Porting of an MPSoC Demonstrator System onto a New FPGA-Board
Enabled by ever decreasing structure sizes, modern System on Chips (SoC) integrate a large amount of different processing elements, making them Multi-Processor System on Chips (MPSoC). In the scope of the ARAMiS II research project a demonstrator system for an MPSoC with a fail-operational and hard real-time capable hybrid NoC for safety critical applications has been developed. This demonstrator system must now be ported onto a new FPGA-board which is more suited for the implemented hardware.

**Goal**

The goal of this work is to port an existing implementation of an MPSoC demonstrator system onto a new FPGA-board and make all the necessary hardware adjustments. The final result should be a fully functional demonstrator system.

**Prerequisites**

To successfully complete this project, you should already have the following skills and experiences:

- Good programming skills in a hardware description language i.e. VHDL or (System)Verilog
- At least basic knowledge of the functionality of FPGAs
- Ideally, knowledge of Xilinx Vivado
- Self-motivated and structured work style

**Learning Objectives**

By completing this project, you will be able to:

- Create new FPGA projects and designs
- Embed existing IP cores into your designs
- Work with hardware modules implemented in SystemVerilog
- Document your work in form of a scientific report and a presentation

**Contact**

Max Koenen  
Room N2118  
Tel. 089 289 23084  
max.koenen@tum.de

**Advisors**

Max Koenen