



SURE.



The first and only solution that combines

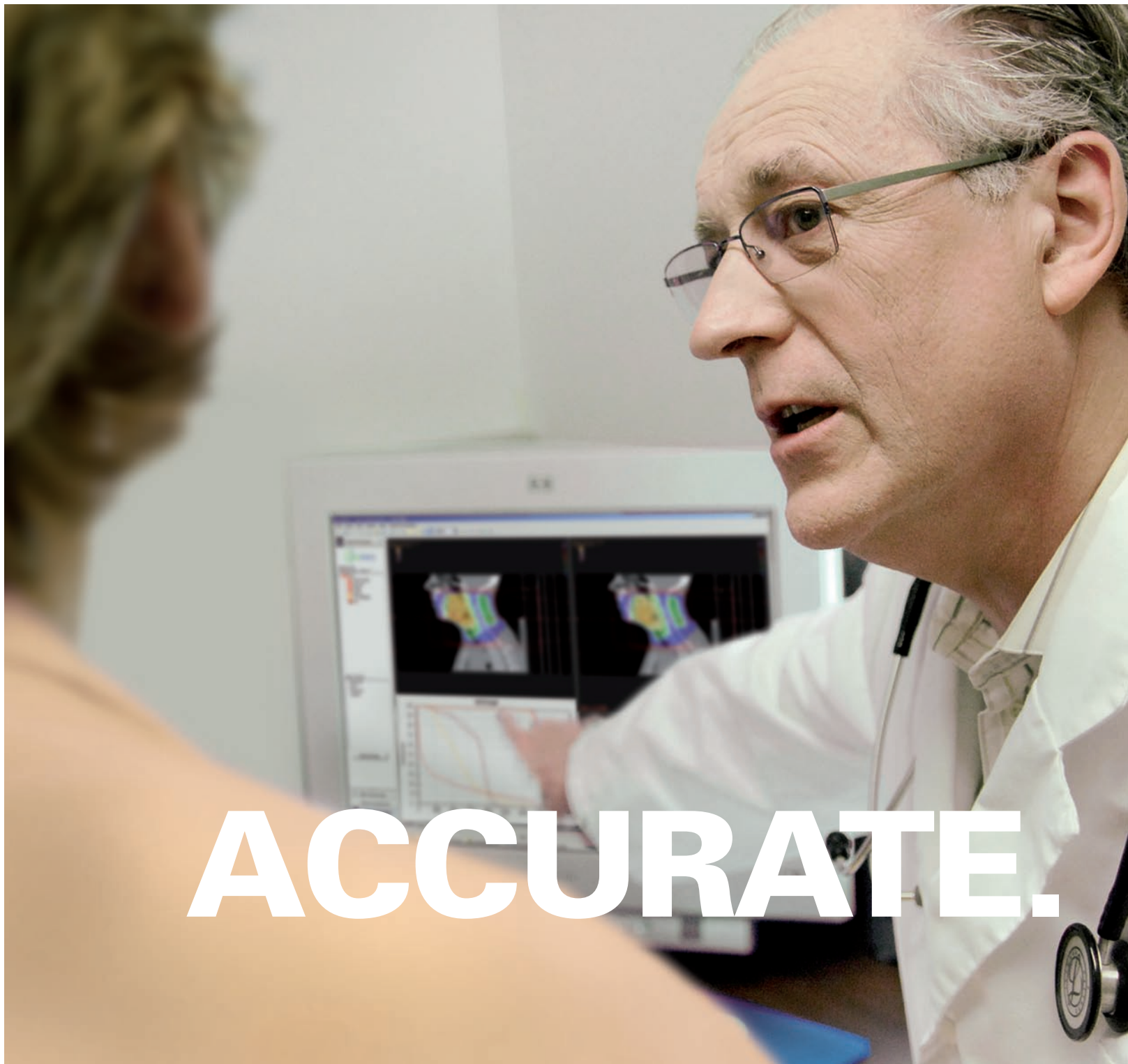
- determination of dose distribution during patient treatment using a beam model, a transmission detector measurement and a fluence reconstruction
- display of 3D dose distribution in patient anatomy
- comparison of measured with expected dose distributions.

COMPASS leads you into a new era in the IMRT/IGRT pre-treatment and treatment monitoring as well as verification. It provides truly independent analysis of the accuracy of your planned treatment and the dose delivered to the patient.

COMPASS is a unique, next generation solution to increase the precision and safety of the individual patient treatment.

Down to each fraction. For your peace of mind.





ACCURATE.



Your guide to next generation monitoring and verification.

A unique (patent pending) method using a high resolution ionization chamber transmission detector and a Linac beam model allows exact fluence determination and comparison with TPS fluence.

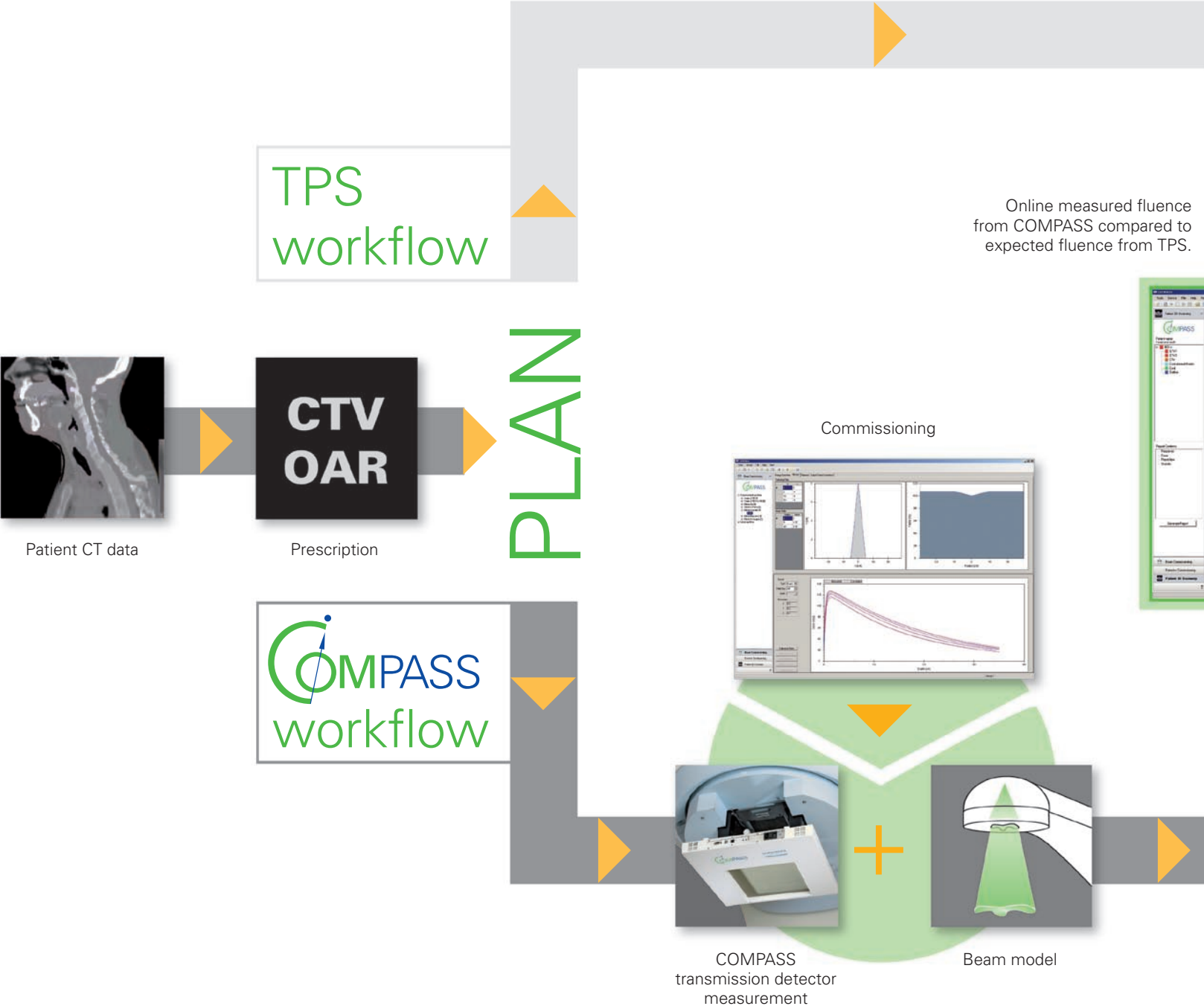
Based on the transmission detector measurement, an advanced forward calculation algorithm subsequently reconstructs the 3D dose distribution in patient anatomy.

The 3D dose distribution is then compared with the TPS. A modern set of software tools incl. DVH allows for a side by side analysis of the two data sets either cumulatively or per fraction.

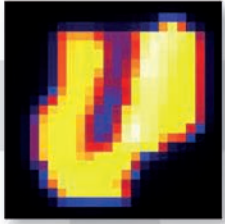
State-of-the-art technology. For highest accuracy.



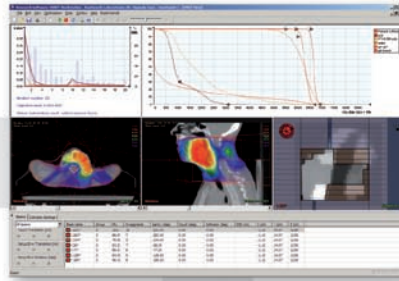
Verify, visualize, validate.



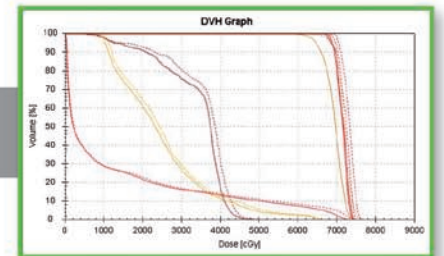
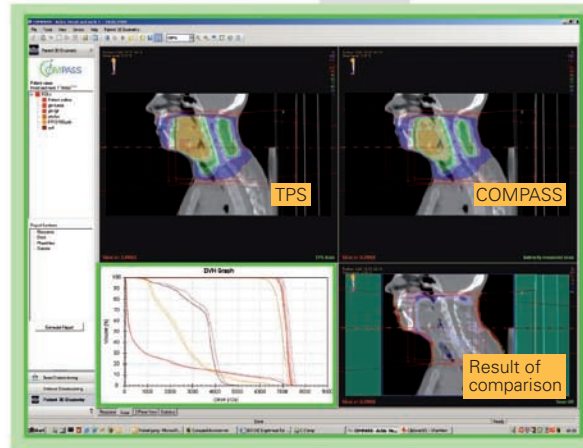
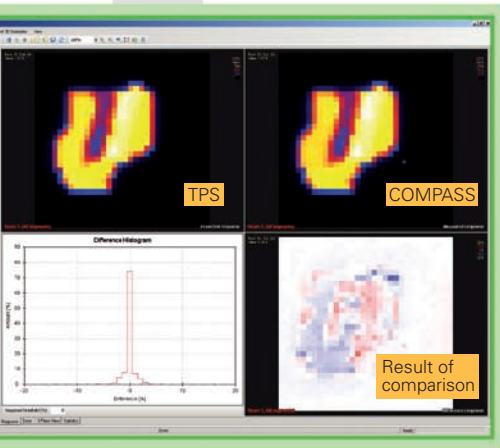
TPS
calculated fluence



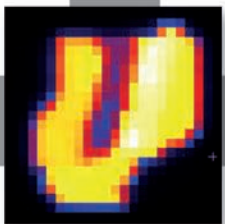
Planned dose distribution



Determined 3D dose distribution in patient
measured with COMPASS compared
to 3D dose in patient planned with TPS.

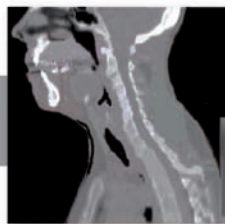


DVH COMPASS
compared to DVH TPS.



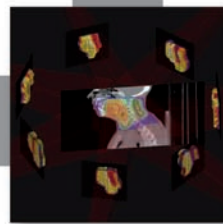
COMPASS
measured fluence

+



Patient CT data

→



COMPASS forward
dose calculation





RELIABLE.



Seeing through the treatment chain.

- Independent, measurement based solution.
- Optimized pre-treatment verification.
- 3D dose distribution in patient anatomy.
- Direct identification of discrepancies between plan and delivery.

**Increased treatment efficiency and safety.
For better results.**





PRECISE.



Technical specifications

Transmission detector

Number of chambers:	1600 air vented plane parallel pixel ionization chambers
Chamber size:	3.6 (Ø) x 2 (h) mm, chamber volume: 0.02 cm ³
Nominal sensitivity:	1.8 nC/Gy in detector central area, measured in transmission mode, 6 MV photons, 10 cm x 10 cm field
Active area:	40 cm x 40 cm projected at isocenter
Pitch:	6.5 mm, corresponding to the width of 1 cm leaves projected at isocenter
Beam attenuation:	< 5% (in 6 MV)
Attenuation uniformity:	better than 1%
Weight:	≈ 15 kg
Power supply:	SMPS 100-240 V, 50/60 Hz, power cord with US or German power plug included
Positioning:	dedicated holder and adapter for Elekta, Siemens and Varian accelerators, precise alignment to MLC system through an x-y table with 0.1 mm resolution

Electronics

Electrometer:	28 TERA ASICs (each contains 64 independent electrometers)
Channels:	1600
k(t,p) correction:	temperature (15 to 35 °C), pressure (50-110 kPa)
Interface to PC:	Ethernet data link, point to point or through network, TCP/IP communication protocol
Readout:	parallel and synchronous readout of all chambers with no dead time
Charge resolution:	0.1 pC/count

Minimum computer requirements

Operating system:	Microsoft® Windows® XP SP2, Windows® Vista, US English operating system recommended
Processor:	Intel® Core™ Duo Pentium® processor (or equivalent), 2.0 GHz or better
Memory:	RAM minimum 1024 MB (recommended 2048 MB)
Hard disk:	free space on the hard disk for the program of 150 MB and 80 MB for the .NET 2.0 framework, additional space will be required for archiving
Monitor:	screen resolution: min 1280 x 1024 pixel, recommended 1600 x 1200 pixel
Graphics:	graphics card capable of OpenGL standard 2.0 or above
Ports:	available Ethernet connection (RJ-45), USB port (for "dongle" licensing)
Other requirements:	second network card in PC for device if simultaneous access to LAN and device with direct connection is required

The system is currently intended for use in 6 MV x-ray beams only. Technical data is subject to change without prior notice.





SCANDITRONIX

WELLHÖFER

Member of the IBA Group

**RaySearch
Laboratories**



Scanditronix Wellhöfer GmbH

Bahnhofstr. 5 | 90592 Schwarzenbruck | Germany | Tel.: +49 9128 607 0 | Fax: +49 9128 607 10

Scanditronix Wellhöfer North America

3150 Stage Post Drive, Suite 110 | Bartlett, TN 38133 | USA | Tel.: +1 901 386 2242 | Fax: +1 901 382 9453

Scanditronix Wellhöfer AB

P.O. Box 1004 | 751 40 Uppsala | Sweden | Tel.: +46 18 18 07 00 | Fax: +46 18 12 75 52

Scanditronix Wellhöfer China

No.6, Xing Guang Er Jie Beijing OPTO-mechatronics | Industrial Park (OIP), Tongzhou District | Beijing 101111 | China
Tel.: +86 10 8080 9288 | Fax: +86 10 8080 9299

www.scanditronix-wellhofer.com | info@scanditronix-wellhofer.com

Patent Pending | Works in Progress