

ATS inspect[®] Visual Quality

General Product Brochure



Taking Visual Inspection to the Next Level with ATS Inspect

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, food packaging, circuit boards or any number of discrete manufactured products. Waste at this level, both in time and materials, eats away at profits and plunges companies into the red.

Solution for Defect Management

ATS Inspect is designed to reduce the costs associated with scrap, rework and warranty claims. The suite of applications provides two approaches to assessing visual quality:

- ▶ Collects, analyzes and reports attribute data in manufacturing processes where defect information is critical to the production of quality parts.
- ▶ Records and analyzes variable data to ensure that weights, temperatures, torques and any other critical measurements stay within specified limits.

Configurable for Any Application

ATS Inspect software is easily configurable to any application in any industry where collection and analysis of visual defects and variable data 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 ATS Inspect's principal strengths. ATS Inspect is always designed with the end-user in mind making configuration and use quick and simple.

When recording defect data ATS Inspect displays digital images of the part or assembly to be inspected and uses simple touch screen tools to identify and evaluate



defects. Defects can be found, flagged and automatically routed to rework in a few seconds.

Recording variable data is just as simple. For each measurement the user can simply type in the value or automatically import it from an electronic device. Images can be included to show the user exactly which variable needs to be measured.

Entering measurement			
	Top tube le...	Top tube di...	Frame weight
1	22.06	2.03	6.954
2	22.04	2.40	6.910
3	22.11	2.04	6.900
4	22.02	2.05	
5	22.04		

A typical Variable Data Collect screen

Real-time data collection drives the ATS Inspect system. Fast, flexible and reliable input, using keyboard, mouse or touch screen, makes operators and inspectors productive and open to using the system.

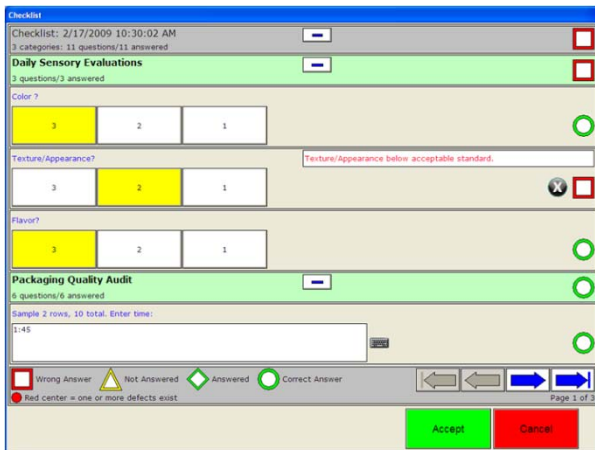
Eliminate Paper Checklists

ATS Inspect ► **Data Collect** includes electronic checklists to record issues and to make sure all

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

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

required visual and option content checks have been completed. This eliminates paper checklists and the difficulty of preserving, retrieving and using checklist data for later review and analysis.



Paperless checklists

Take a Picture

Digital photos 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.

If you wish you can even take a photo of a quality concern and store it alongside the defect in the system. This gives you a true record of what’s happening on the production line.



Pinpointing defects with Data Collect

Avoid Duplicating Work

Operators can quickly apply the same concern to multiple locations on the same unit using Data Collect’s intuitive interface.

Alternatively, the same defect can be entered in the same location on several consecutive units. This increases the speed of multiple concern identification, decreases data entry time and moves parts to repair stations more quickly.

Easy Configuration and Setup

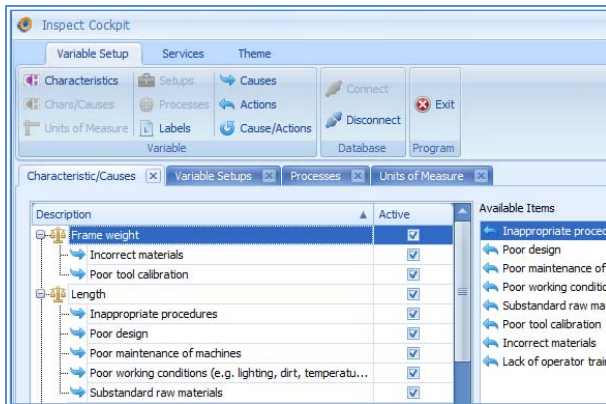
ATS Inspect ► **Admin** and ► **Cockpit** organize and control the configuration of the system.

For attribute data collection, ATS Inspect Admin arranges product and view setup, station setup, parts, locations, defects and other product related items.

The Admin application is also used to create checklist questions and assign them to workstations.

Most system features are user configurable, and drag and drop operation speeds the overall process. The ability to import images and associate them with specific products makes fast work of setting up your inspections.

ATS Inspect Cockpit works in a similar way for variable data collection. It configures information such as the available characteristics and the causes and actions that can be associated to them. Following the simple steps described in the user guide you'll be creating setups in no time using the simple, easy-to-use interface.



Easy variable data collection setup in Cockpit

Work in Multiple Languages

Multiple language sets are available. The language displayed at each station is tied to the current user, so that employees who speak different languages can operate efficiently throughout a facility. In addition, reports can be viewed in different languages at the local facility and the global headquarters.

Language	Language Id	Description
English U.K.	2057	
English U.S.	1033	English
French Canadian	3084	
French France	1036	Soudure
German	1031	Schweißen
German Austria	3079	
Italian	1040	Saldatura
Portuguese	2070	

Create your own language sets

Customize User Interfaces

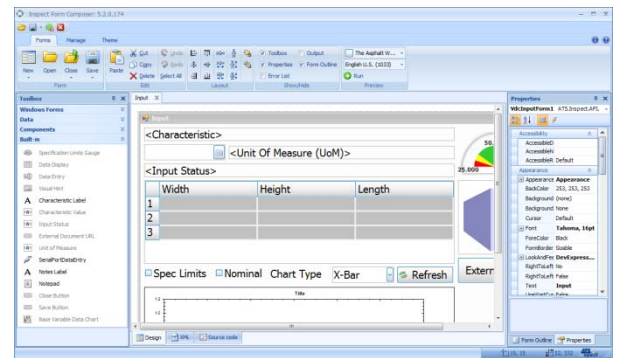
Two ATS Inspect applications allow you to design custom screens that will be used by the operator collecting data. ► **Layout Manager** handles attribute data collection screens while ► **Form Composer** handles variable data collection screens.

The designer is able to move, resize and remove different controls (such as buttons, images and labels) and define actions based on user interaction.

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

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

This flexibility also allows you to use different data collection platforms as need dictates in your facility. You can design a different set of screens for each device and assign them directly to each terminal.



Create easy-to-use screens in Form Composer

View Reports Online

ATS Inspect ► **Reporting** allows real-time quality data to be viewed in various charts and tables. You can even export reports to spreadsheets and PDFs.

The web-based reports can be viewed anywhere in the world using Microsoft Internet Explorer running on secure connections. This allows management to monitor performance even while on the road.

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

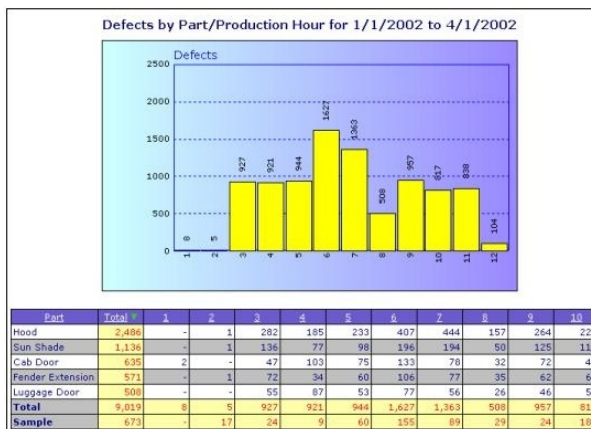
The ATs Inspect Solution: "We are using a single database and all reports are available at the touch of a button from any computer with an internet browser."

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
- ▶ Pareto
- ▶ Multiple series bar and/or line
- ▶ X-bar, R-chart, P-chart and U-chart



Display recorded data in charts and tables

On top of all this you will have the ability to create your own fully customized reports using ATs Inspect ▶ **Advanced Reporting**

Services. Designing reports in-house means you can quickly respond to the needs of your business as soon as they arise.

A useful feature of the reporting in ATs Inspect is the ability to schedule up-to-the-minute reports to be sent to the relevant people at regular intervals automatically. Do you need that report on your desk first thing Monday morning? It'll be there.

Instant Event Notification

▶ **Event Service** lets you instantly inform personnel of the current state of quality throughout the production facility.



Send alerts to interested parties instantly

ATs Inspect utilizes a messaging service that conveys information via e-mail and static display devices, such as message boards and overhead monitors. Event Service can be configured to send out information-based or exception-based messages.

Criteria for event messaging are user defined and may include:

- ▶ Quality thresholds
- ▶ Production thresholds
- ▶ Critical defects
- ▶ Quality statuses
- ▶ Production statuses

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?

ATS Inspect ► **Costing** allows you to see the cost of quality. You can calculate the repair cost of each product or how much labour and material cost is tied up on the plant floor at a given time.

But I Wanted It in Rustic Orange

Warranty claims can put a real dent in profits. ATS Inspect ► **Mobile Checklist** was developed to tackle this problem at the most critical point of the manufacturing process – the point of delivery.



ATS Mobile Checklist is ideal for handheld devices

Using a handheld device an operator can carry out final checks on a product before it leaves the plant. Once the serial number of the unit has been entered, a tailor-made checklist will be presented to the operator, allowing them to confirm that any customer-requested features have been correctly installed.

Taking it Step by Step

Product inspections can vary enormously in size. A single unit may have hundreds or even thousands of attributes that need to be checked and verified.

ATS Inspect is prepared for this and allows you to set up inspection steps that will guide the operator through the process in a structured, methodical manner. Checklist questions can be asked at each step to ensure that nothing is overlooked.

Data on the Go

No manufacturing process is perfect, but carrying out repairs should never become a complication. It's important that they are carried out completely and efficiently – nothing missed, nothing forgotten. ATS Inspect ► **Mobile Repair** and ► **Mobile Confirm** allow you to do this.

Identity #1		Identity #2		Identity #3		Product Area	Building One	Color #1	Color #2	Color #3	Color #4	Serial	Model Year
3449		003449		3449		Automobile						00003449	2008
Mondeo Ext - w/Doors													
#	Date	Station	Custom	Rank	Entered By	Search Status	Comments	Defect ID					
1	18/27/2008 9:59:00 AM	Demo	Left Front Door Dent	Minor	Inspect	Not Repaired		*000006347*					
2	20/27/2008 8:20:00 AM	Demo	Left Rear Door Dent	Fixed In-Line	Inspect	Partially Repaired		*000006348*					
3	20/27/2008 8:20:00 AM	Demo	Right Rear Door Dent	Fixed In-Line	Inspect	Repaired		*000006349*					
4	16/27/2008 8:20:00 AM	Demo	Right Front Door Dent	Fixed In-Line	Inspect	Confirmed		*000006350*					
5	15/27/2008 12:43:00 PM	Demo	Left Rear Door Fit & Margin Inboard	NACC	Inspect	Not Repaired		*000006351*					

A typical ATS Inspect repair ticket

Carrying a handheld device, an operator can move freely around the line performing repairs then, using Mobile Repair, simply identify the corrected defect on the repair ticket when it is done. A second operator can then confirm the repairs have been carried out using Mobile Confirm.

These double-checks are instantly stored in the system meaning that no open defects get through and the customer will only ever see the product the way you intended it.

Exchanging Data

ATS Inspect includes a Comm Server interface, allowing the capability of importing data from external systems. Also available is OPC Server service which allows connected OPC clients to capture and process ATS Inspect information such as concerns, repairs, checklist and tracking information.

Manufacturing Intelligence

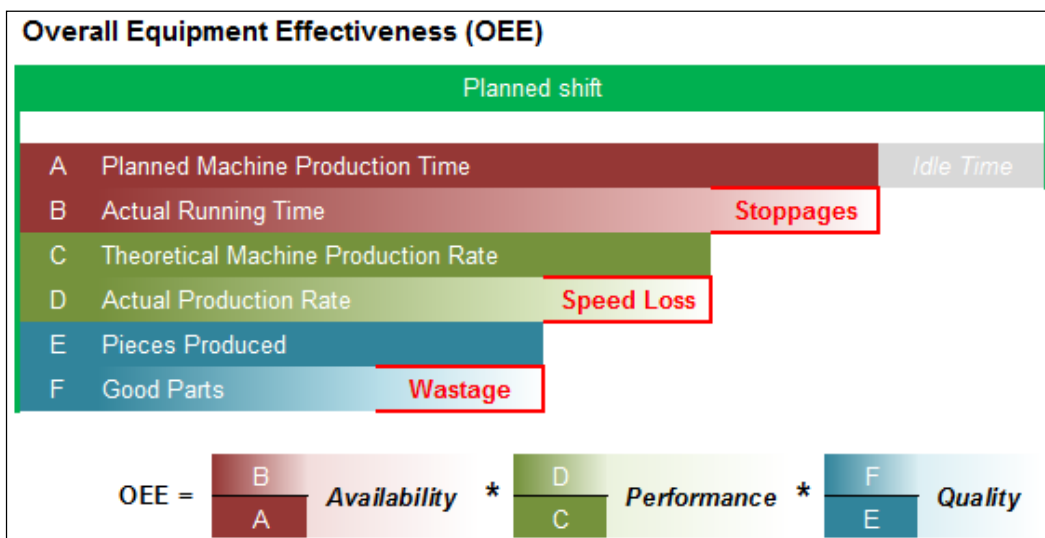
The powerful data collection and reporting capabilities makes ATS Inspect ideal for Manufacturing Intelligence. Overall Equipment Effectiveness (OEE) data collection and reporting is just one of the features which our customers use to improve performance.

ATS Inspect ► **HMI Spider** allows you to manually (or automatically via a PLC interface) collect idle times, stoppages, speed losses and wastage, providing you with all key components to measure and report on OEE.

Data Management Tools

ATS Inspect ► **Data Importer** lets users import parts, locations, concerns, details, repair types and product data directly from an Excel spreadsheet into the ATS Inspect database. The Data Importer eliminates the need for manual data entry of information already stored in other databases or files.

If you find your database is getting too large you can use the ► **Data Archiver** to remove your historical data from the ATS Inspect database and store it on a separate file. This frees up online resources and increase the analytical speed of your production systems by reducing the amount of data in the system.



Success Stories & User Opinions

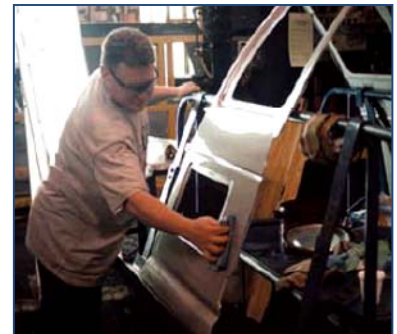
✚ Software Brings Certainty To Inspection Process

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

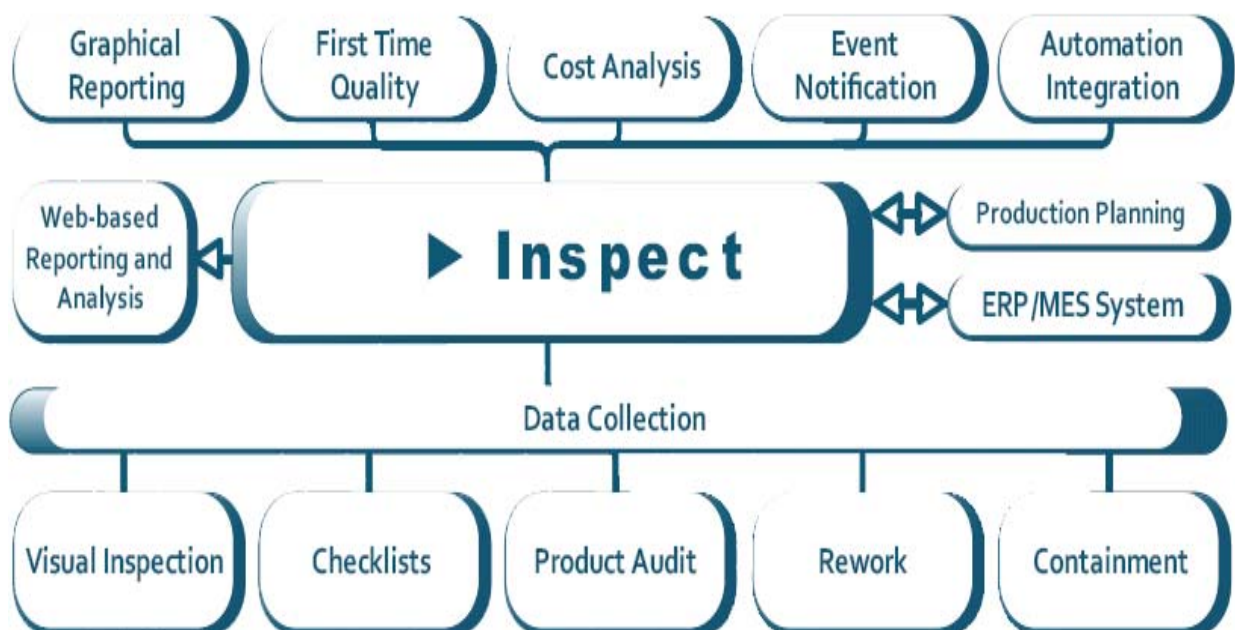
One of North America's largest stamping plants uses ATS Inspect Software to track defects on automotive components, including full underbodies, car roofs, doors and side panels. More than 400 parts are produced at this plant alone. ATS Inspect has replaced paper concern sheets that were used to record 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.’”



✚ 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.



ATS Inspect Software provided the solution. Because ATS 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 ATS 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.

ATS Inspect's electronic checklists help to determine if a particular VIN was assembled correctly by providing a series of questions for the inspector. ATS 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 ATS Inspect Software. "ATS 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 ATS 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. ATS 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.



ATS is an *Independent Solution Provider*, with over 25 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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