



Changing expectations

Philips Ingenia 3.0T Magnetic Resonance System, the first-ever digital broadband MR

PHILIPS
sense and simplicity

Ingenia 3.0T: The first-ever digital



broadband MR

As healthcare rapidly changes around the world, so do the requirements for MR scanning. In addition to performing the most common procedures better and faster, there is a growing need for oncology and body imaging, often on larger patients. More services and faster delivery are the name of the game.

How do you keep pace with these changes, now and in the future? With Philips Ingenia 3.0T, the first digital broadband MR scanner.

Powered by the breakthrough dStream architecture, the Ingenia 3.0T is the first MR system that brings MR signal digitization where it has never been before – in the RF coil, as close to the patient as possible. dStream unleashes the power of digitization by delivering a high purity MR signal for increased SNR, combined with

enhanced workflow and ease of use for greater efficiency in your daily operations.

Philips Ingenia is designed to avoid compromises. Better, more consistent image quality for all applications pairs with clinical versatility to expand into new areas such as body/oncology, in a wide aperture system that promotes excellent patient comfort. And productivity is enhanced with every feature of the Ingenia, with automation where it makes sense, while still giving you the control you want or need.

Elevated clinical performance, accelerated patient management and improved economic value – all for the life of the system – the Ingenia 3.0T will change your expectations on what MR is and should be.

Ingenia 3.0T

powered by



Architecture



Imaging Space

Designed with patients in mind

Developed for a wide diversity of patients with different ages, sizes and physical conditions, the Ingenia 3.0T has features that will put your patients at ease:

- 70 cm bore provides more space and helps to reduce anxiety.
- Smart software to reduce retakes increase consistency and exam speed.
- Digital coil design greatly reduces coil weights and leads to less patient repositioning in many exams.
- The ambient light ring on the magnet façade and adjustable, in-bore lighting enhance the openness of the system.
- Patient-perceived gradient acoustic noise is reduced by more than 80%.

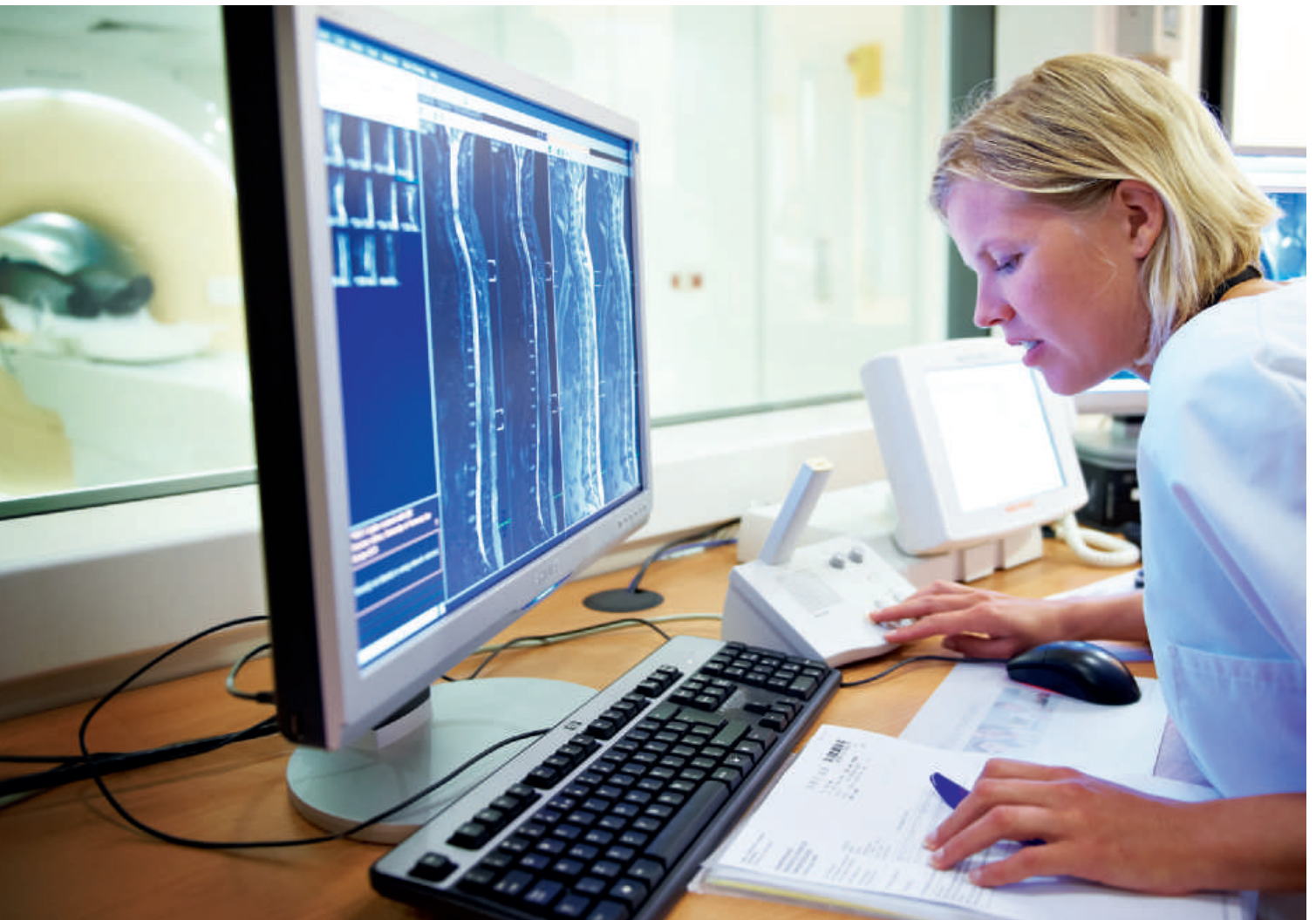
dStream architecture delivers clarity,

At the heart of the Ingenia 3.0T is the new dStream architecture. dStream comprises:

- **DirectDigital** RF receive technology, which digitizes the MR signal directly in the RF coil, at the patient.
- **FlexStream** workflow, which increases system versatility and throughput through better coil and patient management.
- **EasyExpand**, which enables plug and play expansion of clinical capabilities without major hardware upgrades.

Gain up to 40% SNR

DirectDigital RF receive technology digitizes the MR signal at the patient, eliminating noise influences typical of analog pathways, to capture the MR signal where it is at its purest. The fiber-optic connection from the coil to the image reconstructor enables lossless broadband data transmission. This results in SNR gains of up to 40%, which you can use to increase image quality and exam speed. dStream architecture also brings next generation parallel imaging dS-SENSE for even more speed or resolution.



speed and expandability



As much as 30% improvement in throughput

Hinged upon the unique FlexCoverage Posterior coil that provides neck-to-toe coverage without the need for any manual removal or repositioning, FlexStream enables imaging with fewer coils and reduces coil positioning and patient setup time.

Easily expand clinical capabilities with EasyExpand

With dStream's EasyExpand, you never have to worry about upgrading your RF receive channels to keep up with advances in coil technology. Because digitization occurs in the RF coil, the channels available are determined by the coils, rather than the system. This enables plug-and-play expansion of clinical capabilities without major hardware upgrades, resulting in lower lifecycle costs and improved economic value.



Breakthrough technology to enhance and expand clinical capabilities

Revolutionary miniaturization of the receive electronics in Ingenia 3.0T makes it possible to digitize MR signals in the RF coil as close to the patient as possible. dStream architecture enables DirectDigital and EasyExpand

DirectDigital

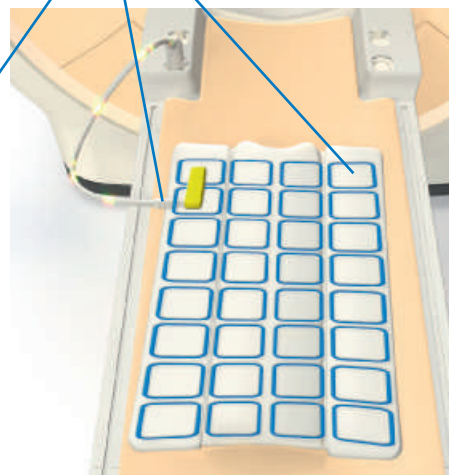
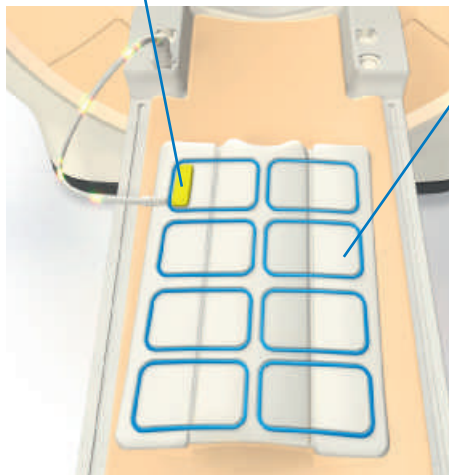
Ingenia 3.0T delivers up to 40% higher SNR, which can be combined with dS-SENSE parallel imaging for outstanding image clarity and speed.

EasyExpand

With EasyExpand, the number of RF receive channels is no longer a system specification. This enables plug-and-play expansion of clinical capabilities without the need for RF channel upgrades.

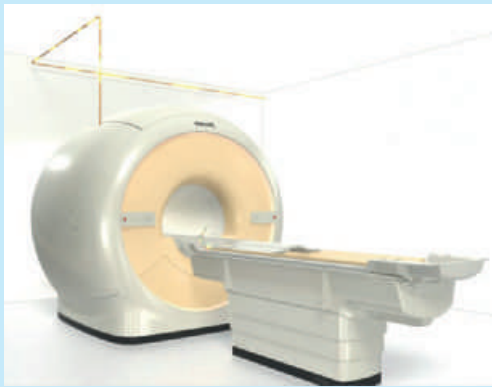
Revolutionary miniaturization of receive electronics enables digitization directly in the RF coil.

Single digital broadband fiber optic cable independent of number of elements/channels in a RF coil.





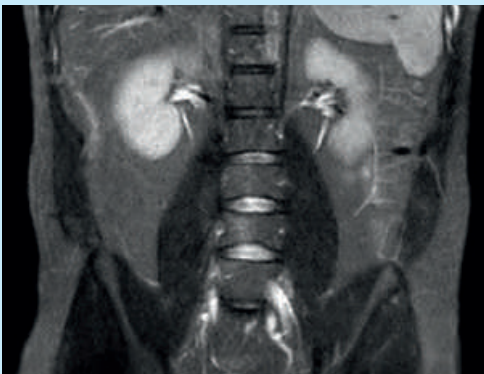
Ingenia 3.0T



Ingenia 3.0T with DirectDigital



DirectDigital: miniaturized electronics in the coil



Ingenia 3.0T: Up to 40% improvement in SNR with DirectDigital

Other MR



Other MR: Digitization away from coil



Other MR: Large electronics rack distant from the coil



Other MR: Signal loss resulting from digitization performed away from the coil

FlexStream enhances workflow and

FlexStream is a new concept in exam management designed to streamline workflow, increase flexibility and reduce exam time, bringing up to 30% improvement in your throughput.



FlexCoverage Posterior coil

Integrated in the tabletop, the FlexCoverage Posterior coil is the answer for about 60% of your routine applications, providing neck-to-toe coverage, head-or-foot first, without coil handling or positioning. The Posterior coil combines effortlessly with other dStream coils for large coverage, and fast and easy patient setup.



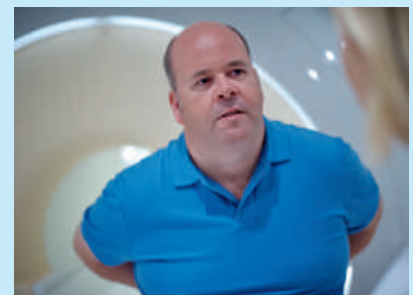
FlexCoverage Anterior coil*

By combining the lightweight FlexCoverage Anterior coil with the Posterior coil, you can image anatomies from above the shoulder to the toe. Due to its unique design, it conforms comfortably to the patient's body shape, allowing strap-free use for fast and easy positioning.

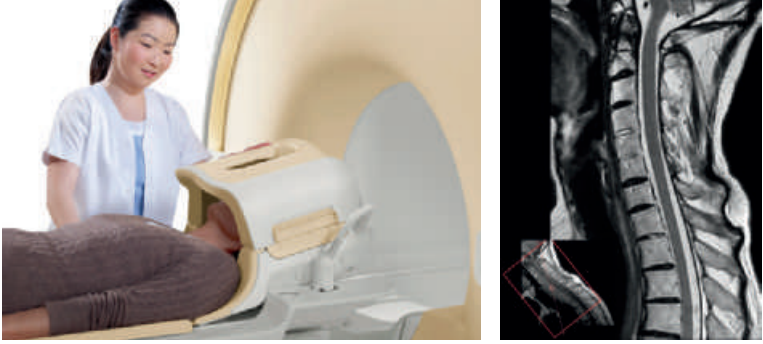


FlexConnect connection

FlexConnect enables single-handed coil connections as well as auto-eject for easy table undocking.



productivity



FlexStream workflow enables imaging patients with kyphosis due to the ability to tilt the dS HeadSpine / HeadNeckSpine coils.



FlexCaddy coil storage cart*
If other dStream coils are required, choose from a variety of coil solutions readily available in the optional FlexCaddy coil storage cart.



FlexTrak Patient Transport System*
FlexTrak dockable patient transport system provides simplified patient preparation, handling and transportation from the preparation room to the MR scanner, as well as easy exam set up.



FlexTrak Mammo*
Specialty dockable tables can instantly convert your general purpose Ingenia 3.0T into a specialty scanner for breast imaging, intervention or therapy applications, while ensuring high throughput.



* Optional

Pushing the boundaries

The Ingenia 3.0T is designed to outperform other MR systems in many ways.

High performance Xtend imaging space

The industry leading Xtend design provides the largest homogenous field-of-view in a commercial 70 cm system. It also offers the best combination of magnet homogeneity and gradient performance.

- 70 cm bore for increased patient comfort and easy positioning.

- An ultra-large, up to 55 cm field of view for extended coverage.
- The industry's highest homogeneity for a 70 cm system (1.8 ppm over 50 cm FOV) for excellent image quality, off-center imaging and fat suppression.



Large Field of View
T2W spine with SPAIR fat suppression



2 station T2W whole spine
imaging



Xtend benefits:

- Eyes-to-thighs imaging in as few as two stations.
- Simplified imaging even for large patients.
- Seamless matching of multi-station exams.



Contrast uniformity, speed and consistency

Philips-exclusive MultiTransmit reduces dielectric shading to provide superb image uniformity, contrast and consistency, as well as faster imaging. MultiTransmit uses parallel RF transmission with multiple RF sources to adapt the RF signals to each patient, resulting in excellent image quality and consistency.

Now with MultiTransmit 4D*, all the benefits of MultiTransmit technology can also be applied to cardiac imaging. New MultiTransmit 4D* enables optimal RF transmission even during real-time applications. MultiTransmit also helps manage local Specific Absorption Rate (SAR) and takes advantage of optimized RF management to provide up to 40% increase in scanning speed.

MultiTransmit benefits:

- Enhanced contrast and image uniformity.
- More consistent results, patient after patient.
- Up to 40% more speed.
- MultiTransmit 4D* enables growth areas for MR including cardiac, to become preferred at 3T.

“Ingenia image quality is incredible. It’s the best I’ve ever seen on a 3.0T system.”

Dr.Suresh K. Mukherji, MD, FACR, Professor of Radiology and Chief of Neuroradiology, University of Michigan (Ann Arbor, Michigan, USA)



Cine and Black Blood imaging of the heart



T2W SPAIR of the upper abdomen



a Conventional 3T
b Ingenia 3.0T with MultiTransmit 4D*

*MultiTransmit 4D will become available in the course of 2011

Imaging excellence for your most common applications

The Ingenia 3.0T system's dStream architecture and dS coil solutions result in high SNR that benefits every application. You no longer have to trade resolution for speed: now you can perform routine exams for brain, spine, knee, ankle and liver within less than 8 minutes with excellent image quality.

Fast routine imaging is enabled by:

dStream (dS) coil solutions

Tailored to your clinical needs and addressing a full range of clinical situations, dStream coil solutions and have been optimized for:

- Intrinsic signal-to-noise ratio.
- Imaging coverage.
- Parallel imaging performance.

dS-SENSE parallel imaging

Powered by dStream architecture, dS-SENSE enables higher parallel imaging factors for more speed or resolution. It includes quick, fully integrated reference scans which are planned automatically.

SmartAssist efficiency assistance

SmartAssist is the next generation of Philips powerful combination of SmartExam and ExamCards. It can halve the number of repetitive tasks for greater efficiency, consistency and reproducibility.

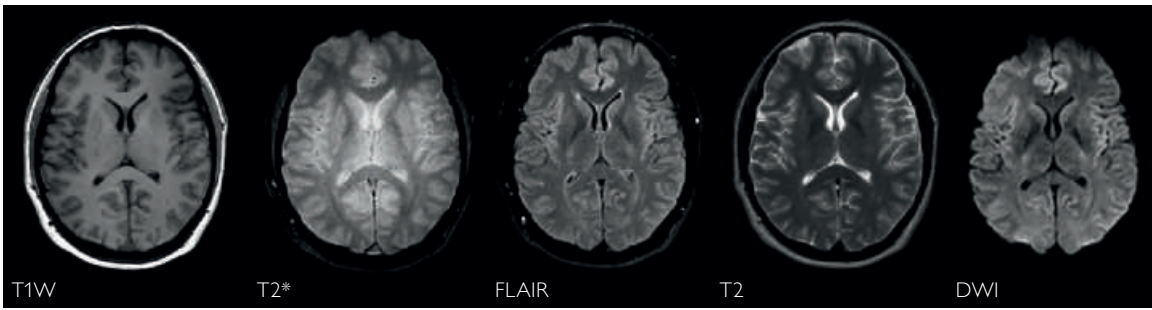
It includes:

- SmartStart: Moves the table to isocenter and starts the exam at the touch of a button.
- SmartSelect: Automatically determines which coils and elements should be activated to produce the highest SNR for the selected area.
- SmartExam: Positions slices on the target anatomy, reducing operator input to as little as a single mouse click. It is optionally available for brain, spine, shoulder, knee and breast imaging.
- SmartLink: Simplifies the planning, viewing and processing of multi-sequence, multi-station exams, treating multi-station exams as one volume.
- SmartLine: Performs intelligent background processing (such as volume view, diffusion, perfusion etc.) of multiple image datasets in parallel with image acquisition.

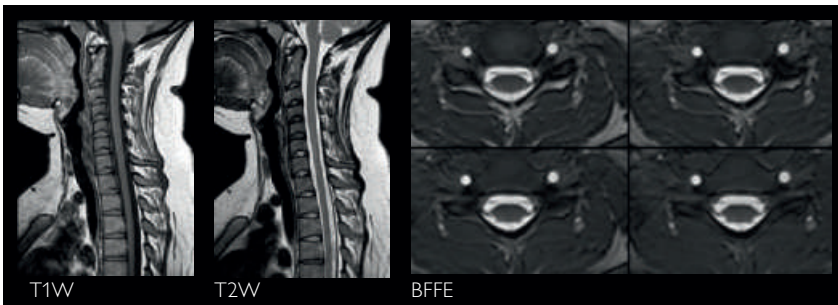
Image obese patients with ease

The Ingenia 3.0T can accommodate even very large patients with ease.

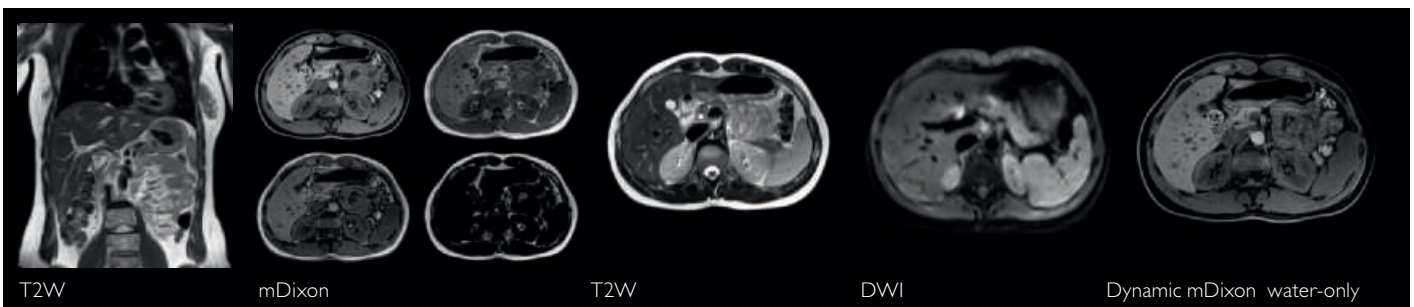
- The patient support enables patients weighing up to 250 kg (550 lbs) to be comfortably examined.
- The wide FlexTrak table top and 70 cm bore improve patient comfort.
- 2 x 18kW high-performance solid-state RF power amplifiers allow short, complex RF pulses, even on large patients.
- Flexible, lightweight conforming coils accommodate patients with different sizes.



<8 minute Brain Exam



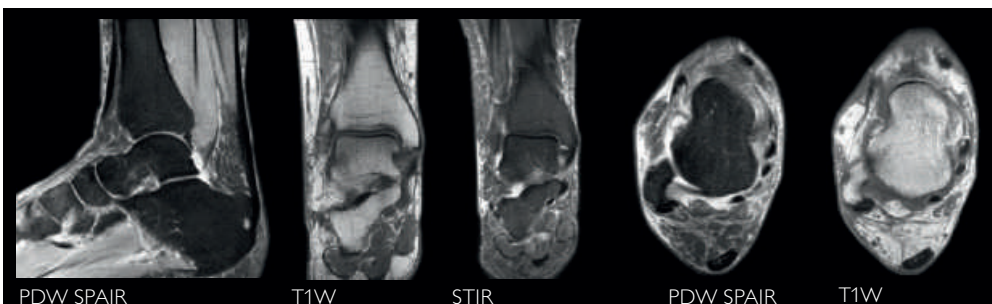
<8 minute Cervical Spine Exam



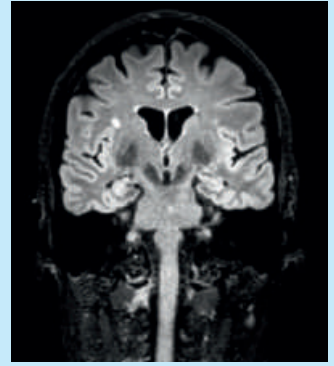
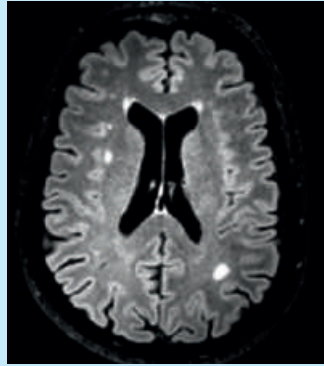
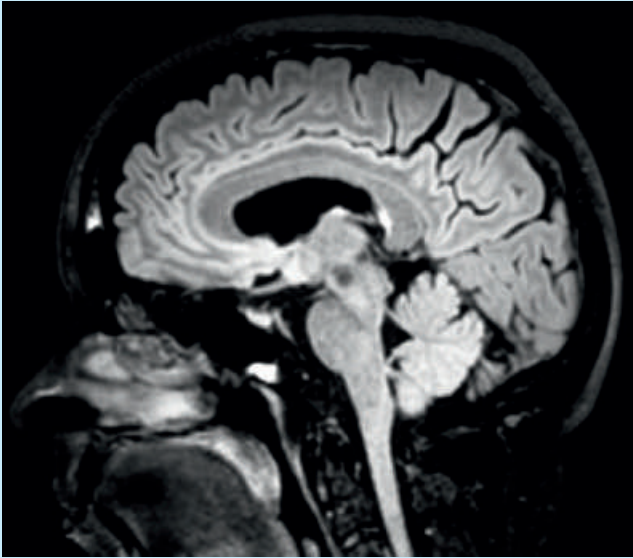
<8 minute Abdominal Exam



<8 minute Knee Exam



<8 minute Ankle Exam

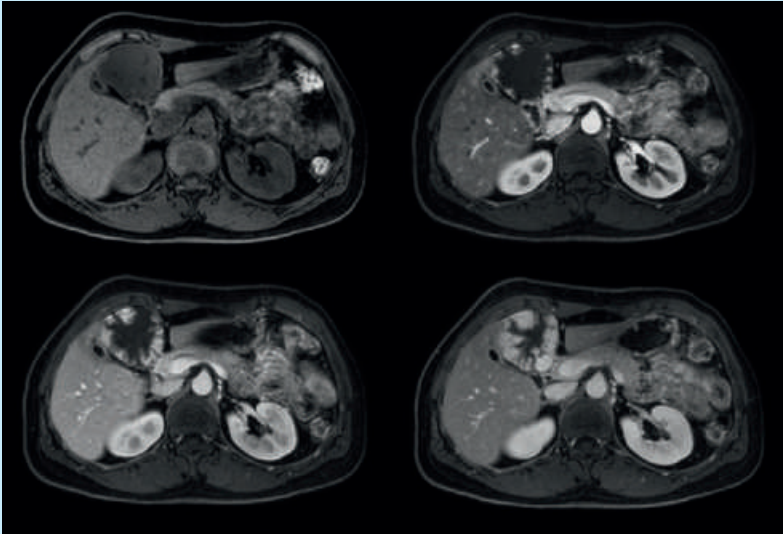


3D BrainView FLAIR, 2:29 min

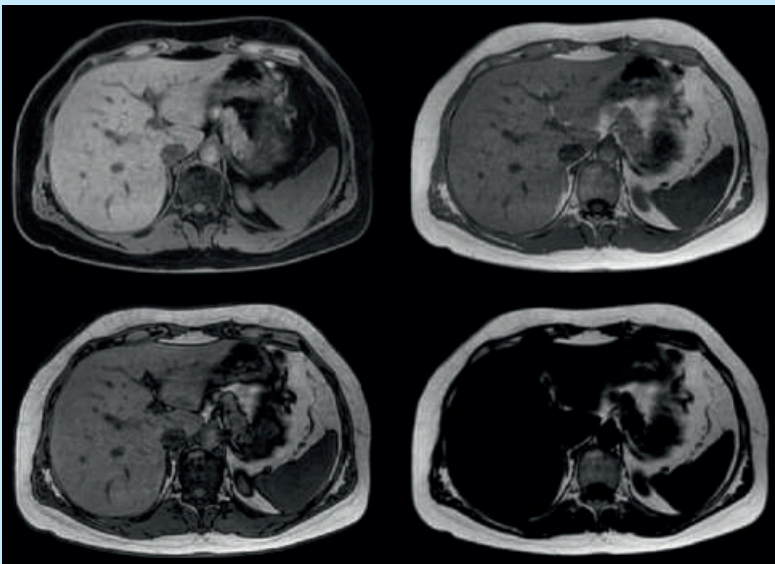
Left: Sagittal source

Middle: Axial MPR slice

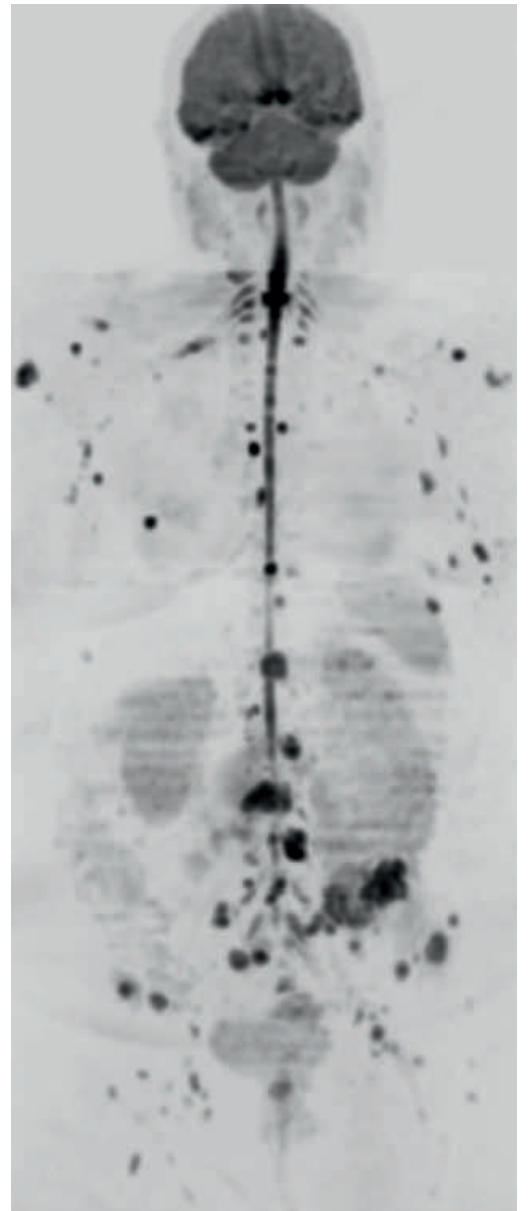
Right: Coronal MPR



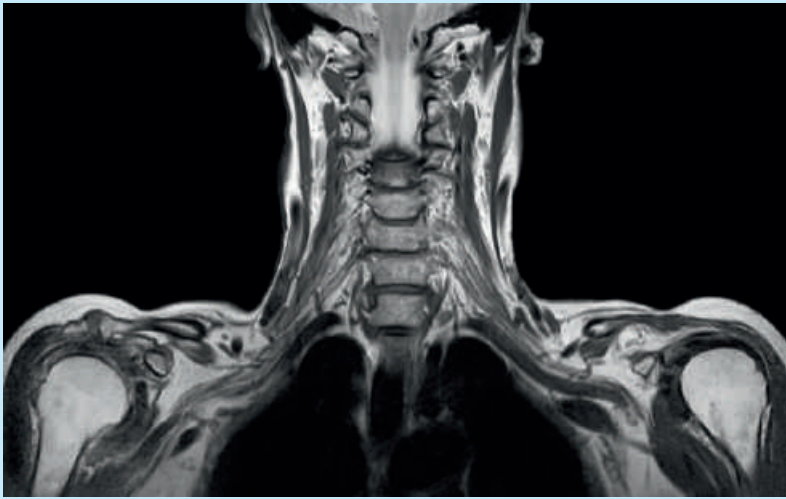
Dynamic mDixon water-only of the upper abdomen using MultiTransmit



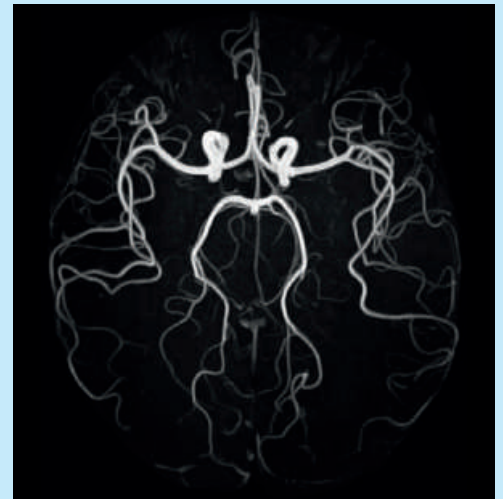
mDIXON-All of the upper abdomen



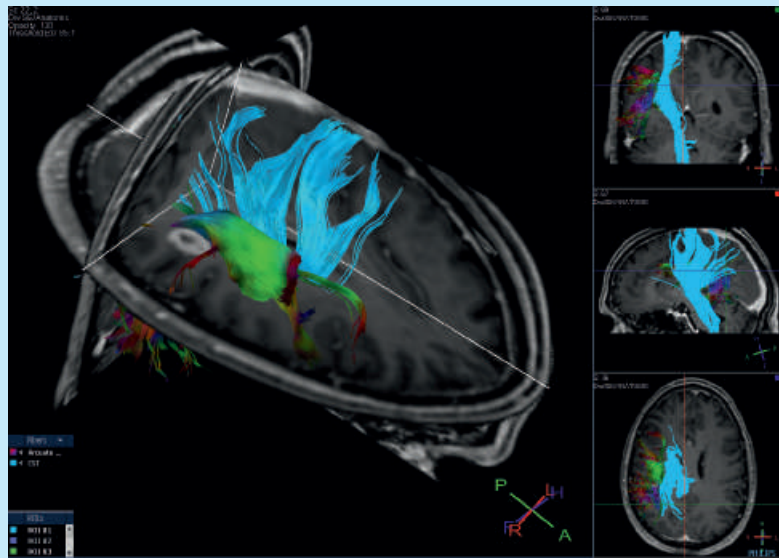
Whole body DWIBS using MultiTransmit



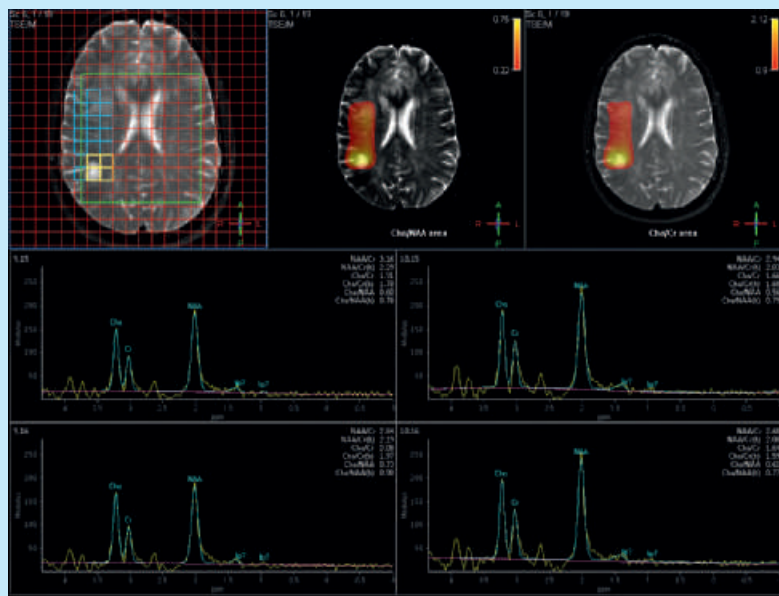
T2W posterior triangle



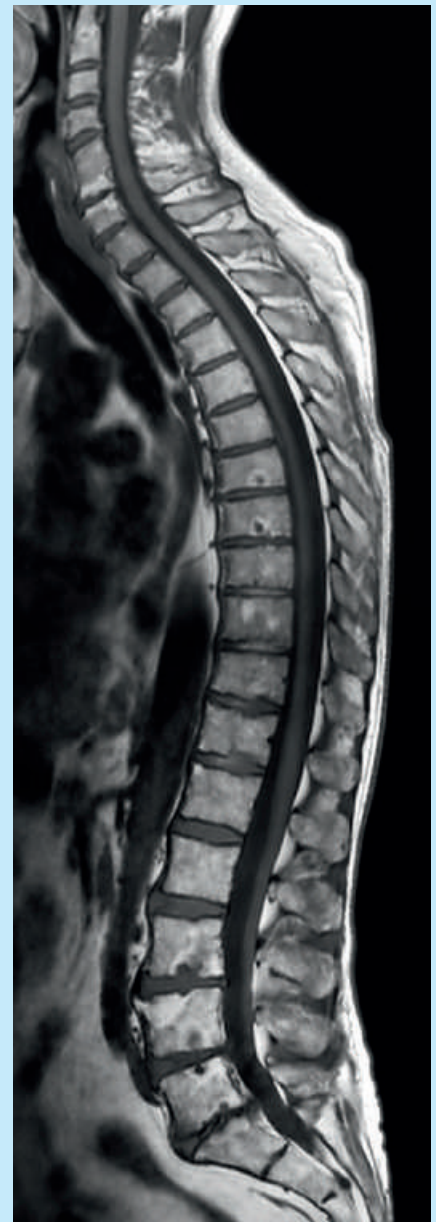
High resolution Time of Flight



Fibertrak and Spectroscopic imaging of patient with intra-cranial lesion



Spectroscopic imaging of patient with intra-cranial lesion



2 station T1W total spine imaging

New solutions for emerging

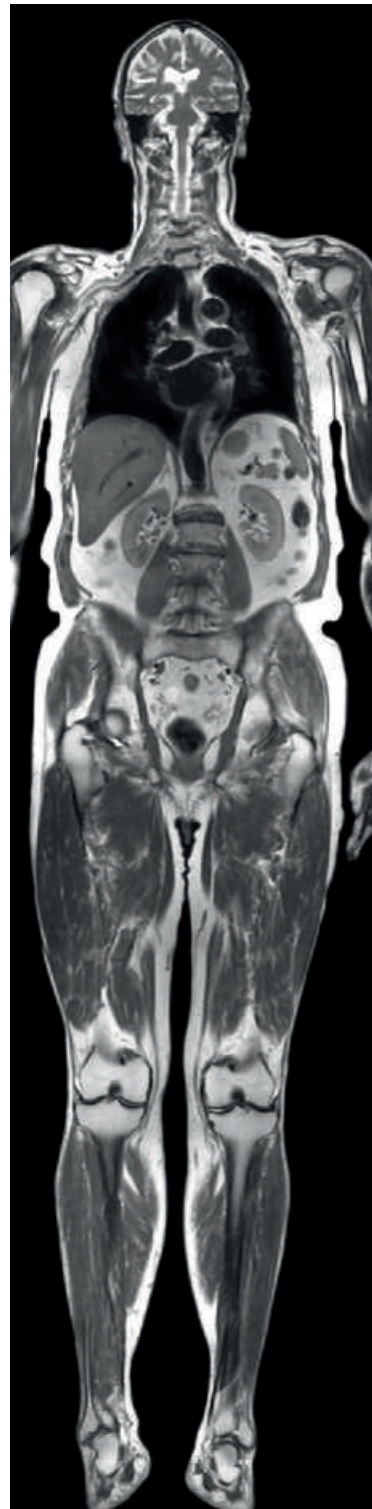
In addition to the growth in traditional applications of MR, there is an increasing role for MR in oncology and cardiology applications. Designed to address these trends, Ingenia 3.0T provides advanced functionality for oncology and cardiac applications, safeguarding your investment.

Differentiate your practice with oncology imaging

As MR continues to demonstrate value in cancer imaging, staging, treatment planning and monitoring, offering oncology services is of growing interest. The Ingenia 3.0T positions your practice to provide outstanding oncology services.

Ingenia 3.0T advantages:

- The accuracy provided by the magnet's high homogeneity, combined with the exceptional linearity of the gradient coil, makes it ideally suited to address diagnostics through therapy planning.
- Fusion of anatomical and diffusion data delivers robust and sensitive results in a timeframe comparable to the gold standard PET-CT exam, bringing whole body oncology staging and follow-up to the clinical mainstream.
- The ultra-large FOV with 70 cm bore can facilitate imaging in the treatment position for possible future radiation therapy applications.
- FlexTrak Mammo, a dockable patient support and on-console breast biopsy planning system, allows seamless integration of breast MR into your department.



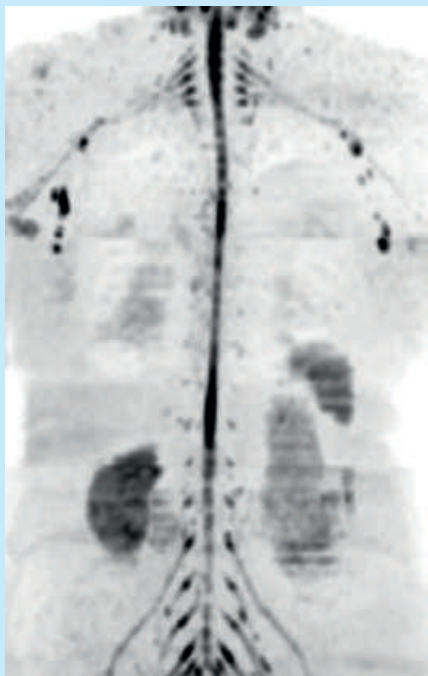
Fast whole
body T2W
imaging

applications

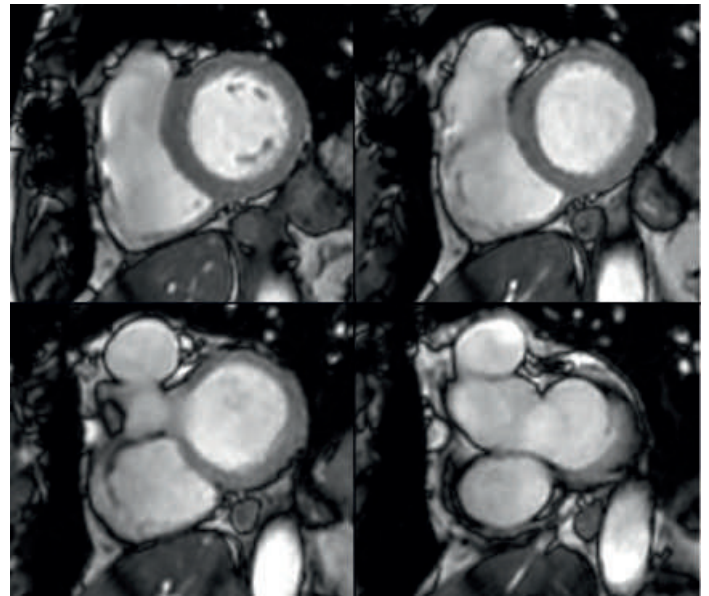
Cardiac imaging made easy

Ingenia 3.0T with dStream and Elite Cardiac Clinical Solutions advances cardiac MR workflow to mainstream use.

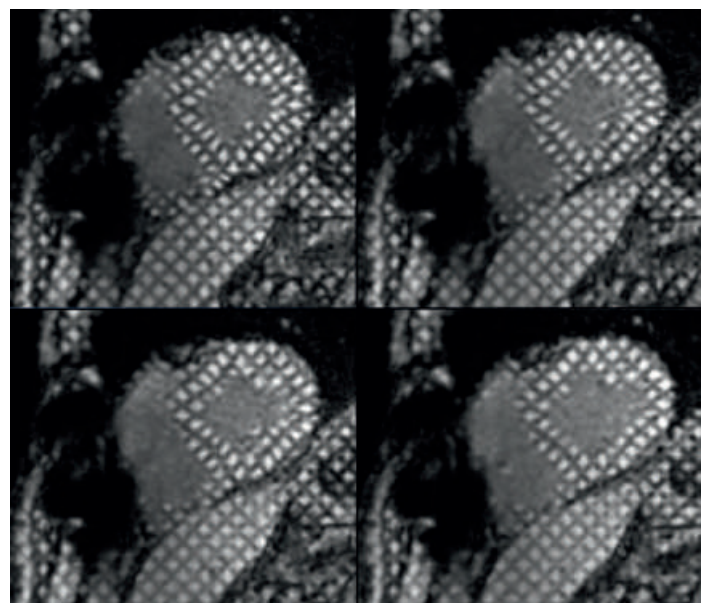
- Powerful clinical tools such as kT-BLAST, PSIR, and volumetric imaging for cutting edge, one-stop cardiac MR exams.
- Supporting dStream coil solution and wireless VCG for high quality cardiac imaging.
- Workflow support tools such as Real Time interactive planning and Cardiac Explorer for task-guided processing including automated segmentation, screen layout and reporting.



Total torso DWIBS



Cine imaging on patient with sternal wires



Cardiac tagging on patient with sternal wires

Services – a full lifecycle solution

When you purchase a Philips MR system, you partner with a company that understands that while technology is important, healthcare is about people. That's why we've designed services that not only keep your equipment running smoothly, but also help you provide outstanding patient care, educate your staff, and improve operating efficiencies and organizational performance. Our lifecycle solution is designed around your patients, your people, your organization and your equipment to support success in every phase of system ownership, from planning and start-up, through peak usage and renewal.



Start-up

Philips EasySite enables installation in an average of only seven days, reducing costs and getting you operational more quickly. Lightweight and with a small footprint, Ingenia MR systems can be installed in spaces as small as 30 m² (323 Sq Ft).

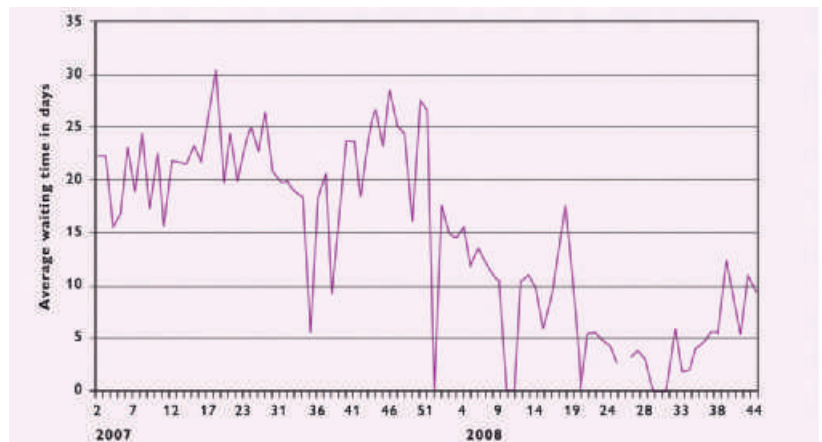
Peak Usage

Your Ingenia 3.0T system is equipped with features that save you money every day. HeliumSave zero boil-off technology and PowerSave technology help reduce Helium and power consumption costs and spare the environment.

Ambient Experience integrates architecture, design and enabling technologies, such as dynamic lighting and sound, to allow patients to personalize their environment and surround themselves in a relaxing atmosphere.

Average waiting time dropped

Average waiting time for an MRI exam at the Catharina Hospital was cut from around 30 days to just 5 days.





Philips EasyExpand allows you to easily add new software options and coils as they become available, without major hardware changes. This helps you to keep your system state-of-art while controlling costs.

Philips Utilization Services provide insights into your department's operations and help you improve productivity. Rapid workflow improvement consultancy projects based on insights from Philips Utilization Services have shown stunning results, with productivity increases of 10% or more, drastically reducing waiting lists and improving patient services and staff satisfaction.

To ensure near 100% uptime, DigiDetect proactively monitors your system, RF-pulse to RF-pulse, ensuring that every component is operating as specified. DigiDetect spots potential problems and triggers corrective actions to minimize downtime.

Renewal

Philips has a long tradition of providing upgrades that keep your system on the cutting edge. In fact, our MR scanners dating back to 1999 can be upgraded to many of the latest capabilities and performance without a magnet swap.

First-rate care

Our global network of skilled personnel and worldwide spare parts availability helps maintain high uptime that supports you in delivering reliable imaging services to your patients. Recent independent reports ranked Philips MR as best-in-class in composite user satisfaction ratings.

For more information, visit www.philips.com/healthcareservices or contact your sales representative.



Online Experience

NetForum Communities are a platform for and by experienced professionals who wish to share the latest in clinical innovations and download the most advanced MR ExamCard solutions. Connecting to Philips Utilization Services via NetForum provides you with actionable insights into your department's operations and workflow. The NetForum online experience is designed to help you operate your facility to its full potential, customized to match your ever-evolving clinical and business needs.

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Images courtesy of: Leuven University, Belgium and University of Michigan, USA

Please visit www.philips.com/Ingenia30T



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