



# Hartree Centre

Science & Technology Facilities Council

Insight and value through intense computing

# Generating insight

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

By combining access to one of the most powerful supercomputers in the world

dedicated to industrial engagement with our intense computing specialists, organisations are producing better outcomes, designing better products and making better decisions more quickly and cost-effectively than ever before.



Our capabilities are underpinned by over £170m of Government funding and a strategic collaboration with IBM

# Sectors

Whatever sector you work in and whatever the size of your organisation, the possibilities for infusing our talent and tools into your R&D are almost limitless.

For example:

- Agri-tech
- Building information services

- Energy
- Engineering
- Environment
- Financial services
- Insurance
- Life sciences
- Materials chemistry
- Transport

Whatever your R&D challenge, we will work with you to find a tailored solution



# Collaborative R&D

We work collaboratively with you to create value for your business by speeding up your R&D, improving processes and reducing costs. We can also identify solutions that could help your organisation to take positive action to achieve your sustainability objectives.

You define the outcome you need to solve your business challenge and then we build a tailored project and team to deliver this using our capabilities, talented experts, and our trusted network of partners.



Accelerating outcome-based projects:  
'build me a better....'

# Software development

At the Hartree Centre we can help you to optimise your existing codes or write new ones that can utilise multi-core (Intel, IBM and ARM), many-core (GPU, Intel Phi or FPGA), and data centric systems – opening

up the potential of intense computing for your business. We are also designing and testing software for the world's most advanced microprocessors - the building blocks of tomorrow's supercomputers.



Optimisation or software development focusing on higher resolution or ease of use

# Platform as a service

In partnership with OCF, we provide flexible access to the intense computing power you need, when you need it. This enables you to easily and affordably take advantage of our

advanced supercomputing infrastructure to improve your own products and services from as little as 1p per core hour on a pay as you go basis.



Access multi-million pound capabilities at pence per core hour

## Training and skills

We run a wide range of training programmes, workshops and events throughout the year focused on subjects such as data analytics, code optimisation, visualisation, modelling and HPC.

This training, often done in collaboration with globally-

recognised partners such as IBM, Intel, Nvidia, Maxeler and OCF, is addressing the skills shortage in this sector by preparing the next generation of specialists and opening up the power of intense computing to knowledge workers.



Upskilling your current workforce and training the next generation

# Our talent

At the heart of the Hartree Centre are our people – our talent. We know that to deliver a truly successful project you need the right people on your team.

That is why we combine world-leading intense computing facilities with

access to the very best computational scientists, software developers, engineers and data specialists to ensure that behind every project there is a tailored team of experts working with you on your research challenge.



*“It’s fantastic to work on so many different projects that are helping to solve real world challenges.”* Dr Dawn Geatches – Project Scientist. Specialism: Chemistry/Physics

# Our tools

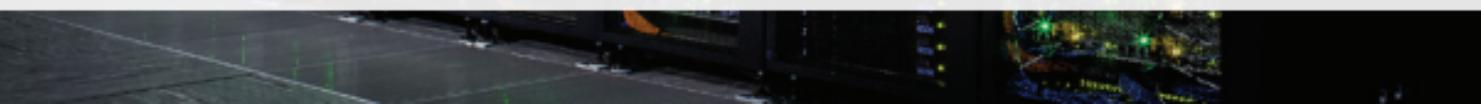
Our intense computing platforms enable 'easy' access to one of the world's most powerful supercomputing and data analysis infrastructures dedicated to industrial R&D.

Working with a wide range of global hardware and software partners, the facilities available include:

- Petascale high performance computing
- High throughput computing
- Hyperscale storage
- Data analytics clusters
  - rested, streaming and predictive
- Accelerated and energy efficient platforms
- Software
- Top-end visualisation suites



We are taking a leading role in developing future supercomputing architectures



# Transforming data into value

In a world increasingly driven by data, harnessing and extracting new insights from this potential resource is transforming nearly every business sector and scientific discipline.

We are already enabling doctors, bankers, retailers, civil engineers, Government and others to analyse

large, disparate data sets and extract real value to help them make informed decisions and predictions about future investments, products and projects.

We can work with you to maximise the potential from your own data or that from open data sets available.



Sophisticated data processes are now integral to all areas of research and business - we can help you turn data into a major asset

# Next generation of supercomputers

We are at the forefront of the drive to establish the UK as a global leader in energy efficient computing. From supercomputers to smartphones – the capability, complexity and sheer number of facilities and devices keeps on increasing and with it the energy needed to power them.

In collaboration with partners, through our energy efficient computing research programme, we are exploring every aspect of power use in computing and devising ways of achieving not only incremental improvements but also step changes in energy efficiency.



Achieving more power, whilst using less energy – a challenge we are tackling head-on



Next generation

# Funded research projects

As well as providing commercial access to our facilities, we also collaborate with organisations that are looking to build consortia or apply for R&D funding opportunities available through initiatives run by the UK Research Councils, Innovate UK and Horizon 2020.

Horizon 2020 offers extraordinary opportunities for innovation and we have the skills, track record and global reputation to partner with you to ensure that you can fully exploit them whether your project is in agriculture, health, transport, ICT, or something else.



Partnership is the key principle underpinning Horizon2020

To find out how we could work with you:

T: +44 (0)1925 603708

E: [hartreecomms@stfc.ac.uk](mailto:hartreecomms@stfc.ac.uk)

Twitter: @hartreecentre

LinkedIn: [/company/stfc/stfc-hartree-centre](https://www.linkedin.com/company/stfc/stfc-hartree-centre)



[www.stfc.ac.uk/hartree](http://www.stfc.ac.uk/hartree)

