



ADVANCED PRODUCT QUALITY PLANNING IMPROVES CATERPILLAR PRODUCT RELIABILITY

CASE STUDY: Construction and Mining | Caterpillar

Caterpillar, a leading, global machinery and engine manufacturer, partnered with Optimas to expand production volume, reduce part defects and improve product reliability.

Real Results, Real Impact

3 PPM

Quality Performance

95%

Part Quality Improvement



CASE STUDY: Caterpillar

Situation

Caterpillar approached Optimas for guidance on improving product reliability by reducing overall part defects to 30 PPM from 60 PPM.

Solution

After assessing the manufacturer's supply chain and production methodologies, Optimas recommended a proactive approach to ensure quality becomes a critical component throughout the development, production and launch of products.

Optimas quality experts recommended the adoption of toolsets from the German Quality Management System Standard (VDA 6.3) and the Automotive Industry Action Group (AIAG) Advanced Product Quality Planning (APQP) framework. The proposed best practices facilitated Caterpillar's up-front quality planning, enabled on-time production readiness and supported continuous improvement to ensure customer satisfaction.

Optimas also included Layered Process Audits to establish controls linked to customer critical-to-quality (CTQ) product features. This process-driven approach enabled part manufacturers to target the most important aspects of their processes for verification. To complete the APQP rollout, Optimas deployed the framework within its supply chain to make certain all supplier partners contributed to the quality goal.

Results

With a comprehensive plan, designed to influence all aspects of its manufacturing process, Caterpillar established a robust quality program that permeated throughout its supply chain and:

- **Reduced part defects by 95%** to 3 PPM from 60 PPM
- **Exceeded the quality goal** of 30 PPM by 90%
- **Eliminated nearly all warranty costs** as a direct result of part defects
- **Achieved 100% on-time PPAP delivery** for new product introductions

“The Optimas team demonstrated their impressive capability on continuous quality improvement with local suppliers and global sourcing consolidation, resulting in excellent quality performance.”

David Zhang
Sourcing Quality Manager,
Logistical Center,
Caterpillar



ABOUT OPTIMAS

Optimas is the leading global industrial distributor and service provider specializing in fastening and supply chain solutions for manufacturers seeking to improve efficiency and profitability. We take care of the details so you can focus on manufacturing cutting-edge products—giving you an unparalleled competitive edge.

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