MED TEST II Case Study

switchmed

As part of the SwitchMed programme, UNIDO supports industries in the Southern Mediterranean through the transfer of environmental sound technologies (MED TEST II) to become more resource efficient and to generate savings for improved competitiveness and environmental performance.

Tunisia

NOEL
Leather sector

Context

Number of employees:	509
Key products:	Leather, footwear for children
Main markets:	100% exports
Management standards:	ISO 9001

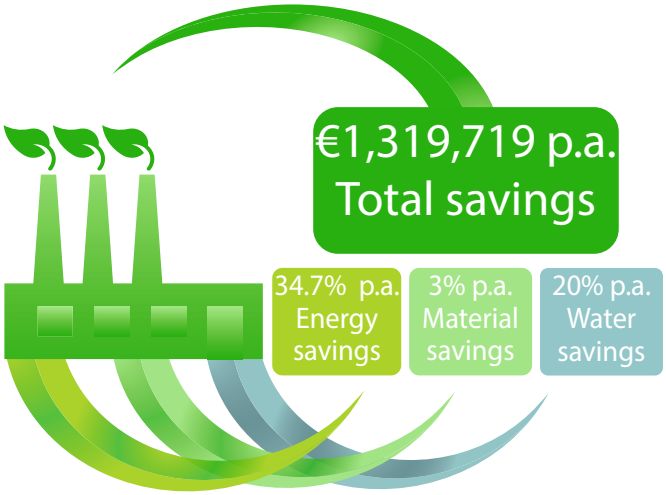
NOEL TUNISIE was established in 1976 in the village of Medjez el Bab. The company specialises in the manufacture of shoes for babies and children, and produces approximately 4,000 pairs of shoes per day. The company works for various French children's footwear brands, the most significant of which include Noel, Minibel, Babybotte and Easy Peasy "EZPZ".

The company joined the MED TEST project with a view to identifying opportunities for the more effective utilisation of resources (leather, water and energy), for improving the performance of its facilities, and for minimising waste, and swages and leather in particular.

"The potential economic and environmental impacts of the MED TEST project are consistent with corporate policy in terms of environmental conservation and energy savings."

Marc Leroux
Managing Director

Benefits



Graphic: UNIDO

The MED TEST II project has identified total annual savings correponding to a value of EUR 1,319,719 resulting from raw materials, water and energy savings, against a total investment of EUR 1,419,137. The payback period on these investments varies between 3 months and 5 years. The company's management have decided to implement 77% of the identified measures.

Resource savings will be approximately 34% for energy, 20% for water consumption costs, and 3% for leather and auxiliary raw material purchases, through the implementation of RECP measures.

The environmental savings will comprise a 33.5% reduction in CO_2 emissions, a 20% reduction in the volume of used water, and a 36% reduction in COD.

The MFCA analysis enabled the company to identify the cost of hidden losses, notably losses relating to raw materials and energy. As a result, Noel Tunisie has taken steps to improve its current accounting system in order to harmonise its environmental costs to the greatest possible degree. On the other hand, with a view to ensuring regulatory environmental compliance and the sustainability of the TEST approach, the company intends to introduce ISO 14001 in the near future.

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

SwitchMed is funded by the European Union

Saving opportunities[1]

Action	Economic key figures			Resource savings & Environmental impacts per year		
	Investment euro	Savings euro / Yr.	PBP Yr.	Water & Materials	Energy MWh	Pollution reduction
Optimization of manufacturing processes	1,024,320	357,010	2.9	18 t materials	-	Total: 357 t CO_2
Waste recovery	354,000	918,000	0.4	58 t leather	-	
Energy consumption improvement	39,200	43,430	0.9	-	514	76 t solid waste
Zinc coating process optimisation	1,643	1,279	1.3	170 kg addtives 8 m^3 waste water	1.6	24.9 kg COD
TOTAL	**€ 1,419,163**	**€ 1,319,719**	**1.1**	**76 t raw materials 8 m^3 water**	**515.6 MWh**	

1 Numbers based on production value from 2015

Optimization of manufacturing processes

Noel Tunisie is proceeding with the implementation of a set of measures including the replacement of the cutting presses with automated cutting machinery, enabling the fabrication of swages to be reduced by 75%, as well as an option to minimise leather wastage in the cutting workshop through a positioning technique which involves the proper positioning of the swages on the leather in order to reduce waste quantities. These measures will result in a reduction in material losses equivalent to 18 t per year, including 6 t of leather and 12 t of steel for swages.

Waste recovery

The first recommended task as part of this measure is the recovery of unused leather from subcontractors, who use a thermo-bonding technology to apply a new finishing film and give the leather a different colour, enabling its reuse in new forms in line with fashion trends. The recovery of waste vegetable leather involves crushing the leather and mixing it with resins in order to manufacture sheets which can be used in soles or mid-soles in footwear manufacturing. These tasks, despite the significant investment of EUR 354,000 that is required, will reduce solid waste by 58 t per year.

Energy consumption improvement

The company has implemented several energy efficiency measures, including minimising compressed air leaks, optimising the lighting system in the production areas, and improving energy productivity in the various workshops.
These tasks have enabled a reduction in energy consumption of 514 MWh, and in CO_2 emissions of 327 t.

Zinc coating process optimisation

The implementation of the improvement options in the zinc coating workshop, including the acquisition of an automated additive metering unit, the elimination of the rinsing bath in the chemical degreasing stage, and the swapping of the baths during the chemical degreasing stage will lead to a 170 kg reduction in additives (chemicals) and 8.3 m^3 of wastewater.

"The MED TEST II project has made us aware of the importance of our various uses of energy and materials, and has also ensured our commitment to pollution protection and prevention throughout the production of our products while complying with legislation, improving environmental performance and using energy and raw materials in a responsible manner"

Marc Leroux
Managing Director

For more information, contact:

United Nations Industrial Development Organization
Department of Environment
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Telephone: (+43-1) 26026-0, Fax: (+43-1) 26926-69
E-mail: C.GONZALEZ-MUELLER@unido.org
Web: www.unido.org

Centre National du Cuir et de la Chaussure (CNCC)
17, Rue du Cuir, ZI Sidi Rézig, 2033 Mégrine
TUNISIA
Telephone : +216 71 432 255 Fax : +216 71 432 283
Mail : info@cnccleather.nat.tn
Web : www.cnccleather.nat.tn