

# Lavans makes eco-friendly operation a priority

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*The Lavans laundry in the Netherlands has been an early adopter both of steam-free operation and of solar energy panels. It is committed to investing in innovations that will help it to deliver exceptional service. Tony Vince reports from the company that describes itself as "the greenest laundry in Europe"*

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A successful switch to steam-free operation and the installation of solar energy panels have allowed Lavans to reduce carbon emissions by 60% and achieve the same percentage figure in gas and energy savings. There has also been a substantial drop in water consumption, another result of the steam-free system. Managing natural resources to ensure a sustainable future has become a top priority for the laundry industry in the Netherlands and for Lavans in particular, says managing director Hein Diks, a third generation member of the family that founded the Lavans business.

Diks explains that the company takes the concept of Corporate Social Responsibility, very seriously. "You could say it's part of our DNA. It is embedded in the company's genes."

Lavans is based in the North Brabant town of Helmond and has been established for 85 years. It is distinguished in the market by its core values of "personal service, reliability and convenience" and by making the vision behind these words a reality. The laundry started in 1928 and was originally called the Wilhelmina laundry. Lavans is now owned by brothers Piet and Michel Heerkens who, with their cousin Hein Diks, form the board of directors that plans the company's strategy and is responsible for its structure and culture.

The company now specialises mainly in workwear rental, including protective clothing, but also offers mat rental and hygiene services.

Following its successful switch to steam-free operation in 2012, the Helmond laundry now handles a weekly work load of 40tonnes of workwear, 10tonnes of roller towels and 40/45tonnes of mats.

All work is processed at its Ringdijk laundry in Helmond but Lavans also has network of six service centres, which allows it to look after more than 9,000 customers. In total the company employs over 200 staff, with around 24 nationalities represented.

A key element in the success of its adoption of "green technology" has been the way that Lavans involved its staff in every stage of the transformation

"As a company we have chosen to invest in making our business significantly "greener" and we are confident that this is an innovative investment for the future," says Diks. He adds that as a family business, Lavans believes it is important to do this to benefit future generations.

While systems to reduce steam use were already available, allowing tunnel washers to operate without steam was a significant step further. Lavan's objective was to transform the work environment for its employees and to reduce energy consumption at its new factory to an absolute minimum. This meant excluding steam wherever

possible.

To realise its vision, Lavans approached JM Kwadraat, an experienced laundry consultancy in the Netherlands. Its founder, Hans van Oorspronk, praises Lavan's approach to the planning stage, saying that the company was very open about its way of working and very active in bringing innovation to the laundry industry.

After much discussion, the two companies developed an action plan for steam-free operation with renewable energy a priority.

The project aimed to reduce the laundry's water and energy consumption as well as making significant changes to operating practice. It involved a successful collaboration between several specialists in the industrial laundry sector, Christeyns, WSP and Technisch Bureau Reinders.

A High Performance Laundry Concept, was central to the plan. This regards every employee as a member of a self-managing team within a line, which is in effect a mini laundry. Each worker is responsible for ensuring the line functions correctly. The "lines" concept is quickly gaining acceptance in Europe says van Oorspronk.

Productivity is not governed by the number of pieces or by the weight handled.

"Whether you are talking about 100 or 35,000 pieces, it is a matter of repeating the line in the production area."

Lavans works with three regional teams and each has its own production line at the Ringdijk plant. As a result of this re-organisation, employees are now involved directly with the customer instead of just working with the product. The regional team members bear joint responsibility for sales, service, delivery, customer relations and product quality.

Van Oorspronk says that the High Performance Concept does not use steam boilers and as a result the environment in the production hall has been greatly improved.

The decision by Lavans management to switch from steam to gas has reduced water consumption throughout the laundry through the interaction of the different processes.

Gas consumption is now 0.07m<sup>3</sup>/kg compared with 0.19m<sup>3</sup>/kg in 2010. Water consumption has been cut to 0.008m<sup>3</sup>/kg from 0.013m<sup>3</sup>/kg in 2010. Electricity consumption is currently 0.15kWh/kg but in 2010 it was 0.27kWh/kg.

Lavans has two tunnel washers, a Milnor 16/40 and a Jensen-Senking P50-16. Both are heated by gas as are the dryers and ironers. The system incorporates a heat-exchanger developed by the Technisch Bureau Reinders that also helps to reduce energy consumption.

The operation also benefits from the Low Impact Washing system developed by Christeyns. Its auto-dosing system ensures that the right chemicals are used and that dosing is accurate, avoiding wastage. The company's Laundry X-pert software monitors the process closely. In a low-impact wash system process water is filtered for

re-use in the wash.

Where Lavans' closed system uses fresh water, this is pre-heated using energy from the main wash or from the ironers' exhaust air and also from the solar panels on the roof.

Christeyns says that its Zero Steam concept offers opportunities to bring in other energy systems and examples can be seen in all three lines operated at Lavans.

"The combination makes for a much more efficient use of resources," says Diks.

The standard blue workwear production line is tunnel washer based. It can handle as much as 25,000kg/week including coloured workwear and protective clothing. In addition to detergents, the process for this line uses Christeyns' Mulan degreaser and

Osamin reconditioner. Energy consumption is minimised, to 0.07 - 0.1kWh/kg, and the system benefits from using Christeyns' Lint-X Rotor system.

A separate high-care-line for work that requires special treatment, such as slaughterhouse whites, is also tunnel based and now handles around 8,500kg a week. Here Lavans uses Christeyns' Process Guard in-line control system. Some garments can be extremely soiled, so to avoid any risk of soiling transferring to clean work, the

high-care section includes a barrier wall to separate soiled garments from clean.

The high-care process includes heavy-duty detergents with concentrated additives for removing blood and protein stains. The main wash water is heated to 75C but the combination of Christeyns Zero Steam, with Heat-X Rotor, Heat-X Air and Heat-X Solar keeps energy consumption low at 0.15kWh/kg.

The Christeyns' Zero Steam system for the two tunnel-based lines is based on the principle of "indirect heating". There is no direct contact between the main wash water and the generator flame to avoid a build-up of sediments in the hot water generator.

A heat-exchanger is used to transfer heat from the hot water produced by the generator. The water flows inside the exchanger's rotating discs in a pressurised circuit.

Mats and roller towels account for about 62kg/week. The laundry has several de-sanding machines to remove as much as dirt as possible from the mats before they are cleaned.

The production line is designed with separated machine drains, which allow up to 50% of the process water to be prepared for re-use in the next batch.

Operating at 65C, the line has an energy consumption of under 0.1kWh/kg, using a gas-fired Zero-Steam system and a total of five tanks - fresh water tank at 30C, circulation boiler at 55C, hot water at 95C and two re-use tanks at 40C and 60C.

The finishing area is used for all three lines and includes a gas-fired Kannegiesser High Power ironer. The line also features a Biko Engineering folder that is specifically designed for roller towels.

The Lavans operation also benefits from the years of experience in the textile cleaning industry offered by both Christeyns and WSP. These two companies worked together to develop Laundry X-pert software to monitor and control the operation. The software runs on a regular PC and offers a clear visualisation of the laundry's operations.

As well as monitoring processes it can record management information such as water consumption and temperature and other costs to provide Lavans with a real-time overview of its operational costs.