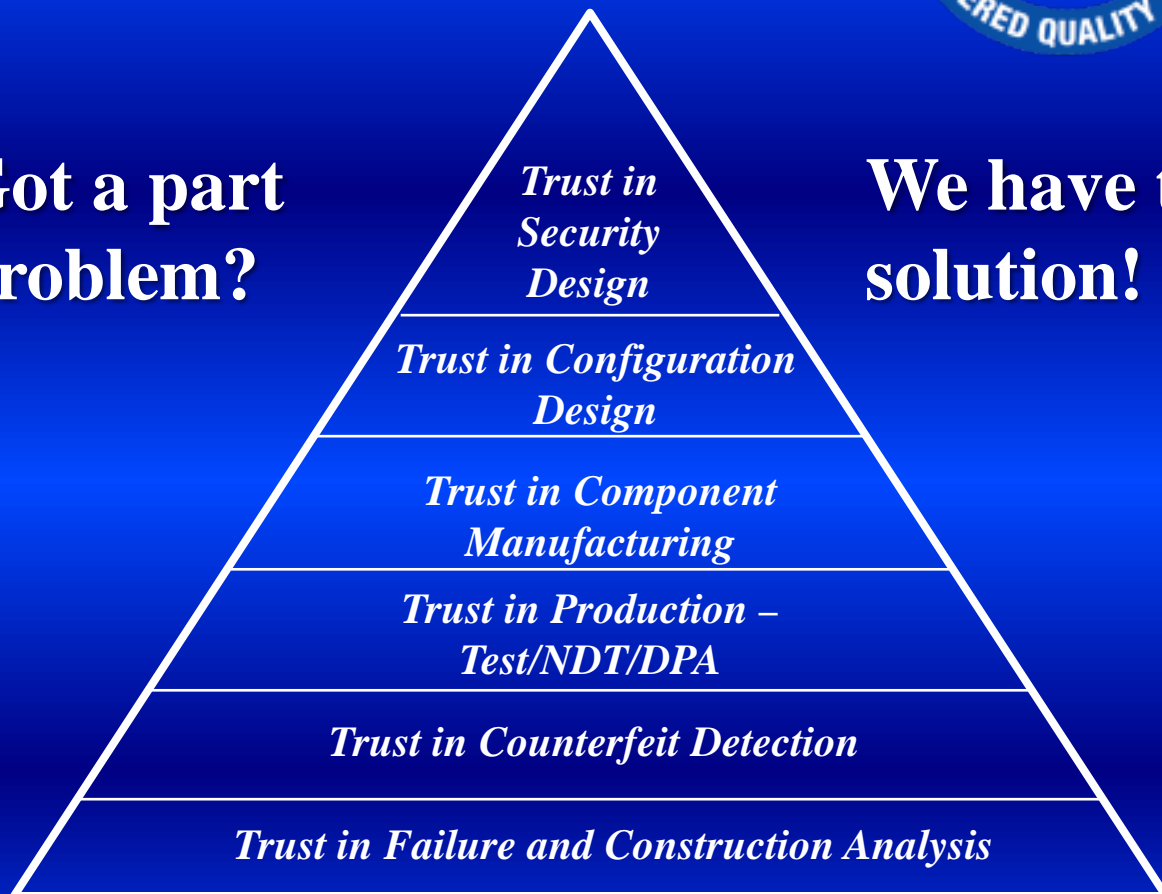


Analytical Solutions, Inc.



Got a part problem?

We have the solution!



Analytical Solution's Pyramid of Trust

ASI's Pyramid of Trust in supply chain management allows a customer the unique opportunity to come to one source for all its service needs related to security design, configuration design, manufacturing and production validation, counterfeit detection, and failure or construction analysis of electronic devices.

We have the equipment and capability to analyze electronic devices, validate the electronic device is a trusted device, and provide the trust you need with your internal or external suppliers in the design, manufacture, and production of high reliability products for the Defense, Aerospace, and Commercial industries.

Analytical Solutions, Inc. is a leader in solving problems and providing analyses of complex electronic devices related to commercial, military, medical, and space applications. Our mission is to be an industry “Trusted Service Supplier” in providing our customers with cutting edge capabilities and analyses with the highest degree of quality, accuracy, cost-effectiveness, which will give our customers the trust and assurance that is required in their products.



PRODUCT EVALUATION

Expertise analyzing all types of microelectronic devices including Smartcards, Microcontrollers, ASICs, Digital, Linear, Memory Arrays and FPGA's. Full circuit extraction, simulations and security evaluations can also be performed. Product Analysis encompasses a broad range of analysis techniques which include analyzing die technology processes, and package/assembly features to evaluate inherent reliability problems. A typical report provided to the customers includes circuit schematics and photographs for a specific semiconductor device circuit or technology.

Die Technology and Package Construction Analysis – Evaluate Inherent Reliability Problems

Microcircuit and Package Security Evaluations – Security Robustness

Functional Layouts - Identifies Major Circuit Blocks

Full Circuit Extraction and Analysis –Hierarchical Schematics, Technical Innovations, and Circuit Layouts

FAILURE AND CONSTRUCTION ANALYSIS

All failure analyses are performed using a scientific approach during which the device under investigation is carefully analyzed to establish a link between the electrical or mechanical failure mode reported by the customer to a physical failure mechanism on the device under investigation. As an independent failure analysis laboratory we have developed the expertise of analyzing complex integrated circuits from a multitude of different manufacturers. Construction Analyses are carried out for investigation of new technologies in packaging or semiconductor fabrication for evaluations of long term reliability and to identify any inherent weaknesses or shortfalls in the processes.

PRODUCT QUALITY ASSURANCE –DPA/NDT

Rigorous process of sample testing is done to specifications ensuring a high reliability component or device is fabricated to the required standards. Key steps in this process include photo documentation, X-Ray, XRF, PINN, Scanning Acoustic Microscopy, Delidding, SEM Inspection, Energy Dispersive X-ray Analysis (EDS), Bond Pull, and Die Shear testing. Performed to evaluate the quality of construction and workmanship of a particular lot of electronic devices slated for High Reliability usage. Performed on both Hi-Rel hermetically sealed parts, and Plastic Encapsulated Commercial-Off-The-Self (COTS) parts.

ENVIRONMENTAL AND ELECTRICAL TEST

Analytical Solutions has semiconductor test capability for analyzing the AC parameters, DC parameters, and functionality of digital semiconductor devices. We perform capacitor surge testing in accordance with MIL-PRF-55365 and Weibull Grading of tantalum capacitors to MIL-PRF-55365 and MIL-PRF-39003 for 60% and 90% confidence levels. Moisture Sensitivity Test is done per: J-STD-020, Moisture/Reflow Sensitivity Classification Analytical Solutions has environmental chambers capable of performing testing of devices or assemblies from -70° C to +150° C. Moisture sensitivity testing can also be performed with custom humidity levels. We routinely perform 85/85 testing (85° C and 85% Relative Humidity). Highly Accelerated Stress Test (HAST) is also available for performing testing under pressure. We routinely perform HAST testing at 130° C, 85% relative humidity, and under pressure.

REGISTRATIONS/ACCREDITATIONS

AS9100 Registered
ISO 9001 Registered
ANSI/ESD 2020 Registered
ITAR Registered

DEMA Trusted IC Supplier Accredited
Facility Clearance
Small Business

MARKETS

Aerospace
Defense
Industrial
Medical
Security
Commercial