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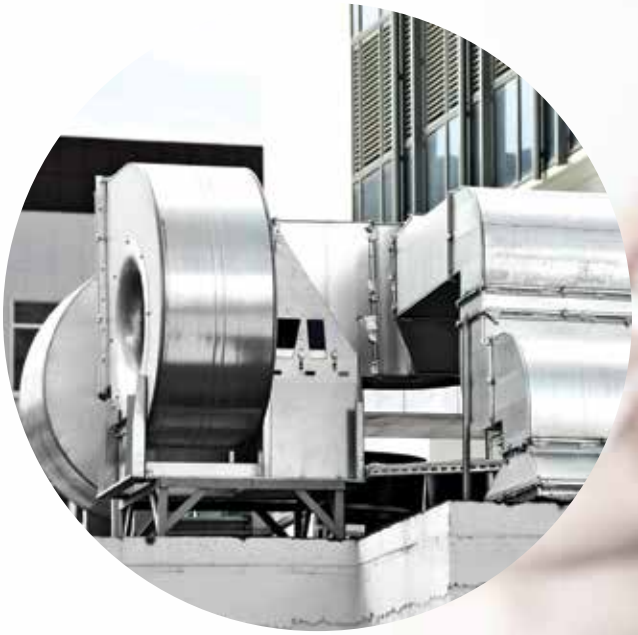
energy solutions

Pandemic reveals a building automation and efficiency opportunity

How building automation inefficiencies can go unnoticed and drive cost overruns.



The Story

Out of great adversity and disruption sometimes come great insights. That was certainly the case for an Ottawa-based company that owns and manages commercial real estate. They were quick to find a well-tailored way of capturing significant efficiencies and savings using building automation, after the opportunity was made evident by the arrival of the COVID-19 lockdown.

The two commercial office buildings in question were some 30 years old, and the various equipment that controls and provides heating and cooling was reaching end-of-life. As equipment failures happen, an aging system like this might still deliver the right temperature to keep occupants comfortable, but is likely doing so in highly inefficient ways.

This reality isn't always easy to spot. But when energy costs failed to drop while these two buildings were left largely empty after the COVID pandemic took hold, it became obvious to the owner and manager that something was very wrong, and they commissioned a trusted energy solutions provider to help figure things out.

Inspection and analysis revealed that equipment failures had in fact reached a point where some of the system controllers – meant to integrate and coordinate sensors, thermostats, fans, heating, and cooling – were no longer functional.

As a result, heating and cooling systems were running harder than they should have been – in some instances even operating simultaneously – and driving energy use up dramatically.

With the problem identified, the company wanted an open-minded assessment of its options.

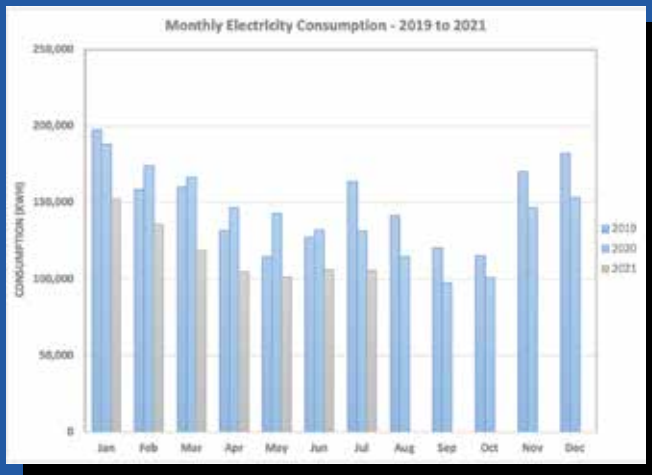
They wanted to know how much equipment needed replacement and how quickly; and they wanted to avoid a solution that used proprietary technology, or that might lock them into an inflexible long-term service commitment.

As an advisory firm, rather than a product vendor, the energy solutions provider was able to begin a transparent dialogue, and provide the company with the breadth of options and flexibility that it sought. They were also able to draw on a range of expertise and experience spanning engineers through to field technicians, encompassing both building automation and mechanical systems.

Ultimately, client and advisor agreed on and implemented a phased approach, involving installation of a new master controller, capable of communicating with existing automation controllers, to re-institute effective control of the building HVAC equipment. Replacement of end-of-life sensors and controllers would be done as-needed – minimizing the need for an immediate capital outlay and maximizing the utility of existing equipment. The new automation system now provides remote access capability from any web browser on a computer or mobile device. Today, the building managers are equipped with improved visibility on overall system performance.

As an added advantage, the solutions provider had the certifications and expertise needed to assist the company with a successful application for provincial incentive monies. The grant was available due to tight electricity supply constraints in the geographic area where the buildings were located – meaning that the company improved not only its own operations, but also the supply-demand balance and grid stability in a growing urban area.

A forecast of energy savings shows a significant opportunity to cut costs for as long as the buildings remain under-utilized – savings which otherwise would have been completely foregone.



The same energy solutions provider routinely offers building automation expertise to a diverse range of clients, tailoring and scaling each project to match the unique needs and preferences of each individual customer. For example, they are working with a large municipality, where integration with the city's automation expertise and capacities is extensive. In another instance, they are upgrading ventilation and automation in several schools, combined with the installation of cold-climate heat pumps and energy recovery ventilators (ERV's).

The installation of heat pumps has an added benefit of providing cooling to the buildings during summer months.

Thanks to an effective design-build method, this energy solutions provider is helping to enhance air quality, which will help prevent virus transmission and keep people safer.

Do you need help determining whether your building automation and mechanical systems are still delivering energy efficiency and cost savings as designed? Do you need help maximizing comfort and air quality for occupants?

Contact Envari Energy Solutions to learn about our wide range of energy transformation services, including building automation.
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