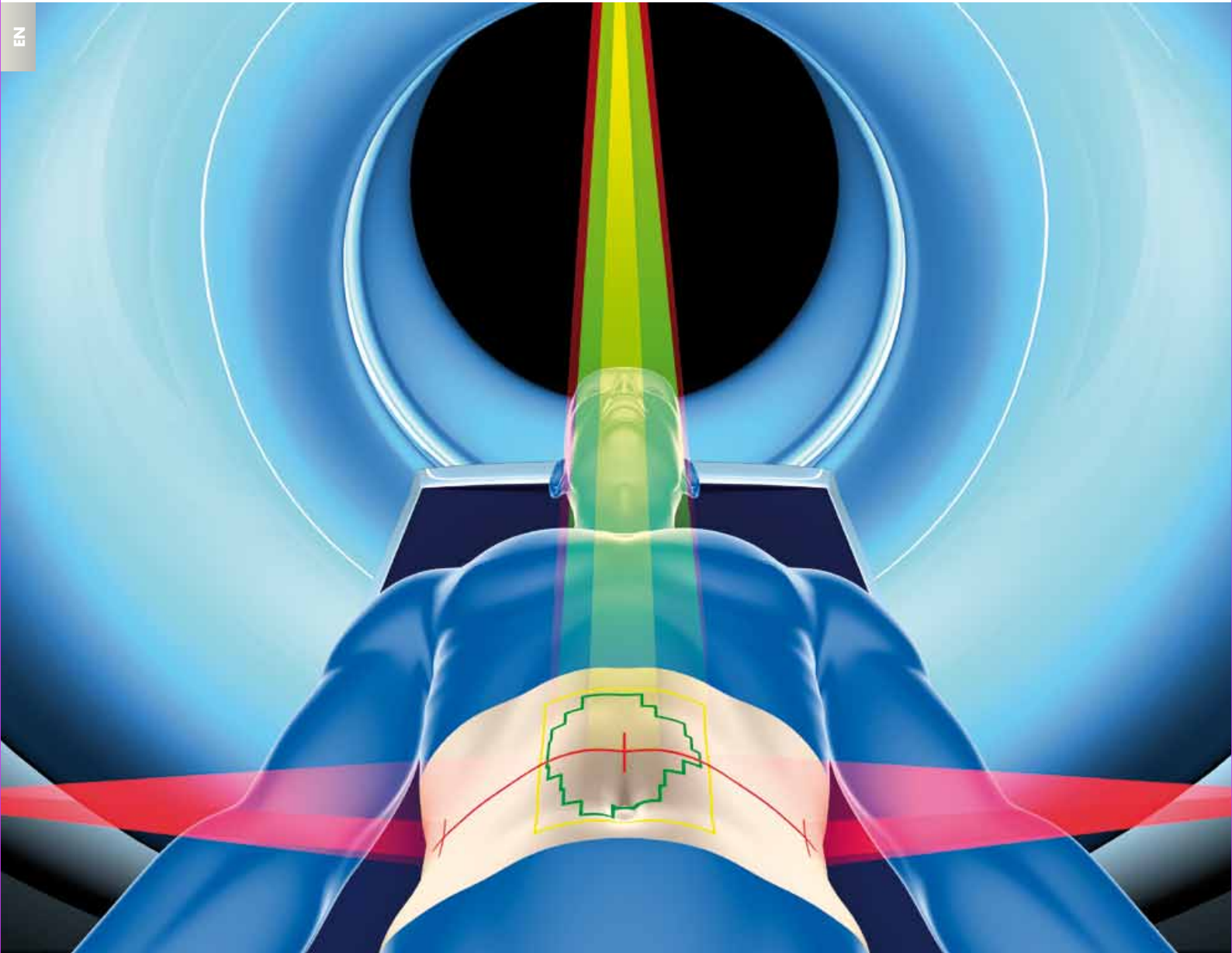




PICTOR 3D

THE NEXT GENERATION IN PATIENT MARKING AND VIRTUAL SIMULATION



single
touch

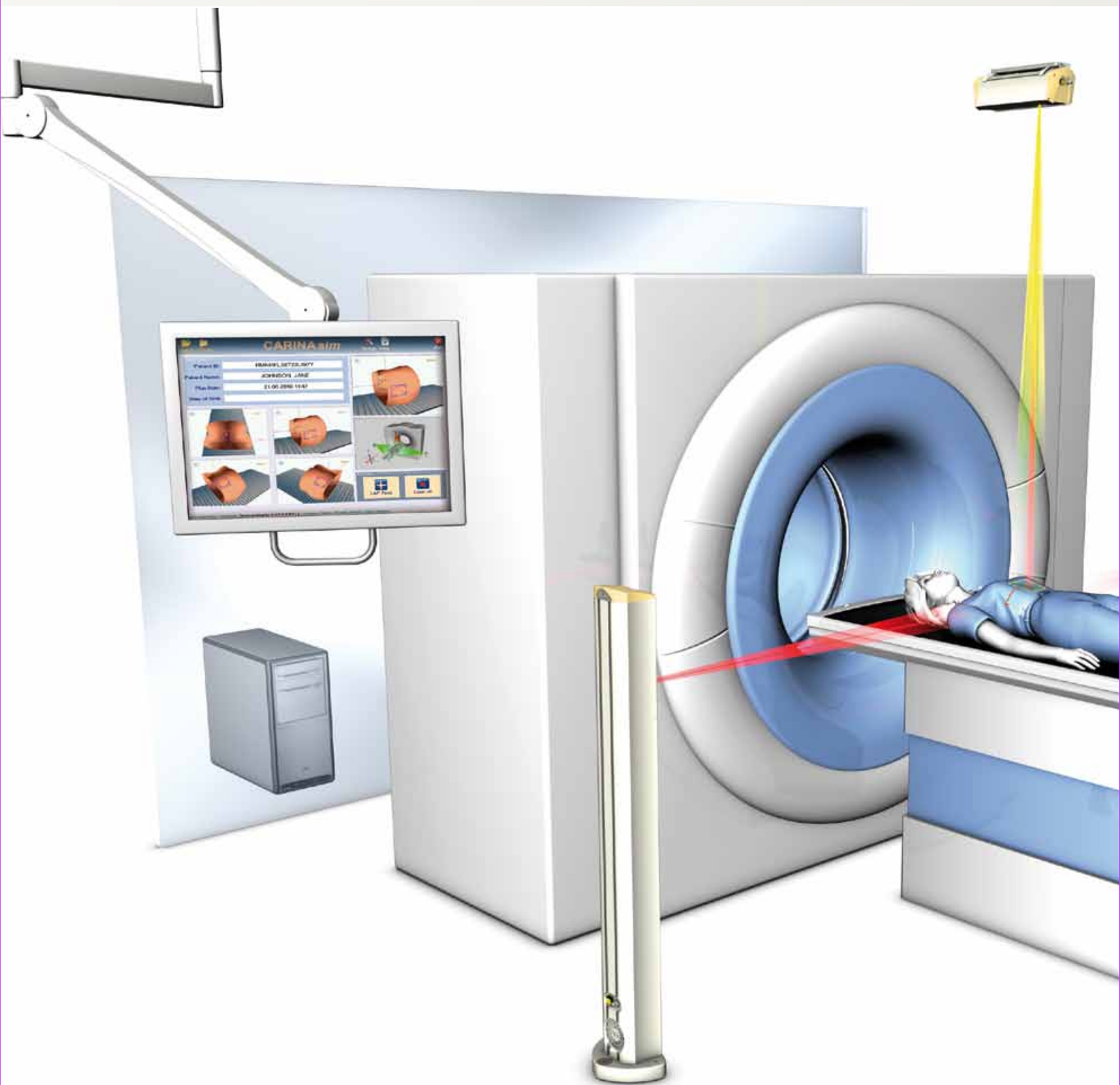


multi
colour



ultra
line®



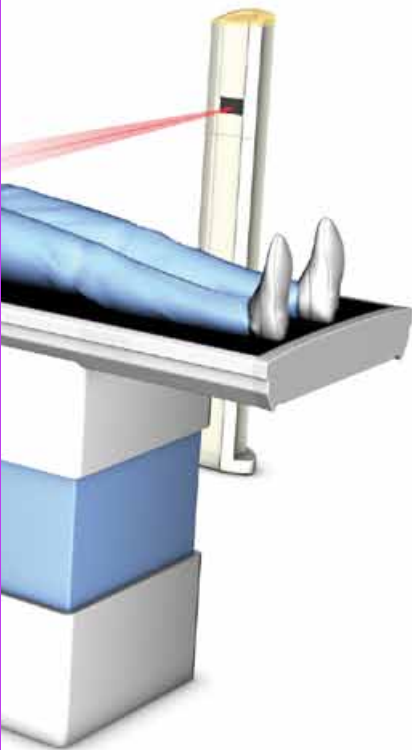


THE NEXT GENERATION IN PATIENT MARKING AND VIRTUAL SIMULATION

PICTOR 3D is the next generation laser patient marking system for Virtual Simulation. PICTOR 3D is a new laser system from LAP which uses a sophisticated multi projection format that defines isocenters, field and MLC contours along with a 3D patient view. New workflows and procedures for Patient Marking and Virtual Simulation speed up the patient marking procedure to an unprecedented level and open the door to a completely new way of thinking.

PICTOR 3D is delivered in a three laser projector configuration. The projectors are mounted in the plane perpendicular to the longitudinal axis of the imaging device's couch. Each projector is automatically calibrated with a special calibration phantom to the virtual isocenter of the imaging device. During calibration the lasers 3D position in space and the position of the virtual isocenter of the imaging device are stored. The DICOM RT structure set containing patient surface information and the RT plan set containing MLC positions are transferred from the planning system to CARINAsim, the control software of the PICTOR 3D and are used in the calculation for the projection and marking process. The system and the method are patented under #US 7,697,147 B2.

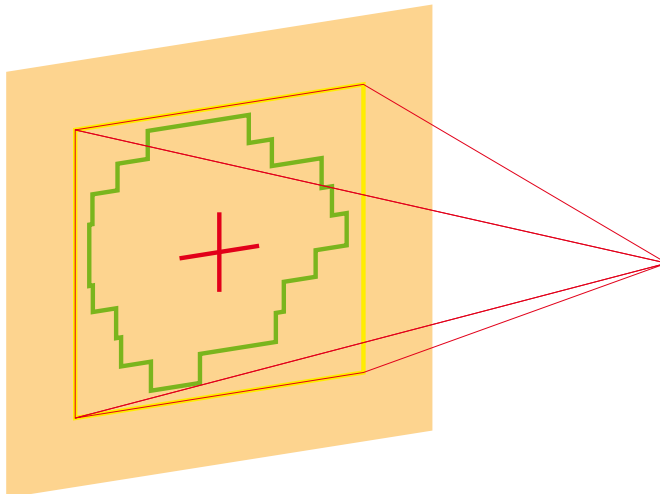
The system is intuitive and intelligent with an increased level of precision.





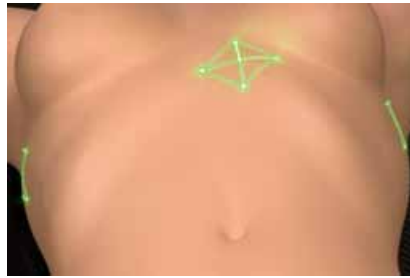
MULTI COLOR PROJECTIONS WITH CUSTOMIZED CONFIGURATION

PICTOR 3D conforms to your centers workflow with customizable configurations. The system can be delivered in three configurations: with projection in red, in green or multicolour projection (red, green and yellow simultaneously).

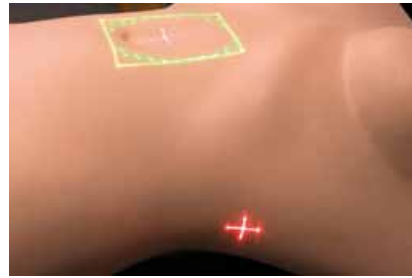


MULTIPLE PROJECTIONS

PICTOR 3D is a beam's eye view projection system, integrated with the treatment planning and Virtual Simulation system. All three Isocenter projections are visible at the same time along with the collimator opening and MLC field projection.



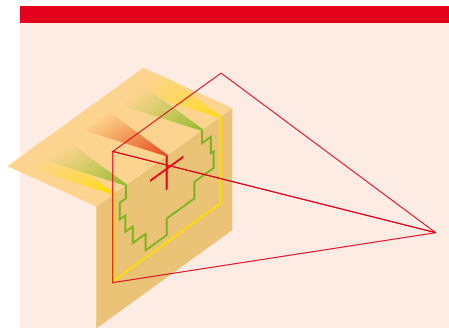
PROJECTION OF THE VIRTUAL ISOCENTRE ON THE SURFACE OF THE PATIENT.



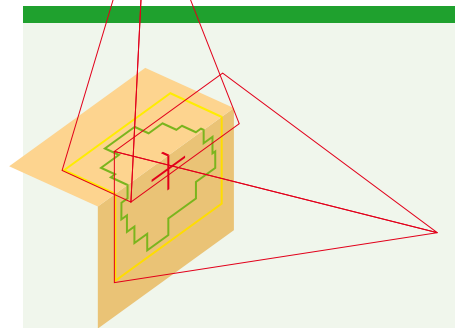
TUMOR ISOCENTER PROJECTION WITH RED COLOR AND ONE DIRECTION PROJECTION OF THE MLC-FIELD AND THE COLLIMATOR FIELD.

INTELLIGENT COMBINED PROJECTION - NO SHADOWING

Projection of a complex MLC field shape on a patient surface with lasers can be time consuming and complex. The three projectors of the PICTOR 3D intelligently share the accessibility of the projection on the patient surface from their 3D position. If the surface area cannot be accessed, or can only be partially accessed by one projector, the others will be used in combination to complete the projection of the desired field shape from the LINAC's beam eye view. Shadowing or partial field contour projections are therefore eliminated.



EXAMPLE OF A FIELD PROJECTION ON THE SURFACE OF THE PATIENT WITH SHADOWING.



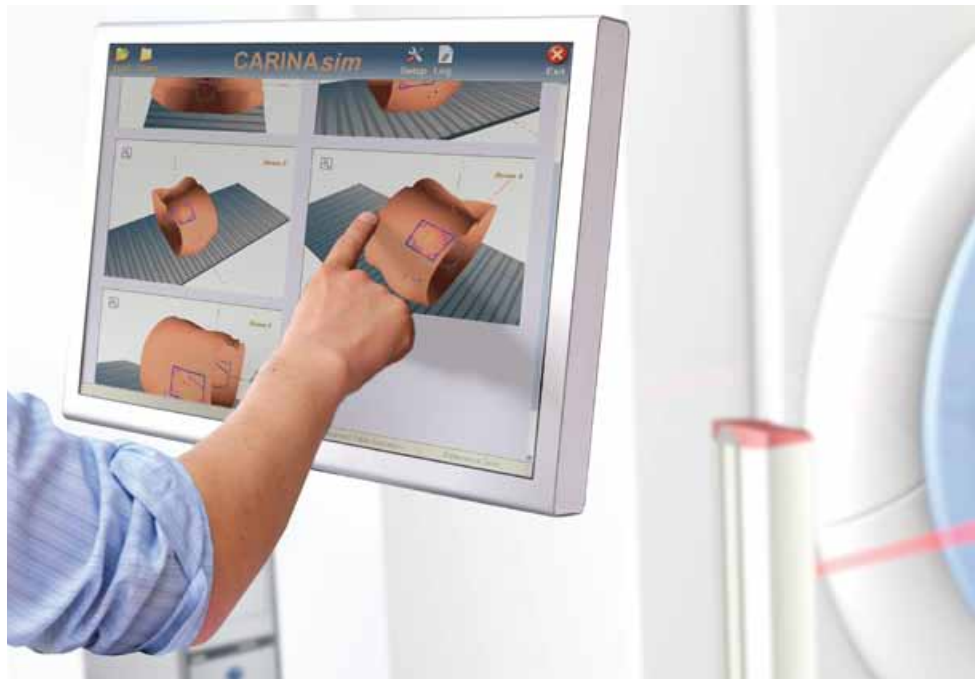
PROJECTION OF FIELD SHAPES WITH INTELLIGENT COMBINED MULTIPLE LASERS TO OVERCOME SHADOWING.



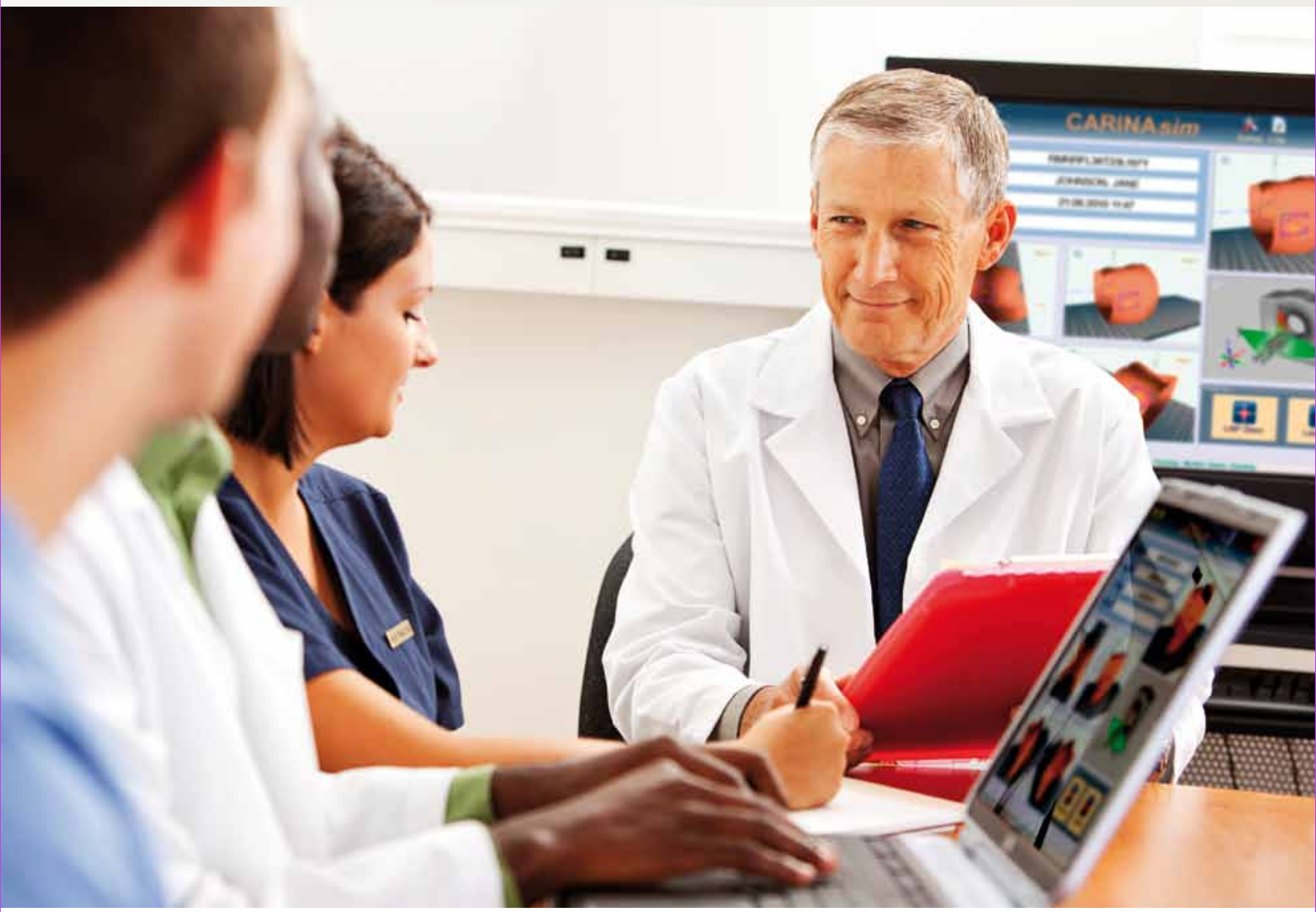
TOUCH SCREEN CONTROL

The touch screen control of the PICTOR 3D laser system is a single point access control unit that enables the next-generation in Patient Marking and Virtual Simulation. The graphical user interface with intuitive display of all necessary information will allow the user to spend less time interfacing with the technology and spend more time attending to the patient. The "Single touch" control opens the door to considerable speed, improvement for the Patient Marking procedure and the entire Virtual Simulation process.

Patient information, isocenter, field projections and laser controls are all at the users fingertips.





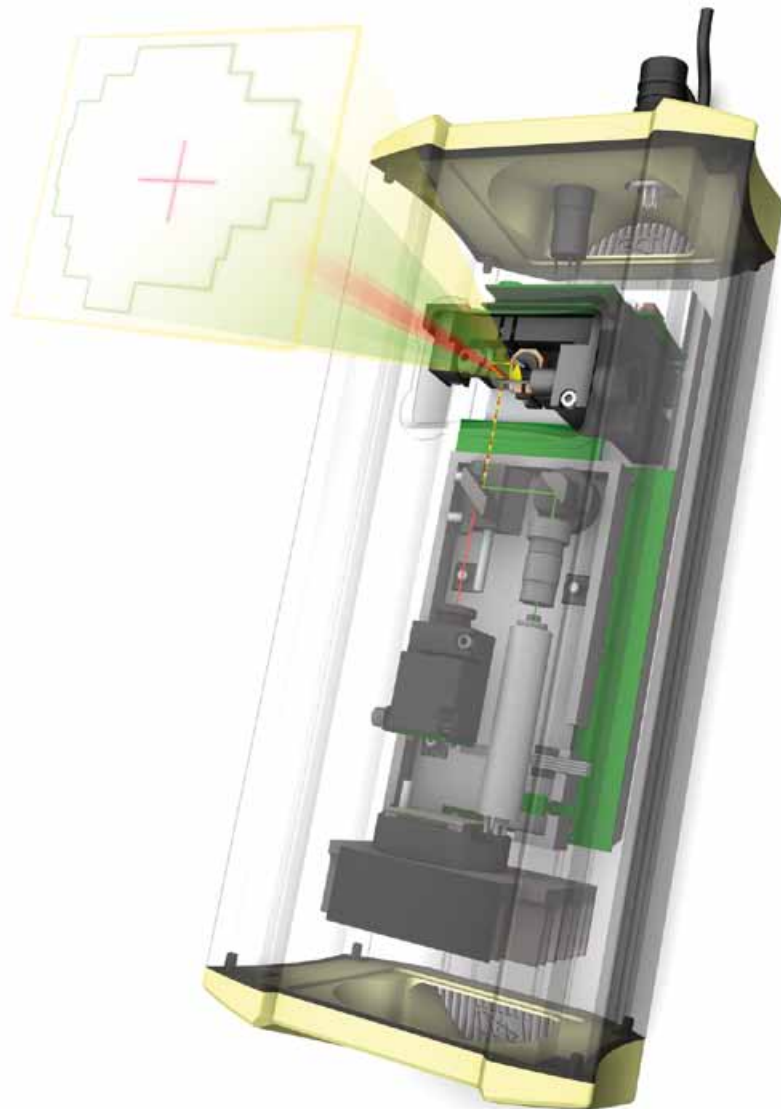


INTELLIGENT SCANNING SYSTEM WITH THE ADVANTAGE OF SPEED AND CONTROL

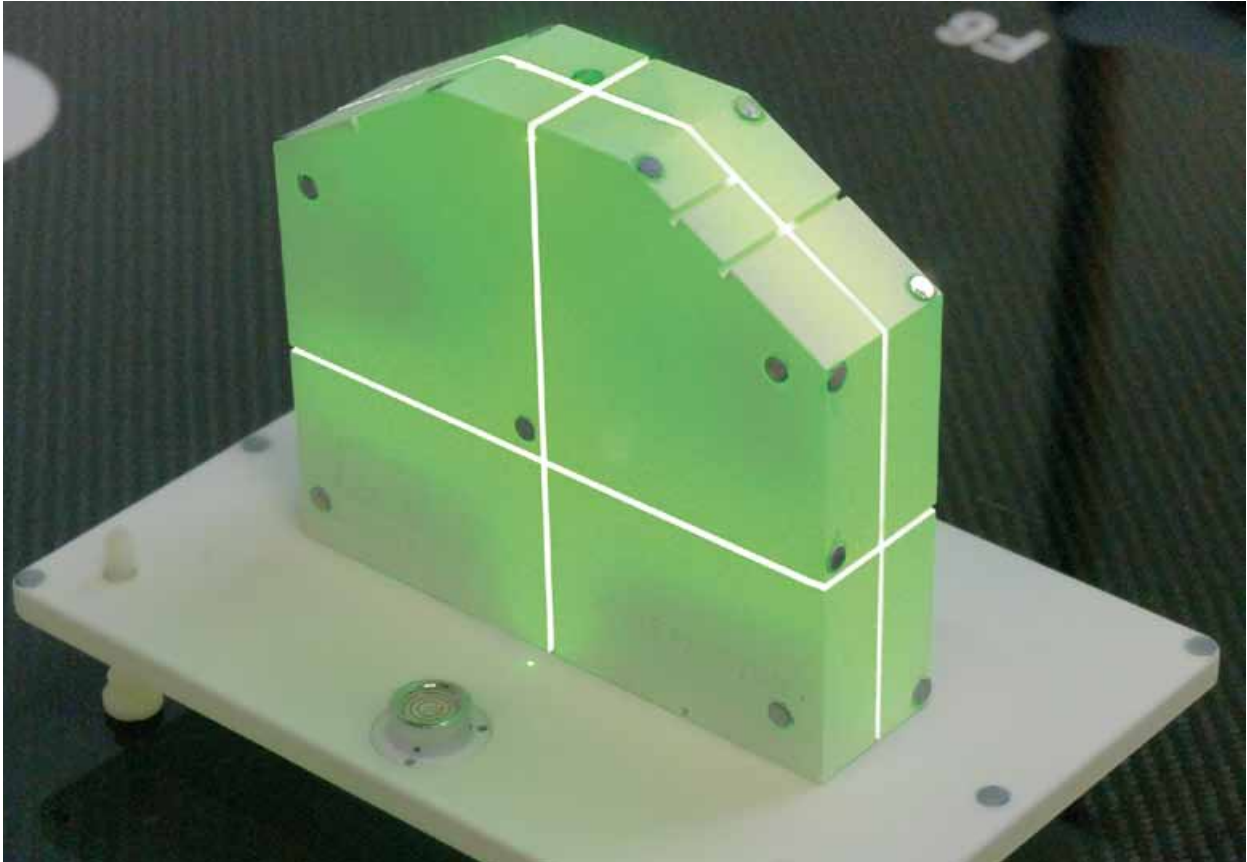
The patented Pictor 3D technology utilizes DICOM RT data information to calculate the coordinates of the intersection of the radiation field and the patient's skin surface. The CARINAsim software calculates the coordinates of the intersecting therapy field, based on the target volumes established by the treatment planning, and the patient surface. The laser projection is then controlled accordingly. The laser beam is rapidly projected along the contour of the desired intersection area, so that solid contours of the desired fields are achieved.



Digital Imaging and Communications in Medicine



EASY AND QUICK CALIBRATION WITH AUTOMATED CALIBRATION TOOL AND PHANTOM



A unique intelligent reflector technology combined with CT-imaging of the Phantom and a specially developed calibration software package perform an easy and quick automated calibration of the system.



SYSTEM OPTIONS

The PICTOR 3D System has a compact housing for wall and ceiling or a post for floor mounting. It can be delivered in three versions: projection in red, projection in green or multicolour projection red, green and yellow.



PICTOR 3D TECHNICAL DATA

Lasertype, wavelength, LAP Multicolour	red: diode, 635 nm green: DPSS (solid state), 532 nm yellow: combined projection of red and green
Accuracy*	± 0.5 mm in 4 m distance
Beam width*	< 0.5 mm in 4 m distance, 0.5 mm FWHM
Max. projection angle	52°
Laser power	< 1 mW
Laser class	2
Enclosure rating	IP 20
Ambient conditions	0-40 °C, 35-85 % rel. humidity, non-condensing
Power supply	110 V / 60 Hz, 240 V / 50 Hz
Connection	RS 485
Dimensions (H × W × D)	wall (D incl. swivel mount): 360 × 143 × 139 mm post (H incl. base plate): 1250 × 143 × 119 mm

* within ± 20° projection area, beam impact perpendicular to surface, optimal focussing and calibration, at least 30 minutes warm-up-time



LAP QUALITY ASSURANCE SYSTEMS

LAP has been developing and producing lasers for the medical industry for more than 25 years. LAP is consistently on the forefront of the latest developments in research and manufacturing.

LAP's worldwide installation base demonstrates the quality and reliability of LAP systems. Whether you choose red,

green or multicolor systems, or whether you choose stationary or moving lasers, every laser system is of the highest accuracy and reliability. Quality has always been an integral part of our philosophy.

It is our continuous effort to maintain the highest level of quality and to meet our customers high expectations. For all our

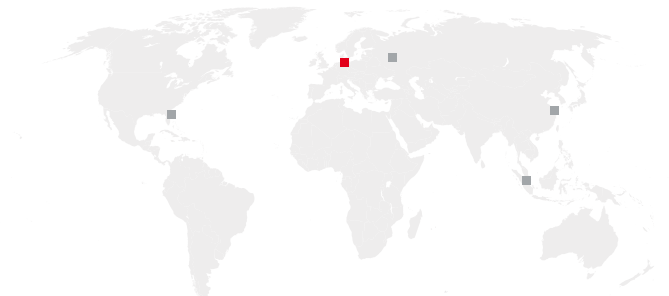
products we are offering a detailed service, warranty and training programs. LAP has been certified in accordance with the DIN EN ISO 9001 guidelines for industrial products and the EN ISO 13485 guideline for medical products.

LAP. Quality For Life.

www.lap-laser.com/medical



METHOD AND APPARATUS
ARE PROTECTED BY PATENT
US 7,697,147 B2



LAP GmbH Laser Applikationen

Zeppelinstraße 23
21337 Lüneburg
Deutschland
Tel. +49 4131 9511-95
Fax +49 4131 9511-96
E-Mail info@lap-laser.com

LAP of America L.C.

1710 Costa del Sol
Boca Raton,
Fl. 33432
USA
Phone +1 561 416-9250
Fax +1 561 416-9263
Email america@lap-laser.com

LAP GmbH Laser Applikationen Представительство в Москве

1, Казачий переулок 7
119017 Москва
Российская Федерация
Тел. +7 495 7304043
Факс +7 495 7304044
Email info-russia.med@lap-laser.com

LAP Laser Applikationen Asia Pacific Pte Ltd.

Block 750A, #07-02 Suite 8
Technopark at Chai Chee
Singapore 469001
Singapore
Phone +65 6536 9990
Fax +65 6533 6697
Email info-asia.med@lap-laser.com

LAP Laser Applikationen Asia Pacific Pte Ltd. Shanghai Representative Office

31/F Haitong Securities Tower
689 Guang Dong Road
Shanghai 200001
China
Phone +86 (21)5047-8881
Fax +86 (21)5047-8887
Email info-asia.med@lap-laser.com

