

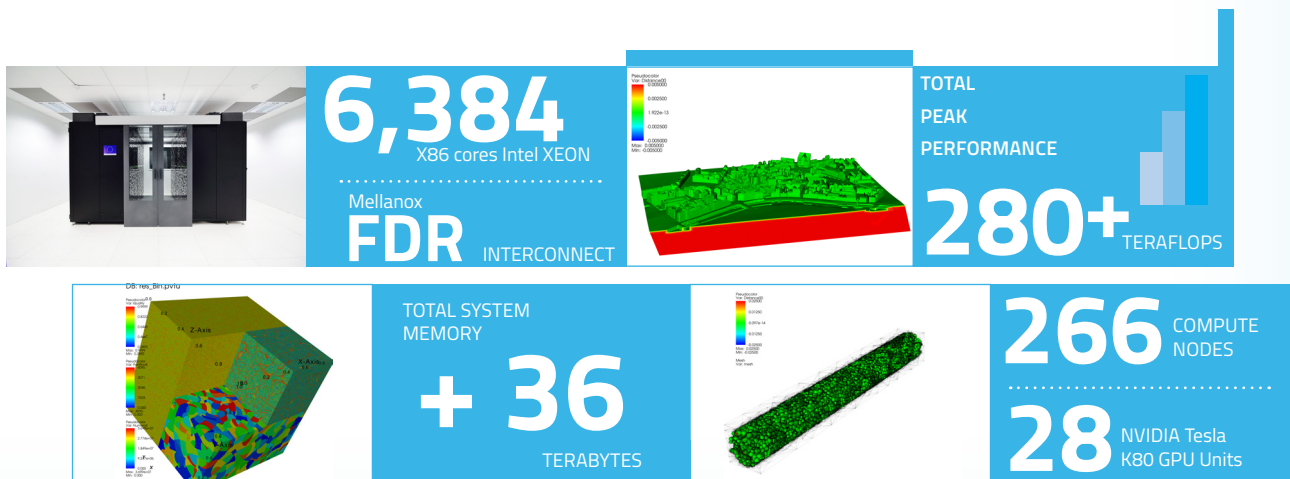


## ONE OF THE FASTEST AND LARGEST FRENCH TIER-2 CLASS SUPERCOMPUTERS

COMPUTE THE FUTURE

### TECHNICAL SPECIFICATIONS

- > Max Performance  $\pm 190$  TeraFlops (78% efficiency on LINPACK)
- > 266 bi-socket nodes Intel Xeon x86 E5-2680v3 2.5GHz 12 cores, with 14 nodes performing visualization optimization running on NVIDIA K80 cards.
- > A total of 36 608 Gigabytes of system memory, 5.33 GB per core
- > A high-speed interconnect network InfiniBand FDR (56 GBps) between nodes
- > +900TB High Performance Distributed and Parallel Storage
- > Compute nodes are exclusively cooled with warm water using the Direct Liquid Cooling (Bull DLC) concept reducing by third the electrical consumption
- > Facilities are located in the Centrale Nantes Campus



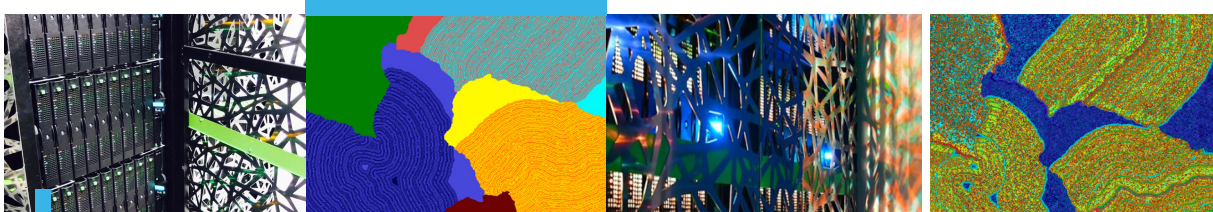


## SERVICES

- > Compute OnDemand, apply for resources online: <https://supercomputing.ec-nantes.fr/apply>
- > HPC and 3D Remote Visualization optimized through a web portal BULL XCS
- > Submissions batch system with an opensource tool, SLURM
- > User Support by the HPC and System Technical Experts
- > Training Courses OnDemand; Linux, HPC, parallel programming, Slurm, etc.
- > Courses and tutorials are freely available online as Open Licence

## HPC APPLICATIONS

- > Multiphase CFD most realistic and most "simple": multiphase flow and fluid coupling (s) / structure, with phase changing
- > Imaging: simulation from tomography or point cloud, satellite, laser
- > Energy: offshore wind power and wind power farms
- > Materials: engineered and meta materials, numerical rheology, suspension concentrates, multiphysics laminated composites structures, microfluidics, solidification and boiling
- > City: aerodynamic and thermal scaled from neighborhood to region
- > Numerical engineering: cloud computing, bigdata and massively parallel programs.



UNION EUROPÉENNE  
CE PROJET EST COFINANCÉ PAR  
LE FONDS EUROPÉEN DE DÉVELOPPEMENT RÉGIONAL



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