UP TO **8X** increase

in performance for Quantum Espresso application compared to the previous generation.[1]

UP TO **41X** increase

in performance for LAMMPS application compared to the previous cluster.[2]

ENEA is Upgrading its Supercomputer Architecture to Help its Scientists Make Discoveries Faster

The ENEA Research Centre is one of the major national and international research centers dedicated to studying and developing nuclear fusion, laser sources, and particle accelerators. ENEA is researching nuclear fusion, a potential source of clean energy. To speed up research, ENEA is upgrading its high-performance computing architecture to the latest generation Intel® Xeon® Platinum processors. For workloads constrained by bandwidth, ENEA is adding a cluster of 32 Intel® Xeon® CPU Max Series with high-bandwidth memory (HBM). Although the new architecture also includes GPUs, ENEA will be able to use a single code base and the oneAPI to run its workloads across all the new clusters. oneAPI enables researchers to run the same application code across the heterogeneous architecture, spanning CPUs, CPUs with HBM, and GPUs.

"It is very important for us to support sustainability and energy efficiency at ENEA. We want to conduct our research in the most sustainable way we can."

Giovanni Ponti, Head of Central Information and Communications Technology Division, ENEA

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1, 2 For more complete information about performance and benchmark results, visit https://www.intel.com/content/www/us/en/customer-spotlight/stories/enea-customer-story.html