

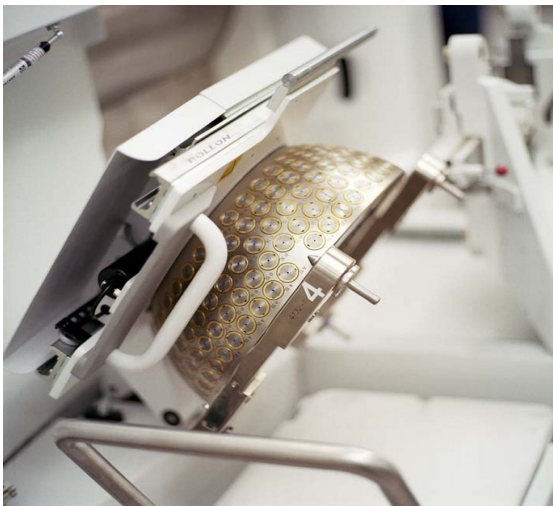
## Gridcore Case Study

### Elekta's High Performance Computing Environment.

Elekta built its first High Performance Computing Resource using Gridcore's HPC stack in 2006. Elekta required a highly reliable HPC platform for engineers at their sites in both Sweden and the UK. This case study shows how Gridcore's environment addressed Elekta's requirements in terms of High Performance Computing resources.

**“We required a High performance/price ratio, high reliability, ease of use and maintenance and we got it from Gridcore AB.”**

*Anders Lundin, R&D physicist, Research & Physics group, Elekta Neuroscience, Stockholm.*



Leksell Gamma Knife Collimator Helmet. Courtesy of Elekta



#### Customer details

**Customer:** Elekta Sweden  
**Customer size:** 2.500 (globally)  
**Country:** Sweden  
**Industry:** Human care

[www.elekta.com](http://www.elekta.com)

#### Customer profile

Elekta is a human care company pioneering significant innovations and clinical solutions for treating cancer and brain disorders. The company develops sophisticated state of the art tools and treatment planning systems for radiation therapy and radiosurgery, as well as workflow enhancing software systems across the spectrum of cancer care.

Elekta was founded in 1972 by the late Lars Leksell, Professor of Neurosurgery at the Karolinska Institute in Stockholm, Sweden. Today, Elekta solutions in oncology and neurosurgery are used in over 5,000 hospitals globally, and every day more than 100,000 patients receive diagnosis, treatment or follow-up with the help of a solution from the Elekta Group.

Elekta employs around 2,500 employees globally. The corporate headquarter is located in Stockholm, Sweden, and the company is listed on the Nordic Exchange under the ticker EKTAB.

### System Requirement

During 2006, there was a growth in Elekta's requirements for High Performance computations. Engineers from the Research & Physics group, Elekta Neuroscience, Stockholm and the R&D department, Elekta Oncology, Crawley, UK required a more powerful and reliable HPC resource for running Monte Carlo simulations of radiation transport.

**“Thanks to Gcompute Portal engineers can easily run and monitor their jobs from their personal computers no matter which OS they are used to.”**

*Anders Lundin, R&D physicist at Research & Physics group, Elekta Neuroscience, Stockholm.*

Apart from the technical requirements, Elekta's engineers requested for a high performing, high reliable, easy to use and maintain platform with the highest efficiency.

## Gridcore's solution

Gridcore addressed all of Elekta's needs with its HPC turnkey solution: latest technology in hardware + personalized and ready to use environment using Gridcore's software suite, E-Gompute+ high quality support.

- **Hardware:** IBM + Gridcore solution. 168 cores with 1Gb/s ethernet interconnect and NFS (to be updated to GPFS).
- **Software:** E-Gompute software suite, the main components of which is described in more detail below

**Compute Portal:** a simple, secure and comprehensive web-based entry point to Gridcore's computing farms. Thanks to Gompute Portal, Elekta Engineers can enjoy a HPC environment with:

- **Complete overview of the system:** where engineers can monitor the system and their jobs.
- **Collaborative teams:** Swedish and British engineers can work together, share results and help each other directly from their desktops.
- **Accounting and Billing:** managers can control project and job expenses.

**Compute Server Edition:** A complement to the Operating System, including out of the box integration of the distributed resource manager with applications and license servers to optimize the utilization of resources in a computation farm. Thanks to Gompute Server Edition, engineers at Elekta got

- Controlled and Modularized environment for application management
- Customized application integration with the distributed resource manager.

## Before and after Gompute Portal

Before including Gridcore's solution, Elekta used another queue system to monitor and manage the cluster, but it didn't fulfill their requirements of application management.

Nowadays, thanks to Gridcore and E-Gompute, engineers, mainly R&D physicists in Stockholm and Crawley enjoy a comprehensive HPC environment where they run exclusive Monte Carlo radiation transport simulations.

Users prepare simulation models on their local machines using a graphical front-end program and these are transferred to the cluster using the file transfer utility in Gompute Portal, or directly with scp. And thanks to Gompute remote desktop, users can run and monitor their jobs using a graphical interface.

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**“Completely satisfactory installation and delivery. Good commitment during installation. Quick, competent telephone support”**

*Anders Lundin, R&D physicist, Research & Physics group, Elekta Neuroscience, Stockholm.*



**Elekta AXESSE™**

### Further information

For more information about Elekta:

[www.elekta.com](http://www.elekta.com)

For more information about Gridcore AB:

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