



CAJO GREENLINE™ FOR THE FOOD AND BEVERAGE INDUSTRY

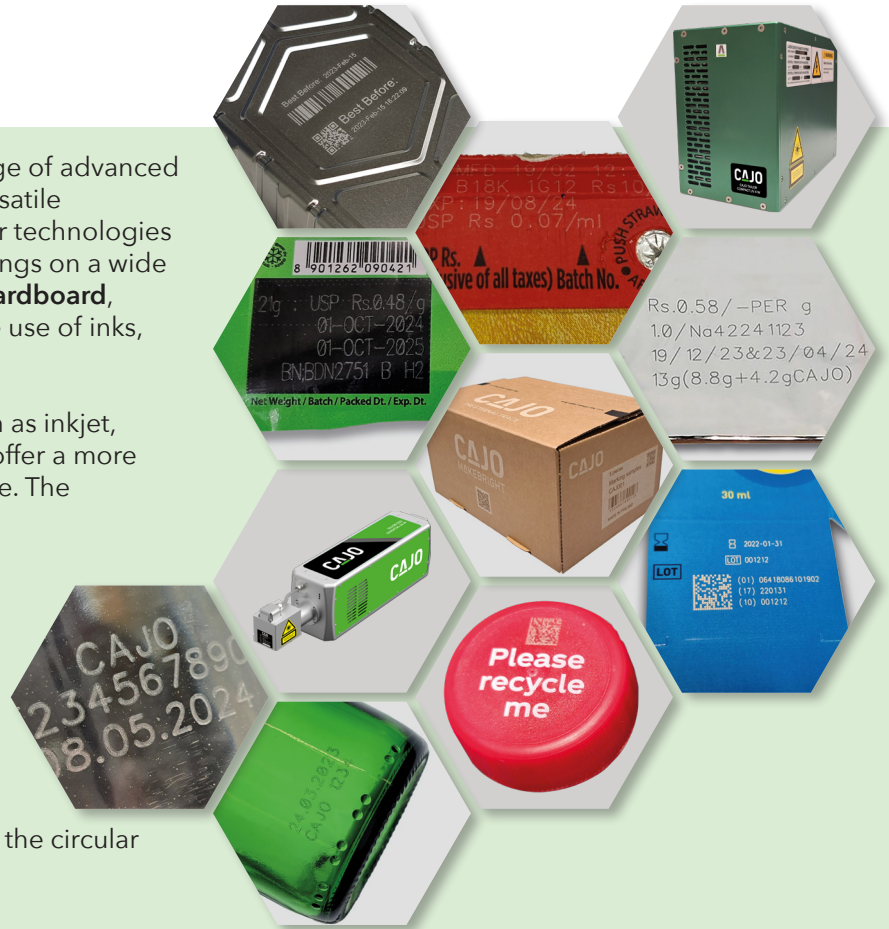
CAJO GREENLINE™

Cajo Greenline™ provides a comprehensive range of advanced laser marking solutions designed to meet the versatile demands of the Food and Beverage Industry. Our technologies enable direct, permanent, and high-quality markings on a wide range of packaging materials, including **paper, cardboard, glass, polymers, plastics, and metal** – without the use of inks, labels, or other consumables.

By replacing conventional marking methods such as inkjet, thermal transfer (TTO), and labeling, Cajo lasers offer a more sustainable, efficient, and cost-effective alternative. The contactless and hygienic process results in a safer and cleaner production environment, reduced maintenance needs, significantly lower operational costs, and improved recyclability of packaging materials.

Sustainability, operational reliability, and long-term savings are at the core of Cajo Greenline™ solutions, empowering customers with environmentally responsible technology that enhances both production performance and the circular economy.

Choose Cajo for sustainable product marking.



SUSTAINABLE TECHNOLOGY
WITHOUT ADDITIVES



LOW RUNNING COST,
SHORT PAYBACK TIME



SEAMLESS
INTEGRATION



HIGH-QUALITY, PRECISE AND
PERMANENT MARKING



LOW MAINTENANCE
REQUIREMENTS



IMPROVED
PRODUCTIVITY

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COMPACT UV - THE MODERN ALTERNATIVE TO TTO AND INKJET FOR FLEXIBLE PACKAGING

CAJO TAILOR COMPACT UV™

Cajo Tailor Compact UV™ delivers a cutting-edge laser marking solution tailored to the needs of modern food and beverage packaging. It is the ideal replacement for outdated and wasteful technologies such as thermal transfer (TTO), inkjet, and label-based systems – especially in applications involving **flexible, thin, and heat-sensitive packaging materials**.

Cajo Tailor Compact UV™, designed to especially replace TTO's, enables precise, high-contrast, and permanent markings with minimal heat impact. This ensures the material surface is marked without risk of penetration or damage. Making it highly suitable for delicate films and substrates commonly used in industry.

Optimized for high-speed packaging lines, the compact unit enhances hygiene, traceability, and sustainability. With no consumables, fewer moving parts, and no changeovers, it ensures low maintenance, better uptime, and reduced operational costs. Cajo's flexible units reduce waste and improve recyclability, making them ideal for next-generation packaging.



TYPICAL APPLICATIONS & MATERIALS:

- **Flexible plastic films** such as PET, OPP, BOPP, PE, rPet, and more
- **Snack pouches and confectionery packaging:** candy wrappers, flow packs, etc.
- **Vacuum-sealed packaging:** meat, cheese, cold cuts
- **Ready-meal trays**, portion packs, and other pre-packed goods
- **Portion-sized beverage sachets and stick packs**

KEY BENEFITS OVER TRADITIONAL TECHNOLOGIES:

- **Minimal heat impact** - no risk of penetrating or damaging the materials
- **High-contrast and precise marking**
- **Zero consumables** - no ribbons, inks, or solvents needed
- **Tamper-proof and smudge free** - markings are permanent and resistant to handling or condensation
- **Low maintenance** - fewer moving parts and no consumable changeovers
- **Improved productivity** - no interruptions due service interventions
- **Clean and sustainable** - reduces production waste and eliminates chemical residue

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CAJO TAILOR CO2 ESSENTIAL™- THE SMARTER CHOICE FOR SUSTAINABLE FOOD PACKAGING

CAJO TAILOR CO2 ESSENTIAL™

Cajo Tailor CO2 Essential™ offers a cost-efficient and reliable alternative to traditional marking methods. Designed to replace ink, ribbon, and label-based systems, it enables direct, high-quality markings with excellent contrast and precision. The contactless process ensures consistent performance on organic materials without smudging, wear, or contamination.

Cajo MakeBright™ enhances CO2 laser marking by enabling permanent, high-contrast markings directly on paper and cardboard—without inks, labels, or other consumables. This reduces waste and significantly lowers operational costs.

Optimized for high-speed packaging lines, the CO2 unit supports key production goals in hygiene, traceability, and sustainability. With zero consumables and minimal maintenance, it delivers long-term savings and improved efficiency.

Cajo's laser solutions help reduce packaging waste, simplify production, and improve recyclability—making them a smart choice for producers focused on performance, reliability, and environmental responsibility.



TYPICAL APPLICATIONS & MATERIALS:

- **Paper and cardboard packaging:** cartons, sleeves, tags
- **Coated paper labels and fiber-based packaging**
- **Glass bottles** with paper labels or direct marking
- **Packaging** for dry food, bakery, and beverages
- **Packaging** for tobacco, tea boxes, and food sleeves
- **Cellulose and bio-based containers**
- **Direct marking to Pet and rPet bottles and containers**

KEY BENEFITS OVER TRADITIONAL TECHNOLOGIES:

- **Direct marking on organic and fiber-based materials** - no labels required
- **Zero consumables** - no inks, ribbons, or solvents
- **High-contrast and precise markings**
- **Low maintenance** - fewer moving parts and no consumables to replace
- **Improved productivity** - less service interventions
- **Clean and sustainable** - reduces production waste and eliminates chemical residue

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CAJO TAILOR FIBER™- DURABLE AND SUSTAINABLE PRODUCT MARKINGS

CAJO TAILOR FIBER™

Cajo Tailor Fiber™ delivers high-performance laser marking for demanding food and beverage applications where durability, hygiene, and traceability are critical. Leveraging Cajo's advanced process control, the system ensures exceptionally precise and consistent markings on hard materials such as metals and wide range of polymers and plastics – even in environments exposed to moisture, abrasion, or mechanical stress.

Typical applications include metal bottle caps, can lids, HDPE and PP closures, etc. Unlike inkjet or label-based methods, fiber laser marking creates permanent, wear-resistant content that do not fade, peel, or require drying time. With no consumables and full compatibility with data matrix, QR, and alphanumeric codes, the system offers a clean, cost-efficient, and regulation-compliant alternative.

Designed for both functional traceability and visual branding, Cajo's fiber laser solution ensures long-lasting performance – while supporting the industry's transition toward more sustainable and maintenance-free production.



TYPICAL APPLICATIONS & MATERIALS:

- **Metal bottle caps** (e.g., aluminum, stainless steel)
- **Beverage can lids**
- **Plastic closures** (HDPE, PP)
- **Plastic and polymer containers** (e.g., PET bottles, food tubs)
- **Plastic and aluminum trays**
- **Plastic lids and covers**
- **Marking on coated labels** by removing the surface layer
- **Marking on pre-printed** (e.g., flexo-printed) packaging by removing the printed surface
- **Secondary packaging materials** (e.g., film, shrink wrap, cardboard)

KEY BENEFITS OVER TRADITIONAL TECHNOLOGIES:

- **Extremely durable** - resistant to wear, washing, and abrasion
- **No peeling or fading** - unlike adhesive labels
- **No drying time or curing** - instant results
- **No consumables** - zero ink, ribbons, or chemicals
- **Traceability compliant** - supports data matrix, QR, and alphanumeric code

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SMART INVESTMENTS IN PRODUCTION: EVALUATING ROI WITH LASER TECHNOLOGY

When evaluating the return on investment (ROI) for new production technologies such as laser marking systems, it's essential to consider both direct and indirect cost factors to ensure a realistic and comprehensive calculation.

Direct costs typically include the initial investment in hardware and software, installation expenses, and potential maintenance or service agreements. In the case of consumable-free laser systems, significant savings may already arise from eliminating ink, ribbons, and labeling materials.

Indirect costs, however, often have an even greater long-term impact on ROI. These include factors such as production downtime, changeover times, operator training, maintenance frequency, system reliability, and the overall flexibility of the solution to adapt to various marking tasks. Energy efficiency, integration into existing production control systems, and sustainability improvements may also influence ROI through reduced utility costs or enhanced brand value.

In addition, hidden costs associated with traditional marking methods—such as waste disposal, consumable supply chain management, or

labeling errors—should not be overlooked. Automation readiness, traceability capabilities, and data integration potential are becoming increasingly important, especially in regulated or fast-paced industries.

To gain a more accurate understanding of how a laser marking solution could improve your ROI, Cajo offers tailored consultation services to help identify key cost drivers and potential savings within your production environment.



SEAMLESS INTEGRATION

Cajo's laser marking solutions are designed for seamless integration into diverse production environments. Thanks to **Cajo's proprietary control board** and **in-house developed software**, integration is both efficient and flexible.

All systems come with thoroughly documented interface descriptions, enabling smooth communication with existing automation and MES systems. In addition to the control and software capabilities, Cajo also provides complete integration packages – including mechanical installation and laser safety enclosures – ensuring a turnkey solution tailored to the customer's production line needs.

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CHOOSING THE RIGHT LASER SOLUTION FOR YOUR PACKAGING APPLICATIONS

PACKAGING LEVEL	APPLICATIONS	RECOMMENDED LASER TYPE
Primary Packaging	<ul style="list-style-type: none"> Date codes Batch/lot codes Production date/time QR, DMC, Barcodes Ingredients & allergen info Nutrition labels Regulatory symbols (e.g., recycling) 	UV, CO2, Fiber
Secondary Packaging	<ul style="list-style-type: none"> Carton box identification Product description QR, DMC, Barcodes Lot and batch codes Date Codes 	CO2, Fiber
Tertiary Packaging	<ul style="list-style-type: none"> Internal traceability (QR, DMC, Barcodes) Content information Branding Handling symbols 	CO2, Fiber (with pre-printed packages)
Flexible Packaging	<ul style="list-style-type: none"> Date codes Batch codes Product codes Branding/logos 	UV, Fiber
Glass Bottles / Cans	<ul style="list-style-type: none"> Date codes Batch codes Traceability codes 	CO2
Metal Cans	<ul style="list-style-type: none"> Date codes Batch codes Traceability codes 	Fiber
Shrink Wrap / Film	<ul style="list-style-type: none"> Product identification Promotional messages Barcodes 	UV
Labels (applied to any pack)	<ul style="list-style-type: none"> Nutritional info Regulatory info Branding and marketing graphics <ul style="list-style-type: none"> Date codes Batch codes 	UV, Fiber

- **Primary Packaging:** Touches the product directly, e.g., bottles, cans, wrappers
- **Secondary Packaging:** Groups primary packs, e.g., cartons, boxes
- **Tertiary Packaging:** For logistics and shipping, e.g., pallets, stretch wrap

TRADEMARK

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