

PARTNERS

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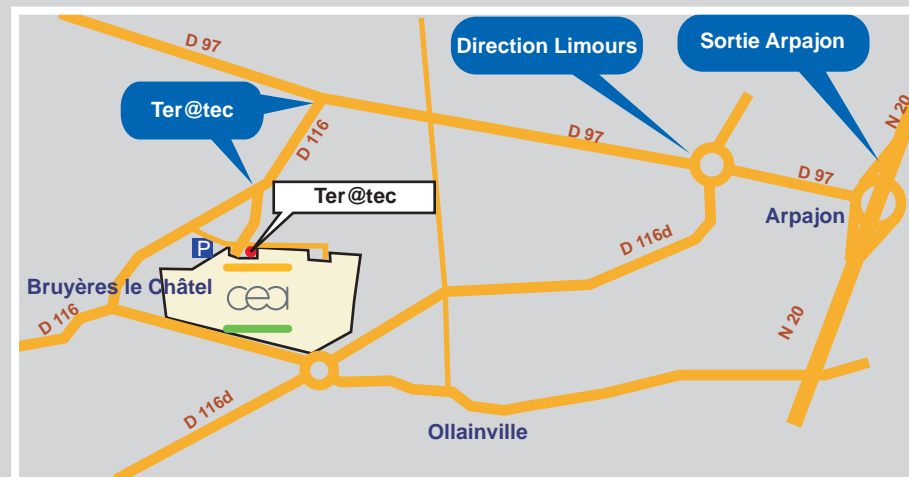
Conseil Général de l'Essonne, Communauté de Communes de l'Arpajonnais, Ville de Bruyères-le-Châtel, Ville d'Ollainville.

Address of Ter@tec

Ter@tec is established in Essonne, near Arpajon, 30 km south of Paris, in the heart of a science park.

Ter@tec is member of the world of competitiveness cluster "System@tic Paris-Région"

From Paris:
Join the A6 motorway, via Porte d'Orleans or Porte d'Italie.
Follow the Lyon direction sign, then take the A 10 junction in the direction of Palaiseau/Bordeaux/Nantes.
After 2 km, go left and take the RN 20 Linas/Monthéry, then Arpajon. Take the Arpajon exit, on the right, the D97 road in direction of Limours. At the roundabout, continue straight 2km and turn left on D116 towards Bruyères le Châtel, you will then follow the Ter@tec direction.



European high performance computing technological park

Research

Improving knowledge for the challenges of tomorrow's technologies

Industry

Increasing competitiveness in the development of computer aided design and engineering.

Collaborations

Information Technologies Companies

Creating, developing and optimizing hardware and software systems.

Ter@tec

is a key actor for the promotion of High Performance Computing

Ter@tec European high performance computing technological park

Ter@tec
Bard1- Domaine du Grand Rué
91680 BRUYERES-LE-CHATEL

Tél. : +33(0)1.69.26.61.76 - Fax : +33(0)1.69.26.43.04
email : teratec@cea.fr - Web : www.teratec.eu



Ter@tec contributes to the success of collaborative projects, gives access to the greatest super-computers of Europe. In the heart of the science and technological park of "Ile de France Sud" and near the research centre of CEA (Commissariat à l'Energie Atomique), Ter@tec makes profit its partners from the most advanced research and technologies in the field of High performance simulation and computing. It offers a complete set of expertise and computing means.

Ter@tec

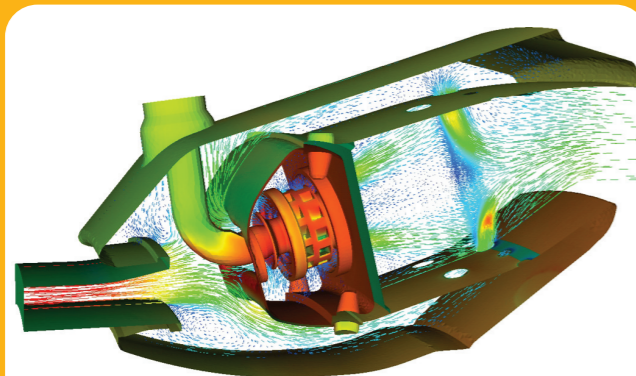
a great opportunity for the competitiveness of France and Europe.



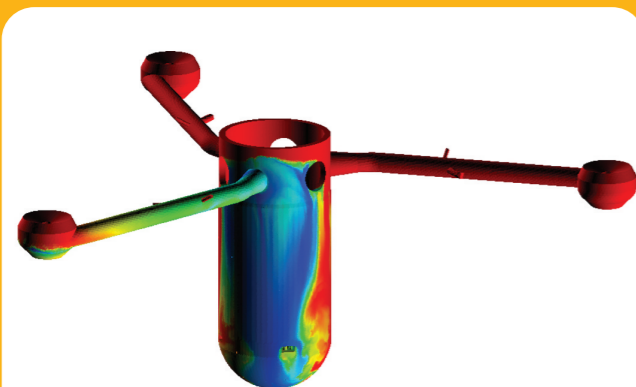
Stakes of High Performance Computing?

Intensive Computing today is based on a thorough knowledge of the phenomena and its models, on the development of powerful software and computing codes, supercomputing power and at last but not least tools adapted for analysis of great volumes of data.

- It is crucial for the competitiveness of the industry.
- It is essential to the comprehension of complex phenomena.
- It requires synergies between specific skills, expertises and means



Calculation of combustion in a plane engine (SNECMA from Safran Group)



Computing of Fluid Dynamics of a tank for a nuclear power plant (EDF)



The DIGITAL SIMULATION and High Performance computing

“ High-performance computing has a strong impact in terms of maintaining the strategic competitiveness of Europe and increasing its attractiveness for foreign researchers and for supporting industrial development.
(Roadmap ESFRI, Carryforward 2006)

Computational science is now indispensable to the solution of complex problems in every sector, from traditional science and engineering domains to such key areas as national security, public health, and economic innovation.
(PITAC Report, Computational Science: Ensuring America's Competitiveness, June 2005)

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Collaborative Research Projects

Ter@tec initiates or takes part in the assembly of great collaborative projects.

within the framework of the worldwide cluster of competitiveness System@tic Paris-Region :

- FAME2, development and optimization of a platform of integration and its exploitation for intensive computing,
- IOLS, software tools for multi-scale simulation of materials/products and the development of demonstrators for the global computer aided design,
- CARRIOCAS, development of the key components for extremely high speed transmission rate networks

within the framework of the National research Agency, many projects have been granted of which :

- LN3M, new generation of software for multi-scaling modelling,
- NUMASIS, optimization of intensive computing codes in seismology,
- TSUMOD, numerical modelling for the propagation of the tsunamis,
- PARA, parallelism and improvement of the yield of the product codes,
- SCOS, generic open source platform for complex system development.



Common Research labs

Ter@tec supports the installation on its site of common research laboratories

- Engineering school of Ecole Centrale de Paris and CEA: the algorithmic and scientific computation, the optimization of the experimental systems and its control, architectures of the information systems.
- Ecole Normale Supérieure de Cachan and CEA: mesoscopic modelling of materials, mechanics of incompressible fluids, electromagnetism.
- University of Versailles Saint-Quentin and CEA: structure for the scientific computation; visualization; security and data integrity (Laboratory ITACA).



Promotion and training

- Ter@tec has established a collaboration agreement with three Masters: Modelling and Simulation with the institute INSTN in the physics field, with the Ecole Normale Supérieure of Cachan in Applied mathematics and with the University of Versailles Saint Quentin in computer science.
- Ter@tec supports continuous training towards Small Business Enterprises.
- Ter@Tec takes part in several dissemination actions with, in particular, the organisation of an annual European conference on High Performance Computing and seminars.



Access to high performance computers

Within its partners, Ter@tec gives access to world-class High Performance supercomputers, storage and visualisation :

The CCRT (Computing Center Research and Technology)

- which has at the same time parallel and vector machines. Its processing power will exceed 45 Tflops in 2007. This computing centre belongs to the scientific computing center of the CEA research organisation.

The Super TeraNova cluster,

- set up by the BULL group, with a processing power exceeding 2 Tflops, dedicated to research and collaborative projects.

The HPC1 cluster

- from Hewlett Packard, with a processing power exceeding 1 Tflops, this data centre is dedicated to the “computing on demand” business.



Implementation of key actors from the IT industry

Ter@tec offers a unique opportunity to key actors from this industry to be part of the technopole dedicated to high performance computing :

- Equipment suppliers,
- Software developers, vendors (ISV) and editors,
- Software Service suppliers.



Assistance to the creation and the development of start-ups and small or medium size Enterprises

Ter@tec supports the implementation of SME :

- Distène SAS : a French company providing the highest technology for post data processing and the optimization of the design chain of computing.
- Numtech : a French company providing digital simulation for local meteorology and atmospheric dispersion of pollutant.
- Xedix : a young start-up providing its expertise and its technology for XML data bases.