

Switch Automation Makes Strides In Digital Facilities Management

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This report is part of a series which supports real estate and facilities executives' digitization journey. The report updates our coverage of digital facilities management software vendor Switch Automation. Founded in 2012, Switch Automation closed on its Series A funding round in 2018 and has raised \$7 million to date. The firm has introduced a solution set that covers the building IoT journey from data availability to asset control, taking real estate customers from initial readiness audits to custom IoT solutions. Firms from across the commercial real estate spectrum, including property owners, third-party facilities management firms, shopping malls, large retailers and the property management firms that operate them could all benefit from Switch Automation's solutions, regardless of how far they've gotten on their IoT deployments.

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ORGANIZATIONS MENTIONED

Oxford Properties, Switch Automation

Switch Automation Delivers On Its Digital Facilities Management Vision

This report is part of a series which supports real estate and facilities executives' digitization journey. One common challenge is to understand how to leverage software propositions for maximum impact in facilities management. This report reviews Switch Automation's solutions aimed at owners and operators of large commercial real estate portfolios and updates the latest Verdantix report on this firm (see Verdantix [Switch Automation Evolves Product Offering To Scale With Long-Term Smart Building Strategies](#)). It is based on an extensive demonstration of the software and interview with Switch Automation CEO Deb Noller

Switch Automation Solutions Cover The Complete Journey From Data Availability To Asset Control

Switch Automation is a 50-person software firm headquartered in Denver, Colorado, with an additional office in Sydney, Australia. The firm's solutions are used to manage approximately 137 million square feet of real estate. It raised series A funding in 2018 which is supporting the continued evolution of its portfolio of solutions since the firm's inception as a building management software vendor in 2012. Switch Automation's solution set is designed to guide and support enterprises as they evolve their smart building programs, regardless of where they begin. Each product can be deployed via a phased approach or portfolio-wide. The solution set includes a:

- **Smart building programme readiness solution to assess data availability and connectivity.**
Switch Automation's Switch Dx³ (Digital Device Discovery) product, rebranded from Building Intelligence in December 2019, uses a secure IoT gateway to connect to building systems and thereby gather and analyse data from the BMS, sensors and devices to assess data connectivity, network integrity and readiness for launching various data-based optimization programmes (from energy efficiency to full smart building optimization). Switch maps and tags the data then creates a Data Commissioning Report that pinpoints connectivity faults and identifies potential security faults. For example, one customer used Switch Dx³ to validate its more than 7,000 sensors across HVAC, lighting and metering systems to ensure that they were connected and calibrated correctly.
- **Benchmarking solution to score performance on KPIs across comfort, energy and maintenance.**
Switch's Performance Benchmarking offering uses algorithms to identify the best and worst performing buildings and equipment in a customer's portfolio. It assigns these assets a score from 0 to 100 based on the customer's key performance indicators, typically around comfort, energy usage and maintenance. This tool allows customers to normalise performance data across different buildings regardless of what systems, outside climates or uses those buildings have. Switch customers can then more accurately compare buildings and assets across their portfolios. This enables customers to better prioritise their building operations services and capex budgets for maximum impact.
- **Asset optimisation solution to monitor, analyse and fix underperforming assets.**
Performance Optimisation is Switch's main product for monitoring and analysis of building assets to identify, triage and prioritise performance issues. Users can track performance through its site analysis dashboards and drill down into sensor data to uncover the root cause of performance issues. A rules engine supports the configuration and prioritisation of alerts. This prioritised alerting and fault detection supports retro-commissioning and continuous commissioning of buildings (see Verdantix [Smart Innovators: Fault Detection, Diagnostics & Predictive Maintenance](#)). Performance Optimisation can give customers quick wins. One Switch customer realised a 10% savings on energy bills after acting on Performance Optimisation's recommendations.

- **Building IoT solution that allows command and control of assets.**

Switch's Enterprise IoT programmes combine all of the above products and adds remote control functionality to integrate with existing workflows. Customers can use it to adjust control settings and scheduling of heating and lighting systems across their building portfolios to, for example, improve energy efficiency, occupant comfort and avoid peak demand charges. With the help of custom alerting and rules, customers can use Enterprise IoT to leverage data from newly deployed sensors.

Three Key Elements Drive Switch Automation's Differentiated Positioning On Digital Facilities Management

Switch Automation's portfolio of four distinct solutions span the typical customer journey from initial readiness audit to custom enterprise IoT solutions. Verdantix believes that executives reviewing potential solutions for managing real estate and building assets should take note of Switch Automation's:

- **Asset-centric facilities optimization capabilities.**

Switch Automation's philosophy is fundamentally asset-centric: from assessing the ability to connect to the various assets, to monitoring and on to controlling these assets. Crucially, the solution will integrate with its clients' CMMS systems in order to import asset and work order data for analysis, but also issue new work orders. A mobile app facilitates the job of getting the relevant asset, alarm and work order information to the building technicians on the job. From this level of control users can target multiple objectives, be it energy efficiency, greater efficiency in delivery of facilities management, or improved occupant comfort. The Verdantix latest global survey of corporate executives shows that facilities executives are increasingly prioritizing the comfort and wellbeing of building occupants (see [Verdantix Global Survey 2018: Smart Building Technology, Budgets, Priorities & Preferences](#)).

- **Portfolio of solutions that span fixed fee limited engagements to comprehensive tailored programmes.**

Verdantix conversations with corporate real estate and facilities executives often highlight that most of them believe their function to be immature technologically and they don't readily have access to the knowledge or skills to get the most out of software solutions. Other issues include underestimating implementation time because of flawed assumptions. Switch Automation's portfolio takes this into account by offering tightly scoped fixed-fee audits to help create early certainty for executives and ensure all next steps are scoped with a clear view of what will be possible, at what cost and over which timescale.

- **Ability to provide centralized command and control to supplement local BMS-based automation.**

Switch offers more than just multi-source data aggregation, monitoring and data analysis. Its command and control capabilities allow centralized building operations teams to remotely fix the biggest issues that affect occupant comfort, energy efficiency and energy costs. For example, the Switch Platform can monitor energy and building system data in real-time, alert on specific conditions with user-configurable logic rules, and initiate manual or automatic control actions to respond to conditions — effectively a form of automated demand response. Switch can accept request signals from any source system that will push to its open API. It can integrate data from a variety of sources including flat files, APIs and internet-connected systems and devices.

Switch Automation Offers Multiple Entry Points Into Smarter Buildings For Facilities Executives

This solution set's differentiation comes from the combination of simple, fixed-fee entry solutions to more advanced programmes that span monitoring and analysis, to bringing centralized command and control of building assets. Verdantix analysis shows that the following customer groups should investigate the Switch Automation offerings when considering software solutions:

- **Firms that are ambitious but need an easy entry point to digital facilities management.**
Most firms have existing building management systems in place, at least in large buildings. Some will have partial sensor networks, meters and submeters. Many will also have a CMMS to organize maintenance activities. What they lack is an overall building management platform that brings together data from disparate sources, assesses its quality, normalizes it, then monitors and analyses it for ongoing optimization opportunities. As firms also tune in to the opportunities from the IoT, Switch Automation can meet their needs at wherever they are on the IoT adoption curve.
- **Firms from across the spectrum of CRE landlords, workplace operators and owner occupiers.**
Switch has identified two different ways in which customers approach the optimization opportunity. Firms with large complex assets often focus on benchmarking performance and retro-commissioning buildings. In particular, they use FDD to quickly identify assets that need urgent repairs for more efficient use. Clients running portfolios of smaller sites focus on creating a centralized remote command and control platform. From there they can standardize operating schedules, HVAC and lighting set points. Oxford Properties uses the Switch Platform to gain such real-time visibility, and in just three months it realized \$160,000 in energy savings at two of its properties, while improving occupant comfort.
- **Firms looking to improve comfort management while paying back for the solution through energy and operational savings.**
Many of the features of the solution set support better comfort management – from benchmarking to KPI monitoring to providing a centralised layer of control over the BMS. But the commercial reality means investing in comfort must be balanced out through cost savings. Switch Automation typically aims to achieve 10-15% savings on energy bills. Often this comes from retro-commissioning major building systems such as chiller plants, boiler plants, air handling units and lighting systems. One of its large global technology clients realized 11% savings on its energy bills in year one, but also found 50% more cost savings from avoiding field technician site visits.
- **Retail building operators that outsource facilities management but need better visibility of asset performance.**
Shopping malls and large retailers typically outsource building operations to third-party facilities management firms. But this can give them less visibility into the actual state of the facility and little means to keep tabs on contractor performance. By deploying Switch, these firms can identify areas for optimization, such as shutting down HVAC and lighting out-of-hours or in under-utilized areas and taking remote control of cooling setpoints. This gives these firms greater visibility of contractor performance, which is useful when renegotiating contracts. Switch can be deployed in this way by the building operator or by the third-party facilities management firms. Switch Automation sells to both.



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WHY VERDANTIX?

Verdantix is an independent research and consulting firm with a focus on innovative technologies that optimize business operations. We have expertise in environment, health, safety, quality, operational risk, as well as smart building technologies.

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