



# Save precious time by verifying surgery

## Philips Ingenia MR-OR\* solution for intra-operative neurosurgery

Removing as much of a brain tumor as possible during initial neurosurgery can make a critical difference in the prevention of recurrence. To help improve your neurosurgery success rate, we introduce the new MR-OR intra-operative neurosurgery solution based on the Ingenia MR system. With this solution, you can quickly perform an MR scan to check the results of a resection during the surgery, and remove additional tumor mass if necessary. The Ingenia MR-OR solution can help reduce the number of repeat procedures, shorten hospitalization times and improve neurosurgery success rates.

### Key advantages

- Save precious time by obtaining fast intra-operative MRI results with smooth and quick patient transfer.
- Get Ingenia's high MR image quality for neuronavigation with full MR diagnostic capabilities.
- Increase MR utilization through dual-room (MR-OR) or triple-room (OR-MR-OR) approach.

**PHILIPS**  
sense and simplicity

# How does the Philips MR-OR solution

We team up with strong innovative companies, such as MAQUET and Brainlab to provide total MR-OR solutions that meet the specific needs of neurosurgery. The heart of this MR-OR solution is the industry-leading Ingenia MR system. It occupies a normal MR room that can be directly connected to one or two operating rooms. Separated by sliding doors to maintain the sterility measures of the OR, the MR and OR rooms can also be used fully independently of each other. During the procedure, your patient can be moved smoothly, straight to the MR scanner just a few feet away. Standard equipment and instruments do not have to be removed from the OR workspot.

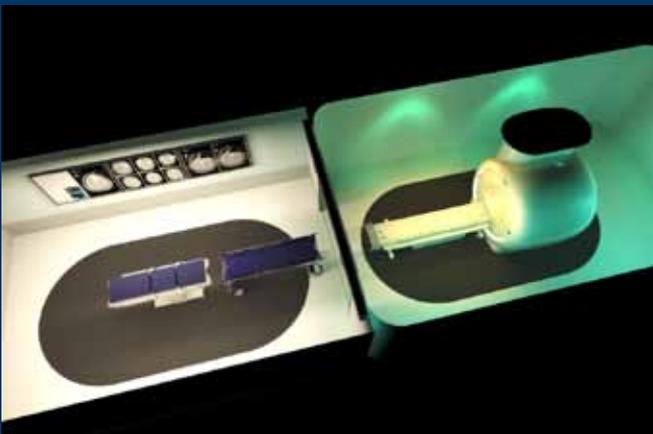
## Saves precious time

Thanks to the smooth patient transfer, scalpel-to-scalpel time has been reduced to a minimum. Transfer times are very short and the MR acquisition times are reduced as well. That means you can quickly perform an intra-operative MR exam to visualize the neurosurgery result without first closing the patient's skull. This can help you make critical decisions right away. If the resection is incomplete, you can remove residual tumor immediately and can eliminate the need for repeat surgery. Furthermore, you can work inside the MR system or at the back of it, using an in-room display with

real-time imaging — especially useful for brain biopsies and functional neurosurgery procedures. The MR-OR solution provides an easy way to see the result of the surgery during the operation, which can be used for subsequent decision making.

## Increase MR utilization

In addition to standard front docking, the Philips MR-OR solution also features a rear-docking capability. That means you can connect not just one, but two or more ORs to the MR room to increase utilization of your equipment. Each room is a separate entity that can be



Dual-room layout (MR-OR) with high-end intra-operative Ingenia MR and sterile OR. MR and OR can be used together or stand-alone for efficient usage.



Patient can be quickly and smoothly transferred between OR and MR

# on work?



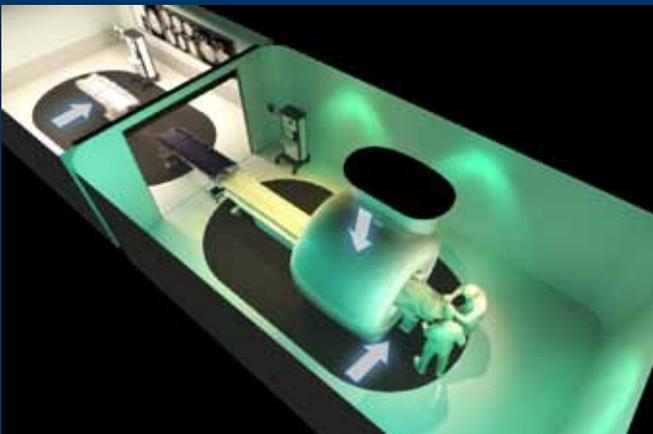
used fully independently. In between intra-operative procedures, the MR system can be used for normal diagnostic imaging.

#### **Cost-effective installation**

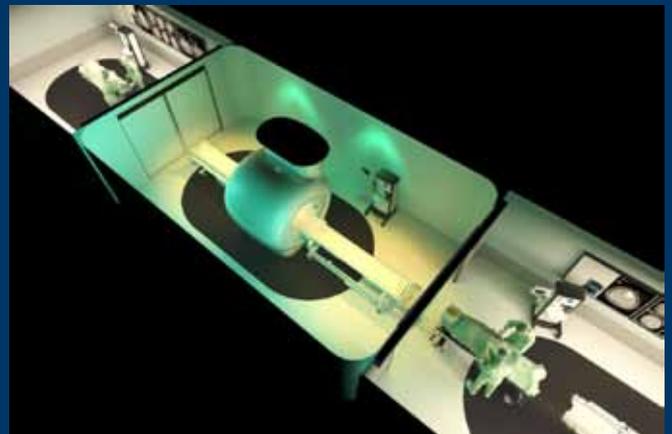
Solutions which move an MR system into an OR for intra-operative imaging often require a complete and very expensive room renovation. The Ingenia MR-OR solution is a cost-effective way to bring fast intra-operative imaging to your OR without undergoing a huge renovation.

“The clear benefit is that in cases where the MR-OR setup helps to visualize an incomplete resection, we can immediately address the issue using updated navigation data and thus avoid a second surgery. In addition, the final intra-operative MR replaces the post-operative one that we used to perform.”

*Dr. Conor Mallucci, Neurosurgeon, Alder Hey Children's Hospital, Liverpool, UK*



Increase flexibility for new neurosurgery procedures by having three workspots: in OR, in the magnet, or at the rear of the magnet.



The rear-docking feature allows the MR room to be connected to two ORs with the MR in the middle (OR-MR-OR) to further increase utilization and flexibility.

# Philips Ingenia MR – designed with high image quality and accuracy standards for neuronavigation

- The large 70 cm bore of the Ingenia system allows easy positioning of the patient in the prone, supine, or lateral position.
- Industry-leading Field-of-View and homogeneity allows excellent image quality, and inclusion of fiducials for accurate image registration.
- Excellent geometric accuracy through linear gradients, essential for neuronavigation, biopsy, or functional neurosurgery guidance.
- SmartExam aligns the scan planes in exactly the same position for different scan sessions, crucial for evaluating tumor response in follow-up examinations.
- dStream digital broadband architecture produces up to 40% higher Signal to Noise Ratio.



The 70 cm bore and the large Field-of-View enable the patient to be positioned prone, supine and lateral in the head frame.

*\* Availability of Ingenia MR-OR is expected end 2012*

Please visit [www.philips.com/MR-OR](http://www.philips.com/MR-OR)



© 2012 Koninklijke Philips Electronics N.V.  
All rights are reserved.

Philips Healthcare reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

Philips Healthcare is part of Royal Philips Electronics

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

Printed in The Netherlands  
4522 962 85001 \* APR 2012