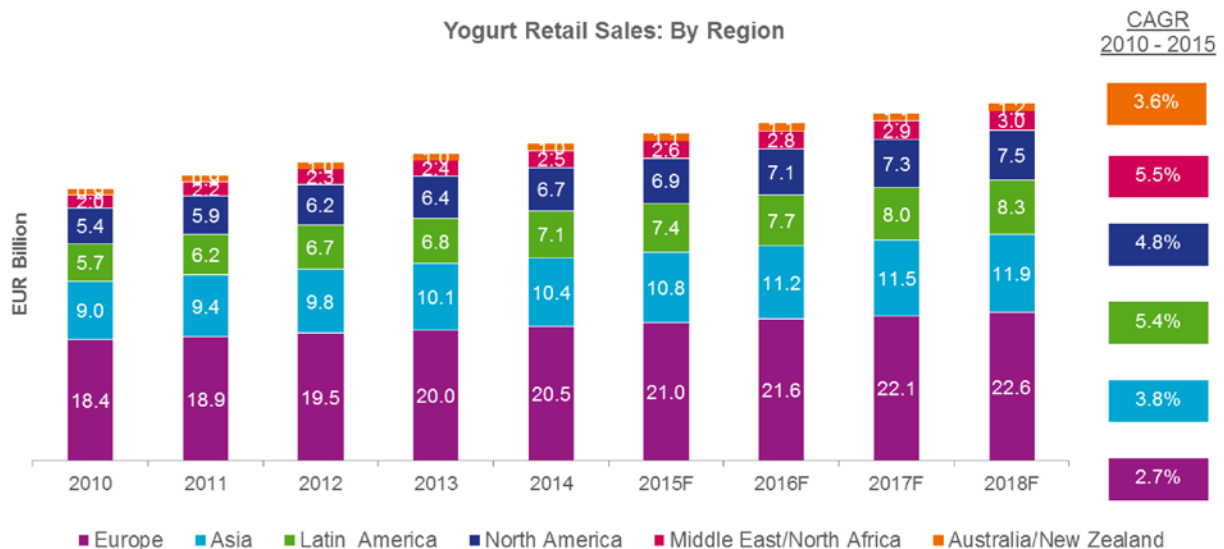


Serac adapts to latest product, packaging and process trends in Middle East/ North Africa.

As an expert providing the worldwide dairy industry with packaging and filling solutions perfectly suited to the requirements of local markets, Serac is well positioned to get an overview of emerging trends and their consequences on packaging.

Since yogurt is a key driver for the dairy category in the Middle-East and North Africa, with an annual growth of 5,5% on the 2010-2015 period and 15% of dairy launches in 2015, this article focuses on this particular product to detail evolutions and innovations brought by Serac to its machinery in order to help manufacturers differentiate from their competitors.



Source: Innova Market Insights 2016

Diversity requires more flexibility from filling machines

Almost two thirds of yogurts launched in the Middle East and North Africa are now flavoured yogurts. Playing with universally appreciated flavours such as strawberry, vanilla and peach, but also with emerging ones (mango,

blueberry, pistachio, coconut) is one of the main growth opportunities for manufacturers in the region. But it requires high flexibility in recipe changeover.

Product launches can also combine new flavours with different cup sizes to cover different consumption patterns as it is already the case for unflavoured yogurts. Another challenge for the filling unit.

But it should not be forgotten that pre-formed cups can also be used to pack traditional recipes such as labneh, ayran or raïeb, creams, sour creams, fermented milks, melted and spreadable cheese. Such a diversity surely raises a flexibility issue for any manufacturer who is planning to invest in a new packaging line, or to replace an existing equipment, and who is looking for a versatile, long-lasting solution.

For flexibility to be implemented with minimum consequences on production capacity and manufacturing costs, 3 criteria should be closely looked after:

- > tooling changeover must be as simple as possible to make sure it can be carried out quickly, without tools, by the operator himself,
- > recipe changeover must be thought of and optimized by the machine manufacturer to avoid as much time and product losses as possible,
- > cleaning operations must be carried out as fast as possible, with a minimum amount of water and maximum efficiency.



Format change-over: several cup diameters are possible in a Serac cup filler



Format change-over without any tool

New texture claims generate specific requirements on filling units

Texture claims start to unfold on the Middle East and North Africa markets. Up to now, product launches focus on creamy and smooth textures but another growth opportunity might be to follow trends from other regions in the world and claim for thick, chunky or crunchy textures.

This means that both packaging and dosing possibilities of filling machines must be carefully considered.

(liquid, pasty, « thick-flowing ») and homogeneity (with or without chunks) of the product that will be laid inside the cup. With the right expertise and technology (product circuit and nozzles), it is possible to work out a versatile solution offering precise and clean dosing for each ingredient as well as a perfect respect of different product textures.



Layered yoghurt with fruit puree

Low-output machines can now be used for unflavoured to high-end products, such as layered yogurt containing real pieces of fruit or two-compartment cups with yogurt on one side and fruits, honey or granola on the other one.

As far as dosing is concerned, almost everything is possible using a combination of tanks and nozzles. The main parameters that will guide the design of a dosing system are respectively the temperature, the viscosity



Pre-dosing and main dosing for layered products

No additives and/or preservatives might call for higher hygiene level

Yogurts claiming to contain no additives and/or to be more natural are those who accounted the highest increase in product launches' share between 2013 and 2015 in Middle East and North Africa countries (Source: Innova Market Insights 2016). The region is following a worldwide trend pushed by higher customer expectations regarding food quality, and the « no additives » segment is steadily transforming from a niche to a mainstream one.

Brands must thus properly evaluate whether their current hygiene standards are adequate for new, more sensitive products such as yogurts with a fruit layer containing no preservatives. They should

also anticipate a higher concern of customers for food safety, which might become an issue if some manufacturers fail at mastering the packaging of products without preservatives.

It might be interesting to consider, for a new machine, having the best ultra-clean design concept (including features such as laminar flows and automatic cleaning) implemented, or check how a machine can be upgraded (by adding, for example, a cup packaging decontamination unit) to secure the future. Serac also offers some specific options to secure and extend the shelf-life of products containing no preservatives, such as an additional cleaning circuit at the rear side of the nozzle which guarantees an ultra-clean level of hygiene.

The example of Neo rotary fill-seal machines combined with Serac Modulo nozzle recently sold in the Middle East and North Africa

A Neo RI machine has been designed to fill set yogurt, sour cream, labneh and ayran, coming out from production at a temperature between 10°C and 45°C, in 8 different cup formats (both square and round) ranging from 150 to 1000 ml. Production outputs go from 3000 to 5000 cups per hour. Another one is used to fill set yogurt as well as stirred yogurt, some of which on top of a jam layer, in cups of 125 and 400 g at an output between 1200 and 2000 cups per hour. On both machines, changeovers require no tool and can be done within 15 minutes.

The Neo machines dosing system can receive the new Modulo nozzle, a revolutionary concept which does not require to disassemble the full nozzle when switching from a product to another. The Modulo nozzle consists of a fixed part and several heads that are selected according to product's texture and changed very easily. Combined with the dosing range (from 5 to 1000 ml) and accuracy of the Neo machines, the Modulo nozzle is the ultimate tool to manage a wide array of recipes on a single machine.

Neo machines are highly appreciated for their simple and reliable mechanics which makes them robust, easy to install and operate, with low maintenance costs.

They are nevertheless designed to offer maximum hygiene:

- > full stainless steel
- > high resistance to aggressive cleaning agents and high temperatures,
- > very high resistance to wear and tear
- > no retention zones,
- > all screws above the cups designed as "prisoner" elements.

They also include closed loop in-place cleaning (CIP) with several configurations of tanks and cleaning circuits. Depending on hygiene requirements, the filling system can be cleaned, sanitized or sterilized in place.



The Modulo nozzle with different heads for a perfect control of the product textures

The latest version of Neo RI can fill cups up to 12 000 cups per hour just as efficiently and reliably as any other lower output. All of Neo's advantages can thus now benefit as well to manufacturers who want to increase their production volumes.

These fill-seal machines are not limited to yoghurts; they are also capable of dosing pasty and highly viscous products. For spreadable cheeses that require a hot filling process, Serac has developed a specific tank equipped with a motorized agitator, a double or triple jacket with water circulation that maintains the product at the right temperature (around 75 - 80°C) and a full temperature monitoring system. The dosing system is associated with nozzles dedicated to viscous runny products.



Neo RI machine for pre-formed cups

Serac designs and produces bottle and cup packaging solutions sold all over the world. One sales area is dedicated to Middle East and Africa and another to Asia Pacific.

With decades of experience over which it has encountered a wide variety of technical and business issues, Serac acts as a real partner of its customers, helping them get the best of each

project. Serac is supporting manufacturers in their growth strategies on a day-to-day basis, always carrying a careful analysis of their objectives on the short, medium and long term. The company's state-of-the-art, long-lasting dosing and filling machines are designed to offer maximum flexibility and scalability; they can therefore be tailored to each particular case.