

**ARTICo<sup>3</sup>** is an **open-source runtime reconfigurable processing architecture** to enable **hardware-accelerated** high-performance embedded computing. It is highly flexible, offering **adaptive** computing **performance**, **energy efficiency**, and **fault tolerance** on demand.

The architecture is complemented at **design time** with an **automated toolchain** to build reconfigurable multi-accelerator systems, and at **run time** with a **software library** to transparently manage both reconfiguration and parallel execution processes.

#### C/C++ C/C++/HDL Application Kernels ARTICo<sup>3</sup> Toolchain **Application Executable Bitstreams Design Time Run Time** SRAM-Based Registers ARTICo<sup>3</sup> Accelerator Logic Memory Interconnection Reduction Registers Engine Accelerator Voter Unit Host Logic Memory μΡ Registers Accelerator Performance Fault Local Monitor Monitor

## **Main Features**

#### Hardware Design made easy

Write your accelerators in C/C++ and exploit High-Level Synthesis.

## **FPGA Reconfiguration made easy**

Forget about complex design flows and low-level technology limitations.

### **Parallel Processing made easy**

Offload computations to the FPGA fabric transparently using a lightweight API.

# **Open Source Framework**

ARTICo<sup>3</sup> is an **open-source** framework available on GitHub. **Documentation** and **tutorials** are also available online for you to use it in your own projects.

ARTICo<sup>3</sup> is supported by an increasing **community** of developers in the field of **reconfigurable embedded systems**.

https://des-cei.github.io/tools/artico3

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