

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.

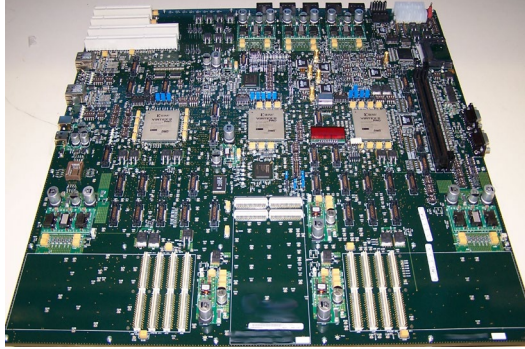
Our FPGA design team's skills are readily complemented by Fidus' Hardware, PCB Layout, Signal Integrity, Embedded Software, and Mechanical design expertise.

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, etc.
- **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. This 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.

Locations

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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
- **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
- **EPON ONU development.**
Technologies: Xilinx Virtex UltraScale+, SDNet
- **100G Ethernet switch.**
Technologies: Xilinx Virtex UltraScale+
- **100G Ethernet protocol analyzer and tester.**
Technologies: Xilinx Virtex UltraScale+
- **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
- **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
- **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