



The Top Benefits of an Energy Management System

Keeping the lights on - a seemingly simple part of running a business - is more often than not a complicated endeavor for many organizations out there. Ensuring that mission-critical equipment is always up and running and that everything within a commercial enterprise works as it should can be quite difficult to guarantee, and frequently electricity is the culprit behind many issues businesses face here. Not only do many companies spend significant sums on energy every month to keep operations going, but power quality issues can degrade infrastructure and lead to unnecessary repairs or downtime.

For example, according to the latest statistics made available from the U.S. Energy Information Administration, commercial enterprises in just Pennsylvania alone used [609 trillion BTUs in 2012](#). This means that these businesses were spending close to \$6 billion over 12 months on just their energy costs. While usage and prices vary by industry, state and province, nevertheless energy costs remain consistently high across the commercial and industrial sectors.

But, utility bills are only part of the picture as far as electricity is concerned. In particular, if the quality of the power flowing to and within a commercial or industrial site is anything less than perfect all the time, mission-critical equipment can freeze up or prematurely break down, leading to costly repairs and downtime. Indeed, the Rocky Mountain Institute, a nonprofit research organization, has

found that maintenance and repair-related expenditures are among the highest costs for companies in the United States. On average, a private sector enterprise will spend around [\\$2 per square foot](#) of space on repairs and maintenance in a year, far more than what is typically allocated for cleaning, security and administration.

And this is only part of the picture, as these numbers do not take into account the cost of downtime for an enterprise. For example, what happens if the point-of-sale system in a restaurant or retail store prematurely breaks down? While repairing or replacing it may not be a huge expense, in the interim the business may be wasting employees' time forcing them to manually track everything - assuming they are able to keep going at all during the downtime. It's these kinds of harder-to-define losses that can really drag down an organization's long-term outlook.

How to gain control over power-related problems

For businesses, while the problems related to energy can be easily identifiable, finding a solution to these issues is often difficult, especially when trying to use legacy oversight methods. In the past, if a company wanted to better understand how much energy it was using, it would first turn to the bills provided by the utility companies for knowledge and guidance. These documents can provide some useful insights, but as Powervar's Ben Shipley noted, more often than not they contain only snippets of useful information. Granted there are tools and solutions on the market that claim to help organizations make better sense of their utility bills, but even then they are only working with a small set of data, thus limiting their ultimate usefulness.

The next step above the utility bill approach is to install a submeter at the location in question to gain a more accurate assessment of how much electricity a

particular location as a whole is using. The problems with submeters, however, is that while they are often more accurate and timely than a monthly bill, these clamps can be expensive, according to Shipley. Plus, the high-level overview provided by such a device may not prove all that useful, as its lack of specificity does not enable a business to take a deep dive into how electricity is used within the facilities and where specific problem spots may exist.

To gain this level of granular specificity, businesses need a solution that tracks how each piece of equipment in a given location is utilizing electricity at any given moment as well as over time. Sensor technology is becoming more readily available and affordable, but they can lead to a data deluge where an organization has more information than it knows what to do with. In order to really solve their many power-related problems, companies need a solution that provides granular insight, facilitates analytics endeavors and ensures power quality. Only one option on the market can address all three: the Atlas FA facility management solution (BMS) from Powervar.

What can businesses expect from BMS?

With a facility management solution like the Atlas FA in place, businesses can expect to see immediate returns, simply by having more data about what is going on in a particular location at any given time. By being able to track energy usage across a multitude of hardware in real time, managers, facilities teams and other key decision-makers can quickly determine if one piece of equipment is drawing too much electricity off the grid or is turned on for longer than necessary. With this data, an organization can take a few simple steps to lower overall electricity usage and monthly utility bills.

For example, one major U.S. convenience store chain used BMS to lower its energy bills by 20 to 25 percent. Considering that this company operates in an industry with very slim profit margins, these savings can mean the difference between a successful storefront and one on the verge of closing. This may be only the tip of the iceberg as far as savings are concerned, as this company has plans to cut costs here even further to see a 30 percent total reduction, according to Shipley.

In addition to individual store savings, companies can utilize BMS to find regional or nationwide trends. With the analytics software that comes with the Atlas FA, businesses can drill down into a wide variety of variables. For instance, the tool could help an organization discover that all of its stores in the southwest U.S. kept HVAC units running more or less at the same rate throughout the day, even during cool evenings. Using that insight, corporate could ask all store managers in the region to adjust settings more proactively during the day, allowing the business as a whole to realize wide savings.

But, these kinds of savings are really only part of the picture. With BMS, it's not just about seeing where usage can be reduced, but also about how usage is affecting equipment performance. Because of the level of granular control provided by the Atlas FA, store managers and others can see exactly how much electricity is going to a given piece of equipment at any moment in time. Armed with this data, the company could see if machinery is being over-provisioned. If such a trend were to continue for a while, then they could proactively institute repairs to ensure its continued functionality before it broke down. By being able to predict problems before they ever come up, companies can dramatically decrease annual repair costs and ensure longer life spans for their equipment.

In an ideal setting, too, BMS is not implemented by itself, but rather in conjunction with power quality solutions that target all three of the major sources of electrical problems. This way, not only can a business know more about how electricity is used across its location, but it can be sure that the electricity it is tracking is high quality and not likely to cause problems. With this combination in place, a company can both lower its energy bills and ensure that mission-critical equipment is always functioning at peak capacity.

Moving into the future with BMS

With BMS in place, companies gain the ability to reap all of the benefits that can come from the Internet of Things, one of the biggest technology trends right now. According to research firm Gartner, an expected 4.9 billion objects will be connected by the end of 2015, and that number is expected to grow to close to [25 billion by 2020](#). This next-level connectivity is a game changer for companies, as it gives them the ability to know more about their operations than ever before. Armed with this information, organizations can lower energy bills, improve equipment functionality and avoid unnecessary expenses.

This is really only the tip of the iceberg when it comes to the IoT and BMS more specifically. The 20 to 30 percent energy savings realized by the convenience store chain point to the massive potential BMS holds for businesses everywhere. Plus, as more organizations adopt similar solutions, new ways of using BMS to improve operations on both a storefront and company-wide level will be discovered. The Atlas FA could be just what your company needs to move to the next level. To learn more about Atlas FA and BMS, [contact a Powervar representative today](#).



About the author



Ben Shipley, is the Sales & Marketing Manager for BMS Systems at AMETEK Powervar. Ben has been instrumental in developing a remote management system comprised of the latest hardware & software technology called the Atlas FA. Ben brought his expertise of enterprise software strategy and implementation to AMETEK Powervar after 20 years in the industry and now uses his vast talents solely on the BMS system. Mr. Shipley has been recognized for his achievements by several industry experts for his contributions in the building management industry and holds a Bachelor of Arts degree from Brigham Young University.



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