

The Iba logo is located in the top left corner, featuring the letters 'Iba' in a white, cursive font on a green square background.

Iba

iba-worldwide.com

A close-up photograph of a woman with short, curly grey hair, wearing black-rimmed glasses and large silver hoop earrings. She is smiling and looking towards the right. The background is a blurred green, suggesting an outdoor setting. The text 'PROTECT, ENHANCE AND SAVE LIVES' is overlaid in white at the bottom of the image.

**PROTECT, ENHANCE  
AND SAVE LIVES**

# NOTE

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# IBA

## World leader

We are world leaders in the design, production and marketing of innovative solutions for the diagnosis and treatment of cancer and other serious illnesses, and for industrial applications such as sterilization of medical devices.

Around the world, thousands of hospitals use particle accelerators and dosimetry equipment designed, produced, maintained and upgraded by IBA, as part of our mission to protect, enhance and save lives.

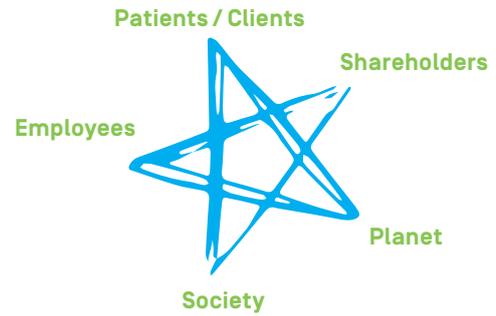
Through our four core activities: Industrial Solutions, RadioPharma Solutions, Proton Therapy and Dosimetry, we offer health care professionals the solutions that allow them to take a fully integrated approach to their patient care.

## How do we work?

At IBA, we believe that companies can be one of the most powerful levers for positive action on the world, but they are also potentially one of the most important sources of negative impact. At best, companies encourage collaboration, innovation and progress, thereby delivering solutions that meet societal needs in a sustainable way from an economic, social and environmental point of view. At worst, businesses can cause considerable social and environmental damage.

Since its creation, IBA has always put the purpose of the company and its project at the heart of its activities, as expressed in our mission to “Protect, Enhance and Save Lives”.

As a company, we are focused on striking the right balance between our stakeholders: increasing our market share and the return for our shareholders, improving the quality of life of our customers, patients and employees, and contributing to the well-being of our society, while also maintaining and restoring our planet’s health.



In 2020, we embedded this sustainability philosophy in our mission and decision-making process both at the Board and Management levels, making IBA one of the first listed Belgian companies to incorporate such a stakeholder approach into its articles of association.

## Why do we do that?

### TO PROTECT, ENHANCE AND SAVE LIVES

For over thirty years, our particle physics-based technology has contributed to treating those in our society who are ill. This desire is reflected in our mission to protect, enhance and save lives.

All our activities are targeted towards the same objective of making a positive impact on patient health by providing health care professionals with the most effective and accurate solutions for diagnosis and treatment. This goal is implemented in different ways that benefit each of the various stakeholders involved.

### A FLEXIBLE AND RESILIENT BUSINESS MODEL

In today’s global and increasingly volatile economy, we have demonstrated flexibility, adaptability and resilience.

These are fundamental to the continued success of our business activities.

Consistent with emerging technologies, such as proton therapy, the pace of growth can vary from year to year. We were able to offset this variability over the past year by delivering an improved performance in all business units, where each saw strong order intake.

We continue to focus on quality and innovation and thanks to excellent sales in our businesses (Proton Therapy, Dosimetry, Industrial Solutions and RadioPharma Solutions) we are managing an increasingly larger installed base and are thereby working more on service and upgrades.



#### Our customers and their patients:

we develop the most effective technology for our customers so they can provide the best available diagnosis and treatment for their patients.



#### Our employees:

we offer them quality jobs in a stimulating, friendly environment guided by ethical values.



#### Our society:

we promote a sustainable entrepreneurial business model that serves society while respecting the limits of our planet.



#### Our planet:

we continually work to reduce the environmental impact of our products and operations.



#### Our shareholders:

we show that we are worthy of their trust by being a sound financial investment and acting in accordance with our values.

# OUR VALUES

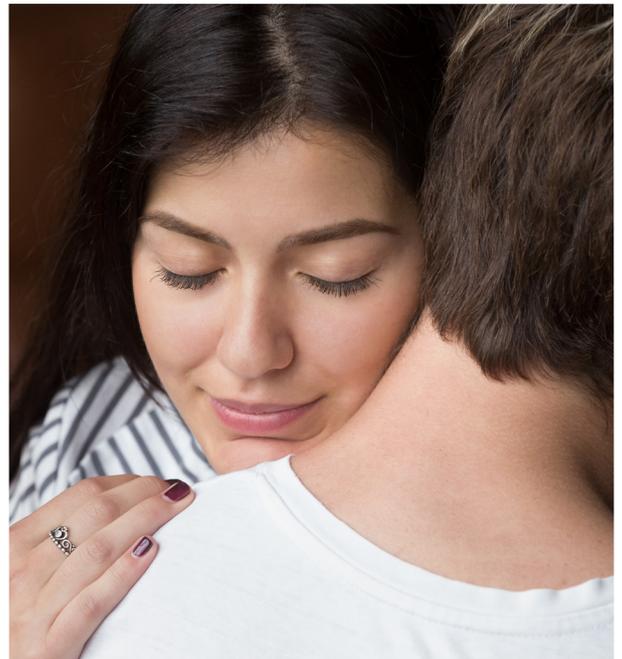
## CARE

We care about the well-being of our clients and patients, our employees, our society, our planet and our shareholders.



## DARE

Creativity, innovation and passion are mandatory for a company that continually stretches the frontiers of technology. Day after day, we dare to create better results.



## SHARE

We share our ideas and expertise with our stakeholders to create better results.

## BE FAIR

We implement our mission to protect, enhance and save lives with ethical standards and transparency to remain worthy of our stakeholders' trust.

# IBA IN 2020

## at a glance

**100 000+**

patients treated on  
IBA PT equipment

**590+**

accelerators  
sold

**5**

continents

**4**

business  
activities

**10%**

of turnover invested  
in R&D

**40**

countries

**1 528**

employees

**60**

PT centers  
sold

**53**

Service  
contracts

**+10%**

revenues in 2020

**Score C**

Awarded score C  
in the CDP project

**56**

nationalities

**25%**

women

**42%**

proton therapy  
market share

IBA is a leader in particle beam technology. Our purpose, which inspires and motivates our staff, is clear: to protect, improve and save more lives, every day, while creating value for all our stakeholders.

**Olivier Legrain**  
Chief Executive Officer



# MESSAGE

## from Olivier Legrain

I am proud of the strong performance and resilience shown by IBA during a particularly challenging year. I would like to extend my sincere thanks to our teams for the incredible work they have done, and to express my gratitude to our partners and customers who have instilled their confidence in us during this challenging period.

Based on our 35 years of world-renowned expertise in particle beam technologies, IBA has developed four robust activities: Industrial Solutions, RadioPharma Solutions, Proton Therapy, and Dosimetry.

Our long-term strategy is to create sustainable growth and profitability by providing the best services to our customers, while embracing the values of a responsible corporate citizen. The roadmap we use to help achieve these goals in our four business areas is clear: capitalize on our market leading position, invest for strategic impact, and deliver operational execution in order to improve our margins.

The transformation of our business model that began several years ago continues with success. IBA's profitability is becoming increasingly based on recurring revenues supported by Proton Therapy service contracts, as well as revenue from our other areas of activity with shorter business cycles.

With new contracts on the horizon, the outlook for Proton Therapy is promising, however, we can also see that RadioPharma, Industrial and Dosimetry continue to prosper, with a good level of order intake.

Our financial results are backed by a healthy balance sheet and an excellent cash position with investment in R&D remaining a key aspect of our long-term growth plan.

The role of a company extends, however, far beyond that of maximizing its profits! Though it must of course reward its shareholders, its primary purpose is to satisfy its customers, to ensure the well-being of its employees and to work for the benefit of the community and the environment of which it is an integral part.

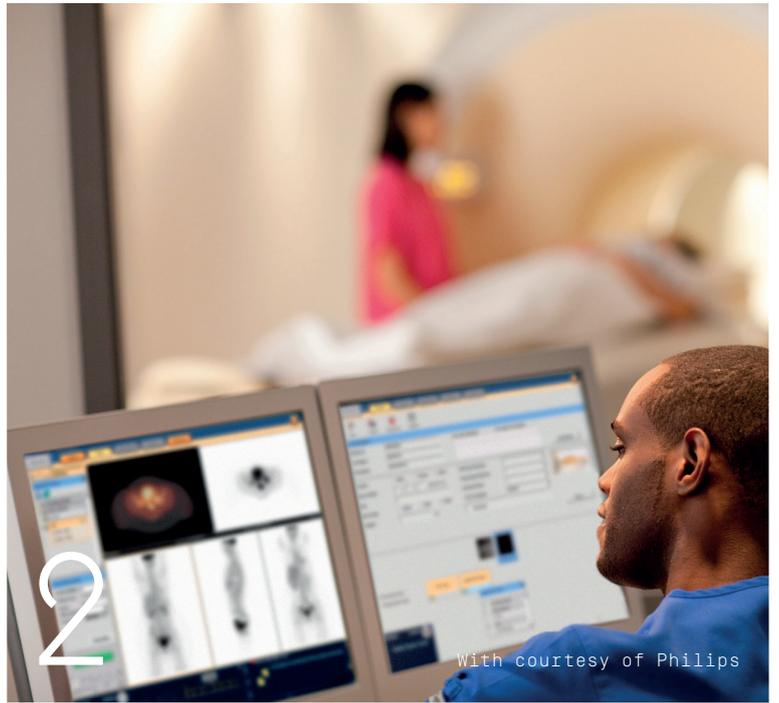
This social responsibility is reflected in all efforts to strike a fair balance between the company's stakeholders. We must consider their needs and interests in the way we operate and how we stand out from a business point of view. It is this consistency that helps us to fulfill the company's purpose, generating the profit necessary to make our business sustainable, and creating value for all our stakeholders.

During 2020, we have made further progress in our journey as a corporate citizen. In particular, we are working towards B-Corp certification, which highlights that IBA is working to build a more inclusive, sustainable economy in all its activities, whilst aiming for the highest levels of performance, transparency and reliability, both in social and environmental terms. This certification is not an end goal, however, it will allow us to identify our strengths and weaknesses and, in doing so, to set new objectives in the sphere of value creation in all aspects.

In the same token, we modified our company's articles of associations and our dividend policy to reinforce the commitment of our shareholders for the long term. We believe that this policy should allow IBA to remunerate its shareholders while protecting its resources and maintaining its ability to make strategic investments, in order to make the most of new opportunities. Starting in 2021, we intend to pay a stable, or slightly growing, dividend that acknowledges the fluctuations in our results and reflects the performance of our activities over the longer term.

On the back of our strong financial performance, the encouraging outlook for our four business units in the long term, and based on our vision of being a responsible corporate citizen, we look forward to the remainder of 2021 with confidence.

**Olivier Legrain**  
Chief Executive Officer



# PATIENT CARE, what makes our heart beat

By providing innovative and high-quality solutions, IBA aims to support patients throughout their journey. As such, our mission to protect, enhance and save lives takes them from diagnosis with radiopharmaceuticals to treatment by particle beam therapy, and includes sterilization of medical equipment for safer operations and quality control of equipment.

## 1 Sterilization

Industrial Solutions mainly focuses on developing solutions for applications such as medical device sterilization. Its products enable the medical industry to be significantly more environment-friendly by avoiding toxic chemicals and radioactive materials, and their associated pollutions and hazards.

## 2 Diagnosis

RadioPharma Solutions develops products that are used for producing isotopes and radiopharmaceuticals, vital for use in cancer diagnosis, as well as in the cardiology and neurology fields. We assist hospitals and radiopharmaceutical product distribution centers by helping them design, build and operate their radiopharmacy units.

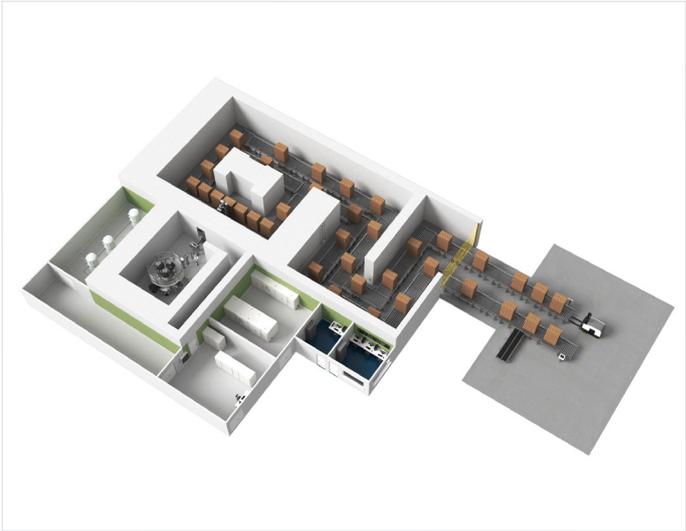
## 3 Treatment

IBA is the worldwide technology leader in the field of proton therapy. Proton Therapy is considered the most advanced form of radiotherapy in cancer treatments using ionizing rays. Thanks to the unique properties of protons, tumors can be targeted more accurately. In effect, protons deposit the majority of their energy in a controlled zone, limiting exposure of the surrounding healthy tissues to potentially harmful radiation.

## 4 Dosimetry

The Dosimetry business offers hospitals a comprehensive range of monitoring tools and software, for example, for the calibration and control of their radiotherapy and radiology equipment. This technology is crucial to ensuring the prescribed dose is delivered within a precisely defined area of the patient's body. Precision and control are vital to ensure patient safety and proper dose administration.

# 1 | INDUSTRIAL SOLUTIONS



Protect, enhance and save lives  
by contributing to more  
sustainable irradiation  
solutions for

# MEDICAL DEVICE STERILIZATION

## E-beam and x-ray accelerators are increasingly the preferred choice

The medical devices industry has a wide range of products that enable patient diagnosis and treatment. Within this large multi-segment industry, Disposal Medical Devices (DMD) include all single-use devices e.g. surgical gloves, dialysis tubes, diabetes patches, orthopedic implants, syringes, etc. And yet DMDs, produced in large volumes, can only be commercialized, and used if they are sterilized. Finding the right sterilization modality therefore is crucial.

Today, Disposal Medical Devices sterilization has year on year growth of 7% and relies for ~90% of its volume on two modalities: ethylene oxide (EtO) (~55%) and Gamma (~35%). For different reasons, these two modalities are under pressure. Not only do e-beam and x-ray mitigate the risks inherent in the use of either EtO or Gamma, but they also make it possible to address the challenges related to the increasing complexity of products and the optimization of the logistics and production process.

For these reasons, IBA is collaborating with industry players to promote and facilitate access to e-beam and x-ray technologies. It is just the beginning of the adventure and over the next few years IBA will continue to move sterilization forward for the benefit of patients.

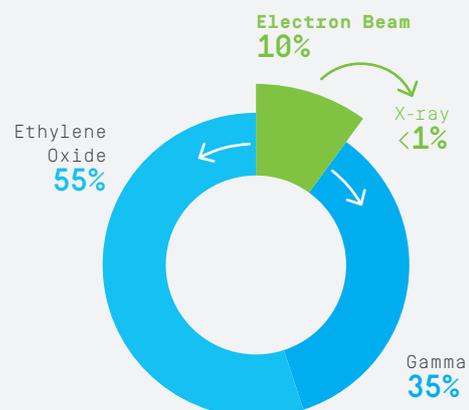
IBA Industrial is the world leader in electron accelerators for industrial applications and focuses on two markets: the sterilization of single-use medical devices and food irradiation.

In the sterilization market, IBA proposes innovative solutions based on the Rhodotron®. These solutions allow customers to sterilize medical devices either by e-beam or x-ray and enable the industry to break their dependency on chemical or radioactive-based sterilization processes.

Today, the sterilization of single-use medical devices is experiencing a strong growth and the interest in e-beam and x-ray sterilization is mainly motivated by the increasing risk based on EtO and Gamma.

➤ Always on the cutting edge of innovation with advanced research programs

Sterilization technology market shares



## Main sterilization technologies



### EtO

- Requires special expensive permeable packaging to allow the gas to enter the package;
- An aeration period is required to allow the gas to escape;
- Residues left on the product are potentially carcinogenic and mutagenic;
- EtO is explosive, toxic, harmful to the environment.



### GAMMA

- Requires cobalt-60, a radioisotope which continuously emits gamma-rays;
- Products are typically processed in totes, carriers, sometimes on pallets;
- Increasing issues related to the management of radioisotopes (supply, transport and disposal);
- High product penetration.



### E-BEAM

- Electricity based;
- Cheapest sterilization technology;
- Typically, high energy e-beam sterilizes products packaged in boxes;
- Low product penetration.



### X-RAY

- Electricity based;
- Offers much more penetration than e-beam and slightly better penetration than Gamma;
- Allows products to be treated directly on pallets with excellent dose uniformity.

## From innovation to reality

Innovation is in the DNA of IBA. As such, we continuously undertake new R&D challenges such as product improvements and new developments for different applications. Each innovation is carefully considered in that it either improves product quality and simplicity, or responds to new challenges, such as the reduction of electricity consumption for environmental and economic reasons. The lower power consumption of the Rhodotron® in pulsing mode, for instance, has now become a reality and is already operational at several sites.

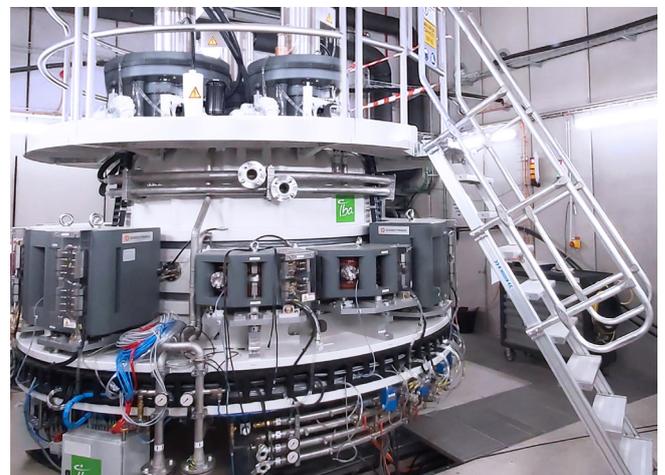
Due to the shutdown of several nuclear power plants, the supply of molybdenum-99, the most used radio-isotope for diagnosis in oncology or cardiology, was a major concern in the early 2010s. Several initiatives were thus launched around the world to find alternative ways to produce this critical isotope. One of them involves using high energy photons to create photonuclear reactions from molybdenum-100 metal disks.

It was in this context that the Rhodotron® TT300-HE project set up, after a discussion between IBA industrial and NorthStar, a US company which develops one of these alternatives and the chemistry modules needed to process molybdenum-99.

By producing Mo99 from the high-energy electrons of the Rhodotron®, our customer, NorthStar, will be able to avoid using uranium and provide an optimized way to deliver its decay product, technetium-99. The Rhodotron® -based solution will thus produce the most used radioisotope in a safer and cleaner way for the benefit of the nuclear medicine community and the planet.

This project is the result of combining IBA Industrial know-how and RadioPharma Solutions' network and expertise in medical applications, as both divisions are part of the IBA Group. The first machine was tested over a period of several months in one of our underground vaults and has now left the IBA factory to go to its final destination, in Wisconsin, USA.

The interest in the Rhodotron®-based solution has even grown recently. The emergence of theragnostics, - a new type of therapy combining therapy and diagnostic, - has created a high demand for new radio-isotopes such as copper-67 and actinium-225. Both isotopes can be produced with the Rhodotron® in a similar way to Mo99. Several projects are being studied.

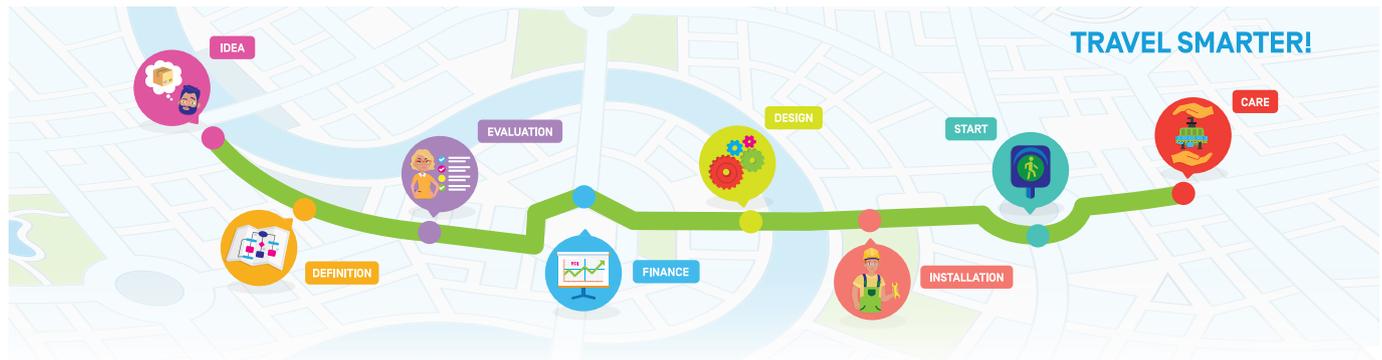


Rhodotron® TT300HE

## The customer at the heart of our solution

Because our customers are always our top priority, and because it is much more than just an accelerator producer, IBA is now a complete irradiation solution provider.

Our expertise allows us to be at our customers' side throughout their project, from the moment they have the idea, to the processing of their products and the maintenance and upgrades of the systems.



## INDUXcenter – Industrial User Experience

As we are convinced that training our teams and our customers is the key to success, we have set up a high-tech training center on IBA's premises, equipped with real equipment used in the industry. This center will be made operational in several stages and we will be able to offer a wide range of training courses. The first stage aims at providing internal training for the team and started in autumn 2020.

This center offers many possibilities such as hands-on training with experienced trainers, remote assistance, production simulation with Beagle, the ability to operate a Rhodotron®, distance and face-to-face training, research and development, etc.

## Food irradiation

In addition to sterilization, many other applications are moving from a development phase to an introduction or even a growth phase. In that regard phytosanitary and food irradiation represent interesting developments.

The needs in this field are becoming more tangible and today we are positioning ourselves as active members of the food irradiation community by developing our solution dedicated to food and educating the market through symposiums and webinars.

Food irradiation is a process in which food products are exposed to a controlled amount of radiant energy to kill harmful bacteria such as E. coli, Listeria and Salmonella. The process can also control insects and parasites, reduce spoilage and inhibit ripening and sprouting. Several beta projects are currently being commissioned, and IBA is well positioned to be competitive in this emerging market.

> 25th year of production with Rhodotron® at Studer Cables AG, Switzerland

|| The Rhodotron® is really a powerful machine. The construction technology is compact, the performance is very high and the access for maintenance is user-friendly. The scope of application extremely varied. This is a useful advantage, especially for a service center. We can process products with a very low dose and products that require an extremely high dose in a single pass.

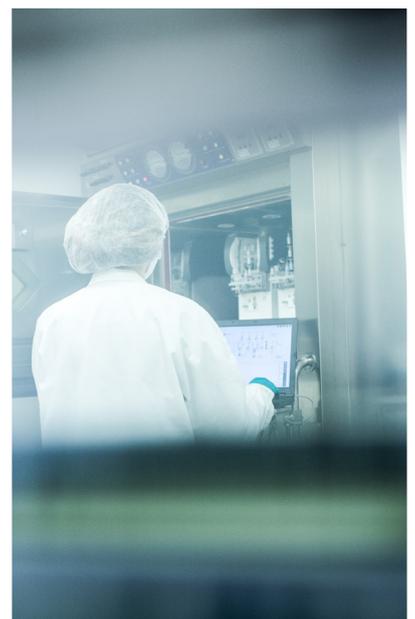
The Rhodotron® is an important unit in our service center, along with other accelerators in our plant.

Our 25-year-old control panel system is very easy to use and operate. An ingenious system with many different interlocks protects the machine. Many thanks from us to IBA for all the competent support and friendship over the last 25 years. ||

Martin Kohler

Production Manager BETA Networking – Studer Cables AG

# 2 | RADIOPHARMA SOLUTIONS



Protect, enhance and save lives  
by contributing to

# MORE ACCURATE DIAGNOSIS

Based on longstanding expertise, IBA RadioPharma Solutions supports hospitals and radiopharmaceutical distribution centers in two ways: with their in-house radioisotopes production; and by providing global solutions, from project design to the operation of their facility.

In addition to high-quality technology production equipment (cyclotron solutions, targetry systems, synthesizers, control systems...), IBA has developed in-depth experience in setting up cGMP radiopharmaceutical production centers.

## Oncology



World Health Organization<sup>1</sup> (WHO) figures from 2020 indicate that 10 million people die from cancer each year, and yet patients' lives and chances of survival are significantly improved if the cancer is detected early. In fact, a cancer diagnosed at an earlier stage is more likely to be treated successfully resulting in a higher likelihood of survival, reduction of morbidity and lower cost of care. Cancer Research UK<sup>2</sup> confirmed that the average cancer survival rate for the 8 most common cancers amongst patients with stage 1 cancer is 90%. However, the survival rate plummets to just 5% when the patient is diagnosed as having stage 4 cancer.

In light of these findings, and in keeping with our mission to protect, enhance and save lives, our RadioPharma Solutions division is committed to making cancer diagnosis more accessible around the world by working on several levels:

First, by reducing the size of the radiopharmacy where the radiopharmaceutical tracers for cancer diagnosis are produced. The IntegraLab®ONE solution is the most compact radiopharmacy solution on the market, facilitating installation and reducing the building cost.

## ➤ Early detection substantially increases the chances of survival

### 3 million undiagnosed cases of childhood cancer

A modeling study published in The Lancet Oncology<sup>1</sup> projected cancer incidence for 200 countries worldwide and suggested that the number of undiagnosed cases of childhood cancer could account for more than half of the total in Africa, south-central Asia and the islands of the Pacific. In North America and Europe, by contrast, only 3% of cases are undiagnosed. If there is no improvement, the authors of the study estimated that more than 3 million new cases of childhood cancer would be missed between 2015 and 2030.

1. Zachary J Ward, MPH, Jennifer M Yeh, PhD, Nickhill Bhakta, MD, A Lindsay Frazier, MD, Prof Rifat Atun, FRCP, Estimating the total incidence of global childhood cancer: a simulation-based analysis. 26 February 2019. [https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045\(18\)30909-4/fulltext](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(18)30909-4/fulltext)

1. <https://gco.iarc.fr/today/data/factsheets/cancers/39-All-cancers-fact-sheet.pdf>

1. <https://www.cancerresearchuk.org/about-cancer/cancer-symptoms/why-is-early-diagnosis-important>

Next, by increasing the cyclotron production capacity for the production of isotopes in the radioactive tracers. IBA's Cyclone® KIUBE cyclotron offers the highest production capacity enabling increased diagnostic capabilities.

Finally, RadioPharma Solutions offers adjustable production solutions. The Cyclone® KIUBE produces the widest range of radioisotopes, enabling it to produce fluorodeoxyglucose (FDG, the most commonly used radiopharmaceutical for cancer diagnosis), Gallium-68 for the diagnosis of neuroendocrine tumors, and Copper-64 for a more accurate diagnosis of prostate cancer.

|| **After 10 years of excellent experience with Cyclone® 18/9, we have now added the new Cyclone® KIUBE. Our experience is outstanding! The engineering details make operation unprecedentedly easy and reliable, and maintenance is quick and safe thereby lowering dose exposure. But best of all, with the custom energy option and the liquid target technology for radiometals production, the Cyclone® KIUBE has expanded our radioisotope production significantly.** ||

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**91.8%**

IBA USERS SATISFACTION  
Result of the Customer  
Satisfaction Survey  
Cyclotron 2019

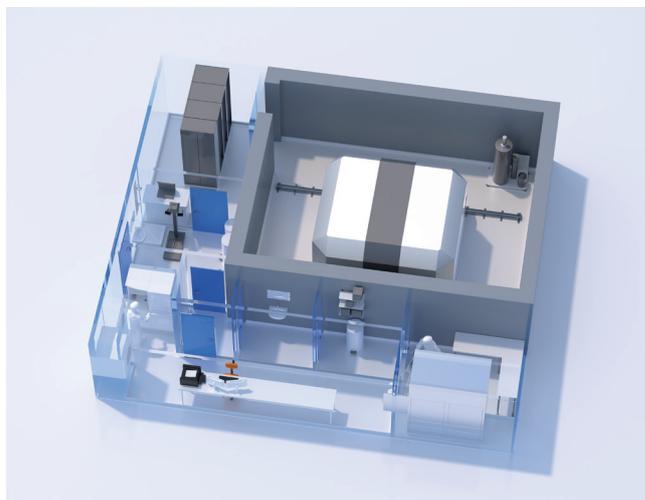
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**Francisco Alves**

Chief physicist & head of Cyclotron  
ICNAS-Univ. Coimbra - Portugal



Cyclone®KIUBE



Integralab®ONE

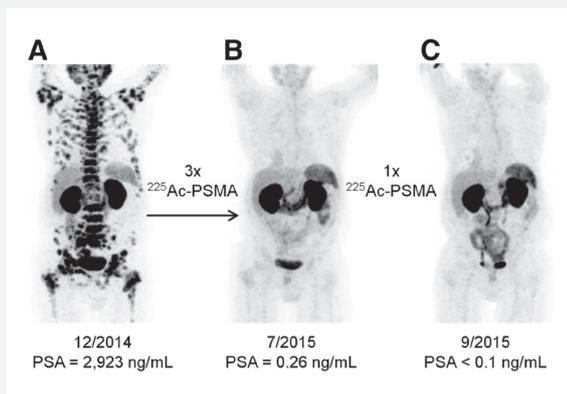
## A combination of diagnosis and therapy: theranostics

The past two decades have brought a sea change in the way many types of cancer are treated. Targeted therapies shut down specific proteins in cancer cells that help them grow, divide, and spread.

Researchers are developing a new class of drugs called theranostics, which deliver radiation therapy directly and specifically to cancer cells. The last several years have seen an explosion of research and clinical trials testing new radiopharmaceuticals.

Depending on the type of radioactive compound used, the resulting energy can penetrate the cell bound to the radiopharmaceutical as well as about 10 to 30 cells surrounding that cell. This increases the number of cancer cells that can be killed with a single radiopharmaceutical molecule.

Fig. 1.



Prostate-specific membrane antigen [PSMA] is a promising target in prostate cancer. Recently, a study published in the Journal of Nuclear Medicine<sup>1</sup> [JNM] conducted by JRC Karlsruhe and Heidelberg University Hospital showed a complete response to  $^{225}\text{Ac}$ -PSMA-617 therapy for patients with advanced-stage prostate cancer.

Targeted  $\alpha$ -therapy with  $^{225}\text{Ac}$ -PSMA-617, although still experimental, obviously has strong potential to significantly benefit advanced-stage prostate cancer patients.

$^{68}\text{Ga}$ -PSMA-11 PET/CT scans of patient A. Pretherapeutic tumor spread [A], restaging 2 months after third cycle of  $^{225}\text{Ac}$ -PSMA-617 [B], and restaging 2 months after one additional consolidation therapy [C].

1. <https://jnm.snmjournals.org/content/57/12/1941>

Because the PSMA PET scan has proven to be more effective in locating these tumors, it should become the new standard of care for men who have prostate cancer, for initial staging or localization of recurrence.

**Jeremie Calais**

Director, Clinical Research Program of the UCLA Nuclear Medicine and Theranostics Division



IBA supports the Oncidium Foundation

The Oncidium foundation focuses on raising awareness about radiotheranostics as an alternative to current cancer therapy and providing support to accelerate global access. Priorities include promoting awareness among patients and physicians, investing in research and scholarship, supporting and financing the development of new radiopharmaceuticals for therapy, as well as supporting clinical best practice and improving access to patients.

This theranostic principle has acquired greater importance in personalized medicine in recent years, particularly in oncology, where advanced tumors can potentially be treated effectively with low side effects

# Cardiology



**Cardiac PET imaging can be very useful for the management of many patients with suspected or known heart disease. Cardiac PET imaging is increasingly used as new centers are established and clinical guidelines incorporate cardiac PET imaging into the management algorithms.**

## Terrence D. Ruddy

MD, FRCPC, FACC, FAHA, FCCS Professor of Medicine and Radiology, University of Ottawa Director of Nuclear Cardiology, University of Ottawa Heart Institute

## > A preferred modality for cardiac imaging

In cardiology, a Positron Emission Tomography (PET) scan of the heart is a non-invasive nuclear imaging test using radioactive tracers. It is used to diagnose coronary artery disease and damage following a heart attack. PET scans are also used to define the best therapy treatment.

Major technological breakthroughs were achieved in the diagnosis of coronary heart disease through PET. IBA's 70MeV cyclotron enables the production of Rubidium-82 while the Cyclone® KIUBE produces <sup>13</sup>N-Ammonia — both are used for non-invasive myocardial perfusion tests.



With courtesy of Philips

# Neurology



**Imaging amyloid- $\beta$  and tau aggregates with PET are highly sensitive biomarkers for early and differential diagnosis of Alzheimer's disease before irreversible brain damage or cognitive decline has occurred. Molecular imaging may also offer new strategies to monitor disease progression and assess the effectiveness of next-generation, disease-modifying treatments.**

## Udunna Anazodo, PhD

PET/MRI Neuroimaging Scientist, Lawson Health Research Institute, Assistant Professor, Depts. of Medical Biophysics & Clinical Neurological Sciences, Western University, London, Ontario, Canada

According to the WHO<sup>1</sup>, around 50 million people worldwide suffer from dementia, with the majority diagnosed with Alzheimer's disease. The total annual global societal cost of dementia is estimated to be USD 818 million, equivalent to 1.1% of global gross domestic product.

The evaluation of brain functionality with PET molecular imaging is playing an increasingly important role in the positive diagnosis of neurodegenerative diseases, in particular dementias and Parkinsonian syndromes.

Amyloid PET imaging offers a diagnostic accuracy of 90% in the diagnosis of Alzheimer's disease.

Several tracers have received marketing approval for this indication, including 18F-florbetaben, which was developed and produced using IBA equipment.

**> A technology that is also used for the diagnosis of heart disease and neurodegenerative diseases**



Synthera®

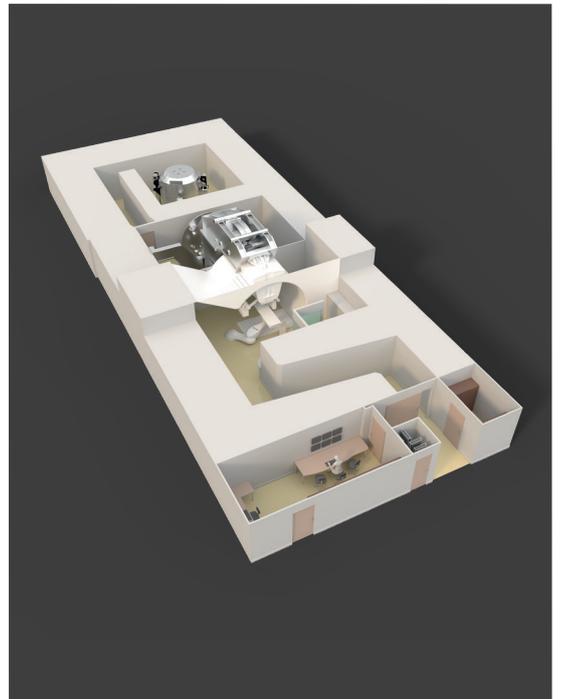
## Collaboration in the field of Neurology

IBA RadioPharma Solutions recently announced several long-term collaboration agreements in the field of Neurology with three top mental health hospitals and research centers: the Azrieli Centre for Neuro-Radiochemistry at CAMH (Centre for Addition and Mental Health), the Neuro's McConnell Brain Imaging Centre (BIC) and Invicro LLC.

These joint research and development activities focus on facilitating the use of new PET imaging agents in clinical applications, as well as on improving the role and function of imaging in translational drug discovery and development.

1. <https://www.who.int/news-room/fact-sheets/detail/dementia>

# 3 | PROTON THERAPY



Protect, enhance and save lives  
by contributing to

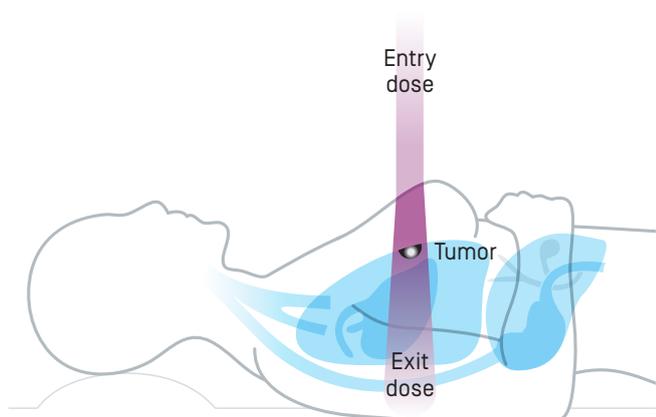
# MORE TARGETED TREATMENT

Proton therapy is considered the most advanced currently available and a valuable treatment modality for thousands of women, men and children who are diagnosed with cancer.

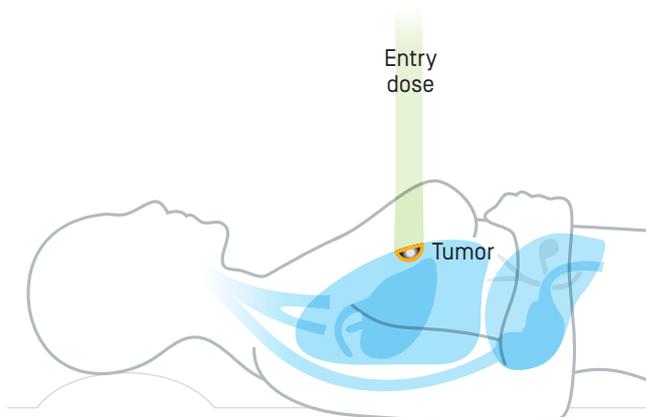
Proton therapy aims to destroy cancer cells by delivering proton beams to a target tumor. Protons release the maximum energy within the tumor target area while limiting the radiation to the surrounding healthy tissues. This is not the case for photon radiotherapy, the most common type of radiation currently used in cancer therapy.

Moreover, proton therapy has the potential to enable dose escalation to tumor target without increasing the risk of side effects or long-term complications. As a consequence, this may improve the outcome of the treatment and enhance patient's quality of life<sup>1</sup>.

Photon-based Radiotherapy



Proton Therapy



Deposits most of its energy before reaching the tumor

Deposits most of its energy inside the tumor

➤ Proton therapy has the potential to reduce radiation-induced side effects and enhance the quality of life of patients during and after the treatment<sup>1</sup>

## 223,000 PATIENTS

223,000 patients treated with PT worldwide at the end of 2019<sup>2</sup> [including 65,000 treated non-branded systems]

1. Makbule Tambas et al, Radiotherapy and Oncology <https://doi.org/10.1016/j.radonc.2020.07.056>  
2. source: PTCOG

## IBA is the world leader in proton therapy

IBA is the world leader in proton therapy with IBA customers having treated more than half of the proton therapy patients treated on commercial systems.

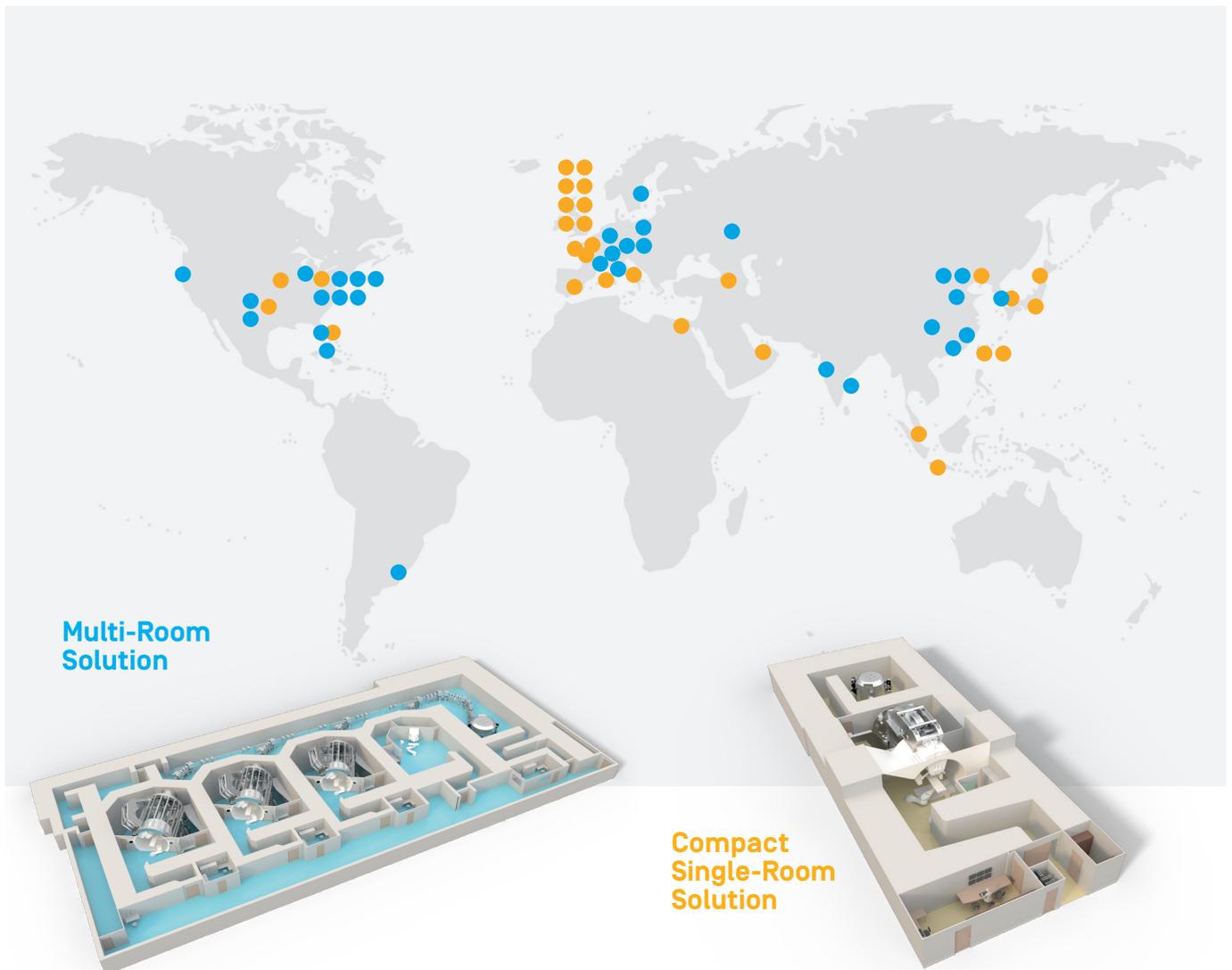
The company has been leading proton therapy development for the last 30 years and has built the largest user community worldwide. IBA offers the highest uptime rates and can install a system in less than 12 months.

➤ **54% of proton therapy patients<sup>2</sup> have been treated by IBA customers**

## IBA proton therapy centers at end 2020 – Largest network & experience

**31** Proteus<sup>®</sup>**PLUS** Centers

**29** Proteus<sup>®</sup>**ONE** Centers<sup>1</sup>



1. 3 centers not activated yet.  
2. most recent reported figures on PTCOG website

Proteus<sup>®</sup>ONE and Proteus<sup>®</sup>PLUS are brand names of Proteus 235

The largest proton therapy users community in the world: Ninth Annual Proteus® User Meeting – Online edition



IBA Proteus User meeting 2019 in Miami

280

PARTICIPANTS

22

COUNTRIES

58

INSTITUTIONS REPRESENTED

100,000 patients treated with IBA Proton Therapy technology

2020 has been a special year for IBA as more than 100,000 patients have now been treated with IBA proton therapy systems around the world. This is an important milestone that marks a step towards IBA's mission to make proton therapy available to all patients who could benefit from it, by providing healthcare professionals with the most advanced, high performance proton therapy solutions. This milestone is a proud moment for IBA's employees and clinical partners around the world as they remain united in their efforts to maximize the positive impact on cancer patients' lives.

Each proton center has developed techniques, technologies, lessons and experiences that are unique. For each center to replicate each one of these experiences would take decades of work. A forum such as a User Meeting allows us to share ideas, best practices, innovations and in fact, to collaborate, both on research and clinical applications.

Dr Minesh Mehta  
MCI

Identifying the patients who stand to benefit from proton therapy

The advances in cancer treatment are numerous and increasingly related to personalized medicine, i.e. finding the best combination of therapies for patients by cancer type, genetics and other parameters. IBA supports all efforts to develop initiatives that help to select patients upfront that would most benefit from proton therapy.

Professor H. Langendijk of the UMC Groningen [the Netherlands] developed a model-based method for selecting patients for proton therapy based on the risks of side effects<sup>3</sup>. This model-based approach ensures that each patient will be referred to the best treatment based on the expected results and the reduced risk of side effects, thereby optimizing the overall benefit for the patient and society.

The Dutch authorities have based their reimbursement of the cost of proton therapy on this predictive approach<sup>1</sup>. This modern reimbursement policy means new technology has been adopted faster while also helping to control costs. The accuracy of the model is also continually reassessed.

The model-based approach was reappraised twice, extending the coverage from head & neck to breast and lung cancers – these treatments will now be reimbursed by the National Health Insurance fund.

To correctly assess the extension to a new indication, the UMCG works together with MAASTRO Clinic, HollandPTC, other university medical centers, the NKI / Antonie van Leeuwenhoek and the Princess Máxima Center, to develop an infrastructure for research into the effectiveness and added value of proton therapy. The centers have a joint database that includes the clinical outcomes of all patients treated with proton therapy in the Netherlands.



3. Makbule Tambas et al, Radiotherapy and Oncology <https://doi.org/10.1016/j.radonc.2020.07.056>

# Pushing the boundaries of technology

Pushing the boundaries of technology and anticipating new developments in proton therapy is aligned with our spirit of innovation. The technological roadmap of IBA is focused on 3 areas: **Motion Management**, **Arc Therapy** and **FLASH Irradiation**. IBA constantly improve the proton therapy technology for the benefit of patients. We work diligently to advance proton therapy, in close collaboration with our customers and through R&D partnerships.

## Motion management



Motion management tools are needed to ensure accurate treatment delivery by managing the challenges caused by tumor motion. With motion management, a proton therapy clinic will be able to treat more patients with more confidence.

Due to the proximity to critical structures and surrounding healthy tissues, managing tumor motion with radiation therapy is critical. Breath hold, gating, or other motion-mitigation techniques or intrafractional tracking may be necessary when delivering proton therapy.

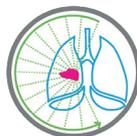
It is estimated that around 20% of patients who are indicated for radiation treatment can benefit from proton therapy<sup>1</sup>. In 25% of these eligible patients, tumor motion can occur during treatment delivery. This is the reason why IBA is dedicated to offering an integrated solution for motion management that meets the medical needs.



Proteus®ONE

The latest technological developments are available to new centers. We also ensure that our existing centers can be upgraded to these new technologies, through our upgrades and service offering.

## Proton arc therapy<sup>2</sup>



Proton arc therapy has the possibility to further improve the quality of the treatment. This technological evolution will offer patients numerous advantages:

- **Potentially enhanced dose conformity at the tumor level and a potential reduction of the total dose received by the patient<sup>3</sup>**
- **Simplified treatment planning and delivery without performing the multiple field adjustments**
- **Less time in the treatment room and a maximized patient throughput thanks to an optimized workflow<sup>4</sup>**

Thanks to our close collaboration with the Beaumont Proton Therapy Center (United States), we were able to deliver the first irradiation of a Proton Arc Therapy plan on a phantom.

|| **Spot-Scanning Proton Arc (SPArc) therapy has the potential to allow proton therapy practitioners to improve dose conformity at the tumor while further reducing dose to surrounding healthy tissue and increasing treatment effectiveness.** ||

**Craig Stevens**

MD, PhD, Chairman, Radiation Oncology, Beaumont Health.

1. Extrapolation with Globocan worldwide cancer incidence applied to the Dutch Model.

2. Arc Therapy is currently under research and development phase and will be available for sale when regulatory clearance is received.

3. Ding et al, International Journal of Radiation Oncology Biology Physics 2016 (<http://dx.doi.org/10.1016/j.ijrobp.2016.08.049>)

4. Data on file

**At the Texas Center for Proton Therapy, we have developed a comprehensive program to treat lung tumors thanks to the availability of the latest technology developments in proton therapy:**

- Cutting edge pencil beam scanning**
- Best in class imaging solutions including Cone Beam CT**
- Seamless integration of OIS, TPS and delivery machine.**

**Jared Sturgeon**

M.D., Ph.D., Radiation Oncology, Texas Center for Proton Therapy.

## FLASH irradiation<sup>5</sup>



FLASH is a key research area that may dramatically improve the clinical relevance of proton therapy for patients around the world. IBA is uniquely positioned to drive the development of FLASH irradiation, the next major innovation expected in radiation therapy.

FLASH therapy has the potential to dramatically change the landscape of radiotherapy and patient cancer care, making it more effective and more accessible than conventional radiotherapy.

What is FLASH irradiation?

- It is a fast and powerful treatment that delivers a high dose of radiation at an ultra-high dose rate**
- It's a novel technique that could potentially shorten treatment time from 6-8 weeks to less than a week<sup>6</sup>**
- It has the potential to significantly reduce side effects for patients<sup>7</sup>**

As the industry leader, IBA is collaborating with several leading proton therapy centers in their pioneering research work to better understand the mechanisms of FLASH irradiation. This early development work enables IBA today to deliver FLASH irradiation on both its current single and multi-room proton therapy platforms in a clinical environment in research mode as demonstrated in March 2019 at the University Medical Center of Groningen, The Netherlands, and in June 2019 at the Rutherford Cancer Center Thames Valley in Reading, England.

In addition, after publishing the first findings that demonstrate the effects of FLASH proton radiation therapy earlier this year, the University of Pennsylvania is conducting a clinical trial evaluating FLASH proton therapy in dogs with osteosarcoma<sup>8</sup>.



Proteus®PLUS

5. Flash Therapy is currently under research and development phase and will be available for sale when regulatory clearance is received.

6. Pierre Montay-Gruel et al, AACR Journal DOI: 10.1158/1078-0432.CCR-20-0894 (<https://clincancerres.aacrjournals.org/content/27/3/775>)

7. Favaudon V, Caplier L, Monceau V, Pouzoulet F, Sayarath M, Fouillade C, et al. Ultrahigh dose-rate FLASH irradiation increases the differential response between normal and tumor tissue in mice. Sci Transl Med 2014;6. <https://doi.org/10.1126/scitranslmed.3008973>. 245ra93-245ra93.

8. <https://penntoday.upenn.edu/news/entire-course-radiation-treatment-under-one-second>  
<https://penntoday.upenn.edu/news/treatment-flash>

## Making treatments more accessible

To achieve our mission, we must work hard to ensure that the maximum number of patients who can benefit clinically from proton therapy have access to it. This includes reducing the cost of the technology and the maintenance, so that more centers are opened, thereby facilitating greater access for patients. The Proteus<sup>®</sup>ONE, a compact single room solution, introduced to the market in 2016, was a real game changer in making the technology more accessible thanks to a fully compact proton therapy solution with all the technological assets and features of a multi-room system.

Not only is it more affordable, it is also easier to install, operate and finance. Proteus<sup>®</sup>ONE incorporates the most advanced technology, namely image-guided proton therapy. This combines



*"I am Karolien Coenen, a 30-year old woman with a brain tumor. I didn't know anything about radiation myself, so when they said that both the brain and the entire spine had to be irradiated, I was very happy that they started talking about proton therapy because the other organs are spared. After 20 sessions of radiation therapy, they wanted to do 10 more of the tumor. Because proton therapy is so specific, the rest of the brain was also spared. I think that the precision of proton therapy has also prevented many side effects, so that I did not suffer that much from side effects."*

*"In the beginning, I was impressed by the mask that you have to wear under the machine. The fact that I could choose my own music playlist and change the ambient lightning in the treatment room helped distract me. So I am very happy that I was given the opportunity to receive proton therapy. And I am also very grateful to the nurses and doctors at UZ Leuven hospital for making proton therapy so comfortable."*

**Karolien Coenen,**  
treated with proton therapy for a brain tumor at UZ Leuven hospital, Belgium

precision of the dose, using Pencil Beam Scanning (PBS) technology, with the three-dimensional precision of Cone Beam Computed Tomography (CBCT). The result is medical practitioners are able to more accurately localize the volumetric space to be treated. Thanks to Proteus<sup>®</sup>ONE, proton therapy is becoming more accessible to an increasing number of patients worldwide. By the end of 2020, 12 Proteus One centers are fully operational.

**|| We are very pleased to bring this cutting-edge technology to patients in Belgium. The integration of the compact Proteus<sup>®</sup>ONE system into our existing radiotherapy department enables us to better serve patients. Up to now, Belgian patients eligible for proton therapy had to go abroad to be treated, but now they can receive this treatment in their home country. We are excited about the potential of this technology, which destroys cancer cells while limiting the exposure of healthy tissues surrounding the tumor and reducing the risk of secondary cancers. We look forward to collaborating further with our Belgian network of hospitals and IBA so that all patients who could benefit from proton therapy can access it. ||**

**Prof. Dr. Wim Robberecht**  
Chief Executive Officer of UZ Leuven

## Developing our services

With the largest proton therapy installed base, IBA has built a strong and reliable service team to guarantee the availability of its proton therapy technology and consistently achieve system uptime. IBA provides support teams, parts, and processes to provide full system operation and maintenance services while guaranteeing the highest performance standards on our state-of-the-art technology.

In order to meet and maintain such high standards, IBA's maintenance and support is based on 3 pillars: 24/7 worldwide helpdesk support, experts and spare parts hubs in every region of the world, and the use of big data for predictive maintenance. This helps us reach and maintain our commitment to delivering total reliability of our systems, to ensure the continuity of patient treatments.

**For the comfort of our patients, it is essential to have a fast and hassle-free course of treatment.**

**Since we started clinical operations in 2018, we have been able to reduce patients' average time in the treatment room by about 20%.**

**In addition, thanks to the very good collaboration with our local IBA team and the support of the central Technical Support team, we have achieved an average system uptime of 99.33% over the past year. This has allowed us to treat all of our patients as originally scheduled making their experience in our center as smooth as possible.**

**Hans Langendijk, MD, PhD,**  
Chair of Radiation Therapy, University Medical Centre Groningen

## Staying at the cutting edge of proton therapy: Centre Antoine Lacassagne and Northwestern Medicine Chicago Proton Therapy Center

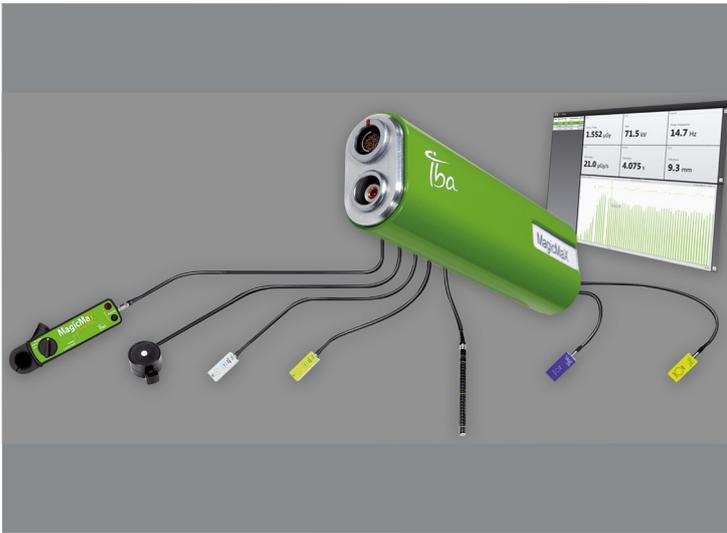


IBA is committed to the continuous development of upgrades for its proton therapy customers. Northwestern Medicine Proton Center in Chicago and the Centre Antoine Lacassagne in Nice -two well-renowned proton therapy centers with many years of operational experience- have contracted for the Cone-Beam CT (CBCT) upgrade to their current system, on Proteus®PLUS\* and Proteus®ONE\* respectively.

"At Northwestern University, we have a long successful experience of upgrades with IBA since we started treating patients in 2010. We successfully added Pencil Beam Scanning to our existing Proteus®PLUS center in 2018. Thanks to an excellent collaboration with the IBA team, we completed this process in record time and without any treatment interruption, maintaining uptime of 99% throughout the entire process. We are excited to add CBCT to continuously improve the performance of our system for the many years to come."

**Mark Pankuch, Director** of Medical Physics at Northwestern Medicine Proton Center

# 4 | DOSIMETRY



Discover all IBA Dosimetry Solutions. Visit the new Interactive Clinic

The image shows a hand holding a smartphone displaying a LinkedIn post from IBA Dosimetry. The post text reads: "Your VIRTUAL CLINIC - instantly ready for you to discover Independent & Integrated IQQualityAssurance from #IBADosimetry. Find your QA Interactivity...". Below the text is a QR code. The background of the image shows a blurred computer screen with a grid and data points.

Protect, enhance and save lives  
by enabling

# INDEPENDENT QUALITY ASSURANCE



Our priority is to ensure that patients receive a safe, accurate and reliable diagnosis and treatment.

In medical imaging and radiotherapy, radiation must be used with great caution and precision.

The prescribed dose [expressed in Gray [Gy]] must be rigorously respected, both in terms of intensity and location. The life of patients, their safety and the success of their treatment depend upon it.

In medical imaging, the objective is to reduce patient exposure to radiation, while maintaining good image quality.

In radiotherapy and proton therapy, the goal is to expose tumor masses to a high dose of cancer-cell destructive rays, with millimeter precision, while reducing the exposure to healthy tissue as much as possible.

In both cases, the accuracy of the equipment and the control of the dose are of paramount importance. To achieve this, dosimetry instruments are needed to calibrate and control the diagnostic and therapeutic equipment.

This is the responsibility of our Dosimetry business, which has developed a range of tools to calibrate radiation equipment and verify the dose of ionizing radiation that the patient absorbs during medical imaging and radiotherapy.

|| **The ability to automate our patient QA, and the flexibility to use irradiation logfiles, real dose measurements, and Monte Carlo secondary recalculations in one system will bring us to a new level in PT treatment plan QA efficiency and accuracy.** ||

**Zuofeng Li, DSc**

Physics Director, University of Florida Health Proton Therapy Institute  
Jacksonville, FL, USA



### Safe medical imaging: quality assurance for a better diagnosis

Our quality assurance solutions for medical imaging systems such as X-ray or CT (Computed Tomography) contribute to improving the image quality. This ensures a more accurate diagnosis and therapy, while also controlling the radiation dose released by the machine. Our dosimetry solutions offer a complete and instant analysis of the released dose to complete the required test efficiency and with highest precision.

### Safe radiotherapy: quality assurance of equipment for the treatment of patients

It is vital that a series of quality control checks are made on the calibration of the equipment to ensure patient safety. These controls are designed to certify that the radiotherapy and proton therapy equipment will deliver the required dose in the exact location designated by the medical team. It also increases physician peace of mind about their patients' safety.

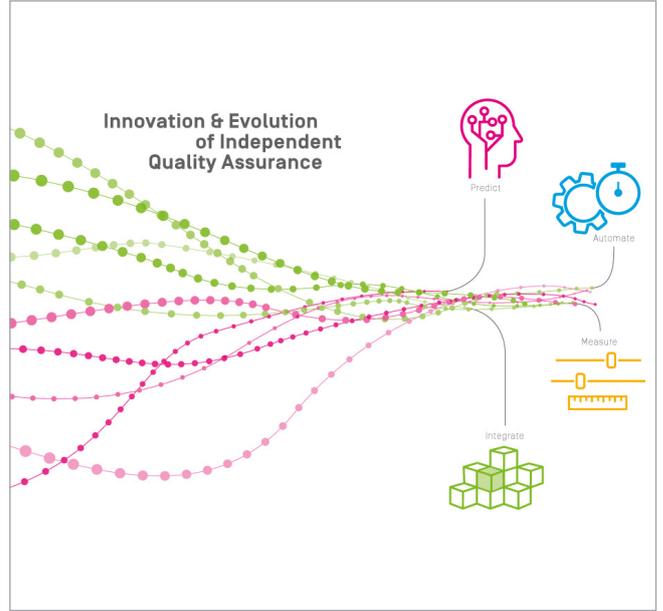




### Patient safety driven by advanced customer training and support

For IBA, service and support is about how we care for our customers and their performance.

With over 45 years of dosimetry experience, and with our training offerings, we help our customers to run their equipment efficiently and safely thereby ensuring patient safety in medical imaging and radiotherapy. Our qualified dosimetry service teams - uniquely distributed over 3 continents - ensure 24/7 instant access and quality support for our customers.



### Leading innovations in Quality Assurance

Through cutting-edge innovations, IBA Dosimetry has a long history of advancing Quality Assurance (in radiation therapy, proton therapy and medical imaging). As we continue on this path, we are convinced that three drivers are essential to further innovate QA:

- Independence of QA Solutions
- Convergence of Machine QA and Patient QA
- Smart synthesis of the four QA pillars: Measurement, Integration, Automation, and Prediction



# COMMITTED



Protect, enhance and save lives  
by being

# A COMMITTED COMPANY

At the heart of its entrepreneurial ethos, IBA looks to consider its impact on stakeholders. For just as we are committed to our customers, patients, and shareholders, we realize that a commitment to our people, to society and to the planet is key to maintaining the quality of life of present and future generations. Nothing less than our societal and environmental legitimacy as a company is at stake.

## Committed to our employees

As Yves Jongen, IBA's founder, always reminds us, our people are IBA's most valuable asset. After all, would our mission statement to protect, enhance and save lives still make sense if it isn't put into practice for and by our employees?

We want, as a responsible employer, to provide these men and women with safe and efficient working conditions and a friendly environment conducive to their professional and personal development.

|| I am convinced that in future, talented individuals wishing to work for a company will list sustainable development as an essential criterion in their choice. ||

**Olivier Legrain**  
Chief Executive Officer



> Protecting lives is an everyday commitment at IBA and it first applies to ourselves and the people we are working with and for.



## At Our Best

Peak performance is achieved when we are at our best. A complete set of new tools and practices was developed in 2020, covering the areas of Performance Management (Working Collaboratively), Engagement Monitoring (Constant Dialogue), Learning (Develop knowledge and skills) and Compensation (Sharing value created).



### Working Collaboratively



We focus our energy on collective objectives and have discontinued annual individual goals. The Objective and Key Results (OKR) approach continues to drive all departments. Teams define priorities together and adapt them quickly. This makes us more agile and real-time capable.



The OKR and other agile tracking methodologies allow teams to establish clear priorities on what drives results. That approach enabled IBA to deal with the Covid-19 crisis in an agile way, with teams regularly assessing if things move in the right direction or need to be adapted.



Check-in meetings with managers allows meaningful feedback and validation of priorities and progress. We moved to continuous performance management and, therefore, phased out annual individual goals which are less powerful than team OKRs. And we will not perform annual year-end evaluations and we will remove performance score for 2021.

### Constant Dialogue



Thanks to constant dialogue and monitoring, we are able to observe the health of our organization at all levels. Managers understand what is in the way of performance and take direct action.



We collect frequent feedback from all employees through pulse surveys (Glint). This provides us with a real-time measure of the engagement, both at the level of the teams as well as the organization as a whole.



Managers gain a real-time insight into engagement levels and organizational health and receive guidance to take effective actions (combined with LinkedIn Learning).

Managers are in the driving seat to steer their teams with the help of specific and regular indicators.



## Continuous Learning, developing knowledge and skills



We make continuous learning a top priority for our teams. We invest in training for managers to enable them to become real-time coaches.



We want to make IBA a company where personal development and training are easily accessible, when employees need it. All employees now have open access to the LinkedIn Learning platform.



We will continue to deploy people management training modules to enable managers to become team coaches, and training paths for specific functions.

|| **One of the ideas behind this change is that before we evaluated people and granted them a bonus on the basis of objectives they achieved. Now, we have changed the mindset and we give them the bonus because we trust they are engaged and will fulfill the tasks, projects, and objectives that are needed on a daily basis, and these objectives might be reviewed more often.** ||

**Soumya Chandramouli**  
Chief Financial Officer



## Creating value and sharing it together



A new compensation system is in place, in line with this approach: the base salary rewards competence, while – other compensation elements reward achievements, aligning the interests of our people and of our shareholders.



Base salary rewards competence and achievement of personal results, with more agile rewards spotlighting those who grow quickly or go the extra mile. The value we create together at company level will be shared with everyone. IBA's ambition is to reward shareholders and employees on the same basis.



Example of online information sessions held within the different departments (22/02/2020 with Enabling employees):



## Diversity, equity, inclusion

Diversity is fundamental to our culture. We value the uniqueness of individuals and the various perspectives and talents they bring to IBA. We learn from and respect the cultures in which we work, promote diversity within our workforce, and have an inclusive environment that helps each and every one of us to fully contribute to IBA's success.

IBA is committed to providing equal employment and training opportunities, and to treating applicants and employees without discrimination. We do not discriminate based on race, color, age, sex, sexual orientation, national origin, religion, language, or disabilities. Our policy is that no one at IBA should ever be subject to any kind of discrimination, and we have designated individuals responsible for diversity, equity and inclusion.

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**25%** women

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**56** nationalities within IBA Group

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## Health, Wellness and Safety

At IBA, respect for universal human rights is fundamental.

IBA is committed to providing a positive, productive, and safe work environment with freedom of association, good ergonomics and great employee facilities. We promote the prevention of involuntary labor and human trafficking, the prevention of underage labor and burnout prevention, in a work environment that is free from violence, threats, harassment, intimidation, mental or physical coercion, and other disruptive behaviour.

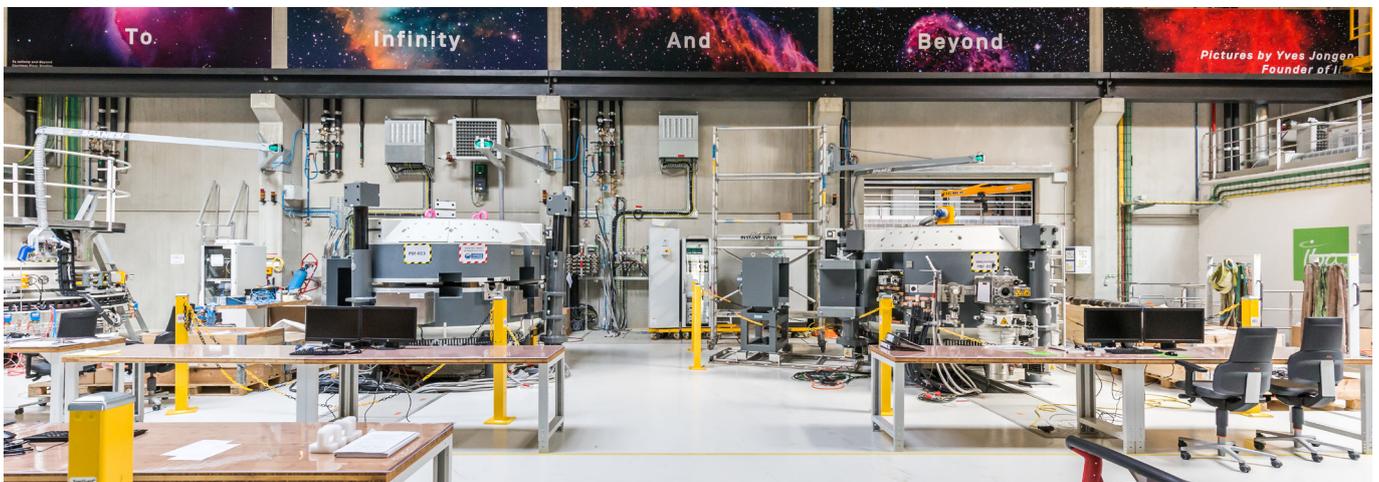
We do not permit any form of violence, whether physical, verbal, or mental. We consider all threats of violence as serious.

IBA is committed to implementing best practices in the field of Occupational Health and Safety to keep our promise of No Harm to our people.

To achieve this result, we:

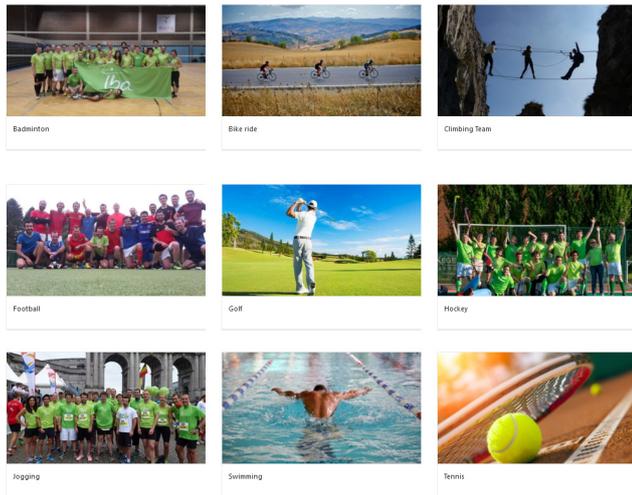
- ensure IBA operations comply with applicable occupational health and safety regulations, and when appropriate, implement additional controls to meet company requirements;
- empower all employees to stop any activity which they judge hazardous and goes against our 'No Harm' principle.

Through all steps of development, implementation, and operation of IBA products and services, we ensure the highest standards of safety for our employees.



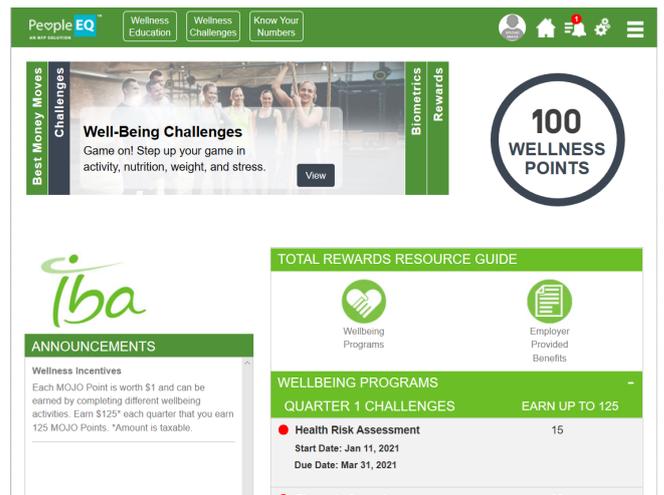
The Beam Factory, production area.

At IBA, we recognize that time out of the office can, at times, be beneficial. We partner with local associations to offer our employees refreshing team building or individual activities during lunchtime. Social clubs are promoted by IBA and organized by voluntary employees. Climbing, golf, biking, running, hockey, photography and indoor fitness are a few of the employee clubs organized at lunchtime or after hours.



In Germany, we organize health weeks to promote health and wellbeing activities and practices. We sponsor sport activities and events (cycling, running, etc.). And employees have access to a financially attractive bike lease program in an effort to promote sport, low impact commuting and wellbeing.

In the US, we launched in 2020 our IBA Wellness Portal, which is a web-based wellness platform that provides IBA employees fun and engaging challenges (running, walking, etc.), online training, exercise and nutrition tracking, health coaching tools, social features, wellness blog articles, company announcements, Human Resource documents and more.



All IBA employees have, since 2020, access to a global high-quality Employee Assistance Program, regardless of where they live and work, for assistance in the local language in more than 70 countries.

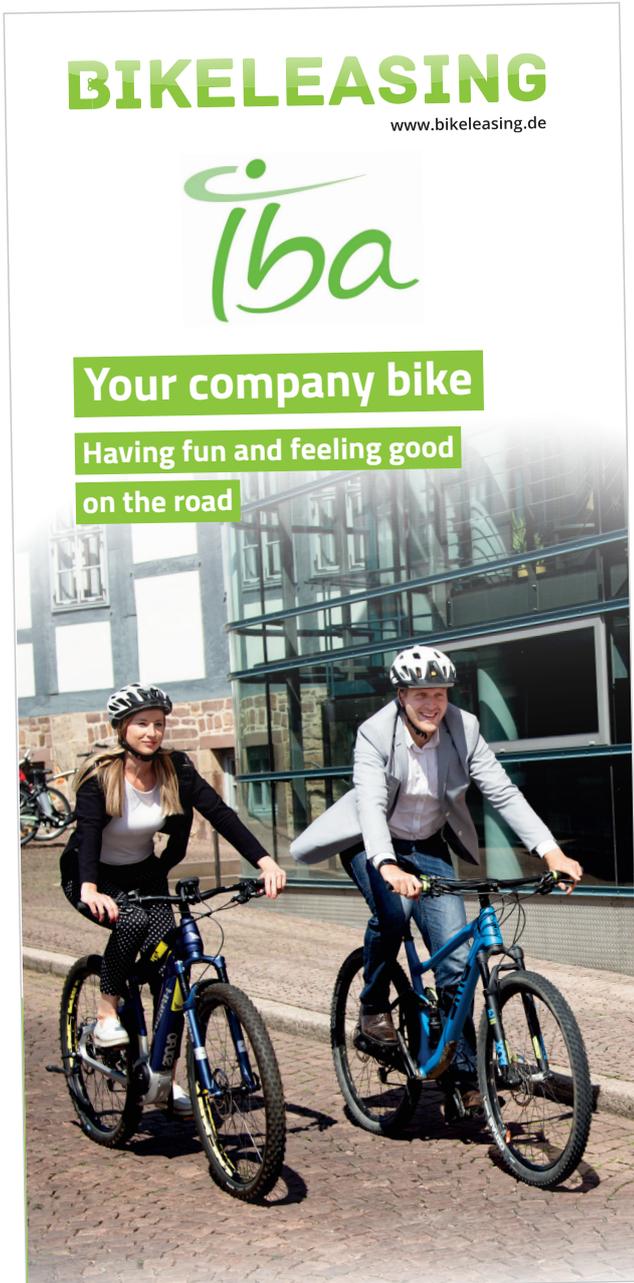
Through this program, practical information and counselling on a variety of topics is available to the employees and their relatives, and counselling is offered at the most convenient time and location.

## Mobility

IBA encourages efficient, low-impact and healthy mobility. We propose attractive leasing conditions to our employees for low-impact mobility vehicles, such as electric bicycles and scooters. This is an efficient way to combine daily commuting and parking lot optimization, healthy exercise, fitness, and carbon footprint reduction.

More than 200 bicycles were under lease in 2020 in Belgium and Germany, representing a 20% uptake by IBA staff. IBA is regularly awarded at the Belgian "Active Bike" challenge, ranking among the most proactive Belgian companies in the matter.

IBA also promotes electric cars through attractive leasing conditions, free charging and adapted infrastructures: specific parking lots, high-power charging stations.



Bike leasing program  
in Germany

“ Our stakeholder approach pushes us to cover all aspects of our activities, including societal, environmental, and to involve as many people as possible so as to increase the positive impact we can have on society. ”

**Olivier Legrain**  
Chief Executive Officer

“ IBA is not a perfect company - we have our strengths and our weaknesses. Knowing that we are also working on our weaknesses gives meaning to our action. ”

**Thomas Canon**  
IBA Sustainability Program Director

**20%**

staff in Belgium and  
Germany have leased a  
bicycle

# Committed to our society

We are convinced that the purpose of an economic player must be to promote social progress and collective well-being. The model we promote — both externally and internally — goes beyond regulatory compliance: it encourages an ethical vision of practices and behavior, respect for differences and a useful contribution to the communities around us.

## Education

While we invest heavily in training our employees, we are also committed to educating young people. We believe that passing our knowledge on to younger generations is vital.

Over the long term, we will continue to support partnerships with NGOs, foundations and universities which will help improve the educational environment. In 2020, IBA continued its collaboration with Foundation for Future Generations, as a partner of the whole program, and its partnership with the University of Louvain by supporting the “Civil Biomedical Engineer” diploma program, enabling the Louvain School of Engineering (École Polytechnique de Louvain - EPL) to expand its range of courses.

IBA employees regularly share their experience and knowledge with universities and high schools. We have an active policy of integrating young people into professional life, by offering internships, end of study work, and student jobs. IBA mainly hires local employees in the countries where it has operations, creating jobs and providing wages to residents in the local area, and thus boosting the local economy. This is our way of making a positive contribution to the future of society at large, and attracting new talents to IBA.



Olivier Legrain CEO IBA and Benoît Derenne, CEO Foundation for Future Generations



Students visiting IBA facilities

## Engaging with our supply chain

We believe that a strong and responsible supply chain benefits our community.

IBA has approximately 100 main suppliers worldwide to support its design and manufacturing of products. The majority of IBA suppliers are located in Europe. IBA suppliers have been selected for their ability to best comply with requirements as stipulated by ISO 13485:2016. The selection and qualification process of a supplier considers the criticality of the supplied goods and services. IBA promotes technical collaboration and innovation with its partners in order to reduce risks, costs and improve the quality of its products and services. Strategic partnerships are developed whenever beneficial.

The nature of our activities and the origin of products entering our production chain are not considered to be risky in terms of respect for human rights. We however recognize that our knowledge of our entire value chain is not optimal. We have a good view of our first level of supply, including rigorous vendor selection and validation processes, however, with regard to suppliers and subcontractors beyond the first level, we must acknowledge our ignorance.

In this context, IBA released in 2019 its first 'Conflict Minerals' report, and Code of Conduct for Suppliers, which outlines the minimum standards expected from its major suppliers. The Code of Conduct for Suppliers builds on, and is in alignment with, the IBA Code of Business Conduct, which all IBA employees must adhere to. Within their sphere of influence, IBA also expects suppliers to communicate the principles and to apply these minimum standards to their subcontractors and suppliers.

IBA's Code of Conduct for Suppliers follows and supports the United Nations Sustainable Development Goals (SDGs) by aligning the principles of this Code of Conduct with relevant SDGs. IBA is committed to achieving this journey together with its suppliers as equal partners.



## Supporting patient organizations

Around the world, IBA's men and women, all experts in their field, are passionate and enthusiastic about what they do. They collectively undertake to play an active role in putting our mission statement into practice, "Protect, Enhance and Save Lives".

They help each patient to have access to the most beneficial treatment for their cancer, and they bring the more efficient and more environmentally friendly industrial technologies to the service of our customers.

Beyond providing better solutions to its customers, IBA also supports the patients and their families, in partnership with those working in the field and by encouraging voluntary citizen actions by its employees: sponsorship, facilities sharing, donations from employees' initiatives such as "Relay for Life", "FunRun", "Rock Against Cancer" or "Golf Against Cancer" events.

Associations such as "Compass to Care Childhood Cancer Foundation" in the US, Muni Seva Ashram in India, "La vie-là" in Belgium, which supports and accompanies people with cancer in order to offer them a better quality of life, have benefited from the on-going support of IBA and its employees for many years.



Rock Against Cancer 2021



IBA Golf against Cancer 2021

# Committed to our planet

IBA is conscious of the current major environmental crisis. Amongst the many challenges to address, we are today specifically focusing on two: our GHG emissions and waste. Our aim is to broaden this focus regularly to include other environmental impacts, stricter targets and ultimately restorative actions.

## NET-ZERO 2030 CO<sub>2</sub>eq

### Climate

We have an impact on global Greenhouse Gas (GHG) emissions.

- A direct impact through our operations: our offices and manufacturing infrastructures, and our employees' travels.
- An indirect impact through our installed product base: production at our suppliers' facilities, transport within the value chain, and, once installed at the customer's location, there is electricity consumption, servicing, and decommissioning.

**Inspired by the EU Climate targets we have set ourselves targets for bringing our operations net GHG emissions to zero by 2030.**

This will be achieved by taking actions on our infrastructures and mobility impacts to reduce them by at least 50% below 2018 levels by 2030, and offsetting for the remaining part.

Green energy contracts are in place, and IBA Headquarter facility has been designed to save energy and be self-sufficient in energy production.

We have started to assess the impact of our digital infrastructures and software usage, to better understand the carbon footprint of this ever-increasing part of modern organizations.

We work on our mobility policies to address both the efficiency and the carbon footprint of our employees' mobility, via incentives for low-impact, public and electric mobility, home working practices and a more efficient servicing organization.

|| **IBA's support to pay farmers for storing carbon really was a necessary condition for success of this project.** ||

**Chuck de Liedekerke**  
CEO Soil Capital LTD



Cécile Tellier, Walloon Minister of the Environment

Through a pilot project led by 'Soil Capital', IBA has also decided to purchase carbon certificates from Walloon farmers to offset part of its greenhouse gas emissions. This initiative contributes to the creation of a market for said certificates in Wallonia, by supporting transitional agricultural practices that reduce net greenhouse gas emissions at farm level. Such practices increase biodiversity, supports the local economy and sustainable food systems while creating a framework allowing other private, public and voluntary actors, to join and improve this pilot project.

To address its installed base impact, IBA also continuously reduces the CO<sub>2</sub> footprint of its installed based, following two paths:

- Increasing the energy efficiency of its product portfolio. The Proteus One proton therapy system offers significantly improved energy performance thanks to the use of superconductivity.
- Improving the geographic distribution of centers, making them more accessible. It reduces patient travel (hence CO<sub>2</sub> emissions) and accommodation impact.

Our RadioPharma Solutions division has now completed the technological transition to the Cyclone Kiube, with significantly greater compactness (less resources used) and energy efficiency.

Our Industrial Solutions division is also continuing to transition with the arrival of the Rhodotron® new generation, the energy performance of which has greatly improved. If requested to do so, IBA is ready to substitute the Dynamitron insulating gas SF<sub>6</sub>, which still represents a significant part of the GHG emissions from our company's installed base.

We are gradually assessing our supply chain impact, with the introduction of a Supplier Code of Conduct addressing climate impact among other topics.

We monitor and publish yearly our GHG emissions related to our installed base and to our organization (Belgian area): offices and production means, and employee mobility (fleet of company vehicles and professional air travel /public transport).

With a view to increasing transparency and benchmarking our practices, we disclose our environmental data every year through the Carbon Disclosure Project (CDP). IBA received a C score in 2019.



IBA purchases carbon certificates from agriculture in transition

## Waste

As a company, we have an impact on waste production.

- A direct impact through our operations: offices and manufacturing processes.
- An indirect impact through our installed product base: production processes at our suppliers' facilities, transport within the value chain, and, once installed at the customer location, servicing and decommissioning.

**We have set ourselves targets for reducing our unsorted waste intensity by a factor of 3 below 2018 levels by 2025 for our Belgian operations.**

This will be achieved by making changes at all levels to the impact of our logistics, manufacturing and offices. Product packaging, for instance, is being continually improved to reduce its overall environmental impact.

Our product management takes into consideration the principles of circularity – avoid, reduce, reuse, recycle. All products from the four business lines, namely Proton Therapy Solutions, RadioPharma Solutions, Dosimetry Solutions, and Industrial Solutions are designed to facilitate maintenance and servicing. A circular process to return defective or supernumerary parts deployed to our customers is now in place, for repair, resale or recycling.

IBA has also developed “low activation” concrete, which significantly reduces the amount of waste to be reprocessed, and therefore the costs and the environmental impact, during the future dismantling of the casemates hosting its accelerators. This concrete was also used during the construction of our new headquarters.

IBA is also affiliated with Recupel and declares the equipment placed on the market subject to the obligations of WEEE legislation.

To monitor the outcome of our actions, we monitor and publish our waste emissions each year, related to our Belgian operations.

# Materiality and reporting

To clarify its priority topics, IBA has built a materiality matrix based on a dialogue with its stakeholders and the reference framework recommended by the Global Reporting Initiative (GRI). It is in this broad area that we are concentrating our thoughts. The hierarchy of our priorities is obtained by crossing the concerns of the company with the positions of its stakeholders.

This matrix takes into account data from the ongoing dialogue that IBA has established with all its stakeholders,

through formal and informal exchanges and publications on environmental issues.

IBA intends to continuously refine its matrix as needed to keep it aligned with the company and stakeholder situation.

For more data about our yearly results, refer to the GRI Index of our annual report

## GRI 102-46 Materiality matrix





**Contact IBA**

Corporate Communication

Tel.: +32 10 47 58 90

E-mail: [investorrelations@iba-group.com](mailto:investorrelations@iba-group.com)

**Ion Beam Applications, SA**

Chemin du Cyclotron, 3

1348 Louvain-la-Neuve, Belgium

Tel.: +32 10 47 58 11 - Fax: +32 10 47 58 10

RPM Nivelles - TVA: BE 428.750.985

E-mail: [info-worldwide@iba-group.com](mailto:info-worldwide@iba-group.com)

Website: [www.iba-worldwide.com](http://www.iba-worldwide.com)

E.R.: IBA SA, chemin du Cyclotron, 3

1348 Louvain-la-Neuve, Belgique.



Design & Production: [www.thecrew.be](http://www.thecrew.be)

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