

Industrial machinery

Gruppo Bertolaso

Global bottling machine manufacturer uses Solid Edge to create modular designs

Product

Solid Edge

Business challenges

Build bottling plants via a tailor-made approach

Reduce development time and costs by modularizing the product portfolio

Share project information inside and outside the company

Keys to success

Use of Solid Edge for a fully unified vision of large assemblies

Availability of external resources trained on Solid Edge

Support from partner Tech-Value

Results

Reorganized product families

Adopted modular design approach

Increased the re-use of existing parts and components

3D technology supports Gruppo Bertolaso in the development of bottling equipment

Gruppo Bertolaso S.p.A. (Gruppo Bertolaso) was founded in 1880 in Zimella near Verona, Italy, by Bortolo Bertolaso. The engineer was a great sponsor of developments and inventions in the fields of agriculture and viticulture. Due to a strong propensity for engineering, the company increasingly focused on the development of bottle capping machines. Today, the family-owned company is the market leader in the design and manufacture of bottling machines for wines, spirits and soft drinks, and supplies companies all over the world, from small family-owned wineries to large global brands.

"We can state that 130 years of history are not a final destination, but a starting point," says Roberto Tagliaferri, general manager of the group. "We design and manufacture any machine for the bottling cycle: specific plants for single applications, such as rinsing, filling, capping and capsuling machines, but most of all turnkey systems, integrated and automated, that execute all the stages listed before, plus washing, sanitization and sterilization."

Models evolve while the guiding principle remains the same: create high-tech machines that deliver highly accurate results, high production yield, easy control and reliability over time. "For more than a century, our advanced tools have been appreciated especially for the bottling of wine and spirits, but we are increasingly



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General Manager
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involved in the industry of beer, juices, soft drinks and ready-to-drink products," Tagliaferri continues. "We are characterized by our ability to adapt to all types of inquiries, and we are ready to listen to everyone and take up challenges that open up new opportunities for our customers and ourselves."

Modular customization

"Design capacity and product expertise distinguish us from our competitors and have enabled us to develop an international organization," Tagliaferri explains. "We do not make standard machines only, but custom-made plants, highly innovative solutions, created ad-hoc according to the needs of our customers."

It's a challenge that Gruppo Bertolaso faces each day, leveraging the talent and professionalism of its research and development (R&D) and engineering team. "We know that each producer is different: each bottle, cap, wine or beverage needs a

creative effort to develop technology that improves the speed, safety and efficiency of the bottling process," Tagliaferri adds. "For the same reason, our plants are modular so we can implement new functions, driven by the emerging needs of the industry."

Gruppo Bertolaso's market approach has always revolved around the capacity to build machines to customer specifications. In recent years, this approach has resulted in modularization, with R&D activity oriented to the definition of standard modules that can be repurposed in different plant versions and configurations. "Designing and building machines to order is more and more expensive, and customers are less and less willing to accept a premium price," says Cristina Bertolaso, the group's marketing manager. "To win this challenge, we bet on modularity, applying the 'Lego brick' concept to our plants."

"With Solid Edge, we input a few parameters and generate the drawing of equipment for any specific bottle."

Gian Luca Sorze
Product Marketing Manager
Gruppo Bertolaso



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Giovanni Mazzon
Technical and Industrial
Manager
Gruppo Bertolaso

Modularity enables a customer to change the type of cap or bottle by simply adding one machine or module, without redesigning a plant from scratch. With this approach, production lines are very flexible and can be easily adapted over time.

Gruppo Bertolaso currently provides customers with turnkey solutions that span the entire bottle workflow, from depalletizing, through rinsing, filling and closing, up to cartoning, including all internal logistics with conveyors, buffers and logic managed by software developed in-house. Increasing attention is dedicated to product quality control systems.

For this, Gruppo Bertolaso has developed a machine that checks the liquid in sealed bottles. “We must ensure that no foreign bodies, such as paper residues, flies, glass fragments or any particles are inside the bottle,” Tagliaferri says. “Final product quality is key to the success of our customers, especially for producers in emerging countries who need to realize and offer high-quality products to win market share. That is why we receive requests not only from large customers, but also from local producers in smaller markets where imported products have become a significant factor.”

Since the beginning of the 1990s, the company has been operating in China and Russia, as well as in other countries in the Far East such as Vietnam. In recent years, the largest markets have been Europe, particularly Spain and France, and the United States. But famous Italian vineyards also use Gruppo Bertolaso machines.

Siemens technology supports the complete product development cycle

Gruppo Bertolaso’s most recent orders come from China. In Yantai, a prefecture-level city in northeastern Shandong province, one of the world’s biggest wine regions is being created. For this project, Gruppo Bertolaso has received an order for bottling lines with 100,000 bottles per hour capacity and advanced automation.

Control and automation of Gruppo Bertolaso plants are standardized on Siemens technology, with a solid partnership whereby the engineers of the Italian company implement the solutions of the German corporation all over the world, offering the warranty and reliability of the Siemens brand to all customers.

The same choice was made for design, an area where Gruppo Bertolaso has been a pioneer of 3D CAD in Italy. To make the transition from 2D to 3D, the company immediately focused on Solid Edge® software from Siemens Digital Industries Software. Solid Edge handles the entire product development cycle, from 3D design to simulation, from production to design management, with an increasing number of applications.

Gruppo Bertolaso was also one of the first key Solid Edge accounts in Italy due to the number of licenses used at the company. This important decision has been reaffirmed over the years and the initial choice has been proven in practice. Today, the company has more than 40 Solid Edge licenses with a large number of users.

Gian Luca Sorze, product marketing manager at Gruppo Bertolaso, remembers the software selection process in 1999. "After an initial evaluation, the pool of candidates was restricted to three solutions. We organized demo days with each vendor and created a team of designers to make a pilot with the respective solutions."

The company finally selected Solid Edge because it fully complied with the solution specified by Gruppo Bertolaso: a parametric CAD software, very flexible, requiring minimum customization, easy to configure and automate. "The equipment of our machines clearly illustrates what we needed," Sorze explains. "On the same machine, we might need to handle 50 different bottles, each requiring a specific piece of equipment. With Solid Edge, we input a few parameters and generate the drawing of equipment for any specific bottle."



Widespread solution

Tech-Value is a local solution partner of Siemens Digital Industries Software and has effectively supported the employees of Gruppo Bertolaso. With more than 1,900 Solid Edge installations for more than 650 customers in central and northern Italy, the company benefits from the broad application of the software in the Italian market. "With the company's growth and increase in the number and variety of solutions, we can easily find external partners to improve the capabilities of Solid Edge designers," says Giovanni Mazzon, technical and industrial manager, Gruppo Bertolaso. "We also have access to many resources with good knowledge of Siemens Digital Industries CAD software."

"Solid Edge 3D technology has helped us in all product development stages."

Gian Luca Sorze
Product Marketing Manager
Gruppo Bertolaso

Solutions/Services

Solid Edge
solidedge.siemens.com

Customer's primary business

Gruppo Bertolaso designs, manufactures and installs automated bottling plants for still and sparkling wine, spirits, beer, fruit juices, water and beverages.
www.bertolaso.com

Customer location

Zimella, Verona
Italy

Solution Provider Partner

Tech-Value
www.tech-value.com

The benefits in-house are also significant, with Solid Edge helping create a rich project library in a relatively short time-frame. "We also took the opportunity of the transition to 3D to reorganize our product families, enriching item codes with search attributes," Mazzon explains. "A major issue with 2D software was that it took less time to draw a component from scratch than finding a design in the archive."

Now, Solid Edge 3D model information is shared both with external suppliers and with internal NC programmers, for example, for sheet metal flattening. Generating 2D drawings for the workshop is also very easy using the semi-automated procedures of Solid Edge.

"Solid Edge 3D technology has helped us in all product development stages," Mazzon says. "From feeding circuits to the modeling of taps and valves. Recently we delivered one of the biggest wine bottling machines ever built: having a 3D view of the entire plant, fully integrated, was a key factor in the success of this project. Without Solid Edge, it would be difficult to maintain a unified vision of machines that can incorporate up to 170 valves."

Even in the non-engineering area of marketing, the introduction of Solid Edge provides valuable support in the preparation of product presentations and documentation of machines and systems.

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Technical and Industrial Manager
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