



Italy

## REDUCE ENERGY COSTS CONCRETELY AND IN A SHORT TIME

---

Doing something quite normal really well usually leads to success this was what Mr Henry John Heinz, founder of what would have become one of the main American food companies and later one of the main companies worldwide, said.

Founded in 1869 in Pittsburgh (USA), the Heinz Group grew progressively all over the world and now produces and sells different products in over 200 countries.

Today H.J. Heinz Co. is one of the world leader in the production and distribution of ketchup, dressings, sauces, ready meals, soups, snacks and high quality childhood food. All companies belonging to Heinz Group have a staff of people that follow regular training and work to develop new products answering to specific nutritional in respect of the dietary habits.

Therefore, we speak about a group that commercialize very famous brands and well known quality products, among them there is Plasmon that produce childhood foods and represents one of growth engine of Heinz.

Plasmon belongs to this important Group since 1963. In his more than centenary history, Plasmon has always collaborated with paediatric science and with the medical-scientific community in order to guarantee a secure and genuine foods production with equilibrate nutritional contribution.



## Plada needs and our collaboration

The Ozzano Taro production plant belongs to Heinz Group since 1974 and it's obtained the quality certifications ISO 9001; 2000 and ISO 14001; 2004. The entire production area is 471.050 square meters for a comprehensive production almost 25.967 tons/year. 97% of total production is addressed to national market with Plasmon, Nipiol, Bi-Aglut and Aproten brands. Plasmon decided to plan a control and improvement activity in order to contain the energetic costs, establishing a work team composed by the finance factory controller and the plant engineering manager. The first step, suggested by the Group Leader Company, was to evaluate a consumptions control and optimization software implementation.

At the same time the Latina plant started with a Maintenance Software implementation by Inspiring and evaluated the opportunity to implement the energetic consumptions optimization software, **BLINK**, by the same supplier. In this way started in parallel the optimization consumptions project.

The choice of this solution was dictated by the know-how that the supplier was already having of company production and organization problems and by the opportunities that the software was offering compared to competitor solutions.

Of course, the idea to manage all data in a "hand-built" way and without a dedicated instrument, it wasn't efficient: too much information to elaborate and analyze to have a correct indication of the way to follow to optimize the costs...

It was absolutely necessary to have a structured solution, easy and able to return some feedback in a very short time.

Immediately, some important points appeared crucial to address the energy, above all to have return data that can be usable and right to make profitable considerations.

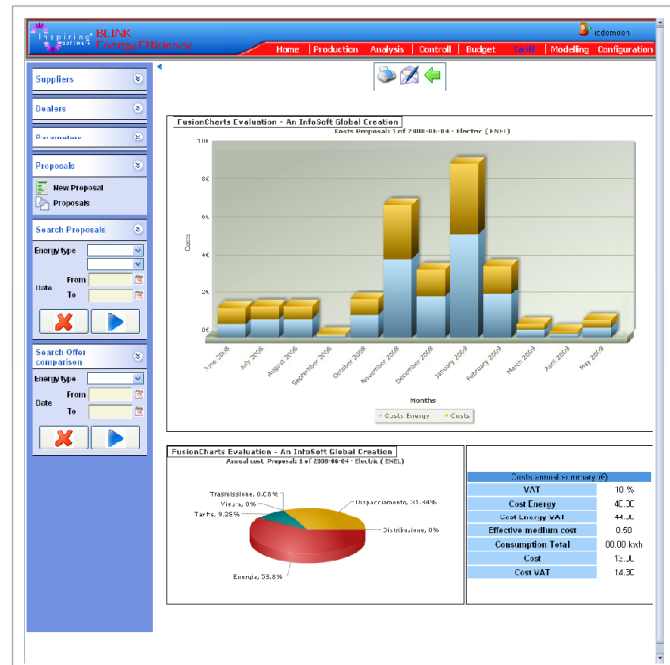
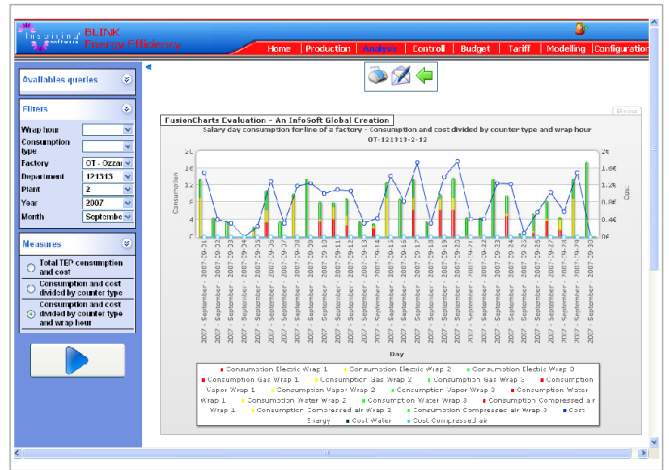
The first need was to know in an accurate way the production plant catalog, identifying for every production phase the output mechanism, the input and output data and all that's happening during the processing. Moreover the other key need was to plan the meters implementation on the real critical points of productive plant. This meant to identify the real energy drivers that influence the consumptions. It was necessary to elaborate a loaded forecast of different energetic vectors, on the base of important energy drivers for the system and not only on an analysis of consumption historical series.

The first energy driver taken in consideration was the kind of product realized, to evaluate the effect on the calculated total consumptions. The counters problem, instead, is about to become matter. In this moment the meters have been placed in some crucial points, but the intention is to increase the number.

The software implementation required specific attentions about some needs that generated personalizations more or less important for the solution.

The purpose is to have concrete saving results on the resources costs and a perfect monitoring on what is happening in the production phases. The consumption monitoring phase must be completed by the direct control of the consumptions, to be more precise, it's necessary to be able to act when there are deviations in the consumption, before defined "normal consumption".

In this phase, according to statistical control of process theory, the CuSum control papers are an efficient instrument.



For example, if we are monitoring some machines where some failure modes could be related to consumption increases, a deviation in the control paper can be a condition to generate a preventive maintenance.

And this falls down like a waterfall onto the maintenance costs reduction and onto a better reliability of whole production system.

## The future development: the sustainable energy

From the point of view of ordinary operations, once implemented the entire monitoring, analysis and optimization system, it's necessary to check the plant functionality to produce electric energy and/or thermal and cold based on energetic needs (thermal and electric) forecasted on company characterization.

Afterwards, it will be necessary to characterize all energy production /conversion components belonging to the system and to define the relationship between the components, highlighting the inefficiencies.

The next step, with simulations on loaded conditions, will be to define the optimal configuration of the system, following the consumption or polluting issue minimization.

Finally, it's useful to simulate and compare different scenarios of energy production in order to define the best configuration to produce energy, for example with co-generation or renewable sources.

What is interesting is to be able to integrate new systems/equipments in the existing situation replacing, in part or completely, the actual ones; to study the technical practicality of the innovative solutions with simulations on loaded conditions that leads to define the optimal arrangement, related to the selected optimization criterion.

The technical feasibility study must be completed with an economical analysis on the investment profitability with an investment cash flow calculation and the parameters like the NPV (Net Present Value) and the Payback period.

Finally a sensitivity analysis on the economical parameters, could confirm the strength of the solution. Monitoring and evaluating the improvement opportunities, to guarantee the real quality jump, it's possible to pass to a self-generation systems like cogeneration or photovoltaic.



20060 Bussero (Milano) Italy - Via Milano, 15/i  
Tel. +39 02 95038260 - Fax +39 02 95039892

mkt@inspiring-group.com - www.inspiring-group.com