Radiance™

gmv
INNOVATING SOLUTIONS

Radiation treatment simulation platform for IORT devices

Radiance™, pioneer and unique software system for treatment planning and analysis of radiation therapy administered with any device for intraoperative radiotherapy (IORT).

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THE IORT PLANNING TOOL

- Covers all planning needs of an IORT procedure:

  - **pre:** the treatment situation is simulated and the treatment parameters are defined.

  - **intra:** the process is assisted by the previous planning. Modifications over the plan are registered.

  - **post:** the simulation is redone based on the real treatment for post-verification.

- Powerful and fast visualization and measurement tool introducing the 3D planning and dosimetry and high precision on geometrical distances (such as the treatment volume).

- Simulation of all important parameters in the process (surgical frame, applicator, LINAC, etc.).

- Dosimetry which considers different tissue densities and assistant materials (bolus and protections).

- Quantification on the received dose on all involved tissues (areas to be treated and areas sensitive to the radiation) by means of a DVH.

- Comprehensive reporting tool for a better post-analysis of the process.

- Validated by reputed specialists with many years of experience in IORT.

- Support all requirements from AAPM TF48 & TG72 IORT studies.

IORT DEVICES
Radiance™ **works with the top leaders IORT systems:**

- **INTRABEAM® System**. Miniaturized linear accelerator that produces low-energy X-ray photons which are emitted isotropically (equally distributed).

- **Mobetron®**. The only self-shielded, portable LINAC capable of providing electron IORT in a standard operating room.
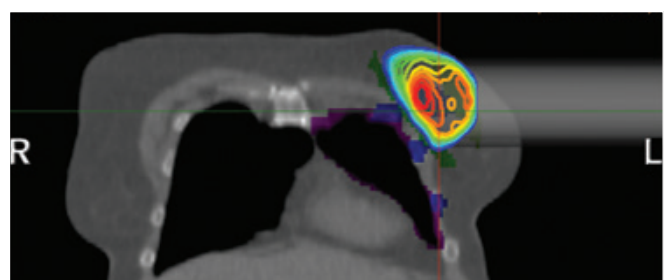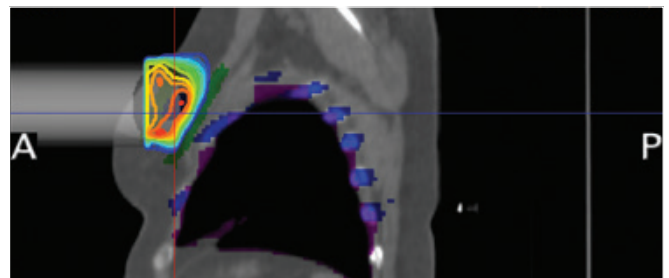
DICOM, DIMCOM.RT COMPLIANCY

Radiance™ interfaces with the PACS to query&retreive DICOM RT Structures and DICOM 3D images. These images can also be sent to *Radiance™* from any other DICOM node, such an external radiotherapy planning system.

Radiance™ can export RT Structures and RT Dose files so that it can be fused with external beam radiation therapy plans in software applications which support registration and fusion of images and dose.

In case intraoperative imaging is available, *Radiance™* is fully compatible with it, providing a complete and precise dosimetry study of the patient.
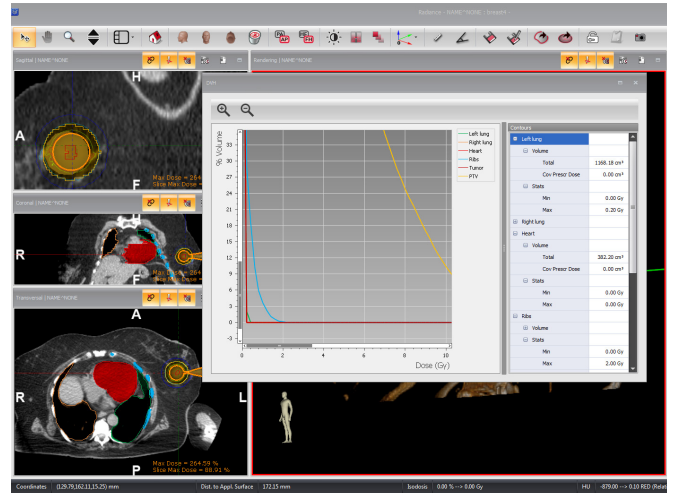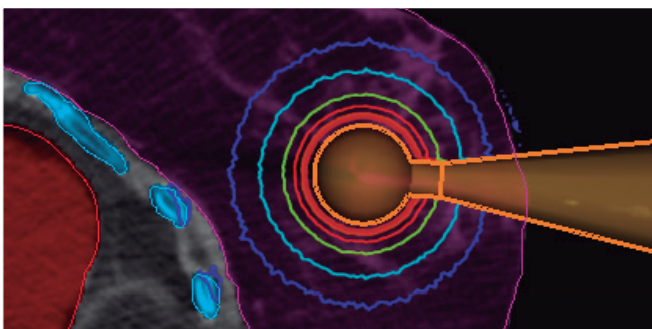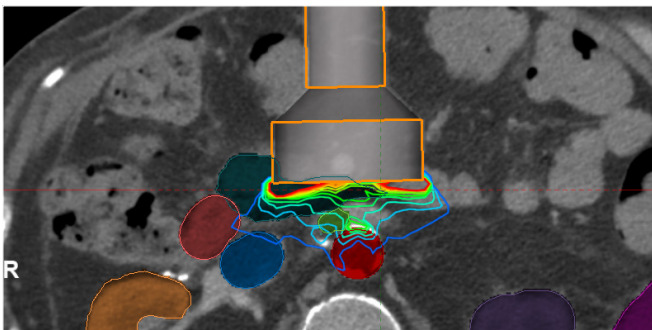

DOSE CALCULATION ALGORITHMS

Radiance™ offers different algorithms for a fast and accurate dose calculation.

For INTRABEAM®:
- Dose Painting interpolates the PDD around the volume to generate a fast (<4 secs) first approach.

- Hybrid Mote Carlo adjusts a predefined phase space with the PDD of the applicator providing a fast (1–10 mins aprox) and accurate dose calculations with heterogeneity corrections.

For IntraOp® Mobetron® :
- Pencil Beam is a very good agreement between speed (<30 secs aprox) and accuracy in heterogeneous media (providing the limitations of the algorithm).

- Monte Carlo adjust a predefined phase space with some PDDs and cross profiles providing fast (1–10 mins aprox) and accurate dose calculations in heterogeneous media.

A global technology group

Multinational technology group

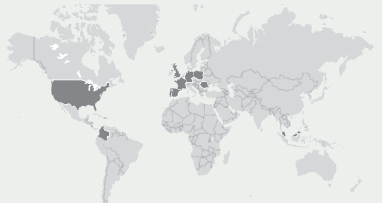Headquarters in Spain (Madrid)

Private capital

Over **2.500** employees

International presence

Aeronautics, Automotive, Banking & finances, Cybersecurity, Defense & Security, Health, Intelligent Systems of Transport, Public administrations, Space, Telecommunications and ICT for company

Founded in **1984**

Roots tied to the Space and Defence industry

Engineering, development and integration of systems, software, hardware, specialized products and services

International technology leadership

#1 Worldwide Satellite Control Center provider to commercial telecom operators (+300 Satellite missions worldwide)

First ever **worldwide** intraoperative radiotherapy planning system

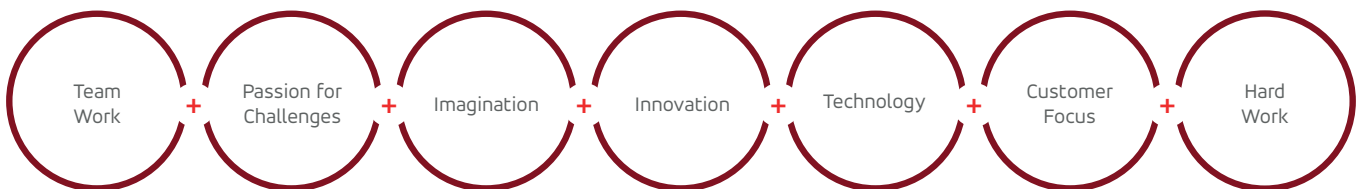**Responsible** of safety critical systems of European GNSS systems (EGNOS and Galileo)

Leader of Intelligent Transportation Systems for the **public transport sector** (+100 cities in Europe, Asia and America)

GMV's *checker ATM security* is the worldwide leader as multivendor cyber security protection for ATMs

An outstanding team

Team Work + Passion for Challenges + Imagination + Innovation + Technology + Customer Focus + Hard Work

GMV in the world

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Malaysia
The Netherlands
Poland
Portugal
United Kingdom
Romania

■ BRANCHES AND OFFICES
■ PROJECTS

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