The *Independent* Solution Provider for Smart Digital Transformation

Product Quality Validation

You can't ship your product…

…if the parts don't fit.

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How Confident Are You...

that a critical dimensional fit problem in your production process or supply chain will be identified before it leads to a production interruption or a missed delivery deadline?

ATS CM4D offers global manufacturers a single automated solution for immediately analyzing all inspection data from in-house equipment and suppliers so that critical quality issues can be addressed early in production—before they lead to late deliveries—or further upstream during engineering processes.

Unlike typical inspection data reporting systems that present part data in an isolated context for comparison back to mathematical CAD designs, ATS CM4D presents your parts in the context of the physical assembly process. It is PLM for as-built data, which is not supported by traditional PLM.

Supplier parts can be analyzed to validate critical interfaces before they are shipped. Common issues—such as non-conforming supplier product, limited process capability and poor product manufacturability—are identified before it is too late.
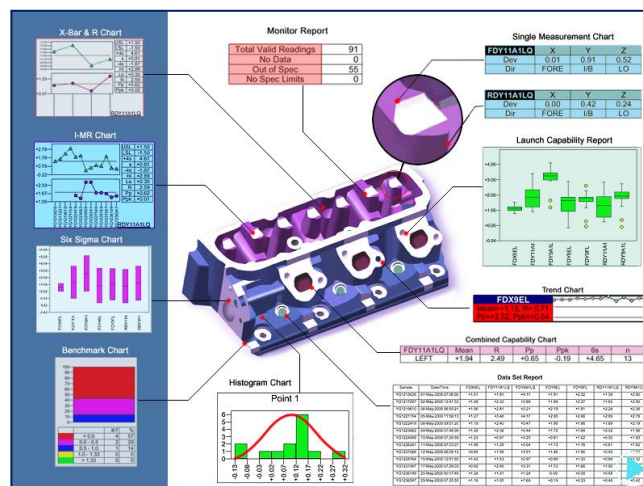
Incorporating decades of experience in Product Quality Validation, ATS CM4D has been adopted by the majority of the top 15 automotive OEMs globally. Now aerospace & defense manufacturers are benefiting from lessons learned in the high-volume automotive environment.

Benefits

- ▶ Predict Fit Problems Before They Occur
- ▶ Validate Supplier Parts Before They Ship
- ▶ Make Fewer Prototypes
- ▶ Reduce Warranty Claims & Recalls
- ▶ Save Historical Production Information
- ▶ Improve Future Product Development

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A Product-Centered Approach to Quality

In too many manufacturing organizations there is no early warning system for identifying issues in the assembly process. Especially during new product introduction. Finding and resolving assembly issues is often a matter of trial and error. "We do our best to monitor critical characteristics, but we're never really certain that the parts will fit until they're assembled."

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The problem with this methodology is that it puts your deliveries at risk. Because it's too late when it's time to ship your product to find out that the parts don't fit.

The key to minimizing this risk is Product Quality Validation. PQV is a product-centered approach to the challenge of quality problems related to assembly.

Traditional SPC is a process-centered approach that monitors individual parts for fidelity to "nominal" design intentions - an important function for maintaining process control.

But physical parts never match their nominal intentions exactly, and tend to drift from mathematical models over time. And what matters during the assembly process is not how physical parts fit with nominal parts, but how they fit with other physical parts. Therefore traditional SPC cannot predict many of the problems that occur during the assembly process.

PQV recognizes that as-built information is a more accurate predictor of build issues than the fidelity of isolated parts to nominal design intentions.

The market leader in PQV technology, ATS CM4D, leverages as-built information to enable predictive analysis of the assembly of physical parts.

"What matters is not how physical parts fit with nominal parts, but how they fit with other physical parts."

Much as PLM is for engineering data, ATS CM4D is a comprehensive platform for as-built data necessary to understand important characteristics of the physical product that are not captured in mathematical models, and significant changes in these characteristics over time.

When this information is used early - during engineering processes to validate digital models and during production to validate the manufactured product - many of the problems that might otherwise occur during the assembly process can be detected and avoided.

ATS is an *Independent* **Solution Provider**, with over 30 years' experience in the manufacturing systems arena and a wealth of experience undertaking Continuous Improvement initiatives and Manufacturing IT solution design, deployments and 24/7 support assignments.

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