

A woman with blonde hair, wearing a white lab coat, is lying on a dark treatment table in a clinical setting. The background is a light blue wall with horizontal lines. Above her, a complex piece of medical machinery is visible, including a white nozzle and various sensors.

Delivering advanced
solutions for **the future
of cancer care**

Proton Therapy Solutions

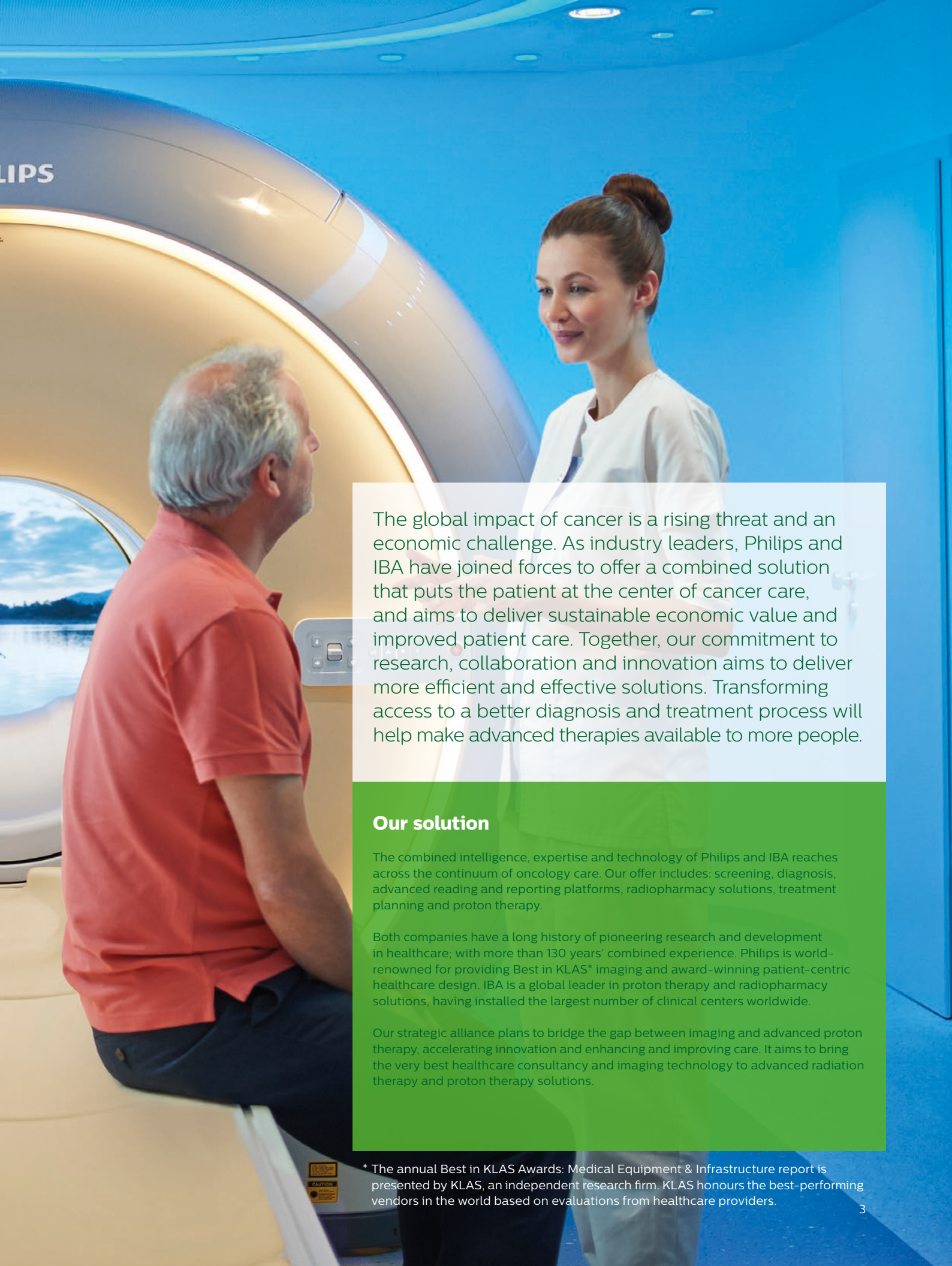
PHILIPS



One shared vision:
access to cutting
edge cancer
diagnosis and
treatment

PHILIP





The global impact of cancer is a rising threat and an economic challenge. As industry leaders, Philips and IBA have joined forces to offer a combined solution that puts the patient at the center of cancer care, and aims to deliver sustainable economic value and improved patient care. Together, our commitment to research, collaboration and innovation aims to deliver more efficient and effective solutions. Transforming access to a better diagnosis and treatment process will help make advanced therapies available to more people.

Our solution

The combined intelligence, expertise and technology of Philips and IBA reaches across the continuum of oncology care. Our offer includes: screening, diagnosis, advanced reading and reporting platforms, radiopharmacy solutions, treatment planning and proton therapy.

Both companies have a long history of pioneering research and development in healthcare; with more than 130 years' combined experience. Philips is world-renowned for providing Best in KLAS* imaging and award-winning patient-centric healthcare design. IBA is a global leader in proton therapy and radiopharmacy solutions, having installed the largest number of clinical centers worldwide.

Our strategic alliance plans to bridge the gap between imaging and advanced proton therapy, accelerating innovation and enhancing and improving care. It aims to bring the very best healthcare consultancy and imaging technology to advanced radiation therapy and proton therapy solutions.

* The annual Best in KLAS Awards: Medical Equipment & Infrastructure report is presented by KLAS, an independent research firm. KLAS honours the best-performing vendors in the world based on evaluations from healthcare providers.

Integrating inspiration



Proton therapy is a leading-edge treatment in radiation oncology, using a beam of protons to irradiate cancer or other diseased tissue. Currently, very few patients receive proton therapy. Reports and policies from governmental bodies in the Netherlands, the UK, Denmark, and other healthcare institutions such as the American Society for Therapeutic Radiation Oncology (ASTRO) have estimated that 15 to 20% of radiation therapy patients should benefit from proton therapy from both a clinical and economic perspective. At the same time, experience at renowned academic centers shows that when accessibility to the modality is not an issue 45% of their radiotherapy patients are referred to PBS Proton Therapy protocols.

Over the years IBA has developed solutions that deliver proton treatments. Proton treatment has a high level of accuracy as it can be adapted to the specific tumor for each patient, allowing the radiation oncologist to increase the dose to the tumor whilst reducing the dose to surrounding healthy tissues.

Our combined effort aims to leverage proton therapy accuracy and high quality imaging (Advanced MRI, PET and CT imaging) with the aim of increasing confidence in the diagnosis and treatment of cancer, reducing short- and long-term side-effects and enhancing the quality of life of the patient before, during and after treatment.



Diagnose with confidence

Together, Philips and IBA offer a full range of cutting-edge oncology solutions for faster, diagnosis and treatment, advancing clinical capability. These include:

CT

The Philips IQon features the world's first spectral detector CT. The award-winning system adds a new dimension to CT imaging, delivering not only anatomical information but also the ability to characterise structures based on their material makeup, on demand, within a single scan.

PET/CT

Philips Vereos is the first and only digital whole body PET/CT system, reaching the next level in molecular imaging with exceptional image quality and resolution using a low-dose.

The Ingenuity TF PET/CT leverages multiple technologies, collectively known as xPand5, to act together to enhance image quality and support quantification. With excellent contrast and spatial resolution, Ingenuity TF PET/CT enhances lesion detectability to help you better stage cancer.

MR

As the first digital MR system, Philips Ingenia (1.5T and 3.0T) with its revolutionary dStream architecture delivers accelerated performance with digital clarity and speed.

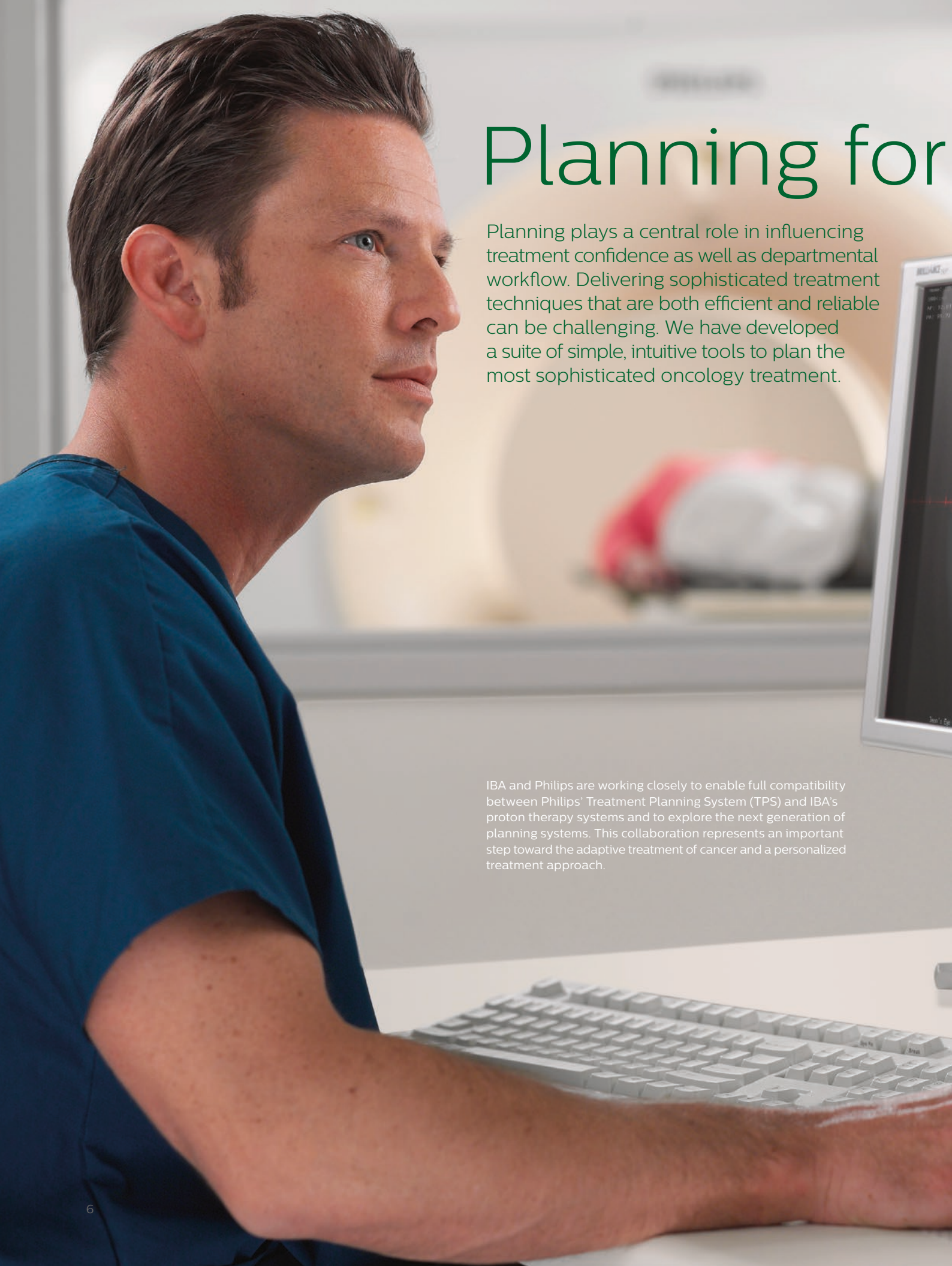
IntelliSpace Portal

Philips IntelliSpace Portal 7.0 combines, high quality images, advanced analysis, and workflow efficiency tools into a single advanced analysis solution, enabling users to get a unified view of a patient's condition all on one screen to answer questions fast. In addition, the Portal's Multimodality Tumor Tracking helps clinicians evaluate change in tumor activity or size over time to determine treatment effectiveness or assist with diagnosis and tumor staging.

Radiopharmaceutical solutions

Combining the strengths of two leaders, IBA and Philips join forces to provide an optimized PET center solution to Molecular Imaging departments. This fully integrated solution benefits from the long standing legacy of innovation in PET and will address all the needs of Molecular Imaging departments from the production of a large range of radioisotopes to the delivery of high quality images for enhanced confidence in diagnosis.



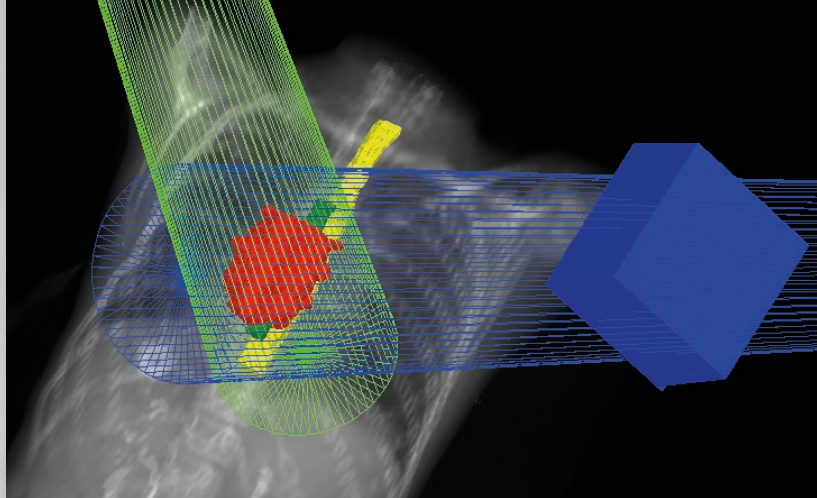


Planning for

Planning plays a central role in influencing treatment confidence as well as departmental workflow. Delivering sophisticated treatment techniques that are both efficient and reliable can be challenging. We have developed a suite of simple, intuitive tools to plan the most sophisticated oncology treatment.

IBA and Philips are working closely to enable full compatibility between Philips' Treatment Planning System (TPS) and IBA's proton therapy systems and to explore the next generation of planning systems. This collaboration represents an important step toward the adaptive treatment of cancer and a personalized treatment approach.

accuracy



Pinnacle³ Treatment Planning

Pinnacle³ treatment planning has earned a 20+ year reputation for performance, reliability, and intuitive workflow. The comprehensive system is designed to improve quality and cost-effectiveness, and provides confidence to users and departmental administrators by addressing three key needs: efficiency, accuracy, and scalability.

Designed to reduce planning and re-planning time and enhance dose accuracy, Pinnacle³ provides the foundation to help your facility offer high-quality treatments while controlling costs. Fully integrated proton, photon, electron, stereotactic, brachytherapy, simulation, image fusion, IMRT and VMAT planning, allows all treatment planning to be performed from a single platform. Clinicians can feel confident that they have all of the tools to select and design the best treatment from a wide range of radiotherapy options.

IBA's Dosimetry offers innovative high-quality solutions and services that maximize efficiency. The full range can calibrate, calculate and measure in preparation for the delivery of safer and more accurate therapies.

Seamless simulation

Philips Brilliance CT Big Bore offers advanced tools to facilitate accurate efficient patient marking and simulation workflow. Its wide aperture enables patients to be positioned even in the most complex set-ups.

Optimizing Proton Planning

Philips Pinnacle³ Proton Planning has been designed to simplify treatment planning for proton therapy by including it within the conventional external beam treatment planning process. Intuitive visualisation tools enable side-by-side comparisons of different plans to determine the preferred treatment protocol. It allows proton therapy delivery for multiple devices using the double scattering, uniform scanning and Pencil Beam Scanning techniques. Comprehensive evaluation tools monitor dose to the target and critical structures from different plans.

Game-changing treatment

Proton Therapy is the most precise form of radiation therapy available today. Unlike traditional radiation, protons stop at a certain depth and do not continue to travel through the healthy tissue. As well as being non-invasive and painless, it has minimal side effects and as such, allows patients to maintain a good quality of life during treatment.

Proton therapy is the perfect add-on to advance cancer care programs. It brings institutions up to the cutting-edge of radiation therapy. Its clinical efficiency offers optimized tumor control and lower integral dose while preserving the quality of life of patients during and after treatment. Proton Therapy enhances your continuum of care while boosting your research capabilities.

With Proton Therapy, clinicians have the capacity to expand their practice to address cases that are too complex or where toxicities are intolerable in IMRT. We believe the potential for enhancing care is tremendous. Proton Therapy could also be a benefit for indications that are not suitable for conventional radiation therapy,

in conjunction with radio-sensitizing chemotherapies or for retreatment cases.

As an integral part of your continuum of care, Proton Therapy enhances your service offering, giving you a competitive edge over those who are not providing this incremental service, both from a business and research perspective. This premium cancer care modality will drive growth, attracting more patients to all your department and bringing more prestige to your organisation.

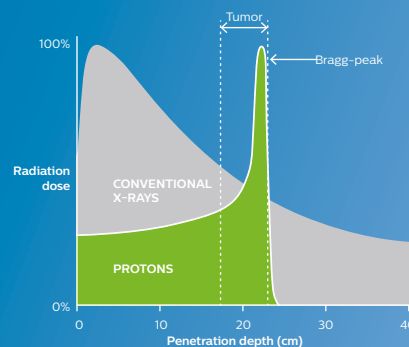
Proton Therapy can also potentially reduce overall cancer treatment costs by reducing the cost of related long-term side-effects, providing a great quality-for-cost treatment plan.

Advantages of Proton Therapy

The proton beams release the majority of their destructive energy within a small range inside the tumor, depositing less entrance dose and no exit dose. This peculiarity of proton beams enables physicians to treat tumors with unequalled precision, safety and efficiency.

The key advantages of the proton beam in cancer treatment are:

- Little to no radiation outside the tumor;
- Lower risk of induced disorders (e.g. secondary cancers or child growth abnormality);
- Better quality of life during and after treatment.*



* Charlie Ma C.M. and Lomax T., "Proton and Carbon Ion Therapy", 2012, CRC Press, Metz J.M. and Thomas R.T. Jr., "Proton Therapy", 2010, Radiation Medicine Rounds, Volume 1, Issue 3, Delaney T.F. et al., "Phase II study of high-dose photon/proton radiotherapy in the management of spine sarcomas", Delaney T.F., "Long-term results of Phase II study of high dose photon/proton radiotherapy in the management of spine chordomas, chondrosarcomas and other sarcomas".





Proteus[®] ONE

State-of-the-art patient-centric single-room proton therapy centers.

ProteusONE is IBA's compact single room proton therapy solution that can be easily installed into many kinds of healthcare settings. ProteusONE makes proton therapy more accessible to clinical institutions worldwide and to their cancer patients.

Benefiting from IBA's unrivalled experience in proton therapy, ProteusONE delivers the latest advance in proton radiation therapy, Intensity Modulated Proton Therapy (IMPT). IMPT combines the precise dose delivery of Pencil Beam Scanning (PBS) with the dimensionally accurate imaging of 3D Cone Beam Computed Tomography (CBCT), enabling physicians to truly track where protons will be targeting tumor cells.

ProteusONE was inspired by everyday clinical practice. Its patient-centered design was developed in collaboration with Philips Healthcare to create a calming patient environment whilst creating a more productive environment for the clinical staff.

The powerful combination of smaller system size, clinical capabilities and patient-centered, open environment is why ProteusONE is being adopted by more community-based and advanced organisations around the world.

An excellent patient experience

Cancer patients submit to multiple diagnostic and treatment procedures with an understandable level of fear and anxiety. An environment designed with patients at the center can make a real difference in their experience and state of mind. Philips

offers a portfolio of consulting services and technology solutions, backed by research data, to support cancer care administrators in transforming their facilities' environments. Through Ambient Experience technology, imaging and treatment suites can be transformed into soothing, entertaining, and even educational spaces.

Ambient Experience is more than a room environment. The positive distraction strategies and improved workflow designs that are the hallmarks of the Ambient Experience may also contribute to the satisfaction and well-being of staff, helping to foster efficiency and compassionate care.

Philips and IBA have embarked on ambitious projects throughout the world, delivering both scalable turnkey and bespoke solutions. Patient-centricity has been incorporated into the designs of treatment rooms for Proteus therapy systems, improving the all-round experience and optimising throughput. Based on insights from patients undergoing proton therapy and healthcare staff, Philips and IBA have combined solutions that improve the overall experience.

Contemporary media and lighting are designed to create harmoniously flowing units, and the multimedia can be adapted to the individual requirements of the patient. Sound can be regulated and the room is atmospherically lit with soothing or dynamic LED lighting. The interior of the therapy room has organically rounded contours and is highly functional for the medical staff.

Philips received last year's coveted International Red Dot Award for Product Design for the Ambient Experience created especially for ProteusONE.

The first of its kind

State-of-the-art patient-centric proton therapy centers

Working with patient groups, healthcare staff and experts enabled Philips and IBA to design a care center that meets the specificity of proton therapy treatment procedures. Philips' Ambient experience is an interactive, people-focused healthcare environment that uses design and technology to create a more comfortable experience for patients and staff, improve workflow and increased operational effectiveness. If the patient is calm, positioning is faster and clinicians' are less stressed.

Philips Ambient Experience is a standard feature with Proteus Plus and ProteusOne. Already operational on ProteusOne at Willis Knighton, Shreveport, LS, it will soon be installed in Miami Baptist, South Florida, and in Beaumont Hospital's Cancer Institute in Royal Oak, Detroit

“The soothing and empowering atmosphere makes our patients more comfortable, which will allow our staff to work more efficiently. IBA and Philips have been excellent partners.”

Willis Knighton's Medical Director, Dr Lane Rosen, claims Ambient Experience enhances the center's ability to provide superb cancer care.

Transforming care

The combined expertise of Philips and IBA will develop holistic solutions to improve patient care and provide exceptional value. Our research programs are ambitious and innovative. We are sharing technical specifications, data and algorithms to create excellent cancer care.

Philips Healthcare Transformation Services consultants can apply their specialist knowledge and help to improve the operational and financial performance of hospitals and health systems, from prevention and diagnosis, through to treatment and after care at home. And our strong insights in areas such as deep data analytics, clinical workflow and healing environments enhance care for everyone involved.

Our Medical Equipment and Inventory Planning tool (HIPS) is a new software tool for providing an integrated approach for the planning of hospital facilities and hospital equipment. It helps not only the functional and space planning but also with the planning of required technology, technical specifications, facilities planning, budgeting, the provision of accurate information for the architectural drawings as well as demand modelling.

Together, Philips and IBA have a long-term vision for cancer care; of providing accessible, cost-effective end to end solutions that transform oncology into a wholly patient-centered, adaptive speciality offering personalised treatment. Our collaboration, combined with the expert input of healthcare professionals and patients will help to create advanced, sustainable solutions for the next generation.



Contact details

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For more information about Philips products and solutions visit:
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About Royal Philips

Royal Philips (NYSE: PHG, AEX: PHIA) is a diversified health and well-being company, focused on improving people's lives through meaningful innovation in the areas of Healthcare, Consumer Lifestyle and Lighting. Headquartered in the Netherlands, Philips posted 2014 sales of EUR 21.4 billion and employs approximately 105,000 employees with sales and services in more than 100 countries. The company is a leader in cardiac care, acute care and home healthcare, energy efficient lighting solutions and new lighting applications, as well as male shaving and grooming and oral healthcare.

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IBA highlights

IBA (Ion Beam Applications S.A.) is a global medical technology company focused on bringing integrated and innovative solutions for the diagnosis and treatment of cancer. The Company is the worldwide technology leader in the field of proton therapy, the most advanced form of radiation therapy available today. IBA's proton therapy solutions are flexible and adaptable, allowing customers to choose from universal full scale proton therapy centers as well as compact, single room systems. In addition, IBA also has a radiation dosimetry business and develops particle accelerators for the medical world and industry.

Headquartered in Belgium and employing about 1 100 people worldwide, IBA has installed systems across the world, from Europe and the US and to the emerging markets. IBA is listed on the pan-European stock exchange EURONEXT. (IBA: Reuters IBAB.BR and Bloomberg IBAB.BB).

