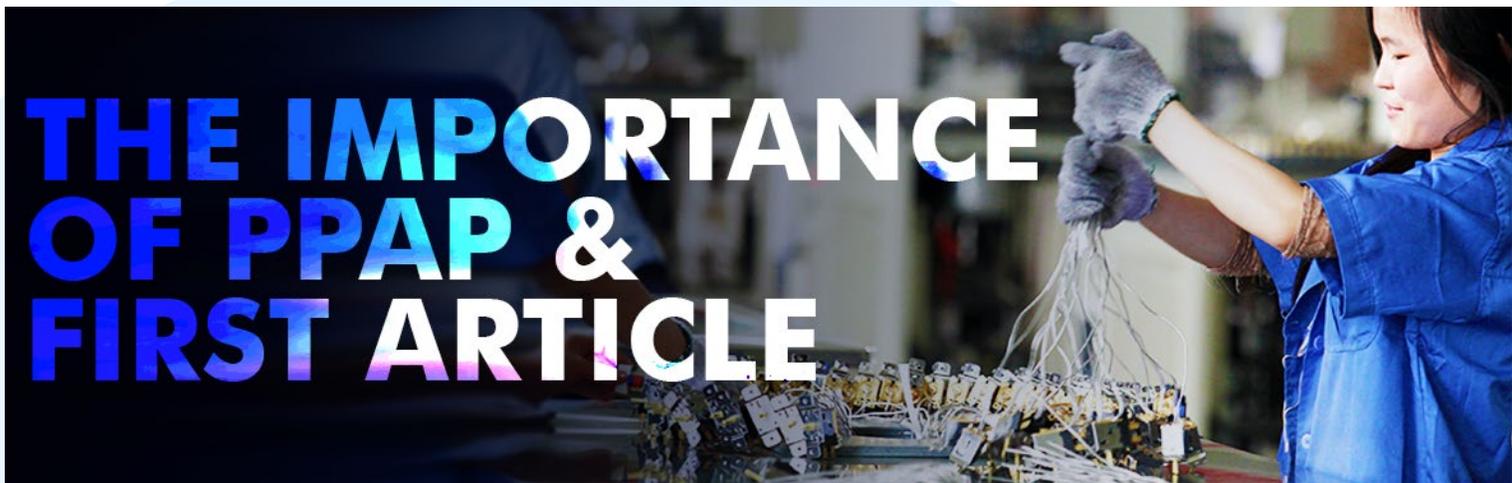




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THE IMPORTANCE OF PPAP & FIRST ARTICLE

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THE IMPORTANCE OF PPAP & FIRST ARTICLE

The quality management challenges facing the automotive industry and the aerospace and defense industry demand creative solutions. The relationship between manufacturers and global supplier networks is becoming more complex with each technology refresh. Despite these challenges, many paper-driven quality systems remain in place. An outdated Production Part Approval Process (PPAP)/first article inspection system is a prime example of how quality management suffers without an enterprise-wide system. Manufacturers outside the automotive and aerospace and defense industries should take notice of the positive impact of PPAP/first article on managing quality in an integrated system.

THE VALUE-ADDED POTENTIAL OF PPAP/FIRST ARTICLE

Today's manufacturers must mitigate the challenges of managing disparate global supplier networks. The collaborative potential of leveraging IT resources to accomplish this feat at a lower cost is garnering much attention. From one perspective, global supplier networks are extending supply chains beyond the capacity of traditional paper-driven quality management systems.

Properly documenting all of the requisite compliance data alone presents a monumental challenge. In general, the problem of managing a global supply chain boils down to reduced visibility. PPAP/first article provides a means to manage this loss of supplier visibility.

First article inspections are a requisite component of the AS 9100 series of standards. Similar to ISO standards, this series of recommendations represents the bare minimum protocols that manufacturers must follow in order to effectively monitor the quality of a supplier's products. PPAP requires suppliers to submit a higher level of quantifiable information to gain approval. The benefits of PPAP/first article are:

- Reduced variation in manufacturing processes
- Statistical control of these processes
- Increased confidence in supplier product quality
- Opportunity to leverage a consistent approach to quality
- Improved ability to manage changes to processes

All of these benefits contribute to lowering the cost of poor quality, which can be substantial.

LEVERAGING PPAP/FIRST ARTICLE

As previously alluded to, the main challenge of PPAP/first article relates to document control, particularly among manufacturers that utilize broad supplier networks. An integrated quality management system affords companies the agility to manage such a large network of internal and external documentation in one location. This repository of data can potentially streamline compliance audits and provide opportunities to pinpoint areas of waste that can be targeted with lean manufacturing initiatives.

By deploying an integrated system, manufacturers can now create a top-down overview of PPAP/first article components such as design records, document changes, process flow diagrams, FMEA and MSA data. The automotive industry, for example, uses such a system to allow suppliers to input PPAP/first article data online to eliminate redundancy of records. Some manufacturers are also beginning to deploy PPAP/first article submission software modules via cloud computing to improve visibility and foster collaboration among disparate global manufacturing sites.

Manufacturers highly value reliable PPAP/first inspection data. Deploying an integrated, real-time quality management system serves as a new way to leverage such information into actionable lean manufacturing or Total Quality Management (TQM) initiatives. For the automotive and aerospace and defense industries in particular, PPAP/first article inspections continue to yield positive results by mitigating the cost of poor quality.

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