

Environmentally advanced

The Sysmex production plant for
Europe, the Middle East and Africa



A sustainable expression of excellence

At Sysmex we take a holistic approach to healthcare. Guided by the dialogue with our customers in a process pinpointing their specific requirements, we target our R&D to create solutions that benefit healthcare professionals and patients alike. As a result, our products truly meet our customers' needs. And everything we do underpins our desire to fulfil our mission of 'Shaping the advancement of healthcare.'

At the same time, we strive to act in harmony with the environment and respect the communities our production facilities and offices are located in worldwide. We firmly believe that business excellence, product quality and value for money are best achieved through acting responsibly and sustainably.

The Sysmex Way: our corporate philosophy helps us think creatively:

- Can we entirely avoid producing waste, as opposed to simply recycling it?
- Can we, whenever possible, re-use materials instead of recycling them?
- How can modern technologies help reduce our impact on the environment?
- Why not aim to become 'greener' every day while improving our products and services?

These are the questions that motivate the staff at our reagent production plant in Neumünster in northern Germany to strive for ever-higher environmental goals.



Advances in sustainable reagent production

A determined commitment to sustainable manufacturing, flexibility in thinking and long-term planning have made our Neumünster reagent production plant so successful. The reagents produced here are solutions for diluting and examining blood and urine specimens (aka *in vitro* diagnostics) and for cleaning laboratory instruments.

Since first opening in 1993, the plant has implemented many measures to reduce its environmental impact and save energy. In September 2016 the plant was awarded ISO 50001 certification for its energy management system and its achievements in improving its energy efficiency, security and consumption performance.



The solar ice system's rooftop solar absorbers



The newest section of the Sysmex EMEA production facilities, completed in 2015

Green technologies

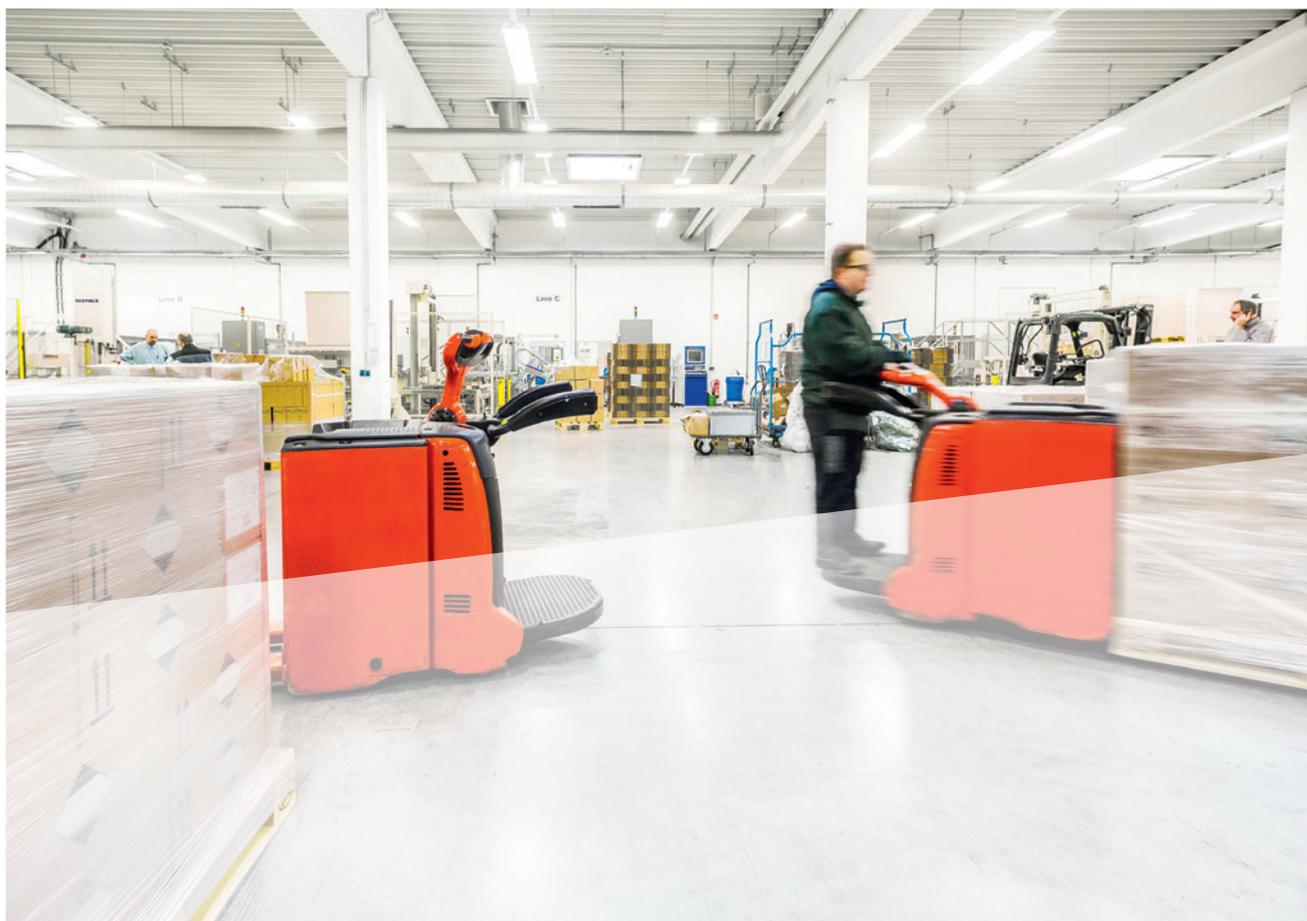
- **Rooftop solar panels:** Approximately 15% of the plant's electricity is generated by rooftop solar panels. This cuts costs, improves the carbon footprint and reduces the dependency on external energy sources, which in turn facilitates a reliable supply of reagents to our customers.
- **100% renewable energy:** All the electricity purchased from external energy providers is generated by hydro-electric power.
- **Flagship solar ice system:** The solar ice system helps to heat the plant in winter and cool it in summer, and does that in an extremely energy-efficient way: the energy output (heating or cooling) is approximately six times higher than the input (electricity).

Less is more

Although reagent production levels are currently about nine times higher than in 1993, there has been a significant reduction in the plant's water, gas and electricity consumption, particularly since 2007. The amount of waste generated per box of new reagents has also been reduced. The plant's ongoing success has led to an increase in the number of employees to around 50 – despite the fact that processes have been substantially automated over time.

In following the Sysmex Way the company is committed to making the plant as safe and efficient as possible for the employees as well as for the customers who demand excellence in product quality. For example, feedback received from a member of staff led to changes in the product packaging on pallets, which make it even safer and easier to work with. Encouraging employees to share their thoughts with colleagues and supervisors is yet another way of ensuring the best use is made of available resources, which is good for both the company and the dedicated people who work there. Perhaps that is also why Sysmex in Neumünster has such a low staff turnover rate.

Opened in 1993, the Sysmex plant in Neumünster, which proudly serves customers in the medical field in Europe, the Middle East and Africa (EMEA), was first extended in 2006 and then again in 2015. The manufacturing facility is certified to ISO 14001 for environmental management, ISO 50001 for energy management and ISO 13485 for quality management linked to medical devices. In 2011 the production facilities were awarded US Food and Drug Administration (FDA) registration and accredited by the Japanese Ministry of Health a year later.



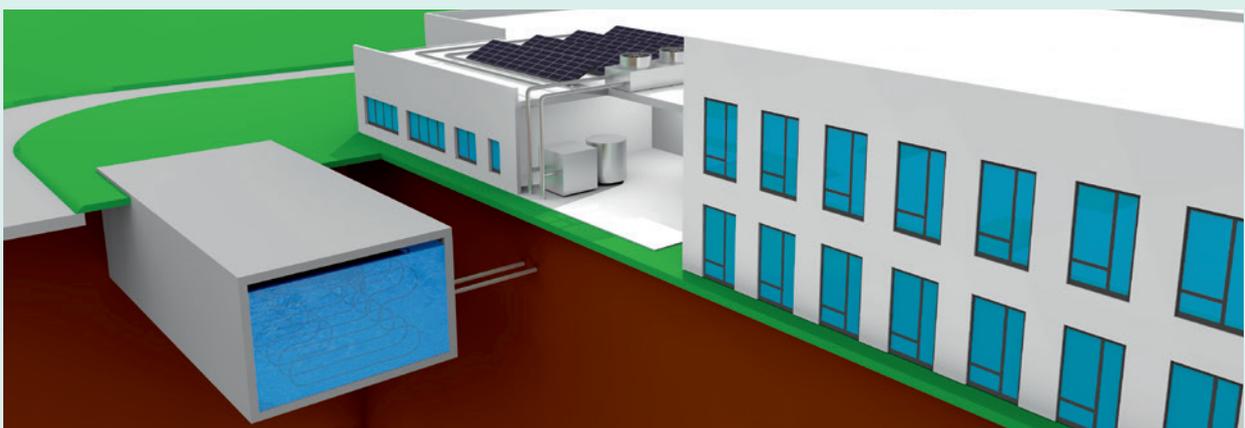
- **In-house water purification system:** This highly efficient system enables regular tap water to be used to manufacture reagents: 100 litres of fresh water deliver 82 litres of purified water. Water consumption has also fallen relative to the volume of reagents manufactured through steam-in-place sterilisation of equipment. This reduces the amount of steam, and thus water, required to disinfect production equipment.
- **Waste reduction:** Since 1993, the volume of waste generated per box of reagents has been substantially reduced, and in many cases is now avoided altogether. In 2016 over 90% of all refuse (e.g. cardboard, plastic and metal) was recycled as a result of on-going improvements in the plant's waste separation system.
- **Recycled packaging:** The cardboard reagent packaging is made up of around 50% recycled material; two-thirds of the non-recycled cardboard comes from sustainable FSC-certified sources.
- **Heat recovery system:** On cold days the warm air in the plant heats up the cold air coming in from outside before that used air is released into the atmosphere. This reduces heating costs by about 20% a year.
- **Electric company car:** The eGolf used for journeys in and around Neumünster cuts CO₂ emissions.

Solar ice system – pioneering environment-friendly technology

This refrigerator-like solution for co-heating the plant in winter and keeping it cool in summer is both simple and sophisticated. The core component is an underground tank holding 475,000 litres of water, which is reused over and over again. Protected from sunlight and oxygen, the water never needs replacing and stays clean as no chemicals are ever added.

When winter arrives, the energy generated by solar panels on the roof is used to stop the water in the tank

freezing and a heat pump extracts heat from the underground tank to heat the plant. On particularly cold days a conventional boiler provides additional warmth. In spring and summer, the solar energy is no longer directed to the underground tank so the water in the underground tank turns to ice, which is used to cool the plant. In an average winter no additional gas is needed for heating between November and March. Moreover, the system generates about six times the amount of energy required by the heat pump.



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