

# Welcome to the EPOS Project

The **EPOS Project** (*Embedded Parallel Operating System*) aims at automating the development of embedded systems so that developers can concentrate on what really matters: their **applications**. EPOS relies on the **Application-Driven Embedded System Design** (ADESD) method to guide the development of both software and hardware components that can be automatically adapted to fulfill the requirements of particular applications. EPOS features a set of tools to support developers in selecting, configuring, and plugging components into its application-specific framework. The combination of methodology, components, frameworks, and tools enable the automatic generation of an application-specific embedded system instances. For a more detailed overview, click [here](#).

## Application-Driven Embedded System Design

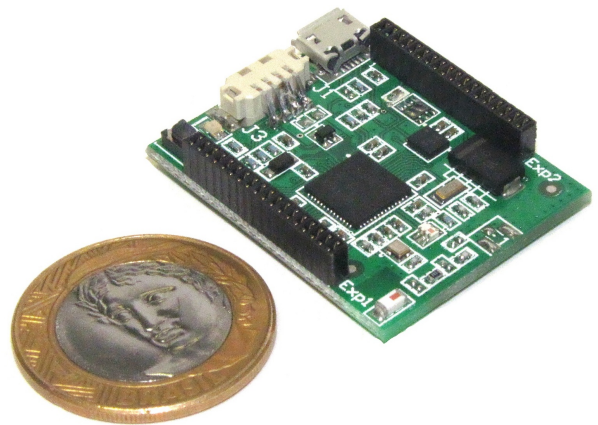
The deployment of **ADESD** with EPOS is helping to produce components that are highly reusable, configurable, and maintainable. Low overhead and high performance are achieved by a careful implementation using *Generative Programming* techniques, including *Static Metaprogramming* and *Aspect-oriented Programming*. Furthermore, the fact that EPOS components are exported to users by means of comprehensive interfaces defined in the context of applications largely improves usability. All these technological advantages are directly reflected in the development process, reducing NRE costs and the time-to-market of embedded systems.

## Research Groups

Currently there are research groups working with the EPOS development. Click [here](#) to read the description, objectives, and main publications of each group.

## EPOSMote III Released

**EPOSMote III**, the third generation of wireless sensing/actuating platform has been released! It is already being used at the UFSC Smart Solar Building.



## EPOS Hardware

EPOS has been ported to a series of commercially available platforms, including Intel x86, PowerPC, SPARC, AVR, MIPS, and ARM. Some platforms developed at **LISHA** are now being released as *Open Hardware* to the community. For more information, click [here](#).