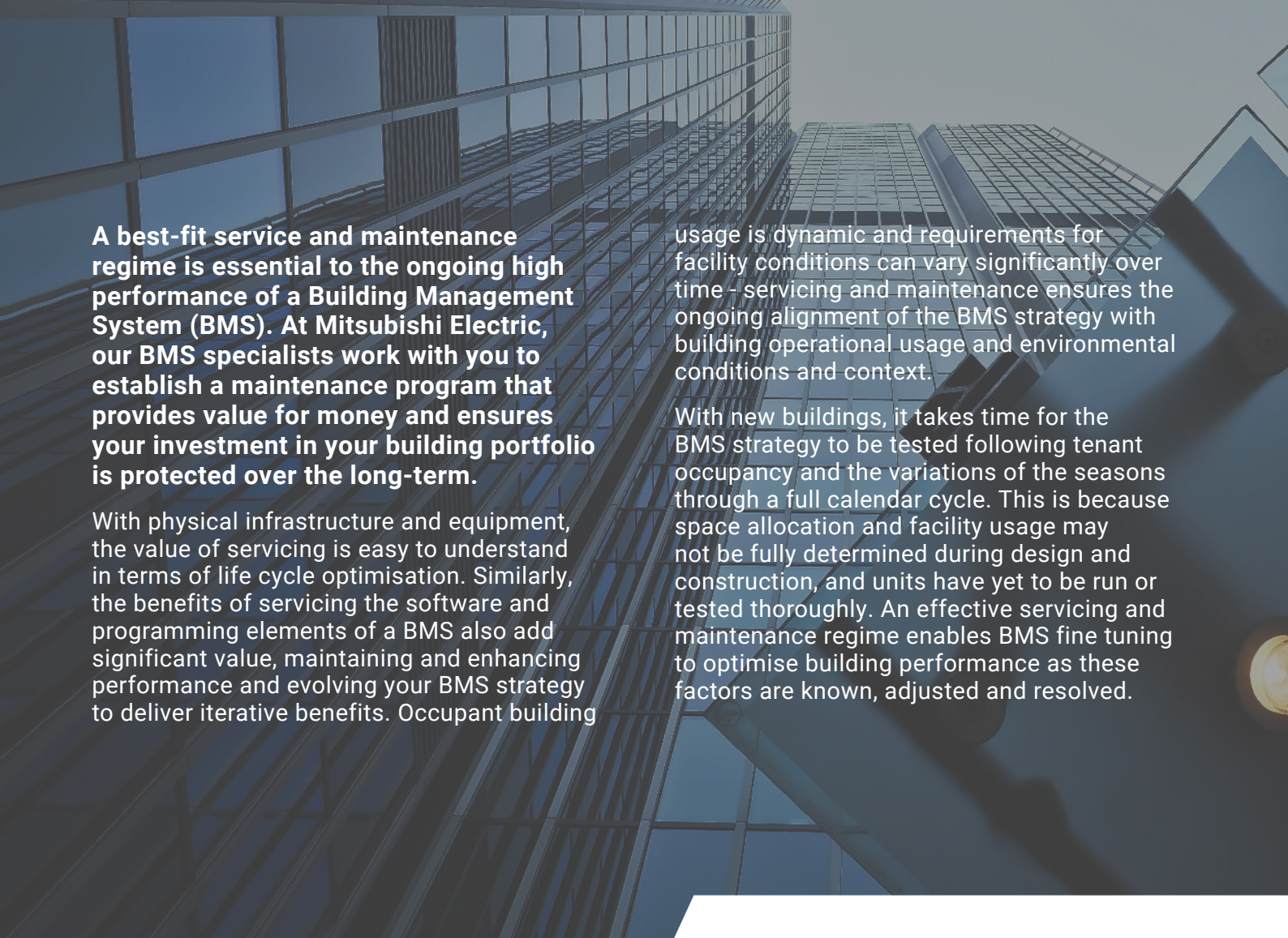




BMS SERVICING
AND MAINTENANCE

Protecting Your Assets





A best-fit service and maintenance regime is essential to the ongoing high performance of a Building Management System (BMS). At Mitsubishi Electric, our BMS specialists work with you to establish a maintenance program that provides value for money and ensures your investment in your building portfolio is protected over the long-term.

With physical infrastructure and equipment, the value of servicing is easy to understand in terms of life cycle optimisation. Similarly, the benefits of servicing the software and programming elements of a BMS also add significant value, maintaining and enhancing performance and evolving your BMS strategy to deliver iterative benefits. Occupant building

usage is dynamic and requirements for facility conditions can vary significantly over time - servicing and maintenance ensures the ongoing alignment of the BMS strategy with building operational usage and environmental conditions and context.

With new buildings, it takes time for the BMS strategy to be tested following tenant occupancy and the variations of the seasons through a full calendar cycle. This is because space allocation and facility usage may not be fully determined during design and construction, and units have yet to be run or tested thoroughly. An effective servicing and maintenance regime enables BMS fine tuning to optimise building performance as these factors are known, adjusted and resolved.

A **TRUSTED** SERVICE PROVIDER

Following the design and installation of a BMS solution, Mitsubishi Electric specialists are trusted by our clients to implement fit-for-purpose service and maintenance regimes. Our people are approachable, experienced and bring deep technical expertise. We value every client relationship and for each account nominate a dedicated point of contact within the team. This ensures consistency and responsiveness, clear communication channels, and enables in-depth system knowledge and understanding of each site.

We work in close collaboration with building managers, providing ongoing clear communication of BMS performance, and quick response to any issues raised for investigation. We provide tailored reports, such as daily one-pagers illustrating key performance metrics 'at a glance', and we design and adjust these reports with our clients to ensure reporting meets ongoing requirements.

Our specialists can also provide proactive recommendations to optimise building performance on an ongoing basis. This may include include recommendations regarding upgrades, expansions and adjustments to ensure desired outcomes are maintained and improvements are realised over time.

We also work hard to establish and maintain relationships with a network of mechanical contractors, sharing site and system learnings and supporting the embedding of a unified service approach for each facility and client.



Specialist Personnel

Technically proficient staff with a deep understanding of BMS and associated strategies



Responsiveness

Immediate response to issues and requests (no 'pool' queues)



Service Excellence

Account-dedicated personnel, always contactable and approachable



Trusted Advice

Proactive recommendations and advice on upgrade, replacement and optimisation options

TAILORED SERVICE OPTIONS TO SUIT EVERY CLIENT

Following each new build or BMS installation, the service and maintenance period for the BMS commences. Typically we will recommend a minimum quarterly onsite maintenance visit by a Mitsubishi Electric technician. The time required is confirmed with each client based on building size, scope and system complexity.

We offer three levels of service and maintenance (summarised in Table 1). In developing a best-fit service solution we work with our clients to consider the following factors:

- » Criticality of building operations and functions
- » Complexity of BMS
- » Cost drivers
- » Key risks and mitigation strategies
- » Sustainability goals
- » Client desired outcomes and objectives



Responsive maintenance call outs form part of each service offering, providing our clients assurance that we'll be there to resolve issues and repair and replace equipment as needed. Similarly we adjust programming remotely or perform system changes on an as required basis.






Preventative maintenance includes a periodical fixed visit schedule and includes checking computers and controllers to ensure programs are running effectively and controllers and sensor readings are all online. We run a system backup and take this backup offsite following the visit for secure storage. Any items with faults or identified as under-performing (and potentially incurring unnecessary cost) are raised with the building manager or owner together with recommended response actions. We can also include quotes for repair and replacement works and progress these following approval. The preventative maintenance visits provide an opportunity for the building manager or representative to raise any issues or concerns. We are then able to promptly action these and assess and resolve any associated faults.



Comprehensive maintenance is an all-inclusive service where our team actively monitors your system and takes action in response to any issues. It builds on the preventative maintenance option by including a cost threshold for immediate repairs and replacement for damages and faults, such as sensor and controller replacements. This model provides enhanced assurance of cost control for clients. Further, under a comprehensive maintenance regime, building performance, energy efficiency and other metrics are analysed closely, with trends mapped and graphs checked. Any necessary adjustments are made immediately during these maintenance visits, and we also make proactive recommendations if any additional substantial work is required.

Table 1: Service and maintenance solution options

		
RESPONSIVE MAINTENANCE	PLANNED MAINTENANCE	COMPREHENSIVE MAINTENANCE
<p>BENEFITS</p> <ul style="list-style-type: none"> » Cost effective for smaller, simpler systems 	<p>BENEFITS</p> <ul style="list-style-type: none"> » Ongoing performance optimisation » Early fault detection » Immediate fault repair (where possible) 	<p>BENEFITS</p> <ul style="list-style-type: none"> » Reduced risk for critical operations, larger buildings, portfolios and campuses and more complex BMS » Cost control assurance » Immediate fault repair and replacement (where possible)
<p>FREQUENCY</p> <ul style="list-style-type: none"> » Service as required 	<p>FREQUENCY</p> <ul style="list-style-type: none"> » Scheduled periodical maintenance visits » Reactive maintenance as required 	<p>FREQUENCY</p> <ul style="list-style-type: none"> » Scheduled periodical maintenance visits » Reactive maintenance as required
<p>SERVICE</p> <ul style="list-style-type: none"> » Fault fix » Adjustments as required 	<p>SERVICE</p> <ul style="list-style-type: none"> » Equipment and system checks and adjustments » Fault detection » Issue resolution » System back up 	<p>SERVICE</p> <ul style="list-style-type: none"> » In-depth equipment and system checks and adjustments » Performance and trend analysis and reporting » Fault detection » Repairs and replacement up to contractually defined value » System back up
<p>COST MODEL</p> <ul style="list-style-type: none"> » Call-out fee and service charge 	<p>COST MODEL</p> <ul style="list-style-type: none"> » Fixed fee 	<p>COST MODEL</p> <ul style="list-style-type: none"> » Fixed fee

OUR PROJECTS

We provide a range of service and maintenance solutions for clients across a broad spectrum of industries including healthcare, retail, commercial buildings, education, government, and station developments.

Our people assist our clients to protect their assets and enable visibility and monitoring of key building performance metrics.

Current service and maintenance contracts include:

PETRIE POLICE STATION, QLD



The Petrie Police Station project was completed in 2018, following which Mitsubishi Electric was awarded the service contract. We have been maintaining the facility since 2019.

Scope

BMS is involved in the ongoing servicing of the following systems:

- » Two air-cooled chillers system
- » Air handling units serving a variable air volume system
- » 32 variable air volume terminal units
- » Various ventilation fans

Key metrics

Comprehensive servicing is provided in a six-monthly recurring site visit. This includes calibrating pressure and temperature sensors, providing functional testing of damper and valve actuators. Quarterly performance checking includes system checks of the BMS.

WOOLWORTHS REGIONAL DISTRIBUTION CENTRE, VIC



The Melbourne South Regional Distribution Centre for Woolworths is a state-of-the-art facility supplying Victorian stores. Multi-storey racking systems, robotics technology, 14 kilometres of high-speed conveyors and sorting systems provide Woolworths the capability to sort and distribute stock at far greater levels of accuracy and pace than traditional warehousing operations.

Scope

Our project scope includes the ongoing monitoring and servicing of the following systems:

- » AC system through the office areas
- » Ventilation system in warehouse
- » Air conditioning for confectionary area
- » Cooling system for robot-picking
- » Cooling system for UPS rooms
- » Connection with generator control and UPS equipment

Key metrics

The distribution centre is serviced on a 3-monthly interval. On each visit, a thorough check is done on the BMS operation as this is a site which operates 24 hours. A backup system regime is employed to ensure that data recovery can be done quickly and easily.

The stock picking operation is done by robots and temperature control is critical for efficient operation. Examination of this plant operation forms part of the maintenance. Checks are also done to ensure that the backup power alarming are relayed through the BMS.



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