



XJTAG Worldwide University Programme for boundary scan provides 'Quantum Leap' in SUPSI-DTI students' learning experience

“Based in Switzerland, SUPSI-DTI University of Applied Science prides itself on bridging the gap between scientific development, education and real world applications. This practical approach to learning meant the university was keen to work with a leading boundary scan supplier. XJTAG was selected, through its Worldwide University Programme, to help its students understand this form of testing.”

XJTAG's Worldwide University Programme gives universities and academic institutions full access to the XJTAG development system at special discounted prices. Its aim is to help teach students about IEEE 1149.X JTAG boundary scan using XJTAG's state-of-the-art boundary scan tools. The programme provides full commercial-grade development systems to accredited institutions for educational purposes.

Paolo Ceppi, Project Manager, SpaceLab at SUPSI-DTI, explains: “SUPSI selected XJTAG to support its regular curriculum and continuing education courses.” He adds: “XJTAG, now being used for both practical demonstrations and laboratory exercises, has given our undergraduate and graduate students a ‘quantum leap’ in their enhanced learning experience.

“We got in touch with XJTAG at Embedded World 2011 in Nürnberg,” says Paolo. “The person at the booth was very helpful and willing to make sure our university could experiment with the tools. “So here we are with XJTAG and we certainly appreciate the continuous and swift support from the company, and its professional approach.”

Paolo says that the university, which is now using XJTAG in its hands-on microelectronic courses to teach students about boundary scan, was very impressed by the friendly user interface of XJTAG, with its simple set up and clear test results.

The XJTAG development system can be used directly as a teaching resource as it is supplied with demonstration hardware, tutorials, comprehensive documentation and online support.

XJTAG can achieve a high level of test coverage on both JTAG and non-JTAG devices. FPGAs, SDRAMs, Ethernet controllers, video interfaces, Flash memories and microprocessors are some examples of the types of devices that can be tested.

XJTAG is supplied with an extensive library that contains tests for thousands of devices. These tests are written in XJEase, a high-level test description language that makes it easy to write or customise test routines. Tests are written from the device's perspective and can be reused in any circuit without additional work.

SUPSI-DTI plans to use XJTAG to teach students how to write and customise tests for boards containing micro-controllers, FPGAs, sensors and RF transceivers. Paolo also believes that XJTAG will prove particularly beneficial when the SpaceLab department approaches its next space mission.

“Our students and staff at SUPSI-SpaceLab built a small spacecraft, named Tlsat-1 HB9DE, which was successfully launched to Space on July 12th 2010. The system including sensors, actuators, power management and power conditioning sections, memories, RF devices etc. was built around a few microcontrollers embedded with a redundant architecture. A custom functional test interface and procedures had to be devised in order to assess the health status of the subsystems inside the spacecraft after vibration and

thermal-vacuum stresses without taking the whole device apart. XJTAG would have been of great help then and will certainly be so in the next space mission of ours.”

He added: “Thanks to the XJTAG Worldwide University Programme, hands-on Boundary Scan laboratory training is now offered at SUPSI on XJTAG systems. To help develop local expertise on the technology, XJTAG is also supporting student projects.



“Our industrial partners stem from many different industry sectors. DFT and boundary scan testing are not very well known yet and we expect to have our partners appreciate the benefits of XJTAG in future projects.”

opinion

Paolo Ceppi
Project Manager, SpaceLab
Department of Technology & Innovation
SUPSI

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“From the technical point of view, we were positively impressed by the friendly user interface of the tool.”



WORLDWIDE
UNIVERSITY
PROGRAMME

Data Bank	University of Applied Sciences and Arts of Southern Switzerland SUPSI
Institution	SUPSI, Department of Technology and Innovation (DTI), HQ Switzerland
Nature of organisation	One of 7 Universities of Applied Sciences in Switzerland
Main focus	Electronic, microelectronic, mechanical and computer science education at Bachelor/Masters level
Partners	Interacts with local and international industry partners on a regular basis thus bridging the gap between scientific development, education and industrial real world applications
Location	Manno, Switzerland
Web site	www.dti.supsi.ch www.spacelab.dti.supsi.ch