BECA PRE DOCTORAL SYSTEM-ON-CHIP DESIGN FOR CRITICAL SECTORS

Company Description

SoC-e is a worldwide leading supplier of Ethernet communication solutions based on FPGA technology. SoC-e is pioneer in developing a portfolio of IP cores that implement the leading-edge networking, synchronization and security technologies for critical systems. This SoC-e technology has been applied in more than 100 projects worldwide in very different applications for the Electric, Industrial and Aerospace sectors. Multinationals and SME companies integrate SoC-e solutions for high-availability Ethernet (HSR/PRP), accurate timing distribution (IEEE 1588) and wire-speed cryptography implementations to secure real time traffic. However, the non-stoppable OT/IT integration demands more steps forward to use Ethernet as a single solution for real-time and high-volume traffic. SoC-e is committed to support the latest innovation for its customers. As an example, SoC-e is providing since 2017 a comprehensive solution for inter operable Time-Sensitive Networking (TSN) and an ultra-low latency technology to secure the strict-real time traffic within Smart-Grid infrastructures. We hope that you find SoC-e as your trustable partner to speed up the integration of cutting-edge technology in your products. The new challenges of Industrial and Aerospace sectors invite us to be pioneers once again and we will be glad to share this vision with you. The Chair SoC4sensing on Semiconductor Design of the University of the Basque Country (UPV/EHU) offers three PhD

Information

Deadline: 2024-09-26
Category: Academia
Province: Bizkaia
Country: Basque Country
City: Bilbao

Company

INZU Group

Main functions, requisites & benefits

Main functions

Research Topic The main objective of this Ph.D. is obtaining a pre-industrialize SoC semiconductor device focused on sensing and secure networking for critical systems. The European critical sector industries, like Energy, Transportation, and A&D, demand new SoC devices focused on their markets. These SoCs shall include preferably EU technology to increase European sovereignty in the semiconductors market. The operative objectives of this research are: Benchmarking RISC-V CPU based alternatives for the proposed application. Contribute with hardware-software mechanisms to allow Post-Quantum Computing (PQC) security and control Quantum-Key-Distribution (QKD) protocols Design, manufacture and test Ultra-Deep SubMicron tapeouts The specific tasks scheduled for this position are: State-of-the-Art analysis SoC subsystems front-end design SoC subsystems benchmarking SoC subsystems back-end design Prototypes verification

Requisites

Master's degree (or equivalent) in engineering, electronics, electrical engineering, physics or computer science. Fluent English level Additional Requirements Strong interest for research and development of new prototypes, especially in the area of edge-computing Skilful in software/hardware engineering, optimally prior experience in FPGA developments, etc.

Benefits

SoC4sensing Chair offers expert training on SoC VLSI back-end design to the candidate. This training trains the candidate to design digital semiconductor devices using the industry's design tools and fabs technology libraries. Excellent working conditions where people feel safe and can make meaningful connections with one another in attractive research environment Flexible work model and a range of various training opportunities for personal growth contact us => rrhh@soc-e.com