

[SGR2021_ ACAP: Arquitectura de Computadors d'Altes Prestacions \(ACAP\)](#)

Description

The main research line of ACAP group is in High Performance Computer Architecture, starting from hardware and stretching into software. Recently, our principal activity is related to the European Processor Initiative, with the aim to design and manufacture a European HPC processor fully designed in Europe.

Our group is developing the vector processor unit of this Initiative. The first chip that we built was presented at the global RISC-V summit. We are improving the design, having a second optimized version design complete and working in three different European projects for new improved versions (SGA2, Pilot, and eProcessor), each one with different characteristics. Also, in the DRAC project, supported by the Generalitat, we are developing a RISC-V Out-of-Order core, which will be capable to be connected to the vector processor unit, allowing the BSC to have its own HPC processor fully developed at BSC, that we hope to be the base for the next BSC supercomputer.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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