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Funded by the European Union

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

MED TEST III Jordan

Transfer of Environmentally Sound Technologies

Chemical sector

Lamis Detergents Company LLC.

Company overview

Number of employees:
250 full-time employees

Key products:
Home care, Laundry care, Personal care

Main markets:
5% Local & 95% regional and international

Standards & certifications before MED TEST III:
ISO (9001:2015) and Good Manufacturing Practices (GMP) certificate

Established in Damascus in 1965, the Lamis Detergent Company has gathered over 50 years of experience in producing various kinds of detergent and hygiene products. Led by a new generation, the company is constantly looking for innovative solutions, technological developments and worldwide trends that could support its market position.

The company established a new factory in Jordan to cover local and international markets with high-quality products and premium brands. An ISO (9001:2015) certification from the Swiss company SGS, and a Good Manufacturing Practices (GMP) certificate from the Food and Drug General Authority have been acquired by the company.

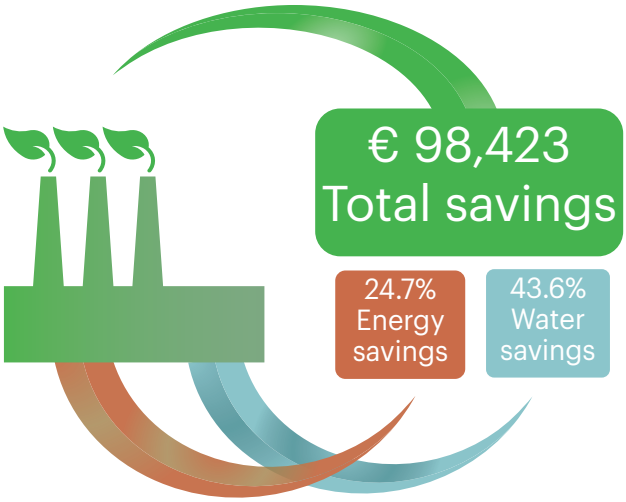
Benefits

The MED TEST III project identified total annual savings of 98,423 Euro* (73,817 JOD) in measures related to energy, water and material savings. The identified measures require an estimated investment of 109,868 Euro* (82,401 JOD), and the average pay back period of the measures is 1.1 years. Around 95% of the identified measures were accepted by the top management for implementation, and 79% of the measures are already implemented or under implementation.

Water consumption will be reduced by 43.6% and energy consumption by approximately 24.7%. Additionally, CO_2 emissions will be reduced by 91.7 tons per year.

In addition to the resource saving options, the company has implemented many actions to improve product quality, improving Occupational Health and Safety conditions, and improved the competitiveness of the company. For instance, fixing faced formulation issues to reduce non-product outputs, segregating solid wastes according to their nature, toxicity and the possibility for reuse or recycle.

Identified annual savings



“We expected that the project would lead us to the optimal use of energy and to reduce the loss of raw and operating materials during storage and production. In addition, we were also looking for ways to improve water quality entering the plant and to reduce the amount of wastewater.”

Mohammad Sbaie
Technical Manager

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As part of the EU-funded SwitchMed programme, UNIDO demonstrates in the MED TEST III project pathways for industries in the Southern Mediterranean to become more resource efficient and to generate savings for improved competitiveness and environmental performance.

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Saving opportunities**

Actions	Economic key figures			Resource savings & Environmental impacts		
	Investment Euro*	Savings Euro* per year	Payback period years	Water & materials per year	Energy MWh per year	Environmental impact per year
Reducing water consumption and wastewater	8,000	61,205	0.1	23,557 m^3	-	Total 91.7 tons CO_2 Total 23,557 m^3 wastewater
Electricity conservation	29,848	22,015	1.4	-	152	
Materials' conservation	72,020	15,203	4.7	-	-	
TOTAL	**109,868**	**98,423**	**1.1**	**23,557 m^3**	**152**	

*Exchange rate 0.75 Jordanian Dinar (JOD) = 1 Euro
** Numbers based on production value from 2020 and 2019 for electricity

Reducing water consumption and wastewater

Water consumption and wastewater can be minimized by several good housekeeping measures such as reducing the production changeover frequency, selecting close colors of products and specifying tanks for specific colors to reduce cleaning frequency of tanks, mixers and filling lines of liquid detergents. And stop the use of inefficient RO and collect, reuse/sell the rejected wastewater of RO system. Additionally, this group of measures includes investment measures to improve the monitoring and control of water consumption by installing water sub-meters, install water conservation tools, and use high-pressure cleaner to decrease water consumption.

Electricity conservation

The consumption of energy could be significantly reduced by improving the heating of raw materials. Electricity consumption can be reduced by:

- Using hot water heating basins instead of hot air room for rising drums temperature, and using compressors' waste heat for heating the raw materials room.
- Checking and fixing the air tightness and thermal insulation of the raw materials heating room.
- Installing monitoring system for energy consumptions at the factory.
- Using steam boiler (diesel fired) instead of the electric steam generator for steam sleeve tunnel.
- Capture and re-use the escaped steam from the tunnel.
- Working at full production capacity.
- Using solar water heaters for boiler's make-up water heating.
- Avoiding using air for bottles cleaning after filling lines.
- Arresting 90% of compressed air leakages.
- Using compressors' waste heat for space heating of the near production halls in winter.

Materials' conservation

The old Cl_2 machine required a regular maintenance because of the high frequent stoppages that affected the productivity and increased the operating cost. By replacing this machine with a new machine, the cost of maintenance and reduced productivity caused by the stoppages will be saved. Also, this group of measures include the following actions to reduce the consumption of raw and packaging materials:

- Reduce the losses in raw materials by changing the supplier to ensure that raw materials are received in high quality bags or containers.
- Improve the competency of workers in using packaging machines or hire a specialist.

> “Despite the significant challenges the industry faces, there are always innovative solutions that companies do not see. The project has provided us with innovative solutions in reducing energy consumption, materials and water. The methodology introduced key performance indicators and material flow cost accounting, which has helped us to find weaknesses in the company.”
>
> Mohammad Sbaie
> Technical Manager

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