



QED Naval is a specialist engineering consultancy working in the field of marine renewable energy. Based in Edinburgh, QED Naval applies almost 2 decades of naval architecture and marine engineering experience to support the design and deployment of tidal, offshore wind and wave power generation infrastructure. Their strengths lie in their staff who are specialists in their selected fields that utilise high end engineering design tools to assess the environmental and structural loads of proposed power generation concepts.

www.qednaval.co.uk

High performance data processing, management and storage

IMPROVED SIMULATION TIMES VIA enCORE SERVICE

Business Impact Summary

Challenge:

QED Naval's in-house workstations were slow in completing ANSYS Fluent simulations for the QED Subhub project. QED Naval required a significantly faster and more efficient way to run complex simulations to increase the speed of learning without major capital investment, yet keeping costs under control.

Solution:

Working with OCF, QED Naval conducted a trial of the enCORE service, running ANSYS Fluent simulations, and were able to demonstrate a 4.2 times faster improvement in simulation run time by providing access to the additional CPU cores. They were also able to confirm that the service delivers excellent value by producing results ahead of schedule with more outcomes.

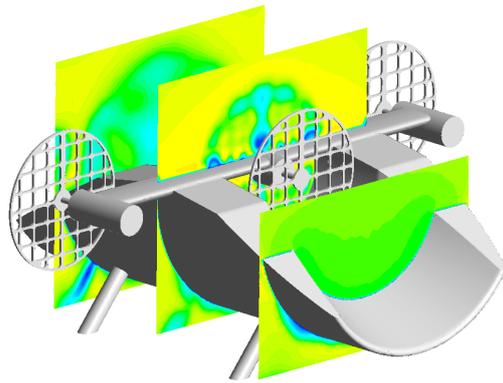
Result:

QED Naval's trial of enCORE has extended into full commercial use. It allows QED to combine significant compute power with its ANSYS license to deliver vastly improved simulation times, thus enhancing QED Naval's competitive edge.

Advanced engineering codes demand high performance compute clusters

The marine renewable sector presents major engineering challenges that need to be addressed by highly specialised experts, familiar with the unique and difficult conditions that the offshore environment presents. Success in this sector depends not only on this expertise, but also on the highly effective and efficient use of advanced engineering and simulation tools to design robust and cost-effective technical solutions. Businesses working in this sector are also seeking a competitive edge by working more quickly and delivering projects to meet challenging budgets.

QED Naval, based in Edinburgh, are engineering specialists focussed on tidal, offshore wind and wave power generation. They utilise advanced engineering software tools such as ANSYS Fluent, Mechanical and AQWA for assessing marine structures and mooring systems exposed to currents, wind and waves. They meet the exacting design requirements of the sector and to deliver quality solutions on time and to budget. A key factor in developing a successful business in this challenging design environment is to deploy resources such as staff and software in a highly efficient manner.



Extreme Tidal Loading

For SMEs such as QED Naval, it is essential that they achieve the maximum return on their investment in engineering software, by completing simulations quickly and efficiently. Access to a high performance compute cluster (HPC), previously only possible for large businesses, is now within reach of SMEs such as QED Naval via the enCORE service.

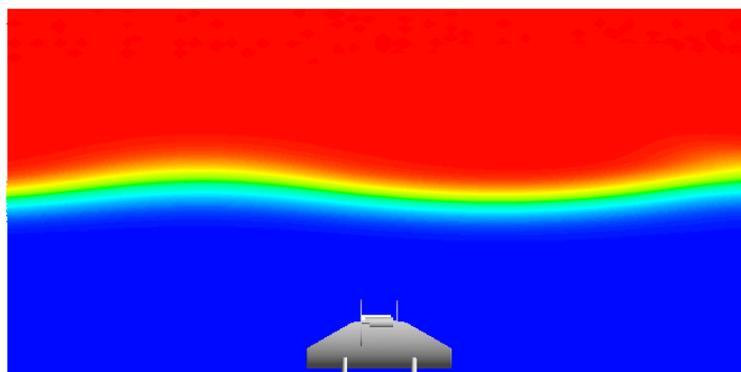
QED Naval approached OCF to discuss how the enCORE service could address their need to run ANSYS simulations quickly and efficiently. OCF set up the ANSYS environment and advised the QED staff on use of the cluster, and a short trial of the service allowed QED Naval to understand the potential this offered for their business. Jeremy Smith, QED Director, commented: "Access to enCORE services has allowed QED Naval to compete with corporate level capabilities and increase the size of models with the power to run the projects faster and more efficiently but with SME overheads which provides greater value for money to our clients. In short, access to the OCF enCORE services increases our speed of learning"

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Jeremy Smith, QED Naval

With the help of OCF, QED staff, who had not previously used a HPC cluster, were able to quickly develop a strong understanding of the process and therefore develop an efficient workflow.

QED Naval are now established enCORE users, and the on-going use of the service underpins their engineering simulation services, allowing them to deliver high quality design solutions to clients in a challenging and rapidly developing market.



Modelling extreme loads from waves



About

OCF is a high performance data processing, data management, data storage and data analytics provider. It aims to successfully meet the significant "big data" challenges of UK firms – public and private, SMBs up to complex organisations. Website: www.encore-hpc.co.uk