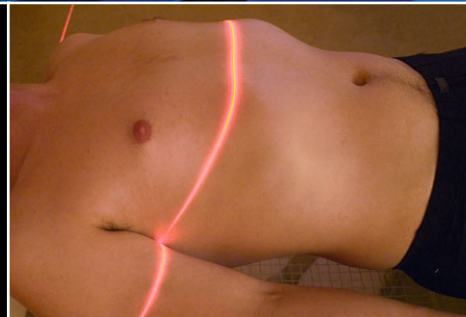
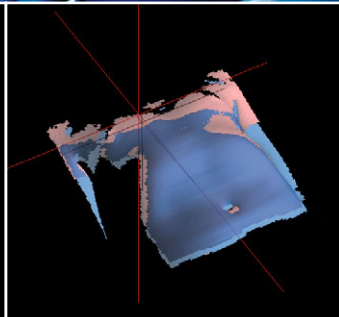
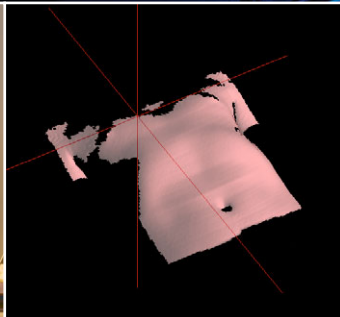
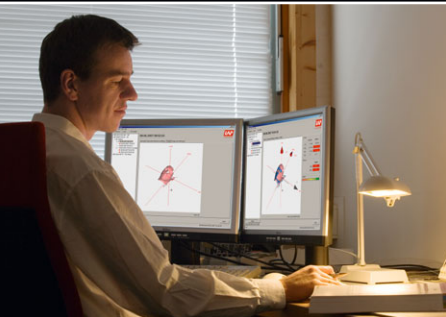
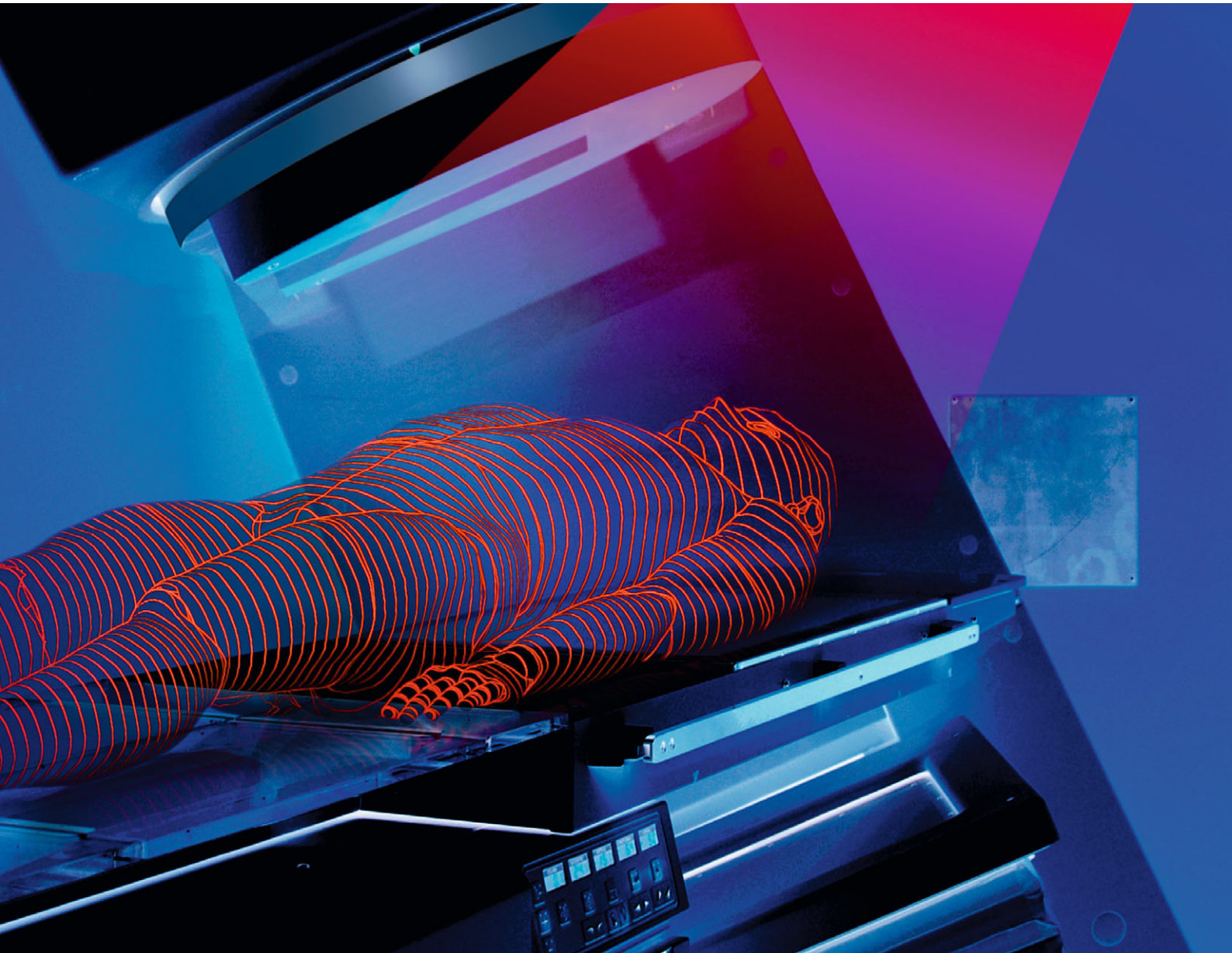


# GALAXY

PATIENT TOPOGRAPHY LASER SYSTEM





# **GALAXY - LASER SYSTEM FOR PATIENT ALIGNMENT**



## **HIGH ALIGNMENT ACCURACY**

Modern high precision Radiation Therapy is focussed on high dose delivery to the tumor and protection of normal tissue.

Technological efforts have been made to develop the Irradiation Equipment to perfection.

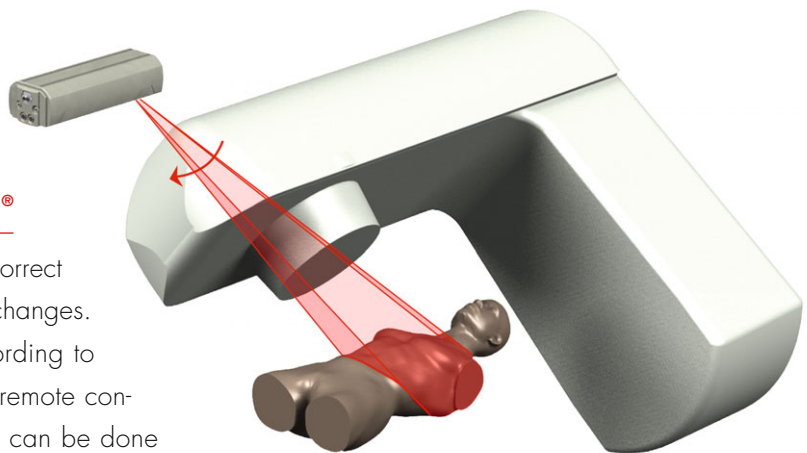
However, in the chain of Radiotherapy (Imaging-Tumor Localization- Dose Planning – Patient Positioning – Treatment – Verification), Patient Positioning is a weak ring.

There is a fundamental need to eliminate uncertainties in the set up of the Patient and to monitor the Position during the treatment.

GALAXY has been developed to improve and monitor Patient's Position on the couch. The Laser system uses the Patient Topography (skin surface) in relation to the Isocenter and the tumor for higher Alignment Accuracy and Repeatability.

## **ADAPTIVE ALIGNMENT®**

GALAXY can help to detect and correct interfractional and intrafractional changes. Positioning can be adapted according to any discrepancies. On sites with remote controlled couches, these corrections can be done automatically\*.



\*interface to third party couches on request.

## TECHNOLOGY

A high speed precision Laser Scanner and Camera is mounted on the ceiling in front of the Linac, Simulator, CT or MR. This hardware is controlled through a Windows based Imaging Software. The 3-D-Image Software covers a wide range of RT applications, like Positioning, Alignment, Motion Monitoring and Gating.

## WORKFLOW

### Patient Identification

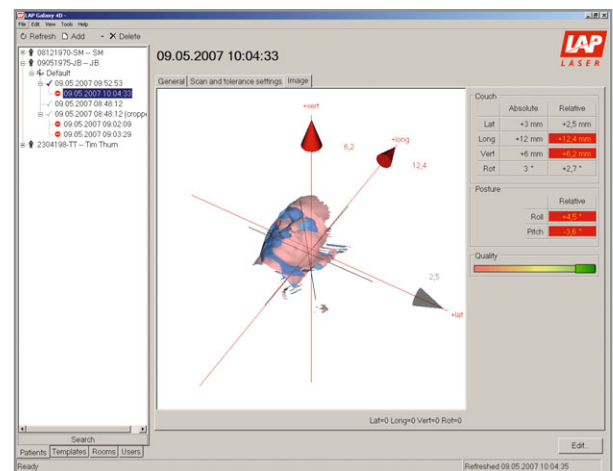
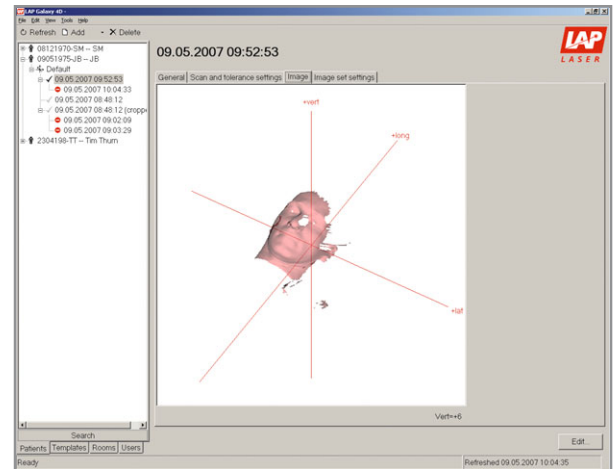
Enter the Patient data manually or by DICOM import from RT plan.

### Topography Reference

Scan the Reference Image prior to the first session on the Linac, or import as Reference the Skin contour from the CT image or a GALAXY system mounted on another modality.

## TREATMENT SET UP

Scan the Patient. The unique algorithm compares the actual treatment position with the Reference Image, calculates the required Couch Adjustments automatically and provides instantly the Couch Shift Vectors in 6 axes.

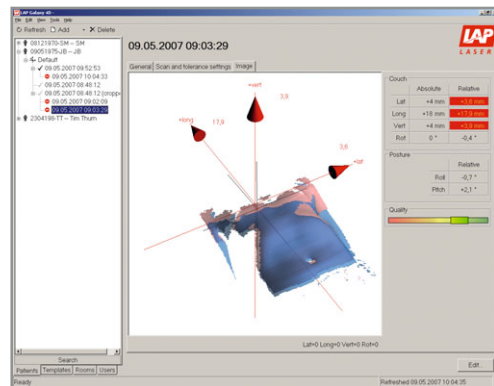
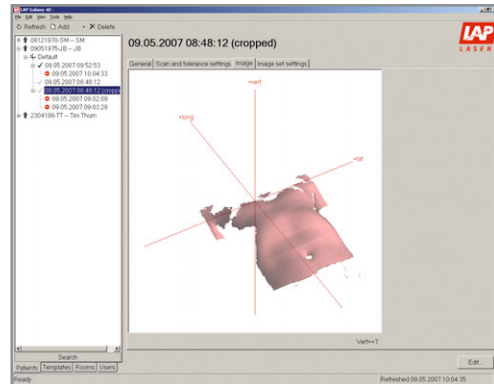


## QUALITY ASSURANCE

Protocols are created and stored automatically.

## FEATURES AND BENEFITS

- No additional set up time
- No markers
- Non-invasive
- No extra irradiation
- High Precision Alignment
- State-of-the-Art Laser Scanning Technology
- User friendly intuitive software
- Network shared database
- Interfaces to all major Linac manufacturers
- Interface to all major R&V systems
- DICOM compatible



The GALAXY Laser system has been developed in close cooperation with Professor Anders Brahme (The Karolinska Institute in Stockholm, Sweden).





# SPECIFICATIONS

## GALAXY

|                              |  |
|------------------------------|--|
| Scan volume                  | 500 - 700 x 900 x 330 - 470 mm                       |
| Scan speed                   | 1 - 5 sec  |
| Measurement reproducibility  | 0.1 mm   |
| Patient positioning accuracy | < 1 mm   |
| Measurement Resolution       | 0.2 mm in Y and Z-Direction<br>0.5 mm in X-Direction |
| Remote Control               | IR   |
| Laser class                  | 2M   |
| On-board function processing | Microprocessor                                       |
| Power supply                 | 110 - 240 V / 50 - 60 Hz                             |
| Computer interface           | RS 232 / LVDS  |
| Dimensions (LxWxD)           | 850 x 190 x 130 mm                                   |
| Weight                       | 11 kg  |



LAP patient alignment systems comply with Center of Devices and Radiological Health regulation for class II lasers (21 CFR 1040).

# LAP LASERS AROUND THE WORLD

Aalborg • Aarhus • Akron • Albany • Albuquerque • Alpharetta • Altoona • Amarillo • Amsterdam • Amhem • Athens • Atlanta  
 • Aurora • Austin • Bakersfield • Baltimore • Bangkok • Barrington • Baton Rouge • Beijing • Belleville • Benevento • Berlin •  
 Bethesda • Binghamton • Bismarck • Boca Raton • Boise • Boras • Boyton Beach • Bradenton • Brandon • Braunschweig •  
 Bremerton • Brick • Brooklyn • Brownstown • Bucharest • Buffalo • Caceres • Caen • Calgary • Campinas • Canton • Casper  
 • Catania • Causeway Bay • Charleston • Chattanooga • Chester • Chicago • Chicoutimi • Christiansand • Chula Vista •  
 Cincinnati • Clearwater • Cleveland • Coalinga • Coeur d'Alene • Columbus • Comac • Concord  
 • Corning • Covington • Covington • Covington • Denver • Detroit •  
 Duquesne • Duxbury • Dubois • Duesseldorf • Elizabeth • Englewood •  
 Escondido • Fayetteville • Flint • Ft. Lauderdale • Ft. Valley • Ft. Walton Beach • Ft.  
 Wayne • Galveston • Genoa • Greenville •  
 Greenville • Guam • Halifax • Hanover • Hartford • Hattiesburg •  
 • Highland Heights • Honolulu • Houston •  
 Huntsville • Indianapolis • Irvine • Jerusalem •  
 Jiangmen • Johnson City • Joliet •  
 Kuala Lumpur • Mesa • Lafayette • Lake  
 Las Vegas • Lebanon • Leipzig • Lincoln • Long Beach • Los Angeles •  
 Louisville • Lubbock • Lumberton •  
 • Maidstone • Malone • Manassas • Mansfield  
 • Medford • Melbourne • Memphis • Merced •  
 Meridian • Miami • Middleburg • Midwest • Milwaukee • Minot • Missoula • Montclair •  
 Montgomery • Mountain Home • Muenster • Münster • N. Grafton • Nashville •  
 New Albany • New Port Richey • New York • Newcastle • Newport • Niijmegen •  
 Nila • Norfolk • Ocala • Odense • Oklahoma City • Ontario • Opelika • Orange • Orange  
 City • Orange Village • Ormond Beach • Ostfildern • Palos Heights • Panama City • Park  
 Ridge • Pasadena • Philadelphia • Phoenixville • Pine Bluff • Pittsburgh • Portland • Pretoria • Providence •  
 • Queens • Quincy • Redbank • Redlands • Ridgewood • Rio de Janeiro •  
 • Rolla • Roma • Rotterdam • Sacramento • Salem • San Antonio • San Francisco • San Juan  
 • San Luis Abispo • Savannah • Scottsbluff • Scottsdale • Searcy • Shantou • Shelby • Sherbrook • Sheridan •  
 Shreveport • Sidney • Springfield • Singapore • Somers Point • South Bend • Southaven • Southfield • Spartanburg •  
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 City • Taipei • Tampa • Teresopolis • Thomasville • Thornton • Tokyo • Toms River • Topeka • Trois Rivieres • Trumbull • Tucson •  
 Tulsa • Tupelo • Tuscaloosa • Valencia • Valhalla • Vancouver • Vaxjo • Vero Beach • Victoria • Vienna • Vigo  
 • Vorhees • Walcheren • Washington • Waterbury • Watertown • Waukegan • Waussau • West Chester • Wichita • Wichita  
 Falls • Wilkes-Barre • Willingsboro • Wilrijk • Winnipeg • Winston-Salem • Wooster • Yakima • Yuba City • Yuma • Zion

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