



## Leutron Vision boosts productivity and quality with XJTAG

“Swiss-based international machine-vision specialist Leutron Vision AG is using XJTAG boundary scan to screen circuit boards before functional testing. Compared to optical inspection, XJTAG is enabling higher test coverage, increased productivity and faster rework, and is contributing to continuous improvement of the company’s camera units, interface cards and frame grabbers.”

Leutron Vision, headquartered in Zurich and with subsidiaries in the USA, Germany and Czech Republic, has a 30-year history supplying imaging products for industrial, medical and security applications. Included in the company’s current range are the PicPort digital frame grabber, as well as industrial-quality CCD and CMOS cameras with a variety of interfaces including Gigabit Ethernet (GigE Vision®), USB2.0, Smart and Camera Link.

The developers and production engineers at Leutron are using XJTAG boundary scan to speed up debugging of prototype designs, and to increase the productivity of production testing by quickly identifying boards with manufacturing defects.

In the past the company has used optical inspection to identify boards with soldering defects so that repairable faults can be rectified before passing the board forward for functional testing. “Since our functional test routines are relatively time consuming, it makes no sense to test boards carrying defects that we could identify using faster methods,” comments Mathias Leumann, CEO of Leutron. “However, many of our boards now contain a significant number of BGA devices, such as RISC processors, DDR-SDRAMs, serial flash, parallel flash and FPGAs. We are unable to verify connections to these using optical inspection. Going forwards, we identified boundary scan as the fastest and most effective way to screen boards and hence maximise overall test productivity.”

Mathias Leumann and his team evaluated several boundary scan test systems. XJTAG offered the best value. “We selected the XJTAG system for its outstanding price/performance ratio and the high level of support, both through direct contact with the manufacturer as well as local support from their distributor partner,” he says. “Some of the alternatives were offering expensive features that were unnecessary for our purposes, but XJTAG has

delivered high-value capabilities, at the best price.”

With its advanced graphical interface and features including automatic scan-chain detection, built-in netlist explorer and high-level test-description language, XJTAG provides intuitive tools to define the circuit to be tested and then to perform the tests. “The XJTAG user interface allows me to see clearly what the software will do with the board,” agrees Pawel Studler, Hardware Engineer at Leutron. “This gives me valuable freedom to create tests that will do what I want.”

Tests are developed at Leutron’s headquarters and delivered to the company’s manufacturing partner, which is using the XJRunner run-time

environment to screen production units. Where a unit fails screening, XJRunner helps track down faults to enable faster rework. XJRunner is also able to program components in boards passing boundary scan tests. “This is an efficient strategy,” comments Mathias Leumann. “XJRunner can be deployed at no additional cost and saves us dealing with defective boards ourselves.”

In addition to successfully screening for defects, XJTAG boundary scan has also enabled Leutron to achieve higher test coverage than is typically possible using functional test alone. Mathias Leumann concludes, “XJTAG is an effective tool that has helped us increase quality as well as productivity.”

### opinion

Mathias Leumann  
Founder and CEO  
Leutron Vision

“XJTAG boundary scan provides a fast and effective way of testing for assembly defects with components in BGA packages, which cannot be verified using optical inspection.”

“Compared to other systems, XJTAG delivers an outstanding price/performance ratio and is well supported, both through direct contact with the manufacturer as well as local support from their distributor partner. Our manufacturing partner is using XJRunner to perform tests developed by our engineers, which is efficient and saves us dealing with defective boards. Overall, XJTAG is an effective tool that has helped us increase quality as well as productivity.”

Data  
Bank

Leutron  
Vision

Company	Leutron Vision AG HQ Switzerland
Nature of business	Design and manufacture a broad range of versatile imaging products
Main product	CCD and CMOS cameras with Gigabit Ethernet, USB2.0, Smart, Camera Link interfaces
Customers	OEMs, system integrators serving industries including Semiconductor, Electronics, Automation, Automotive, Security, Pharmaceutical, Printing...
Location	Switzerland, Germany, Czech Republic, USA
Web site	www.leutron.com