

Fidus – an excellent choice

At Fidus Systems, we understand the unique challenges faced by technology companies – too many projects and too few engineering resources. With top engineering talent, multiple design centers and on-site staffing options, Fidus provides highly responsive engineering teams that are an extension of your development team to successfully bring products to market faster.

Recognized as a trusted design partner, Fidus is dedicated to meeting customer expectations, and developing long-term relationships with clients built on integrity, quality and open communications.

Fidus is pleased to provide customers with full end-to-end development solutions or more selective targeted engagements.

Fidus has delivered more than 1500 projects for 300+ clients, from Tier-1 multinationals to SMEs to start-ups. Fidus is headquartered in Ottawa, Canada with local design centers in Kitchener-Waterloo and San Jose.

How we help

Do you want to: Increase your **revenue**? Reduce your **costs**?
Increase your **speed** and **flexibility**? Focus on your **core competency**?
Consider Fidus for electronic product development and consulting services.

Fidus has extensive experience in designing with low-cost CPLDs up to the largest FPGAs in the world. Being a Xilinx Premier Design Services member means that we are trained and adept at selecting and implementing the most advanced Xilinx devices and tool flows.

Our FPGA design team's skills are readily complemented by Fidus' Hardware, PCB Layout, Signal Integrity, Embedded Software, and Mechanical design expertise.

Design expertise

Turnkey: FPGA design, validation, and documentation solutions

Device selection: Identifying the best device to get the job done

Device retarget: Helping you migrate from one FPGA to another

Languages: Verilog®, VHDL, SystemVerilog, HLS

Xilinx® advanced tool flows: SDNet™, Partial Reconfiguration, HLS, IDF, AMP, SDSoc™, MatLab®, Simulink®, System Generator for DSP™

ASIC-to-FPGA Conversion: Replacing low-volume or discontinued ASICs with low cost FPGAs

ASIC prototyping in FPGAs: De-risking ASIC developments by first implementing the design in one or multiple FPGAs

IP Development: DP HDCP, HDMI HDCP, Image stabilizing

High performance computing: Tensor Processing Unit, VR

Multi-Gigabit Serial Links: PCIe® Gen4, JESD204, Aurora

Memory Interfaces: NVMe, HMC, DDR4, SRAM, LPDDR, etc.

Communication Protocols: OTN, CPRI™, TCP/IP, Ethernet, SONET/SDH, ATM.

Digital Signal Processing (DSP): Software Defined Radio (SDR), filters, echo-cancellation, 802.11 a/b/g wireless LAN, etc.

Video: 12G-SDI, DP, MIPI, HDMI, HDCP, image enhancement, scaling, overlay, PiP, soft-core processor engine with DMA interfaces, etc.

Experience with: Xilinx (UltraScale+™, UltraScale™, Kintex®, Virtex®, Zynq®, Artix®, Spartan®, CoolRunner™), Intel®/Altera® and other programmable logic families.

Tools for high-end development

Xilinx: (Vivado®, ISE®)

Embedded: Xilinx (MPSoC, ARM®, PowerPC®, MicroBlaze™, Linux on MicroBlaze, PicoBlaze™, Zynq, bare metal, EDK/SDK)

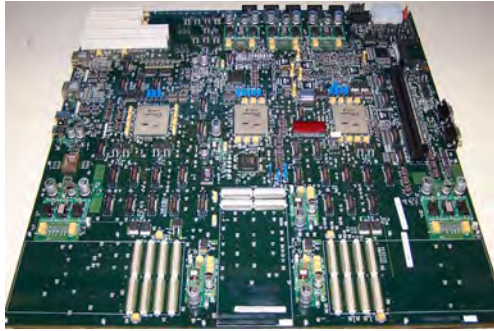
Simulation/Code Coverage: Questa®, ModelSim® SE, NC-Sim

Synthesis: Synplify Pro®, Synopsys Design Compiler®

Lab tools: Programming pods, Vivado® Logic Analyzer, ChipScope™



ALLIANCE PROGRAM
PREMIER MEMBER



Bringing you Xilinx premier

As Xilinx Premier, Fidus receives exclusive training, certification, and early-access to tools, IP, and new silicon. By invitation, Fidus was *the* inaugural Xilinx Premier Design Services member in North America. So what does this mean? It means that when you hire Fidus, you know that Fidus is on the forefront of Xilinx's roadmap, experienced in the most advanced tool flows, and is top of mind within the Xilinx support network.

Examples of our work

Video aggregation of 10 video streams in to a single custom fiber link.

Technologies: Xilinx Kintex UltraScale, Xilinx Vivado, GTY, DP, 12G-SDI, DVI

HDCP IP Core Development – Designed, tested, and integrated, Xilinx-targeted HDCP IP

Technologies: HDCP 1.3 for DisplayPort: HDCP encryption/decryption for SST, HDCP 1.4 for HDMI: HDCP encryption/decryption for HDMI 1.4b

Video MIPI DSI input to MIPI DSI with low latency processing unit for VR application

Technologies: Xilinx Virtex, ASIC emulation, HLS

Video protocol conversation from and to SDI, DP, HDMI, MIPI.

Technologies: Xilinx, HLS

100G Ethernet switch.

Technologies: Xilinx Virtex UltraScale+

100G Ethernet protocol analyzer and tester.

Technologies: Xilinx Virtex UltraScale+

Our FPGA, SI, and layout expertise with Xilinx® high-speed transceivers makes us a one-stop shop for high-speed serial.

Technologies: Xilinx GTX/GTH/GTZ/GTY

EPON ONU development.

Technologies: Xilinx Virtex UltraScale+, SDNet

VME solution that adds SDR capabilities to an airborne search and rescue radar system. The center-piece of the system is a custom FPGA-based software defined radio DSP engine. The DSP algorithms were designed in MATLAB and then moved into VHDL.

Technologies: AIS, SDR (software defined radio), Xilinx FPGA, PowerPC® hardcore, VHF, AGC, programmable attenuators, power amplifier, VME, VITA, DO-160E, ITU M1371, NMEA0813

Encryption algorithms implementation on Xilinx Zynq® using Asymmetric Multi Processing (CPU0: Linux, CPU1: Bare Metal), High-Level Synthesis, Isolation Design Flow, and Partial Reconfiguration.

Technologies: Xilinx Zynq, Avnet® Zedboard, AMP, HLS, IDF, PR, AES, SHA2, SHA3

About Fidus

Fidus Systems, founded in 2001, specializes in leading-edge electronic product development with offices in Ottawa and Waterloo Ontario, and San Jose, California. Our hardware, software, FPGA and signal integrity teams architect, design and deliver next-generation products for clients in emerging technology markets. We build long-term relationships by consistently exceeding expectations.

Ottawa • Waterloo • San Jose

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