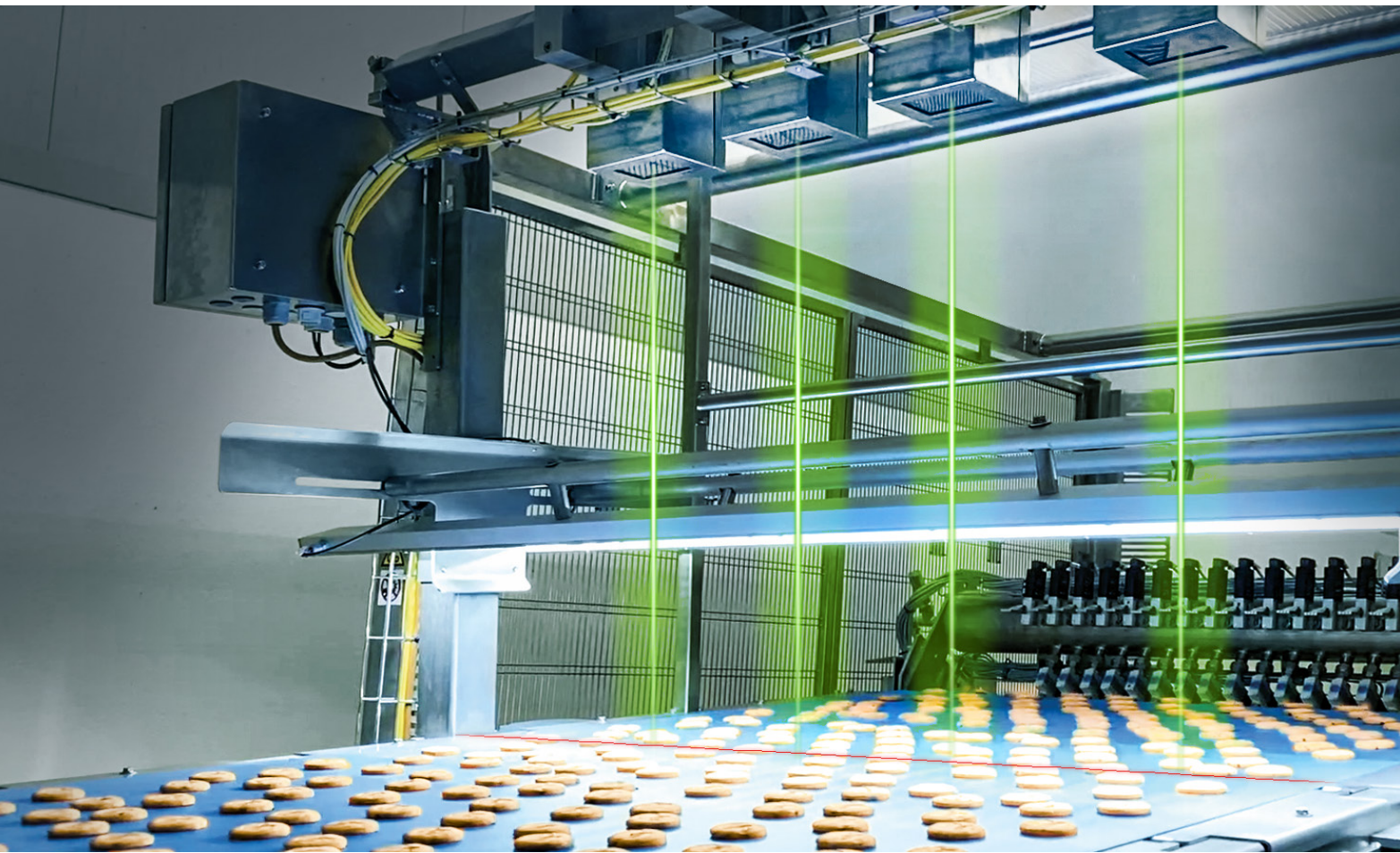SENSURE

SYNAPSE
OEM

VISION SYSTEM WITH ARTIFICIAL INTELLIGENCE
THAT COMBINES QUALITY CONTROL WITH PICK & PLACE

alignment

SENSURE

WHICH ARE THE **MAIN BENEFITS** THAT CAN BE OBTAINED USING A **VISION SYSTEM** FOR **QUALITY CONTROL**?

HIGHER PRODUCTIVITY AND LINE EFFICIENCY

The analysis of product data allows to maintain the entire process under control.

IMMEDIATE SAVINGS

Reduction in labor costs and operating expenses.

HIGH BRAND REPUTATION

Less complaints from Customers due to higher product quality.

REDUCED DOWNTIME

The removal of non-compliant products guarantees continuous operation of the line.

TOTAL CONTROL OF PRODUCTION

Process repeatability and no product contamination.

RELIABLE, REPEATABLE AND ACCURATE MEASUREMENTS

Quality standards are also ensured even with different operators of the line.

MAXIMUM LINE SPEED

Possibility of carrying out measurements not visible to the human eye at high speed.

CONTINUOUS IMPROVEMENT PROCESS

Product data can be used to support a continuous improvement process.

S E N S U R 3
1 N N O V A
7 I O N I N
C O M P U T 3 R
V I 5 I O N

SENSURE has been designing and developing, since 2007, **vision systems** with **artificial intelligence** which work in **self-learning**.

Thanks to the **SENSURE SYNAPSE technology** it is possible to:

■ Automate the process for **quality control** (identification and rejection of non-compliant products).

■ Optimize **Pick & Place** (product flow management).

The **SENSURE SYNAPSE technology** is used on **highly variable products**, such as:

■ **Baked goods** (biscuits, crackers, snacks, rusks, cakes, pizzas, bread, baguettes, focaccia, tortillas, muffins, croissants, etc.).

■ **Other products** (poultry and meat, pet food kibbles, candies and sweets, fruit and vegetable, wood, ceramic, etc.).

SENSURE also produces **optical instruments** for **particle size distribution (granulometry)** and for **dots analysis** in different sectors (food, agriculture, coffee, mining, etc.).

SENSURE
Care

Always at your side

We advise and follow the Customer from the initial quotation and throughout the life of our systems with our Service (Helpdesk, Remote and Onsite Assistance and Spare Parts Management).

150+ systems installed
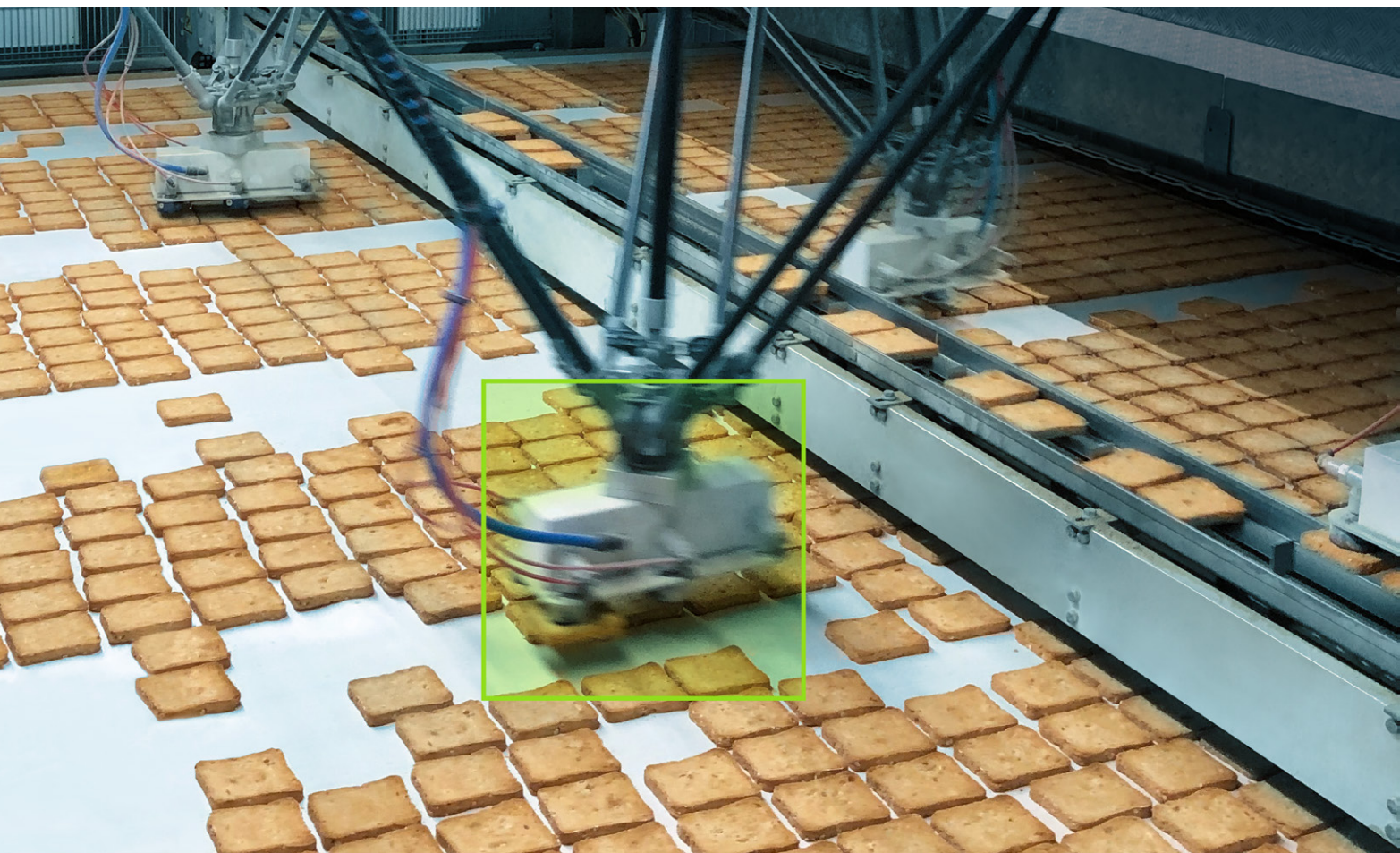
Experience and Competence

The over ten years of experience acquired on different types of highly variable products, has allowed us to develop the best quality control features using 2D and 3D vision technologies.

4.0 ready

Industry 4.0

The features of the SENSURE SYNAPSE vision system meet the requirements for Industry 4.0.
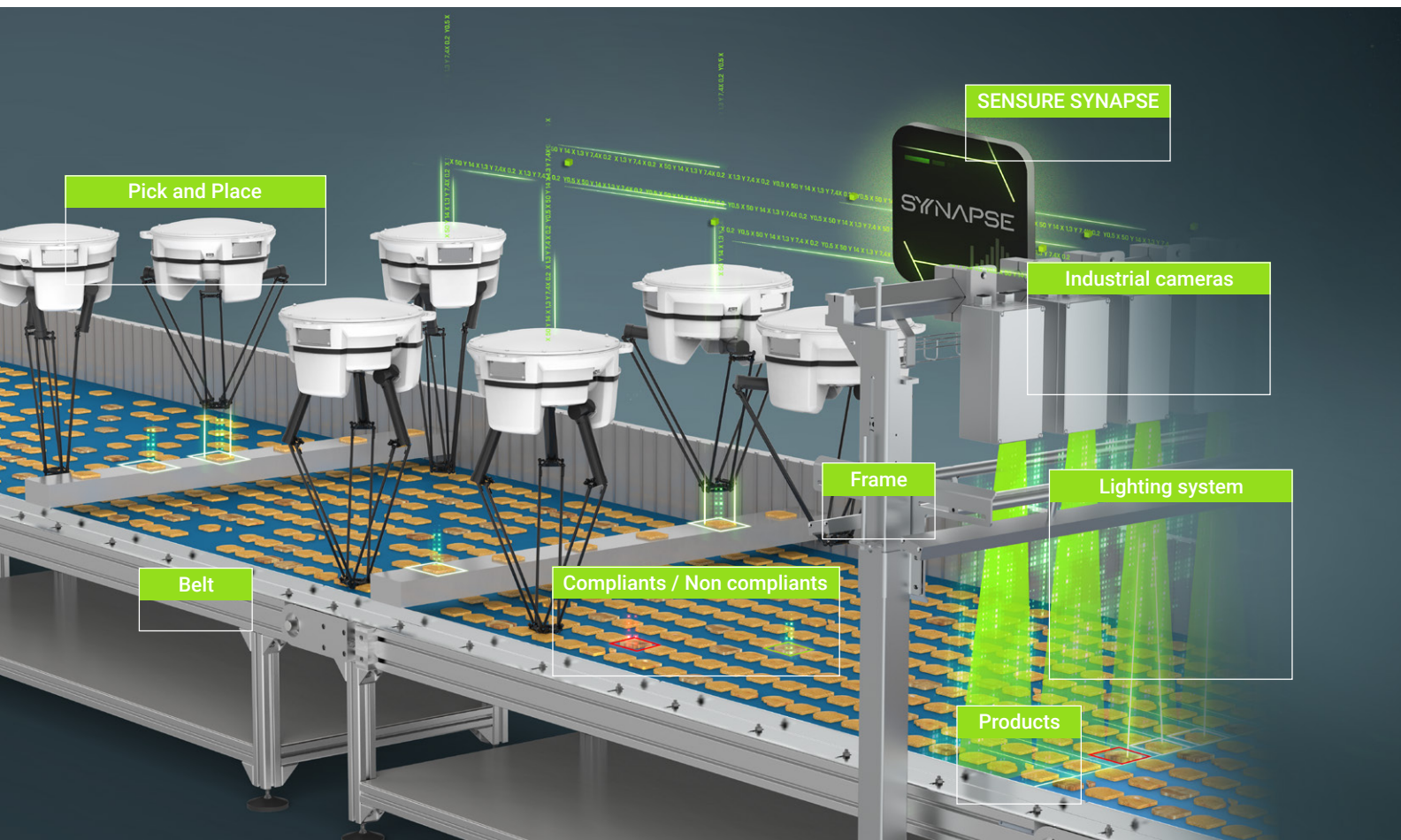
SYNAPSE

OEM

VISION SYSTEM WITH
ARTIFICIAL INTELLIGENCE
AND **SELF-LEARNING**
AT THE SERVICE OF
THE BEST **PICK & PLACE**

OEM Video

In addition to **sending product gripping coordinates to Robot and PLC**, SENSURE SYNAPSE OEM can communicate **quality information for automatic sorting** by applying different selection criteria, from simple fixed thresholds to the most advanced artificial intelligence algorithms. SENSURE SYNAPSE OEM can be used in the presence of **highly variable products**, such as baked products, chicken, meat, candies and sweets, fruit and vegetables, etc.

Pick and Place

SENSURE SYNAPSE

Industrial cameras

Frame

Lighting system

Belt

Compliants / Non compliants

Products

COMMUNICATION WITH **ROBOT** AND **PLC**

+ ROBOT

- Compatible with ABB and other brands
- Usable with Pickmaster or direct data sending to robot
- Sending of grip coordinates with quality information

Detection and sending to Robot and PLC of the products' gripping point and angle
SENSURE SYNAPSE OEM is capable to identify the center of mass and the gripping angle of all the products and send the information to Robot and PLC for the optimal management of Pick & Place.

Detection and sending to Robot and PLC of the products' quality information
SENSURE SYNAPSE OEM is capable to measure and control **numerous product features** (a wide set is included in the system), such as **shape, size, color and surface pattern** using 2D technology (Industrial Camera) and perform a **full 3D product profile** using 3D technology (laser profilometer). With the use of **innovative artificial intelligence algorithms, SENSURE SYNAPSE OEM identifies the features to be controlled** by automatically adapting to different types of production and its intrinsic variability, **eliminating the complicated part of setup typical of traditional systems.** The system itself, **thanks to its ability to work in self-learning, automatically proposes a quality recipe and tolerance thresholds** (without requiring samples for a manual classification of non-compliances), **allowing the operator to make subsequent modification.**

3D ANALYSIS

ABSOLUTE AND REPEATABLE
METRIC OR IMPERIAL SYSTEM

Measurement calibration
A calibration tool to convert pixels to mm (or inch). All dimensional measurements are expressed in mm (or inch).

Position calibration
An X, Y calibration tool to express all position measurements in mm (or inch) with respect to a "O" point on the belt.

Color calibration
A colorimetric calibration tool to set the color/exposure parameters of the cameras.

+ PLC

- Compatible with Siemens, Allen Bradley/Rockwell, Omron, Schneider, etc.

- Possibility of remote management of SENSURE SYNAPSE OEM from PLC

- Sending of complete production data from SENSURE SYNAPSE OEM to PLC

BIG
DATA available

Real-time display, data collection and reporting

The system allows real-time display and monitoring of measured values, results, etc. The system also collects and stores in a SQL database the data of the whole production (accessible also by third-party software). Possibility to carry out dedicated reports over long periods of time, supporting the continuous improvement activity.
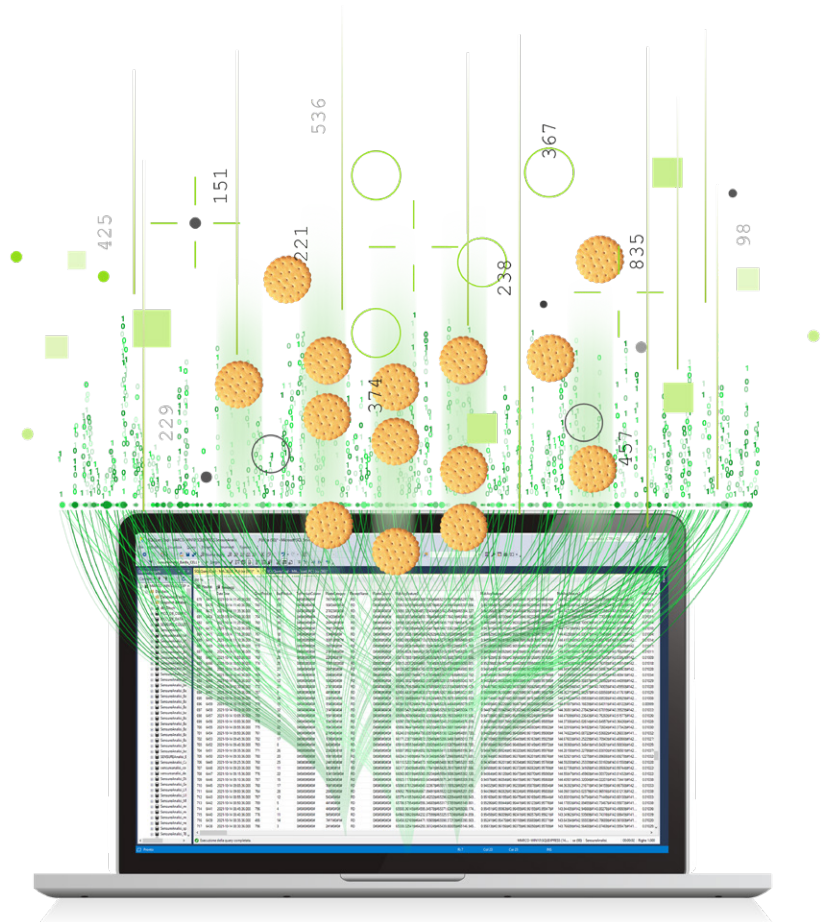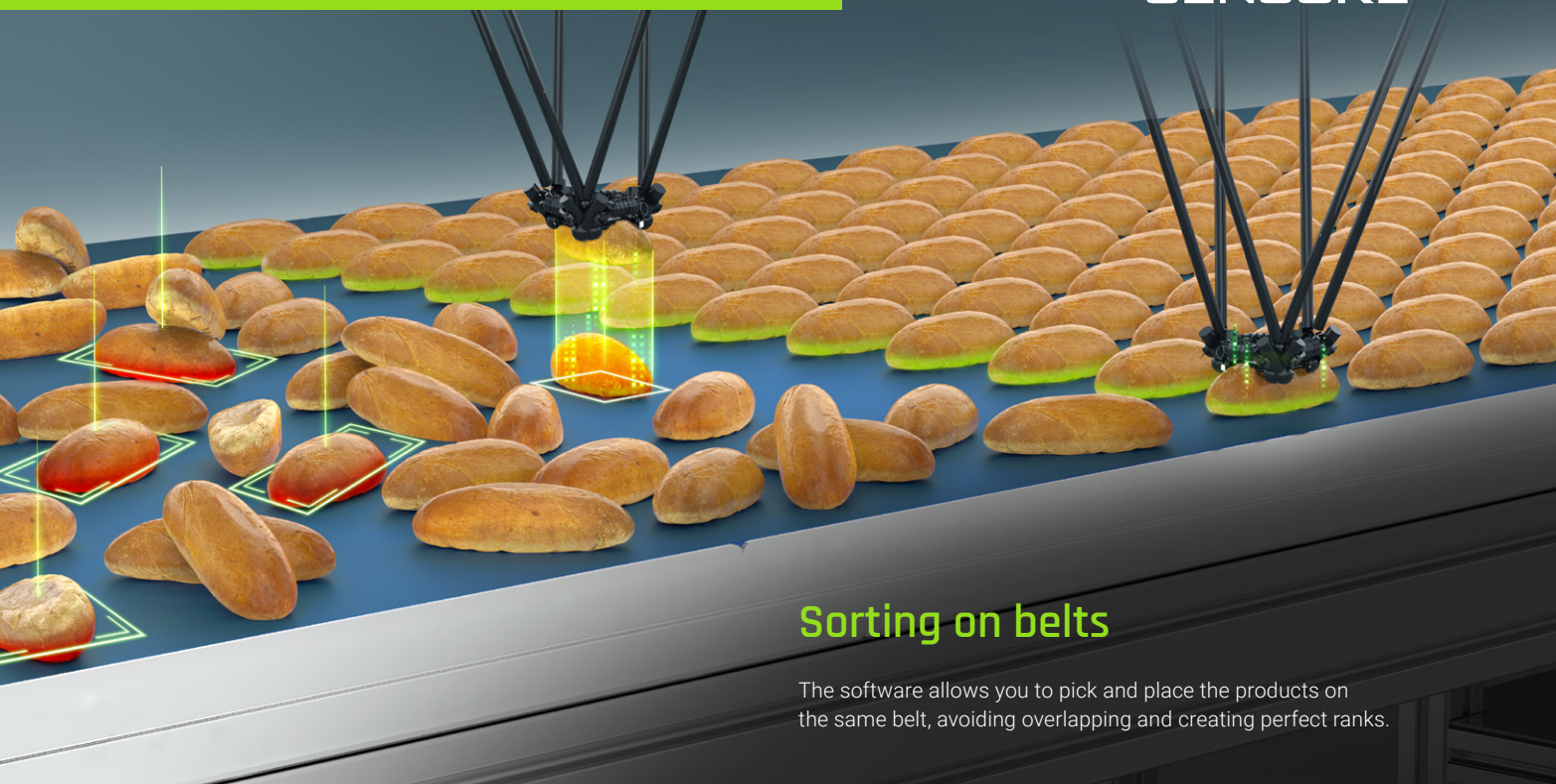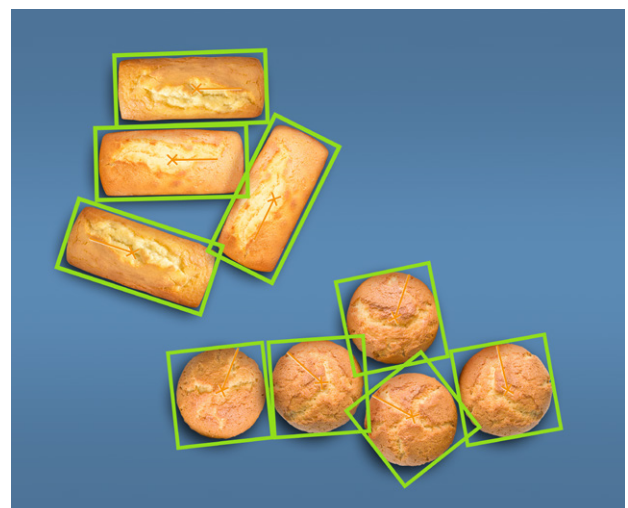
Sorting on belts

The software allows you to pick and place the products on the same belt, avoiding overlapping and creating perfect ranks.
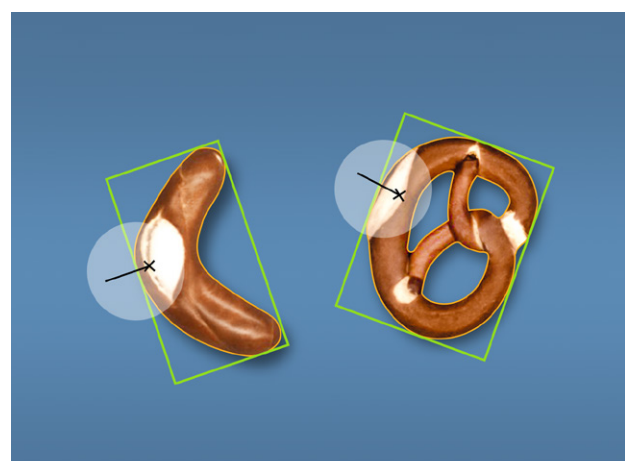
Smart management of products in contact

The software allows you to manage products in contact with different user-configurable methods, improving the efficiency of the line.
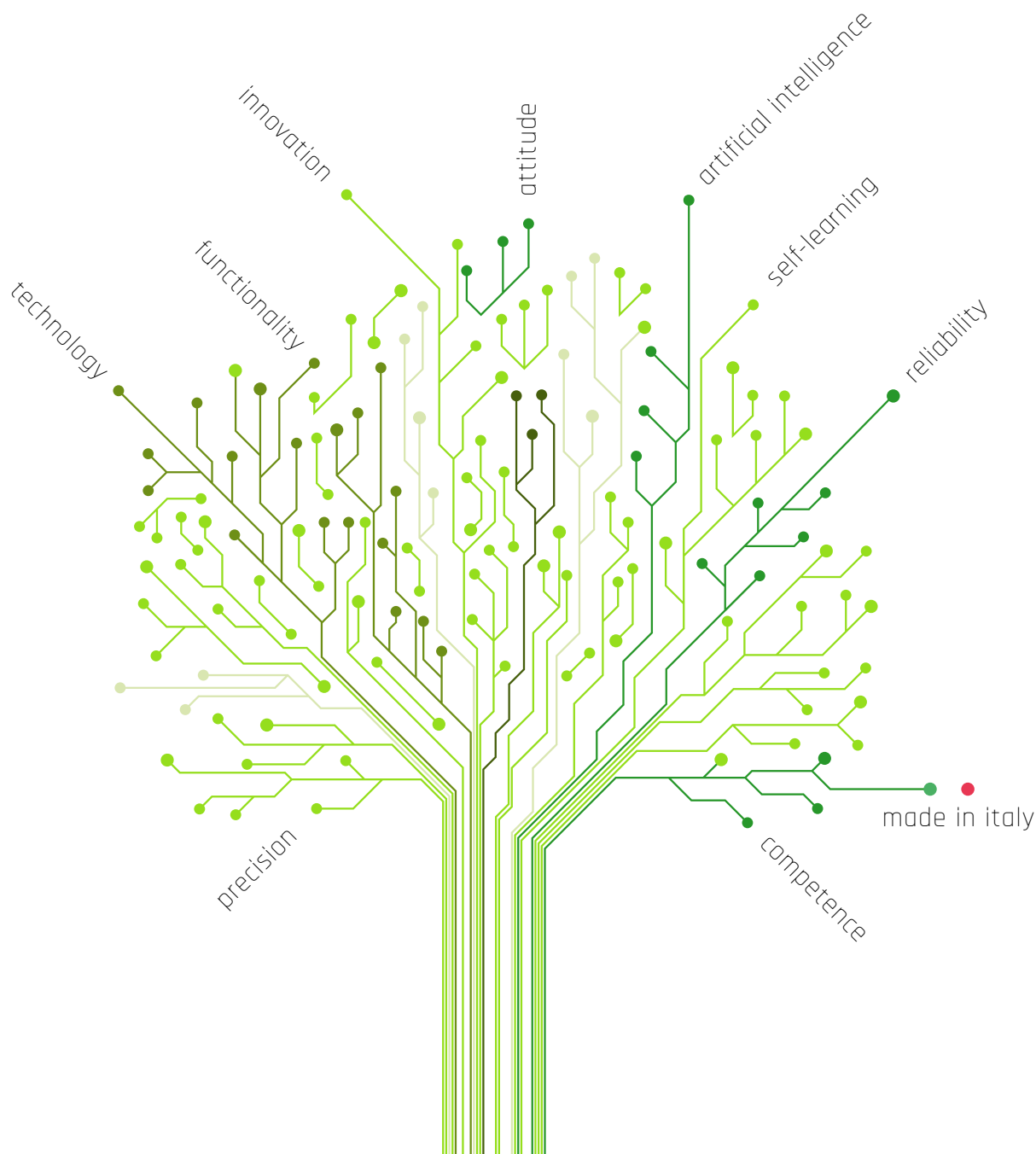

Customization of grip parameters

The software is capable of apply customized definitions of the gripping point and angle on products with a particular shape in order to adapt to the different robot grippers (DLL ad-hoc for both baricenter and angle).

NEVER STOP
LEARNING

innovation

attitude

artificial intelligence

self-learning

functionality

technology

reliability

precision

competence

made in italy

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