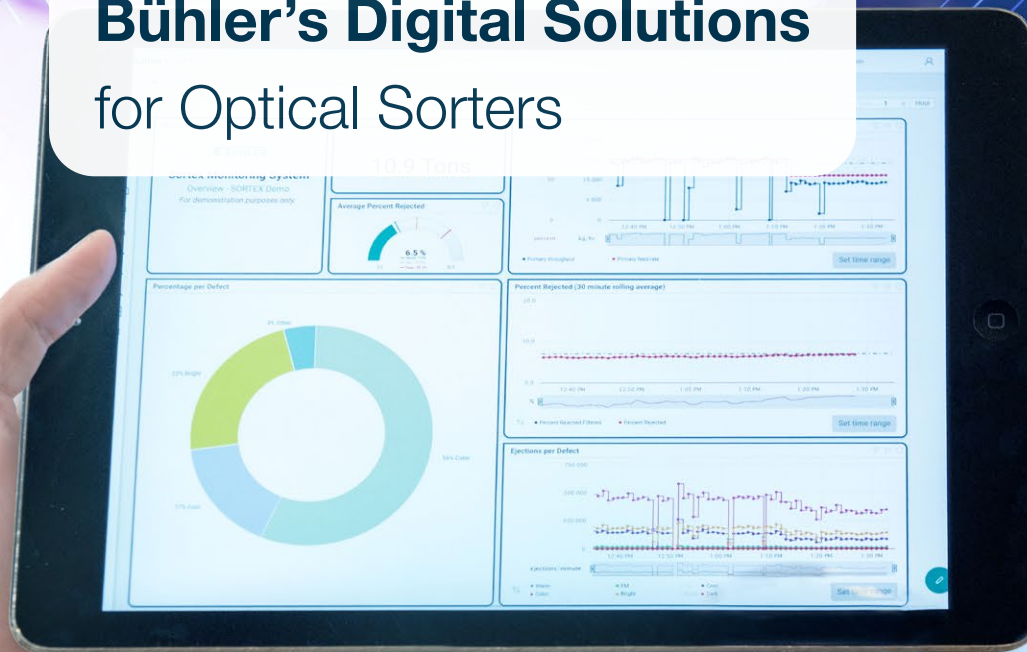


Bühler's Digital Solutions for Optical Sorters



Transparent Insights with Bühler's digital solutions

From a black box to a glass box – SORTEX Digital Solutions give transparency to your sorter, providing a clear picture of your processing line performance.

The Internet-of-Things has arrived – Digitalization is one of the most significant changes most industries have seen in a lifetime. The way we run our production is changing. From mechanical improvements to automation, we are now in the era of connected devices with smart analytics and machine learning.

The power of digitalization centers around optimizing your processes, using data to adjust and respond, and even, enabling automated “smart” actions intuitive to the machines themselves.

Our sorting machines are Industry 4.0 ready and allow you to gather valuable data for better and faster decisions.

Why digital?



Increase productivity and reduce waste

Monitor your sorter's performance closely to optimize the product quality and yield of your processing line.



Act fast and save money

Spend less time supervising and get notified by real-time alerts.



No technical skills required

Take advantage of historical data to benchmark across batches, shifts, suppliers, and multiple production sites.

Transparent Insights with Bühler's digital solutions

We provide a diverse array of digital solutions designed for optical sorters. Our range of connectivity options grant you the flexibility to tailor your digital transformation strategies according to your needs.

On the one hand, we present a cloud-based solution, removing the need for you to have an automation system or to employ in-house digital experts. We take care of the data calculation and visualization for you.

On the other hand, SORTEX machines can be seamlessly integrated within our customers' automation systems (PLC, SCADA, MES), permitting centralized control. If you already have a Bühler automation system, you can easily integrate your sorter.

Even if you are utilizing a PLC system but also express interest in our cloud-based solution, granting access to features like dashboards, PDF reports, customized alerts, both solutions can be easily combined.

Cloud-based solutions



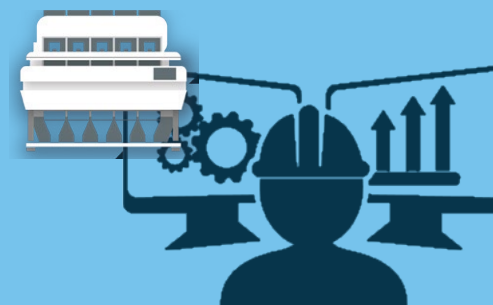
SORTEX Monitoring System



SORTEX Monitoring System and
OPC-Connect

Integration & Control Solutions

All data are kept within the plant.



OPC-Connect

Bühler Insights Solutions

Connect your sorter to the cloud

Focus on what really matters!

Tired of downtime, over and under ejections, and an uneven sorting balance? Are you in search of information about defect trends and how to accurately spot a poor yield rate? Would you like greater control when it comes to monitoring your sorter performance?

Look no further than:

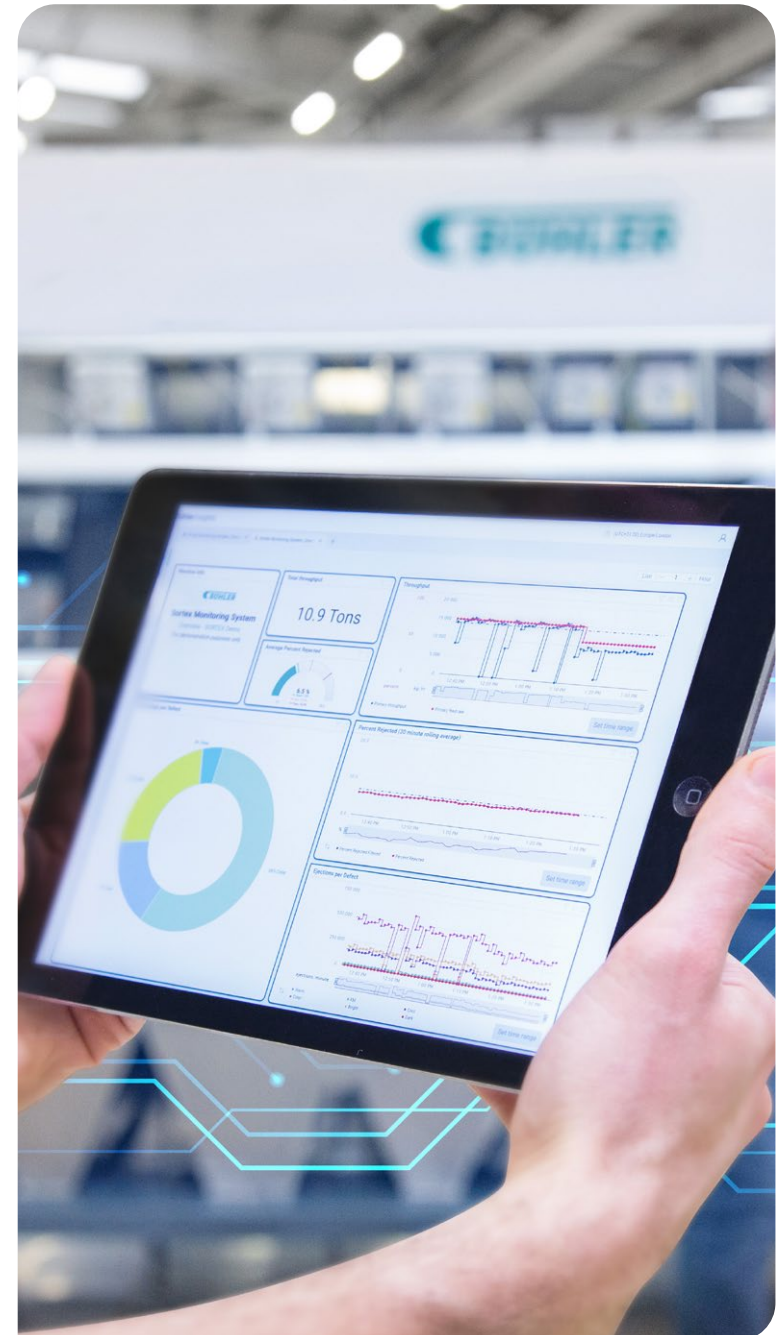
SORTEX Monitoring System

Spot it. State it. Sorted.

SORTEX Monitoring System (SMS) gives you access to your sorter's data over the internet using the Bühler Insights portal. SMS provides an overview of the key performance indicators of your SORTEX machines and delivers actionable insights to increase your productivity, yield, and efficiency. Performance can also be measured against historical data, which can provide a useful benchmark when comparing short-term against longer-term data. Transform your plant digitally to optimize your yield and maximize the productivity of your plant.

Bühler Insights

Bühler Insights is our central platform for connected products and services, optimizing your plant's efficiency and reducing maintenance times, energy consumption, and wastage. Gain transparency over your data and optimize your production processes from anywhere in the world with Bühler Insights.

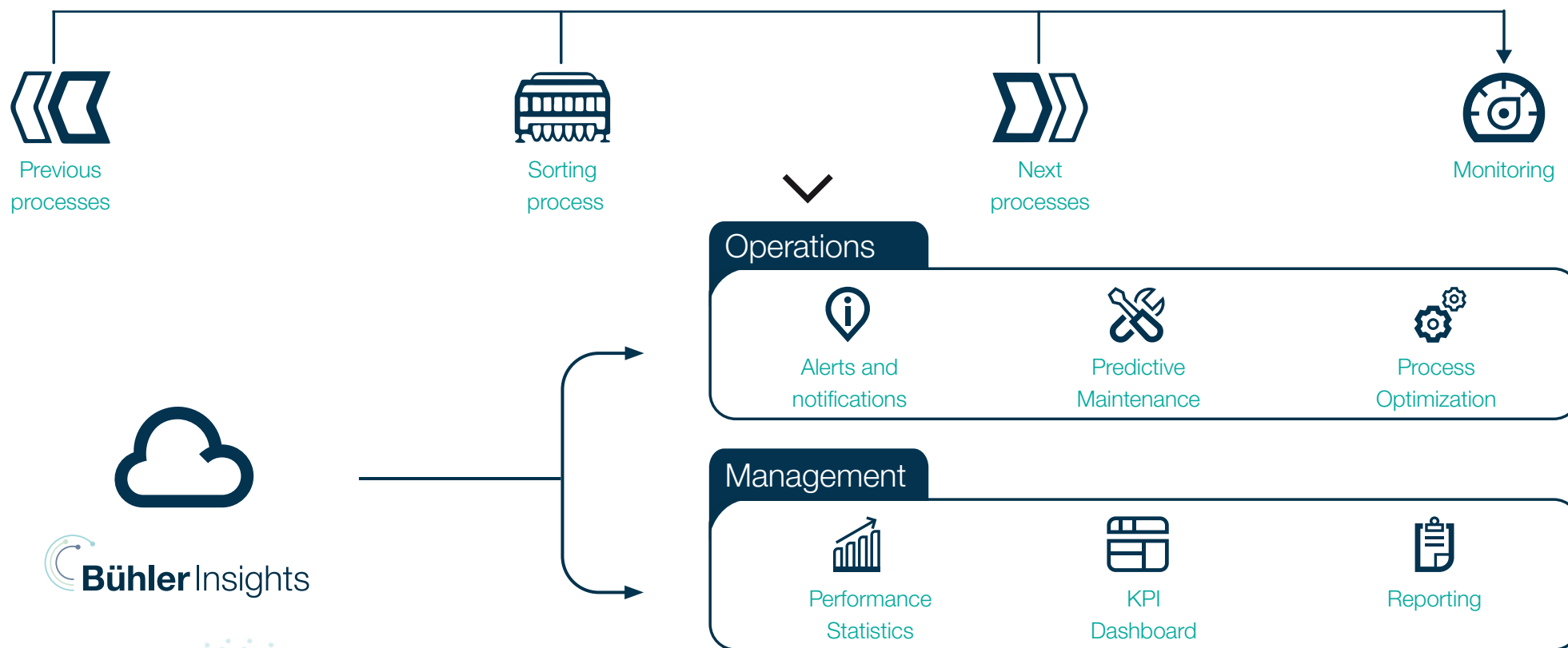


Bühler Insights Solutions

Connect your sorter to the cloud

SORTEX Monitoring System offers the capability to extract valuable insights from the sorter. Serving as a comprehensive surveillance tool, the sorter acts as an eye over the whole process, enhancing overall uptime and yield along the production line.

SMS makes peak operation simpler, and can be used and understood by operators of any skill level. Technical expertise is not a prerequisite, given that all information is presented through intuitive visualizations. Diverse functionalities cater to the needs of managers and operators alike, encompassing features like the interactive dashboard, PDF-generated reports, and real-time notifications.



SORTEX Data Integration and Control

Integrate your sorter's data locally



OPC-Connect

Connect your sorter, shape your business

Our OPC-Connect solutions provide a flexible means of communicating with the SORTEX via industry standard OPC-UA protocol.

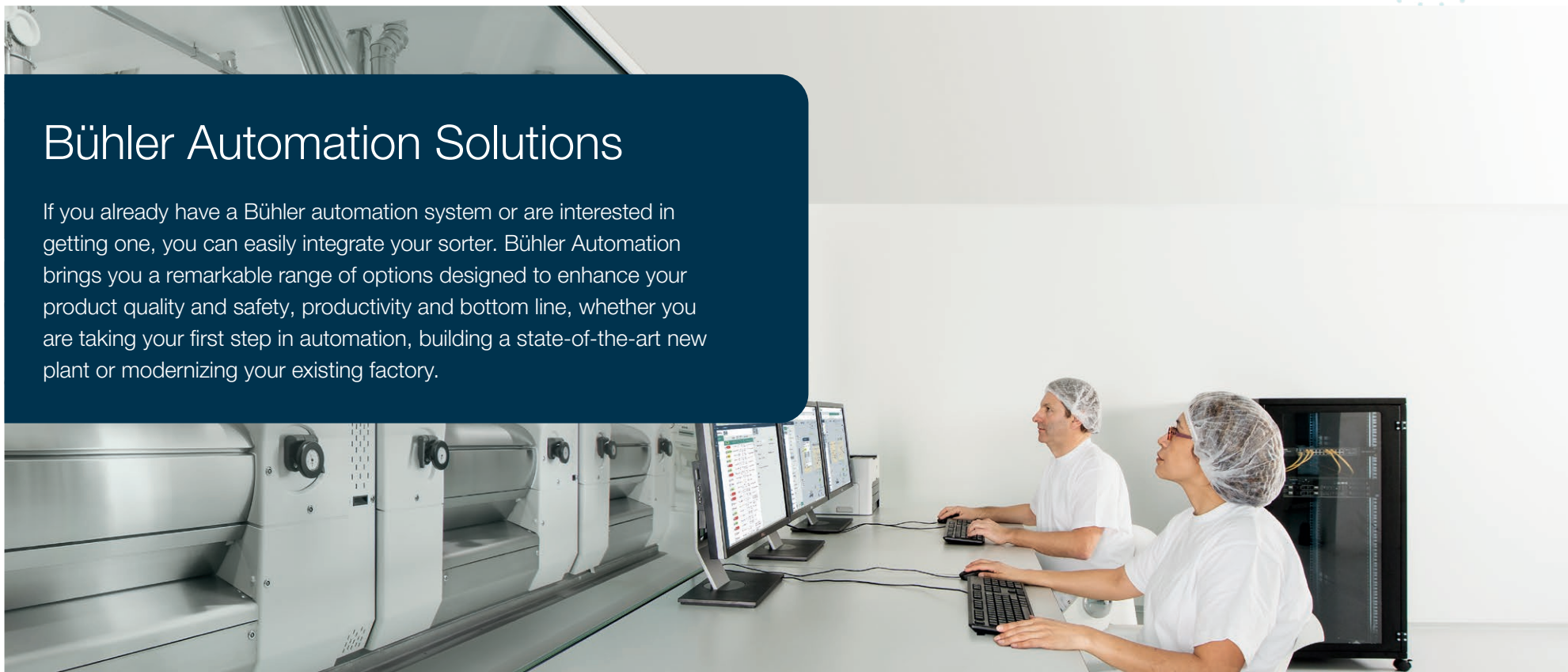
Seamlessly integrate the data flow of your sorters with your chosen data analytics platform. Gain valuable management insights and make smart business decisions using key parameters such as sorter capacity and ejector rate.

Automation Solutions

Our integration services enable you to fully integrate the SORTEX with your local (non-Bühler) automation system or preferred data analytics platform. Collect SORTEX data locally and easily control sorter settings direct from the automation system.

Bühler Automation Solutions

If you already have a Bühler automation system or are interested in getting one, you can easily integrate your sorter. Bühler Automation brings you a remarkable range of options designed to enhance your product quality and safety, productivity and bottom line, whether you are taking your first step in automation, building a state-of-the-art new plant or modernizing your existing factory.



Mercury MES

The Mercury MES (Manufacturing Execution System) is a full factory automation system, which integrates all processes to increase efficiency and traceability, for a clearer look at your key data.

Pluto PCS

The Pluto PCS (Process Control System) focuses on controlling the production, safeguarding the equipment and monitoring selected production parameters. It is specifically designed for small to medium size plants with simple and continuous production parameters.

WinCos® PCS

Bühler's WinCos® plant control system give operators access to valuable insights into the production process, giving you the information needed to adjust parameters and improve plant performance.

Digital Products for optical sorters



Flexible solutions

Our different connectivity options give you **flexibility** to align with your individual transformation strategies.

| | SORTEX Monitoring System | Total Care SafeGuard | OPC-Connect Data | OPC-Connect Control | SortControl Basic |
|---|--------------------------|----------------------|------------------|---------------------|-------------------|
| Cloud-based | ✓ | ✓ | ✗ | ✗ | ✗ |
| Automation System required | ✗ | ✗ | ✓ | ✓ | ✓ |
| Local data integration | ✗ | ✗ | ✓ | ✓ | ✗ |
| Remote Control | ✗ | ✗ | ✗ | ✓ | ✓ |
| Data Calculation & Visualization done by Bühler | ✓ | ✓ | ✗ | ✗ | ✗ |
| Wear part information | ✗ | ✓ | ✓ | ✓ | ✗ |

*Bühler Insights solution and SORTEX Integration Service can also be purchased together.

Customer feedback

“SORTEX Monitoring System provides more visibility on data to our **operators, production managers, and senior management** and therefore an understanding of every situation in real-time.”

“We were able to save **£10k** worth of product due to the **immediate detection and notification** of a blown bulb – and this is just one event worth mentioning.”



Roydon Group



D.C. Williamson

“Bühler Insights has made the purchase of our SORTEX **100% complete**. We are now able to share detailed product grade-outs with 3rd party customers. The data is **unbiased and clearly defined** which is of paramount importance for our intake quality control departments, on the specification and grades of products received and packed.”

Total Care

Supporting your business, every step of the way



Total Care Protect

Our engineers will have an agreed number of visits to replace key wear parts, provide consultation, and advice on future maintenance requirements.

Total Care RemoteCare

The performance of your sorter can be viewed remotely by our engineers. Faults can be diagnosed, and performance adjusted from any location using a laptop or tablet.

Total Care Perform

Safeguarding against any failed components, our engineers will work to repair and optimise your sorter, ensuring first-rate performance.

Total Care PerformPlus

Ensuring that sorters are running at peak performance, ejectors are replaced when the stipulated life-cycle is reached. Performance, maximum capacity, and quality are maintained for the future.

Our customer support leverages the capabilities of digital solutions, which are integrated within our comprehensive Total Care SafeGuard package.

Total Care SafeGuard Performance Optimization



A package of services focused on protecting and monitoring the performance of your sorters and improving efficiency through the supervision of plant operations. Receive weekly health check reports including ejector life, lamps and wipers.



A lifetime partnership

There for you at every step of your journey

We are here to help you 24/7, providing customer service that you can depend on. From maintenance and product testing, to training and digital services, our aim is to boost your production performance and ensure an unmatched quality of final product for your customers.

First contact. Happy to help!

You discover Bühler via our experienced Sales Managers, through marketing collateral, at an event, or from our website. However you hear about Bühler, together we discuss your problem areas and sorting needs.



Defining your solution

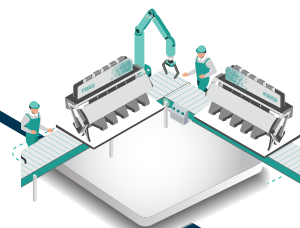
Send us your technical requirements and product photos. Depending on the application, choose from our tried and tested solutions or create a bespoke solution, either virtually or within one of our 14 application labs around the world.

Based on the test results, we collaborate with you to create a bespoke SORTEX solution that you are confident in, that will suit your unique processing requirements and increase your business performance.



Manufacturing your sorter

With 32 manufacturing sites around the world, we have a very high in-house production capacity, including the development of intricate cameras and sensors. Our optical sorters are not built on stock, but rather based on your specific needs.



Reduce your footprint

As a company, we want to balance the needs of the economy, humanity, and nature, and we are committed to developing a pathway to achieve a 60% reduction of greenhouse gas emissions in our own operations by 2030. Optical sorters play a critical role in reducing waste as we look to support our customers to measure and reduce their own emissions. We are committed to having solutions ready to multiply by 2025 that reduce energy, waste, and water by 50% in the value chains of our customers. To learn more about the impact of Optical Sorting, or to quantify the environmental footprint of your own sites and products, **contact your local Bühler Sales office.**



Here when you need us

As a member of the Bühler family we offer you a range of aftercare solutions to enjoy, including: Tests, repairs and remote support from our Service Engineers based at 98 Bühler service stations around the world. **myBühler portal** – our trusted customer portal, providing you with all the information you'll need to run your SORTEX machine.

TotalCare – our service package for repairs and performance optimization.

Retrofit services – allowing you to update or upgrade your machine, increasing its lifecycle.

Supported operation

Our sorters are intuitively designed for easy operation and flexibility with quick product changeovers. We offer operator training courses conducted by our Service Engineers on-site at your plant.

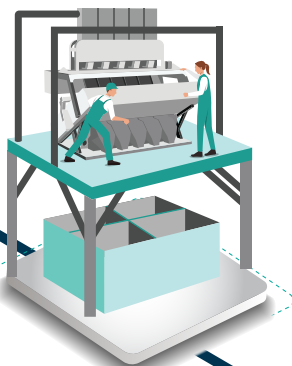


Performance optimization

Improve productivity with Bühler Insights, our digital service platform. Monitor and control your sorting performance remotely with real-time data and take actionable steps to increase performance.

Installing & connecting

Using integration drawings, the machines are fitted and tested by our experienced and highly trained local language speaking Service Engineers. They connect the machine to your plant's automation system using PLC or other plant networks.



Bühler Group



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