Vision for Quality

Making Visible
the Invisible

VISION FOR QUALITY

QVISION-TECH **Srl** comes from the desire to create a company highly specialized and focused in research and development of systems for the automation of quality control of industrial production, with special attention to the packaging industry, especially for the food and beverage sector.
With a specialized staff operating for years in the field, QVISION offers:

- ***Experience***, gained over 25 years in the field.
- ***Reliability***, ensuring maximum availability and maximum personal commitment at all stages of cooperation, from the initial feasibility study, to the realization of the product, its installation, training to the personnel working on the machines, the after-sale and the possible update of the product over the years, also according to the changing needs of the customer.
- ***Attention to the specific needs of the customer***, in the belief of the fundamental importance of a personal direct relationship, intended to transform the simple supplier-customer duality in a constructive and proactive cooperation, aimed at achieving a common goal.
- ***Willingness to growth and innovation*** in the search for ever higher quality standards, putting in first place the study and the development of increasingly advanced projects, using the most modern technologies in the field of images acquisition and processing.

The main field of activity of the company is the design and production of artificial vision systems for quality control in the packaging industry, dedicated to the inspection of closures (plastic and aluminum) and to the inspection of vials/bottles/preforms. In particular these systems, through the use of digital cameras and image processing systems, allow the automatic quality control at the end of the production line, with the ejection of defective parts, on the basis of the control tolerances set by the supervisor/operator.

QVISION also carries on a particular imaging application, dedicated to the Cultural Heritage world, through the creation of a scanning system for infrared reflectography. The device, Scanner IR, takes on particular interest for art historians, restoration centers, institutions such as museums and cultural heritage authorities.

Wherever You are

India

China

Australia

New Zealand

United States

Argentina

Canada

Mexico

Chile


We are
Italy
Spain
France
Romania
Czech Republic
Great Britain
Germany
Ukraine
Austria
Russia

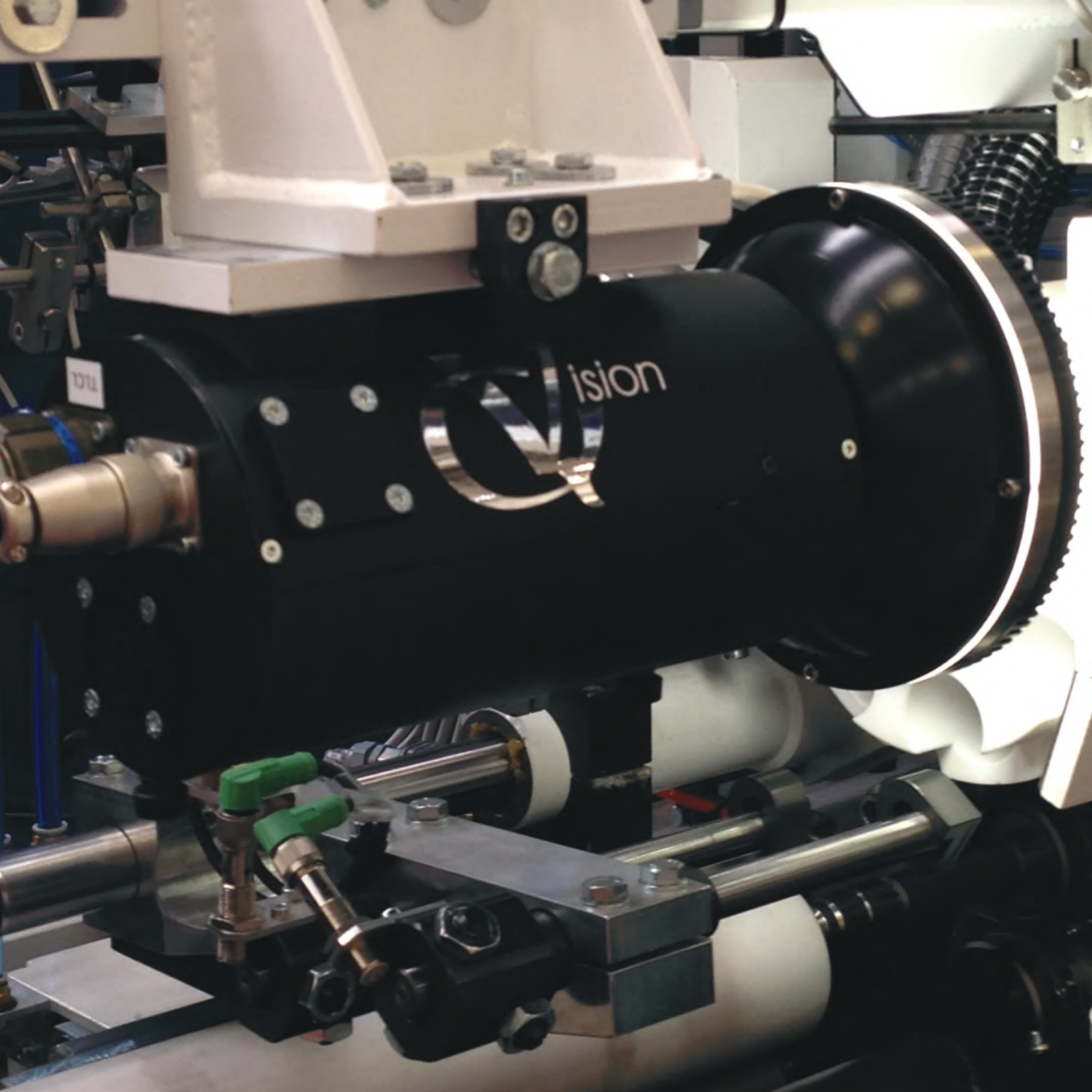
What is an Artificial Vision System ?

An Artificial Vision System is composed by the integration of optical, electronic and mechanic components, which allows acquiring and processing images both in the visible spectrum and outside of it (infrared, ultraviolet, X-rays, etc.). The processing result is the recognition of some characteristics of the image for different control purposes, measurement, classification, etc.…

The artificial vision systems, in industrial field, are automatic systems for quality control and dimensional measurements, which are typically installed on a production line.
This technology can provide many benefits, such as:

Consistency
Repeatability
compliance
quality of 100% of production.

It also allows the objectification of quality controls, the reduction of the production costs and an increase of the technological level of the product through the automation of the manufacturing processes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WHY QVISION-TECH ?

The increasing demand for quality, the trend towards zero-defect production, the increasingly tight competition and the need to contain costs, force companies to face a new way of thinking: now a reliable and accurate quality control of each piece is required.
The statistical sampling cannot guarantee the required quality, while the reduction of the size of the components and the use of production methods increasingly automated, flexible and fast, make the manual control absolutely inapplicable, since it is not able to provide the necessary repeatability and stability and, besides, it is prohibitive for the high labor cost.
The digital image processing systems integrate perfectly in this environment, as they are able to provide objective data on the quality of products in a repetitive and automatic way. Accuracy of assemblies, surface quality, dimensions, profiles, shapes, colors, placement, can be controlled within a fraction of a second in a precise and documented way.

CAPS INSPECTOR

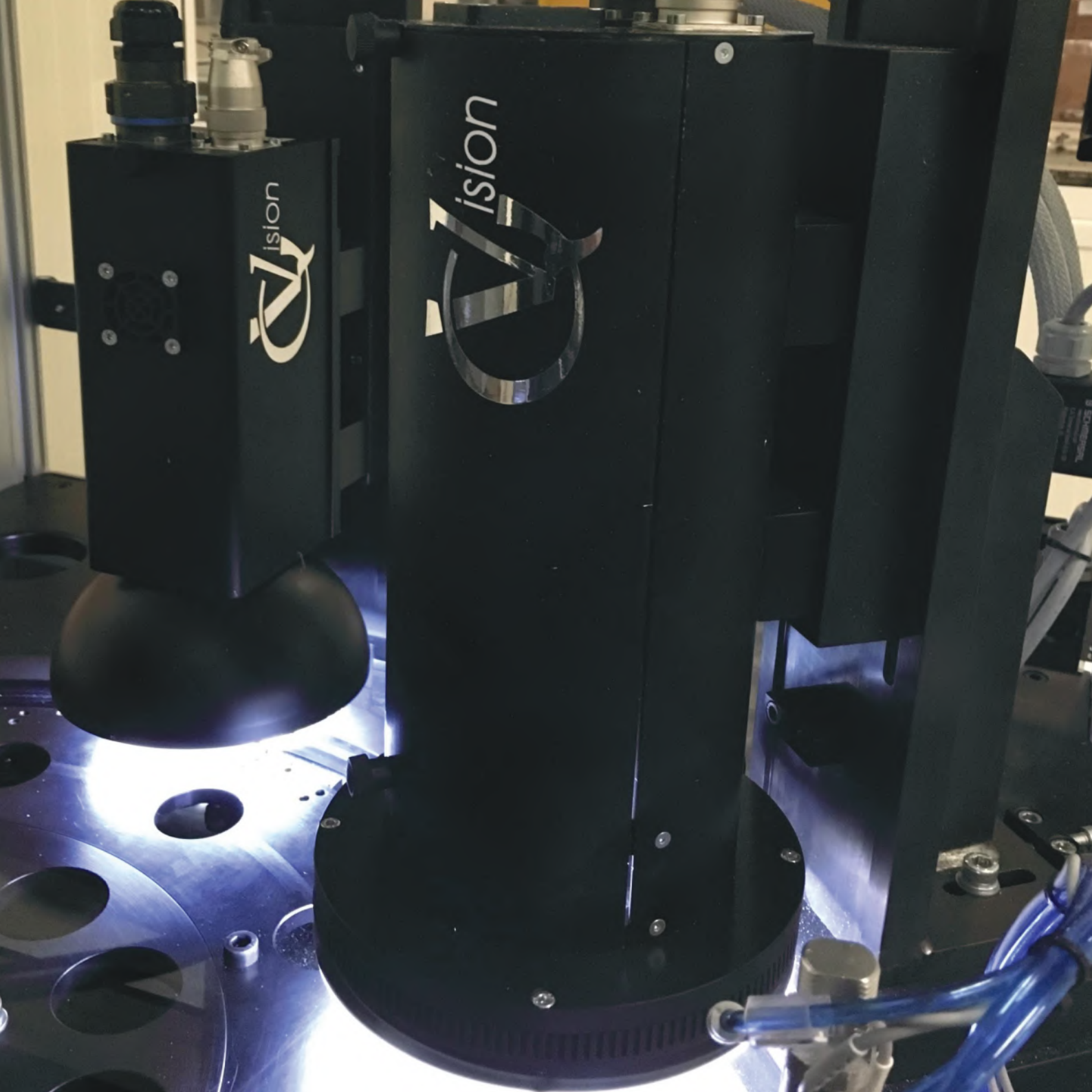
PURPOSE: 100% automatic detection, during production, of the typical defects on aluminium and plastic closures, properly orientated and moved by a handling mechanical system.

CHARACTERISTICS: **Caps Inspector** is a modular vision system, which can be equipped with one or more standard inspection modules. Each module is dedicated to specific controls on plastic or aluminium closures, in order to detect the typical defects of this kind of production.

INSTALLATION: **Caps Inspector** can be installed on existing production lines, if technical requirements are fulfilled, or it is possible to offer «turnkey» solutions, supplying the vision system complete of a proper mechanical transportation unit. Usually the inspection modules are installed on a star-wheel and/or a conveyor belt.

ADVANTAGES: **Caps Inspector** offers an objective and repeatable control, allowing to obtain an improvement of the production quality and an optimization of the production process.

CUSTOM SOLUTIONS: the inspection software is fully owned by QVISION-TECH. It is therefore possible, on request, to provide customized versions, together with dedicated hardware configurations, to meet specific customer needs.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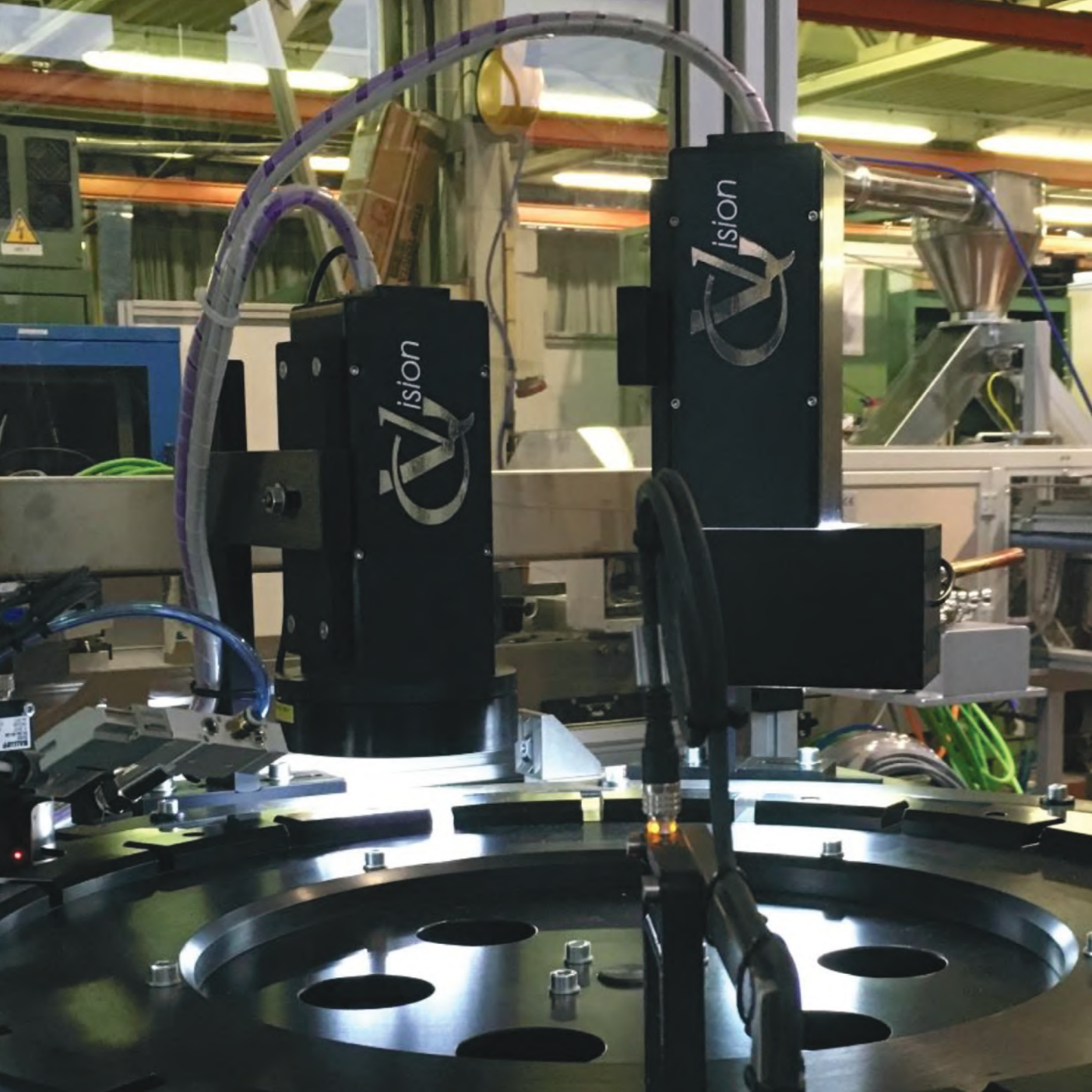
CAPS INSPECTOR – MODULES FOR ALUMINIUM CAPS

QVISION-C-TOP: for the inspection of the border. The inspection is performed with the closures upward facing, with a top-view. The optic is a wide-angle lens, in order to enhance the typical defects on the border of the closure (lack of material, folded border, deformation, ovality). This module can be installed either on a conveyor belt (with caps moving aligned, spaced and upward facing) or on a star-wheel.

QVISION-C-BOTTOM: for the inspection of the top external surface. Normally this inspection is performed with closures moving on a star-wheel, upward facing, while camera observes the top surface from the bottom, through a hole in the main plate of the machine (usually on the hole is installed a special glass). Typical defects, which can be detected with this unit, are dirty, contaminations, colour variations, printing defects.

QVISION-C-LINER: for the inspection of the internal liner (EPE, Saranex, Sarantin ...). The inspection is performed with the closures upward facing, with a top-view. The typical defects on the liner are lack of material, wrinkled liner, missing liner, dirty/contamination on the liner surface. This module can be installed either on a conveyor belt (with caps moving aligned, spaced and upward facing) or on a star-wheel. Supplied with a proper lighting system, this module can be used to inspect also an internal pourer.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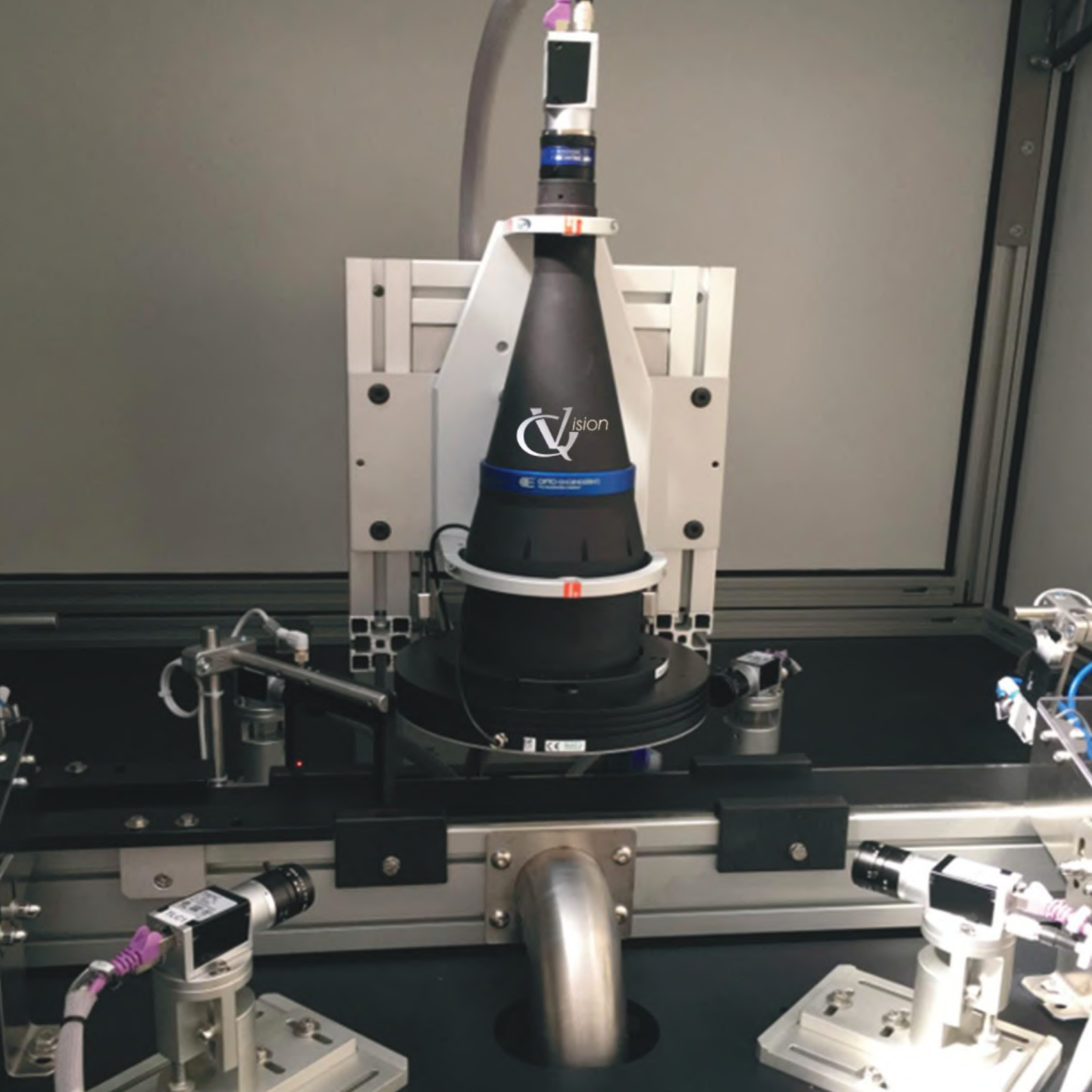
CAPS INSPECTOR – MODULES FOR PLASTIC CAPS

QVISION-C-TOP: for the inspection of the border and the visible inner surface. The inspection is performed with the closures upward facing, with a top-view. The optic is a wide-angle lens, in order to enhance the typical defects on the border of the closure (short-shot, deformation, ovality, horizontal flashes) and inside, on the visible surfaces (contaminations, colour variations, black spots). This module can be installed either on a conveyor belt (with caps moving aligned, spaced and upward facing) or on a star-wheel.

QVISION-C-BOTTOM: for the inspection of the top external surface. Normally this inspection is performed with closures moving on a star-wheel, upward facing, while camera observes the top surface from the bottom, through a hole in the main plate of the machine (usually on the hole is installed a special glass). Typical defects that can be detected with this unit are dirty, contaminations, colour variations, black spots. This module, if required, could also be used to inspect a possible printed logo.

QVISION-C-SIDE: for the inspection of the external side surface of the closure. The acquisition unit uses four cameras, installed at 90° each other. The unit is installed on a conveyor belt, with closures moving aligned and spaced, upward facing. Typical defects that can be detected with this unit are: lack of material on the border, vertical flashes, dirty, black spots.

QVISION-C-TOP360: this module has to be installed on a conveyor belt, with closures moving aligned and spaced. It uses a special lens, which allows to observe the side surface with a top-view. Typical defects which can be detected are colour variations, dirty, black spots.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BOTTLES INSPECTOR

Systems for the inspections of bottles and vials, in glass and plastic material, and PET preforms, to detect the typical defects of these types of productions. The "standard" modules are:

QVISION-B-TOP: for the inspection of the opening of the bottle, to detect the typical defects on the border of the opening (short-shot, deformation, ovality, horizontal flashes) and inside (flashes). Normally this inspection is carried out while vials move aligned and spaced on a conveyor belt.

QVISION-B-BOTTOM: for the inspection of the bottom external surface of the vial. Normally this inspection is carried out with a bottom view, while vials move supported by two side belts, to have the bottom surface free for observation. Typical defects that can be detected with this unit are dirty, contaminations, black spots.

QVISION-B-SIDE: for the inspection of the external side surface of the vial. The acquisition unit uses four cameras, installed at 90° each other. The unit is installed on a conveyor belt, with pieces moving aligned and spaced, upward facing. Typical defects that can be detected with this unit are dirty, contaminations, black spots.

This product line includes also a special system for the on-line inspection of bottles bundles, enclosed in heat-shrink film (QVISION-HSB).


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CUSTOM SOLUTION

In addition to the standard products, QVision offers the possibility to supply "custom" systems, designed according to particular customers' specifications, to allow performing special requests of inspection.

Thanks to the know-how acquired in years of activity in the sector of industrial applications of machine vision, the use of the latest technology and a proprietary software completely developed inside our company, we are able to analyze specific issues and offer "turnkey" solutions, innovative and reliable.


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Vision


AGRIDE
ZETA


SAVE JAMES
PETERMAN
SMIRNOFF


Pancetta
TSANTALI
MINI
LIVIKO


RARE
J&B
ЛЕФОРТОВО

SCANNER IR

Device for infrared reflectograhy, a diagnostic non-destructive technique used in the analysis of ancient paintings (on wood or canvas, or mural painting), widely used and appreciated by restorers and art historians. The technique allows to observe the information hidden by the external paint layer. Depending on the degree of the infrared transparency of the pigments used, this technique allows to observe and analyze hidden pictorial details, up to the artist's preparatory sketch.

The technique is known, but the innovation of this device is related to the particular mode of acquisition of the reflectographic pictures, derived by a project developed with the National Institute for Applied Optics (INO-CNR), which allows to obtain high resolution images, with high quality and geometric accuracy.

We have been working for many years, providing tools and technical assistance, with the Opificio delle Pietre Dure in Florence and the Restoration Laboratory of the Vatican Museums

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