CAJO

CAJOVISION™ FOR IMPROVED PRODUCTION EFFICIENCY

INTELLIGENT LASER MARKING WITH MACHINE VISION

CajoVision™ is a product family in which Machine Vision and code reading solutions are integrated into Cajo Laser Systems. By combining **marking**, **reading** and **verification**, added value can be created for customers.

With CajoVision™, it is possible to find the location of the object and determine the exact position for the marking. This innovation helps manufacturers achieve more streamlined production processes.

After the marking process, the quality of the marking can be read and verified. CajoVision™ brings flexibility and adaptability to the customer's production processes while increasing quality, performance, and efficiency.

CajoVision™ offers manufacturers several benefits that enhance efficiency, accuracy, and quality control. Machine Vision Solutions use cameras, image processing algorithms, and specialized software to analyze and interpret visual information.

CajoVision™ combines high-quality Laser Marking and intelligent Machine Vision into the most user-friendly solution on the market.

Choose Cajo's intelligent solutions.
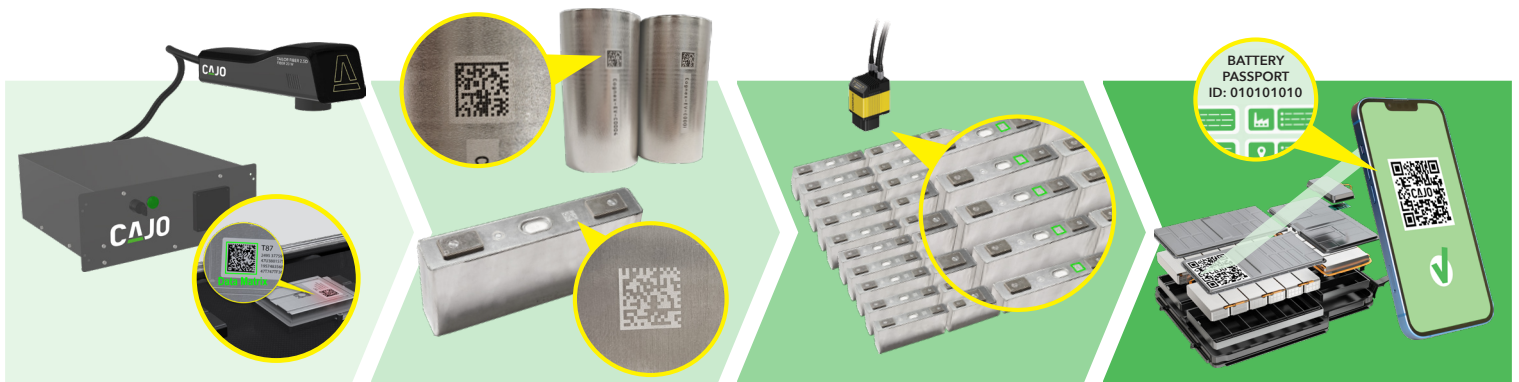
MARK   **READ**   **VERIFY**   **DATA COLLECTION AND ANALYSIS**

CONTACT INFORMATION

Rasivainiontie 8
FI-90440
Kempele, FINLAND
+358 10 583 5020
info@cajotechnologies.com

CAJOTECHNOLOGIES.COM

CAJOVISION™ FOR STREAMLINED PRODUCTION PROCESSES

BEFORE THE MARKING EVENT

1. MARKING CONTROL

- Automatic recognition of products for switching marking programs.
- Automatic tune of Laser Marking parameters when there is variation in material quality.

2. MARKING PLACEMENT

- Intelligent Machine Vision Solutions can determine the exact position, orientation, and shape of the workpiece, allowing the high-quality Laser Marking System to apply permanent markings with high precision.
- Automatic marking alignment can significantly simplify the mechanical handling of products.

3. VISUAL INSPECTION OF PRODUCTS

- Quality control of products to be marked for maximum yield and minimized scrap.
- Product marking is typically an integral part of the manufacturing process - a high volume of products will go through a marking cell machine for example, where basic visual inspection can be established.
- The defective products can be isolated, so no value is attributed to bad products.

AFTER THE MARKING EVENT

1. MARKING QUALITY INSPECTION

- Various information, such as alphanumeric data, text, logos, pictures, charts, etc. can be marked on products while the quality of the markings often needs to be verified if it is a crucial part of the visual outlook.
- Intelligent Machine Vision can learn from good samples and is able to compare completed markings to find quality issues.

2. TRACEABILITY

- Many types of 1D/2D codes are used for traceability and logistics applications in manufacturing.
- The marking quality has a direct influence on the robustness of reading, or decoding, of codes.
- Machine Vision can check code readability and grade or verify marking quality based on common standards (ISO/IEC 15415/15416/15426-1/15426-2, AIM-DMP, TR 29158).

3. OCR/OCV

- When the marking is a random alphanumeric string, Machine Vision can read it with OCR (Optical Character Recognition).
- Machine Vision can also verify the marking quality of a random alphanumeric string with OCV (Optical Character Verification).

TRADEMARK

CAJOTECHNOLOGIES.COM

v.1.0