# Head to the Exascale …

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HPC and AI can dramatically improve the way we live, work, and innovate. Based on a business economic study, enterprises within varied industries can realize significant revenue and profit by investing in HPC. There are several new technological challenges to meet growing performance demand.

These requirements encourage HPC industry to make further significant technological improvements to achieve ten times and more higher performance systems than the current leaders at the top500.

The Exascale performance requires more processing elements, much bigger footprint, longer interconnects and on top it goes hand in hand with higher energy consumption. Among the others the cooling system and the cooling efficiency got into the focus because the current standard rack architecture is not working anymore in Exascale size, a new and very high-dense architecture is under development.

European supercomputing is still far behind the world, but the EuroHPC inspires to develop a World Class Supercomputing Ecosystem in Europe.

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