SORTEX

In May this year Milling and Grain Magazine were invited to the offices of Buhler Sortex located in their new premises at Gallions Reach, on the banks of the River Thames, in Beckton East London.

Bühler designs and manufactures a vast range of food processing machines including the SORTEX range of optical sorters, for a variety of products, such as grains, beans, pulses, spices, nuts, rice, vegetables and fruits, and plastics, as well as manufacturing complete processing lines for the rice, spice, sesame and pulses industries.

Optical sorting uses advanced camera technology, combined with sophisticated software, to detect anomalies in colour, size and shape, as well as non-visible optical properties, to enable the separation of bad product from good, as well as the removal of foreign materials that often pose a safety hazard.

During our visit, we were treated to jam-packed sessions, replete with eye-opening discussions about the recent technological advances and innovations in optical sorting, customer care, and how Buhler Sortex continually manage to stay ahead of the game, rounded off with a look into the future of optical sorting and a tour of the Buhler Sortex factory.

Buhler Sortex: A History

On the approach to the Buhler Sortex offices and factory little, did we know that it was in the very same month in 1947 that 'SORTEX' first began. Almost 70 years ago 'Beno Balint and Sons (Great Britain) Limited' was established by the Balint Brothers – owners of Gunson's Seeds - with the vision of eliminating the drudgery of handpicking seeds, by technological means, aided by Hungarian scientist Dr. Okolicsanyi and his assistant Herbert Fraenkel.

Later that same year saw the first demonstration of actual sorting through a combination of optical inspection and electrostatic deflection of discoloured particles, which lead to the development of the first sorter – the G1 – Gunson's "SORTEX" Electronic Separator. Achieving great success in the global market, through sales of this and subsequent machines, the manufacturing of sorting machines soon became a major activity for Gunson's Seeds, and so a separate 'SORTEX' division was established in 1955.

The SORTEX division was purchased by Bühler in 1994. The shared 'family company' ethos, and a shared drive towards innovation and, perhaps most importantly, customer satisfaction is perchance what facilitated such a simple integration of the two companies. This shared culture and commitment to Bühler values is why SORTEX had by then established itself as the worldwide leader in all markets.

What is next?

It is now over 20 years since SORTEX was acquired by the Bühler Group - a worldwide engineering solutions provider for the food, mobility and advanced technologies - and since then, has gone from strength to strength. Now fully integrated into the Bühler family, how has this branch of Bühler progressed, and what is next?

Still recognised as one of the most trusted brands in optical sorting, Buhler Sortex remains a key contributor to Bühler's success. It has an optical installed base of over 25,000 machines and with factories located worldwide - London, Brazil, China – to develop regional specific customer solutions, ensuring they are the leading global supplier of optical sorting solutions.

During our visit we spoke to Carlos Cabello, Managing Director of Bühler Northern Europe and Darren Frost, Sales Manager for Milling and Baking, Bühler London. We also spoke to various members of the Buhler Sortex team; Charith Gunawardena - Head of Optical Sorting, Neil Dyer – Global Product Manager, Ben Deefholts and Matthias Graeber, from the Research and Development department, and Tracey Ibbotson and Marina Green from the Marketing Department, about the progress made by Buhler Sortex and the future of optical sorting; as well as receiving a tour of the Buhler Sortex factory, guided by Peter Kinchin, and a product demonstration from Melvyn Penna, Applications Manager.

"It's the automation that sets our machines apart from the competition"

"Four areas where Buhler Sortex excel are; efficiency, yield, capacity, and consistency" Charith Gunawardena, Head of Optical Sorting at Buhler Sortex, told us. It soon became clear that their ability to out-rival others in these areas boils down to their commitment to Research and Development, technological innovations and advances, and customer care.

Bühler invests up to 5 percent of its sales revenue in research and development. The commitment to stay consistently at the forefront of developing innovative technology and finding new ways to optimise performance for their customers, is what Buhler Sortex believes is keeping them in their current leading market position.

Working in partnership with its customers, industry

specialists and research institutions, the Research and Development department capitalises on nearly 70 years of expertise to pioneer advanced solutions – a recent example being the SORTEX S Ultra Vision™ for rice processing.

Ben Deefholts explains that SORTEX S UltraVision™ has a lighting system specifically designed to enhance the difference between yellow and grey grains. It also includes the latest version of our self-learn and tracking software, a unique technology developed by us over 30 years ago, that allows the sorter to adjust automatically to any changes in the product colour and still provide a consistent quality of good product. You can see that R & D covers a wide range of disciplines, optics, mechanics, electronics hardware and software pneumatics, almost every area of physics is brought to bear to ensure our customers have the most consistent accept quality."

With constant developments and improvements, you may well think that the customer would have difficulty keeping their machine up to date but, as always, Buhler Sortex is one step ahead. We were told "Customer requirements change, so we are always one-step ahead in developing new machinery and technology, to meet our customers current and future requirements. Upgrade kits are made available, so that customers don't always have to buy a new machine to benefit." This is just one way Buhler Sortex strives to provide extensive customer care and optimisation of their machines – supporting all their customers, wherever possible.

"The future of sorting is not just colour, shape or size"

Towards the end of our visit, thoughts turned to the future of optical sorting; where we found out from Matthias Graeber that the future of sorting is not just strictly visible optical properties, in fact the further benefits of optical sorting, as a result of technological innovations, are manifold and help tackle more pressing issues such as diseased kernels and non-visible contaminations. "Improved cameras and IR sensors, for example, mean that it is easier than ever before to use optical sorters to sort for such things as; grains affected by mould and its toxic metabolites, commonly known as mycotoxins, or the removal of gluten-containing grains from gluten-free products, making optical sorters a workhorse of ensuring food safety at an early stage in the chain."

With contamination of mycotoxins being highly non-uniform (so-called hotspots), testing just a cross section of grains may not give a true reflection of the contamination. This is where the optical sorter can help, by pinpointing and rejecting infected grains, so that the entire crop is not wasted, due to mycotoxin contamination. Bühler have been a part of a European consortium, looking at mycotoxin risk management, throughout the entire chain, from field to fork. While it is evident that there

is most certainly a need to reduce the likelihood of contamination from the outset, by employing good agricultural practice, thorough post-harvest cleaning and optical sorting are essential tools for risk mitigation and the reduction of contamination by mycotoxins. Typical reduction of contamination levels is 60 -80 percent, as demonstrated in multiple case studies.

Separation, for the purposes of creating a gluten free product, can also be achieved through the use of an optical sorter, Matthias Graeber told us "The removal of gluten-containing foreign kernels in gluten-free product, is where optical sorting, in combination with mechanical cleaning processes, can significantly reduce the risk. An optical sorter will, in general, be more selective than mechanical pre-cleaning but a solid line of defence is ensured by the combination of different cleaning technologies."

So, when we asked about the price of an optical sorter, we were assured that the payback, both in monetary terms and in terms of satisfaction, can be realised extremely quickly, because of the increased yield and product consistency – leading ultimately to all-round customer approval.

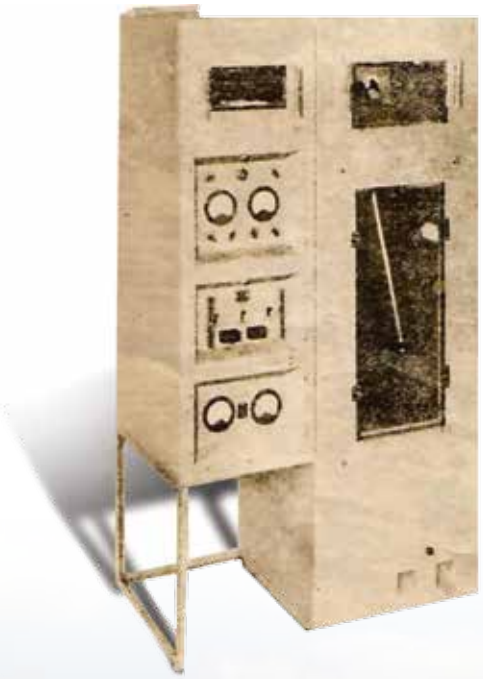
Buhler Sortex factory tour

Our final activity of the day was a tour of the Buhler Sortex factory from Peter Kinchin. Sad to find out we were not the most important guests he has received, having presented a grand tour of the factory to Princess Anne, we were nonetheless eager to be shown around the facility, where each customer is offered a choice of precision-engineered, innovative optical sorting equipment, to fit their own specific sorting needs.

On our approach to the office and factory that morning, one of the most striking things was the amount of security fencing surrounding the complex - something we initially found puzzling. However, we soon learnt from Peter that the packing area within the shipping section has been given aircraft security clearance, so that sorters do not have to go to an inspection warehouse and can be shipped directly to customers.

This commitment to customer service is evident throughout the production of the machines. The shop floor is split into eight departments, in which each team leader has about seven people to direct. We were told that this new working arrangement meant additional but smaller and more easily managed sections, with the ultimate aim of getting the product right first time and improving daily productivity. Peter told us, "The jobs on each section are appropriately timed, so that each person can devote enough time to their part in the production line, so they are not rushed and to ensure they get it exactly right".

The operations are highly organised, with breakaway areas sporting wall-to-wall information on the progress of each customer's order, ensuring all staff are up to date with where they are in the process. The factory floor certainly gives a feel for the dedication and organisation applied to each machine; for any visiting customer, contemplating a Buhler Sortex machine, it is a palpable display of Bühler's strive to deliver customer-focused solutions, for even the most challenging of optical sorting applications.



So, with all this in mind, is it any wonder that most customers who experience a tour purchase a SORTEX machine?

Humble beginnings to market leaders

With just under three quarters of a century of optical sorting experience, it is clear that Buhler Sortex has much to offer customers, looking to invest in optical sorting machines. From humble beginnings to market leaders, the Buhler Sortex portfolio shows total commitment to innovative, intelligent design, comprehensive customer service and modern manufacturing, guaranteeing their position at the top of the market.