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![European Processor Initiative logo]

European Processor Initiative

EUROPEAN PROCESSOR INITIATIVE (EPI)

The European Processor Initiative (EPI) gets together 23 partners from 10 European countries, with the aim to bring to the market a low power microprocessor.

It gathers experts from the High Performance Computing (HPC) research community, the major supercomputing centres, and the computing and silicon industry as well as the potential scientific and industrial users. Through a co-design approach, it will design and develop the first European HPC Systems on Chip and accelerators. Both elements will be implemented and validated in a prototype system that will become the basis for a full Exascale machine based on European technology.

The main objectives of the EPI are to

- develop low-power processor technology to be included in a European pre-exascale system (capable of around 1016 calculations per second) and in European exascale systems (a billion billion or 1018 calculations per second),

- guarantee that a significant part of that technology is European,

- ensure that the application areas of the technology are not limited only to HPC, but cover other areas such as the automotive sector or the data centres, thus ensuring the overall economic viability of the initiative. One specific objective for the automotive sector is for instance to develop customized processors able to meet the performance needed for autonomous cars.
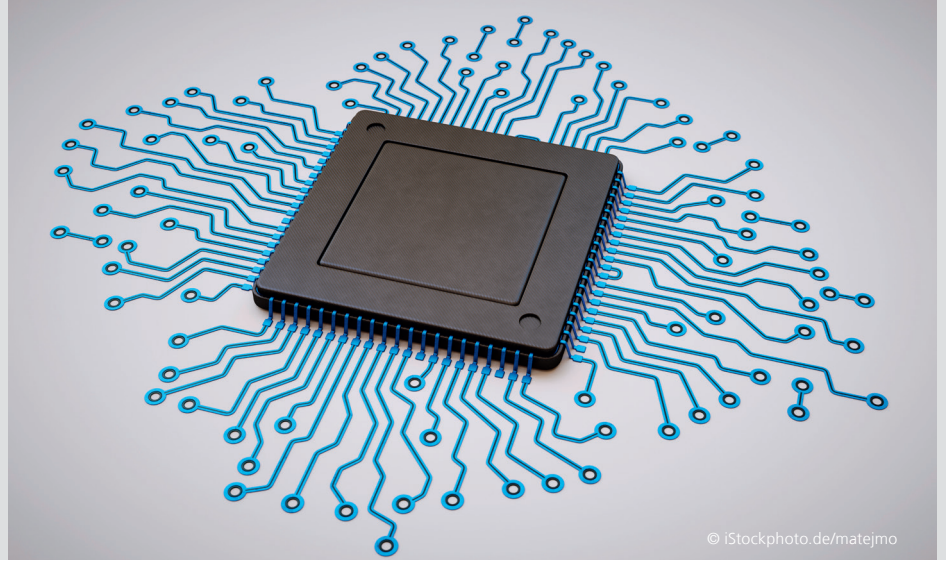
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EPI Next Steps

The EPI consortium proposes to create a long-term economic model by delivering a family of processors for the 3 markets:

- High Performance Computing

- Data centres and servers

- Autonomous vehicles

EPI puts in place the roadmap for European HPC chips and accelerators facilitating the development of pre-exascale and exascale machines as well as prototypes for automotive proofs of concept.

Background

The EPI initiative is part of a broader strategy to develop an independent European HPC industry based on domestic and innovative technologies as presented in the EuroHPC Joint Undertaking proposed by the European Commission on 11 January 2018.

The EuroHPC Joint Undertaking is a legal and funding entity which will enable pooling of the Union's and national resources on High-Performance Computing to acquire, build and deploy in Europe the most powerful supercomputers of the world.

The aim of the EuroHPC Joint Undertaking (JU) is to develop exascale supercomputers based on competitive EU technology.