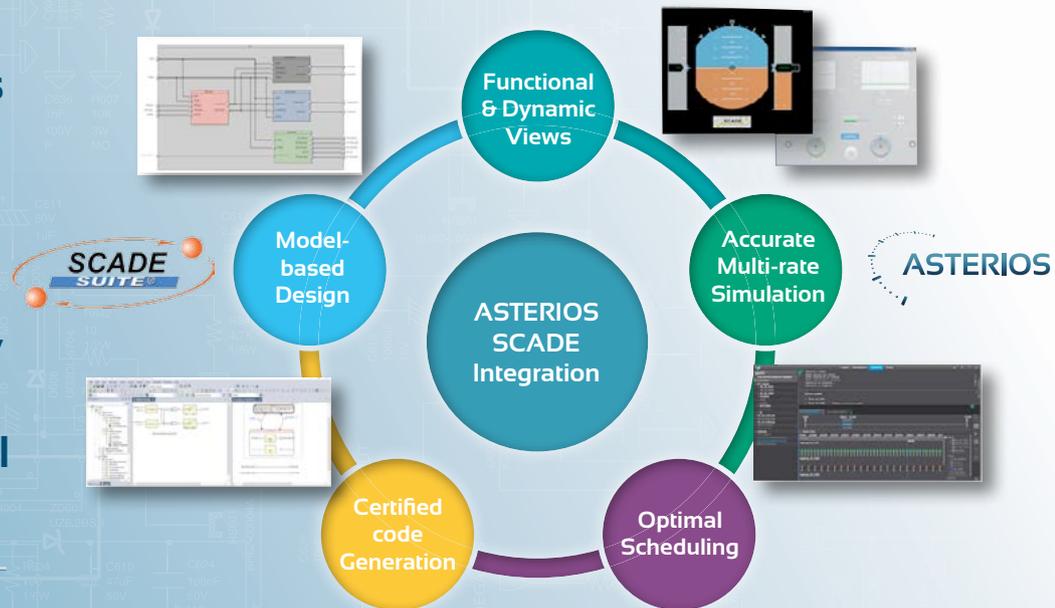


## Smart integrated solution with ASTERIOS to leverage SCADE models for multi-rate critical applications onto multicore architectures

Embedded applications are becoming increasingly complex. When they are of high criticality, it must be demonstrated that they meet all the real-time and functional requirements.



Model-Based System Engineering (MBSE), with automatic and certified code generation, is already helping to address this issue. However, in a context where applications are increasingly heterogeneous in terms of criticality and time constraints, the definition of a software architecture and the dynamic architecture allowing a correct execution of the code is a difficult and time-consuming task, and even more when certification and multi-core aspects are part of the requirements.

The coupling of KRONO-SAFE's ASTERIOS® and ANSYS SCADE Suite® environments is unique on the market : it provides an integrated flow capable of automatically calculating - from the model-based software specifications - the dynamic behaviour of a multirate real-time critical application running on a single- or multi-core platform.

This integrated solution allows to dramatically shorten and reduce the cost of the integration phase by up to 90%.

**ASTERIOS** provides an innovative engineering solution to design and execute safety-critical real-time applications on multi-core embedded platforms. **ASTERIOS** comes as an integrated tool suite including a new generation real-time kernel. The **ASTERIOS** Developer tool suite enables to automatically generate, from a formal description of real-time constraints, the optimal scheduling

“correct by construction” for any real-time application running on single- or multi-core hardware platform. Its certifiable **ASTERIOS** RTK companion microkernel is built to ensure fast context switching, ultra-low latencies and a small memory footprint. It ensures by construction strong determinism at multitask level while keeping these high real-time performances.



For more information, please contact us at [sales@krono-safe.com](mailto:sales@krono-safe.com)