

## Award-winning Niagara retrofit project makes Net Zero dream a reality:

### RSA Logistics' pivot towards an open BMS wins Best Net-Zero Project of the Year 2022

#### OVERVIEW

In the continuously evolving landscape, retrofits are a realistic route to net zero and an imperative for UAE buildings. Local authorities across the UAE are spearheading retrofit programs to enhance the energy performance and extend the lifespan of buildings, generate savings, and reduce the region's overall carbon footprint.

The UAE's Net Zero by 2050 strategic initiative is a national drive to achieve net-zero emissions by 2050, making the Emirates the first Middle East and North African nation to do so. In achieving this goal, Dubai leads the way and has completed the retrofitting of more than 1,000 buildings and 7,000 villas. According to Dubai Electricity & Water Authority (DEWA), its project of retrofitting 30,000 buildings across the emirate could help to unlock savings of more than \$22bn.

Retrofitting an existing building is one of the most environmentally friendly, sustainable, and efficient solutions to optimize its energy performance. In this context, there is a clear steer towards using open protocol building management systems and adopting innovative financing models for implementing successful energy efficiency measures.

RSA Logistics is a global shipping & logistics company, headquartered in Dubai, UAE, providing innovative freight forwarding solutions across air, sea, and land. With a goal to achieve sustainability targets, minimize energy consumption, optimize operations, and aid existing clean energy solutions, RSA Global signed a 6-year Finance Shared Savings Energy Performance contract with Taka Solutions.

Green Optima, Taka Solutions' strategic partner, is a leading system integrator and the preferred choice of ESCOs in the region. As energy savings and smart buildings integration specialists, we had the opportunity to work on this project- one warehouse in Dubai, leading the implementation of energy efficiency measures, and helping the client achieve considerable energy and cost savings by unlocking the existing building management system and upgrading it to a completely open-protocol platform, based on Tridium's Niagara Framework.

#### OBJECTIVES- ENERGY EFFICIENCY MEASURES

- Provide a Chiller Plant Manager to efficiently control the chiller plant
- ECMS
- Indoor Temperature Management
- DX Units Evaporative Cooler
- Lighting Retrofit
- Provide Electrical Metering for LV Panels
- Ensure energy savings and efficiencies through a new, open-protocol control system connected to Taka Command Control Center for remote monitoring and energy optimization

“ Green Optima and Tridium have been one of our earliest partners who executed BMS solutions in almost all our projects. Their support has grown over the years with quality of service, introduction of new technologies, understanding of our needs exactly and providing tailor made solutions. Their team is full of capable and committed individuals who stood out from others in technical expertise and project support. We highly recommend their services and would love to work with them in future on other opportunities. ”



**Sridutt Bayyaana**  
Project Manager,  
Taka Solutions

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#### SCOPE

The existing BMS was obsolete, and the scope was to retrofit/integrate a new open-protocol BMS, based on Tridium's Niagara framework. The decision to retrofit came following a thorough energy audit as well as multiple years of energy, cost, and operational inefficiencies.

#### THE SOLUTION

Green Optima provided solutions for implementing DDC with Tridium JACE Controllers and IO Modules (2 JACE 8000s, and 2 IO-34 and 2 IO-16 IO modules installed in 2 DDC panels) for the existing Chilled Water Plant equipments and to implement metering systems. All DDC Panels are connected to Niagara Supervisor and control strategies with energy saving measures were programmed in the DDCs.

#### THE RESULTS

RSA Global has achieved a sustainability milestone by converting one warehouse to a Net Zero Carbon Emissions facility. This was possible due to a comprehensive energy management approach based on an open protocol solution from Tridium, namely the Niagara Framework.

The project entered the Operations phase in August 2020, and, in the span of 2 years, we achieved **21% of energy reduction** and electrical **savings of 576,963 kWh per year**, equivalent to 409 metric tons of CO2 emissions from 49,737,679 smartphones charged. **Today, only 1% of energy consumed is sourced by the grid, with the rest being sourced from solar power.**

The Client was provided with a complete open protocol, refreshed BMS, with connectivity to Command Control Center for centralized monitoring and optimization of energy. Utilizing both TCP/IP and MS/TP network, the warehouse communicates with the site wide integrated graphical user interface and is fully capable of access through the internet.

#### FAST FACTS:

**Project Type:** CPM and Metering for a Warehouse

**Client:** Taka Solutions

**Niagara Partner:** Green Optima

**Property:** Warehouse

**Retrofit Date:** 2020

**Equipments:** Air-cool Chiller (2); Pumps (3);  
Package Boxes (9), 2 Nos. Electrical Meters.

**Key Technologies:** Niagara Supervisor, Tridium  
JACE 8000, Niagara Edge 10 Plus IO Modules



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#### ABOUT GREEN OPTIMA

*Green Optima is a well-known Platinum Tridium Partner in the UAE and an experienced system integrator delivering innovative, high quality, economically integrated building management solutions. Founded in 2006, their experienced team has continuously delivered customized solutions embedded with the latest technologies to achieve high performing energy and cost saving results through advanced control and monitoring automation sequences. Green Optima is actively involved in successfully implementing integrated automation solutions in the government and private sectors for retrofit and ESCO companies. They have the proven ability to deliver BMS solutions with speed, tech-savvy flexibility and cost-efficiency as evidenced by their impressive project portfolio.*

*Additional information about Green Optima is available at [www.greenoptima.ae](http://www.greenoptima.ae)*

#### ABOUT TRIDIUM

*For over 20 years, Tridium has led the world in business application frameworks — advancing truly open environments that harness the power of the Internet of Things. Our products allow diverse monitoring, control and automation systems to communicate and collaborate in buildings, data centers, manufacturing systems, smart cities and more. We create smarter, safer and more efficient enterprises and communities — bringing intelligence and connectivity to the network edge and back.*

*Additional information about Tridium is available at [www.tridium.com](http://www.tridium.com)*

#### ABOUT TAKA SOLUTIONS

*Taka Solutions is a UAE-based company that delivers comprehensive energy solutions to improve energy and water efficiency, reduce carbon impact and save money, using innovative financing models. Taka Solutions' comprehensive turnkey offer combines consulting, financing, implementation, energy and O&M services to help customers meet their efficiency goals without sacrificing the standards of comfort, and creating positive economic, social and environmental impact.*

*Additional information about Taka Solutions is available at: [www.takasolutions.com](http://www.takasolutions.com)*