TAKING A HOLISTIC APPROACH TO PACKAGING DESIGN AND DEVELOPMENT

SIPA has adopted a revolutionary approach to PET container design and development that goes well beyond what is normally expected of a processing equipment supplier. The company's capabilities in systems to produce preforms by injection molding and using the unique XTREME injection-compression molding technology are well-known; so too is its position in bottle stretch-blow molding, with both reheat systems and single-step injection-stretch-blow molding. SIPA has substantial capacity for making molds for preforms and for bottles to complement these molding systems.
But SIPA's recently enhanced ability to provide not just assistance, but also full responsibility, for preform and container design and development, is remarkable too.

> SIPA design and engineering experts understand all the key parameters that need to be considered from the seed of an idea all the way through to a successful product.

GLOBAL DESIGN EXPERTISE

The company has built up a network of design centers across the world, in Europe, the USA, and China. A global team of experts, including 15 fully qualified industrial designers, can produce designs that take into account what the container will contain, what specific markets it is aimed at, what the sales strategy of the customer is, and much more.
SIPA design and engineering experts understand all the key parameters that need to be considered from the seed of an idea all the way through to a successful product. They consider not only the look of a container, but also how the look fits with the identity of the packaged product, how the container feels and behaves, how easy it is to produce, how it performs on the filling line, in storage, and in transport; and last but not least, how much it all costs.

FOR LABELS TOO – AND SECONDARY PACKAGING

They can apply their expertise not only to the container, but also to the label and/or other forms of decoration, and even the secondary packaging. And because the design centers are located in crucial end-user markets, staffed with experts steeped in local knowledge, they are positioned to create and develop ideas that best meet the needs of the specific customer and the target users. Local knowledge includes not only understanding of how markets are today, but how they are likely to develop, as consumer tastes change, and as new rules and regulations are introduced. In Europe, for example, environmental legislation is calling for drinks bottles with tethered caps – caps that don't detach from the bottle when they are unscrewed, and so are less likely to disappear when the bottle has been emptied. New cap designs are likely to have important implications for bottle neck designs, and SIPA is already testing new versions.

MARKET EXPERTISE IS PART OF THE SERVICE PACKAGE

It goes well beyond design though. SIPA has the in-depth knowledge and global experience to provide assistance with market research and route-to-market strategies that will help the customer bring the spark of an idea into a commercial reality sitting on the shop shelf in the shortest time possible.
This means that SIPA can speak to its customers from all angles of the packaging circle – and it really is a circle, because SIPA has industry-leading experience and expertise in multiple aspects of recycling, from design for recycling, all the way through to processing post-consumer recycle into good-as-new containers.

DESIGN FOR RECYCLING…

SIPA strictly follows the Recyclass Design for Recycling guidelines established by EPBP, the European PET Bottle Platform. This voluntary industry initiative provides PET bottle design guidelines for recycling, evaluates PET bottle packaging solutions and technologies, and facilitates understanding of the effects of new PET bottle innovations on recycling processes. Several test procedures can be used to assess the impact on recycling of new packaging technologies.

… AND HOW BEST TO USE RECYCLATE

SIPA has considerable expertise in how to use post-consumer recycled PET, or rPET, in new containers for food and drink. This means not only creating designs that take into account differences and variations in processing characteristics of rPET, but also other less obvious factors such as the increased level of powder that rPET processing creates.

SIPA recently established the AWArPET brand to advance its environmentally conscious approach to the design and production of PET packaging. AWArPET bottles are very light: SIPA has for example been involved in a design project for a one-liter water bottle weighing just 16g, far lighter than most 1-L bottles currently on the market.

IT ALL STARTS WITH AN IDEA

Any design project starts with a blank piece of paper (or possibly a blank iPad screen). Working with even the most basic of briefs, SIPA experts can create a sophisticated design concept, beginning with some fine-tuning of the original customer idea, moving to renderings and technical drawings, finite element analysis to simulate performance of the container, through to solid mock-ups produced in the shortest of times using appropriate additive manufacturing (3D printing) techniques, on virtual and functional prototypes, and eventually to the market-ready product. The customer can share their ideas with the SIPA team in complete confidence, since it is all one-on-one, with no external agencies involved. The expression “one-stop shop” may be over-used sometimes, but in SIPA’s case, it truly is applicable. Everything can be resolved in a seamless, integrated progression towards market success.

SUCCESSFUL PROJECTS ALREADY COMPLETED

SIPA has already applied the new packaging design and development service concept to several projects, including one that involved converting a barbeque sauce bottle from glass to hot-fill PET, maintaining the ‘retro” look of the original; and another for a customer employing SIPA’s ground-breaking XTREME rotary injection-compression preform molding system, for which an in-depth study of the impact on performance of different levels of PCR was assessed.