



Quality Guide

Quality Control for the Open Market

An Introduction to Our Quality Standards


For over 20 years, Fusion Worldwide has driven global growth and customer success through a steadfast commitment to efficiency, excellence, and enhanced safety in the electronic components industry. Quality is ingrained in our culture, shaping every facet from sourcing through to inspection and testing.

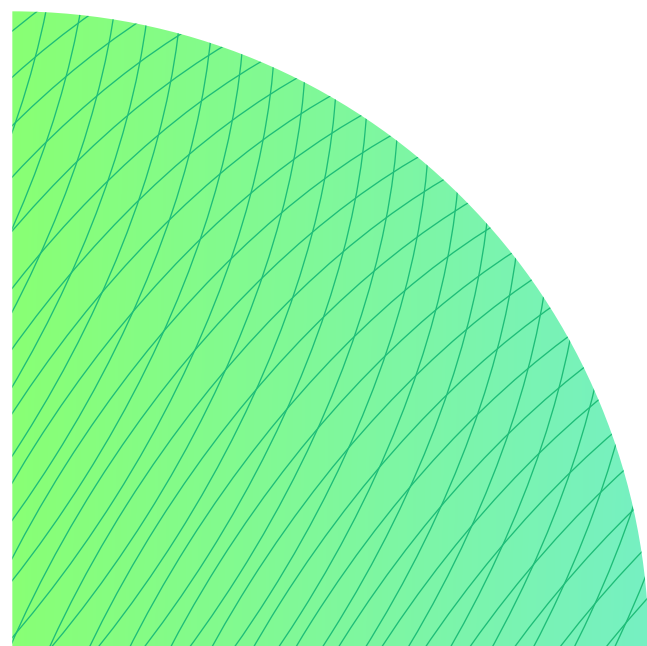
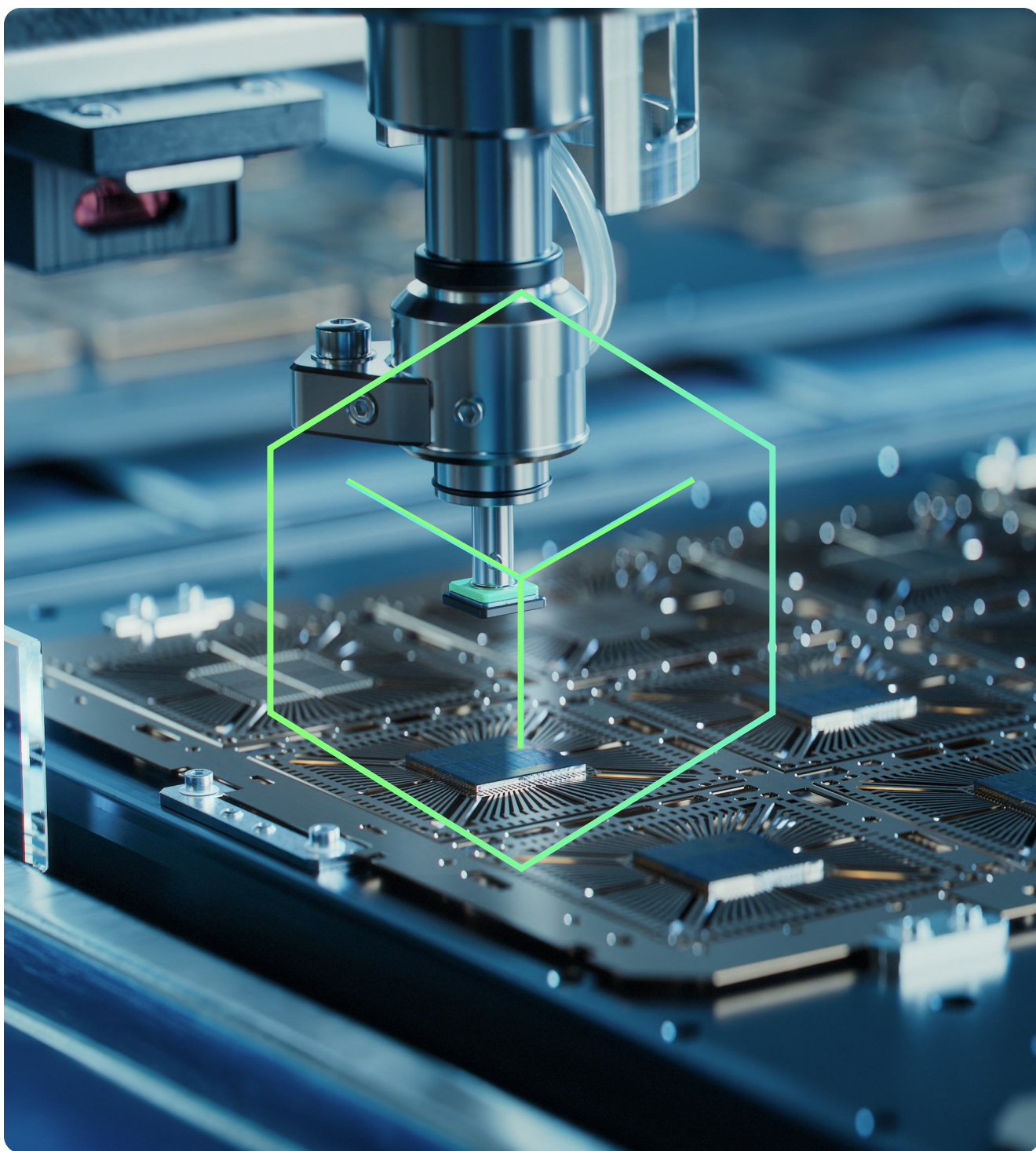
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We are committed to continuous improvement and making sure our customers always receive the highest quality products and the best possible experiences.

”










Paul Romano 
COO



When we speak about “quality,” we aren’t simply referencing a broad idea of a degree of excellence. At Fusion Worldwide, we think of “quality” as an overarching term, one that describes every minute detail, step, process, role, service, and technological advancement that actively lowers defective product return rates, protects against price escalations, buffers against shortages, and streamlines production for our customers around the world.

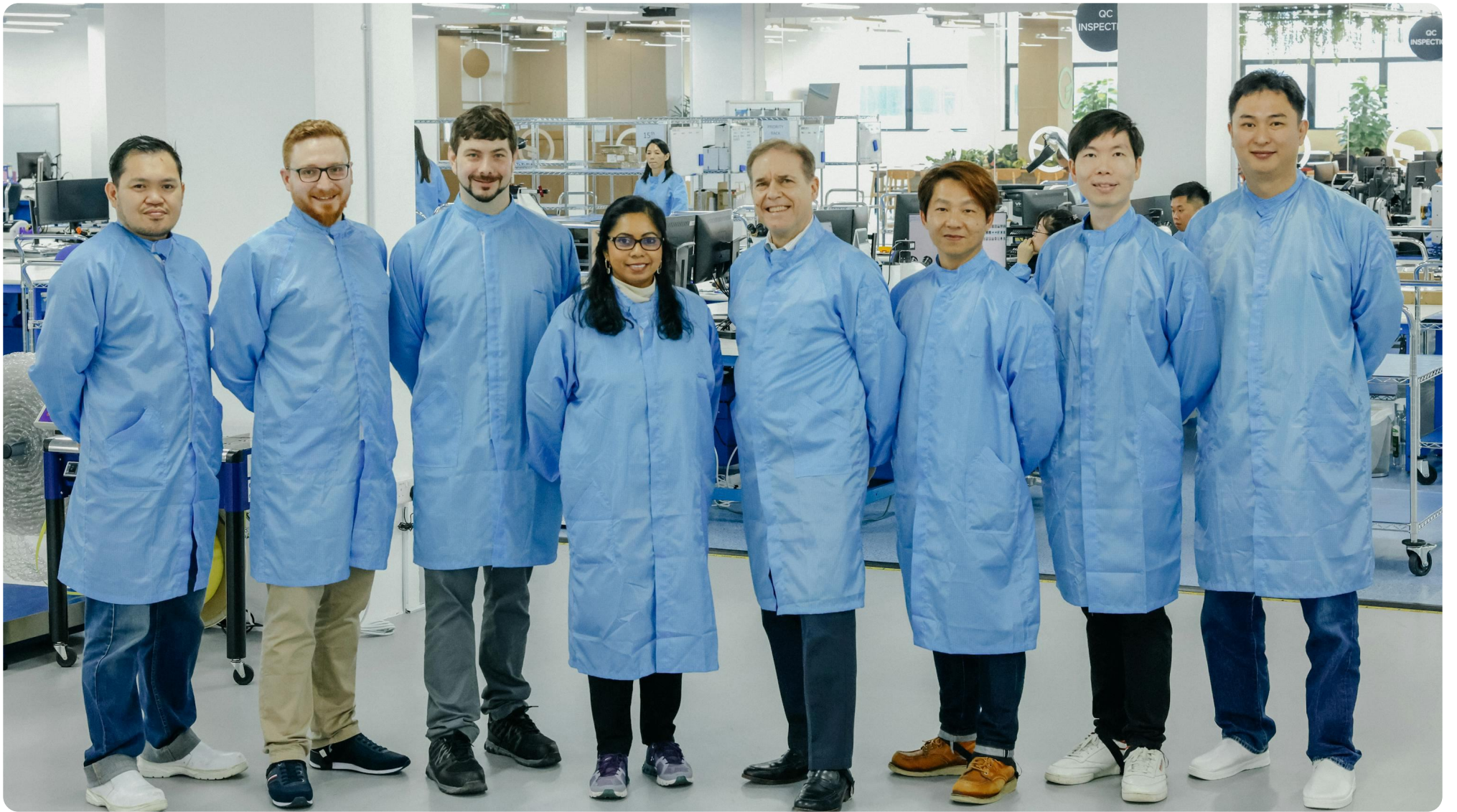
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Quality begins with purchasing, where we rigorously manage vendors using quality metrics such as rejection rates and cycle times; vendors are flagged in our quality proprietary system, ScoutRMS™, for any questionable authentication or persistent quality issues. As we can't rely solely on vendor assurances to verify the integrity of parts, every single component undergoes a thorough and meticulous inspection process, regardless of its source.



Read on to discover how Fusion Worldwide maintains the highest quality standards in electronic component testing — and how that can benefit your company.



Our Expertise

The Fusion Worldwide quality control team is comprised of highly qualified, experienced specialists located across our global quality control centers and test houses (pg. 15). It includes 35+ degreed engineers and multiple IDEA-ICE-3000 inspectors, who are responsible for the below throughout our facilities and programs:



Hands-on component analysis



Authentication verification processes



Performing electrical testing and other advanced testing



Innovation & process improvement

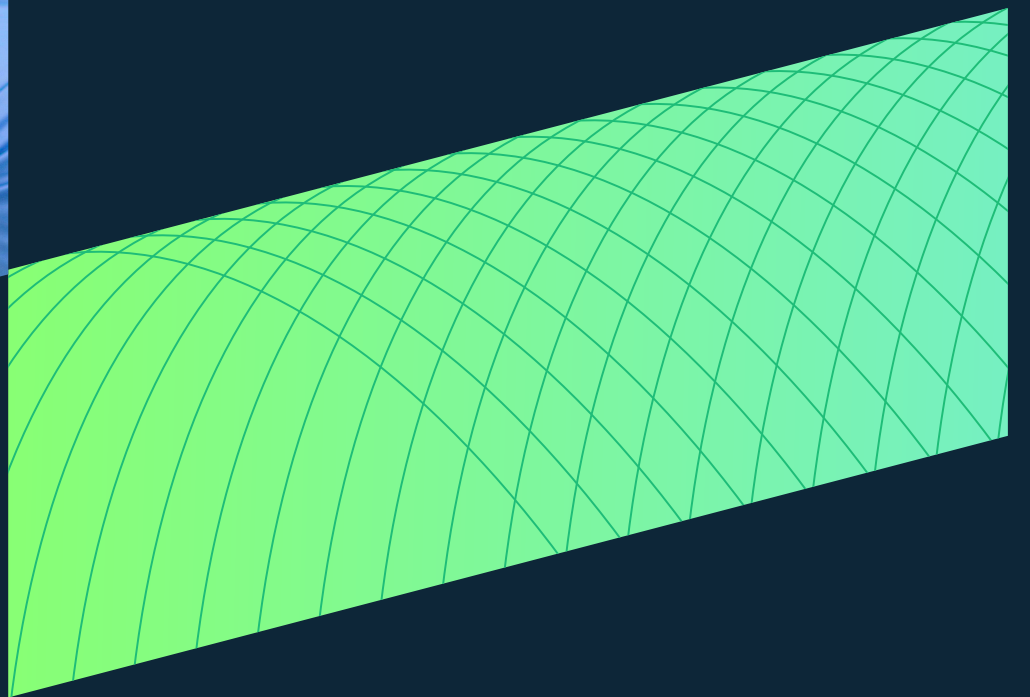
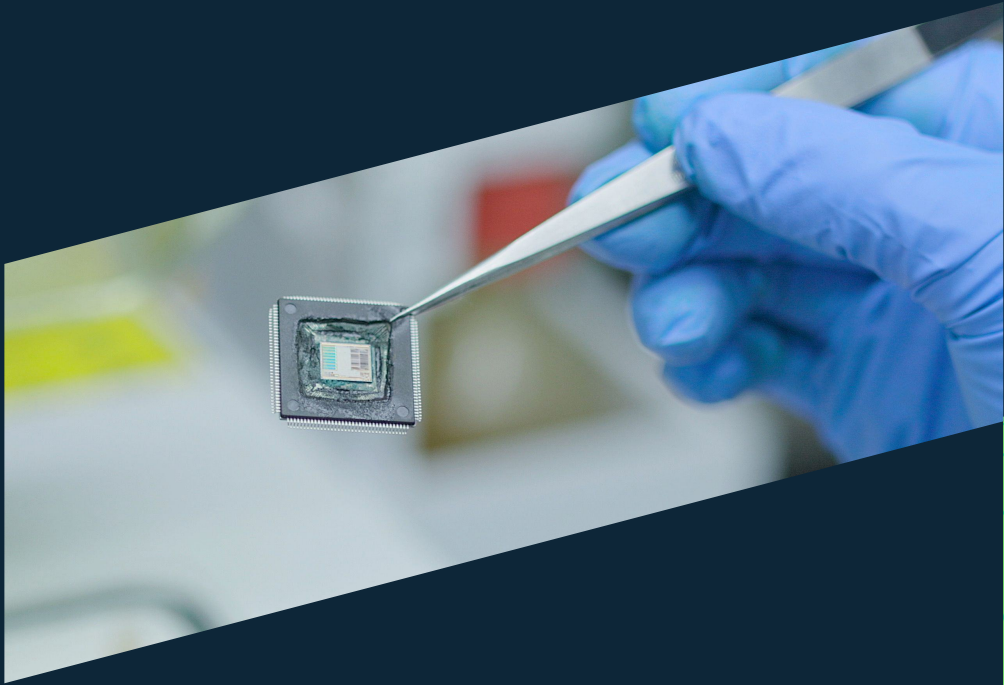


Ongoing internal training



Annual ESD training

Quality Control Team Stats



**10
Years**

Average Employee Experience

**35+
Degrees**

In Engineering Across the Team

**80+
Employees**

Across Quality Control & Engineering Team

**18
Month**

Quality Control Apprenticeship

Quality By the Numbers

\$3B+

Total Shipped in the Last 4 Years

~3

Day Turnaround Time

<1.5

Returned PPM Reported by Customers

~5%

Internal QC Rejection



Our Quality Services & Capabilities




Our full spectrum of authentication capabilities, while robust and streamlined, are also customizable to match specific components, qualities, and customer needs.



Quality is at the heart of our business strategies, boosting efficiency and driving growth.



Ghais Awwad 
Quality Control Manager,
EMEA

Authenticity Testing Capabilities

Visual Inspection

Fusion Worldwide's IDEA-ICE-3000 certified inspectors monitor all electronic components, ensuring reliability and durability from receiving to shipping.

- Internal and External Visual Inspection
- Dimensional Measurement
- Lead Inspection
- Scrape Testing
- Marking Permanency Testing
- Acetone Testing

Lab Inspection and Testing

The QC Inspection Team uses progressive technology to further evaluate the integrity of parts.

Nondestructive:

- KEYENCE 2000x Microscope
- X-ray
- X-ray Fluorescence (XRF)

Destructive:

- Heated Chemical Testing
- Heated and Chemical Decapsulation
- Solderability Testing

Electrical Testing

Our degreed engineers measure the performance of electronic components with custom testing solutions based on manufacturing requirements and our customers' specifications.

- Curve Tracing
- Functional Testing
- Inductance, Capacitance, and Resistance (LCR) Measurements

[Learn more](#) about our testing capabilities



Our Quality Control Process

Every part sourced by Fusion Worldwide undergoes our extensive 100-point inspection process. It's a system we've perfected and replicated across our quality control centers to ensure unparalleled transparency, traceability, and accountability throughout the supply chain.

By combining advanced technology — including customized test boards and automated AI-driven inspection — with insights from our in-house database, Scout RMS™, we are able to consistently achieve our quality standards.

“

Our stringent quality control processes ensure that our end products are safe, reliable, and meet the needs and expectations of our customers.

”



Krishna Ganason 
Director of Engineering,
Americas

Step 1



Photography & Review

- Document initial receiving condition with detailed photos
- Verify part number and quantity
- Register lot code and date code



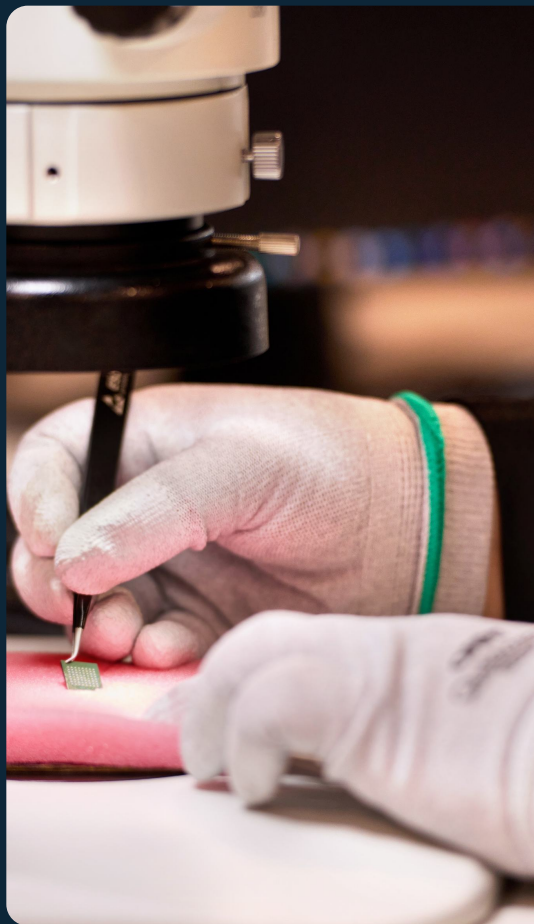
Barcode Scanning & Review

- Second review of parts confirms exact quantities and specifications
- On-floor quality assurance personnel scans barcode labels to determine validity of the label information and compares it to the Scout RMS™ data



Step 2

Step 3



Visual Inspection

- IDEA-ICE-3000 certified inspectors perform internal and external visual inspections with four levels of magnification, checking for consistent packaging, measuring parts, and verifying vendor status, rating, and qualification
- Double and triple imposing check processes confirm information noted in Steps 1 and 2
- Lead inspection, scrape and acetone testing, black topping, overspray, tool marking, and marking permanency testing authentic part integrity

See pg. 7 to learn more about our inspection capabilities

Lab Inspection and Testing

- Engineers conduct advanced tests with X-rays, X-ray Fluorescence (XRF), and KEYENCE high-magnification microscopes
- Heated chemical and decapsulation testing verifies the authenticity of the parts
- Solderability verifies the ability of the component's leads or terminations to be soldered effectively



Step 4

Step 5



Electrical Testing

- Custom tests in our secure labs analyze electrical performance and quality (see pg. 15 for lab location information)
- Curve tracers, functional testing, or Inductance, Capacitance, and Resistance (LCR) measurements assess active and passive component properties

See pg. 7 to learn more about our electrical testing capabilities



Packaging & Shipping

- Certificates of Conformance (C of C) are provided for origin verification
- Outbound items scanned to ensure accuracy and triple-check the traveling work order for correct labeling



Step 6



Complacency is our no. 1 enemy. Every part requires the same rigorous level of inspection, no matter the source or how many times we've seen it before. That millionth-and-one inspection could be the crucial moment when something slips through the cracks.



Kevin Thomas 
Quality Manager, Americas



Learn more about
Fusion's Quality
Control Process



In 2022, Fusion acquired **Prosemi**, the largest test house in Southeast Asia.

For over 25 years, Prosemi has delivered world-class quality through advanced electrical testing and service capabilities; following the acquisition, Fusion customers gained in-house access to its advanced testing and services through our quality process.



Since the acquisition, we moved Prosemi from its original 4,900-square-foot facility, into a new, state-of-the-art, 26,500-square-foot home. We've also purchased new equipment and advanced technology as part of our continual effort to scale Prosemi's throughput and expand its offerings. This includes automated programming equipment and JTAG boundary scan capabilities.



The Hi-Lo AT3-350B Automated Programming Systems can achieve up to 3000+ UPH and supports up to 64 sockets.

“

It's crucial to conduct periodic reviews and refine quality management practices to keep pace with technological progress and evolving industry norms.

”



SC Lee 

Supply Chain Quality Director, APAC

Prosemi Services & Capabilities

Authenticity Verification

- External Visual Inspection
- Scrape Testing
- Cross Section
- C-SAM (C-mode Scanning Acoustic Microscopy)
- Electrical Testing
- Marking Permanency Testing
- FTIR (Fourier Transform Infrared) Spectroscopy
- Dimension Measurement
- Lead Finish Evaluation XRF
- SEM (Scanning Electron Microscopy)
- Resurfacing
- Decapsulation
- EDX (Energy Dispersive X-ray Spectroscopy)
- X-ray Inspection

IC Programming

- Automated IC Programming
- Manual Programming
- Laser Marking

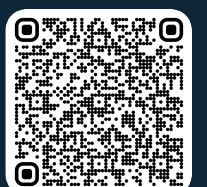
Testing

- Functionality Testing
- Power Consumption Testing
- Parametric Testing
- Reliability Testing
- Performance Verification
- Interoperability Testing
- Speed and Timing Testing
- Solderability Testing

Additional Services

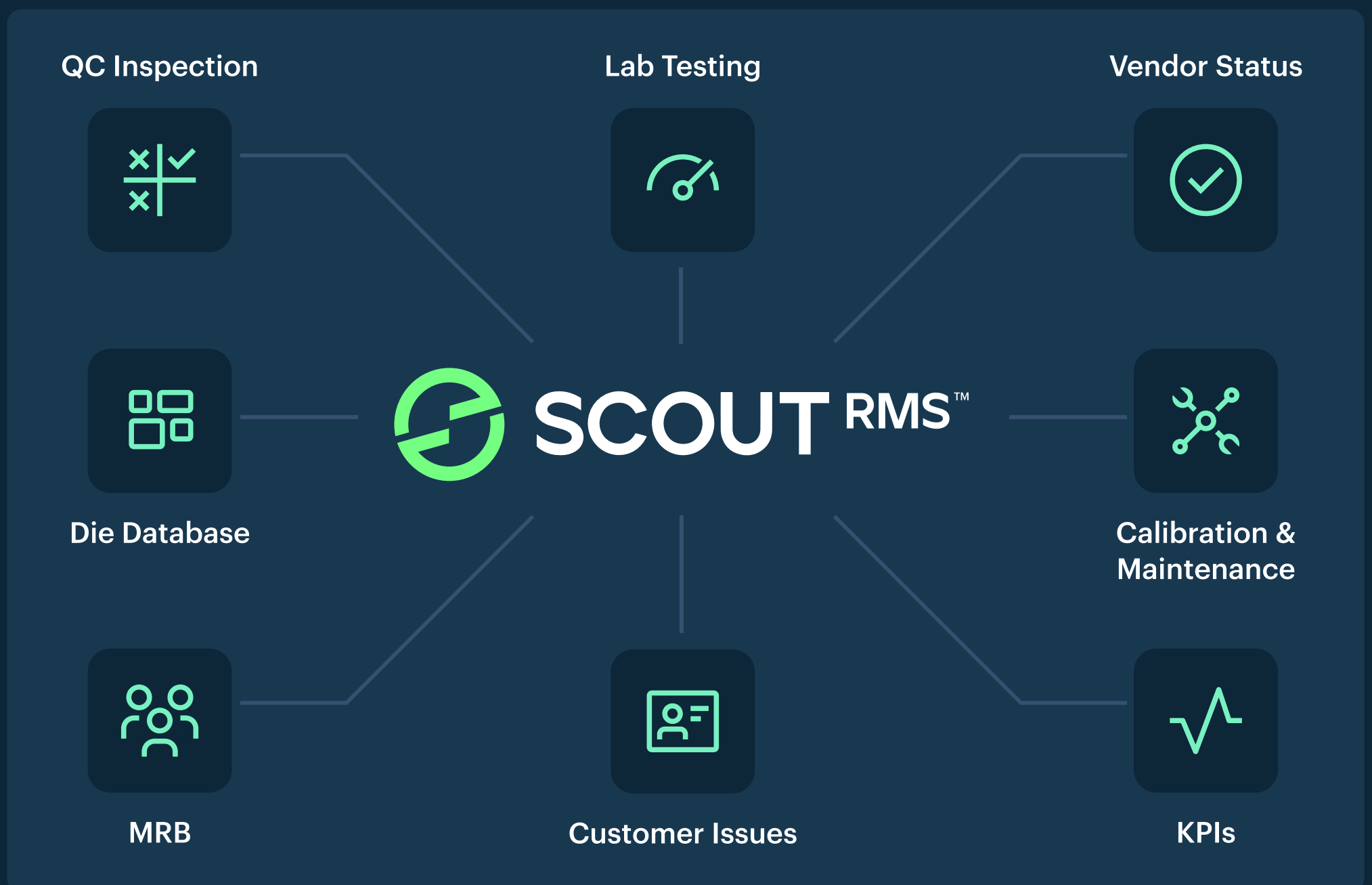
- Sorting
- Retaping and Reeling
- Baking Services
- Packaging and Dry Packing
- Tape and Reel Services
- Lead Scanning/Coplanarity Check

Contact
the team



ScoutRMS™

ScoutRMS™ is Fusion Worldwide's comprehensive proprietary system — and one of the most advanced databases in the industry. With Scout RMS™, customer requirements, quality metrics, and inspection reports are at the forefront of every step.



ScoutRMS™ At-a-Glance

- Tracks all inventory to guarantee products are never commingled
- Stores millions of inspection photos and our die code database
- Records every inbound product and tracks it across each stage of the journey
- Monitors equipment maintenance and calibration, and sends a prompt when equipment falls within 30 days of its regularly scheduled upkeep
- Places security lockouts at critical points along the quality process, such as receiving, quality control, and inventory picking
- Records all customer non-conformity issues and the actions taken to resolve the issue

Certifications & Memberships

We're proud of the trust our customers place in Fusion Worldwide's quality services – and we do everything in our power to continually bolster this relationship. This means we actively acquire a variety of industry-backed certifications and memberships.

Certifications

Every year, our quality team and associated processes and technologies undergo an in-depth audit in order to obtain or requalify for each individual certification.



[Learn more](#) about our certifications

AS9120B

AS6081

ISO 9001

ISO 14001

ANSI ESD
S20.20

QMS STD
9090

QTSL

QSLD

TAPA FSR
2020

C-TPAT

ISO/IEC
17025
AS6171

Memberships

Fusion Worldwide currently holds five multi-market memberships, which underscore our dedication to constant innovation and provide reliable representation across numerous industries — from aerospace to healthcare.



[Learn more](#) about our memberships



Global Quality Centers

Fusion Worldwide's global footprint spans 15 countries across four continents — and our quality control centers provide over 100,000 square feet of standardized operating environments. Each strategically located facility has been designed to support the intensive inspection and testing processes outlined on pg. 8.

All four quality control centers are ANSI ESD S20.20 certified, and every location is equipped with temperature, humidity, and MSL controls that conform to JEDEC standards. Each quality center has a separate, locked-off location to store non-conforming products to prevent commingling; all facilities maintain high security with strict access controls and 24/7 camera monitoring. And with real-time updates from ScoutRMS™, our quality teams can stay continuously informed without having to wait for a morning email.



Singapore



26,500
Sqft

35
Employees

Hong Kong



26,000
Sqft

32
Employees

Haverhill



24,000
Sqft

41
Employees

Hoofddorp



6,000
Sqft

18
Employees



All locations ANSI ESD S20.20 Certified

“

Quality is integrated into every aspect of our business. From receiving to shipping to customer satisfaction, **quality is a key driver for our success.**

”



Krishna Ganason 
Director of Engineering,
Americas

Contact Fusion Worldwide

For any questions regarding our quality services or facilities, contact your Fusion Worldwide representative or visit fusionww.com.



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