IBA Dosimetry to Showcase DOLPHIN Advancements Enabling Verification of the Complete RT Treatment Chain

High-dose cases can now be verified quickly and efficiently with Patient QA and Machine QA constancy checks using DOLPHIN® transmission detector measurements

Barcelona, Spain, April 19, 2018 – IBA (Ion Beam Applications S.A.), the world's leading provider of proton therapy solutions and radiation therapy integrated quality assurance (QA) for the treatment of cancer, today announced it will be demonstrating the latest version of its DOLPHIN solution for advanced patient quality assurance, April 20-23 in Barcelona, Spain at ESTRO 37, booth 1500.

Modern radiation therapy has become highly specialized with increasing complexity in treatment planning and LINAC delivery. This in turn requires new and comprehensive QA solutions that address the growing number of possible sources and impact of dose deviations, in particular for high-dose cases. To verify the accuracy of patient treatments IBA Dosimetry further enhanced the DOLPHIN solution with its COMPASS 3D verification software. As a result, DOLPHIN enables the radiation therapy team to verify the complete treatment chain and thus provides the confidence and safety needed.

DOLPHIN includes the following five checks for verification of the complete treatment chain:

- **Verification of the real patient plan.** DOLPHIN enables detection of errors in data transfer or QA plan generation - no QA surrogate plan is required.
- **Real measurement of the plan delivery**. The DOLPHIN advanced high-resolution ionization chamber detector array enables detection of errors in treatment delivery such as beam line defects, MLC deviations, dose rate changes, flatness/symmetry drifts, gantry positioning errors, etc.
- **Secondary dose calculation** with TPS-class algorithm**.** Secondary verification of the treatment planning system (TPS) dose calculation enables detection of errors in the TPS algorithm, TPS performance, or in the TPS export.
- **Machine constancy checks with myQA.** DOLPHIN's detector array is optimized to find deviations and trends in LINAC constancy for profiles, output and wedge factors.
- **Independent verification of the treatment planning system**. The independent beam model of Dolphin's verification software enables detection of errors in the TPS configuration and performance, its beam model, commissioning, or the LINAC calibration.

With this comprehensive range of verification checkpoints, DOLPHIN integrates patient QA and machine QA in one unique holistic solution.

Today, DOLPHIN and IBA Dosimetry's 3D patient anatomy based patient QA software COMPASS is in clinical use at leading healthcare providers around the world:

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"In our clinical routine, Dolphin provides us the possibility to validate our patient plans fast and efficiently based on Dose-Volume-Histograms (DVH). This is very beneficial for us, in particular for our high-dose cases," say **Dr. Andreas Block, Head of Medical Physics, Klinikum Dortmund, and Radiotherapy Dr. Rohn and Colleagues at Klinikum Dortmund, Germany.** They continue, *"the evaluation based on the 3D dose, DVH metrics, and clinical goals enables us to communicate the Patient QA results to the oncologist in the same language. The Dolphin detector itself, with the fast and reproducible setup and the full 40-by-40 centimeter field size support is the ideal solution for our patient QA from very small to very large cases".*

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About the DOLPHIN® System

Dolphin is a complete solution to detect and verify possible treatment dose discrepancies, thus contributing to a more efficient and safer radiation therapy. This improvement is based on DOLPHIN's high treatment dose measurement resolution. Highly complex IMRT and rotational treatment plans are delivered and measured with the DOLPHIN transmission detector prior to each patient treatment. A sophisticated TPS-Class software allows verification of dose deviations in 3D patient anatomy between the plan and actual delivered dose measured with DOLPHIN. The DOLPHIN solution including the detector and the software is "online ready" and currently used for pre-treatment QA. The system will be capable of measuring the actual patient treatment dose in online mode, fraction by fraction. The online capability is currently pending release.

About IBA Dosimetry

IBA Dosimetry GmbH innovates radiation therapy, proton therapy and diagnostic imaging through integrated Quality Assurance solutions that are efficient, intuitive and that provide peace of mind for healthcare professionals and patients around the world. The myQA® Global QA Platform is the backbone for Integrated Quality Assurance solutions. IBA Dosimetry has more than 220 international employees in four offices in Germany, France, China and USA.
Find more information at www.iba-dosimetry.com

About IBA

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, considered to be 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 solutions. 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 1,500 people worldwide, IBA has installed systems across the world.
IBA is listed on the pan-European stock exchange NYSE EURONEXT (IBA: Reuters IBAB.BR and Bloomberg IBAB.BB). More information can be found at www.iba-worldwide.com

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