WE HELP CUSTOMERS SCREENING DEFECTS TO CATCH THEM EARLY

Testonica

KEY FACTS

- 15+ years of innovation
- Patented technology
- Users in 20+ countries

COMPETENCIES

- Test & Measurement
- Functional Test
- Embedded Test
- BERT / HSIO Test
- Test Instrumentation
- JTAG / IJTAG
- Boundary Scan
- Flying Probe Test
- IEEE 1149 / IEEE 1687
- Electronics Design
- Embedded Software
- Fault Management
- Service & Maintenance
- FPGA / SoC / MCUs
- VHDL / Verilog

BUSINESS OVERVIEW

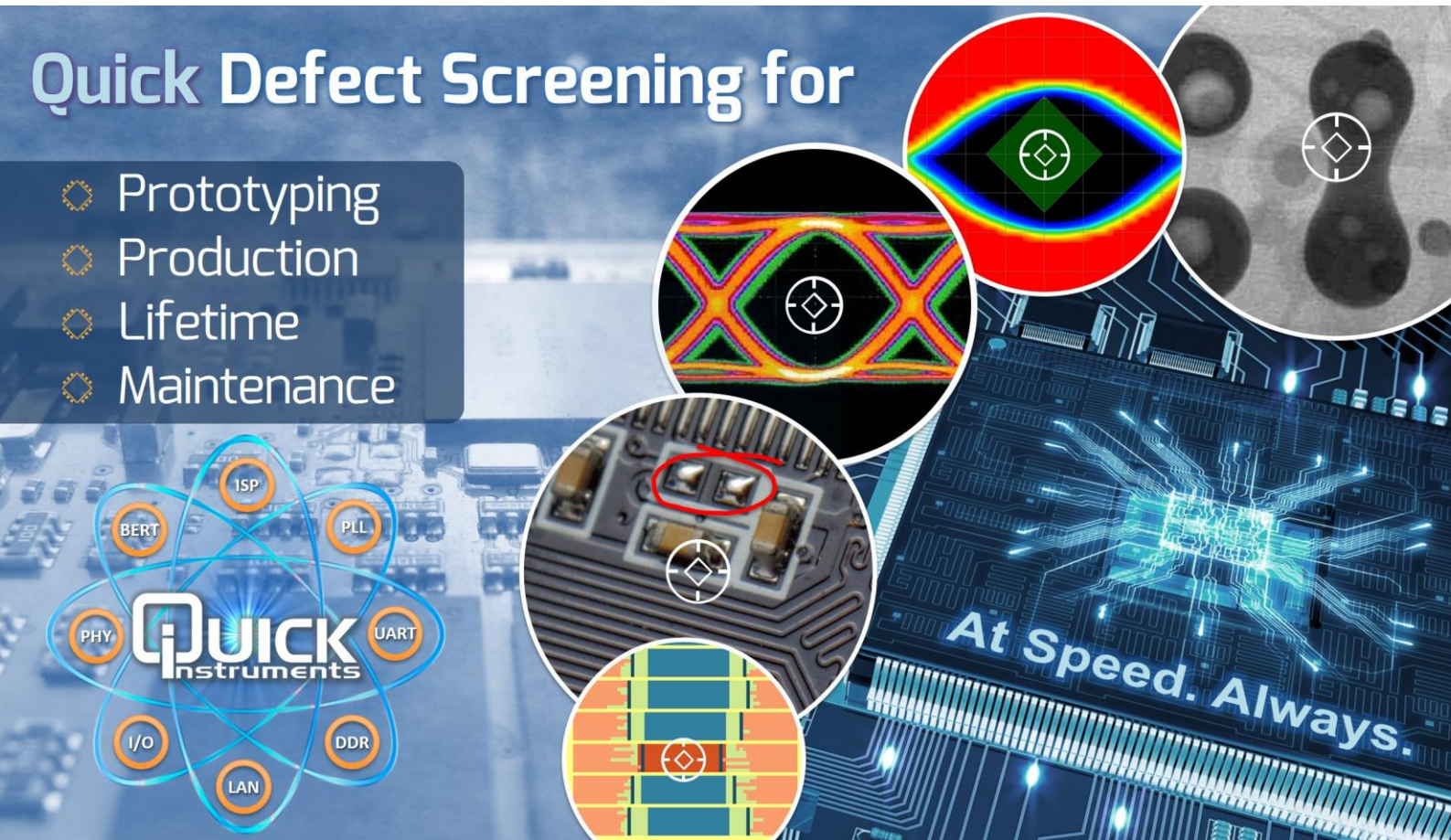
We have a deep and almost unbearable passion towards three things: FPGAs, testing and innovation. As a result, in 2011 Testonica invented and brought to market Embedded Virtual Instrumentation technology. Later, we started to build the industry's first instrument synthesis cloud.

Today, thanks to 15 years of industrial experience with hundreds of solutions delivered worldwide, we possess a huge in-house library of test & measurement instrumentation IPs forming a solid basis for a fully automated test system. As a result, we are bearing full responsibility for the test quality by delivering a proven ready-to use test solution.

WE OFFER

- Functional test firmware and SW development
- JTAG / Boundary Scan test program development
- Test program development for Flying Probe testers
- Test strategy optimization and testability improvement
- FPGA design and product bring-up services
- Design of embedded systems: HW and SW
- System health monitoring and fault management

We take care of everyday testing needs as well as challenging quality issues



EXPERTISE, SERVICES AND SOLUTIONS FACTSHEET

Testonica

FPGA-BASED DEVELOPMENT

We have in-depth expertise in the following FPGA-based solutions and methodologies:

- VHDL and Verilog design languages
- High-Level Synthesis (HLS) methodology
- Xilinx Vivado, Altera/Intel Quartus, and Lattice Diamond tools
- ModelSim and QuestaSim simulators
- ChipScope, SignalTAP II, Reveal Analyzer
- Designing with FPGA SoCs (ZynqU+, Arria10)
- Designing with soft-processors from Xilinx (Microblaze) and Intel (NIOS II)
- High-speed design with multi-gigabit transceivers
- Buses: PCIe, SATA, AXI, Avalon, AXI-Lite
- Memory controllers: DDR3, DDR4
- Ethernet MAC interfaces, EtherCAT

EMBEDDED SW DEVELOPMENT

- Linux drivers and Userspace applications
- Bare-metal applications, bootloaders
- Embedded SDKs, ELDK
- Petalinux, Yocto, FreeRTOS, lwIP

ELECTRONICS / HARDWARE DESIGN

- Digital electronics design and bring-up
- Analog and power electronics
- Preparation for production
- Functional and production test
- Prototype validation and certification
- DFT and test strategy optimization

TEST & MEASUREMENT, DFT ANALYSIS

Development of automated production test solutions and technologies is our core business. We help customers by contributing with:

- Embedded Functional Test & Measurement, Embedded Instrumentation (Quick Instruments)
- JTAG/Boundary Scan test development, deployment, support, training (Goepel)
- Flying Probe test program generation, deployment, support, training (Takaya)
- Board testability and DFT analysis with various test strategies and test methods: AOI, ICT, BST/JTAG, FPT, EFT etc. (TestWay Express)
- Handling Flying Probe and X-Ray inspection equipment incl. support and maintenance
- Repair station software handling: CAD viewer, fault tickets (QuadView)
- FPGA-driven PCBA test using automatically generated test firmware
- Processor-driven PCBA test and programming via JTAG
- Ultra-fast in-system flash programming
- Test and validation of gigabit links and high-speed interfaces
- At-speed testing of high-speed devices, DDR memories and interfaces
- Defect screening using stress / load / parametric test / BERT / FERT
- Built-In Self-Test, Power-On Self-Test, system monitoring
- Fault tolerance, FDIR, and system health management

RECENT DEVELOPMENT PROJECT EXAMPLES

- CERN: Full-stack development from FPGA to GUI of custom Bit Error Rate Test equipment on FPGA for testing and certification of communication channels of LHC/CMS
- European Spallation Source (ESS/ERIC): EtherCAT device design based on Beckhoff Xilinx IP and Beckhoff Slave Stack, embedded multi-board SoC-FPGA-based control system with high-availability and remote management
- European Space Agency (ESA): 8-core LEON3 processor on FPGA with integrated real-time failure avoidance, health management system, and optimized telemetry

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