

When the popular energy and snack bar manufacturer began self-manufacturing in 2014, it turned to AVEVA's MES system to support its strategic initiatives.

Clif Bar
www.clifbar.com

INDUSTRY
Food & Beverage

Goals

- To launch a greenfield facility in Twin Falls using the same operating architecture of its brownfield facility in Indianapolis.
- Establish a data-driven culture to better gain insights into continuous improvement opportunities.
- Select an MES system that integrates seamlessly with a variety of OEM hardware and legacy assets.
- Measure and validate Clif Bar's commitment to its 5 Aspirations.

Challenges

- Prior to 2014, Clif Bar had never manufactured its own bars.
- Assume control of both a greenfield facility and brownfield operations without compromising product quality.

AVEVA Solution

- Wonderware MES
- Historian

Results

- Clif Bar went from manufacturing 0 to 75% of its own bars within a 1-year span.
- Despite an 8% chance of success, Clif Bar took control of both greenfield and brownfield operations without compromising product quality or output.
- Ongoing use of Historian data is setting up Clif Bar to leverage predictive analytics.

Clif Bar Paves Its Path to Self-Sustainable Operations

Twin Falls, Idaho – For many, Clif Bar is a go-to energy bar for the trail or during the workday, but for 295 employee/owners in Twin Falls, Idaho, Clif Bar is much more than a brand on a shelf. Clif Bar was started by Gary Erikson with the goal to make a better tasting bar for sustaining energy. It was formally launched in 1992. Clif developed a business model guided by Five Aspirations: "Sustaining our Business, Brands, People, Community and the Planet." The company headquarters is located in Emeryville, CA, and currently has manufacturing plants in Indianapolis, IN and Twin Falls, ID.

In 2014, Clif Bar made the decision to go into self-manufacturing to increase its capacity. Until that point, it had never been in control of its own manufacturing operations. Despite its inexperience, however, the energy bar manufacturer successfully went from manufacturing zero to about 75% of its own bars within a one-year span. That statistic is made all the more impressive by the fact that Clif Bar established both a greenfield and a brownfield facility within months of each other.

Using MES to Establish the Twin Falls Operating Environment

The road to self-manufacturing began with a greenfield facility in Twin Falls, ID, where Clif Bar operates three lines at any given time, 24 hours a day. Among other technologies, Clif Bar identified two key areas that were requisites for self-manufacturing: the ERP and the MES environment. As its leaders were scoping out the MES systems needed for a highly automated facility, they turned to Wonderware-endorsed system integrator, Apex Manufacturing Solutions, for assistance.

"They really appreciated Wonderware, because it not only provided them everything that they needed at the time, the operations, the production, the consumption, the performance, the quality. But also that it had good hooks into other pieces of software, and that it really would expand to meet their future needs."

Michelle Wolf, Project Manager, Apex Manufacturing Solutions.

1. It was able to integrate with other systems that were critical to self-manufacturing.
 2. It provided the kind of flexibility Clif Bar would inevitably need as the company modified the way it did business in a new self-manufacturing environment.
 3. It provided the data analytics that its engineering team relies on to become a best-in-class manufacturer.
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"During our initial startup, MES was really critical in helping us to pinpoint our problems, because at first, our problems were on the front-end of the line, which is in the process areas...and then our issues, the ones that were taking away available time, moved to the back end of the line. So we had a different set of problems around packaging. And all of that was highlighted by the information we got out of MES. It was able to point us in the right direction."

Dale Ducommun, General Manager, Clif Bar

Integrating Greenfield and Brownfield Manufacturing Sites

The partnership with Clif Bar is unique project because, in addition to being quite a comprehensive use of MES products, the solution initially requested for a greenfield installation in Twin Falls was able to be quickly adapted and implemented in a legacy plant acquired in Indianapolis.

“The first implementation here in Twin Falls was a Greenfield facility, where we had the luxury of planning that out... Midway through that project, we learned that one of our co-packers, who was managing our largest facility for us, was getting out of that business and turning over the keys to us.”

Todd Wilson, Sr. VP of IT, Clif Bar

The AVEVA solution works as well with green field development as it does with legacy manufacturing equipment. Clif Bar and Apex Manufacturing Solutions were able to quickly adapt and deploy the solution created for the greenfield site to a newly purchased plant in Indianapolis. This allowed for considerably less development time and also for solution standardization between facilities.

“Gartner will tell you that any major system implementation has a 28% chance to succeed. That meant we had 28% chance here, 28% chance in Indianapolis. If you multiply that out, that’s less than an 8% chance of succeeding. And when we went live in May, we were successful”

Todd Wilson, Sr. VP of IT, Clif Bar

Supporting the 5 Aspirations

It’s not uncommon for companies to define a set of corporate values, but seldom do you encounter one that puts its values into action like Clif Bar. The company’s 5 aspirations help to guide everyone—from CEO to floor operator—to make more sustainable decisions, and one the most interesting aspects is how Clif Bar uses its AVEVA MES solution to measure progress towards its aspirations.

“If you’re thinking about the planet aspiration and what we emit from the bakery, so whether it’s effluent levels, the gallons of water that we use, or the amount of gas that we use, those are pretty readily quantifiable... The MES system can help us to understand things like the number of minutes that it took to do a changeover.”

Micah Robinson, Continuous Improvement Manager, Clif Bar

MES is also very effective in helping Clif Bar address the “Sustaining Our Brands” aspiration. By enabling production managers to better understand if they’re running the right weights, when quality checks done, whether its delivering against cost, Clif Bar is able to produce the quality product and experience that its consumers love.

Results

Clif Bar continues to reap ongoing benefits from its partnership with AVEVA. While the MES Quality solution enables Clif Bar to see and meet specifications, both in real-time and historically, the MES Operations integration with Clif Bar's ERP provides a link for vital material track and traceability.

Ultimately, the solution has empowered Clif Bar to setup a culture of continuous improvement.

- Production reports are utilized in daily meetings.
- Performance and operations data is used to drive capital improvements.
- Energy Monitoring data is available to better understand plant energy usage and to drive downward usage trends.
- From the Availability OEE data, plant managers can see where time is actually being spent.
- From an engineering time savings, data gathered from the Indianapolis facility enabled Clif Bar engineers to quickly model plant processes to facilitate new projects.
- Using 2 years of Historian data is equipping plant engineers with the ability to conduct predictive analytics.

By building a culture around using true data and information, Clif Bar wasn't just able to launch concurrent manufacturing sites, they're empowered to more accurately plan capacity, prevent expensive recalls, make decisions based on real data and intelligence, and most importantly—support its 5 Aspirations in a way that was previously unthinkable.



About AVEVA

AVEVA is a global leader in engineering and industrial software driving digital transformation across the entire asset and operational life cycle of capital-intensive industries. The company's engineering, planning and operations, asset performance, and monitoring and control solutions deliver proven results to over 16,000 customers across the globe. Its customers are supported by the largest industrial software ecosystem, including 4,200 partners and 5,700 certified developers. AVEVA is headquartered in Cambridge, UK, with over 4,400 employees at 80 locations in over 40 countries.

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