

## Workshop

# Designing a PCI System with XILINX FPGAs

The availability of cutting-edge programmable technologies with high complexities, combined with complex parameterizable IP core cells is opening up new possibilities for system developers. LogiCore PCI is a completely verified IP core cell with guaranteed function and timing behavior. It allows complex PCI-based systems to be developed and verified in the shortest time. The official XILINX Design and Training Center PLC2 is a collaborator on the XILINX Xperts and XILINX Customer Education Program and has been specializing in XILINX technologies for more than 15 years. The 3-day PLC2 workshop “Designing a PCI System with XILINX FPGAs” provides an overview of the basics of the PCI standard and concentrates on the development of initiator/target applications using the LogiCore PCI cell. You will learn to define, verify and develop your own PCI-based

systems. The theoretical content is rounded off with exercises on the PC.

### Applicable technologies

All XILINX FPGA technologies available for the PCI core cells

### Requirements

Detailed knowledge of the ISE design system Fundamentals VHDL

### Duration and Cost

Duration: 3 days

Cost: € 1800, – net per person, including detailed training material, drinks in the breaks and lunch.

## Agenda

### PCI Fundamentals

- PCI Local Bus Architecture
- PCI Signals
- Basic Bus Operations
- PCI Addressing and Bus Commands
- PCI Configuration

### Designing a PCI System

- Overview of XILINX LogiCore Operations
- The User Configuration Module
- The User Application Interface
- Target transactions -> Target Read, Target Write
- Initiator transactions -> Initiator Read, Initiator Write

### Building FIFOS for XILINX PCI

- Generic FIFOS, special FIFOS

### Designing a Target Engine

- Designing a Initiator Engine

### XILINX verification strategies

- Behavioral Agents and Testbench

### Exercises on PC