

Roppongi Hills Mori Tower

Japan's largest redevelopment project uses CitectFacilities to improve tenant service, reduce operation costs and optimize energy utilization



THE CHALLENGE

Mori Building Co. Ltd was founded in 1959 and has over 1,000 employees. It is headquartered at Mori Tower, Roppongi Hills in central Tokyo. Roppongi Hills is referred to as "The Artelligent City" – where art and intelligence unite.

Mori Building is involved in all aspects of the urban landscape, from redevelopment to the design supervision, operation and management of residential and commercial facilities.

At 11.6 hectares, Mori Tower is one of the largest redevelopment projects in Japan. Mori Building's business objectives for the Tower were to improve tenant service and reduce operating and maintenance costs. Management also wanted to implement a flexible system for centralized continuous monitoring and control of multiple facilities.

THE SOLUTION

Citect, its Japanese Partner Fuji Electric Systems, and Mori's systems integrator (SI), delivered a fully automated state-of-the-art facilities monitoring solution that provides instantaneous information on the entire Mori Tower. CitectFacilities was selected for its open, reliable and scalable system with hot-backup and full redundancy. It was able to easily integrate climate, lighting and other controllable devices from multiple facilities, providing building-wide processing of data from more than 368,000 points, monitored in real time.

PROJECT DESCRIPTION

Open standards employed

As the Mori Tower has significant numbers of areas to be controlled, it was decided to choose an open method of communications based on the OPC standard. Citect is an OPC

THE CHALLENGE

To provide a 24-hour continuous enterprise-wide facilities management system for improving tenant service, minimizing operating costs and optimizing energy consumption.

THE SOLUTION

CitectFacilities was implemented as part of a fully integrated and automated facilities monitoring solution. This system has allowed for building-wide processing of data from more than 368,000 points, monitored in real time from a central control room.

THE BENEFITS

With CitectFacilities, Mori Tower has been able to integrate climate, lighting and other controllable devices from multiple facilities, creating an enterprise-wide monitoring and control system. With the ability to access all points through a central control room, Mori Building has been able to improve energy utilization, significantly reduce operational costs and optimize tenant service.

CaseStudy

Citect
Real-time Intelligence



Foundation member and CitectFacilities is both an OPC Server and OPC Client, a true reflection of the open data exchange policy of the company.

Large system capability

The building's system points total more than 368,000, with 64 included projects into one common runtime database. More than 42,000 trends and 110,000 alarms are configured in the system. Using Read-on-Demand technology, unnecessary read and write loads are not placed on the system servers, and only those points requested by the client are displayed. This technology allows CitectFacilities to easily handle the vast amount of data so users can view continuous alarm states, trends at pre-defined rates and current active display pages for the data they want, when they want.

Structured Engineering Approach

Mori has made full use of CitectFacilities' ability to include multiple individual projects into a single runtime database. This allows several systems integrators to work at the same time. By defining a structured tag name convention, people from various companies specializing in air conditioning, lighting and power engineering can all work on a common variables database.

Hot backup – Full redundancy

The standard redundancy built within the system architecture of CitectFacilities appealed to Mori. It was critical to have continuous 24-

hour facilities management of the Mori Tower Facility. CitectFacilities includes full redundancy for all server tasks: I/O, trend, alarm, and reporting.

THE BENEFITS

Using CitectFacilities, Mori Building was able to successfully integrate power, lighting, HVAC systems and other controllable devices from multiple facilities. This enabled Mori Building to achieve its business objective of implementing a 24-hour continuous enterprise-wide monitoring and control system. This solution allows the processing and real-time monitoring of data from more than 368,000 points in the Mori Tower. With the ability to access all points through a central control room, Mori Building has been able to optimize energy utilization, significantly reduce operational costs and improve tenant service.

STATISTICS			
	Air conditioning	Lighting	Power
IO Servers	10		4
Data Server	6		4
IO Devices	307		4
Variable Tags	180,000	145,000	43,000
Trend Tags	40,000	0	2,000
Alarm Tags	63,000	42,500	5,700
Graphics Pages	500	150	100

"The big advantage with CitectFacilities is the ease of use and future maintenance. Citect ensures that customers like Mori Building encourage customer management of the systems and provide systems that can grow with them. Maintenance and design for future expansion is ensured in all Citect systems."

Mr Toshihiko Tatsuki, General Manager, Fuji Electric Systems

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