IPSES

The excellence in testing electronic solutions

Founded in 2003 and located in the industrial district of Milan, IPSES works in advanced technologies focusing on testing and measurement applications for aerospace, automotive, industrial control, RF, timing and embedded systems, providing complete solutions from R&D to production.

The Value of Modular Testing: IPSES Experience

Scalable Modular Approach with 6TL FastATE

IPSES leverages 6TL FastATE technology to build ATE systems up to 70% faster. Using intelligent modules communicating via CAN-bus and integrated with mass interconnect systems, this approach ensures reliable fixture interchangeability and superior signal integrity. Modules interface directly with receivers, eliminating excessive wiring and reducing development time while maintaining flexibility for custom requirements.

Combined Testing: Functional + XJTAG Boundary Scan

Integrating functional testing with XJTAG Boundary Scan maximizes diagnostic coverage. Boundary scan detects connection defects without probes, accesses hidden nodes in high-density PCBs, programs devices via JTAG, and provides pin-level diagnostics. National Instruments TestStand orchestrates both sequences for enhanced reliability and integrated reporting.

Strategic Benefits

Reduced costs through reusable and scalable modules, higher quality with precise fault diagnostics, minimal repair time and future-proof flexibility for product variants, delivering a strategic investment in quality and innovation.

MARKETS

- Aerospace
- Energy
- Industrial electronics
- Medical & Pharmaceutical
- Military
- Semiconductors
- Automotive
- Scientifics

PARTNERSHIP

- NI Gold partner
- XJTAG technology partner and exclusive Italian reseller
- 6TL Engineering technology partner and exclusive Italian and Switzerland reseller
- Microchip Platinum design partner

CERTIFICATIONS

- 4 Certified LabVIEW Architects (CLA)
- 3 Certified Professional Instructors (CPI)
- 2 Certified TestStand Architects (CTA)
- 2 Certified LabVIEW Embedded Developers (CLED)
- 1 Certified LabWindows/CVI Developer (CCVID)
- 5 Certified LabVIEW Developers (CLD)
- 2 LabVIEW Champions

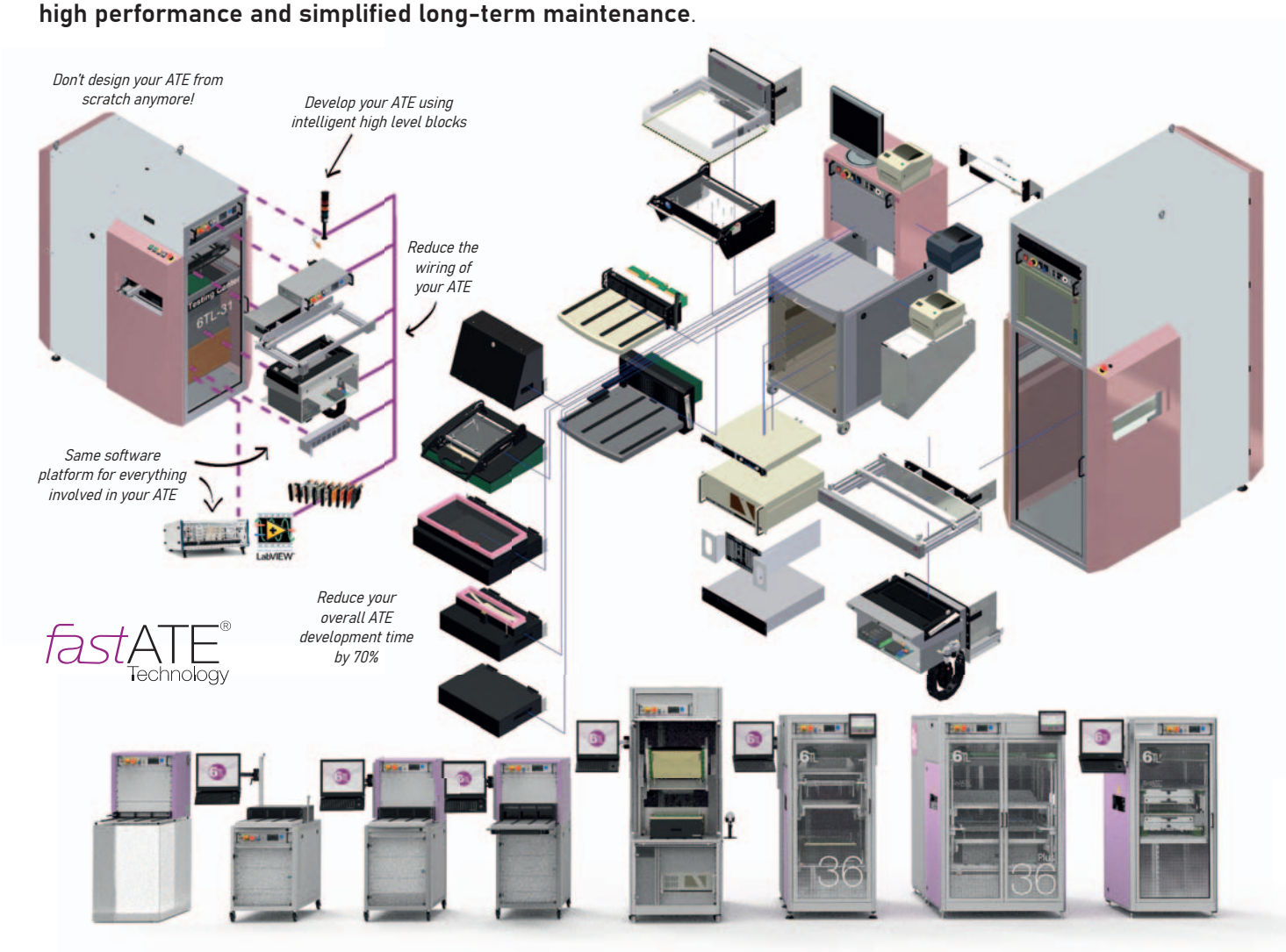
ISO 9001 2015 CERTIFIED

Flexible Testing Solution

IPSES can design your test system at any production stage, from prototyping to volume manufacturing, using standardized 19" rack-based platforms configurable as transportable benchtop systems (off-line handlers) or semi-automated solutions integrated into production lines (in-line handlers).

Scale your testing: Expand or Reduce as needed

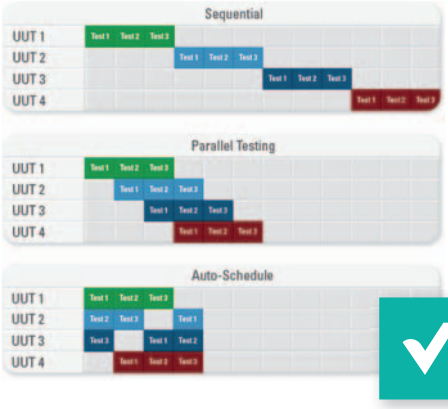
Thanks to its modular architecture, **IPSES test solutions evolve seamlessly alongside production requirements**, protecting customer investment while ensuring high reliability, repeatability, and ease of maintenance.
By leveraging **pre-engineered, plug-and-play modules**, IPSES delivers highly adaptable systems that can be easily configured for **continuous in-line testing** or **off-line test benches**, using the same technological foundation. A key advantage of this modular philosophy is **scalability**: platforms share the same specialization cassettes, interfaces and functional blocks, enabling test sequences to be reused across different systems. This approach significantly **reduces time-to-market**, lowers overall system complexity and allows **straightforward upgrades** as testing needs evolve.
Modularity extends to **receivers and fixtures**, which are fully customizable and expandable. Interconnections can be standardized independently of platform size, while functional switching boards can be mounted directly on the receiver reducing cabling, improving signal integrity, and enhancing system robustness.
Integration of **COTS hardware** is facilitated by the standardized **19" rack format**, simplifying spare parts management and calibration procedures, and ensuring long-term maintainability and upgradability.
Through strategic partnerships with **6TL** for **fastATE** base platforms and **National Instruments**, IPSES leverages advanced technologies such as **LabVIEW** for software development and **TestStand** for test sequence management. This modular software approach enables code reuse, parallel test handling, and automatic sharing of hardware resources—**dramatically shortening test development time while ensuring high performance and simplified long-term maintenance**.



Stop Building Test Systems from Scratch!

Modern electronics testing demands a smarter approach. Leverage proven modular architectures that combine multiple test methodologies on a single unified platform.

Modular Software Framework



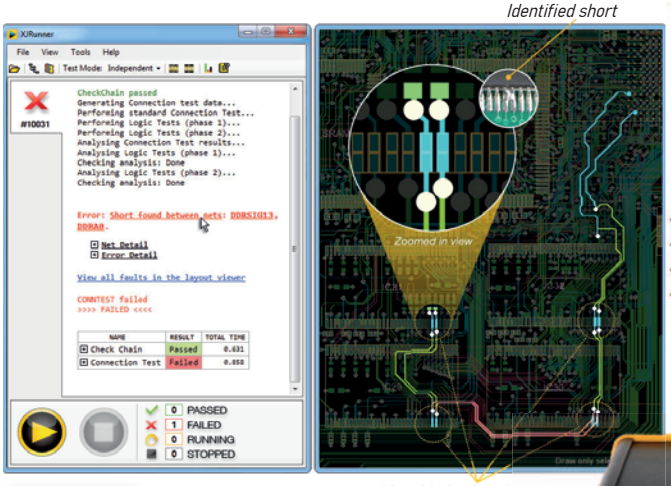
NI TestStand provides a flexible and open testing architecture that maximizes code reusability. Integrate existing code from multiple development tools while maintaining high performance.
The framework includes integrated debugging, simplified maintenance, and intelligent parallel test management.
Automatic hardware resource sharing and auto-scheduled synchronization optimize test cycles and resource efficiency.
Update individual test steps without disrupting entire sequence changes propagate across multiple systems instantly.

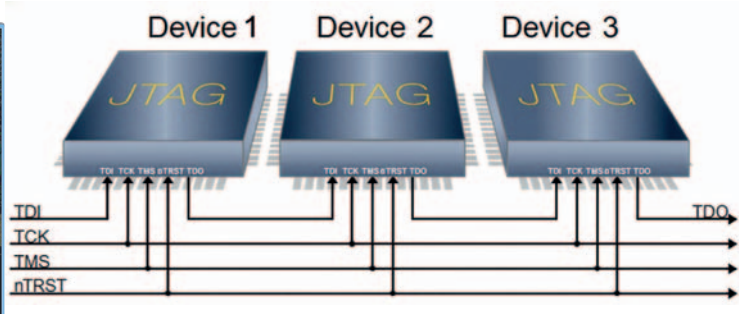
Comprehensive Test Management

Advanced test frameworks handle all non-UUT aspects: user interfaces, instrument calibration, database integration, user access controls, and anti-tampering protection.
This modular approach reduces management costs for both simple and complex testing environments.

Integrated Boundary Scan + Functional Testing

Achieve near-total circuit coverage by combining Boundary Scan and Functional Test on one platform.
This innovative integration provides mutual coverage where individual techniques are deficient, covering digital, analog and all network connections.
XJTAG algorithms enable fast and simple in-system programming across a wide range of devices.
Create favorable test conditions impossible with single-method approaches while generating unified diagnostic reports.
Implementation is straightforward: connect the 4 JTAG pins and integrate hardware into your modular platform.





IPSES: Advanced Test Systems, Precisely Engineered

In electronics manufacturing, complexity demands a strategic orchestrator capable of harmonizing hardware, software and methodologies into scalable systems. IPSES transforms test infrastructure from rigid configurations into dynamic, future-proof architectures.

Why Choose IPSES

Modular Philosophy: 6TL-based platforms use intelligent blocks communicating via CAN-bus, reducing wiring complexity. Standardized modules eliminate expensive custom engineering while ensuring fast assembly and easy maintenance.

Scalability with Minimal Obsolescence: Systems share identical cassettes, interfaces and sequences across platforms. Scale from R&D benchtop to production in-line handlers, then repurpose for new products, reducing costly replacement cycles.

Combined Testing Mastery: IPSES brings deep technical expertise across the full spectrum of test disciplines, including functional test, RF characterization, machine vision inspection and non-regression test for firmware validation. Our solutions are engineered to ensure measurement accuracy, repeatability and full traceability throughout the product lifecycle. IPSES test systems are designed for seamless integration into automated production lines, supporting both in-line and end-of-line testing with deterministic timing and high throughput.

Strategic Benefits: Direct NI, 6TL and XJTAG partnerships eliminate reselling costs. Results include reduced fixture complexity, fast error detection, decreased failed returns and faster time-to-market. IPSES doesn't supply tools: it engineers complete architectures from R&D through production, focusing on product specific needs rather than infrastructure reinvention.

Software development
LabVIEW
LabVIEW Real-Time
LabVIEW FPGA
TestStand
LabWindows/CVI
C#/.NET/C++
VHDL

Technologies
Development and integration of NI platforms (PXI, cRIO, cDAQ, SLSC)
FPGA programming of all NI devices (VST FlexRIO, USRP, IF-RIO, cRIO, sbRIO)
Analysis and simulation of all wireless standards (WiFi, WiMAX, Bluetooth, NCF)
Radar simulator either for transmission and reception, primary and secondary ones
GNSS (Global Navigation Satellite System) simulators: GPS, GLONASS, Galileo, Beidou, also for timing and synchronization applications

Testing
· Functional Test
· RF Test
· Vision Test
· Boundary Scan (XJTAG)
· Combined approaches
· Non-regression Test
· Test Sequences
· Dev TPS even on LM-Star platform

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