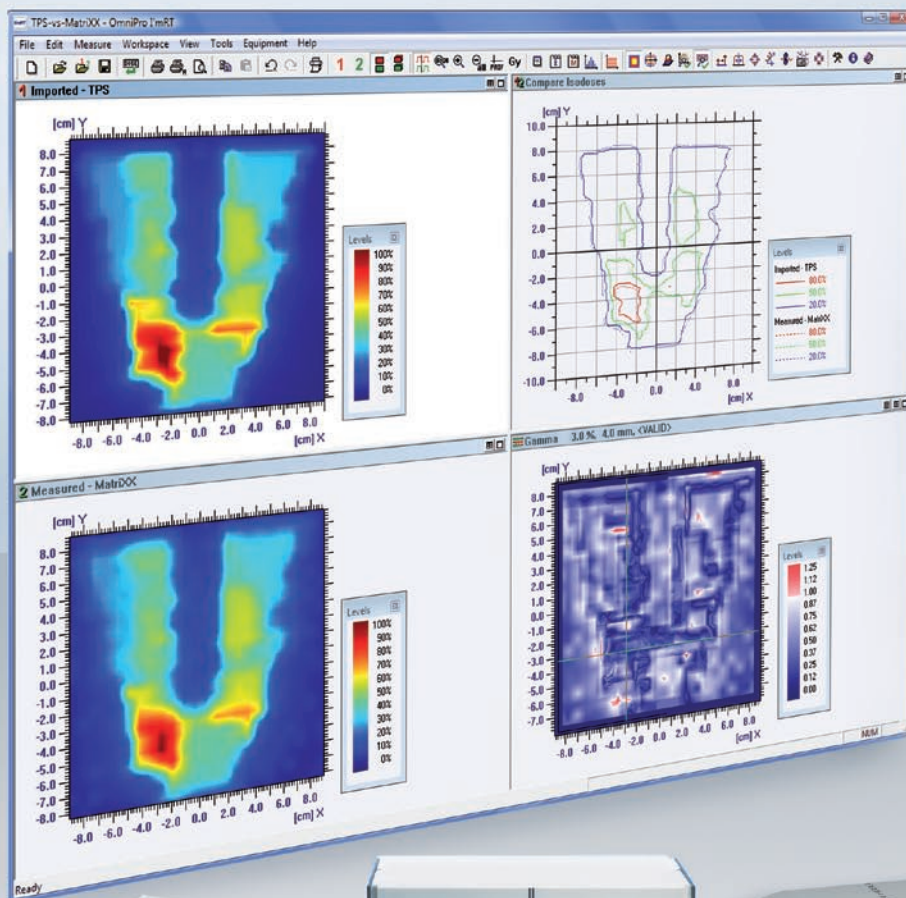




OmniPro-ImRT software

Pre-treatment verification for IMRT/IGRT and Rotational therapy



Efficiency at work

OmniPro-*l'mRT* is an intuitive, user friendly application software for complete plan verification and QA of IMRT / IGRT and Rotational treatments.

OmniPro-*l'mRT* incorporates the latest software technology with extensive and flexible import and export functionalities. It compares TPS planned data with measured 2D data from the *l'mRT* MatriXX and MatriXX^{Evolution}, EPID or film exposed e.g. in the *l'mRT* Phantom.

Easy parameter set-up allows fast, real-time verification of measured vs planned treatments.

Various types of 1D, 2D and 3D visualization and mathematical comparison techniques of dynamic treatment deliveries vs plan are included. Customizable macro settings enable optimal efficiency and integration in the workflow.

The software comprises efficient functions for storage and retrieval of data for e.g. print-out, export or reimbursement purposes.

Use cases:

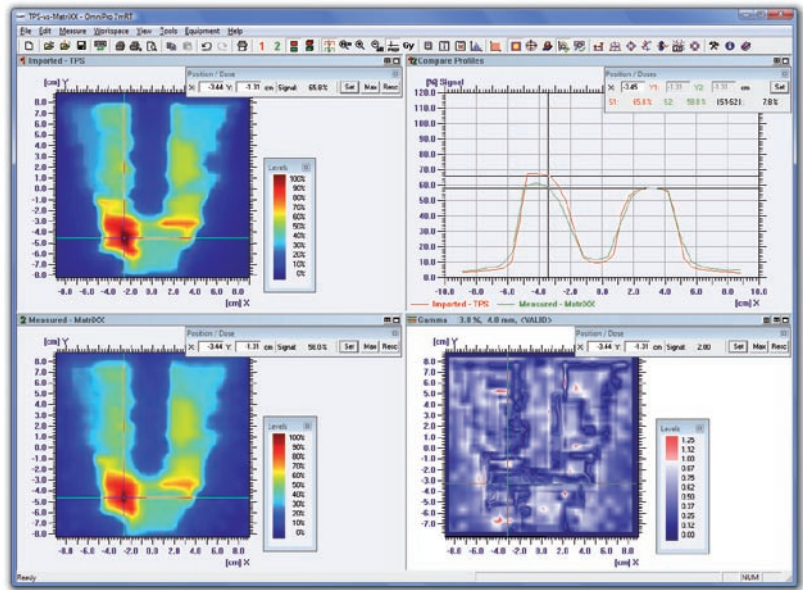
- **IMRT / IGRT / Rotational delivery vs plan verification**
- **Step & Shoot and dynamic field verification**
- **Linac QA (symmetry, flatness, penumbra)**
- **Analysis of individual segments and composed IMRT fields**
- **Light vs radiation field congruence**
- **Real-time visualization of the measured 2D delivery**
- **Time based analysis e.g. Linac start-up behavior**
- **Multiple profile analysis**
- **Rotational therapy interface:**
 - **angular dependence optimization**
 - **dose per frame as a function of the gantry angle**

Pre-treatment verification in only 4 steps

STEP 1
TPS import

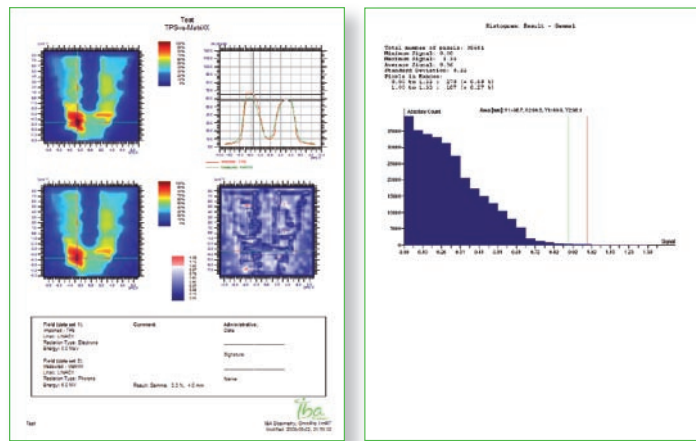
STEP 2
Measurement

- I^mRT MatriXX
- MatriXX^{Evolution}
- Film
- EPID

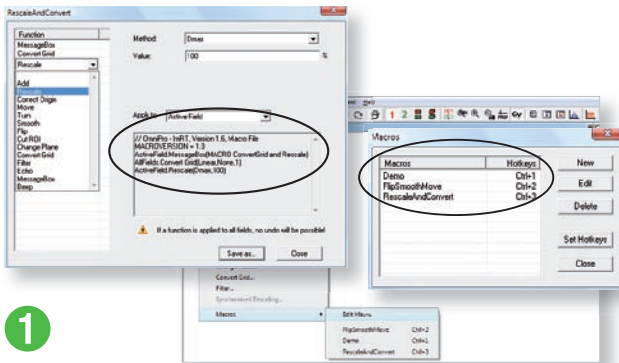


STEP 3
Visual comparison
Mathematical analysis

STEP 4
Archive, Report, Export



10 features (V 1.7) to further increase efficiency and accuracy



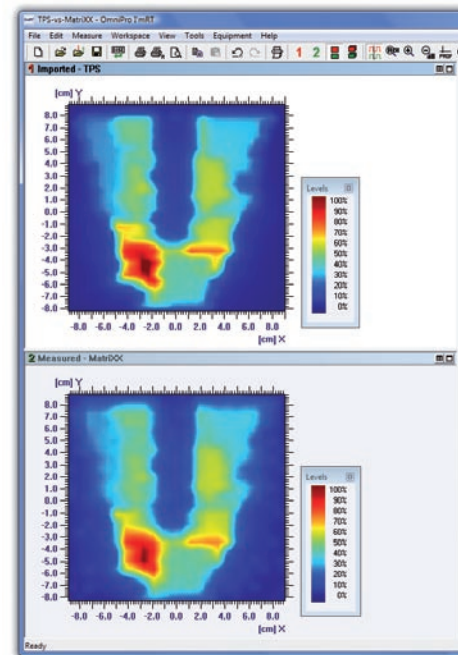
1 Macros

Macros are the easiest way to extend the use of OmniPro-I[®] mRT:

- Automate and customize frequently used commands, e.g. rescale, shift, smooth, etc.
- Apply to single or multiple data sets
- Save as text files including a macro name
- Call by hotkeys or Macro menu
- Intuitive macro setup via graphical user interface

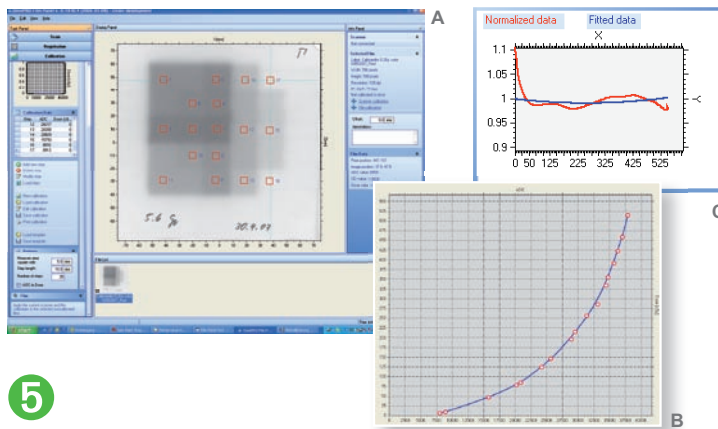
Edit Macro
MACRO-A Ctrl+1

- Example "Macro A"
- Correct origin
 - Smooth
 - Convert grid
 - Turn array



Additional features:

- 6 **MatrixX measurement:**
Data display during movie mode measurement
- 7 **Advanced print report:**
Cursor on the images, Gamma-values, flexible line width and other information
- 8 **Improved ergonomics of the user interface**



5 The Film Control Panel

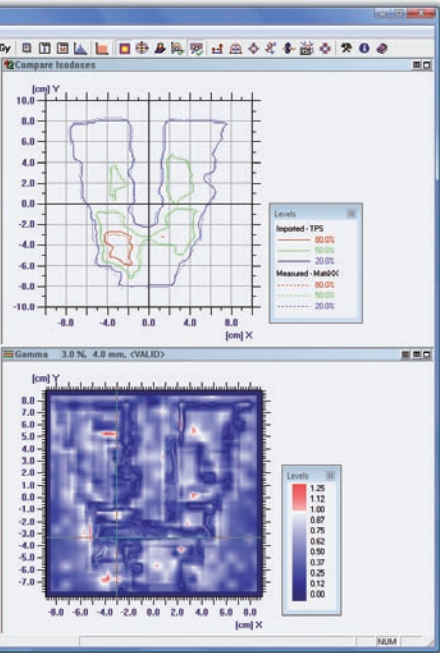
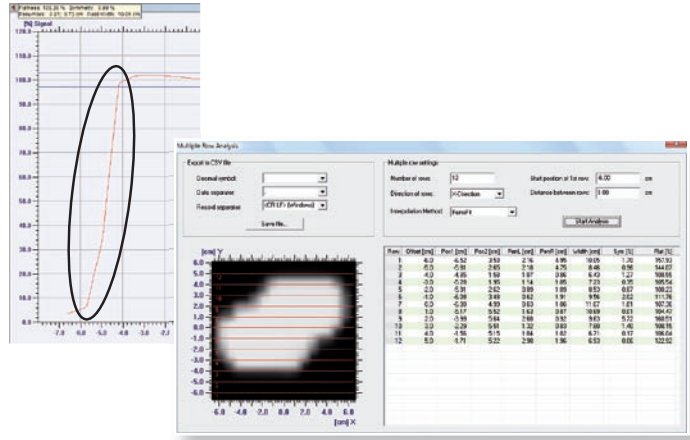
Renewed version of the film control panel for composite plan dosimetry with radiochromic or gafchromic[®] films and archiving of films.

- Direct calibration of the ADC-to-Dose (Gy, cGy, mGy...) using calibration pattern (A)
- Advanced new interpolation method for ADC-to-Dose curve (B)
- Correction of the scanner artifacts using the correction method recommended by the supplier of gafchromic[®] films

2

Advanced interpolation method "Fermi Fit"

- As interpolation method either the linear interpolation or the "Fermi Fit" can be selected.
- The "Fermi Fit" is used to fit the measurements at the field edges to the expected shape of the field penumbra:
- Calculation of field width and penumbra
 - Also applicable for multiple profile analysis
 - Determination of MLC leaf positions



3

MatriXX user-uniformity-calibration

Fast and easy MatriXX user-uniformity-calibration: In addition to the existing "Factory Co60 Uniformity Calibration", the MatriXX user can apply a user uniformity calibration on site

Factory



- Factory Co60 uniformity calibration

Clinic



- User uniformity calibration
- User absolute calibration

9

Flexible extended DICOM i/f:

- DICOM Listener runs as a Windows® service even if OmniPro-ImRT is not started
- Import of DICOM directory
- Export of data as DICOM RT Image

10

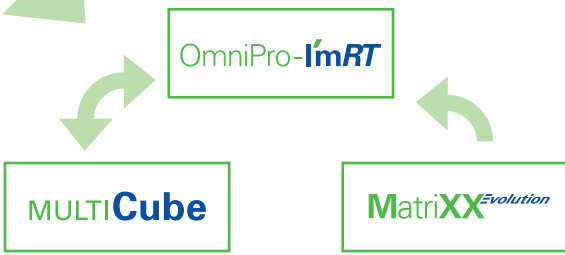
Running on Microsoft® Windows® Vista™ *

* Some accessories might not be Microsoft® Windows® Vista™ compatible (e.g. Film scanner)

4

Rotational Therapy application

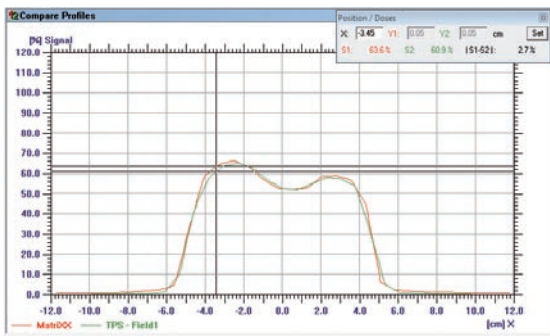
- RapidArc™, VMAT and Hi-Art®
- MatriXX^{Evolution} and MULTICube
- Optimal flexibility and highest accuracy
- Measurement of the gantry angle to:
 - optimize the angular dependence
 - compute dose per frame as a function of the gantry angle



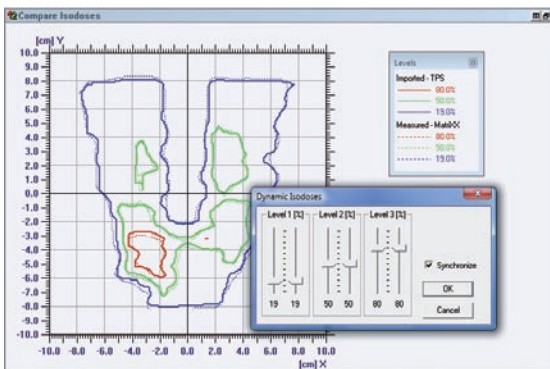
Maximize efficiency, minimize errors

Visual comparison

- 1D profile comparison & analysis



- 2D isodose comparison using dynamic isodoses



- Verification of planned vs measured, measured vs measured and planned vs planned data
- 1D, 2D and 3D data visualization: profiles, isodose contours, 2D/3D dose distributions and histograms for data sets and results
- Advanced isodose set-up with template files
- Synchronized zoom function
- Extensive cursor analysis functions such as distance, position, angle etc.
- ROI analysis

Automated mathematical analysis

- Absolute dose verification
- Verification of planned vs measured, measured vs measured and planned vs planned data
- Basic mathematics:
 - sum
 - (absolute) difference
 - multiplication
 - division
- Advanced mathematics:
 - correlation
 - DTA (distance to agreement)
 - extended Gamma method (threshold, gamma angle, optimized algorithm)
- ROI analysis
- Rescaling, Automatic Origin Correction, Shifting, Turning, Smoothing, Flipping, Cutting, Adding Constant Values, Changing Plane, Converting Grid
- User-defined filters for image processing (e.g. edge detection, sharpen, gaussian blur)
- Multi profile analysis (e.g. for MLC check)

Archive, Report, Export

- Export and import of generic ASCII files, TIFF (16 bit grayscale), lossless JPG and configurable raw binary, RFA-300 beam data, data export to OmniPro-Advance via opg.
- Export of single or multiple profiles to OmniPro-Accept via ASCII
- Copy & Paste (e.g. to Microsoft® Excel, Word, Notepad)
- Export of MatrixX images to the TomoTherapy® system (e.g. TIFF-Files)
- Print single views
- Advanced print report: Cursor on the images, Gamma-values, flexible line width and other information
- Export of data as DICOM RT images

Interfacing flexibility to suit your needs

TPS import

- Import of planned 2D and 3D dose from
 - all TPS supporting DICOM RT (from network and files)
 - RTOG (ASCII and binary) formats
 - proprietary formats (e.g. BrainLAB, CMS, Plato, CadPlan)
- Import of fluence maps from various TPS e.g. CadPlan, Pinnacle, CMS, BrainLAB,
- Eclipse (via DICOM RT plan compensator)
- EPID data via iViewGT™ browser
- EPID data via DICOM interface (optional)
- Import data from TomoTherapy® system (DICOM, ASCII)
- Flexible extended DICOM interface:
 - DICOM Listener runs as a Windows® Service even if OmniPro-I'mRT is not started
 - import of DICOM directory
 - import & export of data as DICOM RT images

Film scanner types

- Film data from Vidar, Kodak (Lumisys), 16 bit grayscale TIFF images and DICOM CR
- Scanner and film calibration routines
- Scanners: Vidar™ VXR-16, VXR-16 DosimetryPRO, DosimetryPRO Advantage/Kodak (Lumisys)
- Film Digitizer (e.g. Kodak CR, Agfa) via import of DICOM CR files
- Support of gafchromic® films including extraction of one RGB channel

Phantoms

Two phantoms are available:

- MULTICube for Rotational Therapy (MatriXX^{Evolution}, film)
- I'mRT Phantom for IMRT Film Dosimetry



2D digital systems

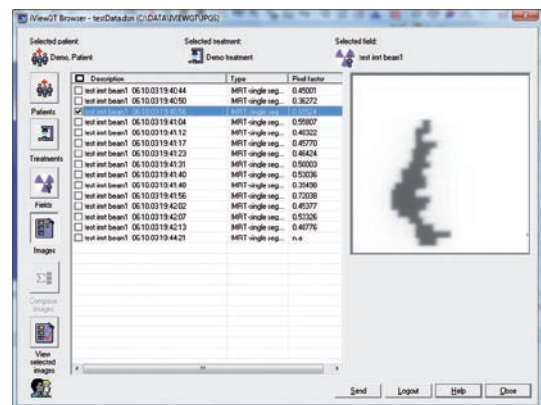
Two versions are available:

- I'mRT MatriXX for IMRT / IGRT treatment verification
- MatriXX^{Evolution} for IMRT / IGRT and Rotational treatment verification



EPID

OmniPro-I'mRT can import DICOM data from all current EPID systems



Minimum computer requirements

Operating system:	Microsoft® Windows® (XP, Vista™* 32-bit)
Processor:	Pentium® (or equivalent), 1.8 GHz or better
Memory:	2 GB RAM (recommended for real-time intensity mode)
Hard disk:	with at least 160 MB available, recommended 40 GB for data archiving
Monitor and graphics:	supporting a resolution of 1024 x 768 pixel at True Colour (32-bit)
Ports:	available Ethernet connection (RJ-45 for MatriXX) interface to film scanner, USB 2.0
Film scanners supported:	Vidar™ VXR-16, VXR-16 DosimetryPRO, DosimetryPRO Advantage, Kodak (Lumisys)**, Flatbed scanners (via import of 48 bit colour tif data) and CR scanners (Kodak, Agfa) via import of DICOM CR files
Import of planned data:	CadPlan (dose / fluence), CMS (dose / fluence), BrainLAB (dose / fluence), Plato (dose), Pinnacle (fluence) and from all TPS that support DICOM RT or RTOG formats

Technical data is subject to change without prior notice.

* Some accessories might not be Microsoft® Windows® Vista™ compatible (e.g. Film scanner)

**Some devices may not be supported by Windows® 2000, XP, Vista™

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CE 0413

The IBA logo consists of a stylized lowercase 'i' with a horizontal line above it, followed by the lowercase letters 'ba' in a cursive, handwritten-style font.