Innovative solutions for circular packaging

SMI Group is today one of the world's largest manufacturers of bottling plants and packaging machines for food and beverages, household cleaning and personal care products, and chemicals and pharmaceuticals. To find out more about this reality, we put a few questions to **Fabio Sisimbro**, Sales Director of the group.

When did the company start?

Smigroup's origins date back to the mid-'70s, when Luigi Nava, father of the current owners, sets up a machine shop in San Pellegrino Terme (Bergamo). The craftsman's small enterprise activity is initially represented by mechanical machining for third parties. Later, such activity is expanded to maintenance and repair of machinery and equipment employed in the bottling and packaging lines of the beverage industry.

What does the acronym SMI stand for?

In 1987, with the launch of the first shrink wrapper, the company SMI, acronym for Sistemi Macchine Impianti (Systems Machines Plants) is established. Since the year of its foundation, SMI activity has been aimed to provide its customers with flexible, efficient, environmentally sustainable, easy-to-use and -monitor machines in order to improve the production cycle and make it more competitive; basically, automatic machines equipped with cutting-edge technologies that are rooted in key concepts behind Industry 4.0.

How has it evolved?

The whole activity of SMI revolves around the concepts of environment and sustainability, tradition and innovation, attention to the market requirements and search for cutting-edge technical solutions: all elements that contribute to enhancing continuous change.

But what makes SMI activity special is the passion inherited from family traditions and the capability to continuously innovate, give space to young people and anticipate market trends to

supply cutting-edge, reliable and sustainable packaging solutions. The SMI Group is today one of the world's main manufacturers of bottling plants and packaging machines for beverage, water, beer, food.

The major corporations of the food & beverage sector are among the most important customers of the SMI Group: Coca-Cola, PepsiCo, Nestlé, Danone, Heineken, SABMiller, AB-InBev, Unilever.

Over 7,000 machines produced by SMI are installed in 130 countries around the world, where the company is present with its network of branches, providing efficient support and technical assistance.

SMI. is the first and main company of the SMI Group, composed of the parent company SMIGroup the subsidiary companies SMI, SMIPack, SMIMec, SMITec, Enoberg, SMIEnergia, SMILab, Sarco.Re.

Thanks to a workforce of 730 employees (126 of whom are outside Italy) and to 105,755 m² industrial facilities for offices and assembly units, in 2022 the SMI Group achieved a sales turnover of € 153 million.

Which is your mission?

Being innovative, reliable and sustainable in circular economy.

SMI is a customer-oriented company engaged in the design and manufacturing of high-tech bottling and packaging systems up to 50,000 bottles / hour, with the best quality/price ratio on the market.

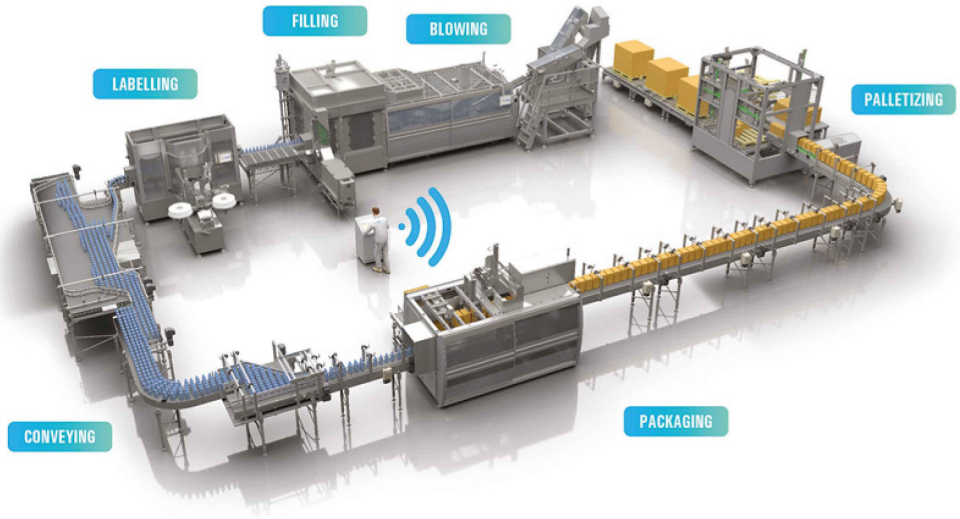
Our main values are **customers' satisfaction**. We provide our customers all over the world with innovative solutions that fully satisfy their requests in terms of efficiency, reliability, flexibility and energy saving. **Staff's undertaking**: The success of our business is based on the enthusiasm, engagement, ability, skillfulness, creativity, and spirit of initiative of each individual. **Challenge of changes**: We exploit all opportunities generated by changes, and we consider innovation a key factor for continuous improvement.

What's sustainability for you?

SMI has chosen to protect the environment. The commitment of the companies of the SMI Group to projects involving energy saving and environmental protection has been significant. Innovation, reliability and sustainability represent the three key elements of the business strategy of SMI. All new development projects and plants realized revolve around such concepts, as demonstrated by the EBS ERGON stretch-blow moulders, compact, efficient, and environmentally sustainable systems for the production of PET and rPET (recycled PET) containers.

Behind the development of every new solution lies the idea of circular economy, an econom-

ic system designed to regenerate on its own. The use of rPET for the production of new bottles is the core of the concept of circular economy, that consists in collecting materials after they have been used and processing them so that they can be reused or recycled more times, eliminating waste and reducing the environmental impact of the packs, provided that efficient recycling and waste management systems are employed.



Another strategy that contributes to protecting the environment is based on the study of increasingly lighter containers that enable considerable plastic saving and fully comply with the environmental policies of the main beverage manufacturers.

In the end, the same type of commitment is adopted within the field of materials for the secondary packaging: on the one hand, SMI has developed innovative solutions for the cooling of the heating tunnel chain and heating tunnels equipped with panels with a dedicated ventilation, in order to process ultra-thin LDPE shrink film (even less than 40 micron), maintaining the output unchanged in terms of mechanical features; on the other hand, SMI has launched on the market a packer to pack products in stretch film, that does not require the presence of a heating tunnel. Both the reduction of the film weight and the absence of the heating tunnel are measures that go in the direction of reducing the environmental impact and operational costs for the customers.

What's SMILab?

SMILab was established in 2008 as a spin-off of the R&D Department of the SMI Group in

San Giovanni Bianco (BG). SMILab is a nonprofit research, training, and consulting center, that, in partnership with universities and businesses, carries out activities of scientific and technological research, testing, development, technological transfer and staff training.

Which are the main features of the latest blow-moulding machines?

The blow moulders of the latest generation from the EBS K/KL ERGON range represent electronic rotary machines; each stretch-blow moulding station is fully driven by servomotors, that do not require the presence of mechanical cams, with subsequent advantages in terms of maintenance costs. Another key feature of the new series is the ultra-compactness of the machines, designed in such a way that the heating tunnel module (for the preform heating) and the carousel module (for the stretch-blow moulding) lie on the same platform: this results in a reduction of transport (everything can be placed in a container) and installation costs (geometrical inspection is no longer required, as the modules are already aligned within the same platform). In the end, it is impossible not to mention some technological innovations that considerably contribute to reducing energy costs and the environmental impact, such as the Air Master double-stage air recovery system (that reduces by 40% the high-pressure air consumption and directly feeds the low-pressure circuit) or the heating tunnel ceramic panels that allow a better heating concentration, reducing the IR light emission and electrical consumption. Another example is represented by the new design of the blowing valves, that, through the reduction of 50% of the dead volume, allows to optimize the stretch-blow moulding process in terms of performance and consumption.

For what concerns cardboard, SMI launched some months ago a new automatic packer for the application of a kraft cardboard pad into the upper part of cans. Among the distinctive features of this new type of packaging, for the moment suitable for cans:

What has been the evolution of multipack packaging?

Today, environmental sustainability within the packaging industry results in two streams, not always antagonistic, but more and more often complementary: on one side, the willingness to continue to use plastics, but in a different way (recycling and lightening); on the other, the willingness to replace plastics with the use of cardboard, but in an aesthetically captivating way, such as kraft cardboard. reduced amount of cardboard, no plastic, and no glue.

And which one for the future?

The times in which we are living are subject to a fast and continuous change in dynamics and market requests, that are difficult to predict even on a yearly basis. In this scenario, the pioneering nature of SMI in finding new solutions represents a key benefit. Therefore, I am sure that SMI will always be able to well interpret the new market requests.

Simonetta Musso