

SHAPING SUCCESS

SIPA know-how at your service



Feel free to imagine. We make it happen.

SIPA



FOLLOW THE LEADERS

WHAT MAKES SIPA A WORLD LEADER IN MOLD-MAKING AND PET PACKAGING?

With over 25 years of technical expertise in molds and machinery, we offer you a wealth of PET design, engineering and production knowledge all in one place. SIPA takes a truly holistic packaging development approach based on experience with the entire supply chain.

Plus, SIPA is the only company offering innovation and engineering capabilities in **both injection and blowing** processes. You can consult SIPA experts for advice and solutions at any stage of the PET production process to **keep costs down and productivity high**.

ASK US ANYTHING ABOUT:

Prototyping

- Structural calculations and simulations
- Packaging development activity leading to bottle sampling
- Lab testing facilities for container prototyping, performance assessment and qualification

Injection

- Preform design: injection molds for preforms
- Lightweighting (base, body and neck)
- Preform FAST prototyping

Blowing

- Bottle design: attractive shapes, new marketing concepts
- Blow molds for bottles
- Packaging engineering to achieve the best performance
- Lightweighting studies

Manufacturing

- Injection and blow-mold engineering
- In-house mold manufacturing
- How downstream equipment may affect your newpackaging solutions





NEVER FAR AWAY

NO MATTER WHERE YOU OPERATE, SIPA IS THERE FOR YOU.

SIPA offers capillary set-up and commissioning for installation of SIPA and competing machine molds. Our field engineers will be right by your side to provide complete process solutions for SIPA and non-SIPA machines.

2nd largest PET mold manufacturer
in the world

Tooling facilities on
2 continents

2 manufacturing plants (Italy and China)



Refurbishment
centers in
4 continents

18
branch
offices

23
customer support centers
worldwide

"Good design is partially creativity and innovation, but primarily knowledge and awareness."

Chuck Green, designer, ideabook.com



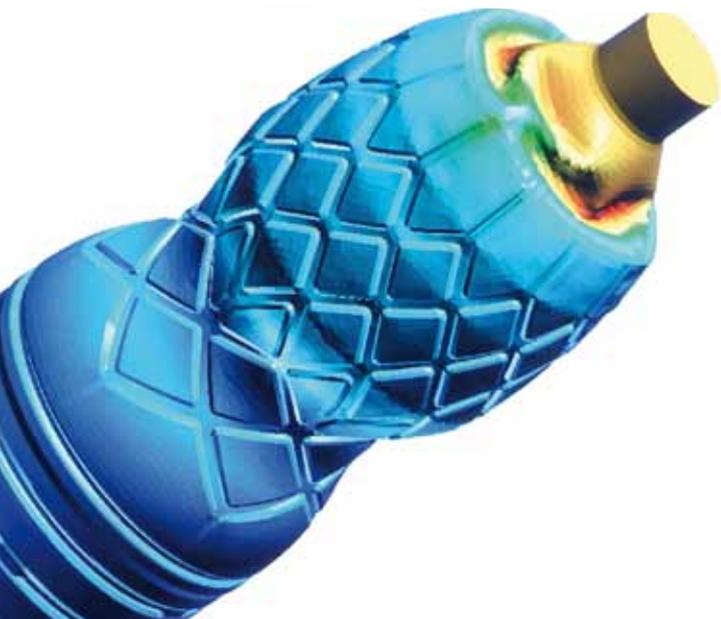
CREATING A BETTER BOTTLE

WILL THEY BUY IT?

The packaging a consumer sees on the shelf (or screen) greatly influences their purchase decisions. Ideally, a bottle design **marries perfect function with seamless brand expression**. To reach that ideal, final containers and preforms must complement each other perfectly. That's where our molding expertise comes in. Our technical, creative and marketing professionals collaborate with you on all kinds of packaging projects, including:

- New designs
- New formats
- Lightweighting
- Energy savings
- Special and niche application packages

SIPA's "better bottle" development ensures you can **achieve your goals for market appeal and functionality while reducing risks and costs**.



FROM POTENTIAL TO PRODUCTION

Our Packaging Development professionals assist you in all the stages of your project. We start with market analysis to understand:

- The competitive landscape the packaging will enter
- The production environment
- The lifecycle of the packaging
- The objectives for the packaging and product

Design ideas undergo rigorous testing and development via process engineering and our uniquely advanced prototyping before molds are manufactured to produce the final container.

"BETTER BOTTLE" DESIGN

SIPA designers balance creative inspiration with technical, safety, and cost considerations. They know exactly what properties PET containers must have to succeed in production and how to stretch the limits.

- Compliance with the dimensional and/or aesthetic specifications
- Good blowability
- Top performance at top load
- Minimum deformation under pressure
- Maximum stability (especially for carbonated and hot fill applications)



OUR ENGINEERED DESIGN APPROACH

Before producing a prototype from our designs, we do a deep technical assessment of the existing production environment and simulate preform and bottle performance.

SIPA R&D department is able to quickly conduct advanced performance simulations to optimize your packaging. Using Finite Elements Analysis, we're able to check package technical feasibility and identify potential improvements for cost-effectiveness at the prototype stage.

This approach allows you to launch a new package shape or cut raw material and operating costs (total cost of ownership) without taking useless risks.

SUPERIOR PROTOTYPING

Next: production of preform and bottle prototypes. Our 16 prototype platforms enable SIPA to rapidly produce samples to be quality checked at our Certification Laboratory. We don't just send you samples; our unusually rigorous process gives you confidence in the final result.

“Our prototyping centers produce new preforms and containers, optimize existing preforms and containers (i.e. lightweighting), and develop and test containers using different resins and materials.”

LIGHTWEIGHTING OPPORTUNITIES, TOP TO BOTTOM

Imagine weight reductions without the usual effects on bottle quality. Imagine expanded possibilities for design, flexibility, speed, and efficiency. Imagine less raw material, less waste, reduced transportation cost, and a reduced carbon footprint.

Our solutions make it happen.

We have engineered special neck lightweighting programs and innovative technologies that make the injection of thin wall preforms possible. Our XMOULD solution requires only new injection stack components and minimal changes on legacy tooling.

Where we lead, others follow.

Thanks to our breakthrough XTREME system, we've also totally redefined the boundaries of PET packaging manufacturing. Bottles will never be the same!







BLOWING MOLDS: WHERE PREFORMS BECOME CONTAINERS

SIPA Molds supplies blow molds for the beverage, food, and consumer goods industry to fit most of the major brands of re-heat stretch blow molder machines. Our blowing specialists can advise you on how to achieve the best possible bottle quality even before the start of the production. In our laboratories, extensive tests and inspections are performed on both molds and sample bottles through high-quality measuring and testing equipment.

SIPA Molds produces aluminum and stainless steel molds for any application and any shape of container (round, oval, square, complex-shaped) with a wide variety of engravings and decorations.

OUR PORTFOLIO INCLUDES

- Molds for linear blow molders
- Mono-block molds for rotary blow molders
- Quick-change molds (shell molds) for rotary blow molders
- Quick-change conversion system with mother mold and quick-change shell molds
- Interchangeability kits to make quick-change molds compatible with different types of blow molders

PREFORM MOLD QUANTITY + QUALITY

SOLUTIONS FOR LIFE

As the world's second-largest mold maker, SIPA is able to deliver global tooling programs for new molds or mold conversions from single to 144 cavities. To ensure top quality, every SIPA mold is tested before shipping on dedicated XFORM machines. Over the years we have developed extensive knowledge of many different applications, even the most specialised ones, from narrow necks to wide mouths and thick walls.

YOU CAN EXPECT UNPRECEDENTED FLEXIBILITY FROM SIPA!

We design preform molds that have the:

- Lowest weight
- Fastest cycle time
- Largest operating window
- Easiest filling ability
- Wear-resistant coating to grant a longer mold life
- Optimized cooling layout to support fast cycle times and save energy costs
- Patented hot runner technology to minimize hot runner downtime

Our ever-expanding portfolio includes:

- Complete molds (cold half + hot half) up to 144 cavities
- Conversions of existing molds (full or partial changeover)
- Mold spare parts and components
- Hot half spare parts and components
- Refurbishment options
- Electronic temperature controllers

We also continue to invest in state-of-the-art facilities and initiatives such as our Life solutions, which increase capacity, reduce maintenance and maximize part quality.

Speed Life Solutions



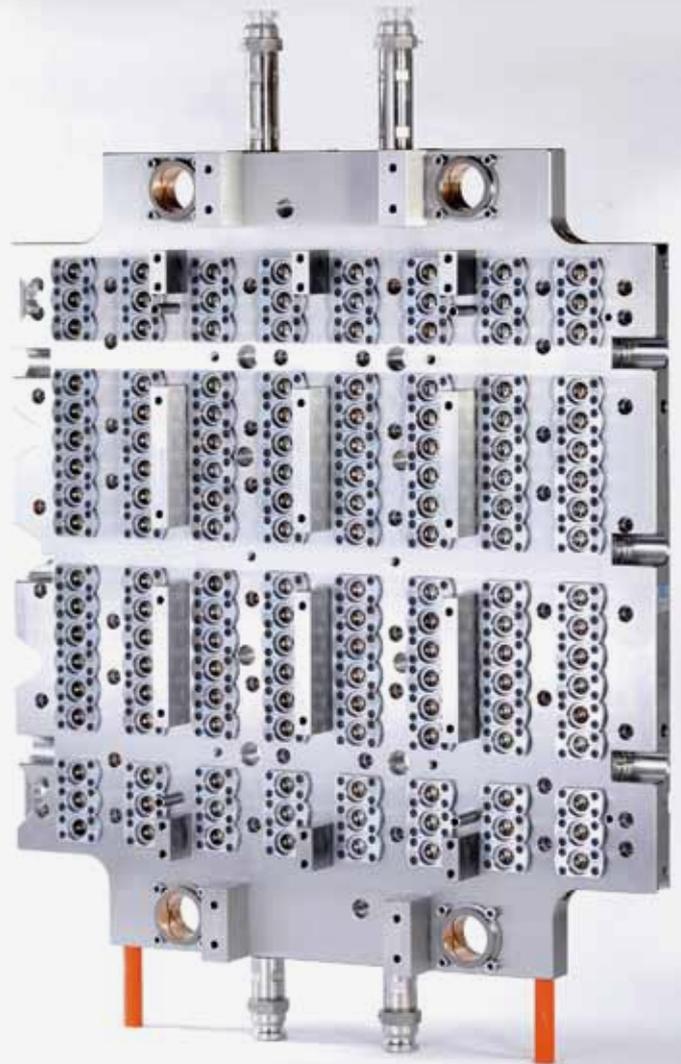
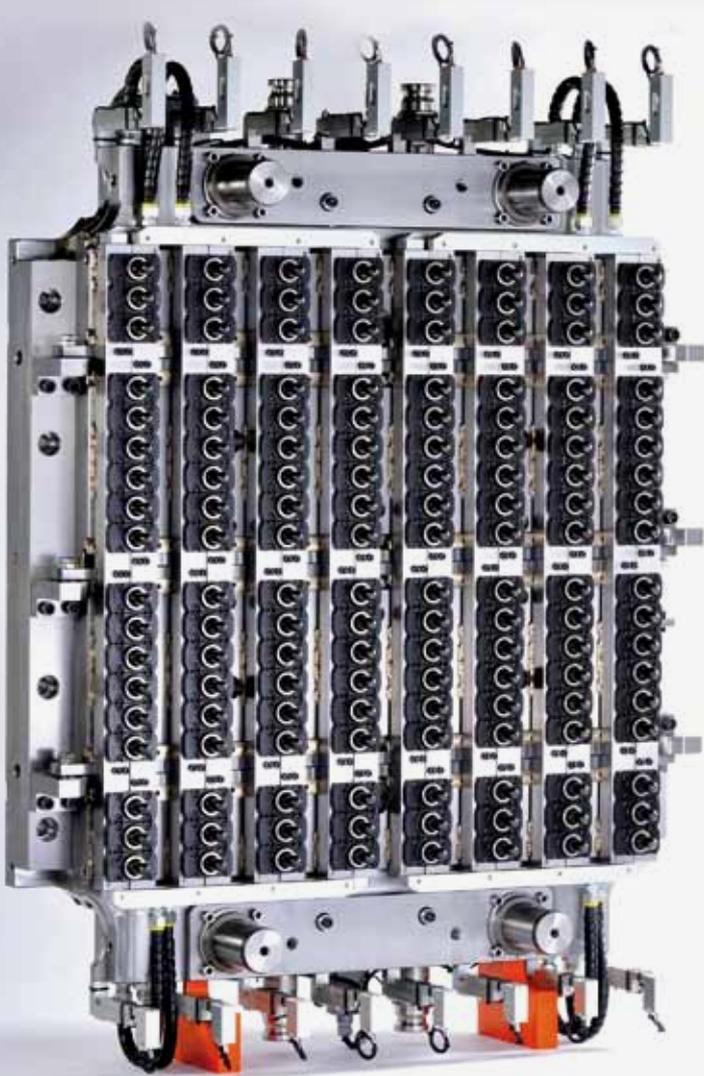
- Increase machinery performance
- Optimize cost/output ratio
- Result in better preform quality

Long Life Solutions



- Extend component life for preform mold cold halves
- Guarantee 8 million maintenance-free life cycles for components*
- Significantly reduce refurbishment costs

*Following lifetime conditions



XMOULD

WE'VE GONE BEYOND 50

When it comes to stretch ratio limits, 50 has been the magic number for more than 20 years, so taking the stretch ratio close to 60 in one step is a major achievement. XMOULD is making new preform design opportunities available so you can lightweight your preforms even more and/or further improve the bottle performance.

Our innovative preform mould technology gives designers the power to create lightweighted preforms that are longer or wider, and which don't compromise performance, strength or appearance of the final container.

Our specialists will be pleased to explain you how you can significantly improve the quality of your packaging and gain considerable economical benefits.

RUN FREE

5 million hot runner cycles maintenance-free

SIPA developed its first valve-gated PET hot runner over 20 years ago, and never stopped improving them. Our current heating technology is custom-built to our specifications by our sister company IRCA, and titanium spacers isolate the hot part from the cooled plates to minimize energy consumption.

SIPA Molds hot runner systems deliver:

- 5 million cycles without maintenance
- Dual-piece melt bushing technology to minimize AA and IV drop
- Special surface treatment of melt channels to reduce melt shear rate
- Perfect thermal insulation of the piston area, drastically improving seal life



MOLD REFURBISHMENT: SAFE HANDS

EXTEND MOLD LIFE, APPLICATIONS, AND EFFICIENCY

Our flexible conversion and refurbishment services help you make the most of your tooling. For example, our LongLife service extends the life of preform mold cold halves up to 8 million cycles before first maintenance is needed.

We also provide a mold audit service to assess the quality of our customers' preforms over time and schedule the needed servicing procedures. SIPA's audits help you identify efficiency losses along the production line and make the right improvements to keep performance high and optimize your investment plans.

THE COST OF "NON-QUALITY"

	Cost / month	Cost / year
Loss of 1 cavity due to poor preform quality (e.g. one cavity being blockes because of high flash)	690 Euro	8,200 Euro
0.1 g mold overpacking (e.g. to compensate poor gate quality)	2,620 Euro	31,500 Euro
0.3 s cycle time increase (e.g. due to gate quality issues and/or flash issue)	1,900 Euro	23,000 Euro

Assumptions

- 96 cavity mold running @ 10s @ original start up @ 95 % efficiency
- 11.0 g preform produced on the mold
- 8,000 hours production/year
- Added value of 0.003 Euro/preform
- Resin cost: 1.2 Euro/Kg



SERVICE BENEFITS

- Longer life cycle
- Better preform quality
- Productivity increase
- Lightweighting opportunities
- Raw materials saving
- Compatibility with both new and legacy tooling
- Flexible range of treatments and costs

We refurbish cold halves, hot runners, and post-mold cooling OF:

- All SIPA molds
- Husky molds (all generations)
- Otto Hofstetter, MHT and Kata molds

When refurbishing molds, SIPA can provide:

- Improved cooling for neck rings
- Improved cooling for cavities
- Two-piece cavities
- Extra-resistant materials

REFURBISHING PROGRAMS FOR COLD HALVES

Short term flash reduction re-work (metallizing) of neck rings only

Preload recovery rework of neck rings, lock rings, and cavities

Like-new mold quality recovery provides a new mold warranty, replaces the neck rings with new ones, cleans and polishes molding surfaces, and refurbishes the mold shoe, including new wear plates and gibs on the stripper plate

Completed on site to reduce downtime and shipping expenses, or in one of SIPA's dedicated service centers for more comprehensive service, our programs aim to restore mold performance and part quality without changing the preform shape.

WE NEVER LET YOU DOWN

SIPA has the know-how and capability to refurbish hot runners of any generation, whether they use the Solid Skirt design or the so-called Ultra design. We also offer three flexible programs for hot runners:

- Basic, which assures preventive maintenance
- Intermediate for a mid-line restoration
- Complete, to fully restore hot runners to like-new condition



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