case study

Modernizing Menara TM: Overcoming Challenges in Retrofitting an Iconic Skyscraper with Cutting-Edge Building Management Solutions

THE CHALLENGE

Menara TM or formerly known as Menara Rebung was built in 1998 and completed in 2001. This towering bamboo shoot shaped building stands tall at 330 meters, making it one of the tallest buildings in Kuala Lumpur. This building is rated as an intelligent building as the design incorporate green element and energy efficiency in its building management and maintenance system. Accommodating thousands of in-house and international working population, it is essential that the building is equipped with a top-notch heating, ventilation, and air conditioning (HVAC) system. The building's height and the number of services it provides mean that a highly capable building management system (BMS) is needed to control and monitor everything efficiently and with minimal supervision. Retrofitting a BMS system in a building as complex as Menara TM is no small feat. As the building is in live mode, the retrofit process must be done without disrupting the daily operation of the building and its tenants. Careful planning and execution are needed to ensure a smooth and effective outcome.

THE SOLUTION

The solution consists of a scalable, end-to-end IoT system that connects all the operational devices, equipment, and systems together to a central enterprise network. The system is built using the latest in building automation technology and enable the facility team to monitor, control, and archive data from most of the building's systems.

Project Type:	BMS Retrofit and Integration of a Commercial Building	
Building Type:	Landmark skyscraper with the total structure height of 310 m (1,020 ft) and it is the 5th tallest tower in Malaysia	
Focus:	Energy Management	
Key Technology:	Niagara Supervisor, Tridium Jace 8000	
Project Scope:	Re-Create ACMV services in the Niagara Framework, Network Control Unit and Direct Digital Controller upgrading	
Number of control point:	16,000	
Key Benefit:	• Real-time reporting • Reduced operational cost • Improved efficiency	• Maximized occupant comfort • Extensible to take advantage of new technologies

Niagara 4 builds on the legacy of the Niagara Framework® in new and exciting ways, offering a modern and intuitive user interface, faster and easier integration, and more data accessibility. The platform utilizes HTML5 and features a bold new interface that provides an array of rich features. Furthermore, the platform is equipped with modbus and bacnet communication protocols, allowing it to connect and interact with a wide range of devices and systems.

The JACE 8000 running Tridium's Niagara 4 is a highly capable Smart Building device that is designed to deliver maximum functionality and performance. The JACE 8000 controller features a new global design that is compatible with the legacy systems and has the ability to scale up for future needs. It is a powerful Niagara 4 hardware platform with an easy software upgrade capability and modular hardware design for fast and easy installation. The JACE 8000 also includes key features such as tool-less installation, the ability to expand with up to four option modules, native Wi-Fi capability, a standard open drivers included, and an intuitive user interface.

THE RESULT

The implementation of the BMS solution using Niagara Framework in Menara TM was a success, delivering numerous benefits for the building's operations and tenants. The highly reliable BMS system allowed for the building's HVAC, ventilation, and multiple other services to operate efficiently without the need for constant monitoring and supervision. This resulted in a more streamlined and cost-effective building operation, freeing up the facilities team to focus on other important tasks. The improved reliability of the building's systems ensured a safe, comfortable, and efficient environment for its tenants and visitors. With the successful retrofitting of Menara TM with the modern BMS solution, the iconic building continues to be a leader in the application of advanced architecture technology.