Heineken España
Leveraging data for improved sustainability

Founded in 1864 in Amsterdam, Heineken is the number 1 brewer in Europe and number 3 brewer in the world with operations in 71 countries and over 250 brands. Sustainability has been a core operating principal for Heineken for 150 years. In 2010 Heineken launched an aggressive 10-year plan to reduce water usage and increase energy efficiency throughout its breweries, offices, and warehouses. When Heineken’s new brewery in Seville, Spain started approaching its technological benchmark limits, the Seville brewery deployed the PI System as its energy and water monitoring solution to push its sustainability improvements past the technological limits.

“Sustainability is a critical part of how we do business and the PI System is supporting our sustainability goals.”
– Consuelo Carmona Miura, Heineken España

Situation
Built in 2006, the Heineken España brewery in Seville, Spain was the first greenfield brewery built in Western Europe by Heineken. Today it is the largest greenfield brewery in Europe with a capacity of 5.2 million hectolitres. Built as a replacement for the La Cruz del Campo brewery, the new brewery included many optimization improvements and is more efficient than the old brewery was.

As part of its ongoing commitment to sustainability, in 2010, Heineken introduced a comprehensive 10-year sustainability plan that affected all aspects of its operations. For the Seville brewery this meant reducing water consumption by 25% and reducing CO₂ emissions by 40% based on their 2008 levels.

In 2012 when the Seville brewery started approaching its technological limit, the Seville brewery realized it was going to need another tool if they were going to meet the 2020 targets. “We knew we were close to the technological limit. We said ok, it’s clear that we need an energy and water monitoring and reporting system if we want to keep moving forward because we spend 80% of our time collecting information and 20% analyzing it when it should be the opposite,” says Consuelo Carmona Miura, Energy Capabilities Heineken Project Lead at Heineken España. “Two years ago we started looking at energy and water monitoring solutions but not one of them convinced me. When I saw the PI System solution I said this is what I’m looking for. It’s very flexible, you don’t depend on the supplier to make any modifications to the system, it’s accessible for everyone – this is why we decided to start working with the PI System.”

Solution
In 2012, Heineken España installed the PI System at its brewery in Seville, Spain. The Seville brewery also decided that Asset Framework (AF) was going to be a core part of the solution. “We decided that AF was going to be the base for everything developed in the PI System,” says Miura. “We have many silos, non-intuitive tag names, a lot of equipment across the different processes – AF is a flexible asset model that allows us to organize and structure our PI System data.”

In addition to organizing data and making it more user friendly, AF has given the Seville brewery increased calculation capabilities. Now, when machines are defined in AF, the primary sustainability attributes (electricity, water, and thermal energy consumption) are also defined. This means that sustainability data is available for each asset and as roll up data across divisions:
• in real-time as absolute values.
• in per shift, per day, and per week totals.
• in weekly and monthly ratios that show the amount of water, electricity, and thermal energy consumed per
To meet corporate sustainability goals, the Seville brewery needed to reduce water consumption by 25% and CO₂ emissions by 40% based on its 2008 levels. After two years of working aggressively on sustainability improvements, the Seville brewery was approaching its technological benchmark limits.

The PI System was installed in 2012 as the foundation of the Seville Brewery’s water and energy monitoring solution. AF was used to organize information making it more accessible to users and to calculate key sustainability metrics across hardware assets.

Less time is spent looking for data and more time spent analyzing it. Each department can see and manage its water, electricity, and thermal energy consumption in real-time. PI ProcessBook and PI DataLink playback is assisting personnel in analyzing historical problems and identifying the root cause.

Benefits

Although still early in its implementation, the Seville brewery has seen several benefits from their PI System deployment. The PI System has made information easier to access. “Now we spend 10% of our time collecting data and just enjoy analyzing information the rest of the time – it’s totally the opposite of a few years ago,” says Miura.

The PI System has also improved data quality. “In the old software we were missing efficiency data, ratio data, historical values, we needed more flexibility in graphs. Now we can check in real-time efficiency, power, pressure, and flow and see efficiency values for last 24-hours, last week, and last month.” And, since the PI System is easy to use, the Seville brewery has been able to extend their data to new users. “Each department has to own their own consumption,” says Miura. “With the PI System it’s really easy for them to develop screens and control consumption in real-time. This is why we choose the PI System – you don’t have to be a specialist to use it and you can develop your screen and your report in a few minutes. Now all users manage their consumption with the PI System.”

With improved data and the ability to view sustainability metrics in real-time, the Seville brewery can view real-time operations against both yearly sustainability targets and historical process levels and make dynamic process adjustments. As a next phase in its implementation, the Seville brewery is planning to switch from fixed yearly targets to dynamically recalculating yearly targets that adjust based on real-time production and current climate conditions.

In addition to improving real-time information access, the PI System has given the Seville brewery new tools for diagnosing and resolving historical issues. “We use PI DataLink™ and PI ProcessBook™ playback to analyze historical problems. Using playback you can analyze second by second what happened in the past. It’s helping us identify root cause of problems,” says Miura.

“The key for us going forward is to use data to analyze information day-by-day and take quick actions,” say Miura. “With the PI System we can get quick answers for every deviation and anticipate efficiency losses. The PI System is supporting us a lot.”