



 **Elekta**

# Elekta Unity

Two worlds,  
one future.

Elekta Unity

# See the difference with MR/RT

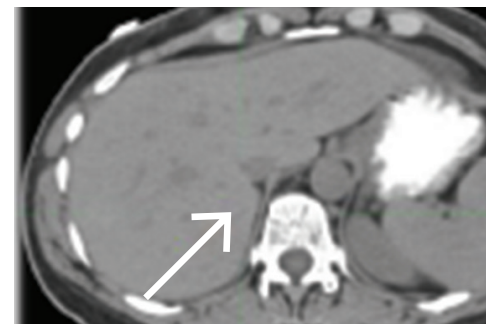
Now the tumor has nowhere to hide.

It is our goal to help you deliver the best possible radiotherapy, for every patient, every time. Designed in collaboration with industry-leading experts and world-renowned cancer research institutions, Elekta Unity—our breakthrough MR-Linac technology—positions you at the forefront of patient-centric cancer care.

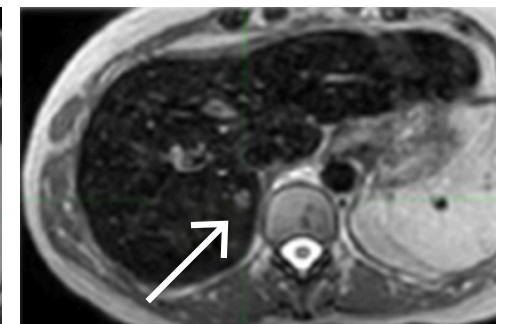
With the introduction of magnetic resonance radiation therapy (MR/RT), it is now possible to get crystal-clear imaging at the point of care. Elekta Unity provides visualization of the tumor and surrounding healthy tissue

with unparalleled soft tissue contrast. The ability to see clearly—along with real-time adaptive radiotherapy and real-time tumor monitoring capabilities—enables true personalized therapy, at a level not possible before.

Elekta Unity enables real-time personalization in radiation therapy and expands treatment options for all cancers including hard-to-treat cancers.



CT



MRI

Courtesy of Froedtert & the Medical College of Wisconsin





Elekta Unity

# Real-time personalization

## Real-time adaptive therapy delivered with real-time tumor visualization.

Radiation therapy is an important part of a cancer patient's journey. Every patient is unique—each patient has unique treatment needs. Being able to adapt the treatment based on the needs of the patient is essential to achieving the best possible outcomes. Elekta Unity transforms the conventional radiotherapy workflow to a SCAN-PLAN-TREAT approach—to truly enable personalized radiotherapy for every patient, every time.



### SCAN

Daily patient MRI scan detects day-to-day changes in patient anatomy



### PLAN

Fast real-time adaptive capabilities help you re-optimize the treatment plan and replan to account for interfraction changes



### TREAT

The radiation is delivered with continuous target visualization throughout treatment

# SCAN

Isotropic visualization in  
five different ways with  
sub-millimeter resolution.

## See clearly.

By visualizing anatomy with the Unity system's five different  
tissue contrasts, see daily tumor changes in:



Position

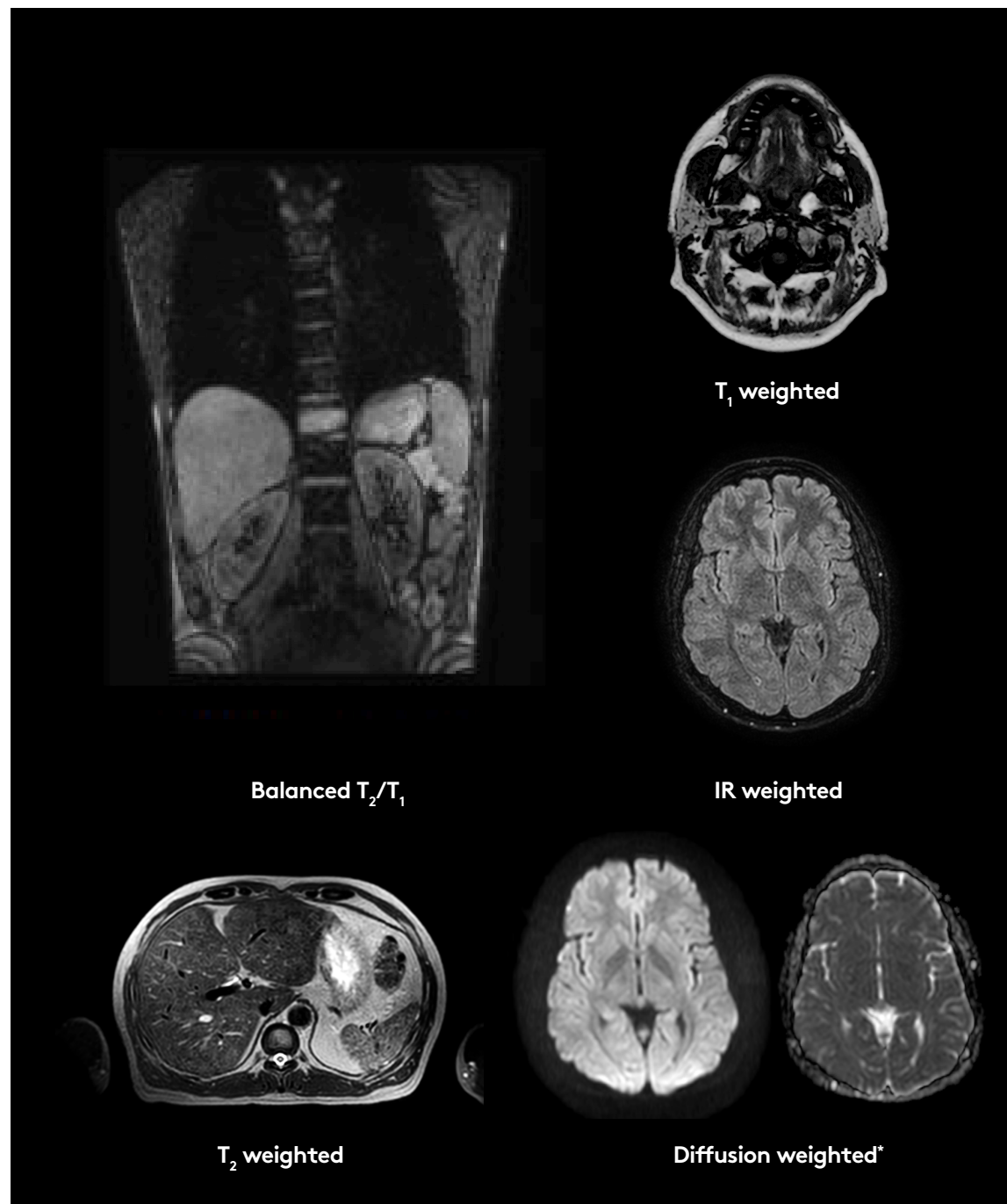


Size



Shape

\* DWI is CE-marked for brain application imaging and pending U.S. FDA 510(k).  
Intended for imaging purposes.





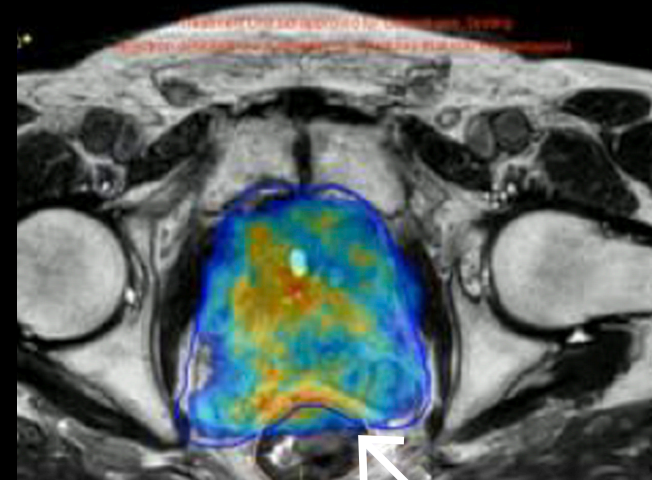
# PLAN

## Real-time adaptive planning for online dose reshaping.

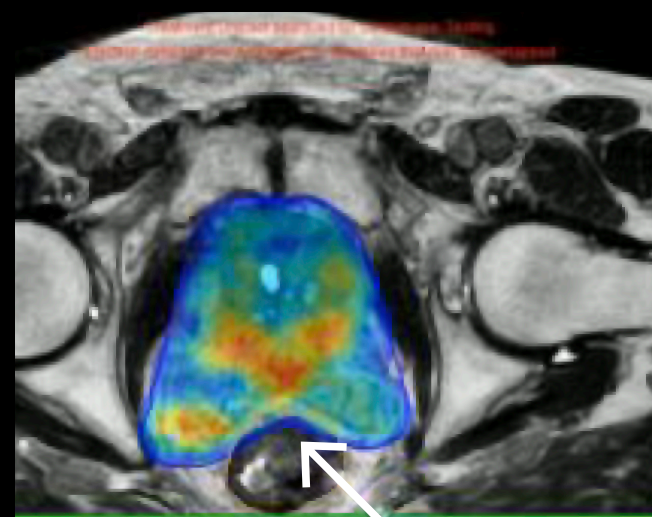
### Act fast.

Fast adaptive planning workflows allow you to respond to day-to-day changes in the patient.

- Adapt to Position: A simple adaptive solution using fast rigid registration
- Adapt to Shape: A comprehensive plan re-optimization solution using deformable registration
- GPU Monte Carlo dose calculation: Models dose in a magnetic field, enables replanning in minutes
- Make fast on-the-spot clinical decisions based on the system's predictive insights
- High resolution treatment planning and delivery with virtual leaf width technology



Without plan adaptation



With plan adaptation

Images courtesy of Netherlands Cancer Institute, NKI

# TREAT

See the tumor in three planes while you treat with stereotactic precision.

## Treat with precision.

Unity allows you to see and monitor anatomical motion in real-time during treatment.

- Continuous imaging in three orthogonal planes at five frames per second during irradiation and gantry motion
- Gain visual confidence to reduce margins and expand treatment options

## Real-time target visualization

Axial



Coronal



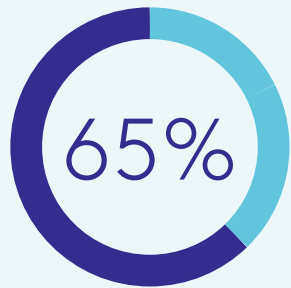
Sagittal



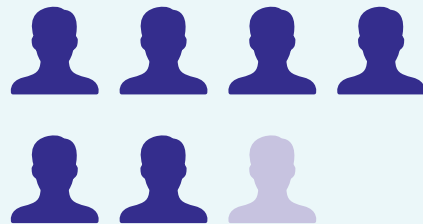
Images courtesy of Froedtert & the Medical College of Wisconsin

# Transform your care

Unity gives you the potential to transform your service and the opportunity to develop new clinical paradigms to improve outcomes, even for hard to treat cancers.



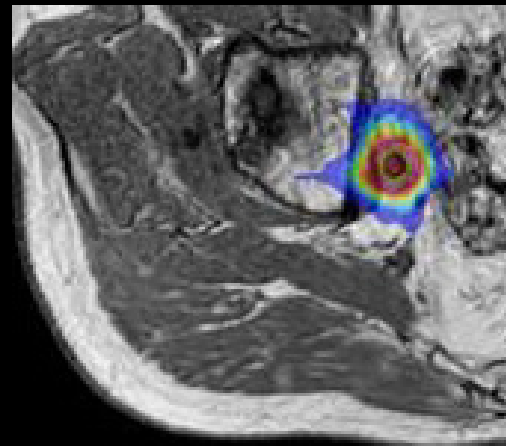
of all cancers occur in the **lungs, prostate, colorectum, stomach, liver, breast and cervix\***



**6 out of 7** of these cancers are in difficult-to-visualize soft tissue anatomies\*

“Elekta Unity provides clear visualization of the daily changes in anatomy and enables daily dose reshaping and treatment adaptation to maximize the dose delivered to the tumor and minimize dose to healthy tissue.”

Dr. Ina Schulz-Jürgenliemk,  
UMC Utrecht, the Netherlands

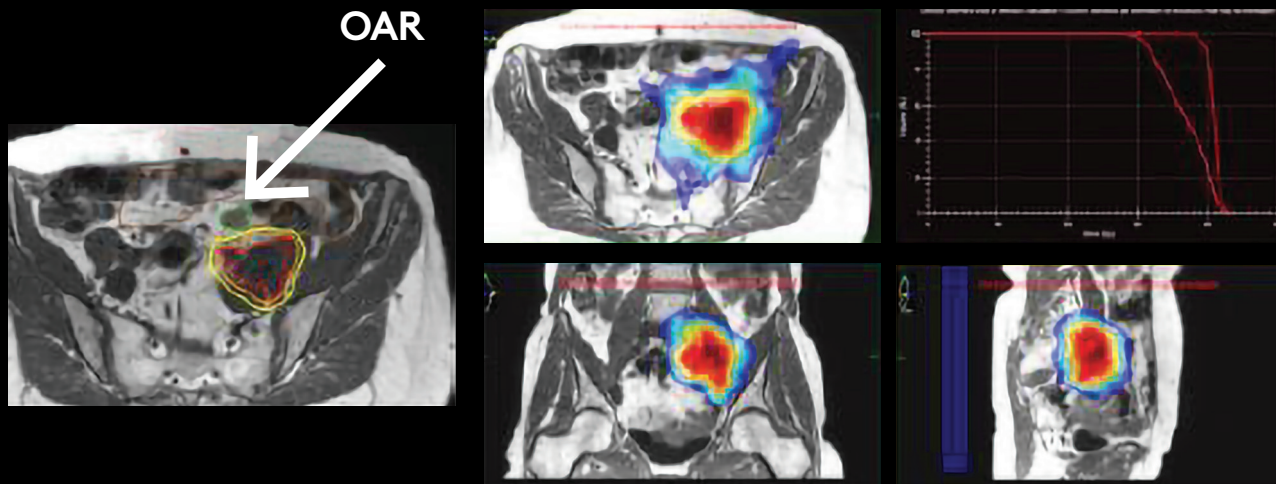


## Case 1: Stereotactic precision

High resolution MR imaging enables clear visualization and stereotactic treatment of small targets

\* Globocan 2018. <https://www.uicc.org/news/new-global-cancer-data-globocan-2018>





### Case 2: Avoidance of OAR with enhanced visualization

Superior soft tissue contrast and visualization of critical structures enables OAR sparing and limits normal tissue complication probability

“The main challenge in this case was to avoid toxicity to the neighboring OAR. The visualization provided with Elekta Unity enabled the 30Gy isodose to avoid the OAR”.

University of Tübingen, Germany

“This lesion was invisible on CT or contrast-enhanced CT (IV CT) but it is visible on an MR image—without the use of contrast agents. We are now able to see what we treat as we treat it”.

Froedtert & the Medical College of Wisconsin, USA

### Case 3: See what you treat

Superior visualization of target and surrounding OAR to ensure confidence in treatment delivery



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Elekta Unity

# State-of-the-art technology

Unity delivers on all fronts—we combined state-of-the-art technologies with ergonomic design to give you unparalleled advantages and enable precise, personalized treatments.



## Unity 1.5T MRI delivers:

- Unmatched magnet field homogeneity and geometric accuracy
- State-of-the-art, RF receiver coils and gradients
- MR imaging protocols tailored for radiation therapy
- No effect on MR imaging with gantry rotation during irradiation

## Unity 7MV FFF linac features:

- Slip ring gantry
  - 360° gantry rotation
  - Next generation 6 RPM gantry speed
- Fully integrated, industry leading Agility MLC
  - High speed jaws and MLC provide reliable real-time leaf positioning with 1 mm accuracy

## We designed Unity with the patient and user in mind.

### Unity features a patient-centric design:

- Short, wide bore with integral lighting reduces anxiety
- Soft couch enhances patient comfort
- Ambient in-room lighting elevates patient experience
- Philips RF-SMART technology minimizes SAR tissue heating
- Philips SofTone technology reduces acoustic noise

### The Unity system's user-centric design enables:

- Easy patient set-up and positioning with a laser-free workflow
- '1-click' image acquisition
- Streamlined, 12-click adaptive therapy workflows





# Leadership in MR/RT

Unity makes being the best, using the best, and sharing with the best a true reality.

Unity has helped our customers become leaders in MR/RT, giving them unequalled advantages of state-of-the-art MR imaging and precise radiation therapy. When you become a Unity user, you are entitled to join our MR-Linac best practice and knowledge sharing consortium.



**MR-Linac**  
CONSORTIUM

## World-leading MR/RT consortium

- Participate with MR-Linac consortium in defining technology direction
- Gain peer-to-peer support on clinical workflows and MRI protocols
- Participate in the MOMENTUM study and evidence-based practice of MR/RT



## MOMENTUM—a platform to aggregate routine technical and clinical Unity patient data

- To improve algorithms that drive online adaptive workflows
- Support standardization of treatment and MRI protocols
- Facilitate outcomes studies
- Evidence development to support MR/RT reimbursement

Powered by

**PHILIPS**

MR imaging

## Best-in-class MR/RT technology partnership

We are proud that, through the development of Elekta Unity—bringing together the expertise and strengths of Elekta, Philips and world-renowned cancer research institutions—precision radiation medicine is being delivered by Unity users around the globe.

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# Elekta Care

Groundbreaking technology requires a solid partnership. That is why Elekta Care service and support is an instrumental part of our Unity solution.

We offer a partnership that builds long term confidence and offers reassurance throughout the lifecycle of your investment—a partnership that allows your clinical team to focus on patients and provide you with confidence that your system will be available when you need it.

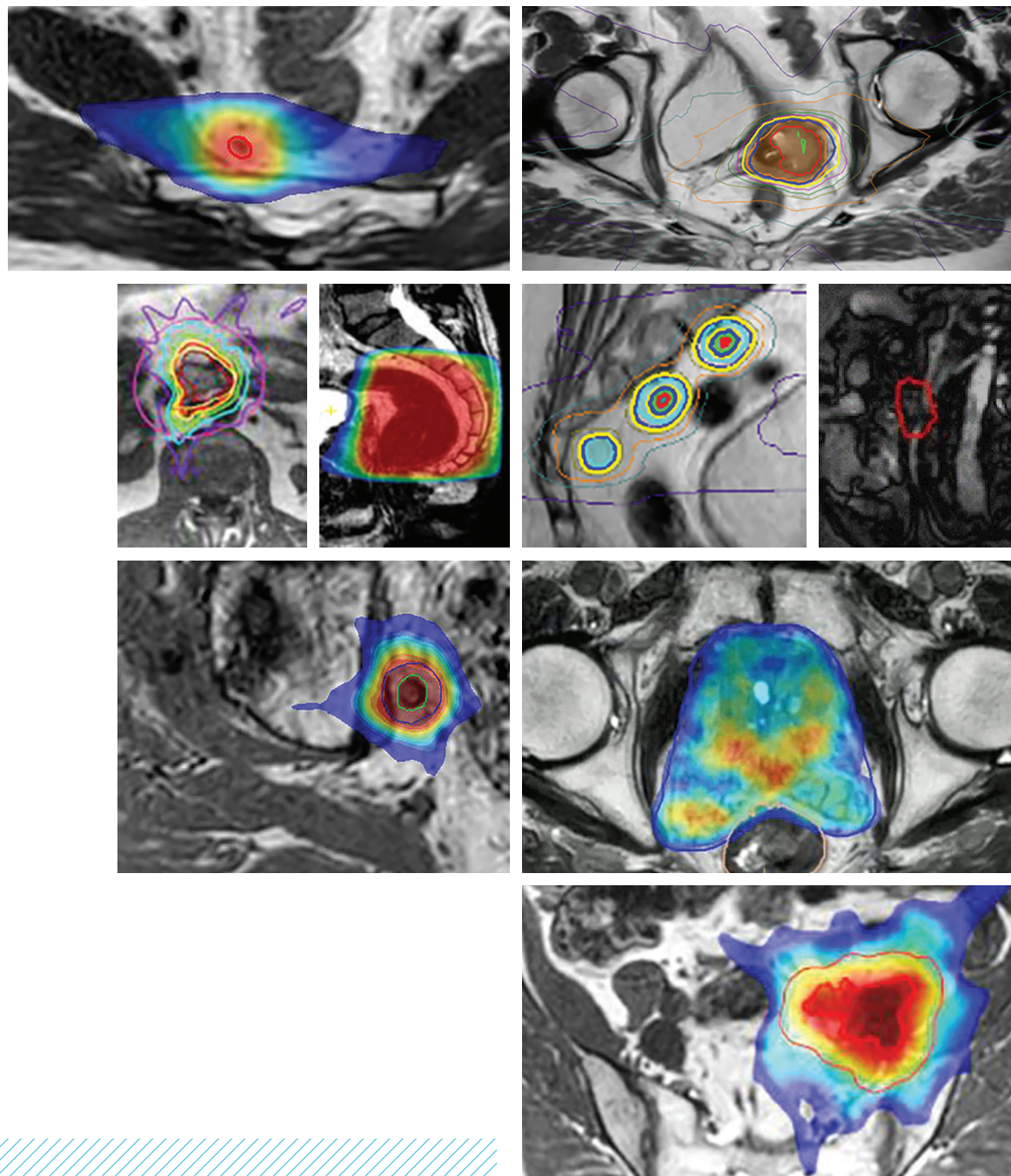


# Elekta Unity

**Elekta Unity defines a new standard for personalization in the delivery of precision radiation medicine.**

The future of cancer care is personalized and interdisciplinary. By bringing state-of-the-art 1.5 T MRI and breakthrough real-time adaptive radiotherapy to the point of care, the cancer care team will now be able to probe, learn and respond to anatomical and biological changes in the patient, in the moments that matter most.

**Elekta Unity** provides a platform for clinical excellence to help you deliver the best radiation therapy for every patient, every time.







**For almost five decades, Elekta has been a leader in precision radiation medicine.**

**Our nearly 4,000 employees worldwide are committed to ensuring everyone in the world with cancer has access to—and benefits from—more precise, personalized radiotherapy treatments.**



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