

Performance Industrial Washing Solution for Industrial Workwear Improves Sustainability Performance at Lindström's Luumäki Plant in Finland



BUSINESS CASE - Lindström Luumäki



INTRODUCTION

Lindström is one of the Europe's leading textile service companies with 170 year of experience in the textile industry.

The main mission statement of the Lindström Group is to create value for its customers across 24 countries of operation and three main textile service categories: interior service, workwear service and personal protection service. Value co-creation and innovation throughout entire supply chain are the core principals of working at Lindström. The company aims to decrease waste, while extending the lifecycle of each textile and by doing so, also supporting their customers in achieving sustainability targets.

The Lindström Group and Ecolab have a shared history of partnership and mutual credibility based on technical and financial results, as well as value delivery that meet both companies' mission and sustainability goals.

Customer Impact



Economic results

The lower temperature washing process and reduction of re-wash saves **124,000 kWh/year** (equivalent to the annual energy use of 6 people).



Reducing the overall energy consumption at the plant by **three percent**.

Textiles with reflective stripes can be **washed at least ten times more** with a special washing program developed together with 3M.



Saving around € 40,000 per year by increasing the reflective stripes' lifetime (excluding manpower costs).

Reducing waste through decreasing chemical damage of the textile fiber and using less reflective stripes .



Improving textile strength loss by 59 percent and reduced chemical damage to nearly zero.

eROI is our exponential value: the combined outcomes of improved performance, operational efficiency and sustainable impact delivered through our services and programs.

BACKGROUND

Lindström's Luumäki plant washes around 1 million kilograms of textiles each year. Garments with reflective stripes represent roughly 10 to 15 percent of the entire textile mix.

Reflective stripes are an important feature in different types of workwear and personal protection clothing. These garments are used to protect people in challenging industrial, and sometimes dangerous, conditions (e.g. construction, firefighting).

Removal of industrial soiling, such as mechanical oil, soot or dirt mixed with oil requires a highly alkaline washing process. At the same time the reflective stripes on these textiles are very sensitive to alkalic water conditions. Stripes tend to lose their reflective properties after only five to ten washes, while the garments themselves are still in perfect condition to be used for another 20 to 25 cycles. This results in an additional workstream at the laundry to identify textiles with the damaged reflective stripes, sort them and replace the damaged stripe with the new one. This highly manual process represents a significant additional investment for professional laundries.

CUSTOMER GOALS

Customer goals and KPIs for this project included:

- Improvement of the lifetime of reflective stripes
- Improvement of the textile lifetime overall
- Energy consumption optimization

SOLUTION

Ecolab together with Lindström selected the Luumäki plant to implement our Performance Industrial™ washing solution, specifically designed to meet the special washing needs of industrial workwear and improve the longevity of reflective stripes.

Combining a carefully selected surfactant mix, patented soil removal technology and a new, gentle alkaline booster the program removes challenging industrial soiling at 60°C and ensures that needs of all types of industrial workwear are met:

- high cleaning performance on wide range of soiling for blue workwear
- high cleaning performance and guaranteed low temperature (55°C) disinfection for white workwear
- whiteness and color protection for corporate uniforms
- retention of protective garment properties for Personal Protective Equipment (PPE)

Performance Industrial™ is endorsed by leading PPE producers like Klopman, Lauffenmühle, and Carrington, as well as 3M.

eROI : EXPONENTIAL VALUE

Through implementing Performance Industrial™, the following objectives were achieved at the Luumäki plant:

- Improved lifetime of the reflective stripes by at least 10 cycles and 40,000 EUR annual savings
- Improved textile lifetime overall due to almost no chemical damage and 59% lower textile strength loss
- Three percent energy savings due to the lower washing temperature and 20 percent reduction in re-wash

Through Performance Industrial™, the Luumäki plant supports Lindström's commitment to responsible production and consumption. With this program, Lindström has also created additional value for its customers while providing workwear that shines brighter, is more wear-resistant and generates far less waste in comparison to conventional washing programs.

CONCLUSION

Performance Industrial™ has been applied in six other European locations for Lindström. Ecolab and Lindström continue to work together on improving the textile lifetime.