



Press release

Atos supercomputer to enhance weather prediction capabilities for leading European numerical weather centre ECMWF

Paris, France; London, UK, January 13, 2020 – Atos, a global leader in digital transformation, has signed a new four-year contract worth over €80 million (approximately £67.8 million) with the European Centre for Medium-Range Weather Forecasts (ECMWF) to supply its BullSequana XH2000 supercomputer, which is one of the most powerful meteorological supercomputers in the world. It will increase ECMWF's computing power by a factor of around 5 and will support hundreds of researchers from over 30 countries across Europe in their work on medium and long-range weather forecasting and prediction. Notably, it will enable them to reliably predict the occurrence and intensity of extreme weather events significantly ahead of time, essential to respond to the climate and weather crisis facing us today.

"Weather forecasting is computationally intensive and demands the best in high performance computing power" said Dr Florence Rabier, Director General at ECMWF. "This is one of the main reasons we chose Atos. We trust in its ability to supply and integrate the best technologies available, but also in its proven expertise to deliver effective solutions to the weather forecasting community across Europe. Thanks to this investment, we will now be able to run higher resolution forecasts in under an hour, meaning better information will be shared with our Member States even faster to enable much improved weather forecasts as they combine this enhanced information with their own data and predictions. As governments and society continue to grapple with the impacts of increasingly severe weather, we are also proud to be relying on a supercomputer designed to maximise energy efficiency."

Once operational, the new supercomputer will allow ECMWF to run its flagship world-wide 15-day ensemble prediction at a higher resolution of around 10km, offering significant improvement in the ability to forecast severe weather events.

Sophie Proust, Atos Group CTO said: *"We're really delighted to have been selected by ECMWF for this major contract. This is testament not only to our solid expertise and operational excellence needed to install, manage and run such a large system, but also to the best-of-breed technology which we are supplying, with our BullSequana XH2000 and our partners AMD, Mellanox and DDN. This new solution will optimize ECMWF's current workflow to enable it to deliver vastly improved numerical weather predictions. Most importantly though, this is a long-term collaboration, one in which we will work closely with ECMWF to explore new technologies in order to be prepared for next-generation applications. "*

Adrian Gregory, Group SEVP, CEO UK&I and Global Head of Atos Syntel said: *"We believe that our BullSequana supercomputing technology, people and collaborative approach will reinforce the ECMWF's reputation as a world class research and operational centre and that this partnership will stand as a flagship model for industry-meteorological collaboration."*

Günther Tschabuschnig, Convener of the ECMWF Technical Advisory Committee which reviewed ECMWF's HPC selection said: *"One cannot overestimate the importance of accurate weather prediction. This has never been truer than in our current age, as the effects of climate change and severe weather are increasingly felt. Individuals and societies need ever greater amounts of information to ensure they are prepared. Atos brings an impressive track record of success in this field and its background in delivering advanced supercomputing solutions to some of the world's best meteorological services will ensure we are placed on a firm footing for success."*

Atos has successfully deployed BullSequana systems at many leading European supercomputing centres that either undertake production or research work into weather forecasting, earth systems and climate modelling including Meteo France, the German Climate Computing Centre, the Spanish AEMet, Royal Netherlands Meteorological Institute and Plymouth Marine Laboratory in the UK. Atos is also a partner of the ECMWF and other national weather centres in the ESCAPE2 and ESIWACE2 European projects developing next generation weather models which contribute to informing the future of atmospheric sciences.

Based in Reading in the UK, ECMWF is an independent intergovernmental organisation supported by 34 Member and Co-operating States across Europe and holds the largest archive of numerical weather prediction data in the world. The system will be delivered and

installed at the ECMWF data centre in Bologna, Italy in 2020, with service commencing in 2021. Atos will work locally with E4 Computer Engineering to manage, run and maintain the system.

Atos has produced [thought leadership](#) on the topics of supercomputing and big data, which is also included within its [Digital Vision](#) programme.

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Additional technical information

Atos brings together its key technology partners to work on this project, which includes AMD, Mellanox and DDN, who have successfully provided solutions to most of the world's supercomputing centres. The BullSequana system is equipped with AMD EPYC™ processors, a Mellanox HDR InfiniBand (200Gb/s) and has over 91PB of EXAScaler storage from DDN, enhancing the system's overall speed, efficiency and stability. The BullSequana XH2000's highly-efficient water-cooled Direct Liquid Cooling (DLC) solution will provide exceptional energy efficiency, minimising the carbon footprint of the system, helping ECMWF meet its green objectives.

About Atos

Atos is a global leader in digital transformation with over 110,000 employees in 73 countries and annual revenue of over € 11 billion. European number one in Cloud, Cybersecurity and High-Performance Computing, the Group provides end-to-end Orchestrated Hybrid Cloud, Big Data, Business Applications and Digital Workplace solutions. The group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Syntel, and Unify. 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 technology space. Its expertise and services support the development of knowledge, education as well as multicultural and pluralistic approaches to research that contribute to scientific and technological excellence. Across the world, the group enables its customers, employees and collaborators, and members of societies at large to live, work and develop sustainably and confidently in the information technology space.

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About ECMWF

ECMWF is the European Centre for Medium-Range Weather Forecasts. ECMWF is both a research institute and a 24/7 operational service, producing global numerical weather predictions and other data for its 34 Member and Co-operating States and the broader community. The Centre has one of the largest supercomputer facilities and meteorological data archives in the world. Other strategic activities include delivering advanced training and assisting the WMO in implementing its programmes.

ECMWF operates two services from the EU's Copernicus Earth observation programme, the Copernicus Atmosphere Monitoring Service (CAMS) and the Copernicus Climate Change Service (C3S). ECMWF also contributes to the Copernicus Emergency Management Service (CEMS).