Siemens And IBM Collaborate To Enhance Smart Buildings With IoT

JUNE 2016

WWW.VERDANTIX.COM
Siemens And IBM Collaborate To Enhance Smart Buildings With IoT

The development of platforms to support the internet of things is opening up innovative value propositions that enable increased investments in smart building technologies for the optimization of facility management strategies. On February 22, 2016, Siemens, a global provider of automation, energy generation and energy efficiency solutions, announced a global strategic alliance with IBM, a multinational technology and consulting firm. The collaboration will develop future technology for Siemens’ Navigator platform and a joint real estate offering. After review of the partnership, Verdantix analysis finds that the team’s value proposition is beneficial across a range of industries seeking to advance integration of energy management into facility optimization strategies and to consolidate management of diverse and difficult to service building portfolios.

TABLE OF CONTENTS

Siemens And IBM Collaborate To Enhance Smart Buildings With IoT ................................................................. 3
Siemens And IBM Will Collaborate On Both Technology Development And A Compelling Joint Real Estate Offering
Siemens And IBM Collaboration Tackles The Complexity Of Corporate Real Estate Management
Collaboration Is A Step In The Right Direction For Smart Building Solutions
Real Estate Intensive Firms Should Investigate The Proposed Value Proposition

ORGANIZATIONS MENTIONED

Siemens And IBM Collaborate To Enhance Smart Buildings With IoT

The development of platforms to support the internet of things is opening up innovative value propositions that enable increased investments in smart building technologies for the optimization of facility management strategies. On February 22, 2016, Siemens, a global provider of automation, energy generation and energy efficiency solutions, announced a global strategic alliance with IBM, a multinational technology and consulting firm. To hear more about the collaboration, Verdantix spoke with Jonas Fluri, Portfolio Manager for the Siemens Building Performance and Sustainability business (Siemens BT); and Stanley Tims, Program Director, Product Management for IBM Internet of Things. The partnership brings together:

- **Global building automation and energy services provider Siemens.** Siemens is a global energy, engineering and technology firm. Through its Building Technologies division, the firm provides customers with energy services, building automation, fire and security products, energy efficiency solutions and related after sales services. Siemens’ energy management proposition has attracted over 5,000 customers including Credit Suisse Real Estate Asset Management, Procter and Gamble, Marriott Hotels and Steward Healthcare. Siemens’ proposition is a combination of services and software delivered through its Navigator platform. The Navigator platform, divided into modules for energy efficiency, energy supply and environmental performance enables executives to make data-informed facility decisions (see Verdantix Green Quadrant Building Energy Management Software 2015 (Global)).

- **International technology and software analytics firm IBM.** IBM’s energy and facilities solution is held within its recently launched Watson Internet of Things (IoT) division (see Verdantix IBM Seeks To Tame The Unruly World Of Internet Of Things In Buildings). The IBM Watson IoT business unit seeks to enable organizations to improve operational performance and customer experiences through the integrated analysis of asset, facility and operational data captured through IoT devices. Corporate real estate clients benefit from the integration of IBM’s enterprise asset management platform, Maximo and its enterprise facility management platform TRIRIGA. Maximo enables the management of asset lifecycles, inventory and preventative maintenance programmes. TRIRIGA provides real estate facilities, portfolio and capital project management capabilities. The software platforms are provided to clients such as the Dow Chemical Company, Ingersoll Rand India and the US General Services Administration.

- **Technology experts with a similar focus on large firms.** Both Siemens and IBM have experience in providing energy management solutions to large multinational clientele. Siemens has over 100 energy services customers with annual revenues greater than $1 billion including firms such as BAE Systems, Bayer AG and Extended Stay America (formerly Extended Stay Hotels). IBM customers include Teradyne Corporation, its own IBM Real Estate Operations and the US Air Force. Siemens has developed energy efficiency project implementation and management domain expertise, while IBM has focused its domain expertise development on software analytics and space optimisation.

- **Collaboration on future technology for Navigator and on a joint real estate offering.** Siemens and IBM have identified two specific areas of collaboration. Firstly, they will partner on technology development with IBM supplying software capabilities including analytics for the future Siemens Navigator platform. Secondly, IBM and Siemens will partner to approach real estate organizations with their combined offerings of IBM’s TRIRIGA real estate software and the Siemens energy efficiency services.
Siemens And IBM Will Collaborate On Both Technology Development And A Compelling Joint Real Estate Offering

By working together, Siemens and IBM bring a lot of fire power to the market for real estate management. The newly-announced partnership has two components: 1) IBM will partner with Siemens to supply technology which supports the development of the Siemens Navigator platform; and 2) the two firms will bring a joint offering to market based on IBM’s TRIRIGA real estate software and Siemens’ energy efficiency services. The collaboration will bring unique capabilities to market by:

- **Applying IBM’s big data and space optimisation analytics to real estate.**
  IBM has developed its Watson IoT platform as the core of its big data and IoT analytics platform. The Watson IoT software is designed to effectively manage and analyze the massive amounts of data created through smart devices. It will be used to aggregate and analyze data streams such as energy use data, benchmarking databases, RSMeans Construction Cost Databases, spatial and occupancy metrics, building performance scenarios and corporate business process rules. This will enable decision-makers to identify both obvious and harder to find efficiency opportunities and to have a single strategy to maximize space utilization, plan facility retrofits or expansions, and invest in efficiency equipment.

- **Enhancing future releases of the Siemens Navigator platform.**
  The Siemens Navigator platform is already one of the most complete energy and facilities management software offerings available on the market (see Verdantix Green Quadrant Energy Management Software (Global) 2015). A technology roadmap for Navigator which includes multiple elements of IBM’s big data analytics and the Watson IoT functionality will be a significant step up in terms of the ability of Navigator to generate value added insights for real estate organizations. In the future Navigator will still be marketed as a Siemens product with the clarification that it integrates IBM software capabilities.

- **Establishing a joint offering of IBM TRIRIGA software and Siemens energy efficiency services.**
  Whilst Siemens will continue to invest in its Navigator platform with additional technology from IBM, the two firms will establish a separate collaboration based on the IBM TRIRIGA real estate software and Siemens energy efficiency services. This will enable them to tailor value propositions to the needs of different target clients and articulate solutions for holistic real estate optimization and transformation that combines a software solution with supporting services. Energy efficiency project advisory and implementation services, as provided by Siemens, is ideal for firms with limited dedicated internal resources for energy management (see Verdantix Energy Services Market Heats Up As Siemens Acquires Pace). For example, Siemens provides outsourced energy management services across Credit Suisse’s Real Estate Asset Management unit’s 960 buildings.

Siemens And IBM Collaboration Tackles The Complexity Of Corporate Real Estate Management

IBM and Siemens have complementary capabilities which help facility managers and real estate portfolio owners to make better, data-informed decisions. The partnership sees the firms partnering in two ways. Firstly, IBM’s software division will supply technology for the future Siemens Navigator platform. Secondly, the two firms will partner to approach real estate organizations with a combination of the IBM TRIRIGA real estate software and the Siemens energy efficiency services. This alliance responds to the:

- **Customer need for better analysis behind facility optimization decisions.**
  According to Verdantix data, thirty-five per cent of firms with revenues over $1 billion have global energy
management strategies with a central governance structure. These firms often have building portfolios that encompass hundreds or thousands of buildings spread across several countries. For example, global retailer Walmart has over 10,000 stores in 27 countries. If each store installed smart meters for energy and refrigeration, they would collect over 700 million energy related data points a year. Executives seeking to make sense of all of this data, to devise effective strategies, can find themselves overwhelmed and in a state of paralysis when it comes to deciding what investments to prioritise beyond the familiar lighting or HVAC upgrades.

- **Use of diverse technology systems for facility management.**
  Corporate customers with large building portfolios can be faced with a highly fragmented set of building systems to manage across their enterprise. These systems help to coordinate space planning, infrastructure, people and building operations. Building systems can vary in age, manufacturer and use scenarios – with each system acting independently. The ecosystem of facility asset management systems, often a mix of incompatible computer systems and associated data formats, is only set to get more complex as new systems for IoT solutions and energy management software for increased operational efficiency are added to the mix (see Verdantix Energy Management In The Age Of The Internet Of Things).

- **Shift away from energy management as an independent objective among FMs.**
  Facility operating costs, such as equipment upgrades, electricity, gas, maintenance, water and waste can account for up to 71% of the total cost of owning or renting a building across is lifecycle. This is a much bigger prize than solely focusing on energy use. However, identifying the correct mix of projects to reduce those costs, while not adversely impacting comfort levels is a major concern of decision-makers under pressure to show results. To tackle this expanded facility management strategy, decision-makers require robust data management and analytics capabilities to help them prioritise projects and objectives that result in the most beneficial impacts, while tracking performance and continuously commissioning assets (see Verdantix Green Quadrant Building Energy Management Software Global 2015).

- **Expected impact of IoT on facility management.**
  Siemens’ product roadmap will allow it to utilize IBM’s software analytics for the optimization of energy and facility management strategies. This integration enables Siemens to bolster the infrastructure underpinning Navigator in anticipation of the continued development and deployment of building management solutions based on IoT. Siemens’ Navigator will leverage IBM analytics to optimize technical infrastructure, particularly building controls and automation systems, to maximize the potential of increasingly integrated buildings and provide clients with a solution that scales with their deployment of data rich smart building technologies.

- **Complex requirements of integrated building management systems.**
  Building systems have historically operated within siloed parameters. For example, lighting systems were not integrated with HVAC, security or elevators systems. The advent of IoT platforms to transcend these siloes will create a more complex environment for energy and facility managers as they seek to contribute to bottom line growth. The real estate solutions developed for clients by Siemens and IBM seek to help executives manage this new complexity by providing services that deal with the complexity of optimizing integrated building systems to enable facility teams to make strategic decisions that maximize the benefits achieved while meeting facility management objectives.

- **Need to reduce the total cost of ownership of real estate assets.**
  Few executives responsible for energy and facility management expect to see budget increases soon (see Verdantix Global Energy Leaders Survey 2015: Budgets and Priorities). This means facility optimization
strategies will need to be devised to work within existing CAPEX and OPEX budgets. The joint Siemens and IBM solution – meaning the TRIRIGA software from IBM and the energy efficiency services from Siemens – will help executives achieve this goal by reducing the total cost of ownership of assets. IoT focused strategies will aggregate facility operational data with asset data and predictive maintenance strategies to extend the lifecycle of assets – enabling better and longer performance from assets such as HVAC systems. Reduced asset costs will free up budgets for other facility management programmes such as reducing costs associated with water leaks – in hotels, water bills can be up to 10% of operating costs.

Collaboration Is A Step In The Right Direction For Smart Building Solutions

The strategic alliance between IBM and Siemens will enable them to develop targeted facility optimisation plans for large multinational clients. Verdantix believes the joint Siemens and IBM solution will benefit clients through the:

- **Simplification of facility management.** Facility managers implementing energy efficiency projects to meet corporate energy management targets are constantly bombarded with data and alarms – making coordination and management of building systems difficult to optimise. In some cases, there could be thousands of building system alarms per day – across systems such as fire, energy, HVAC, lighting and safety. Facilities teams can be overwhelmed when having to decide what is important and what is not important. Through deployment of IoT analytical solutions throughout its own global portfolio of 27 million gross square feet in 12 countries, IBM has reduced work order hours by 50%.

- **Consolidation of fragmented facility management ecosystems.** Facility managers are tasked with operating an ever increasing array of complicated equipment that historically operated under siloed circumstances. It can often be difficult to have a complete view of how different systems impact each other and contribute to potential efficiency gains. A joint solution that combines software expertise with building system expertise will enable corporate facility teams to have more detailed visibility across all of their building operations to efficiently respond to changing building conditions. For example Marriott Hotels in Europe, is working with Siemens to implement an energy efficiency programme aimed at reducing energy and water use 20% in five years – leading to forecasted savings of €1 million ($ 1.1 million) per year with a 3 year payback.

- **Automation of common day-to-day activities.** Facility teams that spend their days chasing building system alarms and validating data captured are spending less time implementing and managing high impact energy efficiency projects. Once projects are implemented, it may prove difficult to keep upgraded systems optimised as teams struggle to stay ahead of facility alarms and comfort concerns. The advanced energy and facility analytics provided by the Siemens and IBM solutions will analyse and cross reference all incoming building system data to lessen the need for routine maintenance checks. This will enable facility teams to focus on other areas of efficiency gains and cost savings such as identifying effective behavioural change programmes to help improve operational efficiency.

Real Estate Intensive Firms Should Investigate The Proposed Value Proposition

The collaboration between Siemens and IBM aims to deliver facility management projects for clients, not just reports, through analytics that help to ease the strain on squeezed facility teams. This value proposition will prove beneficial to:
• **Organisations seeking to move beyond energy management to facility optimization.**
Implementing energy efficiency projects has been a priority concern for many energy managers for the past five years. Eventually, the quick and easily identified efficiency projects will start to dry up. Executives responsible for energy management, in firms such as pharmaceutical logistics supplier McKesson, will need to broaden their thinking from energy management as a single pursuit to incorporating energy management as part of a holistic facility optimization strategy to continue achieving efficiency gains.

• **Multinationals with large dispersed building portfolios.**
A typical multinational corporation’s building portfolio can easily encompass several hundred buildings spread across several countries. For example, facility manager CBRE manages a network of facilities across the Americas, Europe, Africa, the Middle East and Asia Pacific. Implementing and managing a unified strategy across such a broad range of buildings is a daunting task for a portfolio comprised of leased, owned, new and historic buildings.

• **Asset and energy intensive firms.**
Airports, campuses, hospitals, hotels, manufacturers and retailers are firms that would benefit from the joint solution provided by Siemens and IBM. Facilities within these industries rely on several building management systems to ensure their operation. The complexity of the data management needs within these industries, coupled with often tight facility management budgets, make these ideal sectors to leverage the diverse expertise provided by the Siemens and IBM collaboration.
VERDANTIX CAPABILITIES: RESEARCH, ADVISORY & EVENTS

Through our research activities and independent brand positioning we provide clients with:

- Research relationships based on an annual research subscription
- Confidential advisory services such as commercial due diligence
- Thought leadership studies for brand building and lead generation
  - Executive summits, roundtables and webinars
- Advisory workshops to rapidly increase your sector knowledge
- Multi-country and complex customer survey projects
- Marketing campaign support with analysts and content

VERDANTIX MARKET COVERAGE

EH&S INFORMATION MANAGEMENT
Focuses on the software and services markets that enable corporations to improve their performance across EH&S, product stewardship, supply chain stewardship and operational risk.

EH&S SUSTAINABILITY SERVICES
Focuses on consulting markets that enable corporations and public sector organizations to achieve regulatory compliance, mitigate risk and improve performance across environmental, health, safety and sustainability challenges.

ENERGY SOFTWARE
Focuses on software products that enable corporations, utilities, public sector organizations and energy solution providers to improve energy systems for buildings, industrial facilities and grids.

ENERGY SERVICES
Focuses on consulting and project delivery services that enable corporations and public sector organizations to enhance the performance of energy systems, reduce energy costs, exploit energy technology innovations and improve resilience.

WHY VERDANTIX?

Verdantix is an independent research and advisory firm with a focus on energy, environment, health, safety and sustainability markets. Through our qualitative and quantitative research we provide authoritative data, analysis and advice to help our clients achieve their business goals.

Independent and rigorous research / Proven subject matter expertise / Robust methodologies / Global research capability