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

Société Tunisienne pour l'Industrie Textile (STIT)
Textile sector

Context

Number of employees: 63

Key products: Fabrics for work clothing for various brands

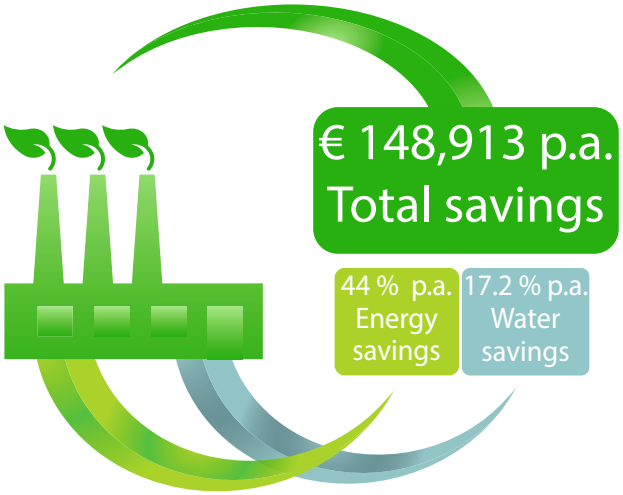
Main markets: International and local

Active in the textile and clothing sector, Société Tunisienne pour l'Industrie Textile (STIT) is a textile weaving and finishing business for work clothing, and is located in Ksar Hellal. STIT's focus on the export market is very limited. It currently exports approximately 10% of the production.

"Aware of the importance both of our environmental and economic performance as well as our customers' expectations, STIT took this opportunity to participate in the MED TEST II project in order to identify new ecologically rational solutions and develop our capacity in terms of sustainable production."

Hassen Zarrad
The Manager

Benefits



Graphic: UNIDO

The application of the RECP approach in the MED TEST II project has led to the identification of total annual savings of EUR 148,913, particularly in energy, raw materials and water, versus a total investment of EUR 111,773. The return on investment term varies between 0.8 and 1.3 years.

All of the projects will enable an improvement in the company`s environmental performance by reducing CO_2 emissions by 43%.

66% of the identified measures were accepted and approved by the manager, and the company has begun implementation. 34% of the remaining projects have been retained for further study.

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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
Equipment modernisation	40,957	54,612	0.7	-	1,239	Total: 831 t CO_2
Water conservation	0	1,413	Immedi-ate	5,600 m^3 water	-	
Energy efficiency optimisation	70,816	92,888	0.8	-	2,068	
TOTAL	**€ 111,773**	**€ 148,913**	**0.8**	**5,600 m^3 water**	**3,307 MWh**	

1 Numbers based on production value from 2014

Equipment modernisation

The first project involves the ream and the dryer; extraction is currently provided by three motors, and controlled by 3 fixed mechanical shutters, and will be controlled by frequency controllers in order to enable the quantities of extracted hot from the ream to be controlled.

The ream is used for drying as well as for thermobonding, and requires two totally different settings for the extractor shutters. It is recommended that the extractors are controlled using frequency controllers, primarily actuated by switches:
Speed 1: Drying
Speed 2: Thermobonding, or by potentiometers

As for the dryer, it is currently fed with indirect heat by the steam / air exchangers and will undergo modification through the acquisition and installation of two natural gas burners.

The second project associated with this group of measures involves the programming of the dyeing machines. The dyeing machines are equipped with automation units for operation in automatic mode, but this mode is currently poorly used. The operating programs for the dyeing machines must therefore be reprogrammed and reorganised, depending on the different materials and processes, and valves and faulty components must be repaired and reinstalled.

Water conservation

This measure consists of a reduction of the number of baths in the dyeing process, and the number of rinses. Water consumption will be reduced as a result.

Energy efficiency optimisation

This involves a set of projects: the development of a production tracking software, the implementation of an energy accounting system, the optimisation of the steam circuit, the improvement of the combustion in the two boilers, the optimisation of the compressed air network's performance, and energy efficiency training for personnel.

"The economic and environmental impacts from applying the TEST methodology are impressive. This will have an impact on the our brand image and consequently on our customers. STIT will consolidate this approach."

Hassen Zarrad
The Manager

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