



Building and Construction Authority

Guide on Specifications for Outcome-Based
Lift Maintenance Contracts

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Preface

The manpower outlook in the lift industry remains challenging amidst an ageing workforce. To address these challenges, one key strategy is for the sector to embrace advanced technologies such as Remote Monitoring and Diagnostics (RM&D) solutions, which have the potential for maintenance service providers to pivot towards manpower-lean maintenance.

The Lift and Escalator Sectoral Tripartite Committee (L&E STC) released recommendations in September 2018 to increase the attractiveness of the industry to Singaporeans. One of the key recommendations included the implementation of RM&D technology. The Tripartite Cluster for Lift & Escalator Industry (TCLE) subsequently recommended that service buyers review their existing tender specifications to allow L&E firms to adopt technology-enabled solutions such as RM&D.

Engagements with industry have shown that the ‘traditional’ contracting model, based on the number of maintenance visits by the servicing contractors, present as an obstacle to parties to adopt RM&D solutions. Contracting models need to pivot away from headcount-based and frequency-based to one that focuses on outcomes that the service provider can deliver more productively.

This Guide aims to provide service buyers and lift service providers with information in preparing the appropriate specifications for an outcome-based contract (OBC). You will find examples, clauses and templates that can be adapted in the tender requirements. It also suggests indicators for measuring performance and outcomes, as well as good practices that will allow the benefits of RM&D and OBC to be reaped.

For additional details about the other stages in the facilities management (FM) procurement process (e.g. tender evaluation, post-tender FM performance appraisal framework), please refer to the Guide on FM Procurement¹ published by the Facilities Management Implementation Committee (FMIC) Procurement Taskforce.

¹ For FMIC’s Guide on FM Procurement, please refer to <https://www1.bca.gov.sg/docs/default-source/docs-corp-buildsg/facilities-management/guide-on-fm-procurement.pdf>

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Introduction

Remote Monitoring and Diagnostics (RM&D) is a technology that uses sensors and artificial intelligence (AI) to detect, diagnose and predict lift faults (See Figure 1). It helps to improve lift safety and reliability, by pre-empting the occurrence of breakdowns and malfunctions using predictive and proactive maintenance instead of a reactive one, and reduces the time needed to rectify faults.

RM&D technology also enables better planning of downtimes by scheduling required maintenance in advance to minimize the unexpected disruption of building operations. However, it is important to note that predictive maintenance may not equate to less frequent maintenance. The service provider may need to visit certain lifts (including more problematic lifts) more often for preventive actions to prevent potential failures.

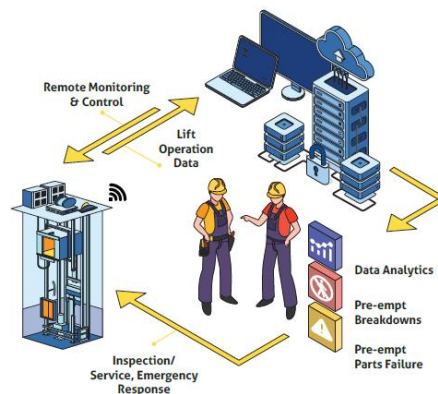


Figure 1: Remote Monitoring & Diagnostics

Against the backdrop of an increasingly competing environment for skilled manpower, a traditional frequency-based or task-based contracting model becomes increasingly unsustainable. The contracting model will have to evolve from being manpower-reliant and prescriptive to one that focuses on outcomes and rewards good performance.

Outcome-Based Contracting (OBC)

One such possible contracting model is OBC, in which the service buyer sets specific, measurable performance metrics and pays the service provider according to their performance against these defined outcomes.

While it is highly recommended to use OBC for RM&D lift maintenance contracts, this guide could also be used for contracts for non-RM&D lifts. OBC helps to promote a win-win relationship between the service buyer and service provider because the service provider gets

compensated on the same outcomes that the service buyer is concerned with, and thus the service provider is motivated to deliver an improved quality of service with greater efficiency and productivity.

Features of OBC

Outcome-Based Specifications

When drafting a tender, the service buyer stipulates certain desired outcomes and operational parameters. These desired outcomes serve as the foundation of outcome-based statements, that clearly communicate the expectations and standards expected by service providers. Outcome-based contract specifications are guided by outcome-based statements. These statements outline the service buyer's desired outcomes from the lift maintenance service provider.

Refer to Section 2 for best practices on how to outline outcome-based statements.

Performance Evaluation Framework

The quality of work by the service provider can be assessed with a performance evaluation framework driven by outcomes. The Performance Target can be the same throughout the duration of the contract or vary yearly according to service buyers' expectations but must be clearly stated upfront in the tender documents or during contract negotiation. Similarly, the frequency and methodology of performance evaluation should be clearly specified upfront to prevent disputes.

Refer to Section 3 for best practices to implement a performance evaluation framework.

Performance-Based Payment Model

To encourage service providers to meet or perform beyond the Performance Targets, performance-based payments can be adopted. For example, if the KPI scores exceed the Performance Target, a bonus/incentive may be paid out in addition to the contractually agreed base fee. Conversely, falling below the Performance Target may result in a deduction to the base fee. The payments may be paid monthly or quarterly, depending on choice of performance-based payment model.

Refer to Section 4 for best practices to implement a performance-based payment model.

1 Contract Information

1.1. Contract Duration

Service buyers today tend to pursue shorter contract terms as this allows them to have more control over awarding tenders to service providers who can offer them the best deal in terms of price and quality of service. However, such practices often mean that service providers will not see it viable from a business standpoint to propose and implement proposals that elevate the safety and reliability of their equipment, such as installing RM&D solutions.

Longer contract durations will allow both service buyers and service providers to reap benefits from economies of scale and provide sufficient time for RM&D solutions to gather sufficient data points and learn the usage behaviour of the equipment portfolio. When service providers are awarded longer contract durations, the longer cost recovery period for investments will provide an added incentive to invest in technological solutions and to raise manpower productivity and service quality whilst retaining competitive pricing.

Good Practice

Service buyers are encouraged to specify contract durations of at least 3+3 years.

A 3+3-year contract duration involves a 3-year contract with an option to extend for another 3 years. Prior to exercising the option to extend, service buyers and service providers can discuss whether any changes to scope is required. The initial term of 3-year may serve as a transitional period for the deployment of technological solutions provided by the service provider before the benefits are realized by both parties. Examples may include the deployment of RM&D solutions for lifts towards BCA's Approval Process².

1.2. Adaptive Pricing

With longer contract durations, provisions for contract price review and adjustments should be included. The conditions for exercising the price adjustment clause should be clearly stipulated.

Good Practice

Service buyers are encouraged to adopt adaptive pricing clauses in their contracts.

² For more information on BCA's Approval Process for RM&D solutions, please refer to <https://www1.bca.gov.sg/regulatory-info/lifts-escalators/remote-monitoring-diagnostics-for-lifts-in-singapore>

Adaptive pricing allows for price adjustments due to inflation, government policy changes (e.g. Progressive Wage Model for industry), or other cost adjustment factors. Conversely, service providers may be able to co-share savings obtained from grants or subsidies to the service buyer, thus ensuring price competitiveness without compromising on service quality.

1.3. Technology and Equipment

Some service buyers may have already identified specific tools and equipment that they wish to be utilised by the service provider, such as the provision of an Application Programming Interface (API) to their Building Management System (BMS) or installation of RM&D. Such requirements may be listed specifically in their tender requirement.

Sample clause for utilising RM&D (for illustration only)

The service provider shall ensure that a Remote Monitoring and Diagnostics (RM&D) solution is implemented for use throughout the duration of this contract. The RM&D solution must be part of BCA's Pre-Approval Trials or Approval Process. The service provider must submit an operationalisation plan with a proposed solution provider as part of their tender documents. The service provider shall provide evidence of their compliance with BCA's requirements for RM&D solutions and shall ensure that the RM&D solutions are effective and reliable in detecting and diagnosing issues with the lifts.

If the RM&D solution is approved for reduced maintenance frequency under BCA's Approval Process, the service provider and RM&D solution provider (if not the same as service provider) shall comply with BCA's conditions of approval.

Tip

Direct Contracting with lift maintenance service provider and/or RM&D solution provider

In some instances, the service provider for providing lift maintenance and RM&D solution may be different. To operationalise the OBC efficiently, the service buyer may wish to contract directly with either lift maintenance service provider or RM&D solution provider.

For example, in a named sub-contractor model, the service buyer would only procure from the lift maintenance service provider. They can then require the lift maintenance service provider to contract their own RM&D services.

Another possible contracting model is the nominated sub-contracting model. The service buyer can select the RM&D solution provider and have a direct contract with them. The service buyer can then require the lift maintenance service provider to use the services of the selected RM&D solution provider to support their maintenance works. In such instance, the service buyer must play an active role to ensure an effective collaboration between RM&D solution provider and lift maintenance service provider. Also, the scope and responsibility of RM&D provider and lift maintenance service provider need to be clearly defined and include cases such as false alarms.

1.4. Comprehensive and Standard Maintenance Contracts

Maintenance contracts are often categorised into:

- Comprehensive maintenance contract
- Standard maintenance contract

For more information on the pros and cons on the two types of maintenance contracts, please refer to the Good Practices Guide for Lift Owners³ published by BCA.

Comprehensive maintenance contract empowers the lift maintenance service provider to carry out pre-emptive part replacement to meet the performance metrics that are specified in the outcome-based contract. Also, in the case for lifts equipped with RM&D solutions, the lift maintenance service provider can plan and procure the parts early if the RM&D solution recommends a visit to the lift for pre-emptive maintenance. In this way, both the service buyer and lift maintenance service provider get to reap the predictive benefits of using RM&D.

For standard maintenance, the service buyer needs to be aware that timely approval for part replacement is required to hinder the lift maintenance service provider from achieving their

³ For BCA's Good Practices Guide for Lift Owners, please refer to <https://www1.bca.gov.sg/docs/default-source/docs-corp-regulatory/lift-escalators-e-guide/good-practices-guide-for-lift-owners.pdf>

performance outcomes. Should delays in quotation approval result in a lower KPI score (e.g. lift uptime decreases), the service buyer and service provider should agree to exclude this delay in the KPI calculation for that month, or tweak the calculation formula such that the service provider will not be unfairly penalised for the service buyer's lapse.

1.5. Schedule of Rate (SOR)

The Schedule of Rate (SOR) is a pre-priced list of typical works that are excluded from the comprehensive and standard maintenance contract but would be incurred as a result of special circumstances that involve additional labour and spare parts cost. As the frequency of occurrence is unknown, such ad-hoc works should be offered as separate scheduled rates. Listing them down clearly and stating them upfront in the contract will expedite quotation approvals. This will further help service buyers to plan better for life cycle costing and cater sufficient budget for parts replacement as the value of replacement and repairs can be calculated with inputs from the lift maintenance service provider. The SOR should also include the parts or components mentioned in the Maintenance Control Plan (MCP)⁴.

Tip

Maintenance Control Plan

Besides using technology like RM&D to enable predictive maintenance of lifts, the service buyer should also adopt a preventive maintenance approach and rejuvenate their assets by working together with the lift maintenance service provider to develop and agree to an MCP. Each lift's MCP will list the replacement criteria of major components throughout the life cycle of the lift. Such replacement criteria may be condition-based (e.g. mechanical components) or frequency-based (e.g. electrical components).

Service buyers ought to understand the capability of the RM&D solution in terms of monitoring and prediction analytics. The timely replacement of worn-out components and implementation of an effective MCP are crucial in improving the performance of lifts equipped with RM&D solutions. In addition, performance data from the lifts' RM&D system can be used to guide the individual lift's life cycle planning (e.g. prioritising lifts with higher usage or lower availability for modernisation or parts overhaul).

⁴ For more information about the Maintenance Control Plan for lifts, please refer to [https://www1.bca.gov.sg/regulatory-info/lifts-escalators/maintenance-control-plan-\(mcp\)](https://www1.bca.gov.sg/regulatory-info/lifts-escalators/maintenance-control-plan-(mcp))

2 Outcome-Based Statements

Outcome-based statements differ from traditional contract clauses where the latter only sets out minimum service standards, and there is no incentive for lift maintenance service providers to propose initiatives that can improve their standards.

Examples of Desired Outcomes and Outcome-Based Statements

Desired outcome	Outcome-based statement
Minimum disruption to lift operations in the building	Ensure that regular maintenance is performed to minimise downtime, breakdown, or unexpected failure.
Customer satisfaction	Ensure that response time for call-backs and mantrap situation is within the required timeframe.

When drafting statements, it is advisable to avoid being overly prescriptive, except when it comes to regulatory requirements. Simply removing headcount numbers from a tender, while retaining all the prescriptive requirements or tasks, is not sufficient. In crafting outcome-based statements, service providers should be accorded flexibility to propose alternative solutions that will still lead to the same desired outcome. These solutions tend to involve integrating various inputs like technology, manpower deployment, and operational processes.

Poor examples of outcome-based statements:

- *“Ensure zero breakdown rate of lifts”* → As electro-mechanical equipment, lifts are susceptible to wear and tear. It is important to note that electronic components, in particular, may fail suddenly, making it unrealistic to expect a zero-breakdown rate.
- *“Ensure that all user complaints are resolved within 1 day”* → For non-safety critical complaints, setting such onerous requirements may unnecessarily require the service provider to deploy manpower to attend to the issue immediately. For RM&D solutions, some suggested interventions flagged as non-critical by the system will be scheduled to be carried out at the next scheduled maintenance.
- *“Ensure X number of technicians are always present to do monthly maintenance”* → Avoid overly prescriptive and headcount-based requirements that do not provide additional value to the service buyer whilst limiting the service providers’ ability to streamline their manpower deployment.

3 Performance Evaluation

The outcome-based statements guide the creation of a suitable performance evaluation model. In OBC, a key feature of performance evaluation involves demarcating clear KPIs and baseline targets for the service provider to achieve. The targets can contribute to a points system, calculated at a regular interval (e.g. quarterly), and used to measure performance against the Performance Target (PT) set by the service buyers.

Examples of KPI and Measurement for Lift Maintenance Contracts (for illustration only)

Outcome-based statement	KPI	KPI target	KPI scoring
Ensure that regular maintenance is performed to minimise downtime, breakdown, or unexpected failure	Number of technical faults per equipment (TFPE) per month	Not more than 0.2 TFPE per month	0 to <0.2 – 5 points 0.2 to <0.3 – 3 points 0.3 and above – 1 point
	Availability of the lift per month ⁵	Not less than 99% uptime per lift per month	99% and above - 5 points 96% to <99% - 3 points Below 96% – 1 point
		Not more than 1 hour of downtime per lift per month	Below 0.8 – 5 points 0.8 to <1.4 – 3 points 1.4 and above – 1 point
Ensure that response time for call-backs and mantrap situation is within the required timeframe	Percentage of technical faults which do not re-occur for the next 30 days after the maintenance personnel last resolved the technical fault	Not less than 70% over a period of 6 months	75% and above – 5 points 60% to <75% – 3 points Below 60% – 1 point

⁵ Service buyers may opt for different ways of quantifying their KPIs. For example, the availability of the lift may be calculated in percentage or numerically.

	Time taken to respond and rectify system failures within stipulated SLA	95% of cases responded by lift technicians within stipulated SLA	95% and above – 5 points 80% to <95% – 3 points Below 80% – 1 point
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To measure the performance of the lift maintenance service provider, the service buyer needs to stipulate a Performance Target, which is tied to the aggregate KPI scores. For example, the PT can be set at 70% of the sum of the KPI scores or using a weighted sum approach. The weighted sum approach may be utilised in cases where the service buyer identifies certain KPIs to be more crucial than others and assigns a weightage to reflect as such during score computation. If all fields are weighted equally, the sum of individual KPIs can simply be added to obtain the total KPI score.

Example of Weighted Sum Approach (for illustration only)

KPI	Weightage	Score attained	Weighted score
Number of technical faults per equipment (TFPE) per month	0.4	5	$0.4 \times 5 = 2$
Availability of the lift per month	2	2	$2 \times 2 = 4$
Percentage of technical faults which do not re-occur for the next 30 days after the maintenance personnel last resolved the technical fault	0.4	4	$0.4 \times 4 = 1.6$
Time taken to respond and rectify system failures within stipulated SLA	1.2	4	$1.2 \times 4 = 4.8$
KPI score obtained (out of 20)			12.4

The sum of weightages should be equal to the number of KPI fields (e.g. in this case, 4). In this example, the weighted score is 12.4, compared to the unweighted score of 15.

Operationalising Performance Evaluation

- Measurable performance targets for the lift maintenance service provider must be clearly defined upfront and mutually agreed on to avoid dispute between the lift maintenance service provider/RM&D solution provider/service buyer when computing payment. This includes the treatment and verification of false calls and faults due to usage misuse of lifts, e.g. user inserts paper at door safety edge to keep the lift door open.
- The computation method, data source, and party to compute should be agreed upon by all parties to avoid delay in payment. For example, the data source for computation can be from servicing/callback/breakdown records from the lift maintenance service provider or directly obtained from the RM&D solution dashboard.
- Performance targets should be reasonable and achievable based on assessed condition of the equipment, including age and usage. Service buyers are advised to exercise greater flexibility for the run-in of a newly installed RM&D solutions, to allow the technicians to familiarise themselves with utilising the system in their maintenance works. There may also be more downtime initially when setting out and testing the RM&D solution.
- OBC introduces additional tasks involving computation and verification of the lift performance targets/KPIs. Service buyers may consequently note an increase in administrative work involved to maintain clear oversight of lift performance.
- KPIs may be calculated on a portfolio/project basis, or differentiated based on age group, location, usage statistics, type of lift, etc.

4 Performance-Based Payment Model

Performance-based payments encourage the lift maintenance service provider to meet or strive to surpass the Performance Target, by introducing slight variations to the payment received. Service buyers are discouraged from implementing deductions greater than 10% of the predetermined base fee to not impact the service provider’s operational viability. Such deductions could be used as an alternative to certain penalties previously imposed via liquidated damages (Refer to Section 5).

Example of Performance-Based Payment Model (for illustration only)

KPI score attained	Payment received by service provider
$x \geq 19$	Base fee + 10%
$17 \leq x < 19$	Base fee + $\gamma\%$ (up to 10%)
$15 \leq x < 17$ (Baseline)	Base fee
$11 \leq x < 15$	Base fee - $\gamma\%$ (up to -10%)
$x < 11$ (Service failure)	Base fee - 10%

Other Performance Management Practices

Service buyers can consider exploring other performance management practices to encourage lift maintenance service providers to perform beyond the required standard.

For example, service buyer can consider using a Tiered Payment Model for each of the KPIs.

Example of Tiered Payment Model (for illustration only)

KPI target	Actual performance	Payment
Not more than 0.2 technical failure per lift per month	Exceed KPI Target	Monthly Base fee + $\gamma\%$
	Meet KPI Target	Monthly Base fee
	Do not meet KPI Target	Monthly Base fee – $\gamma\%$
	Exceed KPI Target	Monthly Base fee + $\gamma\%$
	Meet KPI Target	Monthly Base fee

Time taken to respond and rectify system failures within stipulated SLA	Do not meet KPI Target	Monthly Base fee – y%
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Bonus Payments (Optional)

Service buyers can consider providing bonus payments to the lift maintenance service provider for meeting the performance metrics for a continuous period of time (e.g. achieving availability of more than 99% for three months in a row), or meeting all of the KPIs monthly. This incentivises the lift maintenance service provider to deliver sustained results in meeting the performance target and encourage them to strive towards improved productivity and efficiency and delivery of better quality of service through the adoption of innovative technology such as RM&D. Service buyers may consider other terms and conditions for the bonus payment incentives to drive the enhancement of the lift maintenance service provider’s performance.

5 Liquidated Damages

Service buyers transiting to an OBC model will need to review their liquidated damages (LD) clauses. The claimed amount under LD should be proportionate to the actual harm suffered as a result of the service provider’s breach of the service level agreement. It is not intended to be punitive in nature.

With the inclusion of disincentives via the performance-based payment model in OBC, some legacy LD clauses will need to be removed such that the service provider is not double-penalised for a single failure. For example, there may not be a need to impose additional LD to the service provider for higher breakdown rate. In addition, LD clauses may need to be rewritten to focus on the output of the service provider. For instance, there is no need to penalise the service provider for deploying fewer technician visits on site if the performance outcomes can still be met.

All LD clauses must correspond with a contract clause, and service buyers should review or remove all LD clauses that are no longer relevant and not quantifiable.

6 Case Study on Adoption of OBC for RM&D Service Providers (JTC)

JTC, a lift owner of commercial and industrial buildings, has successfully adopted a non-comprehensive outcome-based contract model in 2022 for their RM&D lifts that have transitioned into quarterly maintenance. For performance evaluation, JTC developed a set of KPIs, pegged to an incentive, on top of meeting the BCA's KPIs for assessing RM&D solutions. JTC embarked on its RM&D journey in 2017 experimenting with different RM&D solutions that eventually led to the development of a new lift maintenance model for the industry and other lift owners to consider adopting today.

JTC is continuously monitoring the efficacy of their approach and performance management system and will review as needed.

Pre-Tender Considerations

- Upon initial installation of RM&D solutions, JTC observed that the contractors required a “transition period” to allow run-in of the solution with the lift. Modifications involved resolving issues flagged up by the system and allowing the system to synergise with the lift's individual characteristics. JTC noted that this initial run-in period required additional work by the technicians, to ensure that the system can run smoothly thereafter with minimal false flags.
- Through a trial period with contractors, JTC observed productivity savings for lifts with RM&D and lower breakdown rates. These statistics were used to renegotiate contract prices with the contractors prior to moving into quarterly maintenance under BCA's RM&D Approval Process.

Performance Evaluation

- JTC calculated the KPIs monthly, with a quarterly review of the performance indicators. Payments were calculated on a quarterly basis.
- Performance data was calculated and submitted by the contractor, and cross-verified by JTC with their FM companies (e.g. breakdown records).
- JTC observed that in the early months of operationalising an OBC model, it was helpful to conduct regular meetings with the contractor. At times, the calculation formula and exclusion criteria of scenarios were reviewed and modified.

- As a standard maintenance contract was utilised, JTC was amenable to amending KPI calculation formulas and exclusion cases on a case-by-case basis, to not penalise the contractor for high downtime caused by delay in approving quotations. JTC also undertook measures to minimise such delays, to not hinder the contractor’s ability to carry out their duties.

JTC’s Performance Evaluation Model

S/N	KPI	Definition
1	Availability	$\frac{[\text{Maximum running hours} - \text{Total downtime}]}{\text{Maximum running hours}} \times 100\%$ <p>Note: Downtime includes rough usage, maintenance, pre-emptive interventions. Exclude downtime due to annual shutdown for testing, preplanned cyclical works e.g. rope & sheave, delay due to JTC instructions, building failure related events e.g. Fire alarm, power failure, water ingress, CCTV etc.</p>
2	Technical breakdown rate	$\frac{\text{Total no. of technical breakdowns in a month}}{\text{Total no. of lifts}}$ <p>Note: Excludes rough usage, acts of God, building related issues.</p>
3	Long restoration for technical breakdowns	<p>Time taken to restore lift back to normal operation</p> <p>Note: Includes weekends and public holidays. For major works stipulated in SLA, KPI is met as long as within SLA. Restoration time is time between complaint received and time of lift restoration. Excludes time taken due to PO issuance & star rate negotiation (if no IA is given)</p>
4	Mean time between breakdowns (MTBB)	<p>Number of days between 2 consecutive technical breakdowns of the same lift</p> <p>Note: Includes breakdown regardless of component. Excludes rough usage.</p>
5	Breakdown detection accuracy	$\frac{\text{No. of breakdowns detected by RM\&D system}}{\text{Total no. of breakdowns}}$
6	Diagnostic accuracy	$\frac{\text{No. of true positive cases}}{\text{Total no. of intervention cases}}$

Performance-Based Payment Model

- JTC awards incentives pegged to individual KPIs (i.e. Tier 1 Incentive), rather than based on total score.
- Additional bonuses were awarded for consistency in performance, such as meeting a certain KPI for 3 months in a row (i.e. Tier 2 Incentive).

JTC's Performance-Based Payment Model

S/N	KPI (reviewed monthly)	Target	Tier 1 Incentive	Tier 2 Incentive
1	Availability	X%	Additional Y% of Monthly Maintenance Fee (MMF)	Additional Z% of MMF if target reached for 3 consecutive months
2	Technical breakdown rate	X	Additional Y% of MMF	Additional Z% of MMF if target reached for 3 consecutive months
3	% of technical breakdowns restored in < 8 hours *	X%	Additional Y% of MMF	Additional Z% of MMF if target reached for 3 consecutive months
4	% of lifts with MTBB of > 180 days	X%	Additional Y% of MMF	Additional Z% of MMF if target reached for 3 consecutive months
5	Breakdown detection accuracy	X%	Additional Y% of MMF	N.A.
6	Diagnostic accuracy	X%	Additional Y% of MMF	N.A.

* KPI 2's criteria needs to be met for KPI 3 to be eligible.

Benefits of RM&D Adoption in Tandem With OBC

- Following implementation of RM&D with one of their lift contractors, JTC observed a 60% improvement in breakdown rate and 33% increase in the first-time fix rate of faults. This corresponds to a 10-20% improvement in manpower productivity. The productivity savings were co-shared between JTC and the lift contractor.
- The adoption of performance evaluation and management allowed some of the productivity savings to be "returned" to the contractor in the form of additional KPI incentives.
- As RM&D continues to scale up in adoption, JTC anticipates that further savings can be derived from manpower-lean maintenance, whilst elevating the performance of their lift assets.

Additional References

Guide on FM Procurement

<https://www1.bca.gov.sg/docs/default-source/docs-corp-buildsg/facilities-management/guide-on-fm-procurement.pdf>

BCA's Approval Process for RM&D solutions

<https://www1.bca.gov.sg/regulatory-info/lifts-escalators/remote-monitoring-diagnostics-for-lifts-in-singapore>

Good Practices Guide for Lift Owners

<https://www1.bca.gov.sg/docs/default-source/docs-corp-regulatory/lift-escalators-e-guide/good-practices-guide-for-lift-owners.pdf>

Maintenance Control Plan

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