PHILIPS

Radiation Oncology

Computed Tomography

Big Bore RT

Advancing critical
clinical decisions

Pursuit of
the successful
outcome

Radiation therapy can be effective in helping your patients overcome cancer. They depend upon your skills for a successful outcome. However, fragmentation and inefficiencies in radiotherapy processes impact quality of care and make it difficult to provide consistent, accurate, cost effective and timely treatment.

Imaging plays an integral role in the therapy planning process. Images of sufficient quality, for proper contouring is critical to enhance delineation of target volume/organs at risk and increase accuracy of therapy delivery.

Variability in planning workflows can result in inconsistent treatment plans and subsequently, treatment quality. Maintaining a constant, dependable and reproducible workflow is paramount to answering the increasing demand for cancer services.

Only the most advanced and state of the art solution can address these challenges and advance critical clinical decisions.

Powerful technology **delivers**

In radiation oncology, successful outcomes are measured by confidently moving patients through the right treatment plans. CT technology can assist by delivering accurate, reliable, and reproducible data for treatment planning for every patient.

The need for more reliable image information to minimize possible errors in the treatment phase has grown. Philips Big Bore RT is a CT simulator designed and enriched to meet the specific treatment planning and imaging needs of radiation oncology.

Philips Big Bore RT:

- Advances confidence in clinical diagnosis and treatment planning

- Accelerates time to treatment through intuitive workflow tools

- Enhances patient and staff satisfaction by creating positive experiences

- Maximizes value with cross purpose oncology and radiology configuration

Advance confidence in clinical diagnosis and treatment planning

Big Bore RT is designed to provide precise treatment planning through enhanced accuracy in lesion identification, tissue density calculation, and segmentation. Exceptional image quality and the tools to manage and investigate are the foundation for confident decision-making.

Enhance accuracy in treatment planning and therapy delivery

Big Bore RT utilizes an 80kW generator and maintains image quality and Hounsfield Unit accuracy out to 60cm, without approximation of data . The 70cm extended field of view boosts confidence in visualizing the patient's entire anatomy in the treatment position.

Through low-contrast resolution, lower dose/ higher image quality, and virtually noise-free* images, iterative model reconstruction (IMR) technology delivers visualization of fine detail and improved clinical accuracy in the detection and delineation of small, subtle structures.

Big Bore RT uses 32 reconstructed slices of data through overlapped reconstruction that allows for excellent visualization in coronal and sagittal images by reducing splay artifacts in images.

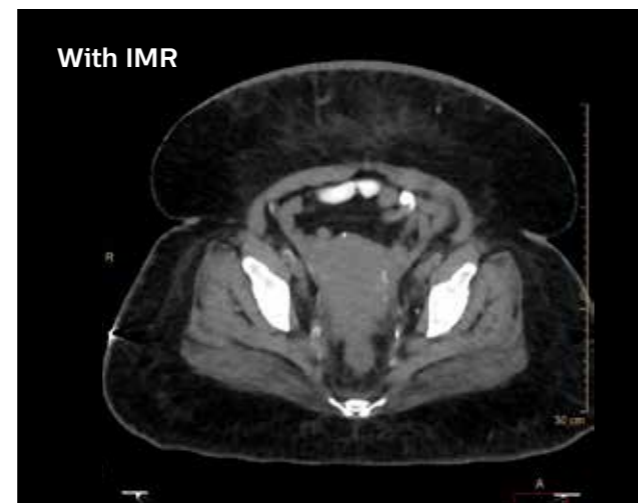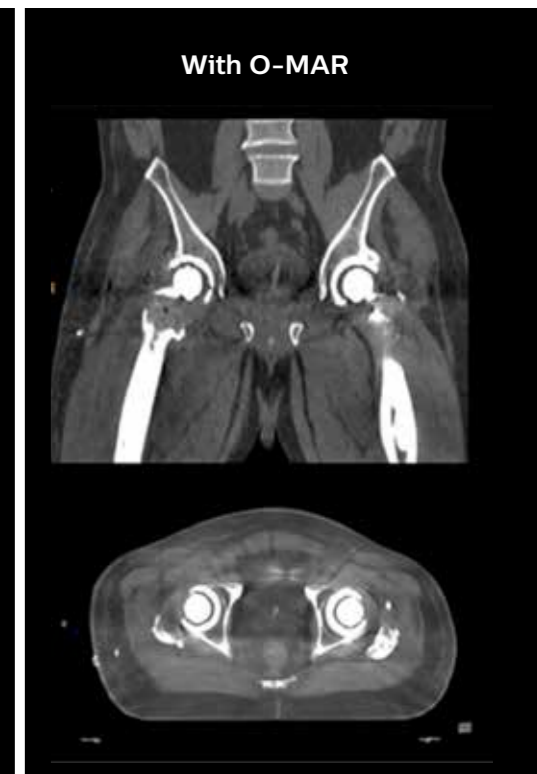## Unveil obscured tissue for more accurate tumor contouring

iDose[4] improves image quality* through artifact prevention, noise reduction, and increased spatial resolution at low dose.

O-MAR algorithm can reduce metal artifacts on treatment planning CT images, which enables better anatomical structure visualization and improves radiation oncologists' confidence in target delineation.

4D CT with bellows and amplitude binning, included in the pulmonary tool kit for Oncology, helps improve accuracy in treatment planning and therapy delivery, even in irregular breathers.

Examine material composition from images

The Spectral Analysis application allows separation and analysis of materials such as calcium, iodine and uric acid when used with dual-energy scan data.

Non O-MAR

With O-MAR

Non IMR

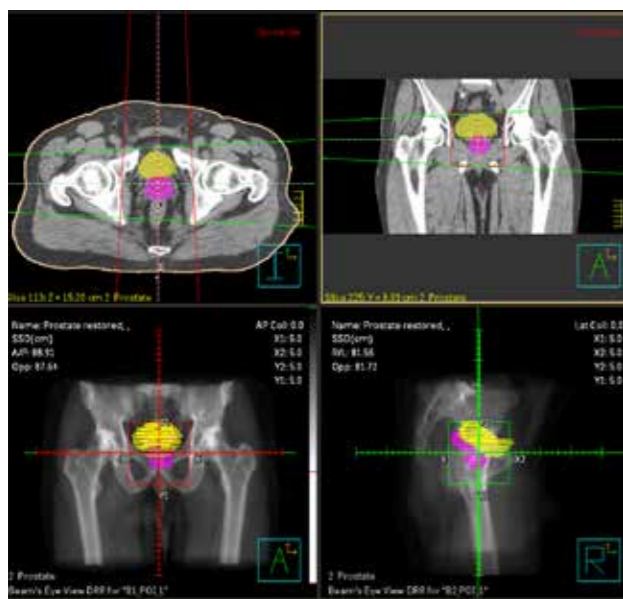**With IMR**

Simulation made easy

TumorLOC simulation application assists you in isolating and segmenting the tumor. It extends the capability of the Big Bore RT by providing localization, simulation, and patient marking tools at the CT console while the patient is on the table (Absolute marking). This includes consistent and reproducible setup from simulation to treatment, the ability to localize isocenter for treatment targets, and use of palliative "Sim to Treat" tools that accelerate the path to treatment.

Offering maximum flexibility, TumorLOC lets you do as much or as little as required for your specific workflow. Tools assist with isocenter localization, generating maximum/minimum and average intensity projections, contouring target volumes and critical structures, beam placement, and machine characterizations for routine and respiratory–correlated studies.

TumorLOC 'Sim Anywhere' feature gives physicians and dosimetrists quick access to manage the data, MIPs, 4D reviews, IPs and contouring ITVs remotely (reference marking), even between patients or rounds. This encourages better time management and influences throughput by making the CT available for other patients.
Additionally, with shared storage capabilities there's no need for multiple servers or DICOM exports after simulation.
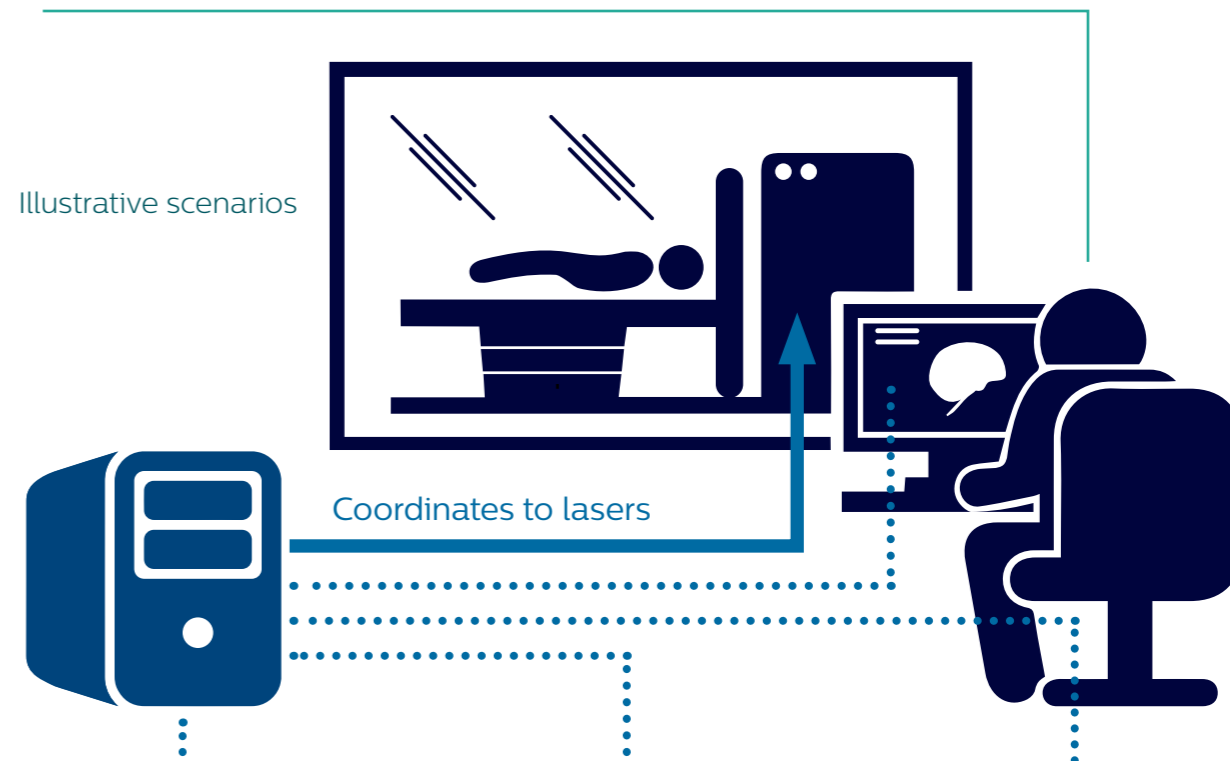
Transfer of data from TumorLOC to Pinnacle[3] treatment planning software is not required, nor must machine definitions be duplicated in TumorLOC. User interface similarity between TumorLOC and Pinnacle[3] allows you to move easily from simulation to planning.

Simulate **Anywhere**

Simulation On CT Console (Absolute Marking, MIPs, 4D Reviews, Palliative treatment)
Physician places isocenter(s) when patient is on the table. Physician uses MIPs, reviews 4D data to make treatment decisions. Physician may also chose to create Palliative treatment fields

Illustrative scenarios

Coordinates to lasers

MIPs and 4D review
Physician uses MIPs and 4D data to make treatment decisions and generate contours when patient is off the patient table
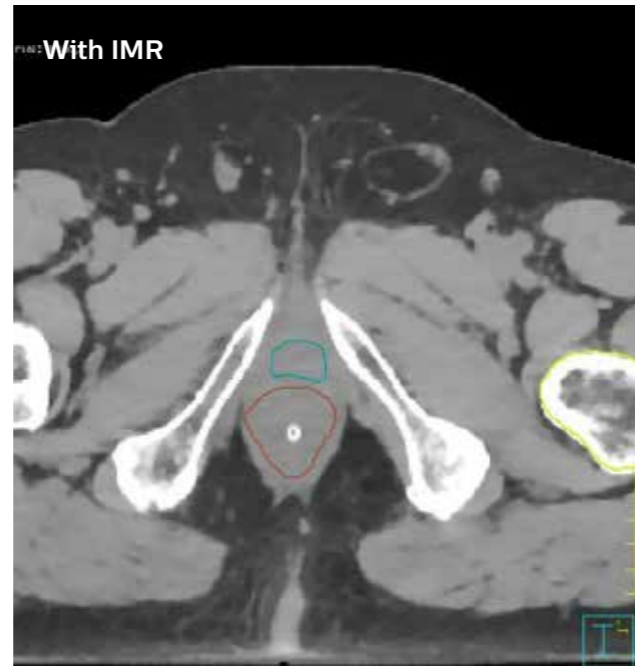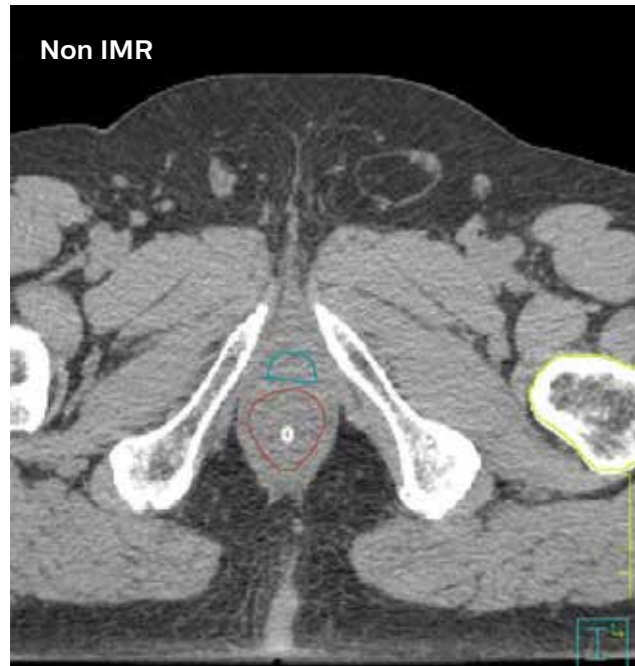**– Remote location**

Absolute Marking
Physician places isocenter when patient is on the table (absolute marking). Physician creates beam geometry, treatment fields, contours to facilitate Dose Calculations in the TPS
– Physician's office

Relative Marking
Physician adding isocenters relative to fiducials when patient is off the table. Physician creates Palliative treatment fields to quickly prepare patient for treatment.
– Physican's 2nd office

Non IMR

With IMR

Accelerate time to treatment
through intuitive scan to plan workflows

Cancer cases are expected to rise by nearly 70% over the next two decades*, driving demand for cancer services. Our processes have been streamlined to improve your workflow and throughout. Accurate data, accelerated workflow and proactive monitoring results in confident care.

Streamline imaging and simulation workflow

iPatient's, dedicated oncology ExamCards provide a standardized, patient centered approach to imaging and simulation with consistency from scan-to-scan.

Expedite to treatment plans

IMR improves image quality and advances 'autosegmentation'. Less manual intervention means fast contouring and short time to treatment.

Simulate anywhere at anytime

TurmoLOC is a comprehensive package of intuitive operations and applications, designed to improve patient care and productivity, enabling access to everything you need for simulation at one location.

The TumorLOC 'Sim Anywhere' feature gives clinicians quick access to manage the simulation remotely, encouraging time management and throughput, even outside the CT room, encouraging time management and throughput.

*World Health Organization Cancer fact Sheet, February 2015

Enhance patient/staff satisfaction
by creating positive experiences

You may ask, 'How can we maintain a patient-centric care experience as demand for radiation oncology services increases?" Our solutions are designed with satisfaction for patients, families, and staff in the forefront, enhancing comfort and confidence.

Accommodate complex setups easily

Patient setup on the Big Bore RT's flat table with access to the wide 85cm bore aperture provides more room to achieve optimal treatment position to facilitate complex procedures.

The new industrial design and advanced functionality on the scanner and controls puts more at the fingertips of your staff, providing your patients with a positive clinical experience.

Reduce patient stress during scans

Ambient experience envelops the patient in soothing light and sound helping reduce patient stress. Patients become active participants by choosing from an array of room themes. This optional immersive experience provides positive distraction, allowing your staff to focus on the task at hand.

Provide palliative care treatment

'Sim to Treat' tools are designed for speed and efficiency, allowing you to accelerate time to treatment for palliative patients.

Maximize value with cross purpose oncology/radiology configuration

Flexible upgrades, service options, consulting services and continuous education programs allow you to maximize the value of your investments over the entire lifecycle. Your Big Bore RT can also provide cross functional general radiology services, extending its benefits.

Empower your teams to deliver

The Big Bore RT provides enhanced image quality and interventional controls that allows it to be used as a diagnostic scanner for your radiology needs as well.

Performance Bridge offers a flexible suite of continuous performance improvement solutions which provide a path to help you find and maximize opportunities.

Improved reliability and repeatability of calibrations with the new harmonized phantoms. Improved cyber security and encryption to ensure privacy with patient data. Windows 10 (R) deployed across CT system.
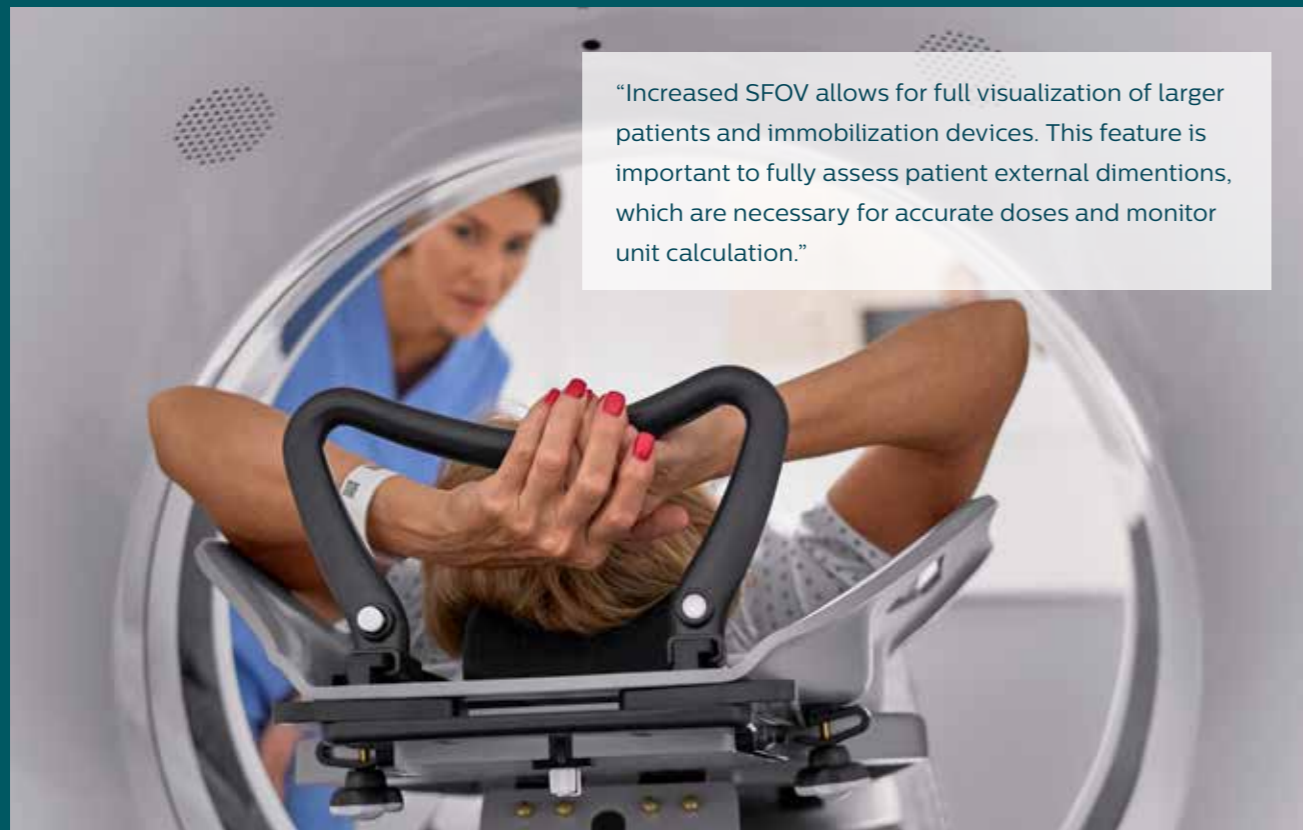
Become expert users from the get go

Our world class training programs are taught by dosimetrists and therapists who understand the nuances and challenges of patient care that goes well beyond scanner features and buttons, so that you may best serve your patients.
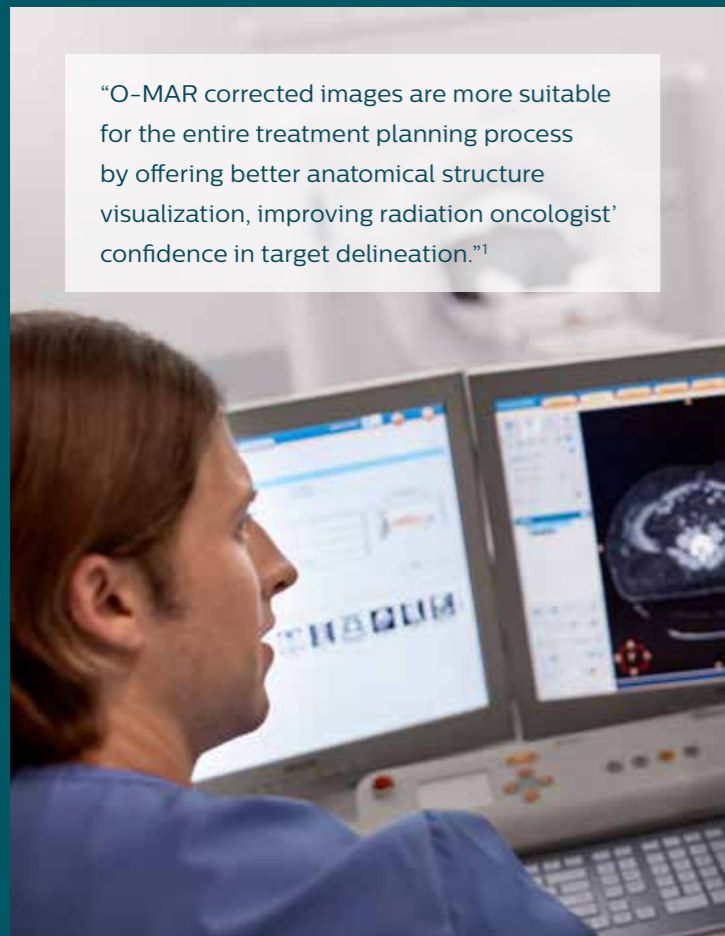
Maximize value tailored to your needs

Philips support is 'designed around you'. Every RightFit Service agreement is scalable and customizable, keeping your equipment up and running, your staff up to speed, and your organization on track.

With Technology Maximizer you can future proof your system and receive software and hardware updates as soon as they are released.
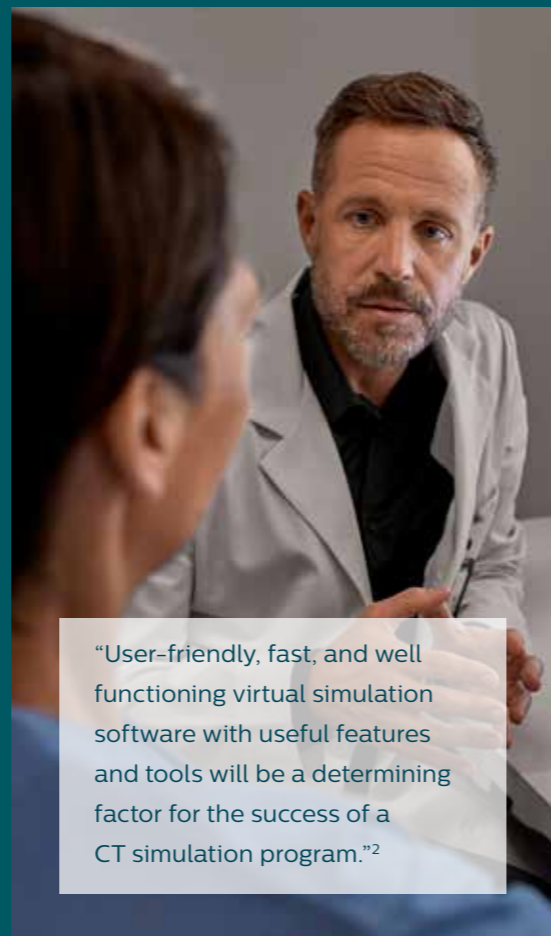
"Increased SFOV allows for full visualization of larger patients and immobilization devices. This feature is important to fully assess patient external dimentions, which are necessary for accurate doses and monitor unit calculation."

"O-MAR corrected images are more suitable for the entire treatment planning process by offering better anatomical structure visualization, improving radiation oncologist' confidence in target delineation."[1]
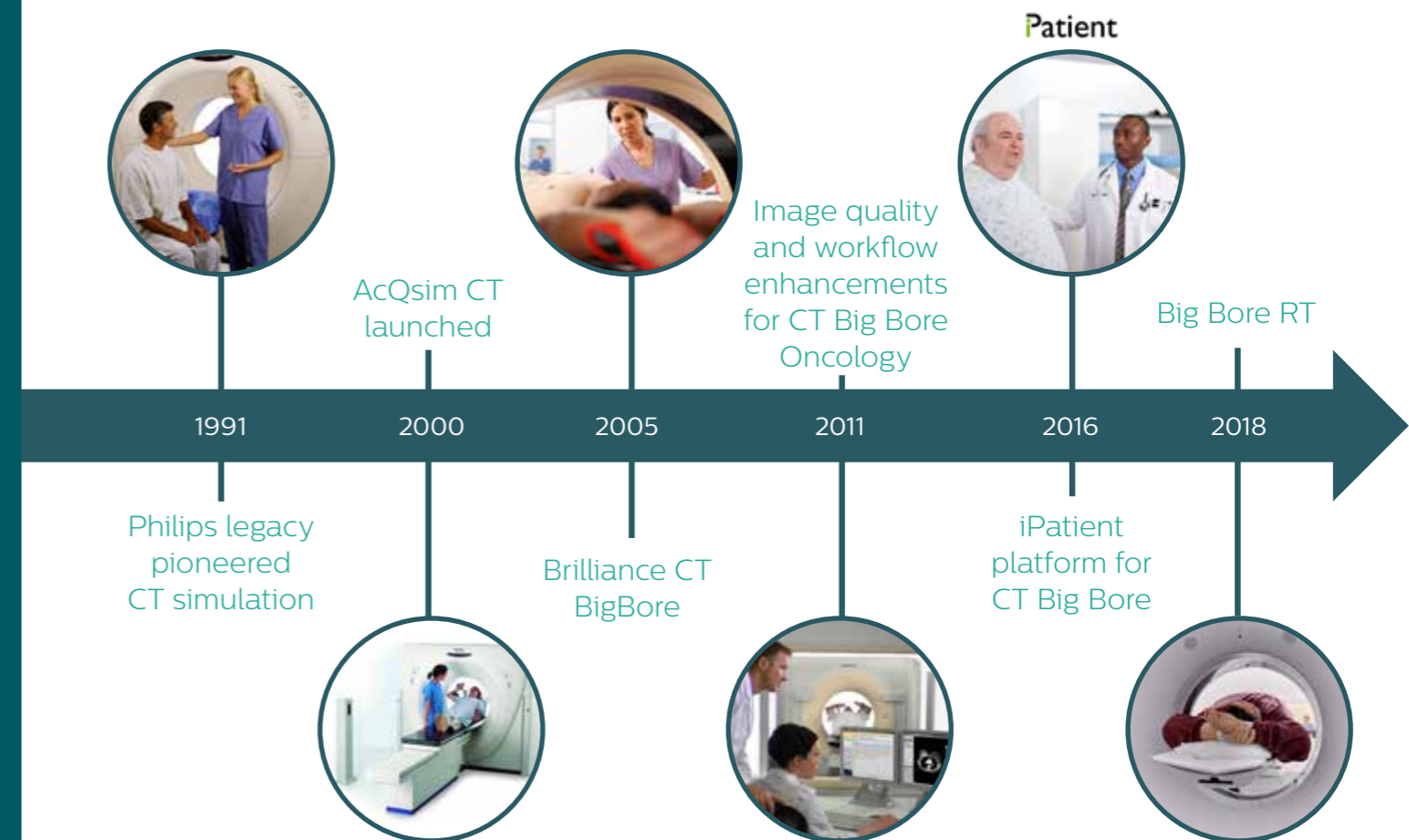
"User-friendly, fast, and well functioning virtual simulation software with useful features and tools will be a determining factor for the success of a CT simulation program."[2]

Advancing Radiation Oncology imaging **for over 25 years**

With over 1200 trusted Big Bore CT installations worldwide and a history of firsts in the radiation oncology space, the Big Bore RT has evolved from a pedigree of success. Integrating tools, systems, software, and service, helps improve operational efficiency and care delivery.

When you increase accuracy in imaging and planning, accelerate time to treatment, and enhance patient/staff satisfaction, all while maximizing the value of your investment, you have a winning combination.

Together with Philips, you can define a confident path to treatment and make the best clinical choices for your patients and their families.

AcQsim CT launched

Image quality and workflow enhancements for CT Big Bore Oncology

Patient

Big Bore RT

| 1991 | 2000 | 2005 | 2011 | 2016 | 2018 |

Philips legacy pioneered CT simulation

Brilliance CT BigBore

iPatient platform for CT Big Bore

1. "Clinical evaluation of a commercial orthopedic metal artifact reduction tool for CT
   simulations in radiation therapy",
   Li, et al, Medical Physics, Vol 39(12), pp7507–7517.]"
2. "CT Simulation Refresher Course" Sasa Mutic, M.S., Mallinckrodt Institute of Radiology,
   Washington University School of Medicine, St. Louis, MO 63110]

PHILIPS

How to reach us
Please visit www.philips.com/BigBoreRT
healthcare@philips.com