



## ARG Consultores Halves Testing and Programming Time and Cost Using XJTAG

**“By introducing XJTAG for boundary scan and programming, ARG Consultores has dramatically accelerated its in-system programming and test processes, including test development and fault finding. The ease of reusing test files and support for complex BGA-based designs made choosing XJTAG an easy decision.”**

Based in Mexico, just South of the U.S. border, ARG Consultores produces complex electronic assemblies incorporating microcontrollers, communication modules, environmental sensors and power control circuitry for a range of products including HVAC systems, security systems and other IoT devices. Their products are deployed globally, particularly across North America, Europe and Asia. Over the last six years, the company has also developed manufacturing test equipment and workstations, and provided engineering support to major clients, such as Resideo Inc. and Amazon Fulfillment.

ARG wanted to streamline and accelerate its assembly-line testing process by deploying an advanced automated test system, while maintaining world-class test coverage and reliability. Argentina Garcia, Operations Director at ARG explained: “We selected XJTAG due to its strong support for complex BGA-based designs, ease of creating reusable test libraries and high diagnostic precision. The system integrates smoothly with our existing NPI test development environment and supports rapid scaling across multiple product lines.”

The impact of adding XJDeveloper to their test process was immediate. As Ms Garcia notes, “XJTAG has significantly reduced debug and test development time. The built-in XJEase device libraries and reuse of custom code has brought boundary scan test creation time down to 40-60% of the previous system, while integrating board programming into the test process has cut post-production costs by 20-30% by eliminating additional in-circuit test fixtures.”

Once the tests are designed, XJRunner offers a lot of flexibility. “We use the XJTAG system for boundary-scan tests, in-system programming and structural debug of multiple NPI projects across our SMT lines. XJTAG is used alongside existing ICT, FFT and RFT systems during FAI, DVT, PVT and mass-production readiness to validate interconnects, confirm device IDs,

program MCUs, and diagnose faults during bring-up. It is also used to verify JTAG chain stability after PCB revisions, component substitutions, and firmware image updates.”

Fault diagnosis also improved significantly. When issues occur, fault finding time has been reduced from hours to minutes, with any defects identified much earlier in the process, as soon as the PCBs are assembled, rather than during functional testing of the completed systems.

Ms Garcia was very happy with the features offered. “Fast development of reusable tests coupled with easy-to-understand results were key, but in-system programming and the ability to run tests on early prototypes are valuable to us as well.”

A recurring theme in their experience was the advantages of testing earlier and at multiple stages of the product lifecycle. During the design process, using XJTAG boundary scan enables circuits to be tested as soon as they are built, before any firmware has been produced. Similarly, in the production process, early testing can catch manufacturing defects before a unit has been fully assembled and programmed. She also praised the low cost of ownership, especially in conjunction with the network licensing.

XJTAG has given ARG Consultores a solution which complements their existing systems, offering greater visibility into faults, faster feedback during development and production, and achieves thorough testing while decreasing cost and complexity.

opinion

Argentina Garcia  
Operations Director  
ARG Consultores

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Data  
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Company	ARG Consultores Co.
Nature of business	Electronics and test equipment manufacture
Main products	PCBs and sensors for IoT HVAC and security systems
Customers	Industrial, including Resideo, Amazon Fulfillment Center, Cofiasa
Founded	2019
Location	El Paso, Texas, USA Chihuahua, Mexico
Web site	argconsultores.mx