Press release

Atos supercomputer to help unlock secrets of the Universe

Paris (France), London, (UK) 1 June 2021 – Atos today announces it has been awarded a contract by the University of Edinburgh to deliver its most efficient supercomputer, the BullSequana XH2000, the most energy-efficient supercomputing system on the market. This is the largest system dedicated to GPU computing deployed at a customer site in the UK.

The new system will constitute the Extreme Scaling Service of the UK's DiRAC HPC Facility. The state-of-the-art platform will allow scientists across the STFC theory community to drive forward world-leading research in particle physics, among other areas, using NVIDIA Graphics Processing Units (GPUs) and AMD processors.

It represents a major boost to DiRAC's computing capacity, significantly increasing the power of the Extreme Scaling service. DiRAC is a distributed facility with high performance computing resources hosted by the Universities of Edinburgh, Cambridge, Durham and Leicester. These systems support fundamental research in particle physics, astrophysics, nuclear physics and cosmology.

This agreement forms part of a £20 million investment by the UK Research and Innovation (UKRI) World Class Laboratories scheme, through the Science and Technology Facilities Council (STFC), to fund an upgrade of the DiRAC facility. The investment is delivering new systems which are up to four times more powerful than the existing DiRAC machines, providing computing capacity that can also be used to address immediate and emerging issues such as the COVID-19 pandemic. The upgraded DiRAC-3 facility will also be much more energy efficient than previous generations.

The new BullSequana XH2000 will be able to handle converged workloads simultaneously (HPC simulation, Artificial Intelligence, Deep Learning) on one single system, and therefore enable DiRAC to overcome the limits of traditional computing simulation and explore new applications and innovation. With cutting-edge networking standards and the latest

processing components, it provides extreme power, speed and accuracy. It consumes less energy than current systems as it is 100% water-cooled using Atos' patented DLC (Direct Liquid Cooling) solution, which minimises global energy consumption by using warm water up to 40°C.

> **Agnès Boudot, Senior Vice President, Head of HPC & Quantum at Atos**, said, *"We are pleased to be partnering with the University of Edinburgh and the DiRAC community to provide a high-performance computing platform to support their world-class science programme. Our BullSequana XH2000 supercomputer will use both CPUs and GPUs and has been configured to meet the Extreme Scaling requirements of their scientists. This agreement continues to demonstrate our strategic commitment to design and build powerful and innovative supercomputers as we fast approach the exascale era."*
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> **Professor Mark Wilkinson, Professor of Astrophysics at the University of Leicester and Director of the DiRAC Facility, said,** *"It is fantastic that Atos has been successful in the DiRAC-3 procurement at Edinburgh and will become a valued partner of the DiRAC community. As well as delivering a highly capable solution, we are talking to Atos about the additional value they will bring in terms of industry collaboration and opportunities to enhance the training of our students to prepare them for careers in both academia and industry."*
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> **Professor Luigi Del Debbio, Professor of Theoretical Physics at the University of Edinburgh and Project Lead for the DiRAC-3 procurement at Edinburgh**, said, *"We are delighted that the delivery of this state-of-the-art supercomputing system will allow our scientific community in the fields of particle physics, astronomy, cosmology and nuclear physics to pursue cutting-edge research on a broad range of topics. Atos' equipment and expertise will bolster our HPC system offering at the upgraded DiRAC-3 facility, strengthening our research activity and supporting the education and training of our students."*

As part of on-going partnership activities, Atos will also help sponsor one student's PhD, support a Hackathon and deliver a series of best practice training workshops for scientists.

Atos is committed to supporting closer collaboration between academia and industry through the power of supercomputing and deep learning. In the UK, the company works in partnership with centres of excellence including The Science and Technology Facilities

Council (STFC) Hartree Centre, Wellcome Genome Campus, the University of Oxford's JADE service, and The Pirbright Institute, among others.

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About Atos

Atos is a global leader in digital transformation with 105,000 employees and annual revenue of over € 11 billion. European number one in cybersecurity, cloud and high performance computing, the group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos operates under the brands Atos and Atos|Syntel. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

About DiRAC

DiRAC stands for Distributed Research Utilising Advanced Computing. The DiRAC High Performance Computing facility provides cutting-edge supercomputing resources for UK researchers working on world-leading scientific calculations across a wide range of areas including particle physics, astrophysics, cosmology and nuclear physics. It comprises supercomputers at Cambridge, Durham, Leicester and Edinburgh, each designed to support specific types of calculations. DiRAC also provides access to a team of expert research software engineers to help researchers make the most efficient use of the available computing resources. For more details see: https://dirac.ac.uk/.

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