



## Success Brief

Intel® Xeon® processor  
5500 series



“The increased memory bandwidth and performance improvement opens up a wide number of new possibilities for our partners while underpinning the development of new computer architectures.”

Carsten Trinitis,  
Senior Scientist,  
Technical University of Munich



## High-powered research

### Technical University of Munich turns to Intel® Xeon® processor 5500 series to underpin industry-leading advancements

**Company** The Technical University of Munich is one of the highest acclaimed universities in Germany. It has produced sixteen Nobel Laureates and has established powerful links with industry partners in the field of Life Sciences and with companies such as ABB, a global leader in power and automation technologies. It also partners with the Leibniz Supercomputing Centre (LRZ) which provides general IT services for more than 100,000 university customers.

**Challenge** Among other things, the university's Computer Sciences department is dedicated to helping its partners discover new ways of advancing their business. This is partly achieved by running applications on behalf of partners, such as data sets for DNA genome sequencing. It also focuses on developing new computer architectures that can deliver optimal performance and greater efficiencies, for both partners and for wider research purposes. As such, the university is keen to explore new technologies that can enhance and facilitate both its research and its work in developing new computer architectures.

**Solution** The university assessed the memory bandwidth, clock frequency, scalability and performance of the Intel® Xeon® processor 5500 series. A number of applications were tested during this process including Life Sciences code developed at the university, an electrical field simulation programme for ABB and DNA genome sequencing code.

**Benefits** Processing speeds for an ABB field calculation were up to 66 per cent faster than the university's current hardware, while the memory bandwidth was four times faster. In practical terms, this has led ABB to consider building a distributed computing model across its different geographical locations based on the Intel® Xeon® processor 5500 series. The processor has also kick-started a project to develop smaller power network components – an important advancement in dense urban environments. Furthermore, LRZ is planning to incorporate the processor into the Partnership for Advanced Computing in Europe, a future model designed to create supercomputing access for scientists and technologists across Europe.

