



## Digital Test Bed for Industrial Scale Up

To test new large scale, complex modelling and simulation solutions, engineers require access to high performance computational resource, embedded within an agile but secure experimental platform that allows them to explore the scalability and reliability of any solution in an industrial context.

With the variability in future products and the tool chains needed to design them, such a digital test bed needs to be at the heart of any engineering design capability.

### Challenges

Utilising advanced designs to provide cutting edge technology and services to the renewable energy sector, the use of compute power at Digital Engineering is central to the business.

With access to limited computing resource, wind simulations took an average of 3 months to run. Digital Engineering required a partner that could provide access to third party High Performance Computing (HPC) capacity, and support the development of future in-house infrastructure skills capability inline with company expansion plans.

### Solution

The Centre for Modelling & Simulation (CFMS) provided access to a secure, flexible, on demand pay-as-you-go HPC cluster, which consisted of almost 200 compute nodes over 4,000 cores of computing power. A highly agile platform utilised for all types of workloads, paying only for what is used, the cluster enabled greater mesh resolution and competitive advantages by arriving at a high value outcome quickly and effectively.

Digital Engineering were able to reduce wind simulations from 3 months to 2 days. IT systems and industry specialists in modelling and simulation at CFMS provided in-depth knowledge and expertise to get the best out of systems, compilers and workflows.

As Digital Engineering's use of HPC increased, the company's requirement for dedicated archive storage and later, HPC compute increased. CFMS worked with them to develop and build a solution, handing this over to their in-house IT team at the end of the project.

### Benefits

HPC enables faster, more informed decision making. It is a foundational technology at the forefront of innovation and competitive advantage. Such a resource needs to be understood by the start-up community prior to investment. CFMS provided the skills and capability to enable Digital Engineering to scale up their industrial footprint by enabling delivery to clients whilst minimising the risk to their business at a critical time in their lifecycle.

CFMS  
Bristol and Bath Science Park //  
Dirac Crescent // Emersons Green //  
Bristol // BS16 7FR

w: [www.cfms.org.uk](http://www.cfms.org.uk)  
e: [info@cfms.org.uk](mailto:info@cfms.org.uk)  
t: 0117 906 1100

