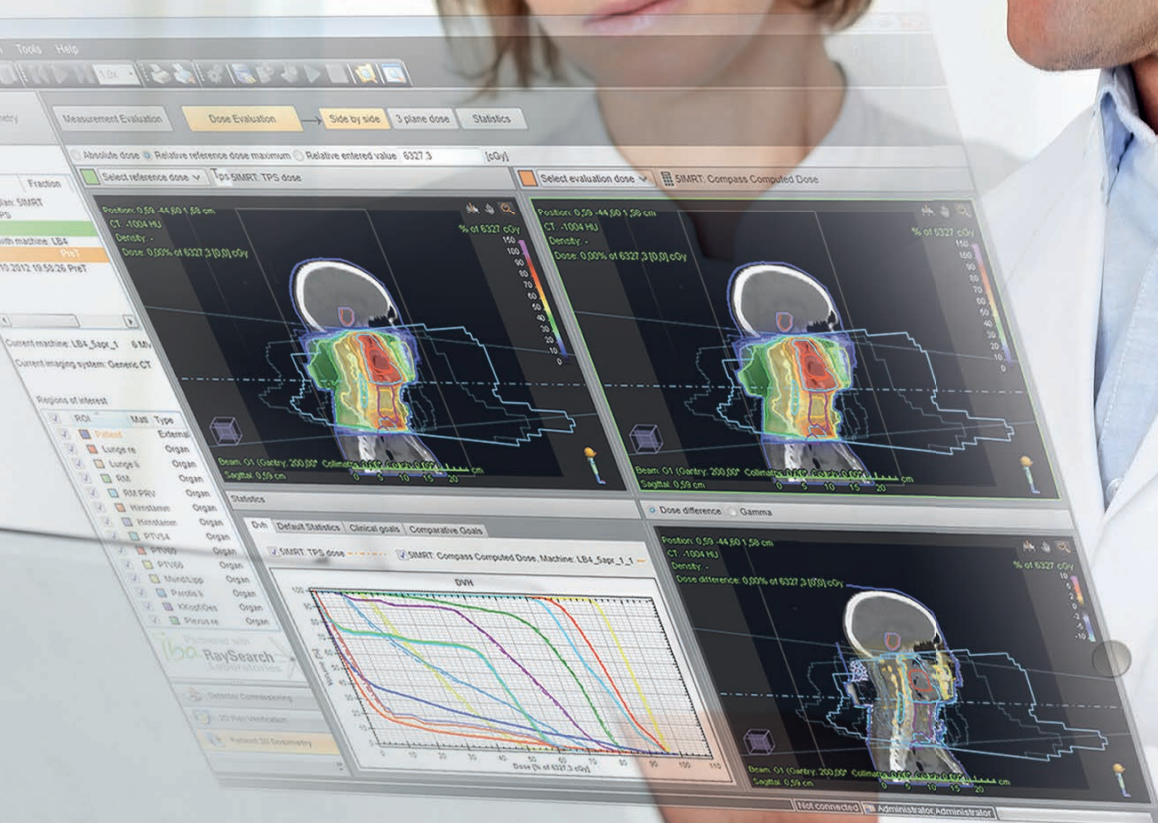


NEW

# COMPASS Solutions

Treatment Verification & Patient Dose Analysis

Iba



Maximize Efficiency, Minimize Errors, Better Outcomes

# Maximize Efficiency



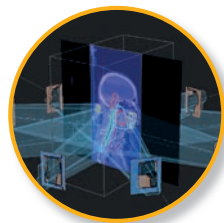
## Two-in-One Solution

Workflow efficiency and flexibility with measurement- AND calculation-based verification!

### ✓ Independent secondary TPS calculation in 3D:

Independent verification of your TPS – more efficient and powerful than simple MU checks.

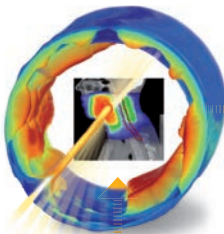
*“...QC is performed on the patient's planned dose distributions by using an independent, secondary composite dose calculation.” \**



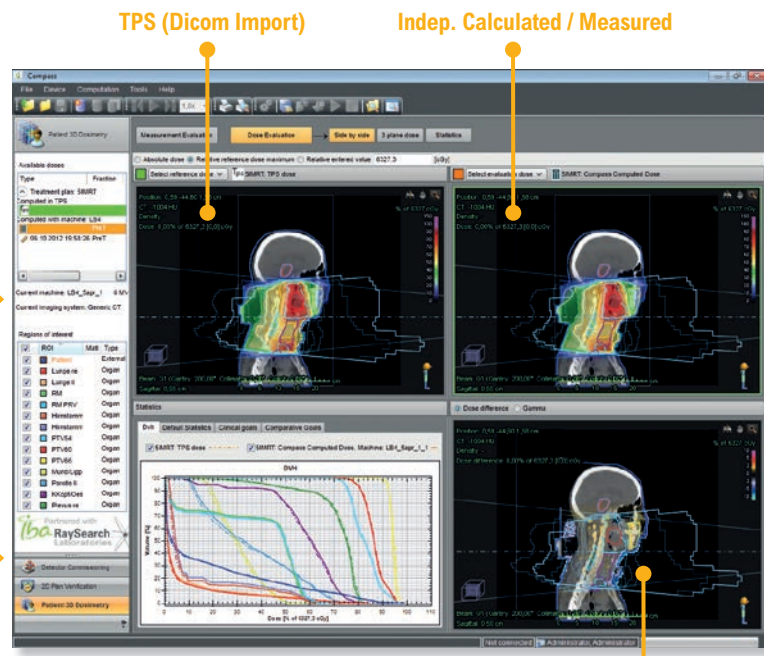
### ✓ 4D measurement based verification:

Verification of the whole delivery chain including your Linac

*“...verify that the plan delivery is physically achievable by the delivery system...” \**



COMPASS uses measured MatriXX responses to reconstruct dose to patient specific CT for comparison with TPS dose



Patient plan verification efficiency that meets your needs in modern QA workflow!

3D Dose Difference / Gamma (local & global)



## Measurement efficiency with 4D

- Direct gantry based measurements using advanced MatriXX IC detector array
- Full 360° time resolved (4D) dose reconstructions.
- High time resolution with sampling time down to 50 ms
- Seamless detector setup: Simply mount MatriXX to the gantry, and shoot a single field for auto-alignment. Ready!

## Safe TPS time, verify the real patient plan

- No extra hybrid plan required, no additional export format – just transfer your DICOM plan
- Verify the real patient treatment plan incl. transfer to OIS and Linac, not a phantom based hybrid plan

## Patient file management flexibility & speed

- Fast patient browser (SQL 2008 R2 database structure)
- Client/Server installation or stand alone SQLEXPRESS

\* Refer to: Siochi RA, Molineu, A.: Patient-specific QA for IMRT should be performed using software rather than hardware. Med. Phys. 40 (7) July 2013; 07061-1 – 07061-2

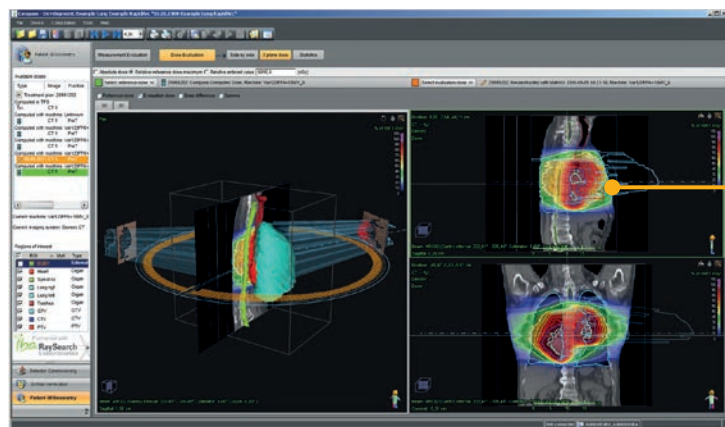
!) Patient names in this screen are just for illustration purpose (no real patient names)



# Minimize Errors



## Patient Dose Accuracy – for your peace of mind



### Powerful Collapsed Cone Algorithm for Independent dose calculations

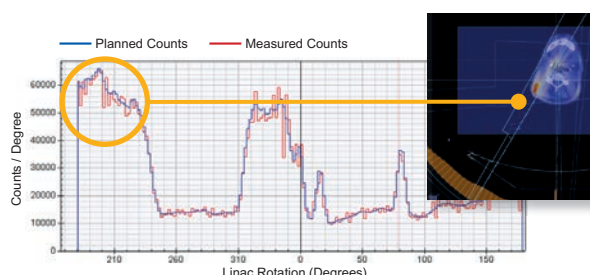
- TPS-class calculations on real patient CT\*\*
- Fast calculation: 7 beam IMRT plan in 1 min; 1 arc VMAT in 3 min!\*\*\*
- Full 3D calculation on real patient CT, DVH, 3D Gamma

### Independent Beam Modeling of your Linac

- Model as many machines as you want based on data used for your own TPS

### Segment/control point wise analysis

- Compare real linac delivery vs TPS planned linac delivery
- Analyze the effect of segment errors on the total treatment accuracy



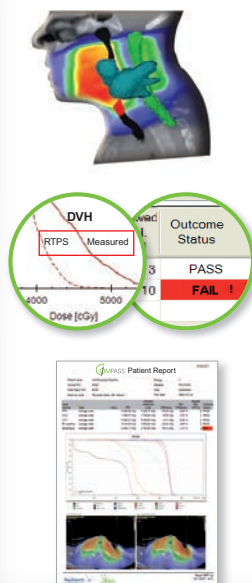
“We started using COMPASS clinically

in May of 2012 and to date it has been used with confidence to verify the deliverability of over 500 IMRT and RapidArc plans at our centre. We have recently tested the new COMPASS 3.0 and are excited about many of the changes including a more efficient beam modeling process and significantly faster dose calculation.”

Ryan Rivest, Ph.D.  
Medical Physicist at Cancer Care,  
Manitoba, Canada

## COMPASS Functionality that makes the difference

- Patient plan verification using proven TPS tools and criteria
- Understand the clinical relevance of dose discrepancies and necessary corrective action
- Analyze 3D patient dose distributions based on DVH and Gamma (local/global)
- PTV & OAR analysis and immediate Pass/Fail alerts for your prescription doses and tolerances
- Comprehensive reporting: Easy protocol template setup according to your needs



\*\* J Godart et al.: Reconstruction of high-resolution 3D dose from MatrixX measurements: error detection capability of the COMPASS... Phys.Med.Biol 56 (2011) 5029-5043  
F.Hasenbalg et al.: Collapsed cone and analytical anisotropic algorithm dose calculations compared to VMC++ Monte Carlo ...; JoPhysics, Conference Series 74 (2007)

\*\*\* Recommended Computer Specifications: i7-3840 QM with 16 GB RAM and 1GB Nvidia graphics board; Dose calculation time examples stated here are calculated with a standard Notebook, i7-3820QM, 2.7GHz, 8GB. Calculation times can vary depending on patient case, treatment modality and computer hardware

# Clinical Expertise for Better Outcomes



High-end Training for Fast and Safe Clinical Implementation



## IMRT & VMAT 3D Plan Verification

Best practices for your **efficiency and safety** in patient plan QA:

- Plan verification: from phantoms and hybrid plans to advanced 3D/4D plan verification
- Implementation of MatriXX measurement-based 4D verification & calculation-based secondary TPS checks
- The physics of COMPASS
- COMPASS commissioning made fast & easy



Theory and hands-on training in a high-end clinical environment with experienced trainers

**DGMP certified**

More details and training dates at  
[www.icc-ibadosimetry.com](http://www.icc-ibadosimetry.com)



COMPASS users meeting in Nürnberg/Germany near IBA Dosimetry headquarters

## Partnering for dosimetry solutions you can trust:

Joint development and close collaboration with leading institutions and partners are the recipe to provide best in class Dosimetry solutions.

The COMPASS alliance that makes the difference:

- In-depth exchange of clinical experience and product and application know-how
- IBA and RaySearch partnership brings together core competencies in Dosimetry and TPS dose calculation



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