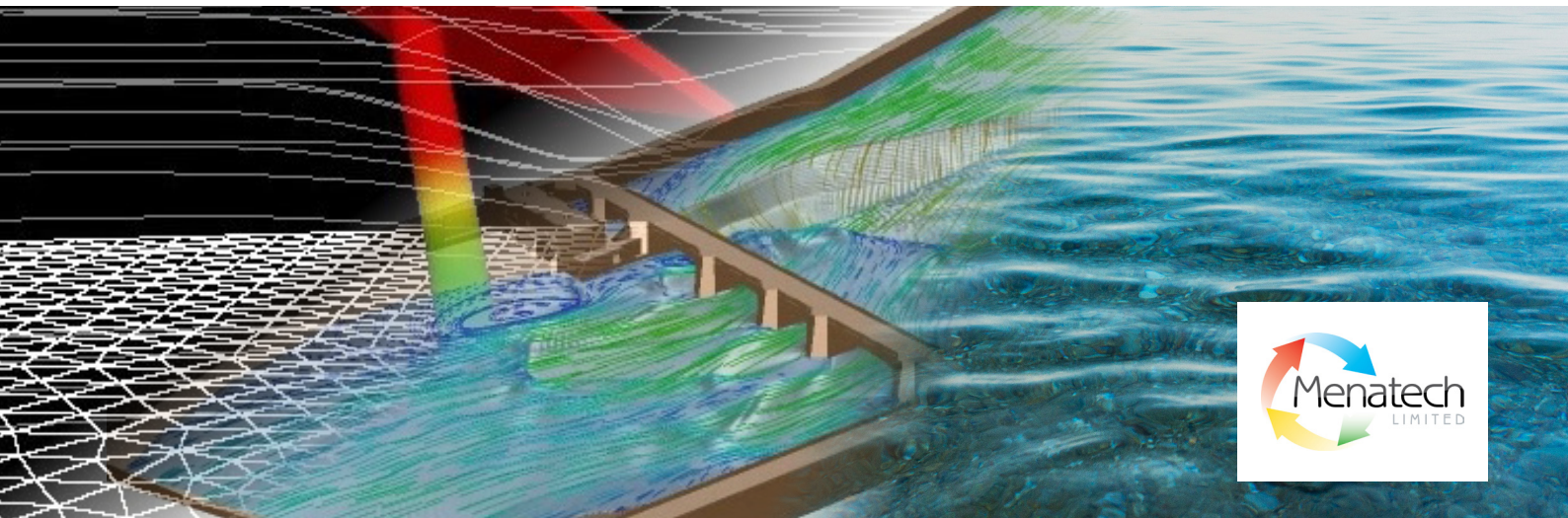


On-demand supercomputing for technology R&D



Hartree Centre
Science & Technology Facilities Council



Engineering R&D consultancy Menatech Limited have used flexible supercomputing resources at the Hartree Centre, accessed via OCF's enCORE service, to speed up big data simulations and reduce costs.

Challenge

The development of innovative new technology can be a fast-paced, risky and highly expensive area of research and development (R&D). Businesses providing these services can seek to develop a competitive edge by working more quickly and delivering projects on challenging budgets.

Menatech Limited is an engineering consultancy that supports the development of emerging innovative technologies, with recent examples including tidal and hydro turbine development and high capacity filtration systems. Providing a range of advanced R&D consultancy services, from the initial conceptual idea through to prototype demonstration, the company is particularly experienced in working with the energy, environment and maritime industries. Menatech Limited's in-house and client technology development programmes often require cutting edge simulation and data analysis methods applied to complex and extremely large models, so the company was looking for an efficient, high-speed solution that provided a faster turnaround and reduced costs.

Solution

The enCORE service at the Hartree Centre, delivered by channel partner OCF, was selected as it addresses Menatech Limited's need to run large scale big data simulations at the most optimal speed and cost. Menatech Limited conducted several benchmark trials of the on-demand supercomputing capability using a computational fluid dynamics package to simulate technology product designs for clients. The software was used to analyse and predict the performance of a range of products across several industries. These fluid dynamics simulations often have tens of millions of elements – calculations describing, for example, the dimension of the design or environmental conditions it is under – that need to be computed simultaneously.

Benefits

The benchmarking project showed strong performance and significantly reduced costs, and resulted in the service being extended to full-scale commercial use. Specifically, the new supercomputing environment allows Menatech Limited to address the significant challenges of solving big data simulations quickly and efficiently. Menatech continues to use the enCORE service to underpin its engineering R&D services, allowing them to deliver high quality design solutions to clients, providing a vital competitive edge in a challenging and fast-moving industry.

"The enCORE service at the Hartree Centre is second to none. Access to this service has allowed Menatech Limited to compete at high speed and low cost and we are able to run simulation projects of massive size and scale in a fraction of the previous time."

– Dr Jason Dale, Managing Director, Menatech Limited

Work with us

We collaborate with industrial clients and research partners on projects that create insights and value using high performance computing, big data analytics, simulation and modelling.

By combining our world-class facilities with access to our specialists and computational scientists, we can enable your organisation to produce better outcomes, products and services more quickly and cost-effectively than through conventional R&D workflows.

With our partners we are developing the next generation of supercomputing architectures and software, combining existing best practice with innovation to deliver faster, cooler and more sustainable solutions capable of meeting the challenges of data intensive computing.

For more information:

- +44 (0)1925 603708
- hartreecomms@stfc.ac.uk
- @hartreecentre
- /company/stfc-hartree-centre

www.stfc.ac.uk/hartree