

CASE STUDY

Supplier Quality Engineer Deployment to the Supply Base



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1.800.998.9395

Client is a Major Aircraft OEM and Defense Prime.

Known for building the most complex and technologically advanced military aircraft in the world for over 70 Nations.

- 25,000 + employees
- 8 Manufacturing Sites
- Fortune 50 company

“The expectation for suppliers is zero defects. The reality was far from that. We needed to take action to close the gap.”

The Challenge

The client needed to **improve supplier quality performance** of their global supply base consisting of:

- 685 suppliers in 14 countries
- Billions in direct procurement spend
- 32 product categories / commodities

The current practice of **finding non-conforming product** at source inspection, receiving inspection, or installation on the client’s assembly line was causing significant:

- ⊗ Program disruptions
- ⊗ Production line stoppages
- ⊗ Unplanned work
- ⊗ Increased costs

“Our reliance on the supply base has grown significantly over the years”, said the Supplier Quality Program Manager.

“Our currently reality is such that when we find a supplier defect during end item inspection the damage is already done, and we are already in recovery mode. Finding defects is no longer good business strategy – we need our suppliers to prevent defects from being generated so that there are none to find during inspection, installation, or use.”

The client had developed a strategy to improve supply chain performance by **shifting away from product verification** late in the acquisition lifecycle to supplier quality engineering (SQE) engagement at suppliers much earlier in the lifecycle.

This shift would allow the client to:

- Identify and close gaps in a supplier’s key processes and quality management system (QMS)

Case Study – SQE Deployment to the Supply Base

- Achieve conformal products in a consistent and predictable manner
- Decrease the reliance on inspection
- Eliminate defects and reduce negative impact to their business

Client Goals and Constraints

The client had established **several goals** for the performance of this new initiative, including:

1. Improve quality performance of the overall supply base
2. Establish SQE presence and support on-site at supplier facilities.
3. Reduced supplier non-conformance tags and MRB requests
4. Reduce disruptions to aircraft production line resulting from supplier quality issues

The client hired Unitek and another company to help realize their goals.

The Solution

Unitek worked with the client to develop and implement a solution that **utilized contract SQE's** who were **geographically located** near their assigned suppliers.

Unitek also assumed the responsibility for recruiting, training, and deployment of these contractors.

Implementation was accomplished using a phased approach which **prioritized SQE placement** at the most impactful suppliers based on an analysis of existing client metrics and historical data, such as:

- Supplier quality ratings

- Non-conformance tags / categorization
- Product risk / criticality levels
- Scrap, Rework, and Repair (SRR) costs

The contractor SQE's were highly experienced, **contributed value and expertise almost immediately**, and:

- Executed their tasks using industry best practice and client's processes and procedures.
- Integrated their supplier activities with client stakeholders such as Engineering, Quality, Supply Chain, and Program Management functions.

As part of this program, the contract SQE's tasks involved application of the **full-spectrum of Quality Engineering tools** in support of purchased product at suppliers. Some examples include:

- Design teams – Designing quality into the product to increase product durability and reduce areas of weakness.
- Suppliers – Working to ensure proper requirement flow-down from correct raw materials ordering, component feature verification, special processing as well as packaging and part labeling that meet the customer requirements.
- Manufacturing teams – Ensuring that equipment and processes follow proper manufacturing work instructions and defined quality standards.
- Customers – Analyzing supplier issues reported via customer feedback, maintaining records and implementing changes to manufacturing processes when necessary and approved.

The Outcome and Results

The SQE engagement made an **immediate positive impact** in the supply base as:

- ✓ Historical repetitive defects were resolved at their point of origin.
- ✓ On-site presence at suppliers led to a real-time and enduring resolution of quality issues.
- ✓ Engagement shifted earlier in the lifecycle which minimized the impact of quality and compliance issues found.

Within the first 36 months, Unitek had deployed approx. 45 contract SQE's supporting 685 suppliers which helped the client improve the quality performance of their supply chain substantially.

In total, the contract SQE's were **supporting 55% of the clients supply base** (aprox.) allowing the client's own in-house SQE's to focus their energy exclusively on their highest-risk suppliers, co-producers, and strategic partners.

With supplier quality significantly improved, the client saw **cascading benefits** in the cost and schedule performance of their supply chain as well.

Additionally, the client reported that this initiative had a much higher benefit/cost ratio than originally anticipated such that **the cost savings realized** from supplier non-conformance reductions had significantly offset the costs of the SQE deployments.

Unitek had enabled the client to achieve their goals and capture significant results:

68%

Reduction in supplier nonconformance tags (est.)

85%

Reduction in supplier-initiated MRB requests (est.)

69%

Fewer disruptions to aircraft production line from supplier defects (est.)

30%

Reduction in supplier escapes (est.)

64 DPPM

New supply base performance up from 5,750 DPPM prior to this initiative (est.)

What's Next For The Client

The client was able to launch and scale their SQE initiative with fantastic results!

We continue to work with the client to evolve the approach, optimize SQE tasks, and capitalize on new opportunities to shift engagement points to the left.

A future evolution for improved and sustaining suppliers may involve the implementation of a Designated Supplier Quality Representative (DSQR) self-release program.

For suppliers which revert to low scorecard results, implementation of [Unitek's Supplier Funded Program can be implemented. A supplier funded program is where](#) Unitek support the customer at the supplier while holding suppliers contractually, financially, and behaviorally accountable for their own cost of poor quality (CoPQ).



Find out more

NTS Unitek offers an ever expanding range of global supplier quality, supply chain management and technical support services across North America and Europe. all our services are scalable, designed to expand and contract based on the complexity, rate of growth, and volatility of your supply chain.

To find out how:

Go to www.nts-unitek.com/contact-us
Or call us at +1 (800) 998-9395

Contact us

Unitek Technical Services, Inc.
5900 Fort Drive
Suite 100
Centreville, VA 20121

Tel: +1 (800) 998-9395
contactus@nts-unitek.com
www.nts-unitek.com