



ATS Global B.V.

Improving Product Quality at an Automotive Manufacturer



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ATS Inspect Improves Product Quality at US Automotive Manufacturer

Find out how ATS Inspect is helping this automotive OEM to release every vehicle without a single defect present.

A Long History of Raising Quality

ATS Inspect has a long and distinguished history which began in the automotive industry.

It has grown and developed much over the years but it has always remained an industry leader that can be relied upon to raise the quality of the final product and minimize warranty claims, increasing the Return on Investment.

This case study relates to the implementations carried out across various plants for one of these automotive customers in North America.

An Essential Tool

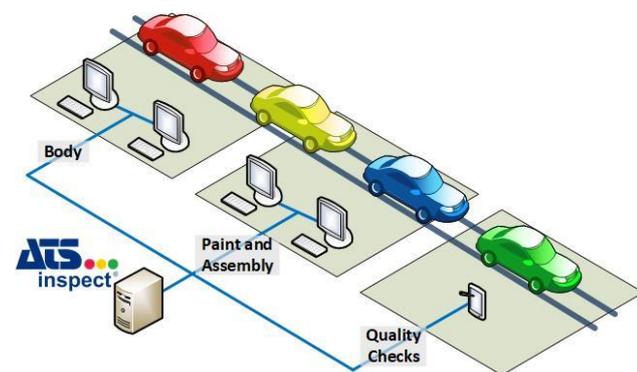
ATS Inspect is now an essential part of the quality control processes carried out by the customer and can be found on many of their production lines.

In all it's running in five of their plants with over 1,500 data entry points being used.

However, this number is set to rise sharply as many more plants are already planning the integration of ATS Inspect over the next few years.

Implementation Areas

In one particular plant ATS Inspect has been deployed to keep quality in check in the Body, Paint and Assembly (Trim and Chassis), Automated Test and Quality Check areas. It's being used at over 230 stations (a mixture of PCs and tablets) to carry out visual inspections, repairs, and option checks.



Checking All Attributes

ATS Inspect can record attribute data in a number of ways which allows it to carry out a complete inspection of the vehicle.

Visual defects are highlighted directly on images of the vehicle making a fast and accurate record.

Checklist questions are asked at each step of the inspection process. This ensures that each inspector confirms that all of the correct components are assembled and are working correctly.

The list of questions and possible answers is adjusted dynamically for each vehicle on the line so that all build options are taken into consideration. The build options are sent directly from the Manufacturing Execution System (MES).

If a misbuilt or incorrect option is detected the unit is flagged for repair, an alarm may be sent to the production supervisor and a message

will appear on the Andon board in the production area where the defect was created.

The final quality gate verifies that all non-conformances have been addressed, all mandatory inspections completed satisfactorily and all automated tests are passed before releasing the vehicle to the shipping yard.

Traceability

ATS Inspect also receives variable values automatically from a large number of test equipment.

This includes values such as door closure effort, CO₂ emissions, battery voltage and wheel alignment. A pass/fail result for each item will be recorded for each vehicle along with the specific values of the test.

In addition, serial numbers for airbags, engine, transmission and other components are recorded for traceability purposes. This historic information is available to minimize the number of recall units in case of an issue.

Automatic Defect Creation

ATS Inspect is able to allocate defects automatically based on information and X/Y coordinates received directly from the production line test equipment.

For example, when checking for water leaks they use the Quadrascan® system which uses a speaker that emits a sound within the vehicle. Several microphones on robotic arms then follow the seams of the vehicle and can detect potential leaks in the car by the way the sound is received.



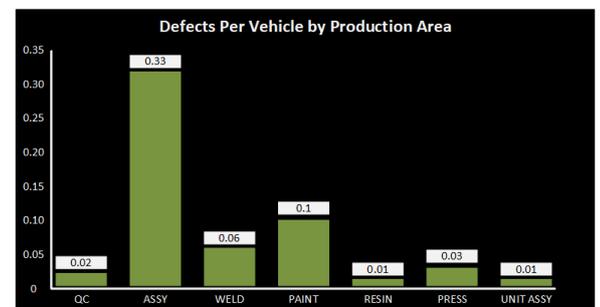
Quadrascan in action

When a potential leak is found the exact X/Y coordinates are sent to ATS Inspect which then records the defect on an image of the unit, exactly in the location that Quadrascan indicated. This precision makes the repair process more effective, and provides graphical reports that allow the engineering team to find the root cause of the problem much quicker.

Feedback to Point of Origin

The faster information on quality issues is relayed back to the cell or area responsible for them, the faster measures can be taken to resolve the issues. The faster the issues are resolved, the more time and money are saved.

ATS Inspect helps in this area by generating reports that are fed to Andon boards on the factory floor. A set of custom reports are cycled through that are tailored for each cell or area.



Andon board showing defects per vehicle per shop

In some cells an overview of the vehicle currently being reviewed is shown, giving the operator all the information they need at a glance to easily decide whether the unit should be sent to repair bay or the next step in assembly.

Integration with Local Systems

ATS Inspect is linked directly to the production scheduling systems.

It receives the VIN number and build data from MES. This data not only tells ATS Inspect which unit is currently being inspected at each terminal but it also specifies which build options it has. This means that it can adjust the checklist questions for each vehicle.

In return ATS Inspect tells MES whether each unit can be shipped or not shipped.

Mobile Checklist

Over recent years this manufacturer has started to produce more vehicles abroad. This welcome new market proved to be problematic in that they required a lot more options on the vehicles.

This increased number of variables between each vehicle meant that there were more possibilities for mistakes to be made. Mistakes in vehicles being shipped abroad are far more costly as the correct parts need to be sent after them. Soon, costs of warranties forced immediate containment action.

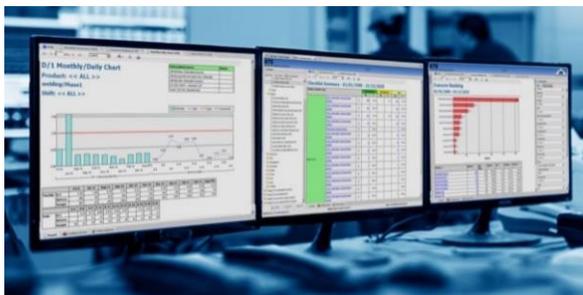
To contain wrong options within the plant the customer can now walk around each vehicle, just before it's shipped, and carry out a final check using a handheld device that displays the ATS Inspect checklist questions.

Within a couple of months warranty claims for units shipped to the new market went down to zero.

Reporting and Analysis

The reporting provided by ATS Inspect gives the company a powerful set of tools with which to view and analyse the quality data.

In many instances several people want to view the same report in different ways. ATS Inspect allows people to store sets of reports tailored to the requirements of their production area and tasks.



Reports can be viewed anywhere

They can also generate reports automatically. For instance, an overview of all the defects found on a particular model of car in the last 24 hours can be generated and emailed to the line manager at the start of each day.

Further Information

For further information on ATS Inspect and for more examples of where ATS Inspect is giving manufacturers the edge over their competitors please go to www.ats-global.com/ats-inspect or give us a call.

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