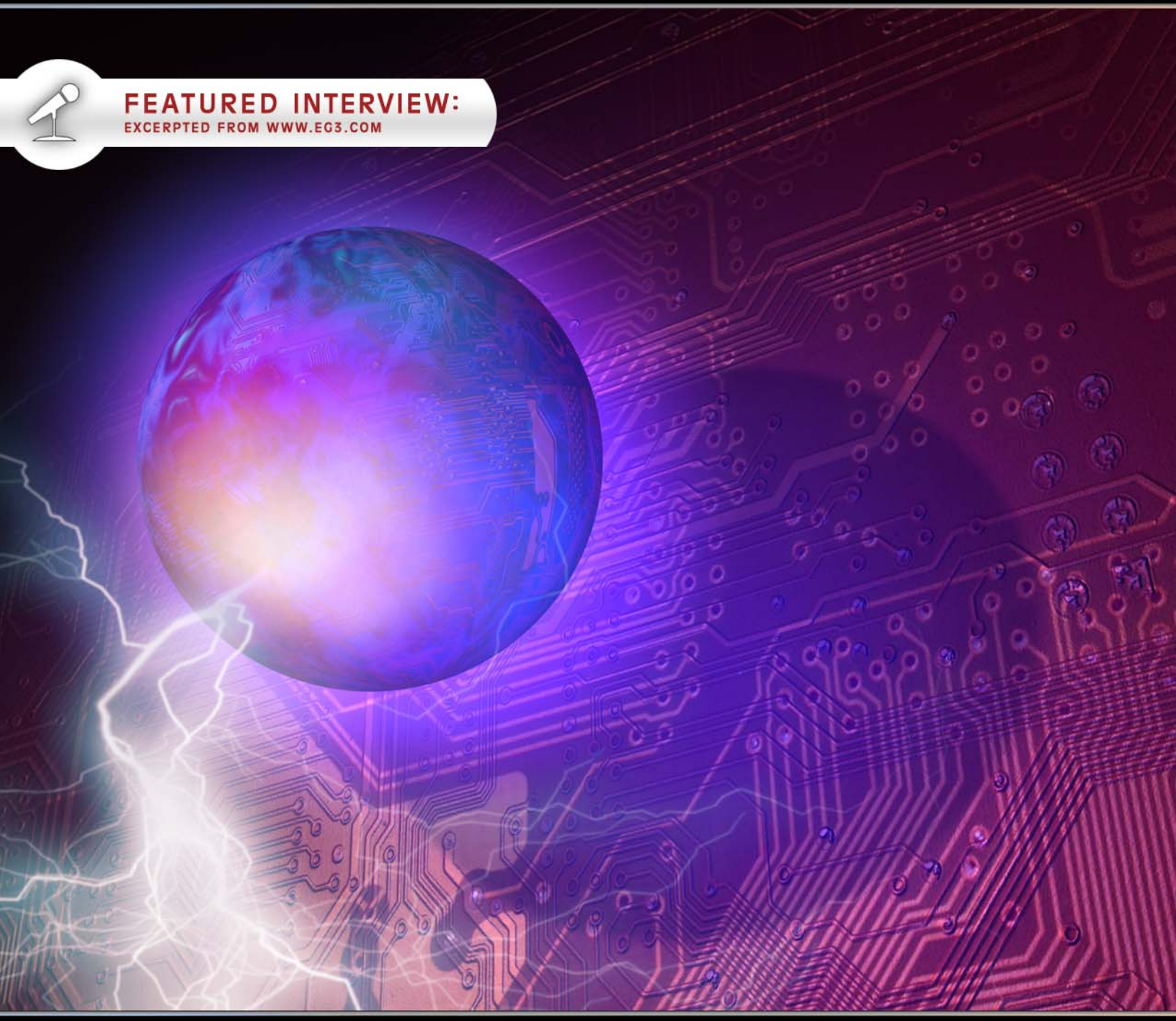
INSIDERS' GUIDE:

FPGAs, TOOLS, AND BOARDS



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FIDUS: FPGA DESIGN SERVICES

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Q. **First of all, tell us a little bit about yourself and your responsibilities at Fidus.**

A. I am a FPGA technical lead at Fidus Systems. Some of my responsibilities include being involved during the project pre-sales and scoping phases, leading teams on large projects, FPGA-related design work as well as lab validation. In parallel to these responsibilities I am involved with the Company's process and related tools development and deployment.

Q. **This year, we are striving to focus more on "design services" for FPGA designs. Can you tell us, in a nutshell, what sorts of "design services" you offer, and if there are any specific hooks into FPGA design needs.**

A. Fidus offers a broad variety of electronic product development services. For example, System design and schematic capture, PCB Layout design, Signal Integrity, FPGA design, Firmware and Software design as well as Mechanical design. The FPGA designs we do are an integral part of the whole system functionality and they range from video processing, medical applications, telecomm, defense and aerospace and other fields. During the design phase of these projects we recommend FPGA functionality as well select the device that will fit the requirements. Specific to the FPGA design, we do a complete FPGA development starting from FPGA and verification documentation, going through to design implementation and verification and finally, lab debugging and validation as well customer integration and support. We can also perform any of theses steps as separate and independent tasks. For example, the design verification sometimes needs to be performed by a separate team. The FPGA has to under go extensive regression or with an already written and partially tested FPGA, there may be some problems and we bring our expertise to find these problems and fix them.

Q. **What sorts of FPGA-based products has Fidus helped with in the past? What are your FPGA credentials so-to-speak?**

A. Almost in any system we develop - there is an FPGA requirement. We have worked with Xilinx, Altera and Lattice FPGAs. We have designed and worked with DDR2 SDR interfaces, 700MHz DDR parallel LVDS interface, PCI, hard core PowerPC, 6.5Gbps GTX interfaces, and many others. More recent projects include; an AIS system for naval communications using PowerPC and software defined radio inside the FPGA, chip testers with high speed DDR2 SDRAM interfaces, communication system with close to 200 GTX interfaces working at 6.5Gbps.

Q. **Our target reader is someone who is considering FPGAs for FPGA deployment, not FPGAs for ASIC prototyping. Do you have any "success stories" of projects that you have worked on that were specifically FPGAs for actual deployment?**

A. Most of our projects are FPGA deployment projects.

Q. **Many design teams begin their designs by selecting Altera or Xilinx. Is Fidus familiar with both? Are you "neutral" among Altera, Xilinx, Lattice, Actel, etc.?**

A. Fidus is a Xilinx Xpert Partner and is in the process of becoming an Altera ACAP member. We are neutral not only to the vendors but to the HDL language as well. Our choice of vendors is based on the best technology and price fit to meet our clients' requirements.

Q. **Many designs are not outsourced 100%, but rather many critical elements remain "in house" whereas others are "outsourced" to outside vendors and/or consultants. Tell us about how Fidus can work with design teams and coordinate the "division of labor" between internal and external tasks.**

A. During project scoping phase, Fidus works with its client to divide the design tasks as required and clearly summarize both parties' deliverables. For example, some of our projects have integrated client provided modules or third-party cores into our final design. Conversely, we have provided modules to our clients for them to integrate into their final design

Q. **Are there certain vertical markets or applications where you have the most experience? For example, military? Medical? Consumer electronics?**

A. Fidus has extensive experience in Communications, Military, Aerospace, Medical and Semiconductor industries.

Q. **What is the engagement model like? Many design services companies' bill on time +materials, but your website emphasizes "fixed price" billing. Tell us a little a bit about how you "cost out" the bids for projects.**

A. Fidus projects can be either T&M or Fixed Price. Our preferred model is Fixed Price when the project is well defined because it helps our clients plan their budgets.

Q. **Obviously trust is critical to a service relationship. How would you recommend a potential customer "get to know you" before having to make a big commitment?**

A. Many of our clients have started with small projects, moving to larger more complex projects and grown to have Fidus as their key design partner

Q. **Why should clients work with Fidus?**

A. Fidus was founded on the principals of high integrity; strong engineering experience and we have earned a reputation for delivering high quality designs. In an independent client survey, 97% of our clients said they would recommend us to others, a phenomenal endorsement of our culture of high quality on- time delivery.

Q. **Thank you for this interview.**