



CASE STUDY

Creating One of the World's Most Innovative Buildings and Smartest Workplaces

Bee'ah Partners with Johnson Controls and Microsoft

Sharjah, United Arab Emirates

On the southern coast of the Persian Gulf in the Middle East sits Bee'ah, the region's fastest growing environmental management company. Founded in 2007 and now with 6,000 employees, Bee'ah's goals were to create a sustainable future for its headquarters through creative and resourceful solutions and to position Sharjah as the environmental capital of the Middle East.

Bee'ah chose Johnson Controls and Microsoft to provide an artificial intelligence (AI)-based solution that provides personalized recommendations for efficiency, enables friction-free access and security, has a natural language user interface, and unifies systems such as building management, security and employee services. By leveraging cutting-edge technology, Bee'ah's headquarters hopes to be a showcase for how technology enables and empowers people across the UAE and beyond.

Challenges for the project included creating a work space attractive to new generations of talent, using current and future technologies to create experiences that improve productivity, and leveraging new capabilities enabled by IoT, Big Data, Cloud, AI, and neuro-linguistic programming (NLP).

Creating the Solution

Project challenges were addressed through an integrated and unified solution based on AI and digital representation that pairs Johnson Controls Digital Vault with Microsoft's technology stack to optimize space utilization, enhance security, provide a better visitor experience, reduce time to find conference rooms, and personalize employee experience.

Johnson Controls skills and offerings across smart building systems and software platforms and Microsoft's deep industry expertise and role as Bee'ah's exclusive cloud provider created the digitalization of an iconic smart and sustainable modern headquarters in the Middle East.

Meaningful Outcomes

Bee'ah's AI-driven headquarters enable seamless interaction within the building and provide a more personalized experiences for visitors, employees and management. Using a virtual assistant, employees can book meeting reservations, adjust the building temperature controls and manage parking spaces. By integrating OT and IT systems, Microsoft and Johnson Controls have enabled a frictionless building with AI-based predictions and automated controls that improve building efficiency, employee happiness and space utilization while reducing overall operating expenses.

The solution leverages AI-based learning and predictions to increase productivity and provide better experiences while lowering expenses such as energy utilization over time. The headquarters will be fully powered by renewable energy and optimized for the sustainable use of resources to have net zero energy consumption and achieve a LEED platinum certification – the highest recognition awarded to green buildings.

Johnson Controls plans to deploy a technical infrastructure for the building capable of monitoring its entire environment virtually with Microsoft Azure Digital Twins and IoT technologies, helping enable Bee'ah to analyze volumes of data to optimize building operations and drive efficiency.

Employees and visitors at Bee'ah's new headquarters will experience a diverse range of cutting-edge AI features through multiple touchpoints across various functions including HR, customer care, procurement, administration, and mechanical, electrical and plumbing systems.

Results

SUSTAINABILITY



- Improve Quality of Life of Employees by 20% (from Baseline)
- Create a paper-free environment
- WELLs Certification for Buildings

EFFICIENCY



- Net Zero Carbon Emissions within 2 Years of Operation
- Reduce Energy Consumption by 5%
- Reduce Water Consumption by 20%
- Annual Recertification of LEED Platinum

PRODUCTIVITY & COMFORT



- Improve Productivity of the Workforce
- Improve Employee Health & Comfort
- Improve Space Utilization
- Improve Efficiency of Visitor Experience

SCALABILITY



- Integration Based on Open-Standards to Sub-Systems
- Drive Better Engagement by Creating the First Intelligent Building that is AI-Enabled

SECURITY



- Real-Time Visibility Across All Assets In the Building
- Facial Recognition to Provide Frictionless Access

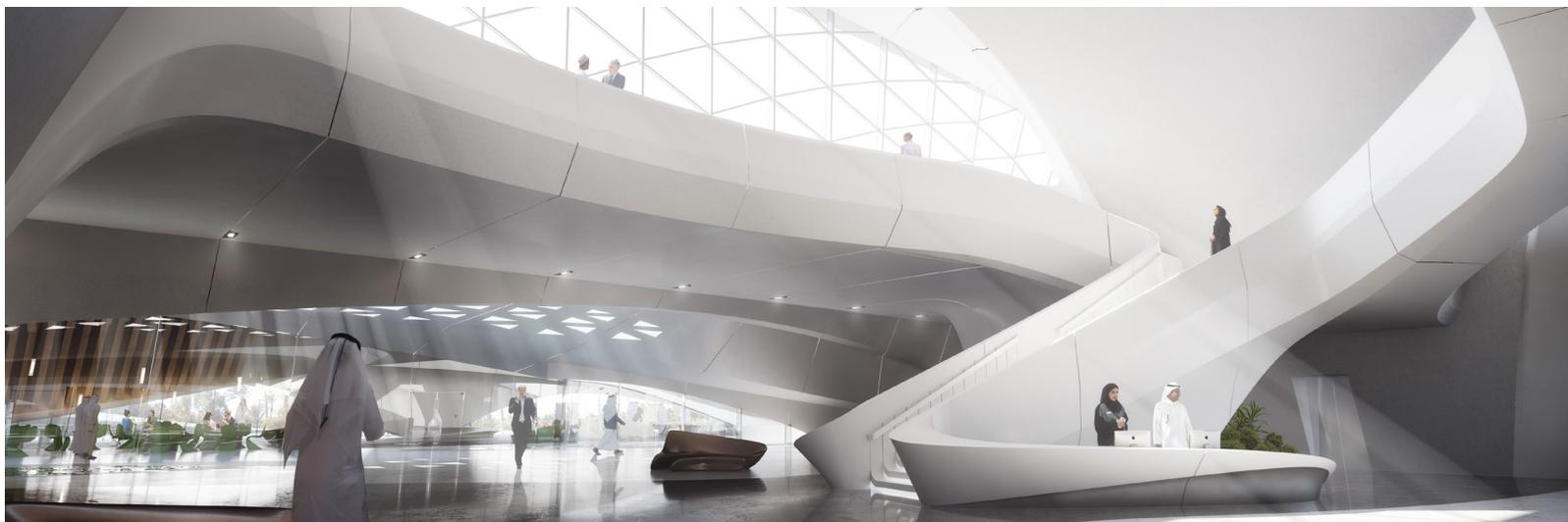
Project Input

Johnson Controls

"Digital Vault and our building apps will give Bee'ah the power to make faster, intelligent data-driven decisions to run its headquarters more safely, efficiently and sustainably, and will increase productivity for the people working and visiting Bee'ah's headquarters," said Bill Jackson, vice president and president, Global Products, Building Technologies & Solutions, Johnson Controls. "In partnership with Microsoft, Johnson Controls is transforming traditional building systems with services that merge the physical and digital worlds. Through this project, we are showcasing how the cloud and AI can tap into data from physical spaces to drive better engagement with occupants and achieve new levels of efficiency and sustainability."

Bee'ah

"Johnson Controls has an impressive depth and breadth of expertise in the building industry. Their strong product portfolio, innovative mindset, AI expertise and relationships with partners mean that they can deliver state-of-the-art, entirely new, AI powered smart buildings. We've witnessed how their building expertise can be applied, demonstrated in their ability to apply data science to the assets, people and spaces within the building, creating a self-conscious environment," said HE Khaled Al Huraimel, Bee'ah's Group CEO. "Bringing forward an impressive collection of use cases, Johnson Controls understands the experiences required to deliver a truly smart building. With a strong product portfolio and solutions like Digital Vault, development timelines can be accelerated and data can be seamlessly consolidated and represented to enable an advanced solution ecosystem to create an unparalleled experience and define the future of smart buildings."



Microsoft

"Together with Johnson Controls and Bee'ah, we are driving the digitization of smarter, more sustainable buildings and spaces," said Scott Guthrie, executive vice president, Cloud + AI Group, Microsoft. "Bee'ah's iconic new headquarters will be among the first buildings globally to have end-to-end experiences designed and built on the Azure platform. Azure is the platform that can truly integrate across all the devices, systems and services required for such a large and diverse implementation. Microsoft has been able to reduce energy consumption by 20 percent on our own campus in Redmond by using machine learning on edge devices and in the cloud, and we can't wait to see what Bee'ah is able to do by applying this approach to its ultramodern new headquarters in Sharjah."

About the Players

Johnson Controls

Johnson Controls is a global leader creating a safe, comfortable and sustainable world. Our 105,000 employees create intelligent buildings, efficient energy solutions and integrated infrastructure that work seamlessly together to deliver on the promise of smart cities and communities in 150 countries. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. We are committed to helping our customers win everywhere, every day and creating greater value for all of our stakeholders through our strategic focus on buildings.

Johnson Controls Building Technologies & Solutions

Johnson Controls Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire protection or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

For more information, visit www.johnsoncontrols.com or follow @johnsoncontrols on Twitter.

Bee'ah

An innovation leader and a pioneering force for sustainable solutions in the Middle East, Bee'ah is a public-private partnership company that was founded in 2007, through an Emiri decree by His Highness Sheikh Dr Sultan bin Muhammad Al Qasimi, Member of the Supreme Council and Ruler of Sharjah. With ventures in industries ranging from Waste Management, to Environmental Consulting, Renewable Energy, Technology, Sustainable Transportation, and Training & Development, Bee'ah is creating a better quality of life for all cities and communities in the region. Bee'ah has executed a comprehensive strategy focused on sustainability and technology, which has reaped rich benefits in the form of the region's highest waste diversion rates, and the GCC's first waste-to-energy plant. Bee'ah has supported the region's agenda for a circular economy and personifies the UAE's ambitions in leading the dialogue surrounding sustainability in the MENA region. For more information, please visit: <http://www.beeah.ae> and connect at facebook.com/beeahuae and twitter.com/BeeahUAE

Microsoft

Microsoft (Nasdaq "MSFT" @microsoft) enables digital transformation for the era of an intelligent cloud and an intelligent edge. Its mission is to empower every person and every organization on the planet to achieve more.



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