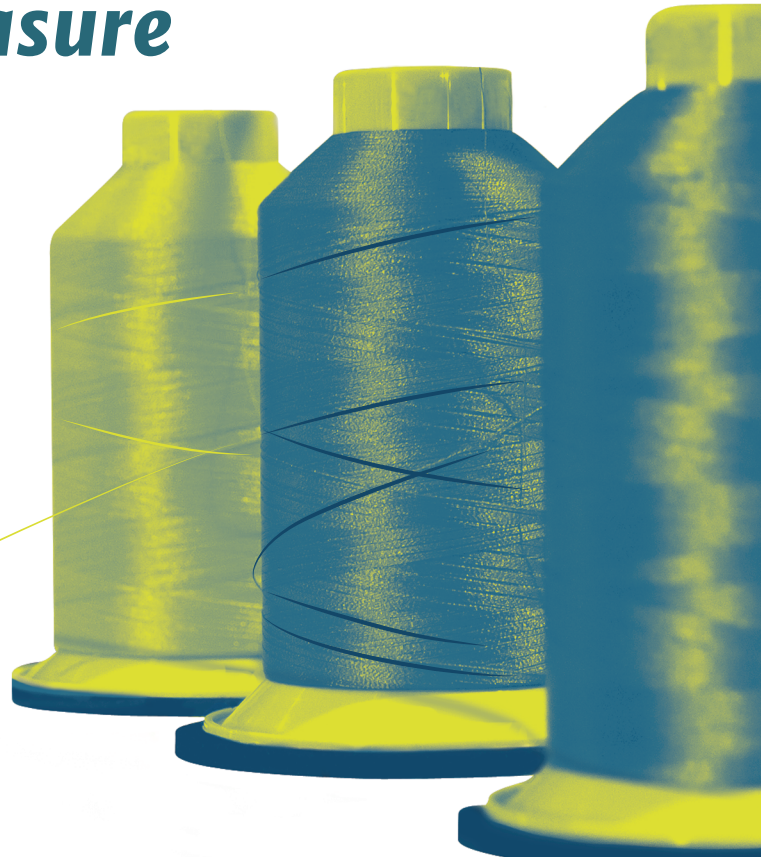
ARTISAN

Energy Made·to·Measure

A NEW SEASON FOR ENERGY EFFICIENCY IN THE EUROPEAN **TEXTILE INDUSTRY**



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Let's uncover energy hidden costs

ARTISAN and SESEC are two European Projects sharing the same objective to increase energy efficiency in the production chain for European textile and clothing manufacturing through a common campaign of initiatives: "Energy Made-to-Measure".

ARTISAN is a Research Project co-funded by the EU 7th Framework Programme. It aims at promoting a reduction in energy consumption and CO_2 emissions for European textile industry. The consortium, coordinated by ENEA (IT), includes ATC (GR), AUEB (GR), DITF-MR (DE), Domina (IT), EURATEX (EU), F.lli Piacenza (IT), INTRASOFT (LU), Marc Cain (DE). The Research project ARTISAN places itself at the 7th level of Technological Readiness (TRL scale).

Energy costs have a crucial influence in the competitiveness of textile industry. ARTISAN Project is born with the aim to reduce energy consumption and CO_2 emissions for textile industry, operating on everyday operations and on the production chain. For this purpose, ARTISAN proposes an analytical approach to companies' energy efficiency.

An analytical approach to textile industry's energy efficiency

ARTISAN proposes an analytical approach to companies' energy efficiency and carbon emission. It is characterised by:

- evaluation of energy costs on product and industrial process levels, thanks to the analysis and tracking of energy consumption and use
- improvement of organization and planning of operating activities
- evaluation of the cost variation in everyday operations.

This approach is supported by a series of software instruments – some are already available and other are at prototype stage – implementing a new model of IT services to support companies' operations.

Thanks to ARTISAN, it is possible to identify interventions that, on average, could produce a benefit of around 10% in terms of energy saving.

www.artisan-project.eu

ARTISAN effectiveness for companies

ARTISAN has already been tested in different companies.

Through the analysis of real-time data about machine consumptions - obtained through a sensors network - the German company **MARC CAIN** has been able to identify for electric machines new operative regulations with an average saving in consumption of around 10%.

Through the production optimization algorithms of the ARTISAN prototype, a possible reduction in machine's stand-by time has been identified. This has proved a possible saving in electricity equal to 20%, and a similar saving in the consumption of air conditioning systems.

The Italian company **FRATELLI PIACENZA** has managed to identify a promising optimization area of its thermal energy consumption, focusing on the production scheduling for the finishing division, in order to limit stand-by time.

Thanks to the approach suggested by ARTISAN, the Italian company **MARCHI & FILDI** has been able to identify possible interventions of energy efficiency that have allowed a reduction of 25% in electricity consumption.

ARTISAN for the company, now

ARTISAN can immediately offer to European companies in textile manufacturing the results of an accurate analysis that has allowed to identify the leading Best Practice to improve the sector's energy efficiency.

Through ARTISAN's self-evaluation tool ENCORE, it is possible to identify the most appropriate interventions for one's own business, evaluating benefits and costs.

Try ENCORE. Available for a free download:
www.ARTISAN-project.eu/tool

Best Practice: simple, immediate, clear, effective

ENCORE has selected 50 Best Practices to optimize energy consumption in textile manufacturing. For example, it is possible to recover heat from the fumes of thermal generators of steam and hot water, or from dyeing and scouring water, easily achieving savings in heat consumption that range from a minimum of 5% up to 30%, with a return period for investments of two years.

ARTISAN prototype: tomorrow's energy efficiency for the companies

ARTISAN identifies a model of services to support the analytical approach and implements it in a software prototype that has been already experimented in some industrial pilot.

ARTISAN architecture is based on an interoperable platform of IT services able to supervise and minimize energy consumption. Through a real-time data analysis, the prototype can monitor and alert on energy consumption related to products, processes and machines.

At the core of the ARTISAN prototype there is a decision support system based on an advanced algorithm allowing an optimization in the scheduling of production orders, taking into account also the energy as a variable, and identifying possible interventions.

Thanks to planning and forecasting tools, it is possible to evaluate energy requirements for the future.

Finally, the prototype can take advantage of a series of tools for Carbon Permits Management and for Energy Market Management . They allow a flexible interaction with the Emission Trading Scheme and the markets of energy at variable costs, as expected in Smart Energy Grids.

ARTISAN on LinkedIn, the Community of Energy Efficiency.

"Energy Made-to-Measure, in Textile and Clothing industry" is a group in LinkedIn to which one can register in order to have the opportunity to discuss and be informed on the most up-to-date information about energy efficiency in textile and clothing manufacturing.

www.artisan-project.eu

Energy efficiency improves competitiveness and protects the environment

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ARTISAN tools are available for a free download
www.artisan-project.eu

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