PHILIPS

MR system

Ingenia 3.0T CX

At the forefront of **clinical excellence**

Innovation that matters to you

From the very beginning, Philips has always had one thing at the heart of our company – our mission to improve people's lives through meaningful innovation. This mission inspires us to work with you to find the shortest path to the best care at the lowest cost. It drives us to create technology that makes a difference – to those who run our MR systems, those who read the images, and those patients who benefit from confident diagnoses.

Philips is dedicated to improving and saving lives through innovation. We develop our solutions in partnership with clinicians and customers. Your patients can have better, more personalized care, while you make the best use of time and budget. We partner with you to drive clinical performance, enhance patient and user experience, and ensure economic value, within and beyond the walls of your enterprise.

Drive clinical performance

Our technical advances in image quality and anatomical intelligence are focused on clinical reality. We innovate to make a difference in people's health.

Enhance patient and user experience

We deliver patient comfort by reducing examination times and creating soothing environments. We provide patient-centric imaging to support first-time-right imaging results.

Ensure economic value

To help you maximize your MR investment, we design our systems to pay off quickly and return dividends for a long time, through upgrade programs, extensive service offerings, and low operating costs.

Designed to meet **your needs**

The perfect balance

In the current environment, scientific research and day-to-day clinical imaging go hand in hand. Balancing research and accommodating the growing diversity of patients and clinical applications requires an MR system that addresses the needs of both sides. You must be able to achieve diagnostic quality for nearly every anatomy. You must address the imaging needs of patients from pediatrics to geriatrics, from tiny, premature infants to a wide range of adult patients. And you must have system performance that allows you to explore the brain and that gives you confidence in the results.

dStream digital broadband MR

The established digital broadband MR platform, dStream enables you to get more information, more consistently in the same time by delivering Premium Image Quality with digital clarity and speed. The Premium SNR expands your imaging options.*

Explore with confidence

We've designed Ingenia 3.0T CX with the performance that helps you explore with confidence, perform advanced clinical imaging that supports referrals, and conduct routine imaging efficiently. The high Quasar Dual gradient performance provides you with high stability and high quality imaging. You will gain access to impactful imaging techniques, developed in collaboration with your peers in leading institutions – while also offering patients and volunteers a comfortable scanning experience. Your patients benefit from imaging with digital technology that opens the door to personalized care – and your research benefits because you have a system that consistently performs to high standards, helping you get the funding you need to pursue your research interests.

* Premium IQ defined as IQ obtained with dStream compared to Achieva.
Premium SNR as SNR obtained with dStream compared to Achieva.

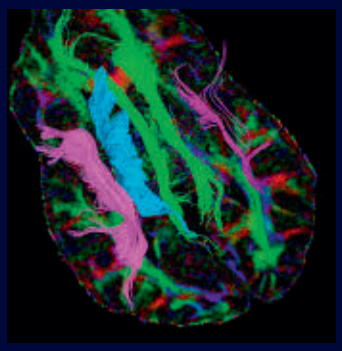
Drive **clinical performance**

Digital clarity and speed

Ingenia 3.0T CX helps you maximize diagnostic information, every time, within the available motion control time slot. Digital, broadband dStream technology combines with industry leading dS SENSE acceleration and impactful imaging techniques like mDIXON and MultiVane XD to enable fast imaging and superb motion and fat suppression in almost all procedures.

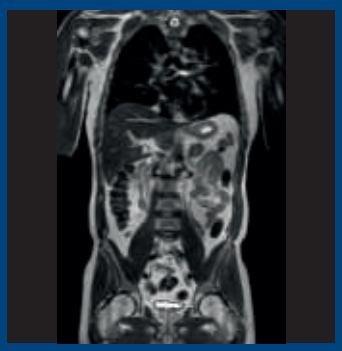
Key benefits

Enhance the clinical performance by solving the common high field challenges of uniformity, speed, fat suppression, and motion control.



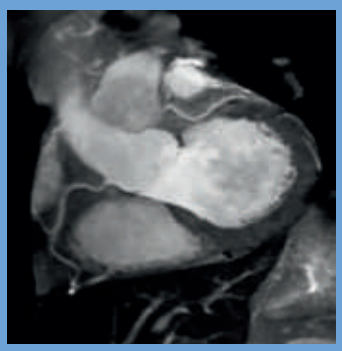
Performance

Whether you chose the Quasar or the Quasar Dual gradient, the Ingenia 3.0T CX gives you the optimal operating mode for your application. The balanced design maintains a high level of stability with low distortions and excellent control of eddy currents even at peak power, for great resolution and fast acquisitions.



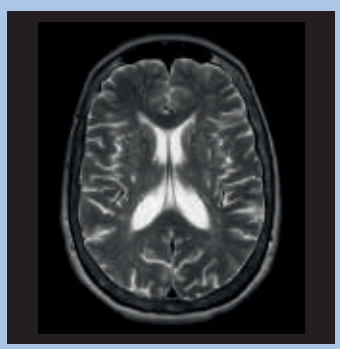
Premium speed with dS SENSE*

When dStream coils are combined with SENSE to create dS SENSE, the result is astounding. Because dS SENSE can make exams faster, you can image with broader coverage, higher spatial resolution, and improved temporal resolution. You can require fewer or shorter breathholds, reduce artifacts, or add more directions in your diffusion scan. dS SENSE also includes quick, fully integrated reference scans that are planned automatically.



MultiTransmit 4D

The Ingenia 3.0T CX takes 3.0T performance to the next level with MultiTransmit 4D parallel RF transmission technology. MultiTransmit 4D addresses the fundamental challenges of dielectric shading and SAR issues at the source, to provide you with enhanced image uniformity, consistency and speed. By automatically - and dynamically - adjusting the RF transmission signals to the size and shape of each individual patient, Ingenia 3.0T CX provides superb diagnostic images in most anatomies, including the most demanding high field applications: body and cardiac.



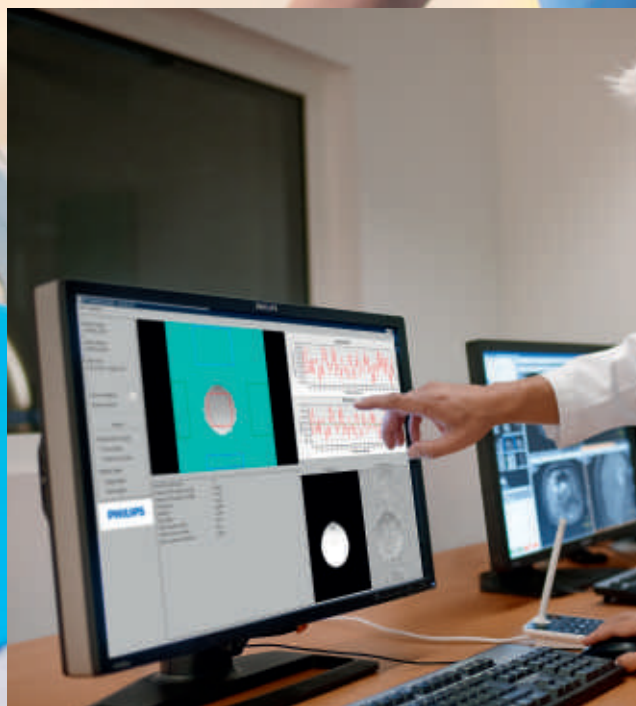
Premium motion-free with MultiVane XD*

Sometimes making innovation matter to you means removing limits to performance. MultiVane, which has intrinsically reduced sensitivity to motion, was originally not compatible with parallel imaging. Now, because it is compatible with dS SENSE, you can use MultiVane with virtually the same scan times as conventional scans.

* Premium Speed as dS SENSE speed compared to SENSE. Premium Motion-free defined as MultiVane XD compared to Propeller correction. (Pipe et al. "A Revised Motion Estimation Algorithm for PROPELLER MRI", MRM August, 2014).

Explore new **clinical pathways**

Trends such as a growing prevalence of neurodegenerative disease, improved personalization of treatment in oncology, and an increased level of ischemic and nonischemic heart disease open new opportunities for MR.



Explore advanced clinical pathways

The value of medical research is only realized when it reaches clinical practice. An elite group of physicians bridge the gap between the “what if” of the clinical research and the “of course we can” of standard clinical imaging. If you are one of these physicians who are eager to push the limits of technology then Ingenia 3.0T CX was made for you. With all the tools you need for daily practice, it also holds the advanced functionality to pursue scientific research.

Advanced Imaging

Offering advanced diagnostic capabilities is good for patients, who benefit from access to the latest tools, and good for your practice, as it gains a reputation among referrers as the place to turn to solve diagnostic challenges.

Our advanced imaging solutions deliver capabilities that are ready for mainstream practice, providing information that aids insight into:

- Cerebrovascular disease or traumatic brain injury
- Lesion detection and characterization anywhere in the body
- Monitoring and guiding of treatments
- Image guided interventions ranging from localized biopsies to localized treatment
- Staging of lifestyle diseases such as fatty liver disease
- Post-infarct treatment analysis and risk assessment for ischemic heart patients

Explore neuroscience with confidence

The role of MR in neuroscience is evolving as we discover new insights into neurodegenerative and psychiatric diseases, including dementia. Together, the Ingenia 3.0T CX and our optional NeuroScience package offer:

- An enhanced user interface - giving you the freedom to precisely adjust the scan
- Enhanced fMRI stability - with modern algorithms to reduce and stabilize Nyquist ghosting
- Enhanced diffusion imaging - with up to 128 directions and 32 b-values
- An integrated Quality Assurance tool - to ensure consistency and stability over longitudinal studies

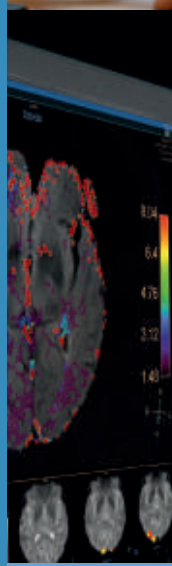
Leverage intelligence, integration, and interpretation on every case

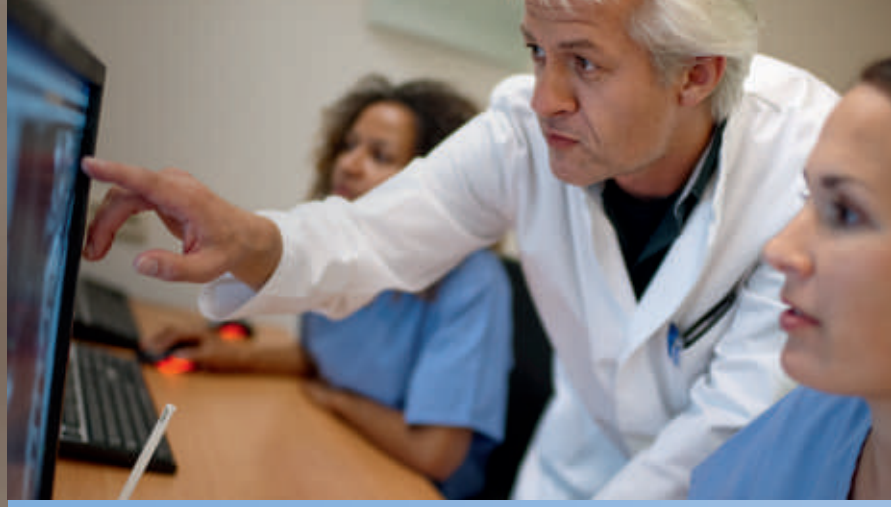
IntelliSpace Portal contains a powerful combination of intelligence, integration, and interpretation in a secure, real-time, and collaborative platform, so you can access, create, and disseminate actionable information throughout the enterprise.

This multimodality advanced visualization and analysis solution gives you measurement and quantification capabilities to support diagnostic objectiveness and consistency. It supports MR, CT, molecular imaging, and ultrasound images, so you can view all images that are relevant to a diagnosis.

Clinical applications include:

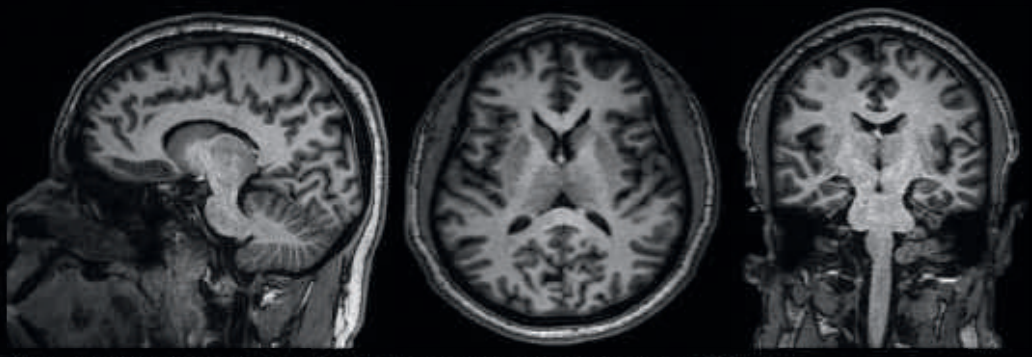
- Calculating MR diffusion
- Analysis of fMRI data including rich paradigm support
- FiberTracking
- Assessing MR neuro perfusion
- Assessing MR T1 perfusion
- Calculating MR subtraction
- Calculating MR echo accumulation
- Full FOV MR images with MobiView
- Assessing cartilage quality



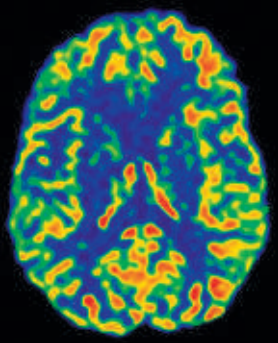


Bring brilliant focus to your screen from any source

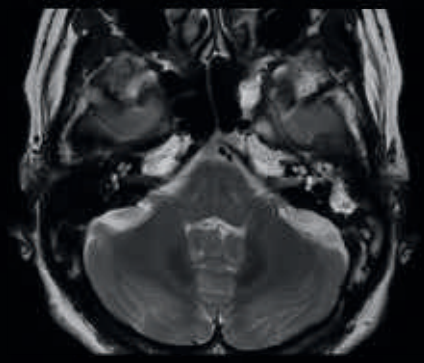
Work where you want. IntelliSpace Portal provides access to images and processing from virtually any PC – in the department, in your office, and even in your home. With advanced visualization and analytics at your fingertips, you can review and diagnose efficiently and with confidence.



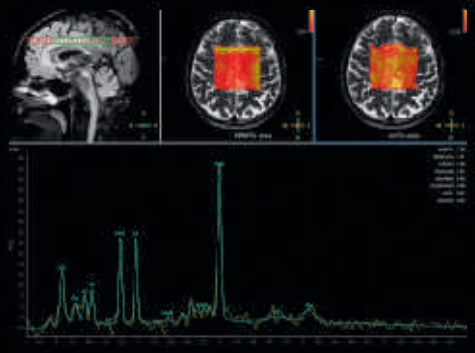
1.0mm³ T1W TFE with dS SENSE factor 9, sagittal source slice and MPR reconstructions, 3:35min



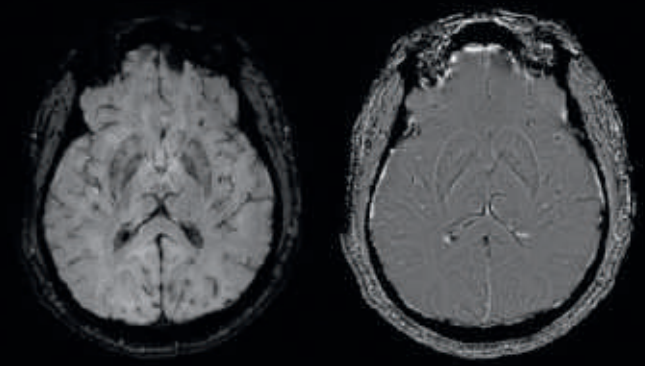
pCASL, non-contrast perfusion



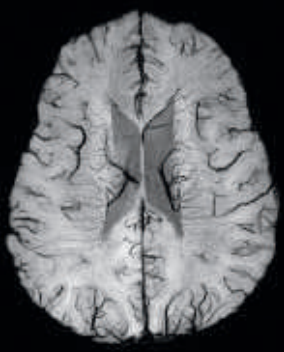
IAC, T2W TSE and DWI TSE for reduced distortion



CSI with dS SENSE factor 3.6, 3:34 min

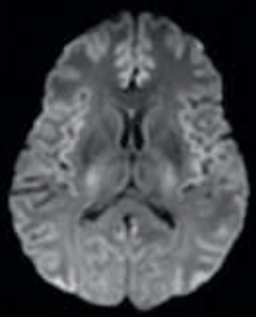


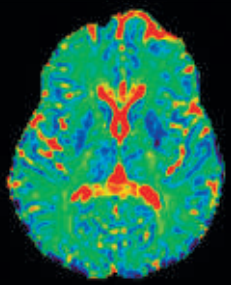
High resolution SWIp, providing modulus and phase information



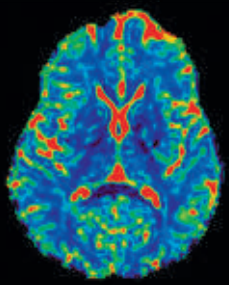
SWIp, minimum Intensity Projection

MultiVane XD, motion correction

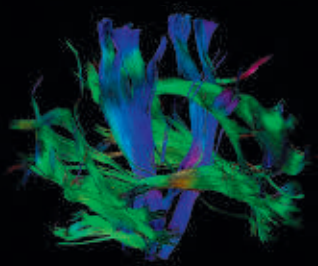


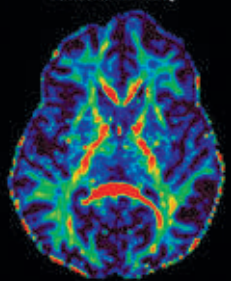


Axial Diffusivity

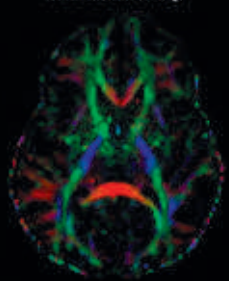


Radial Diffusivity



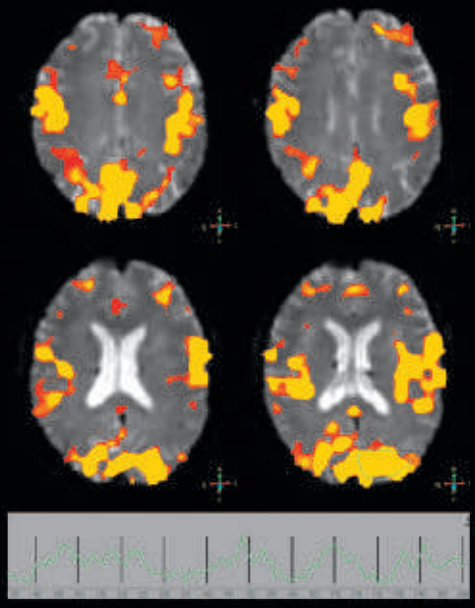


RA

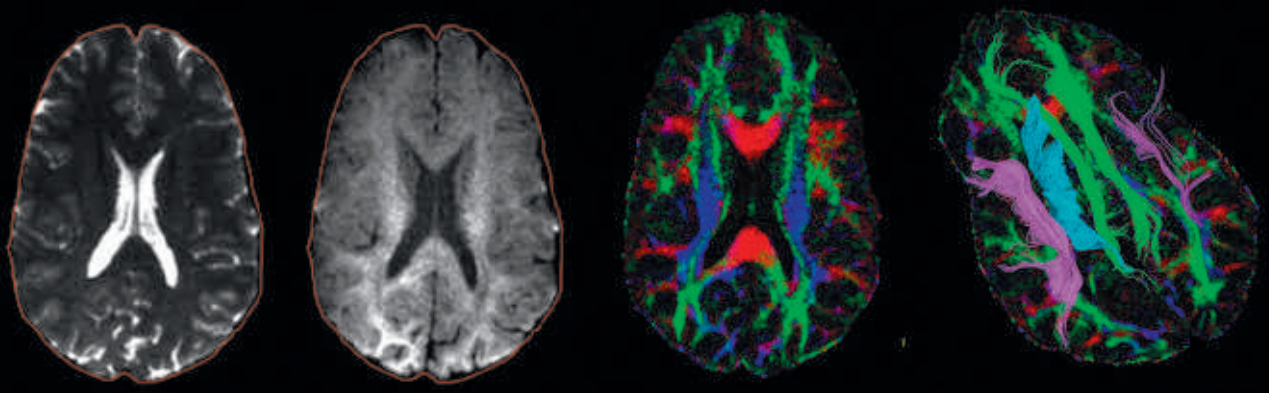


FA

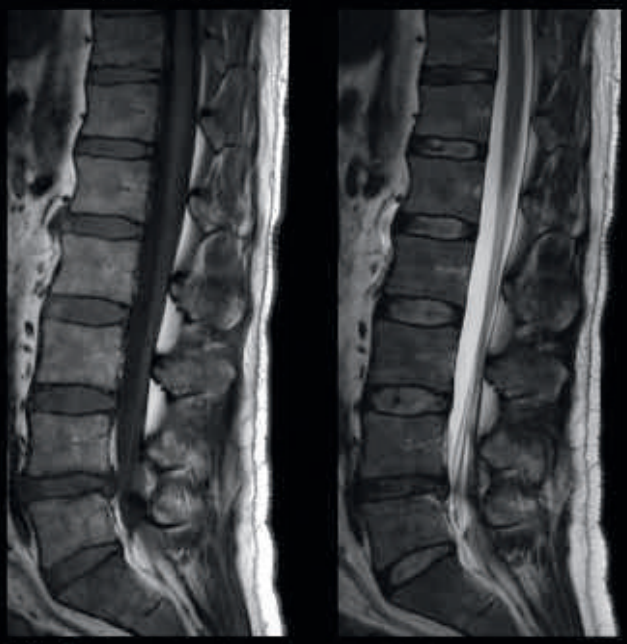
128 Directions DTI, Isotropic B800, Fiber visualization and 4 Diffusion maps on IntelliSpace Portal



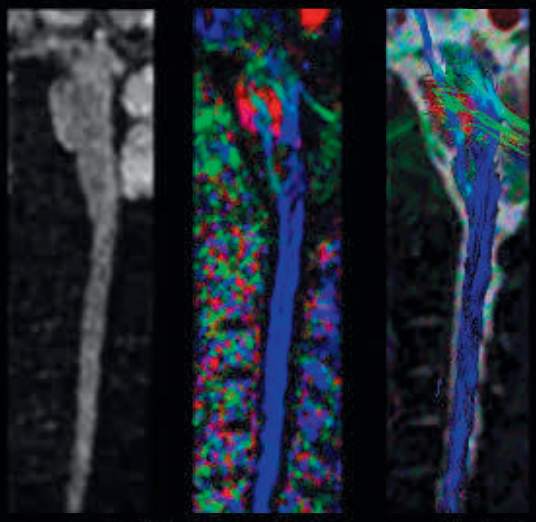
Resting state fMRI analysis on IntelliSpace Portal



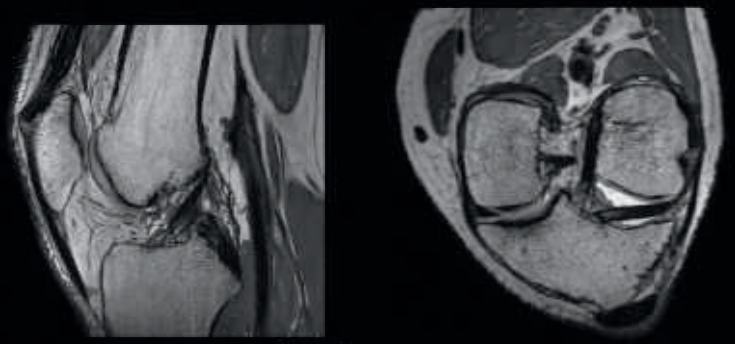
96 Directions DTI, from left to right: B0 and Isotropic B3000 (the identical red outline indicates the low distortion) FA direction map and fiber visualization on IntelliSpace Portal



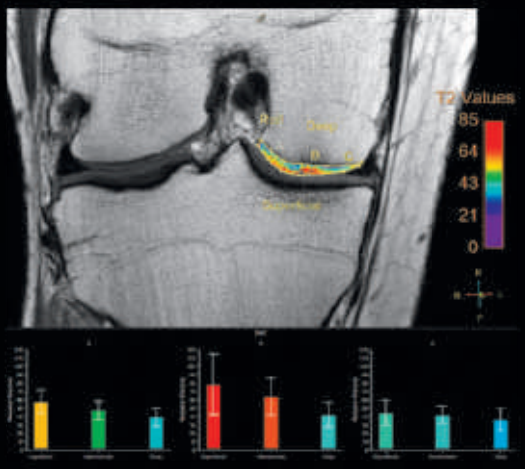
T1W and T2W TSE spine with patient adaptive shimming



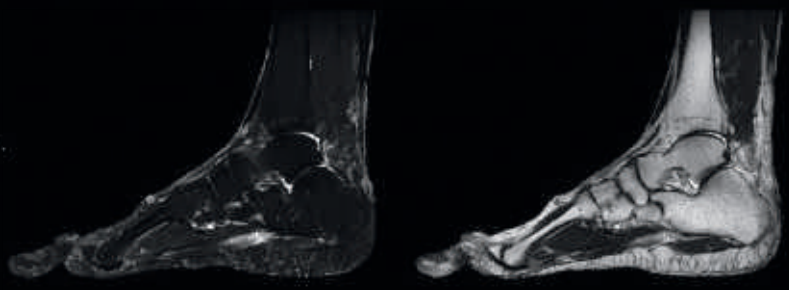
DWI of the spinal cord, B0, FA direction map and fiber visualization



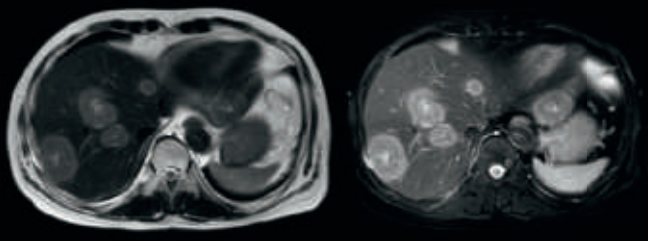
PDW 3D KneeView, sagittal source slice and MPR



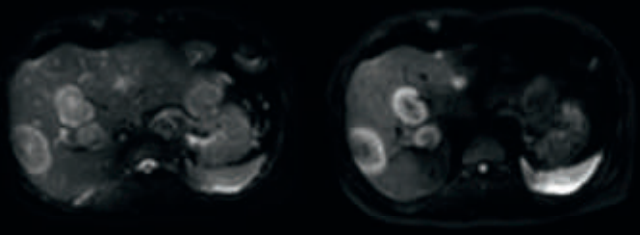
Cartilage Assessment with T2 mapping on IntelliSpace Portal



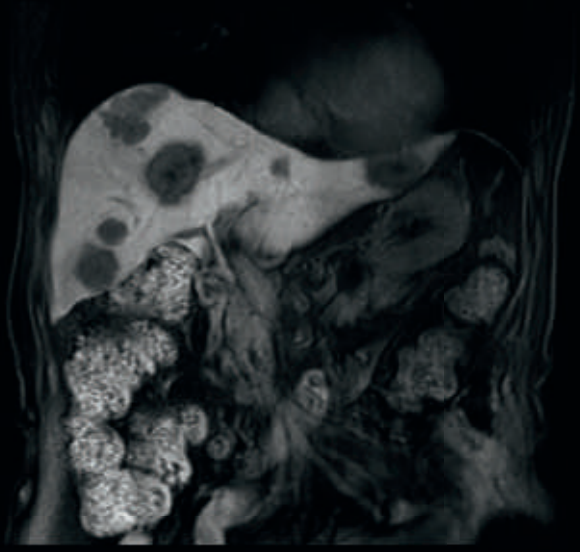
mDIXON TSE, fast and robust fat free imaging



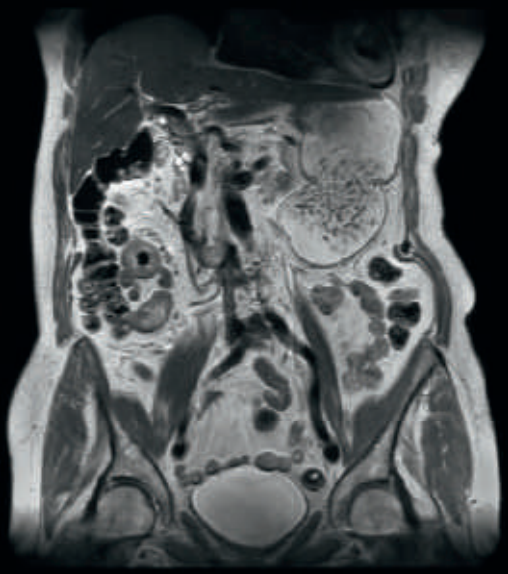
MultiVane XD motion correction, free-breathing T2W and T2W with fat suppression



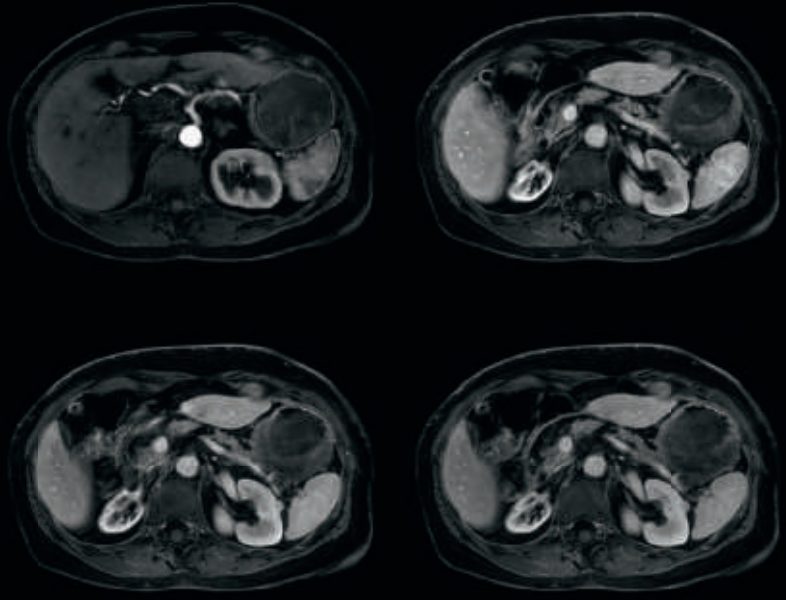
Free- breathing DWI of the liver, B0 and isotropic B800 image



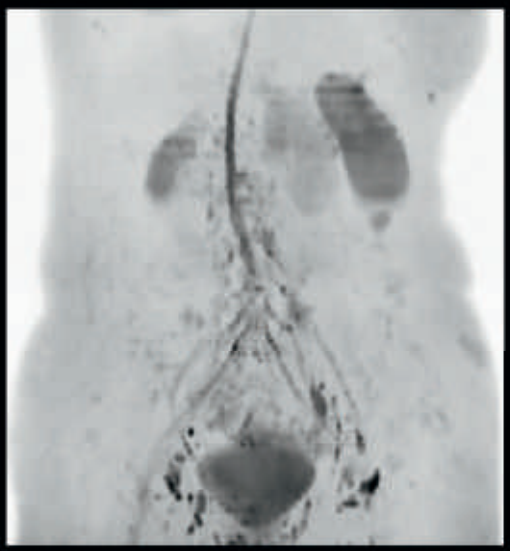
3D e-THRIVE, 14 sec breath-hold



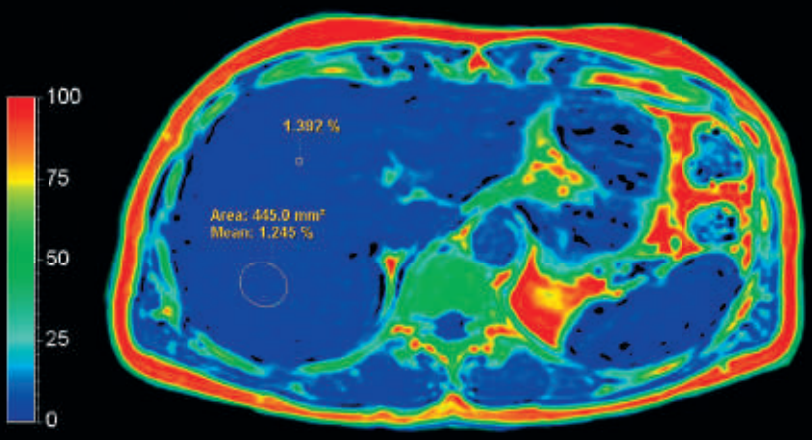
High resolution free-breathing SSh T2W TSE, dS SENSE factor 5



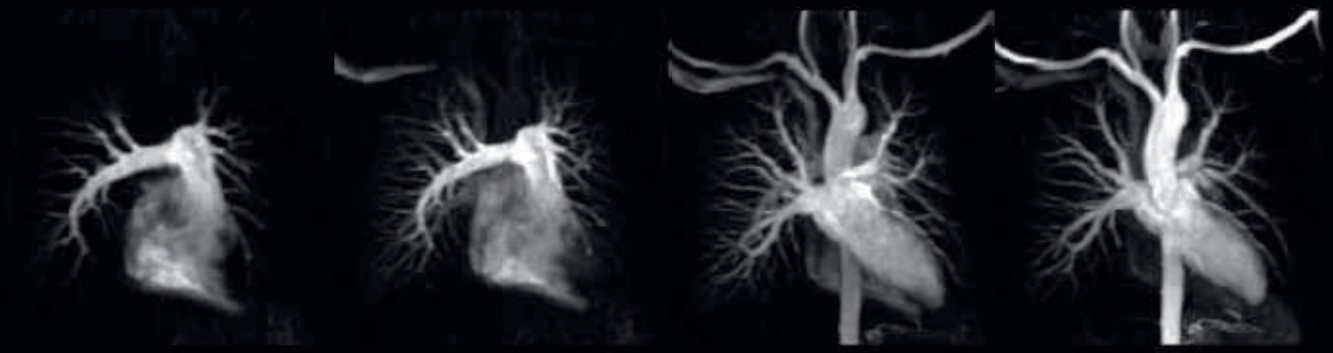
7.7 Second dynamic mDIXON, dS SENSE factor 7.5



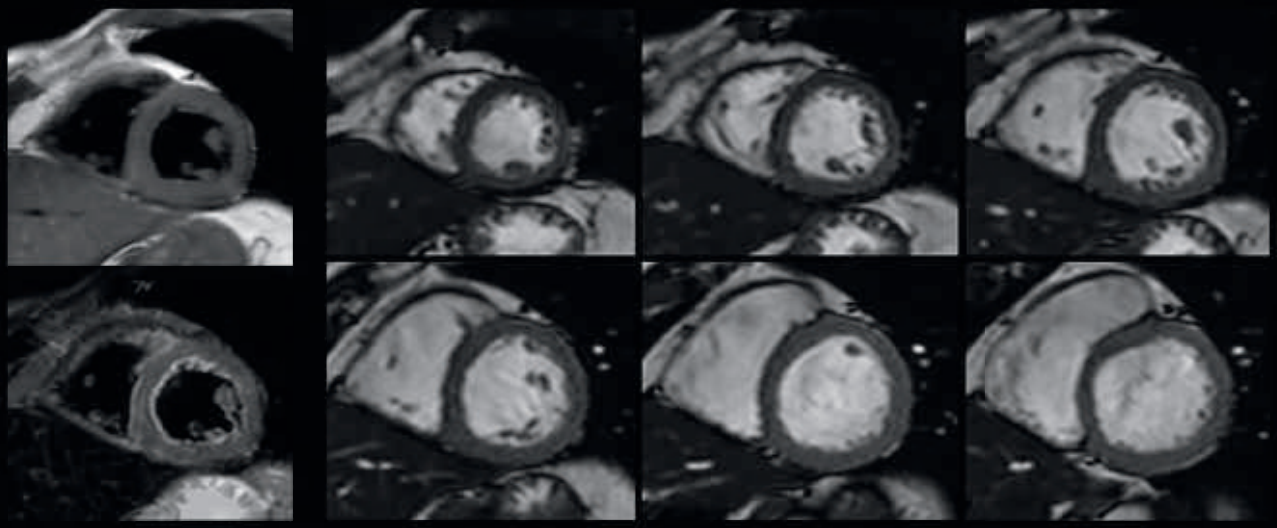
DWIBS, free-breathing with dS SENSE factor 4



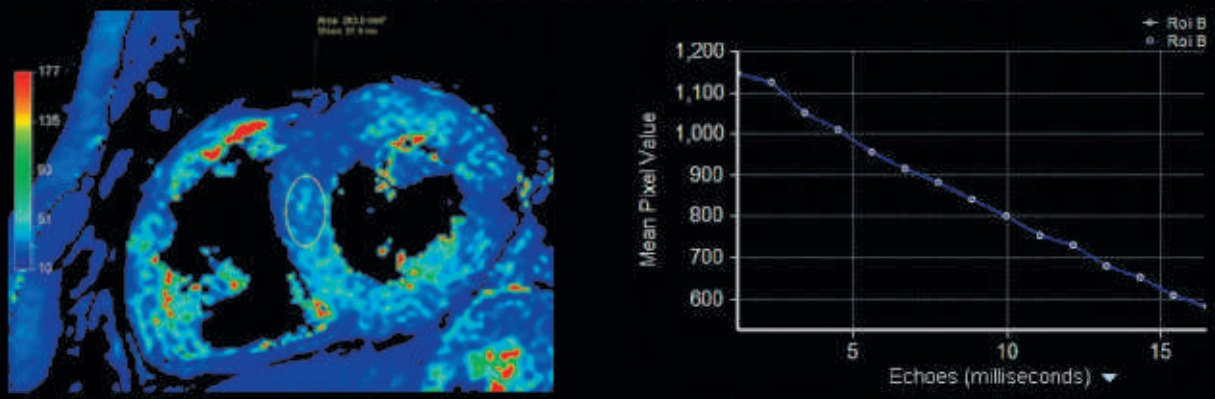
mDIXON QUANT, Fatty liver disease assessment, non-invasive, fast and with high accuracy



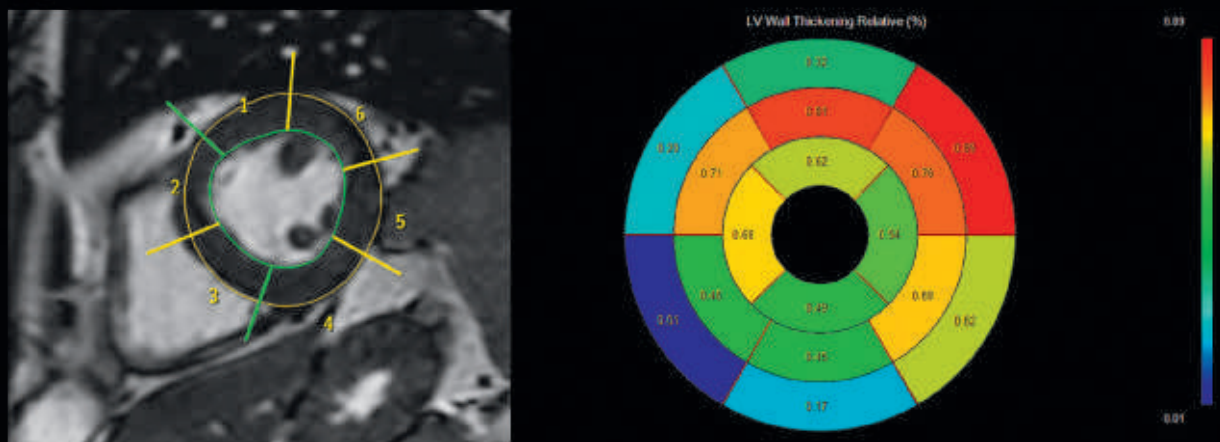
4D Trak with acceleration factor 42, 3 seconds per dynamic



4D MultiTransmit Cardiac imaging , left top: Blackblood PDW and left bottom: Blackblood T2W STIR, right: short axis cine imaging



Star QUANT, visual assessment of myocardial tissue characteristics with T2* and R2* mapping



MR Cardiac on IntelliSpace Portal, easy and fast cardiac function assessment

Enhance **patient and user experience**

iPatient

Consistant repetive scans thanks to iPatient

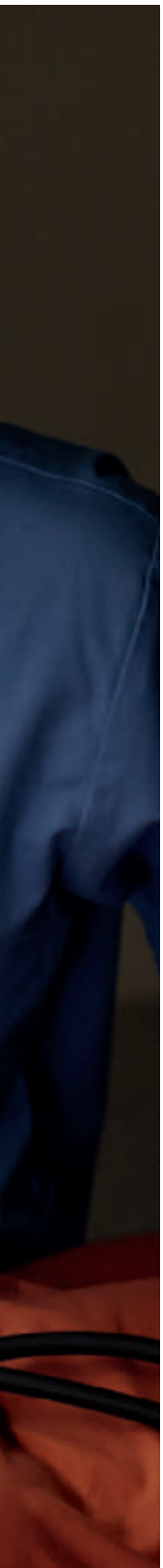
Ingenia CX features iPatient, an advanced platform that puts you in control of personalized, patient-centric imaging. Encompassing everything from planning to coils to processing, iPatient adapts to patient variability in behavior, condition and anatomy and physiology to deliver a comfortable patient experience and exam efficiency.

In control of patient comfort

Ingenia CX's iPatient includes optional accessories and hardware that are designed for specific patient types, to increase patient comfort. Digital coil design greatly reduces coil weight, and many coils are adjustable for a custom coil fit. iPatient enables imaging with fewer coils, and reduces coil positioning and set-up time. An integrated posterior coil is all you need for 60% of routine exams. When combined with the anterior coil, you can easily image anatomies from above the shoulder to the toe. All coils can be connected with just one hand. We also offer pediatric accessories to make scanning comfortable for your smallest patients, and a table that can accommodate patients up to 250 kg (550 lbs) for your larger patients. The ambient light ring on the magnet façade and adjustable, in-bore lighting enhance scanning comfort, as does the reduction of patient-perceived (in bore) gradient acoustic noise with SoftTone.

Key benefits

iPatient brings consistency and efficiency to MR imaging.



In control of **personalized imaging**

Patient variability has a significant effect on the robustness of imaging techniques. Patient behavior, condition, and anatomical and physiological variations can disrupt an otherwise highly efficient MR department. iPatient controls patient variability, delivering patient-adaptive imaging and improving throughput by up to 30%.

You can personalize imaging by selecting the ExamCard that best matches the patient condition. You can create your own ExamCards, or choose one shared by other Philips MR customers.

In addition to driving clinical performance, mDIXON and MultiVaneXD also help you personalize imaging for certain patient conditions. mDIXON enables fat-free imaging for most anatomies, and MultiVaneXD helps you achieve high quality images even for patients who can't stay still or hold their breath. Additional techniques for personalized imaging are metal artifact reduction sequences, whose low sensitivity to metal artifacts can help you image patients with metal prostheses or implants, and time -efficient 3D imaging, which allows reconstruction in any direction so that imaging outcome is independent of patient/anatomy variability.

FlexCaddy coil storage cart (optional)

FlexTrak dockable patient transport system (optional)

Table with integrated posterior coil

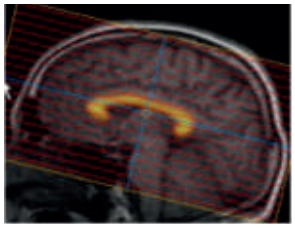
In control of **image acquisition**

By automating repetitive tasks and incorporating best practices into ExamCards, iPatient enhances exam consistency. In fact, Smart Exam automation assists in delivering reproducible planning results in more than 70% of procedures.*

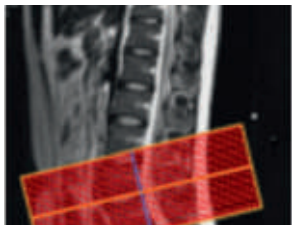
Imaging workflow eliminates repetitive tasks

iPatient eliminates up to 50% of repetitive tasks. At the touch of a button, the table moves to the isocenter and the system starts the exam. The SmartSelect feature automatically determines which coils and elements should be activated to produce the highest SNR for the selected field-of-view. Then, the SmartExam feature positions slices on the target anatomy, reducing operator input to as little as a single mouse click.*

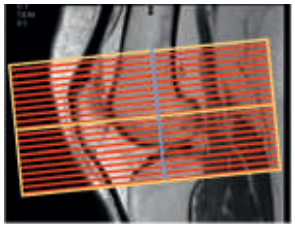
While images are being acquired, iPatient saves time by performing intelligent background processing (such as volume view, diffusion, perfusion etc.) of multiple image datasets. In addition, it simplifies the planning, viewing and processing of multi-sequence, multi-station exams, treating multi-station exams as one volume.



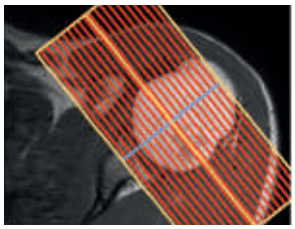
SmartExam Brain



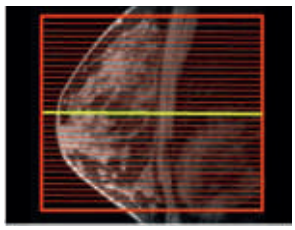
SmartExam Spine



SmartExam Knee

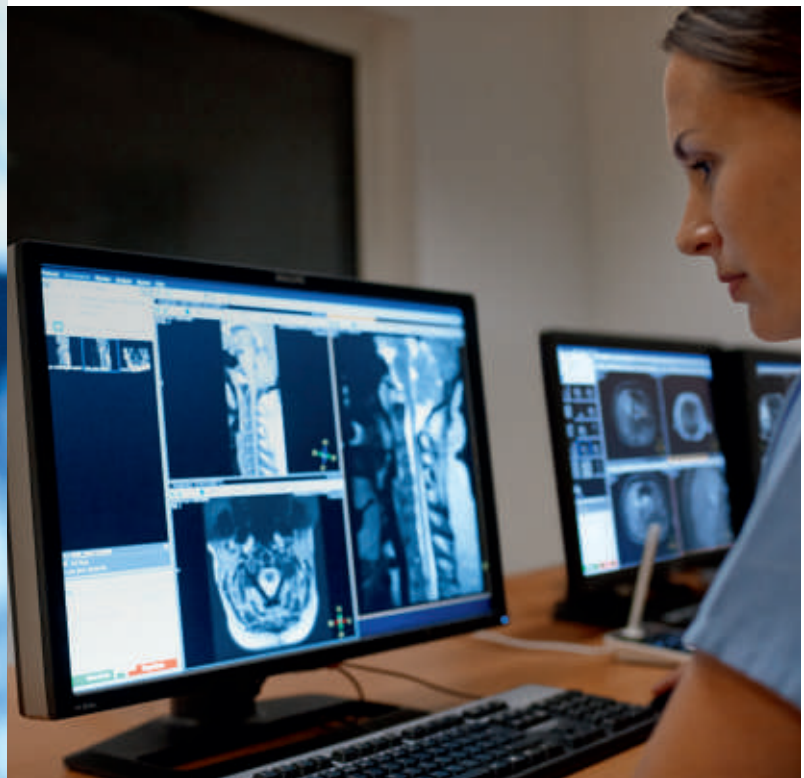


SmartExam Shoulder



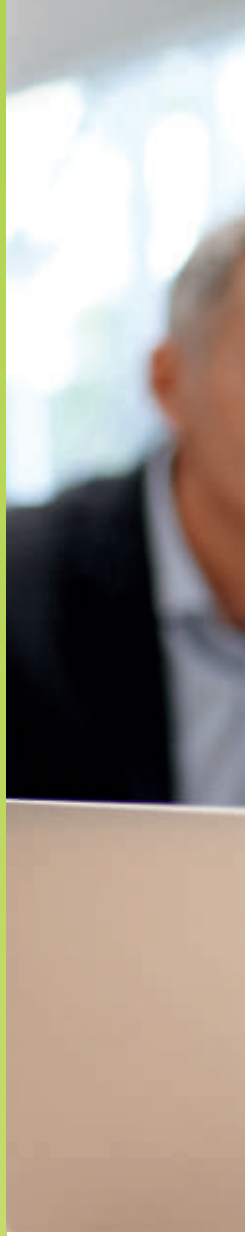
SmartExam Breast

* SmartExam is optionally available for brain, spine, shoulder, knee and breast imaging.



Ensure **economic value**

The cost-effective dStream system Ingenia CX comes with Philips services and offerings that enhance the value of your MR system.



Expandability and channel independence

With Ingenia CX, 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.

PowerSave

PowerSave technology adapts gradient energy consumption to the system status to reduce power consumption, saving money and sparing the environment. PowerSave is one result of Philips' continuous drive to improve the sustainability of its products. Additionally, Ingenia CX's 60 cm bore decreases energy consumption by up to 10% when compared to wide bore.

Utilization services

Philips Utilization Services provides you with actionable insights into your department's operations and workflow. 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.

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 medical equipment and infrastructure in composite user satisfaction ratings.

Key benefits

The Ingenia CX gives you all the advantages of dStream and iPatient at an attractive price, plus access to Philips education and skilled service personnel.

Manage your investment

Philips SmartPath is our longterm promise to give you easy access to the latest innovations throughout the life cycle of your imaging system.

Optimize

- Optimize:
  software and hardware updates to help increase your system performance.

Enhance

- Enhance:
  new functionality, clinical innovations and workflow efficiencies to expand your capabilities.

Transform

- Transform:
  conversion or full replacement of existing systems to next-generation solutions helps you maintain your competitive edge and high quality of patient care.

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