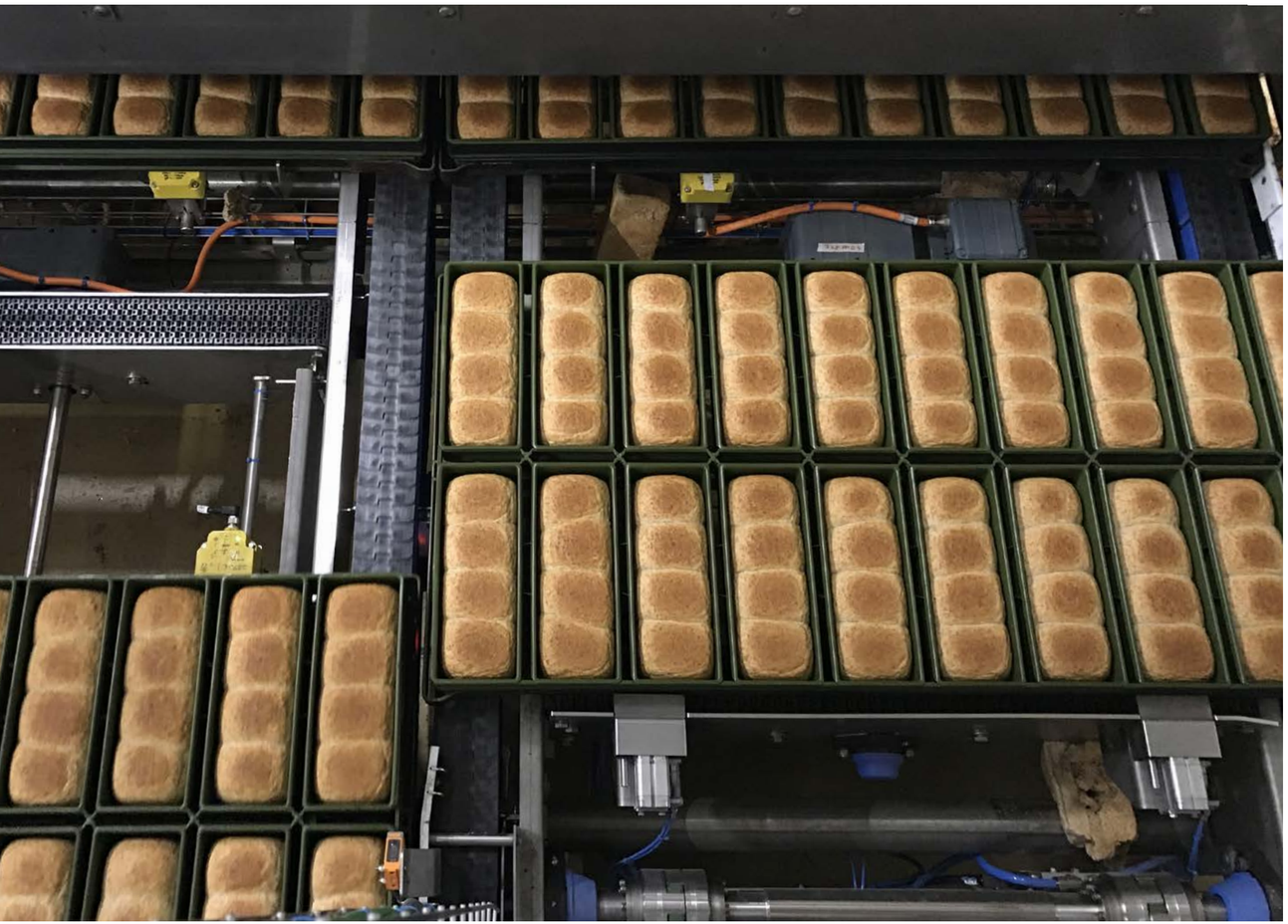


"While everything in life goes faster and faster, bread takes its time."

While the market for bread and other baked products offers plenty of opportunities, market players still have to be innovative to survive. In these demanding times with their many global challenges, the Kaak Group plays a leading role by providing innovative solutions for bakeries

Advanced and sustainable bakery solutions: from Silo to Truck

Kaak has had knowledge and experience in the field of bakery technology and equipment since 1846, ranging from stand-alone machines to an integrated approach for complex and automated bakery lines.

Every day, Kaak uses the expertise it has built up over the years to ensure that its clients' expectations are met and exceeded. This experience, which is literally 'from silo to truck' means there are solutions for every step, and any challenge, involved with baking. This wide range comprises:

Silos and dosing
It all starts with the appropriate raw materials. This is why Kaak's silos and dosage systems give a bakery control over the ingredients and the automated mixing process. With smart bakery solutions, recipes, stocks and raw material consumption, it can all be exchanged automatically. This means that a bakery no longer needs to enter anything manually. In addition, good raw material traceability is guaranteed. Kaak offers a solution in what is termed 'pre-dough' i.e., prior fermented dough. This has advantages, because as soon as the producer uses pre-dough, fewer additives are needed. The basic raw materials are already available and they are known to be good. Another advantage of pre-dough is that pre-mixing is no longer needed.
The mix of ingredients for the bread can be determined independently. The pre-dough forms the basis, the rest is up to the bakery.

Mixing and Dough make up
Ingredients can easily be dosed from the silos into the MDD mixer (Mechanical Dough Developer). The dough make-up can be done with a classic system of dough divider, rounder, proofer, moulder, or with a sheeting line (a production line of multiple and integrated pieces of machinery). The right technology is available for manufacturers, depending on their products and required capacity. Kaak's lines can handle many different types of dough, with large amounts of liquid ingredients or with additives such as fruit and seeds. Whichever dough make-up is selected, high accuracy, great flexibility in products and process and ease of maintenance and cleaning are always guaranteed.

Proofing
The next step is the final proofing, for which Kaak has several machines available. A baker can choose to do the final proofing on a flat surface or in baskets. In the first case, the 'peelboard line' or 'belt proofer' are good concept choices. If baskets are preferred, the shape of the bread will determine the choice of concept. Kaak offers various baskets.



Decorating
A baker scores the dough products with a knife before they go into the oven. This is done not only to ensure that the product can be opened in a controlled manner during baking, but also to put his or her own signature on the product. A good or bad cut can make or break the bread. These operations have now been automated because of the ever-increasing demand for a huge variety of freestanding bread in all sizes, shapes and flavours with their own 'signature'. Kaak's cutting robots always make the perfect cut in the dough.

Baking
Baking or pre-baking is carried out on an oven belt or on a stone. Kaak's ovens offer plenty of choice. All the various baking technologies are available in-house and can help clients to make the right choice for their products. This line concept can be complemented, for example by a cyclothermic oven or a thermal oil oven, both also available in an electric version.

Pan handling
After baking, the line transports the pans to the depanner, where the products are removed. Since Kaak produces and coats the pans and straps for this line in-house, they can guarantee a perfect release. In a toast line, an automatic delidder is placed in the production line between the oven and the depanner.

Cooling and Freezing
Baked products can be cooled down in Kaak's spiral cooling system, using a multi-step or multi-deck cooler. The empty pans return through the strap cooling tunnel to the starting location to be re-filled with new dough.

Crate handling
Cooled products are transported through the production line to the packing department where handling equipment plays a key role. This ensures that the right product is placed in the right crate for distribution to the right shop.

Solutions for even bigger challenges

Currently, fresh products, natural ingredients, hygiene and sustainability are increasingly important for the bakery world, bringing it to the cusp of major developments in the bread market. These developments are not only generated by trends in production processes but also by the wider world. Now that society is slowly gaining the upper hand in the fight against Corona, the next challenge is already at its doorstep i.e., climate change. Kaak feels responsible as the company wants to ensure that future generations, while dealing with these challenges, can also fully enjoy a nice slice of bread.

This is why Kaak is actively looking at how to support the Sustainable Development Goals (SDGs) of the United Nations and therefore chose to embed SDG number 2 in its own



policy. SDG2 is the goal of 'Zero Hunger' which is encouraging Kaak to provide good bread, using natural ingredients and at affordable prices.

In many countries there is a growing demand for fresh/fresher/freshest delivery, transported to the consumer as soon as possible after baking and cooling. This demands prompt and efficient production, so accurate handling of ingredients, in terms of quantity and quality, consistency and precision, are becoming extra important. For example, by using the speed and precision of 3D vision guided robots, ensures high and consistent throughput of scored dough products, with an incision in the right spot every time, while reducing labour cost.

On the other hand however, there is also the demand for natural ingredients. When this requires working only with natural and basic ingredients such as water, flour and yeast, it means that a factor 'time' must be added to reach the desired end product. Long bowl rests can last for two to three hours with predough and long proofing times, independent of the quality of the flour, setting the dough in motion. The result is the right scent, the right volume and certainly the right taste, not to mention the need for natural freshness.

This philosophy is strongly reflected in all kinds of production whether the products are baguettes, barras, "boules", freestanding breads or ciabattas. A long pre-dough development, a longer bowl rest and, after dough preparation, a long post-rise, can increase the process anywhere from six to fifteen hours. Traditional processes for traditional breads that are then often baked on stone and today increasingly involve modified atmospheric packed (MAP), then need to find their way to the end customer either directly or via retail. As a result, process times can exceed twenty-four hours as exemplified in several bakeries in Western Europe, the USA and Australia.

More time to rest and shorter production times need to go hand in hand. So, for example, when necessary bowl rest is added to the process you also want your fresh, delicious products to get to the stores quickly. Therefore, this requires shorter processing times after bowl rest, to save time on final proofing, baking or cooling.

Automation for sustainability

Sustainability means that adjusting the ingredients alone is not enough. Kaak also works hard on solutions to make production more sustainable. Reducing the carbon footprint is an important starting point. For example, Kaak's various types of electric ovens not only have a smaller footprint, but they also cause no CO_2 emissions. This is achieved without compromising the flexibility, control and quality of baking.

"We can definitely say electric ovens are in demand: it is now the fastest growing segment. This is a good step, because electric baking ensures that our industry can move with the times, reduce its footprint, without losing taste and quality."

Because of the Covid-19 pandemic, recent circumstances have helped to accelerate some steps towards a more sustainable world. As elsewhere, people at Kaak needed to learn how to communicate more remotely, but the company still found ways to remotely assemble and commission complete production lines for bakeries.

Travelling less, and partly holding meetings online, not only benefits the world of tomorrow, but it also saves time.
"We take the lessons that we are learning from installing our lines remotely, such as a beautiful pizza line in America or a toast bread line in Africa, and apply them to installations closer to home. We gain insight into how we can do things more efficiently and how we can improve our machines so that they are even easier to install and use; all with the aim of making it as easy as possible for our customers, while also making our contribution to the SDGs. It's not for nothing that we say, 'You bake, we care'!"

Dealing with waste

Managing waste (materials, ingredients, energy and time) influences how Kaak works in several ways. On the one hand, 3D printing and circular production (recovering raw materials) gives enormous savings in raw materials while, on the other, Kaak also helps the industry to reduce waste with its dough recovery systems. The latter involves transporting part of the dough back to the start of the line, where it is reworked and added to a new batch of dough. This ensures the dough is consistent and of the right quality.

People at Kaak like to work with the bakery industry on the future evolution of the industry: to create a world where trips to customers will be less numerous, thanks to new techniques. This will create a smaller 'footprint' but, because of these new technologies, enable the creation of even more and different types of bread.

Sustainable entrepreneurship

Kaak focuses on sustainable entrepreneurship, both towards its employees and from a social point of view. In particular, several Sustainable Development Goals (SDGs) of the United Nations (UN) are being embraced by the organization, namely:

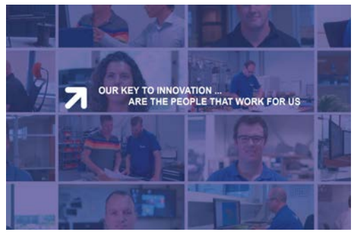
- Zero hunger
- Good health and well-being
- Affordable and clean energy
- Industry, innovation and infrastructure
- Responsible consumption and production
- Partnership for the goals.

The activities resulting from this vision have a positive influence within the organization.

"There is plenty to choose from in the world and, by letting SDGs guide our decision-making and working methods, we hope that young professionals and companies will continue to choose us and commit to us."

By following the SDGs and using them as the basis for decision-making, Kaak has found a way to guide people by means of a moral compass instead of in terms of financial gain alone.

"Our aim is to connect with people who share the same vision and mission and to also convince customers of the added value of this way of thinking. The knife cuts really both ways. People may think: "Isn't Kaak the producer of bakery machines and production lines in the first place?" This is certainly true, but we are also aware of our responsibility. We are convinced that this will bring us a lot in the long term. This is an essential part of our future." – Lodewijk van der Borg, CEO.



ROYAL KAAK

Thursday 24th June 2021 was a special milestone in the history of Kaak. On that day the company not only celebrated its 175th anniversary but also marked its transition to one single corporate brand name: Kaak.

Just a few months later, on October 29th, Kaak was visited by a member of the provincial executive of Gelderland who brought very good news: that the company could now call itself 'Royal Kaak'!

The predicate 'Royal' was granted by his majesty King Willem Alexander, and symbolizes respect, appreciation, and confidence in the company. This predicate is only assigned to companies which have proved to have an important position in their area of expertise, are of national importance and have been existing for more than one hundred years. The predicate is granted for a period of twenty-five years and can be prolonged thereafter.

For Kaak, the predicate is the crown on its 175th anniversary which was achieved with the support earned not only from previous generations but all its present employees as well.

