most stress), through to completion of the scan, this Philips solution can help patients to relax, follow directions and minimize motion. With In-bore Connect, the patient receives visual cues to help them understand the progress of individual scans, as well as of the full study. Moreover, detailed guidance informs the patient how much longer a breathhold will last.

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

<sup>2</sup> Compared to scanning without ComforTone





# Stay clinically advanced, maximize imaging investments

## **Boost your capabilities** with proactive upgrades

Technology Maximizer is a cross-modality program designed to boost the clinical capabilities and performance of imaging equipment through proactive upgrades. These proactive upgrades help keep your imaging equipment up to date, which is important for managing security risk. These updates also help to keep your systems well maintained, compliant and protected from obsolescence, which helps decrease unexpected downtime. With Technology Maximizer, your healthcare organization no longer needs to upgrade systems or software on an individual basis. Through regular upgrades and by refreshing existing hardware, this five-year subscription program provides your departments with the latest software and hardware updates while maintaining cost efficiency through a predictable fee. Furthermore, Technology Maximizer Pro automatically delivers the latest specialty applications for each clinical domain. With Technology Maximizer, you gain confidence that your systems are up to date and compliant, at a fraction of the cost of individual upgrades.

## Identify potential **improvements and growth**

PerformanceBridge delivers a flexible suite of services to support continuous improvements at hospitals. Define your own pathway to finding and maximizing opportunities and do more with less while maintaining a focus on patient care. Powered by dedicated experts, a forum of your global peers, intelligent tools, data analytics and complemented with training, best practices and benchmarks, our portfolio of solutions helps to inform your everyday decisions. Moreover, it helps you set appropriate and relevant targets that hospital managers can use as meaningful inputs in their quest to identify improvement opportunities.

## Recognize the potential of **easily upgrading in performance**

The Ingenia Elition platform allows for easy and simple expansion of clinical and workflow performance, with a simple and easy upgrade from Ingenia Elition S to Ingenia Elition X you can get access to higher gradient performance, as well as the latest workflow features. Stepping into the Elition platform is future proof securing future access to the latest technologies in 3.0T imaging.



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