Partnering with customers to automate their packaging lines, Cama offers comprehensive innovative machinery and service solutions, adding tangible value to their business operations. The enhanced IG machine series is part of the new generation of multi-Delta vision guided robotic loading units, capable of loading flexible or rigid products into RSC cases, boxes, trays and other containers. One of the latest and most comprehensive Cama non-food application utilizes a complete robotic line to pack flowpacks in multi-varieties and multi-layers with different collations. This solution belongs to the new BT Generation Systems, combining maximum flexibility with the highest equipment performance. The complete robotic line comprises two robotic units in-line. The robotic system collects in primary packages arriving in two lanes, one lane for each variety, mixing the different varieties in several different layer configurations according to customer requirements. The TriaflexTM Delta Robots place the packages onto a conveyor that feeds the secondary 3-axis robotic loading unit. Products can be oriented and packed both in FLAT or ON EDGE configurations. The product infeed rate is 120 products per minute per lane (total infeed rate is 240 products per minute). Simultaneously, a Cama tray phasing unit positions empty trays under the 3-axis robot, which in constant motion loads the layers of collated products arriving on the conveyor from the first loading unit into the trays. Loaded trays travel on the conveyor to the discharge station.

Complete Robotic Line with Vision Guide
Efficient cartoning of cleaning dusters

With over 35 years of experience in cartoning applications, Cama offers CL Horizontal Cartoning Machines with “state of the art” technology. The combination of high performance and excellent reliability makes these machines extremely suitable to integrate into complete production lines for food and non-food applications. Cama recently supplied a number of intermittent motion cartoners to a multinational manufacturer of family, personal and home care products. The Cama CL machine accepts a single row of cleaning dusters from the customer’s converter and arranges the dusters by means of a product stacker, to create different stack counts. The line can also receive plastic handles, arriving from a bowl feeder, and pack the handles into cartons. Once the dusters and the handles are loaded into the Cama article buckets, the CL machine opens the pre-glued cartons, using a rotary feeder and erector, and positions the open cartons into the machine lug chains. Once the open cartons advance into the loading area, a customized pusher system transfers the products into the cartons. The carton is then closed with hot melt adhesive, laser coded, and transferred to the outfeed conveyor. The Cama CL cartoner is capable of handling up to 240 dusters per minute and up to 50 cartons per minute, depending on the format. The machine features a fully automatic change-over system to drastically reduce the change-over time and to minimize human error.

Maximum flexibility in doy-pack packing in flat & on edge configurations

Cama has significant expertise in providing packing solutions for doy-pack bags. The capability of Cama packaging lines continues to advance in order to reduce the cost of selling the single product to the market. Maximum uptime is achieved through quick and toolless change-over from one size to the other, directly performed by line operators. Cama recently completed the successful commissioning of a customized automatic packaging line able to collate doy-packs of dishwasher tablets arriving in a single lane from customer’s upstream bagging machine. The doy-packs are loaded into RSC cases, erected from knocked-down blanks and closed by hot-melt adhesive. This efficient packaging solution is highly flexible, able to load doy-packs in two configurations: FLAT with interleaved pack patterns into standard cases for optimized logistics; or ON EDGE (single or double row), into cases with shelf-ready features for display on supermarket shelves. Products are rotated 90° (from short to long side leading) before being loaded into the cases by a robotic system. With the ON EDGE configuration, cases are tilted up to allow doy-pack loading into RSC case from the top by means of a gripping and articulating end effector utilized to maximize the number of bags per case. The line consists of an IT series robotic loading unit equipped with the latest generation integral 2 axis robot for heavy-duty applications. The system is capable to pack bags from 300 to 600 grams, at speeds up to 60 bags/minute. A high degree of production flexibility is provided, granting the possibility of future configurations of different products and sizes.
Multi-pitch solution for cartoning in personal care sector

Directly connected to the upstream discharge of the converting machine, the Cama CL Cartoning Machine is designed and manufactured to handle various sizes of cartons. Designed as a multi-pitch machine, this intermittent-continuous motion cartoner provides constant, smooth handling of products, loading a variable quantity of cartons depending on carton size. This technical solution provides innovative performance, reaching speeds up to 160 cpm for the smallest count. High speed carton opening is ensured utilizing a rotary carton feeder, supported by counter-suction cups for reliable pre-opening. Accurate feeding of products into the cartons is guaranteed by an intermittent motion pusher, loading multiple cartons in order to operate at a reduced rate for smoother transition of products into the cartons. The “no-product-no-carton” standard feature provided in all Cama cartoner models, is included to reduce carton waste. The CL also shares most of the commercial components with other Cama machines, including “off-the-shelf” pneumatic, electronic and control devices, with components standardized to reduce the need of stocking spares.

Deodorant roll-ons in trays: innovative solutions for personal care

One of the most recent and interesting applications in the deodorants sector is a Cama monoblock loading unit, comprising of a single head electronic forming machine with an ergonomic horizontal blank magazine and two multi-axis robots. The first robot picks and places the plastic trays into the formed boxes, while the second robot loads the products (stable or unstable roll-ons delivered in transport pucks) into trays placed within the boxes. The finished pack is closed and sealed with a highly efficient integrated closing machine, the final module within the monoblock machine. The advantages of this innovative application can be summarized as follows:

- "Compact" solution with reduced footprint;
- High flexibility with automation of various product and packaging sizes.

Although more traditional styles of wrap-around packaging are available, Cama provides a unique monoblock top loading system, capable of high production speeds (up to 50 boxes/minute), simultaneously guaranteeing improved quality of the final packaging and a positive ratio between costs and benefits.
The Cama’s IF series, which is part of the new BT equipment range of machinery, is a unique combination of integrated packaging machines and robotic loading units. IF monoblock offers integrated box forming, loading and closing that can be combined to create turn-key carton packing systems. A great fit for cosmetics and personal care product packers, the Cama equipment delivers highly accurate carton handling, appealing ergonomics and improved accessibility. This compact and high-speed solution was recently engineered for a leading multinational customer to pack aerosol cans into 3-flap boxes at a nominal speed up to 200 cans per minute and a maximum technical operating speed of 240 cans per minute. The line represents a creative example within the Cama solutions portfolio, providing a stand-alone box forming machine integrated with an innovative loading cell to robotically load and robotically close 3-flap lid boxes, making Cama an outstanding partner for turn-key applications. Key factors that differentiate this line from traditional can-packing lines are its high flexibility, combined with rapid changeover – automated wherever possible – and the inclusion of automatic size part recognition for the most critical devices. Together with the technological advantages that are project-related, the Customer receives all the benefits within the BT Generation machines design, including low level and high capacity magazines on the forming machine, lean and accessible frame design, soft touch buttons and “off-the-shelf” electrical components. These are only a few of the benefits embedded in all Cama machines. Thanks to its vast experience, Cama has recently supplied IF compact monoblock loading systems also to pack bottles, with production speed of up to 250 bottles of shampoo per minute packed in a broad range of product configurations. Another example is a complete line engineered for a leading multinational customer to pack up to 200 jars per minute containing hair style gel. These monoblock systems are proven to be extremely flexible, thanks to the reduced footprint and robotic operations.