

Case Study Sport Centers





Centre Atlètic Laietania is a sports club founded in 1925 with a long history of athletics training. It has facilities for tennis, paddle, futsal, basketball, fitness and directed classes, among others.

€76,348Annual savings

It has one indoor and three outdoor swimming pools, a gym, six tennis courts, seven paddle courts and a multi-sports hall.

It also has a clubhouse and a restaurant with spectacular views over the city of Mataró and the sea.

Project implemented by:



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The large amount of data that we worked with on the Centre Atlètic Laietania project required the adoption of an effective energy management system. We decided on DEXMA Platform because of its advanced technology, but also because the software is so user-friendly when it comes to implementing energy efficiency measures.



DANI PUIGDOMENECHCo-founder and Project Manager, Enertips

The Energy Challenge at Centre Atlètic Laietania

Centre Atlètic Laietania's main concern was **dealing with the sports complex's high energy consumption costs**, so its primary objective was to reduce these costs as much as possible.

When planning the energy efficiency project for the sports club, the first problem that this posed to Enertips was the **difficulty identifying possible action areas**, because its consumption is divided into two electricity supplies and four for gas. These serve **three buildings and the facilities spread over four hectares**.

Water consumption is another important part of the cost of utilities.

The Centre Atlètic Laietania sports complex consists of several buildings and more than 4 ha of open spaces and facilities, such as tennis courts, outdoor swimming pools, paddle courts...



The Enertips solution

A first tariff management phase at the centre, following Enertips' instructions, achieved a reduction in energy bills without the need for any initial investment.

This saving was the result of negotiating more competitive electricity and gas prices, **optimisation of the contracted power and the elimination of excess reactive energy**.

At the same time, work began on developing a plan to improve the sports centre's energy efficiency, with the aim of reducing its consumption. In order to optimise the centre's consumption, the inefficient elements and areas with the highest energy demands needed to be identified.

To do so, Enertips decided to run a **consumption monitoring project** at the centre using the **DEXMA Platform**.

Monitoring of electricity and gas consumption meant **Enertips could produce** a complete and detailed analysis of the distribution of the club's different consumptions.

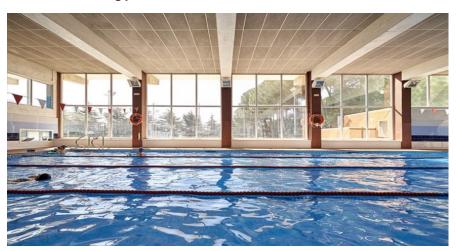
On the right, the detailed monitoring of the centre's energy consumption.



In order to monitor consumption, **six meters were installed** that enabled the team to visualise and **analyse energy demand** of the different devices in the centre in real time, as well as the building's overall consumption.

Energy managers were also able to identify possible options for reducing consumption thanks to the **different analysis tools offered by the monitoring software** (display of consumption by energy source and device, consumption ratios by temperature, occupancy and area (among others), cost analysis, passive consumption, reactive energy, etc.).

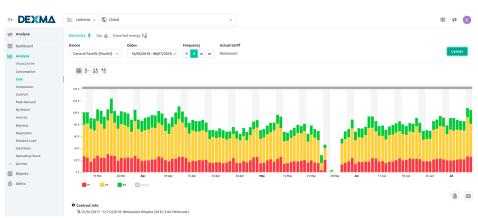
On the right, the indoor swimming pools, where HVAC and Sanitary Hot Water are needed all year round.



After collecting the first set of data, we decided to replace the main boiler for sanitary hot water and heating the swimming pool with a modern condensing boiler. The sauna and jacuzzi operating times were also rearranged to maximise efficiency in accordance with the times when these facilities are used the most.

In light of these measurements, the possibility of changing the jacuzzi water heating system from gas to electricity is being evaluated. To make this decision, it is vital to know the real power margin that can be obtained from the boiler at the times of greatest demand.

On the right, the DEXMA Analyse project cost screen. There is a downward tendency in terms of costs and consumption.





First, we should stress how easy it is to contact the Enertips company and the excellent treatment received. Regarding the project, the first step was to invest in a new gas boiler. It paid for itself in barely half a year, just as the Enertips consultants predicted, and there have been very significant financial savings. Something else to highlight is the saving in terms of the time it would have taken us to negotiate with utility companies. I would also like to stress the excellent results obtained from all the changes and improvements made to date. Also, being able to know in detail about the consumption by zones and elements helps with decision making.

XEVI CARBONELL

Manager, Centre Atlétic Laietania

The Results of the Project

By monitoring the energy demand, **Enertips was able to detect a number of irregularities** in the consumption behaviour of various systems.

Several devices were identified for their **higher passive consumption than usual** for such types of equipment. Further, the most inefficient equipment was identified, with higher active consumption than they should have (such as less efficient HVAC systems, identified thanks to the consumption ratios by degree day).

This led to a reduction in the passive consumption of different equipment in the sports centre, by **setting off alarms** to detect consumption anomalie, enabling real-time correction. Inefficient equipment was also replaced, such as the centre's boiler with a more efficient condensation one. The electric resistance heating system used for the jacuzzis will most probably be replaced by a gas heating system, too.

The feasibility of these modifications could be quantified thanks to the **DEXMA Platform, which showed a saving of €76,000 in just the first year.**

On the right, the gym facilities in the sports complex. The complex has three buildings, including the cafeteria, as well as outdoor facilities with different energy needs.



DEXMA Platform features highlighted in this project

- 1. **Fast:** Hundreds of meters already integrated to obtain easier and faster data collection. The average screen load time is less than 1 second!
- 2. **Passive consumption analysis:** DEXMA Analyse, with the Operating Hours app, enables fast detection of passive consumption.
- 3. **Communication:** End customer loves how easy it is to visualise data thanks to DEXMA's customisable reports and screens.
- 4. **Multi-source power:** The DEXMA Platform goes far beyond electricity monitoring. Just like Centre Atletic Laietania you can also manage multiple sources, including water, gas, fuel tanks.

Enertips

Enertips is a comprehensive energy services consultancy that offers professional management of all aspects related to corporate energy consumption. The company is constantly looking for opportunities to save and optimise resources and, therefore, costs. It also promotes the responsible use of energy resources.

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1.915.910 kWh

Annual energy consumption

172.960 €

Annual energy cost

31%

Percentage consolidated savings after the project 76.348 €

Consolidated savings 1st year



DEXMA offers energy analysis technologies that help energy managers understand and reduce energy cost and consumption. <u>Contact us</u> if you need help with your projects or take a free look at the <u>DEXMA Platform</u> today!



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