

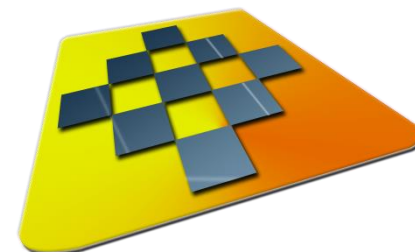
VISIA SOLUTIONS S.L.

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- Innovative company dedicated to design artificial vision systems and develop software solutions for businesses that take Information Technologies as a strategic advantage.
- Established in 2008, headquarters located in Valencia - Spain.
- Our guidelines:
 - Quality.
 - Commitment to our client.
 - Innovation.
- Our staff:
 - Wide experience in developing software and artificial vision systems.
 - Permanent training in state-of-the-art technologies.



ARTIFICIAL VISION



A PERFECT SYMBIOSIS

Robots are widely used to perform repetitive and automated high-precision tasks, or the ones produced under adverse conditions.

Artificial vision applied to this kind of automation allows the develop of solutions in common scenarios in the industry, such as:

- Assembly, insertion, distribution and recollection of mobile components.
- Support to the logistic process and stock management.
- Tridimensional positioning of robots and automatism.



ASSEMBLY

Using advanced artificial vision techniques, the robot can reach the exact assembly position or the insertion of a part during the production process.



LOGISTIC



With our systems we can know the position, orientation and shape of an object, allowing processes such as:

- Packaging.
- Recollection and/or distribution.
- Stock management, pallet/carriers load and unload.

3D POSITIONING

Artificial vision allows the positioning of a tool very precise over a mobile object or with variable geometry.

Some application scenarios:

- Metrology.
- Welding.
- Character marking.



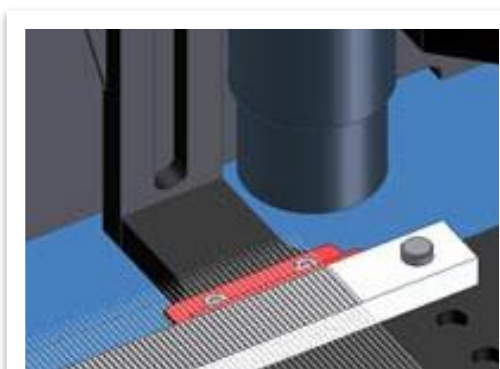
CODE READING IN PCB'S (PRINTED CIRCUIT BOARD)

Whether we need to perform traceability of a product, quality check of a printed code and its accuracy or just perform quality checks, the artificial vision provides the most efficient way to execute these types of controls in printed circuits.

This type of product monitoring is basic and allows the company to protect itself against costly product removal and mix of products, thus allowing a damage control in case of a problem.



PIN INSPECTION FOR SEMICONDUCTORS



Is possible to assure the quality of the semiconductor pins replacing the current human-eye inspection for an automated inspection developed in-situ with an artificial vision system, that can easily adapt to different testing parameters.

Also, the system can display a tag with the inspection result summary that can be attached to every shipment.

MICROELECTRONIC



Our systems assure the quality demanded by the customer, independently from the size of the parts to be inspected.

When fabricating high precision and small electronic parts, it is necessary to apply all the quality control measures to assure the functionality of the product.



FLAW INSPECTION

In any part fabrication process by press or molds, flaws can occur due to problems with cutting the part, molding, material injection, mechanized, etc. that provokes a rejection of the part .

It is important that these flaws are detected quickly to minimize scrap material and loss in the production time.

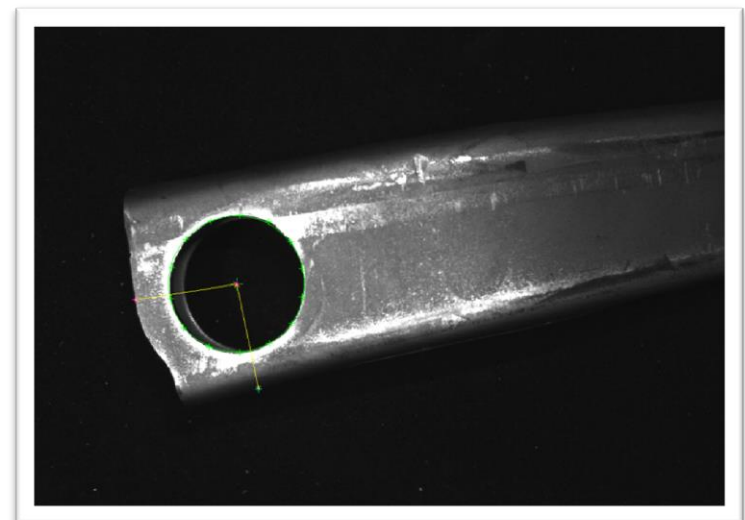
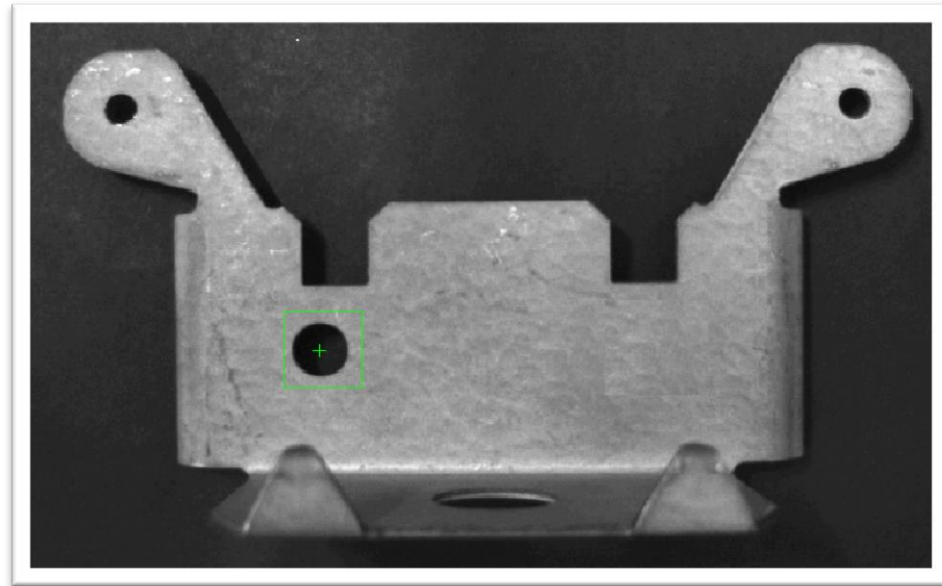
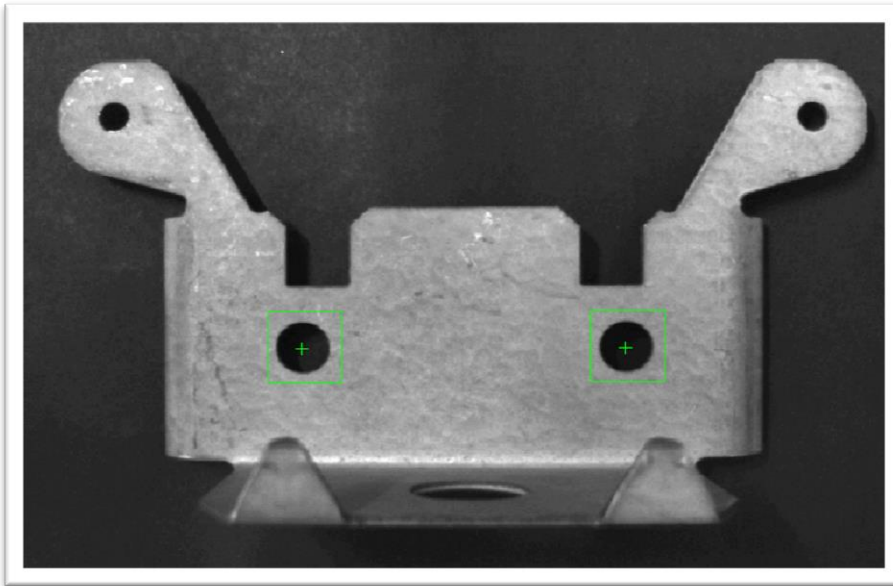
With our artificial vision systems, such flaws can be verified when they are produced, allowing counter measures to take effect and controlling the problem.

- Bumps.
- Scratches and superficial spots.
- Pores.

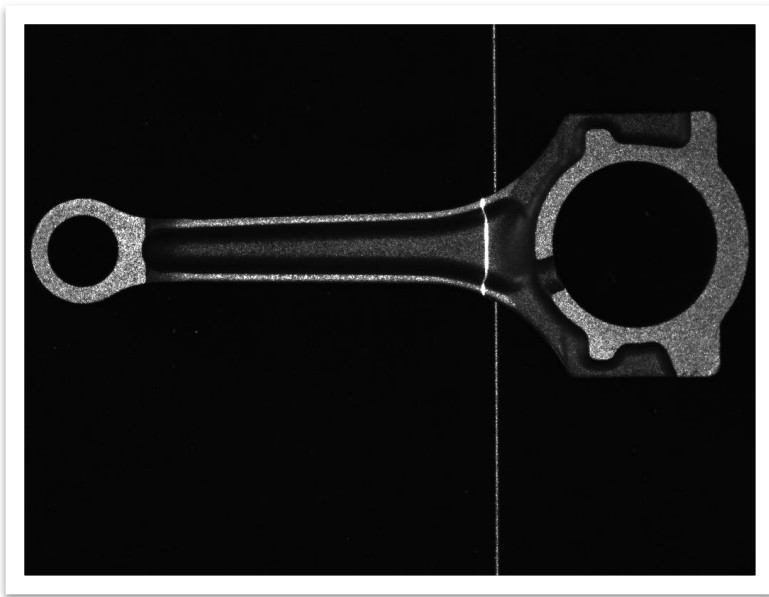


FEATURES SEARCH

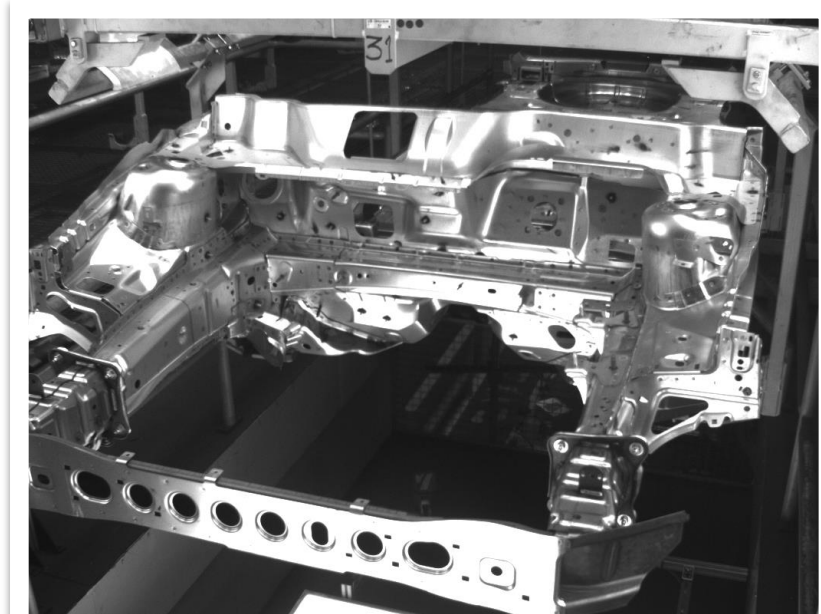
Using artificial vision systems we can assure that the part has the correct shape and size.



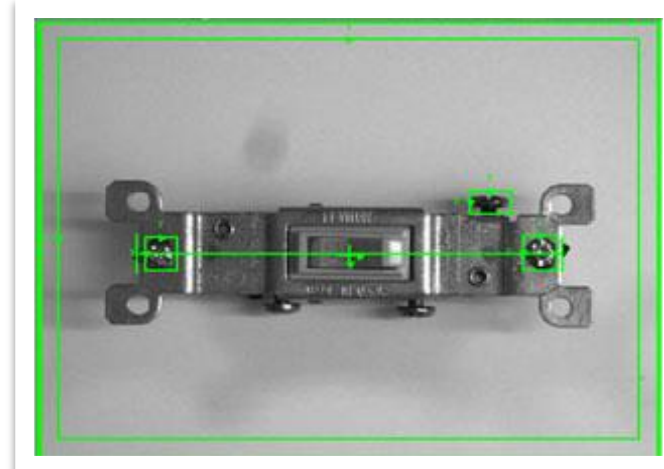
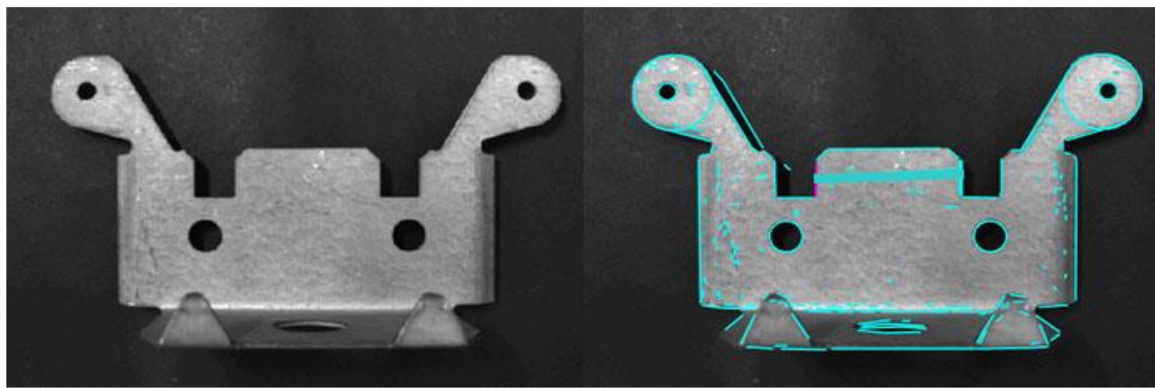
POSITION CHECK



ASSEMBLY CHECK



MULTIDIMENSIONAL MEASUREMENT

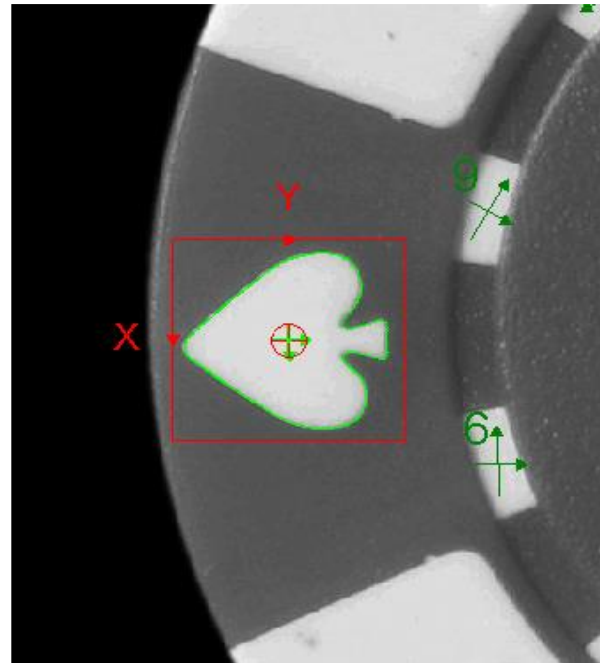


QUALITY CONTROL

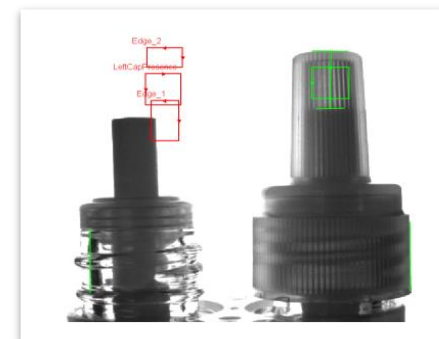
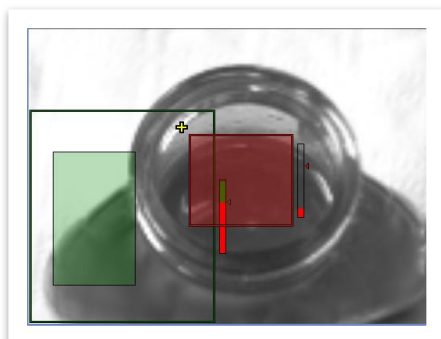
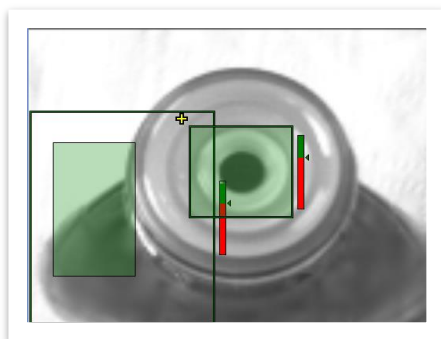
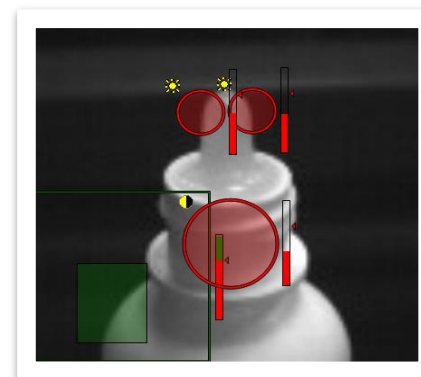
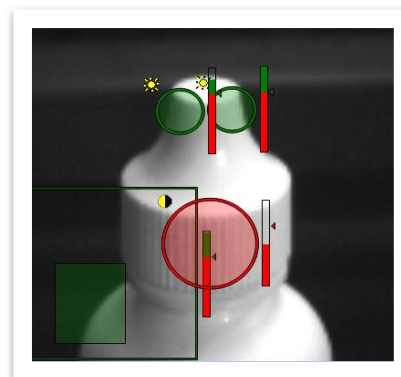
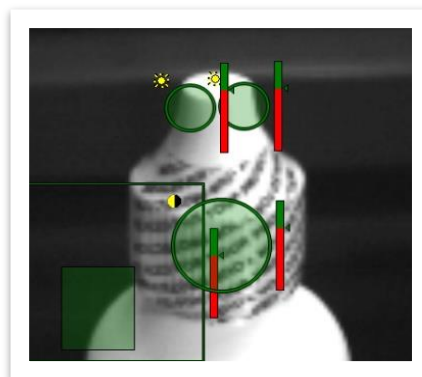
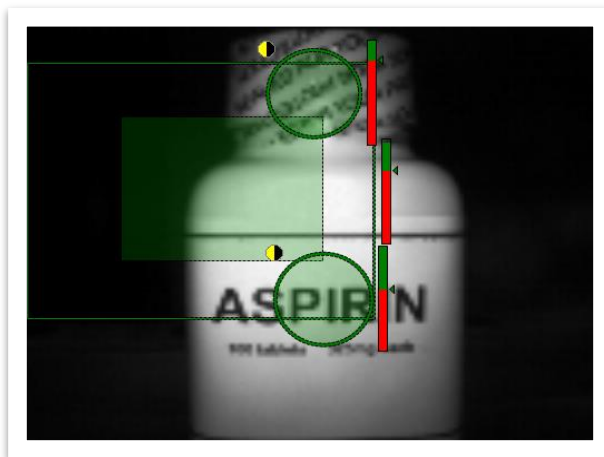
The final product has to be in perfect condition, being necessary to apply strict control and quality measures over it. These sort of controls imply a series of inspections over the product, such as:

- Logo and color inspections.
- Product form and dimension inspection.
- Label control, whether if they're present or adequate.
- Presence inspection of precinct and cap-top.
- Liquid level inspection.

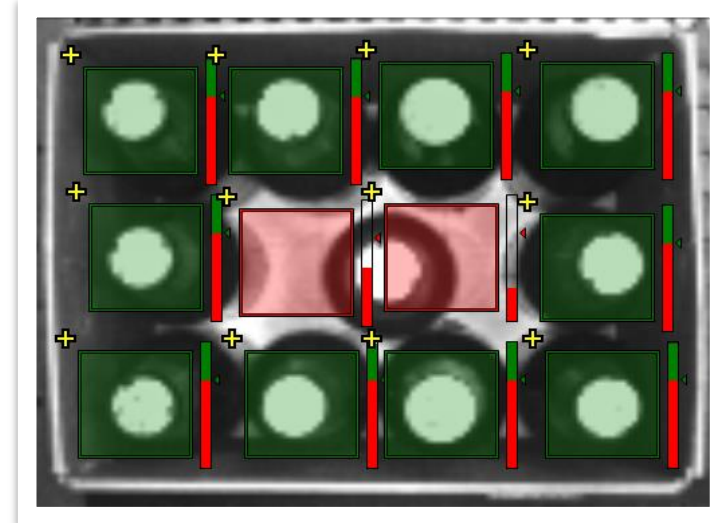
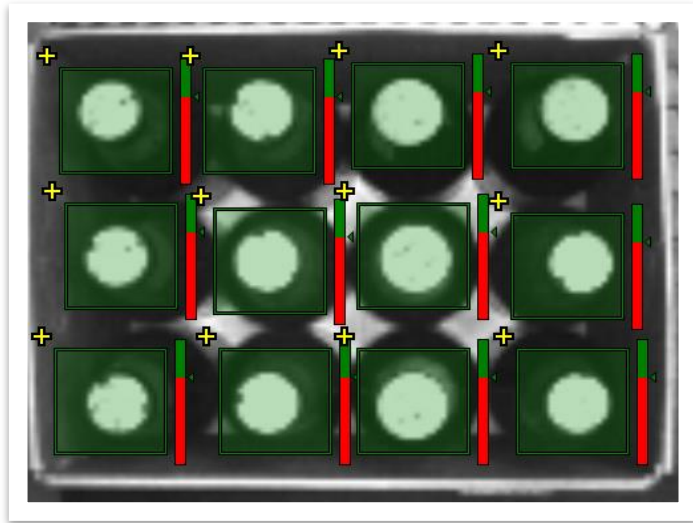
EMBLEM AND LOGO CHECK



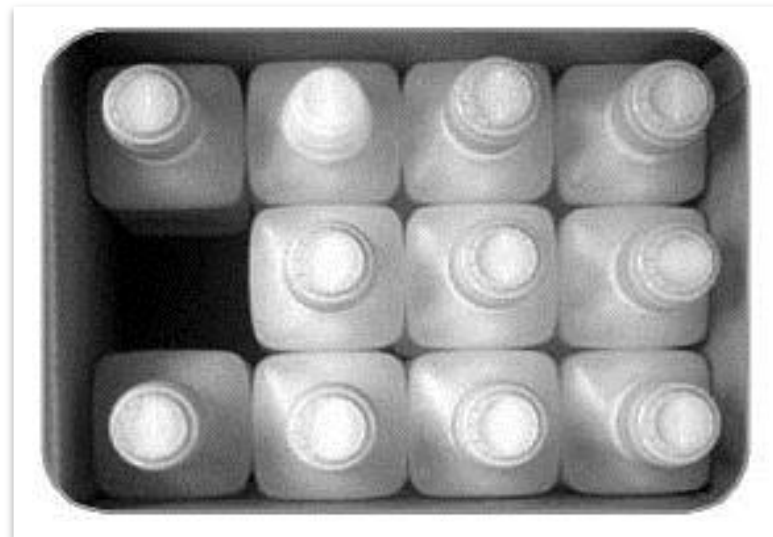
BOTTLE CHECK



One of the quality processes is verifying that the material or product has been properly packed. Using artificial vision, this verification can be performed easily and quickly.



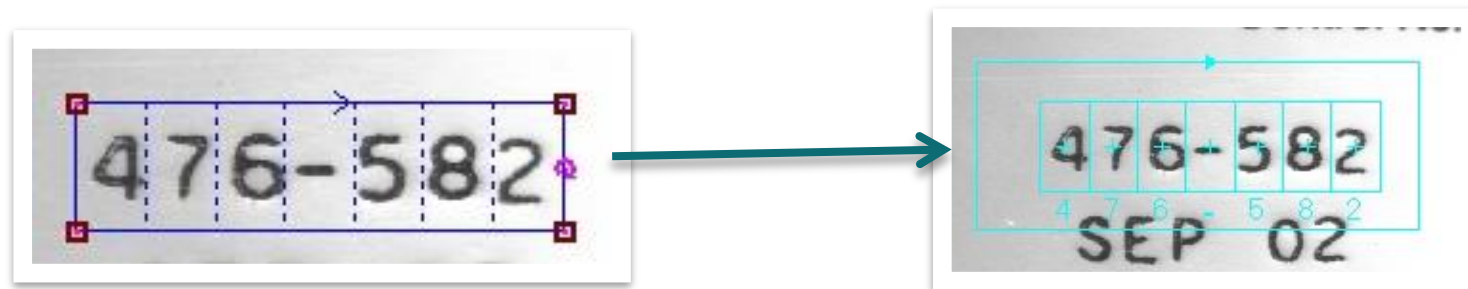
Another application of our vision systems is to automate the pallet and boxes load/unload. This way, heavy or dangerous material handling problems can be solved avoiding people to carry with these tasks, eliminating errors by tiredness and increasing the speed of the process. At the end, upgrading productivity.



OCR, DATAMATRIX AND BARCODE

It is usual in the industry the inscription of serial numbers over plastic parts and containers. In many cases, to achieve quality standards, is basic the recognition and verification of the information without failures.

With this in mind, our OCR systems allow the reading of the imprinted characters, thereby control whether they have been properly written and that the text is correct.



In a production line or in sequenced systems, is highly common the reading of bar codes and data matrix, to verify whether the product is the right one or not.

For this job, we have bar code readers and vision systems that allow not only the verification of the code, but logo, color, dimension check, etc. all in the same operation, increasing productivity and reducing costs while integrating in one station all the quality control systems.



SEQUENCE CONTROL

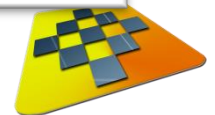
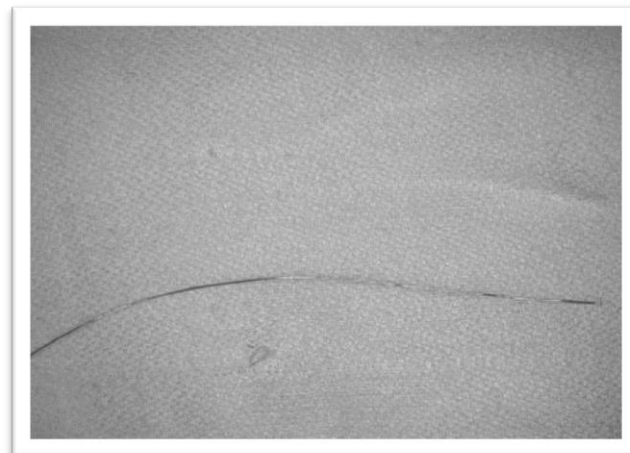
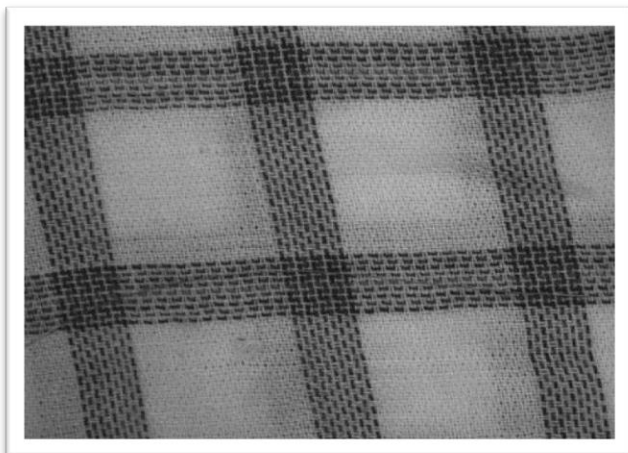
When working with a very long buffer of sequenced elements, we risk a possible scenario where one or more of these elements don't belong to the order established for its proper assembly in the production line.

It is possible to control this sequence of elements so the correspondence between the sequence and the buffer is the proper one, assuring that all components of the final product are correct and, are in fact, the ones specified by the customer.



TEXTILE QUALITY CONTROL

With our technology is possible to detect flaws that would be undetectable by the human eye, like torn or unstitched fabric.

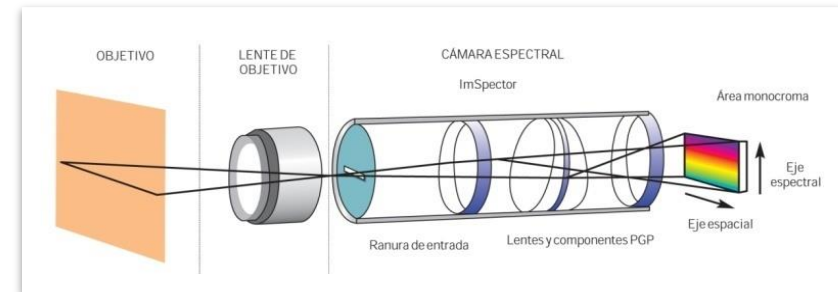


MULTISPECTRAL TECHNOLOGY

Multispectral technology is based in the use of spectrograph, which can be used to detect light absorption individually due to the chemical properties of all solid, liquid and gas materials.

The field of use of this technology is both wide and varied:

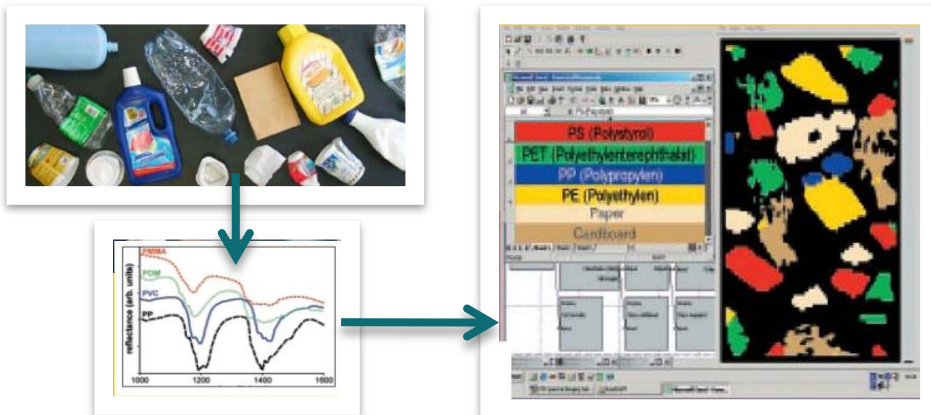
- Food inspection.
- Wood industry.
- Recycling.
- Paper industry.
- Automotive industry.



RECYCLING

Recycling is a growing activity for medium and large companies. Besides carrying out the legal normative, a proper recycling can bring economic savings and a bigger and better usage of the residual and rejected materials during the productive process.

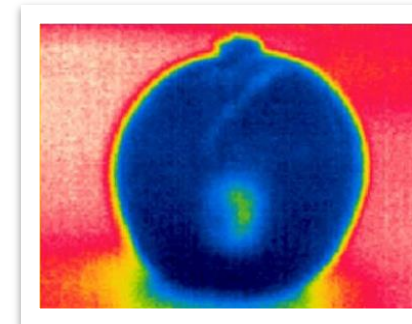
In a recycling plant, bottles for example, are separated depending on the plastic material. Through this technology, different types of plastic materials are recognized over a high speed conveyor for a prior robot guidance to classify the material in different containers.



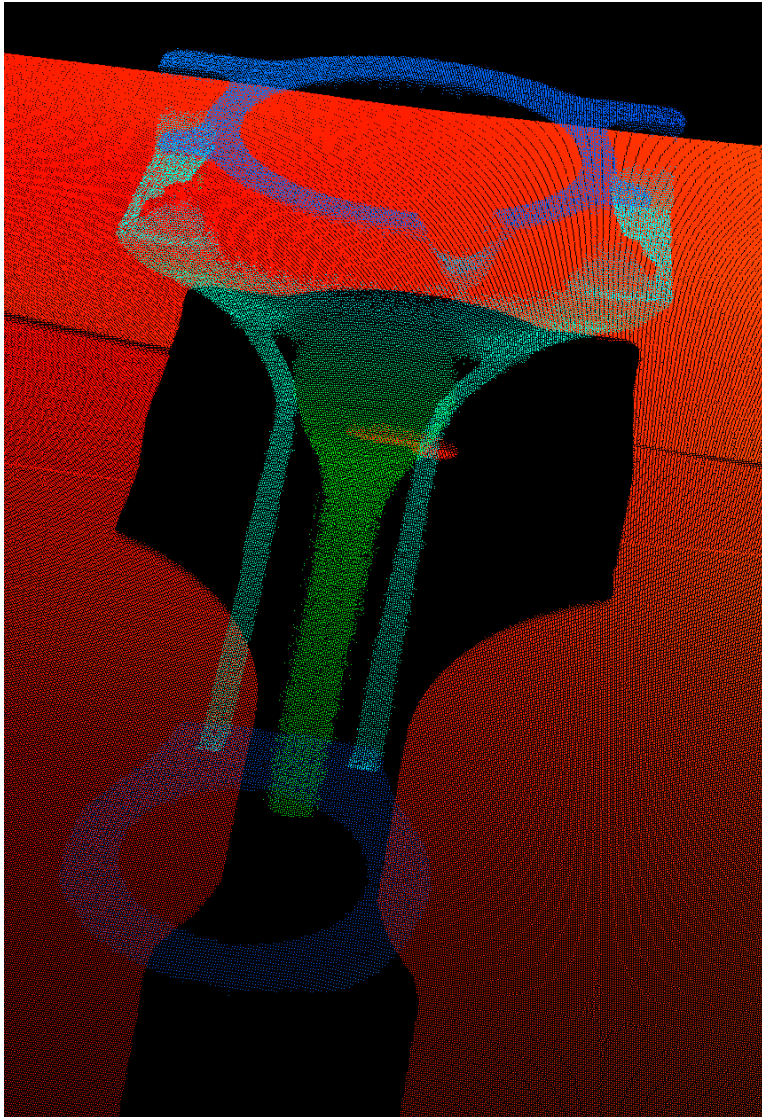
FOOD QUALITY CONTROL

Post harvest treatment of food has become an essential stage of the fruit and vegetables marketing, among other products. Includes a series of cleaning techniques, wax disinfection, conservation and ripening, that extend product life expectancy, allowing it to reach the costumer in better conditions.

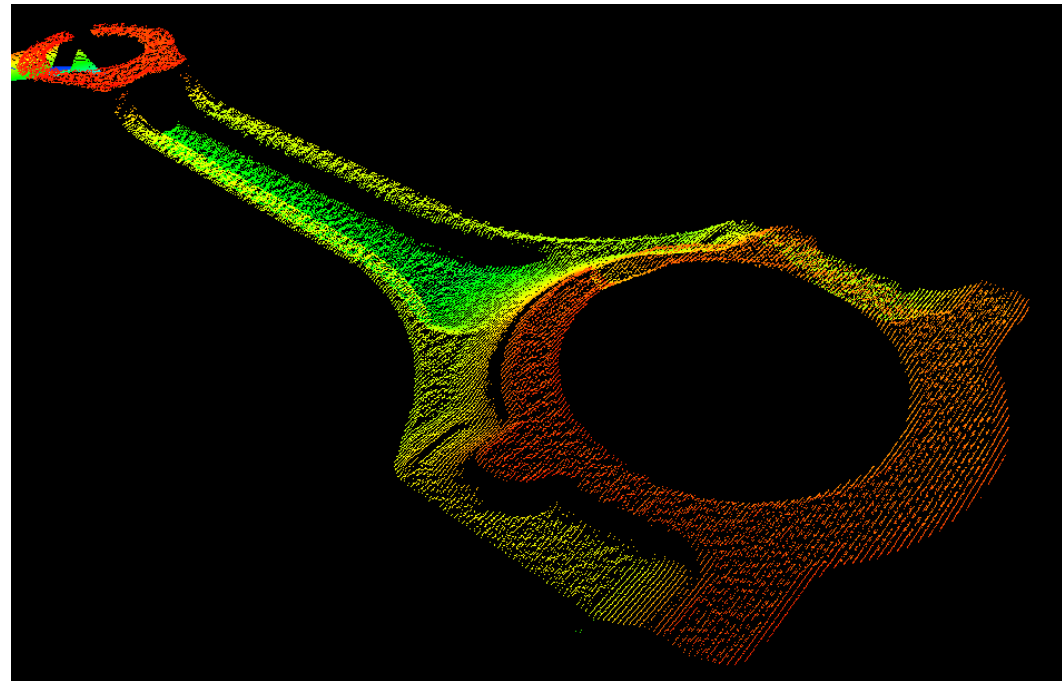
The use of multispectral technology is adequate for these situations inspecting the quality and state of ripening in an automated way.



In many industries precision is everything, and to be able to assure that precision, state-of-the-art quality control systems are required that can deliver such precision.



In these cases, a laser-based equipment becomes necessary. **Visia Solutions** is pioneer in the use of measuring and modeling devices using lasers through comparing and analyzing a point-cloud, reaching precisions up to **0,03 mm**.



VISION SENSORS

Cameras

We adequate the vision features to the needs of our clients; therefore we work with a wide range of cameras and manufacturers.

These cameras matched with our software solutions are the ideal tool to face innovative, complex applications that require an added value.



Smart Cameras

The main feature of these cameras is the possibility to offer an all-in-one solution.

They are completely autonomous and have a wide set of functionalities which make them highly versatile and fitted for a wide range of applications.



Other Technologies

There are other range of cameras, growing by the minute, with special features that allow solutions impossible to accomplish with other equipment.

Some of them are the infra red (IR), ultra violet ray (UV) or the innovative multispectral cameras.



DEVELOPMENT TOOLS AND MANUFACTURERS



CUSTOMERS AND DISTRIBUTORS

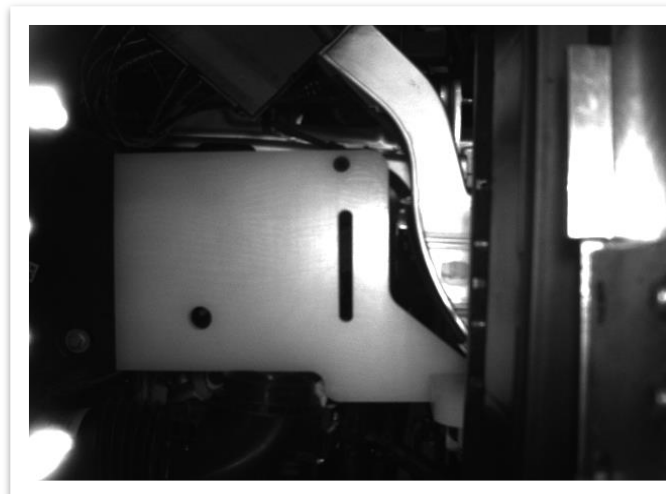


OUR MOST INNOVATIVE PROJECTS



ROBOT GUIDENCE TO PICK AND INSERT BATTERIES (FORD/B299 AND C344 – ASSEMBLY PLANT)

Coordinate correction are provided for both picking up the battery from the rack and to insert it in the battery housing along the assembly line. This station has 4 different battery racks and 5 different battery housings. The system has a graphic interface that can be customized by the user to adjust the tolerances and select the model manually.



MATERIAL CARRIER INSPECTION (FORD – SUPPLIER TUNNEL)

In order to prevent empty carriers to enter the supplier tunnel and reach the plant, 14 different models of carriers are inspected so, in case they are empty, can be redirected again to their respective supplier.



Balancina de radiadores



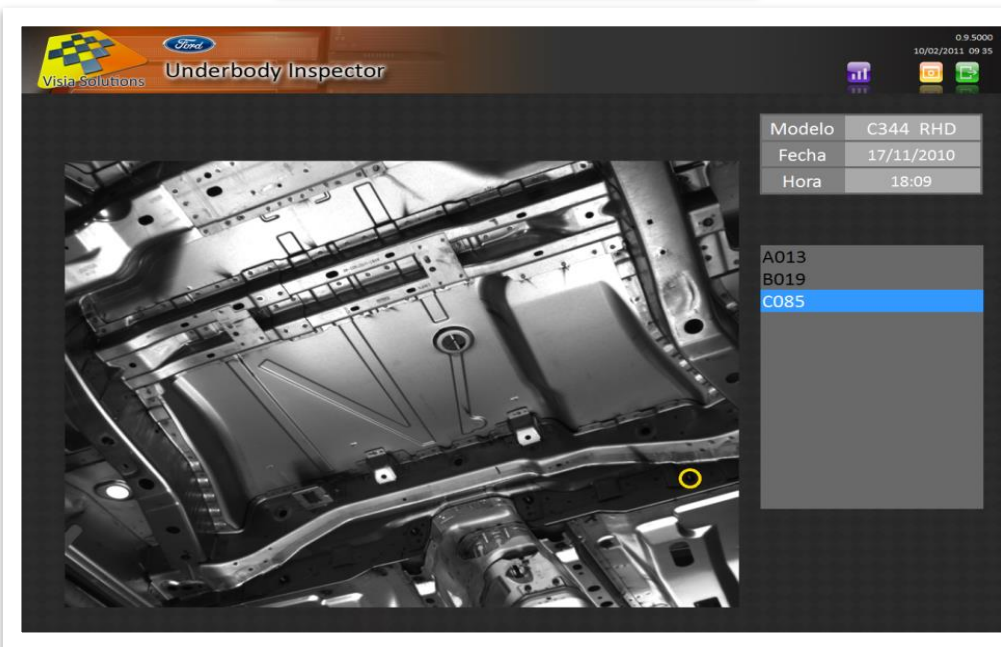
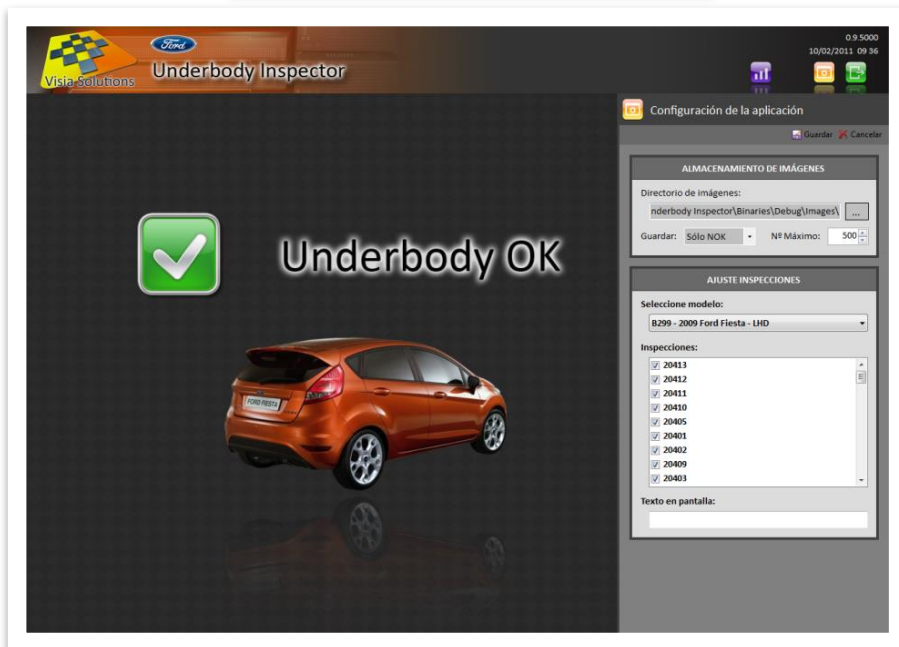
BAR CODE READERS (FORD – ASSEMBLY PLANT)

Installation, set up and adjustment of the bar code readers used for Reading the VIN number to control the TRIM zone buffer of cars.



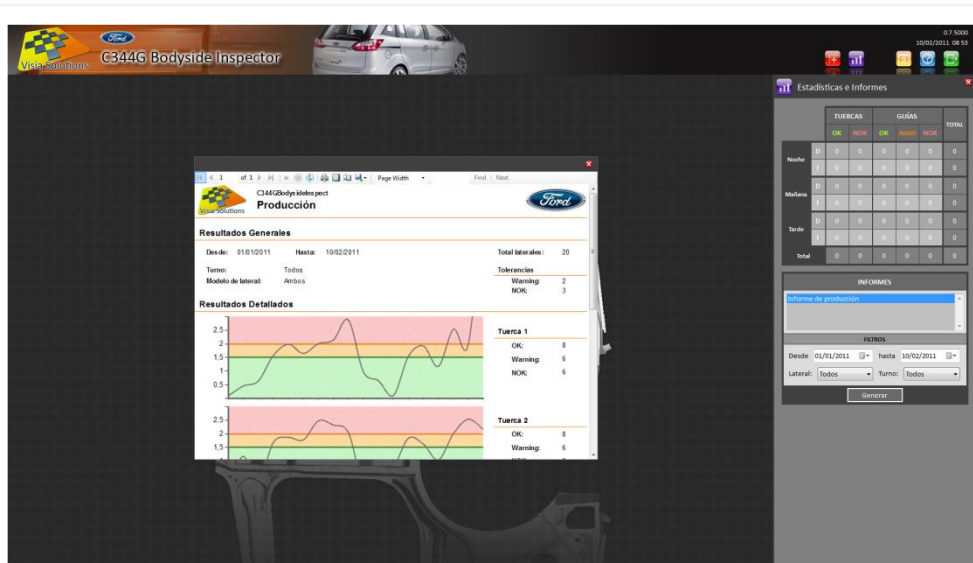
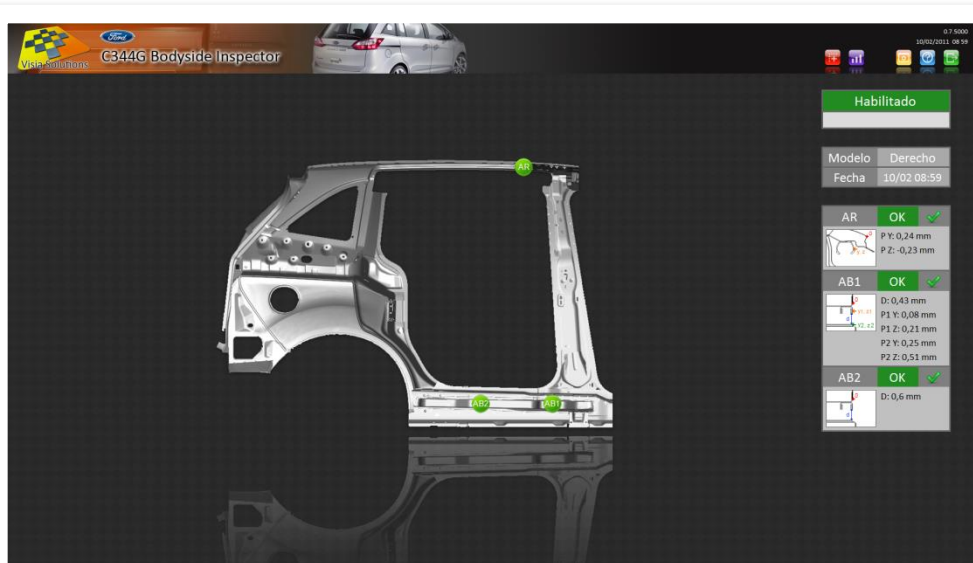
STUD WELDING INSPECTION SYSTEM FOR B299 AND C344 (FORD – BODY PLANT)

Presence or absence of studs is inspected in both the C344 and B299. The system is also prepared to add **custom inspections** (part presence inspection beside studs) with OK/NOK results, especially helpful to implement Pokayoke-type inspections over the complete underbody.



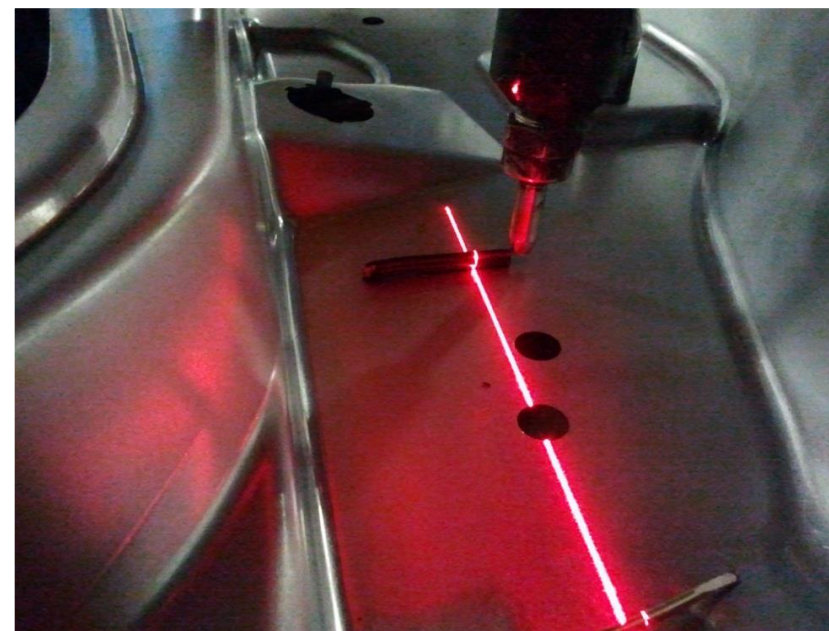
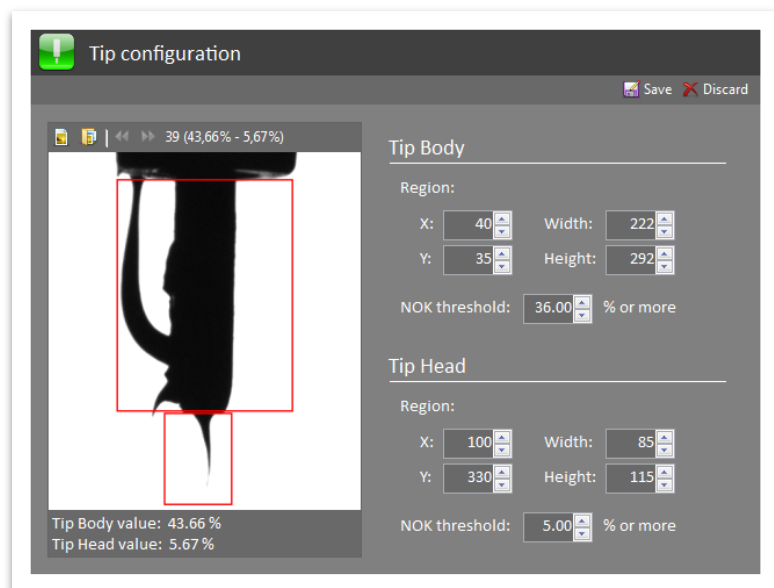
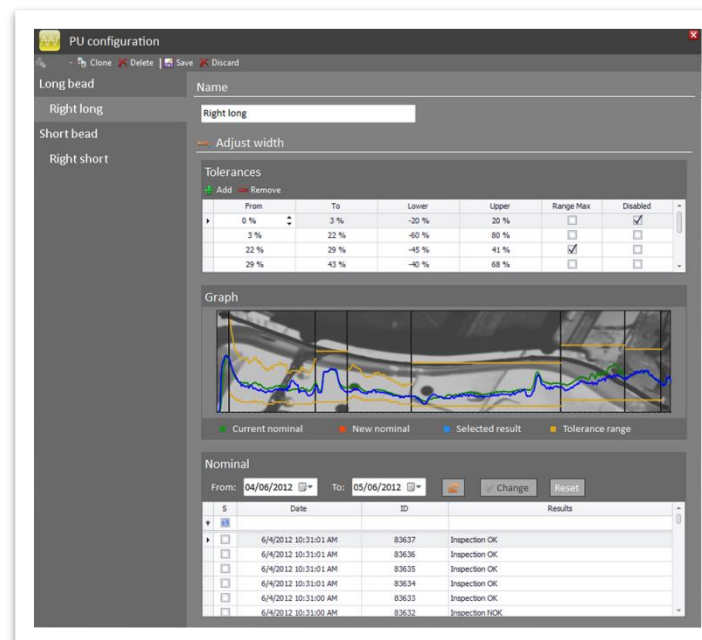
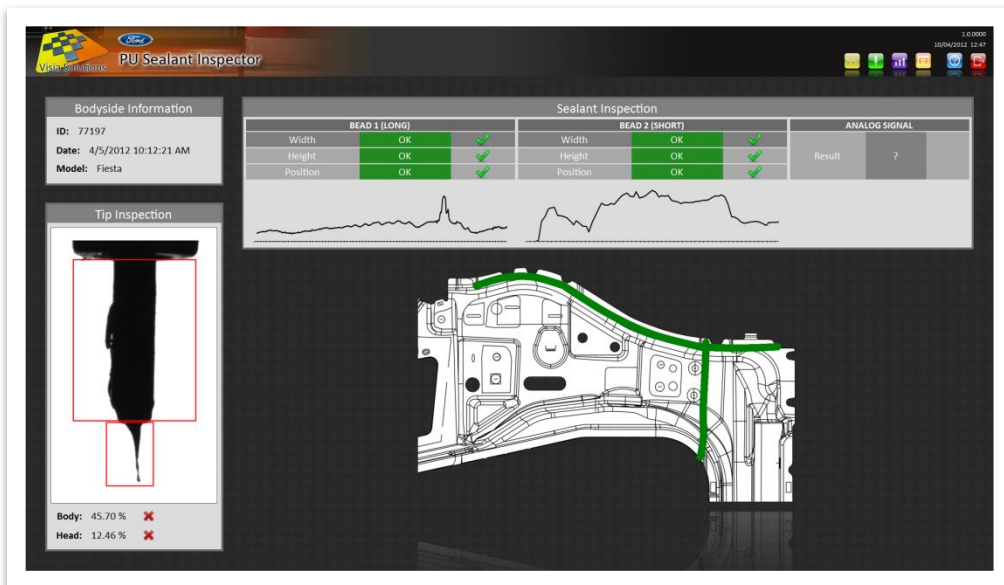
C344 BODYSIDE INSPECTION (FORD – BODY PLANT)

A double inspection is performed: measurement of the position of the nuts located on the bodyside to install the sliding door, checking for underhand nut with the metal sheet; also, a 3D measurement of several key points along the sliding door guide to assure the proper position of the door once is installed in the assembly plant.



SEALANT INSPECTION (FORD COLOGNE – BODY PLANT)

In order to assure the correct appliance of the sealant, a laser-based vision system has been installed, capable of measuring and inspecting the position, width and height of the sealant bead. At the end of the cycle, the TIP of the robot is also inspected to assure is in optimal condition to apply the next bead.



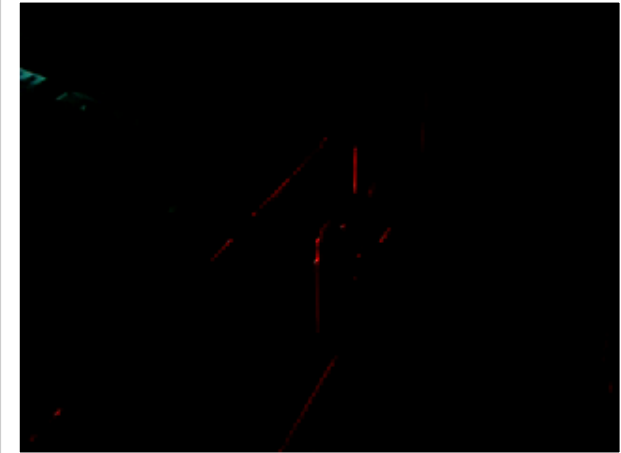
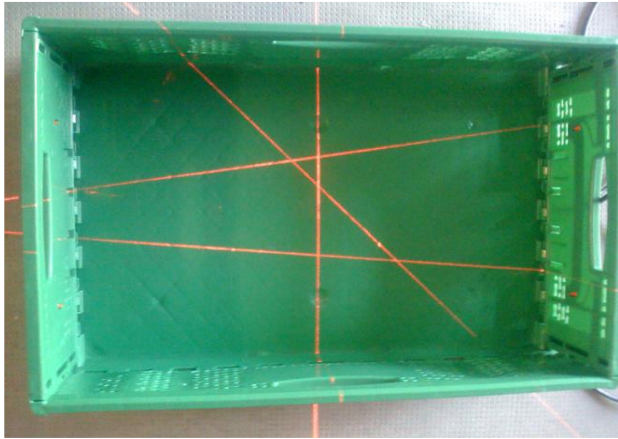
GOR AUTOMATIC ROBOT INSERTION (FORD – BODY PLANT)

A high-precision **stereo-vision system** (2 cameras per side) is used to provide coordinate corrections to the robots to properly insert the nuts to the vehicle to attach the GOR. The system can provide corrections in all 3 axis (X, Y and Z), which provides a high level of flexibility and increases the accuracy of the entire installation.



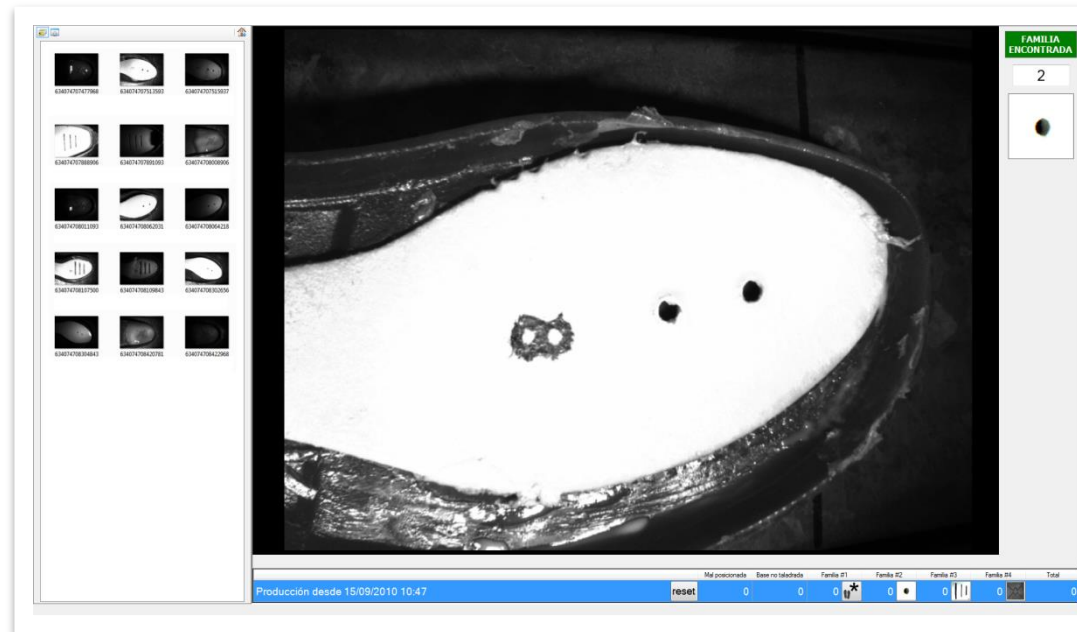
BOX INSPECTION (POOL INDUSTRY)

The inner part of the box is inspected through 3D modeling, detecting any foreign and undesired element that may generate future claims caused by the quality of the product.



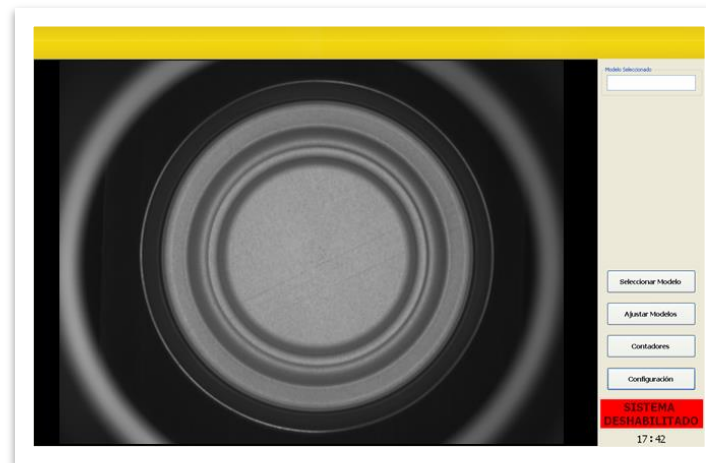
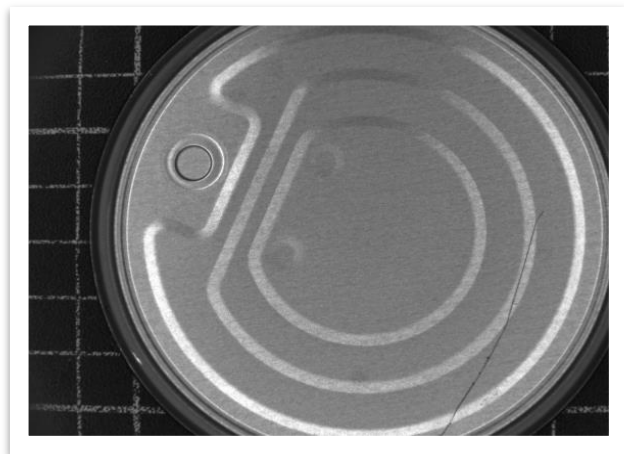
SHOE SOLE INSPECTION (SHOE INDUSTRY)

Different models of shoe soles are identified and inspected to adequate the treatment through the production line for each particular model.



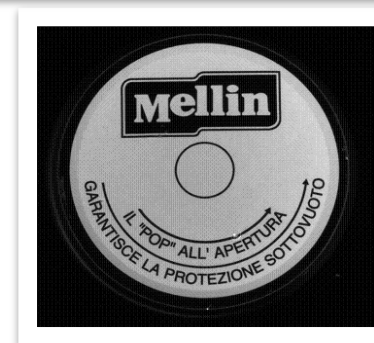
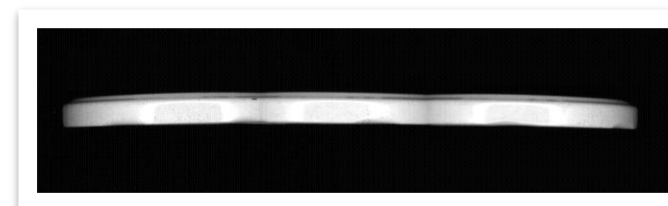
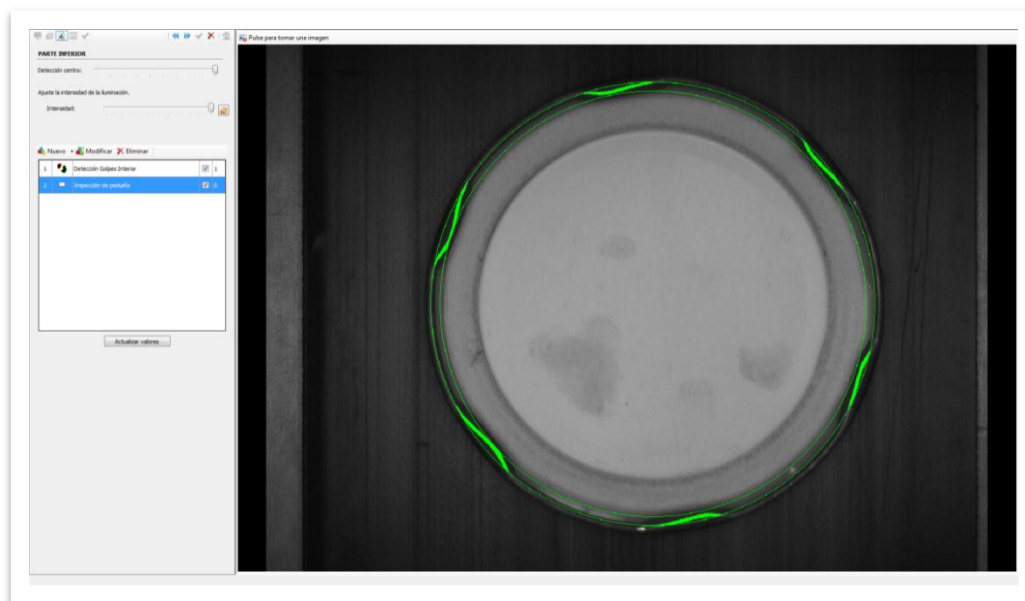
TOP CAN INSPECTION (METAL INDUSTRY)

The part is inspected to detect any type of flaw, from scratches to lack of material, with production speeds up to **1.200 part/minute**. The vision system is controlled by a custom software that provides set up options, visualization, creation of new inspection models and production reports.



TWIST-OFF TOP CAN INSPECTOR (METAL INDUSTRY)

The top-can is inspected to search flaws on the top, bottom and sides, including flaws such as missing bottom wings. For the lateral inspection a rebuild of the image has to be made using images acquired by 3 different cameras.





THANK YOU FOR YOUR ATTENTION

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