



## **Eni: the new supercomputer for Eni's exploration & production activity starts work**

*The system is hosted in the new Eni Green Data Centre and it is among the most powerful installations in the world*

*San Donato Milanese (MI), 18 November 2013* – Eni has fired up its new Petaflop class supercomputer. The supercomputer will support hydrocarbon exploration activities, providing the computing capacity needed to improve the accuracy and resolution of the geophysical and geological studies, which are essential to locate and develop new hydrocarbon reserves and to project safe and optimal drilling activities. Eni will have an available computing capacity in excess of 3 Petaflops. The system is able to achieve a performance comparable to most powerful computing centres worldwide.

The supercomputer is based on a cluster architecture with a system consisting of 1.500 dual CPU nodes (24.000 cores), enhanced by 1.300 General Purpose Graphics Processing Units (GPGPU), which are used as computational accelerators (equivalent to 20.800 additional cores). Cluster nodes are connected by a very high speed internal network and data storage is assisted by a high bandwidth parallel storage system providing 5 PetaByte disk capacity. The computing capacity will be maintained to the level needed to match business requirements with an annual replacement of half of the nodes every year in order to constantly keep the pace of the HPC technology development cycle.

The system will support the execution of the Eni leading edge suite of 3D Seismic Imaging packages, as well as advanced Petroleum System Modelling Algorithms.

In line with the Eni commitment to sustainability, the system is designed to target the maximum level of energy efficiency. For this reason, the supercomputer has been hosted in the new Eni data centre, the "Green Data Centre" in Ferrera Erbognone (Pavia). This new centre has been built to host Eni's central computer processing systems, both for information management and seismic simulation processing (High Performance Computing).

The Green Data Centre uses the most innovative infrastructure for energy efficiency, cutting CO2 emissions by 335,000 tons per year (about 1% of the Italian Kyoto energy target) and significantly reduces operating costs. The Green Data Centre achieved the world energy efficiency record for mega-centres, which is measured as the ratio between total energy consumption and the energy which is consumed by the IT equipment. For the new data centre, this ratio will be below 1.2 - the best result in the world.

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