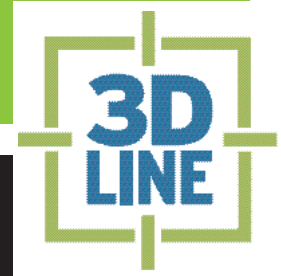
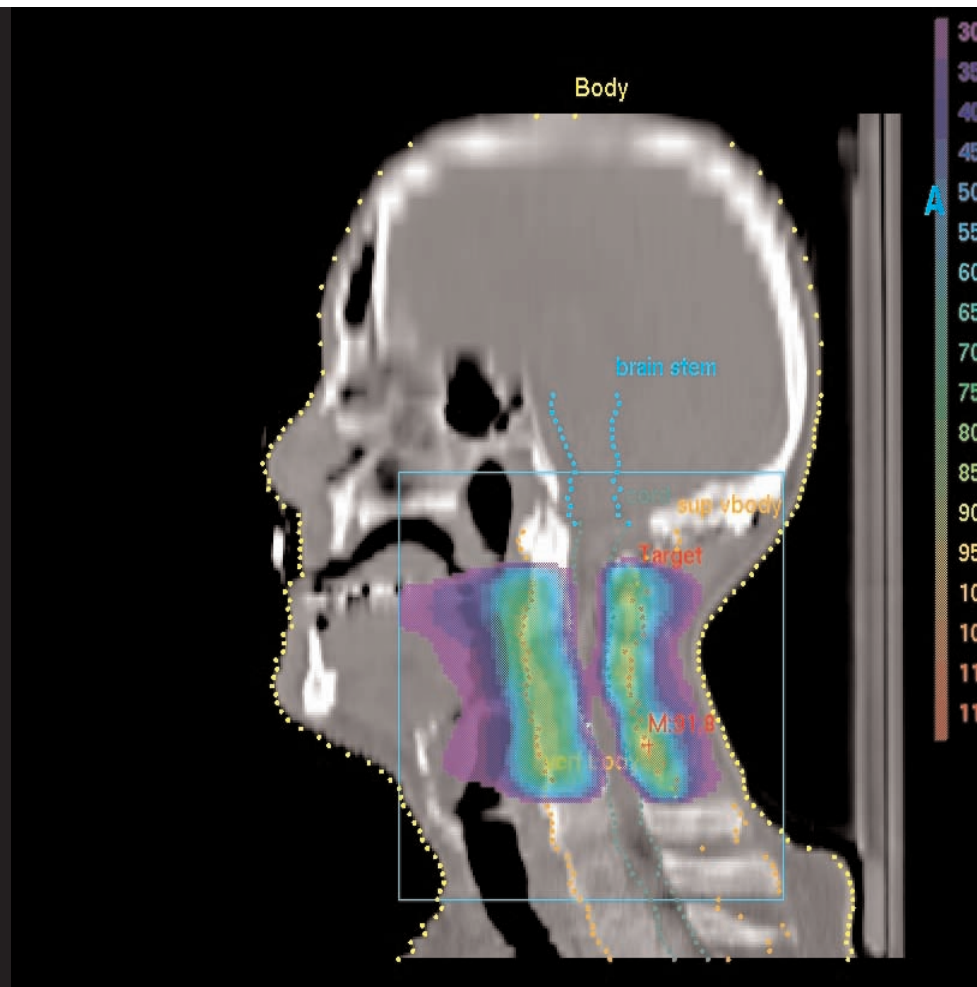


# DYNART/FIX. Stereotaxy from Head to Toe.

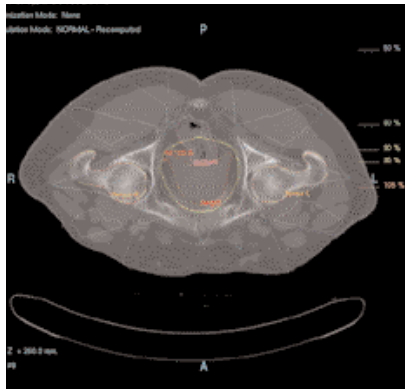


medical systems



# DYNART™.

## Dynamic Arc Radiation Therapy.



STATIC CONFORMAL

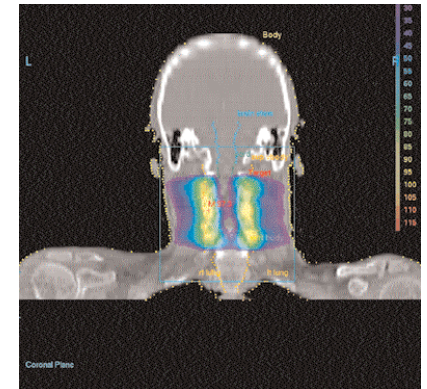
Imagine the choice to do

- + Static Conformal Beams
- + Dynamic Conformal Arcs
- + Step & Shoot IMRT
- + Arc Modulated IMRT
- + SRS
- + IMRS

with a single detachable accessory added to your existing LINAC. You are thinking DynART™.

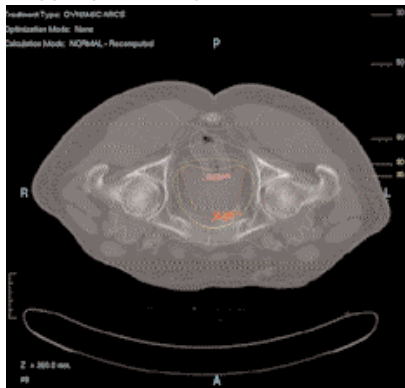
DynART™ is an innovative radiation therapy solution that is proving its outstanding capabilities day by day worldwide. The concept is simple, intuitive, fast, efficient, economical and most effective.

DynART™ solution combines geometrical optimization (field fluence) and inverse planning with arc or static beam therapy to produce homogeneous and highly conformal dose distribution to the target volume with optimum sparing of organs at risk.

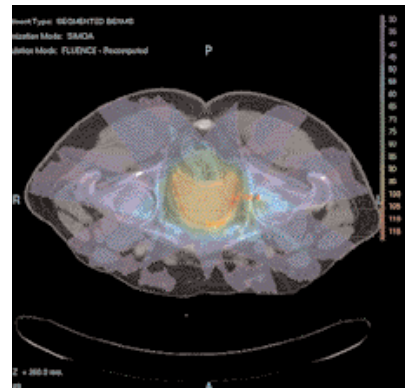


HIGH CONFORMAL DOSE DISTRIBUTION

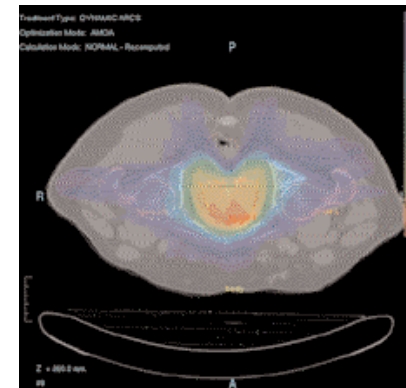
DYNAMIC CONFORMAL ARC



STEP & SHOOT



DYNAMIC ARC MODULATION



Furthermore the set up and dose delivery can be performed quicker than with conventional techniques.

The fully automated DynART™ treatment design and delivery can tune up any existing Linac into a dedicated tool. Performing even Dynamic Arc Modulated IMRT! All your patients can benefit from optimized treatment with the choice of inverse planning.

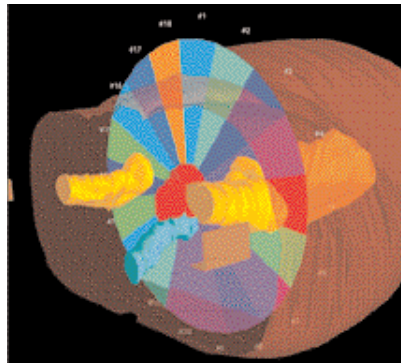
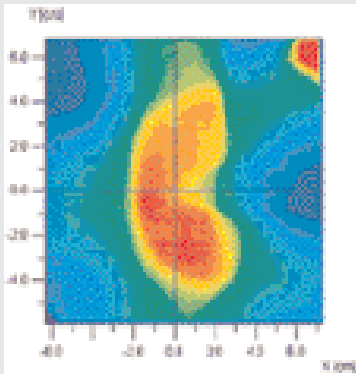
# 3D LINE. MEDICAL SYSTEMS. The Power of Dynamics.

„By combining 3D Line Medical Systems' ERGO++ and DMLC, DynART is the only commercial available solution capable of Dynamic Arc Modulation IMRT! While the patient benefits from the optimized dose distribution the user will benefit from minimized planning and treatment time resulting in maximized patient throughput.“

## DynART™ consists of a

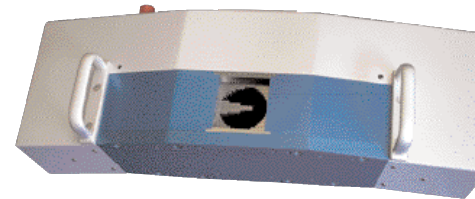
### Reduced QA

Optimized 3DConformal Treatment while minimizing dose to Critical Structures for the most patients at the lowest cost, in the shortest time with the least Physics and QA resources!



dedicated treatment planning software

- + Inverse planning for static & arc therapy
- + Field Fluence Optimization based on critical organs
- + Single or multiple target optimization
- + Image Fusion (for anatomical, functional & angiographic imaging)
- + 3D visualization of organs and dose distribution
- + Simulated Annealing algorithm to provide optimum solutions in seconds
- + Radiobiology planning optimization Plan evaluation and comparison module
- + IMRT QA verification module



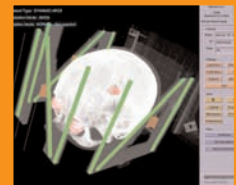
detachable Dynamic Micro Multileaf Collimator (DMLC)

- + Supports any Linac
- + Fast mounting/dismounting
- + Three different models with 3mm, 5 mm or 7mm leaf thickness at isocenter for a most homogeneous target coverage as well as sparing of critical structures
- + All three DMLCs with the same interface to Linac
- + 48 leaves, 24 pairs
- + Double focused leaves (AB and GT direction)
- + Individual motor and encoder for each leaf
- + Gantry slope sensors for most precise measurements of gantry speed and position

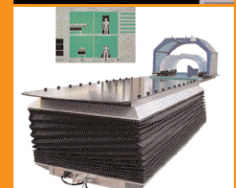
Due to the full DICOM RT compatibility of DynART™ we provide full connectivity with all commercially available IMRT QA systems (RIT, IBA, PTW and Portal Imaging devices (EPID). Of course the system also connects and interfaces with diagnostic images devices on and off site, with R&V systems and allows for DICOM RT import and export to compatible ultrasound devices. And more.

The DynART system can easily be upgraded with or connected to all our other solutions any time, e.g.:

**DynART/FIX**  
Stereotaxy from Head to toe



**DYNATRAC**  
Infrared patient monitoring and robotic patient positioning



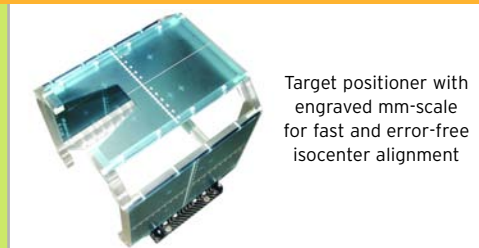
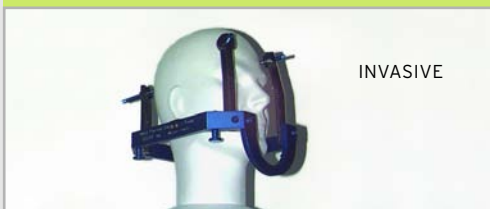
**ARGOS**  
Computer navigated Surgery. Connecting Radiation Therapy and Neurosurgery.



DynART™. The only solution commercially available performing Dynamic Arc Modulated IMRT

# DYNART/FIX. Stereotaxy from head to toe.

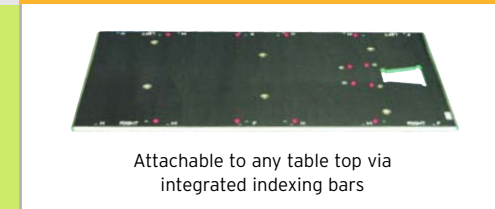
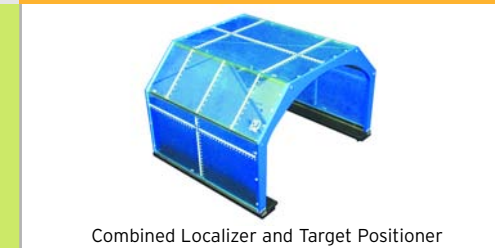
## DYNART/FIX HEAD



## DYNART/FIX NECK



## DYNART/FIX BODY



Dynamic treatment modalities such as Dynamic Arc Modulation IMRT or SRS require a high degree of patient immobilization and patient (re-)positioning accuracy. 3D Line Medical

Systems has developed a complete range of stereotactic hardware enabling one to localize the target any time during the workflow - from diagnostic to treatment. Finally leading to treat-

ments with higher precision. The DynART/FIX product family ranges from Cranial via Head&Neck to Extracranial stereotaxy, including a variety of patient fixation options.

# DYNART/FIX. Stereotaxy from head to toe.

Upgrade any\* TPS to a Stereotactic System

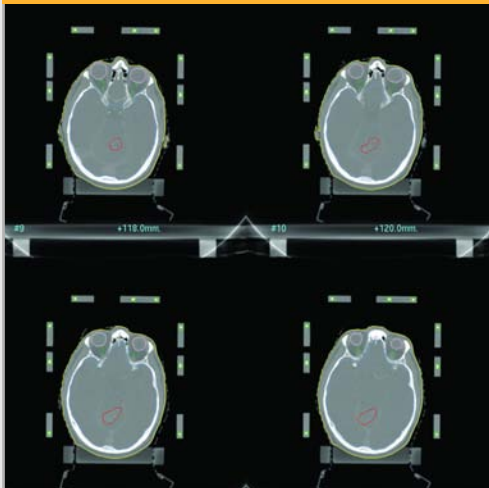
## Independent ERGO++ Localizer Software

The independent solution to upgrade any\* TPS to Stereotaxy

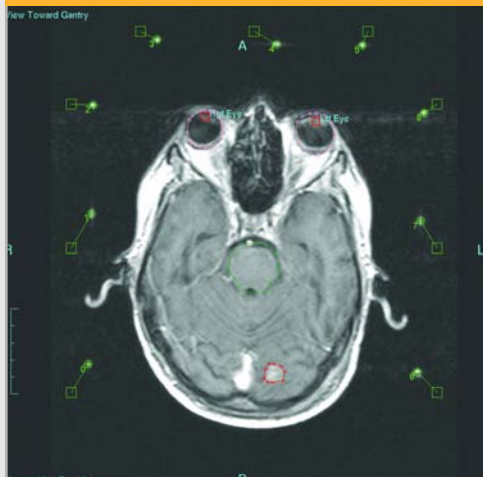
- Automatic marker detection
- Compatible with most stereotactic frames available today
- Easy configuration of new stereotactic frame geometries
- Automatic report of stereotactic calibration accuracy
- Submillimetric accuracy
- Full DICOM RT compatibility
- Intuitive and user friendly interface

It requires just three simple steps:

### Step 1: Import of treatment plan



### Step 2: Automatic Localizer detection



### Step 3: Output of stereotactic coordinates

List of available points:

| Image# | Name       | DICOM Coordinates         | Stereotactic Coordinates  |
|--------|------------|---------------------------|---------------------------|
| 14     | Typo Int.1 | ( +14.0, +118.0, -129.0 ) | ( +110.7, +50.9, +42.2 )  |
| 21     | Left Eye   | ( +38.0, +4.2, -108.0 )   | ( +134.5, +165.4, +59.7 ) |
| 21     | Right Eye  | ( -25.7, +1.8, -108.0 )   | ( +70.9, +167.6, +59.9 )  |
| --     | Typo Int.2 | ( +0.0, +50.0, -100.0 )   | ( +96.7, +119.4, +67.5 )  |

Rename    Point type:  Target    Marker    Tracking    Isocenter  
 Create Target after editing

Enter DICOM coordinate    Stereotactic coord.

|   |           |   |             |
|---|-----------|---|-------------|
| X | 4 [mm]    | X | =96.7 [mm]  |
| Y | 50 [mm]   | Y | =119.4 [mm] |
| Z | -100 [mm] | Z | =67.5 [mm]  |

List of ISOCENTERS:

| # | DICOM Coordinates | Stereotactic Coordinates |
|---|-------------------|--------------------------|
|   |                   |                          |

Select plate to be plotted:  Right    Left    Anterior    All    Select Plot rotation:  0 degrees    90 degrees

Close    Save    Delete    Plot

For SRS we do also offer a complete product line for Cones in addition to our DMLCs

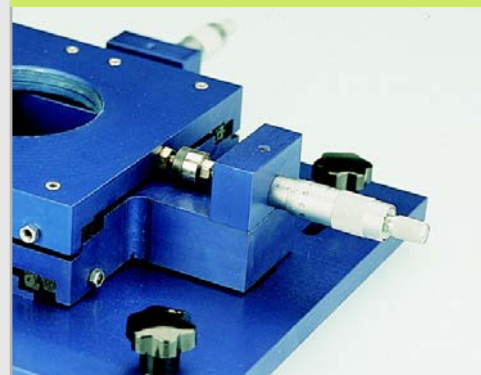
### Universal Collimator Holder



### Cones customized for your linac



### Includes micrometric adjustments



### QA accessories to perform eg Winston-Lutz-Test

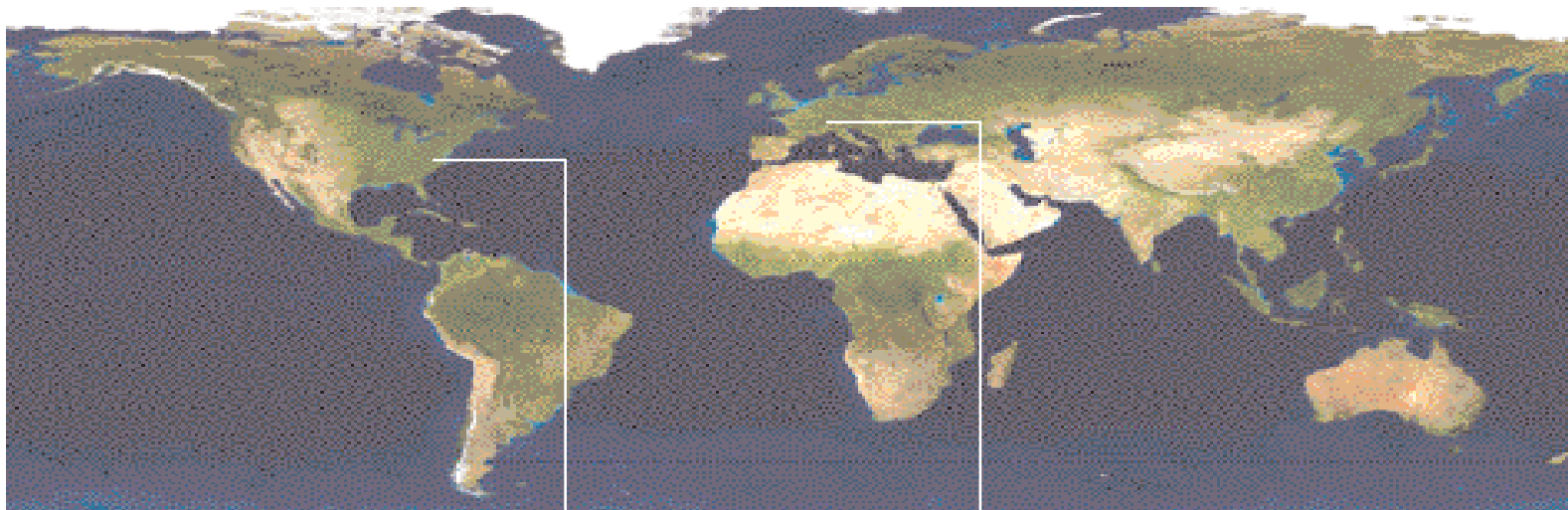


\* requires DICOM RT compatibility



medical systems

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