The *Independent* Solution Provider for Industrial and Process Automation & IT

ATS inspect®

Visual Quality

- **Significantly reduces scrap and rework cost**
- **Image driven inspection**
- **Web based analysis and reporting**
- **Eliminates paper checklists**
- **Real-time attribute data collection**
- **Easy-to-use operator interface**
- **Configurable for many different applications**
- **Easily integrates with other systems**
- **At Line Statistical Process Control**

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Visual Quality Operations Management

Manufacturers lose a respectable sum of money each year on defect-driven warranty claims – more than $25 billion in the U.S. alone. Time-to-market pressures and fragmented supply chains add angst to the already complex process of producing cars, jets, artificial body parts or any number of discrete manufactured products. Waste at this level eats away greedily at profits and plunges companies into the red.

Solution for Defect Management

ATS Inspect attribute data collection software is designed to **reduce** the **costs** associated with **scrap, rework, warranty claims and production bottlenecks**. ATS Inspect is the ideal tool for collecting, analyzing and reporting defect-related data in applications where part and assembly defect information is **critical to the production of quality parts**.

Configurable for Any Application

ATS Inspect software is easily configurable for any application where collection and characterization of product defects is required. Data collection can be done at stand-alone workstations or using mobile data collectors.

Easy-to-Use Interface

An easy-to-use operator interface is one of Inspect's principal strengths. ATS Inspect software displays digital images of the part or assembly to be inspected and uses simple touch screen tools to identify and evaluate defects.

Visual defect identification and control is as easy as touching the screen. Defects can be found, flagged, with a record sent to rework in a few seconds. Automated network routing for rework is also available.

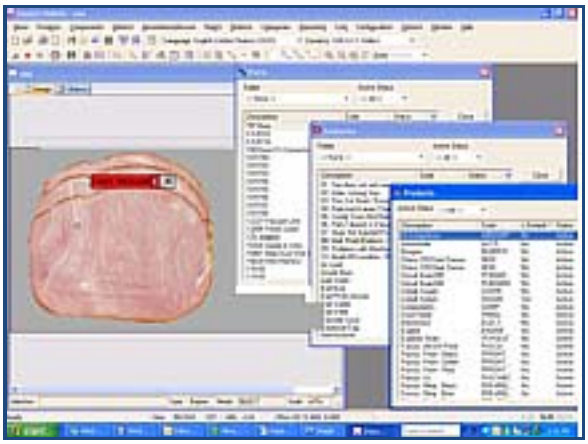
Eliminate Paper Checklists

ATS Inspect's **Data Collect Module** now includes computerized checklists to record issues and to make sure all required visual checks have been completed. This eliminates paper checklists and the difficulty of preserving, retrieving and using checklist data for later review and analysis.

Real-time data collection drives the ATS Inspect system. Fast, flexible and reliable input makes operators and inspectors productive and open

A typical Inspect Data Collect screen

to using the system. Inspect makes it all happen immediately with a choice of keyboard, mouse or touch screen input. The system accommodates both visual and functional data entry.



Graphic images are easily imported using the Admin Module

Digital photos can be captured and stored in the Data Collect module and CAD drawings can be imported and included in inspection screens for defect location accuracy. The zoom and scroll functions allow easy viewing of images that are larger than the displayed view.

Operators can quickly apply the same concern to multiple locations on a defective part using a Multiple Defect Entry function that combines parts of the on-screen Inspection and Concern windows. This increases the speed of multiple concern identification, decreases throughput time and moves parts to repair stations more quickly.

Easy Configuration and Setup

The ATS Inspect Administration Module organizes and controls the configuration of the system. This includes product and view setup, station setup, parts, locations, defects and other product related items. Most system features are user configurable, and drag and drop operation speeds overall configuration. The ability to import images and associate them with specific products makes fast work of setting up your inspections. The Admin Module is also used to create checklist questions and assign them to workstations.

Multiple language sets are available. A user-configurable data file allows the language displayed at each station to be tied to user identification, so that employees who speak different languages can operate efficiently throughout a facility. You can also set up user/group security to identify personnel who can enter and edit data.

Customize Workstations and Platforms

You can design custom screen layouts for inspection and repair stations using the ATS Inspect Layout Manager module. This includes moving, resizing and removing different controls (such as buttons, image selection and labels), selecting image boundaries and defining actions based on user interaction.

This flexibility also lets you use different data collection platforms as need dictates in your facility, including desktops, laptops and mobile devices. You have the option to choose any platform and design appropriate input screens for the entire system. The ATS Inspect system contains many screen “layouts,” such as the Main Screen, the Defect Screen and the Repair Screen. The collection of screens that a particular inspection station uses is called a template. Custom templates may be created for each inspection and repair station using Layout Manager.

The Need: “We are duplicating effort and introducing errors when we document paper-based inspections.”

The Inspect Solution: “We are generating electronic checklists to help determine if a particular VIN was assembled correctly.”

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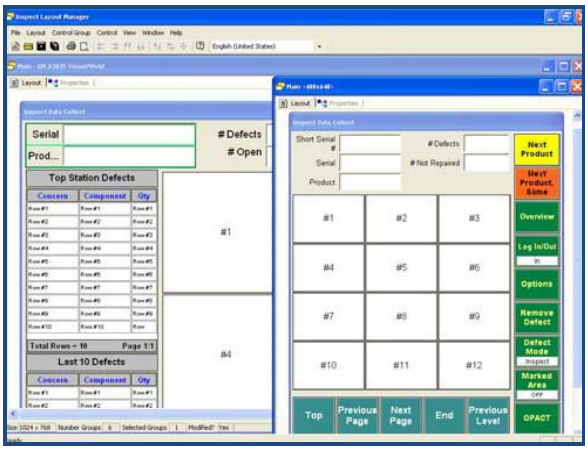


Create easy-to-use custom templates in Layout Manager

View Reports Online

ATS Inspect's Reporting Module allows real-time quality data to be viewed in various charts with the ability to export reports to Excel spreadsheets.

The Need: "Paper-based inspections don't allow us or our suppliers to fix problems fast enough, resulting in high re-work costs."

The Inspect Solution: "Operators and Quality Managers can send e-mails and text messages to the materials team for immediate action."

Internet support includes browser-based reporting for Microsoft Internet Explorer running on secure connections. Outside suppliers can view quality and production data online for the parts they supply.

Reports can be generated for each product tracked in the system, and can be based on factors such as serial number, date, time, production area or cell, historical quality data, operator/inspector, defect type, severity /rank, repair status and current location. Report settings can be personalized for each user.

Over 70 pre-defined charts include:

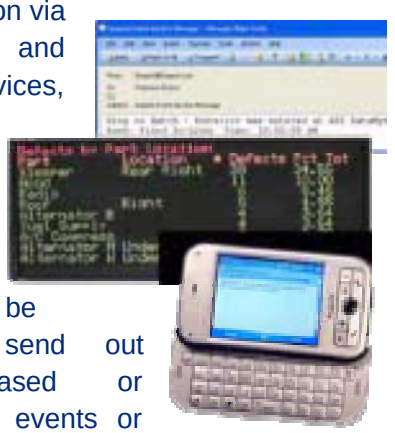
- Trend charts, line, bar, 3D and 2D
- Combination trend
- Multiple series bar
- and/or line
- X-bar, R-chart, P-chart and U-chart

ATS Inspect Reports can include multiple full-color charts

Instant Event Notification

The Event Service Module lets you instantly inform personnel of the current state of quality throughout the production facility and off-site.

ATS Inspect utilizes a messaging service that conveys information via pagers, e-mail and static display devices, such as message boards and overhead monitors. The Event Service function can be configured to send out information- based or exception- based events or routing schedule occurrences.



Criteria for event messaging are user defined and may include:

- Quality threshold
- Production threshold
- Critical defect

- Quality status
- Production status

See the Cost of Quality

You know that ATS Inspect delivers information on the quality of your products. But what about the cost of quality?

The ATS Inspect Costing Module augments the ATS Inspect package by allowing you to see the cost of quality. You can calculate the repair cost of each product or how much labor and material cost is tied up on the plant floor at a given time. For any given part, location, defect or type of repair, the costing module can calculate:

- Parts to be replaced
- Time to repair
- Material costs
- Supply costs
- Labor costs

The Costing Module can also track component part numbers, enabling tracking of defects to suppliers. Vendor address and contact information is stored for reference. Using the Event Service Module, paging and e-mail notification can be triggered based on user-defined quality thresholds. You can even page, e-mail or fax vendors or give them direct access to their real-time information via an internet browser.

Manufacturing Intelligence

The powerful data collection and reporting capabilities makes ATS Inspect ideal for Manufacturing Intelligence. **Overall Equipment Effectiveness (OEE)** data collection and reporting is just one of the features which our customers use to improve performance.
ATS Inspect allows you to manually (or automatically) collect idle times, stoppages, speed losses and wastage, providing you with all key components to measure and report on OEE.

Other Features

Inspect software includes an XML Comm Server interface. This interface gives Inspect the capability of importing XML data from external systems. Also included is OPC Server service to publish key inspect data, such as concerns, repairs, inspections and tracking information. This allows connected OPC clients to capture and process Inspect information. Data is stored in a SQL database for immediate access from any web browser via a Reporting Module.

A standalone Data Importer function lets users import parts, locations, concerns, details, repair types and product data directly from an Excel spreadsheet into the Inspect database. The Data Importer eliminates the need for manual data entry of information already stored in other databases or files. This feature supports all standard versions of Excel, and data imported from the spreadsheet can be previewed before being used in ATS Inspect.

The Multi-Session function allows the system administrator to enable two Inspect Data Collect sessions to run on the same workstation. When Multi-Session is enabled, inspectors with different responsibilities can share a station. In addition, stations where Multi- Session is enabled are available as a backup should another station fail.

The Need: “Without a centralized inspection database it takes too long to collect, summarize and analyze inspection information.”

The Inspect Solution: “We are using a single database and all reports are available at the touch of a button from any computer with an internet browser.”

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Success Stories & User Opinions

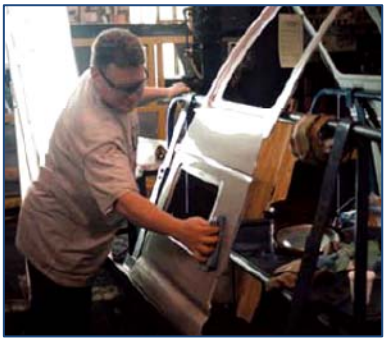
Software Brings Certainty To Inspection Process

"Instead of intuitively knowing where problems are, we now have data. Now we know."

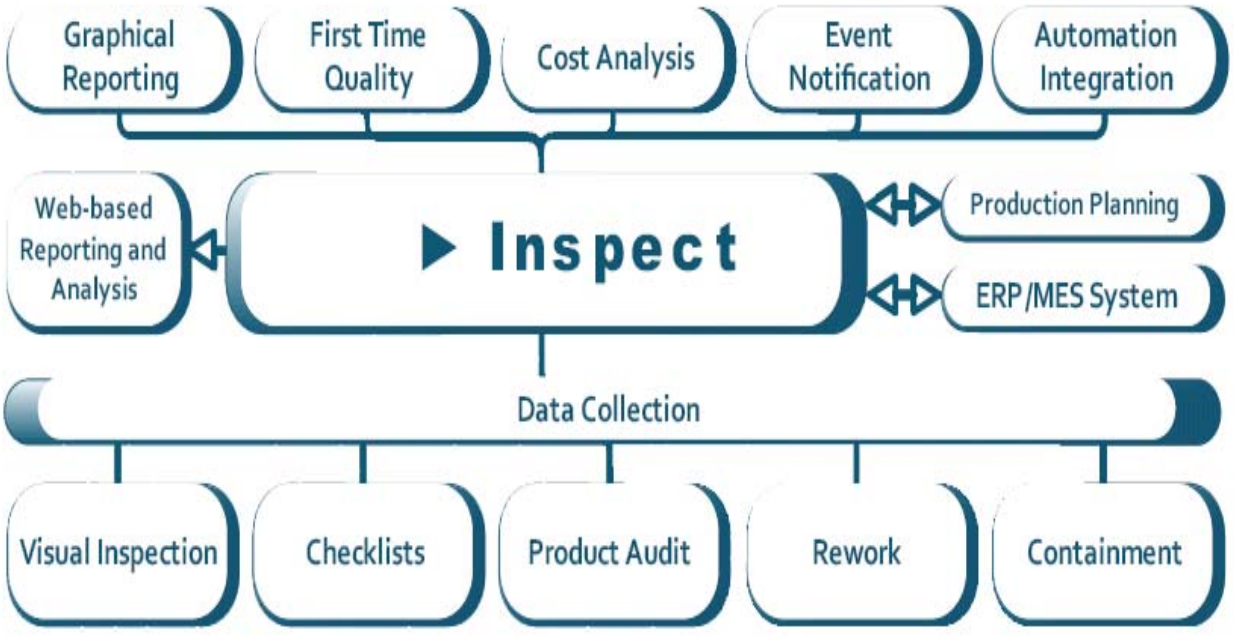
One of North America's largest stamping plants uses Inspect Software to track defects on automotive components, including full-body underframes, car roofs, doors and side panels. More than 400 parts are produced at this plant alone. Inspect has replaced paper concern sheets that were used to record defects and then filed away for future reference.

Now inspectors use a stylus to touch a line drawing of a part on a touch screen to indicate the area of the defect and the severity of the ranking. Defects are ranked on a scale of 0.1 to 1.0. If any defect is listed as a 0.5 or higher, the software immediately sends an e-mail to the appropriate managers.

Manufacturing representatives meet weekly to review color-coded concern reports ranking defects by severity. Data is compiled to determine where the problem areas are and what can be done to remedy them. These areas are then tracked to be sure that the improvements implemented are working.



"Instead of intuitively knowing where problems are, we now have data. Now we know," says the plant's continuous improvement supervisor. "We used to say, 'I think that this is probably what the problem is. Now we can say for certain.'"



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Online Part Status Eliminates Incorrect Builds

An international heavy truck manufacturer needed to track customer-requested options to be installed on otherwise identical models of trucks. Because these options were tracked with paper route sheets, which could be easily lost or destroyed, assembly processes couldn't be determined and trucks awaiting optional parts had to be moved off-line to a staging area.

When parts arrived, assemblers had to walk from truck to truck in the staging area to match optional parts to truck chassis. In addition, inspection reports and warranty data were being documented by paper and pencil and keyed into separate databases for analysis and reporting.

Inspect Software provided the solution. Because Inspect uses a single database to generate reports from an internet browser, assemblers now can set the status for each part number online. External systems can query the Inspect database to determine the exact status of a particular vehicle, including missing parts, operations and rework times. Assemblers and quality managers can send e-mails and text messages to the material handling team for immediate action.

Inspect's electronic checklists help to determine if a particular VIN was assembled correctly by providing a series of questions for the inspector. Inspect compares these answers to the options for a particular vehicle and determines if the correct options were installed. The manufacturer has now experienced 18 consecutive months without a single incorrect build.

Visual Inspection Confirms Repair Status

"Inspect provides a major improvement in communication. There is no question about what needs to be done."

A large defense contractor is an active partner in the program to refurbish and return Bradley Fighting Vehicles to active service in the Middle East. The contractor is responsible for inspecting, repairing and certifying over 100 different wiring harnesses for each vehicle. Challenges in the program include:

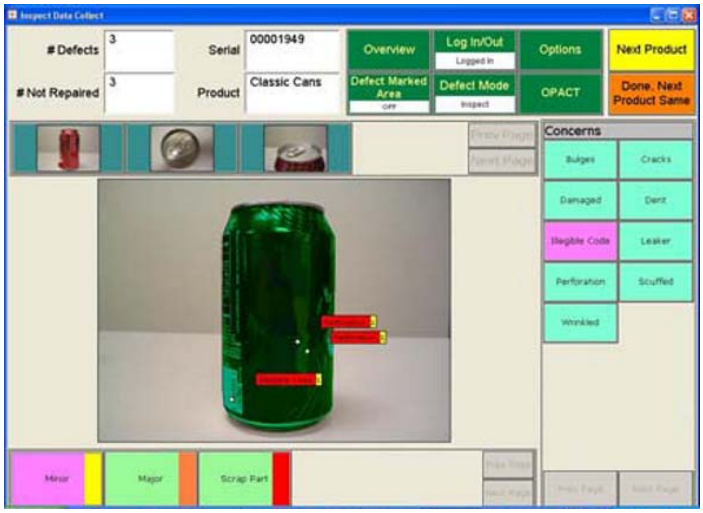
- Eliminating communications breakdown on the factory floor
- Accounting for and reconciling reassigned parts
- Accurately identifying parts that need repair
- Tracking repair information

To meet these data-intensive challenges, the contractor selected Inspect Software. "Inspect provides a major improvement in communication," said the company's Quality Engineer. "There is no question about what needs to be done."

Incoming harnesses are scanned and a visual record is created in the Inspect system. The inspector uses this visual record to identify locations of needed repairs. The red markup flags on the visual record indicate the repair needed at a specific location.

Totes of inspected harnesses are routed to the desired station, and each cable is pulled from its tote and scanned to display the visual record. The team member makes the needed repair and notes the completion of the repair with a green flag. Inspect has proved to be a superior communication tool, not only to aid with recording the incoming and final inspection, but also to allow repair personnel to confirm a specific repair is complete while using a simple visual graphic to communicate this information.

Beverage Producer Eliminates Paper Check Sheets



One of the world's largest soft drink producers manufactures its own beverage cans at multiple locations worldwide. After cans are manufactured, they travel to the beverage plant for filling, and when filling is complete, cans are randomly inspected for multiple quality and durability characteristics. Inspectors were using cumbersome paper check sheets for this process, and the data on the sheets then had to be keyboarded into multiple databases.

The company started a pilot program using Inspect Software. Digital photographs of multiple views of a can were imported to Inspect to be used by inspectors to mark defects on critical areas of inspected cans. Critical parameters include such defects as faulty lips and seams, leaks, bulges, illegible barcodes, dents and cracks. Inspectors now mark defects on the Inspect screen with the entered information immediately recorded in the database. Defects are assigned levels of minor, major or scrap. Concern spectrum reports are generated for analysis, with defects assigned both a numerical and color ranking ranging from green through yellow through red.

Manual keyboarding of data from paper check sheets has been eliminated. There is no longer a risk of check sheets being illegible, damaged or lost. Inspection time has decreased by 40% and information is immediately available to quality management to track critical defects and institute remedial measures. In addition, database information is also used for compliance tracking. The CAD files can be used to create components using closed non-circular vector objects within the file. This simplifies the addition of components when there are many objects in the file and removes some of the need for manual drawing of components on the views.

About ATS

ATS is an ***Independent*** **Solution Provider**, with over 20 years experience undertaking Continuous Improvement initiatives and Manufacturing IT solution design, deployments and 24/7 support assignments.
www.ats-global.com