

## **Varian Ships 10,000<sup>th</sup> Eclipse Treatment Planning System**

Varian has reached a significant milestone by shipping its 10,000th Eclipse treatment planning system to a hospital in the center of France. The Centre Hospitalier de Fleyriat in Bourg-en-Bresse received the landmark system as it prepares to begin intensity modulated radiotherapy treatments.

“We had no idea this was such a significant purchase but we are delighted for Varian to reach this landmark,” says Nadine Aubert, medical physicist at the hospital. “We use Varian for all our equipment so we selected Eclipse to ensure we have a homogeneous department and avoid any problems with connections and compatibility.”

Although the hospital has been a Varian customer since 1985, a modern radiotherapy department was constructed in 2007 and equipped with Varian linear accelerators and software, including two Eclipse systems. Now the hospital, which treats nearly 900 patients per annum from the Bourg-en-Bresse region, has acquired a third system.

“We knew we wanted to start IMRT treatments following a period of conformal treatments with the new linear accelerators, so we anticipated the need for Eclipse and Helios software,” adds Nadine Aubert. “We intend to start IMRT in 2010 and we will be participating in next month’s IMRT technical and clinical training at Varian’s Zug facility in the coming months to prepare ourselves.”

Youssef Rihane, Varian’s France country manager, said, “This hospital is a great example of a general hospital that decided to invest in an integrated system from Varian – two linear accelerators, one simulator, ARIA and Eclipse - to offer advanced radiotherapy treatments to its local population and it’s a very worthy recipient of our 10,000<sup>th</sup> system.”

### **HISTORY OF ECLIPSE**

Eclipse was introduced in mid-2001, with this [press release](#) announcing that a new “high-performance Windows-based treatment planning system for cancer radiotherapy” had received 510(k) clearance from the U.S. FDA. In that release, Tim Guertin, who was then president of Varian’s Oncology Systems business, said: “Eclipse is a lightning-fast planning tool that can take the place of more expensive, UNIX-based planning systems. It puts the most advanced treatment planning tools on users’ desktops in a PC/Windows environment. Eclipse incorporates state of the art treatment planning, graphics, simulation, and dose visualization tools. We’ve added fast calculation capabilities that dramatically reduce the processing time associated with previous planning tools.”

[In 2002, the Helios™ module was added to Eclipse](#), facilitating “inverse treatment planning,” the approach that makes intensity-modulated radiotherapy (IMRT) possible. Eventually, the Helios module was simply integrated into Eclipse, which was further expanded with many new algorithms for planning different types of radiotherapies alongside inverse-planned IMRT.

Later milestones included:

[June 18, 2004](#): Varian delivered the 2000<sup>th</sup> Eclipse treatment planning system to Vanderbilt University.

[July 22, 2005](#): Varian introduced a new version of Eclipse with easy-to-use templates and optimization tools that substantially sped up treatment planning for complex radiotherapy treatments like intensity-modulated radiotherapy (IMRT) and image-guided radiotherapy (IGRT).

[November 7, 2006](#): Varian added new motion management capabilities, enabling clinicians to increase treatment precision for tumors in mobile areas of the body, such as the lung.

[July 19, 2007](#): At AAPM, Varian showcased a new Beam Angle Optimization tool. This automated the process of choosing the beam angles to use when administering radiation from different directions to converge on the targeted tumor. Sophisticated algorithms analyze anatomical images and calculate the optimal number and combination of angles for achieving the desired radiation dose distribution.

[August 20, 2007](#): Varian received FDA 510(k) clearance for a Smart Segmentation tool that automated the process of contouring tumors and surrounding anatomy. Contouring had been among the most time-consuming steps in radiotherapy treatment planning. This new tool significantly reduced the amount of time needed to create radiotherapy treatment plans by about 30-40 percent.

[October 25, 2007](#): Varian unveiled its RapidArc® radiotherapy technology at the 2007 ASTRO meeting, while it was still a works-in-progress; it received FDA 510(k) clearance just over two months later, in January 2008. RapidArc is largely enabled by new capabilities in Eclipse that make it possible to plan an IMRT treatment that can be delivered in as little as one rotation around the patient by varying the shape of the multileaf collimator, the gantry rotation speed, and the dose delivery rate all at once.

[December 14, 2007](#): Varian introduced the Eclipse™ proton scanning algorithm, a new tool for planning proton treatments that makes it possible to precisely control how dose is distributed during a proton therapy treatment.

[September 22, 2008](#): At the 2008 ASTRO meeting, Varian exhibited new RapidArc capabilities, powered by further developments to Eclipse. The enhancements enabled the use of multiple, and also non-coplanar arcs, for targeting complex tumors that are large, irregularly shaped, or awkwardly-positioned.

[July 23, 2009](#): Varian showcased five new tools in a new version of Eclipse that speed up and enhance radiotherapy treatment planning. These included: *conformal optimization*, *biological optimization*, *biological evaluation*, *brachytherapy dosimetry*, and enhanced radiosurgery treatment planning.

“Eclipse has evolved to become the fastest, most versatile and widely-used radiotherapy treatment planning system in use today,” said Anne Razavi, Eclipse Product Marketing Manager. “It also continues to expand on its functionality as a single system for state-of-the-art proton, photon, electron, and brachytherapy treatment planning. Within the Eclipse planning environment, clinicians can combine and compare plans for any and all of these treatment approaches, to arrive at an optimal strategy for helping each and every patient. It’s little wonder that 10,000 workstations have now been delivered to customers around the world.”