

## MEDIA RELEASE

# SENSORS, BIG DATA AND AI TO ENABLE REMOTE MONITORING & DIAGNOSTICS AND PREDICTIVE MAINTENANCE REGIME FOR LIFTS

- *Predictive maintenance regime for lifts in Singapore now possible with Remote Monitoring & Diagnostics (RM&D) solutions for lifts and first in the world Code of Practice for RM&D*
- *Benefits of adopting RM&D solutions for lifts include reducing lift downtime, increasing reliability of lifts, and improving safety*
- *Pilot trials conducted by JTC using RM&D solutions saw a 25% improvement in manpower productivity.*

**Singapore, 29 July 2022** – Lift service contractors are currently required to maintain lifts at least once a month. This is typically based on preventive maintenance regimes. The advent of RM&D technology (**see Annex A for more info on RM&D**), leveraging sensors and algorithms to analyse data collected by these sensors (popularly known as Artificial Intelligence or AI), has enabled a shift toward predictive maintenance regimes.

### **JTC's Remote Monitoring & Diagnostics Trials Reaps Productivity Gains**

2 Since 2018, JTC has been bringing lift and technology companies together to develop new RM&D solutions. JTC embarked on a pilot trial with lift companies KONE, Schindler, and third-party RM&D solutions provider TÜV SÜD, involving 174 lifts in JTC's CleanTech Park and one-north. This is part of JTC's plans to digitalise the Built Environment sector by using smart solutions in facilities management.

3 The trial focused on the proof of concept of the RM&D solution, and tested whether lift faults can be accurately detected, diagnosed and predicted. When the diagnostics algorithms learn and analyse the data from the sensors, a higher level of accuracy can be achieved.

4 The trials achieved promising results. The RM&D solution achieved an accuracy rate of 85% in predicting lift faults, which allowed for predictive maintenance to be carried out to prevent lift faults from occurring, and reduced the likelihood of lift breakdowns. This meant that lift users were able to benefit from reduced downtime and improved reliability of the lifts. The RM&D solution also increased manpower productivity by 25%, for example by reducing the time needed for a lift engineer/ technician to repair faults. BCA observed that there were no safety issues during the trials. Riding on this success, JTC will be rolling out RM&D solutions to another 180 lifts over the next 2 years.

5 Mr Heah Soon Poh, JTC's Assistant CEO Engineering & Operations Group said, "The current lift maintenance model relies heavily on manpower and is not sustainable in the long run. By working with lift manufacturers and technology partners, we were able to develop a new lift maintenance model, and demonstrate how it can accurately predict lift faults, while improving productivity in lift maintenance. Such trials are critical to fast track industry-wide adoption and support Singapore's push for smart facilities management."

### **Regulatory Sandbox for an Alternative Regulatory Regime for Lifts Equipped with RM&D Solutions, with First in the World Code of Practice for RM&D**

6 To support the implementation of RM&D in the industry, BCA has developed a Code of Practice for Design and Performance of Remote Monitoring & Diagnostics Solution for Lifts ("COP") for RM&D in Singapore, and will make changes to the Building Maintenance and Strata Management (Lift, Escalator and Building Maintenance) Regulations 2016 to implement a regulatory sandbox for lifts equipped

with a compliant RM&D solution<sup>1</sup>. Under the regulatory sandbox, from 1<sup>st</sup> August 2022, a lift owner, together with the lift service contractor and RM&D solution provider, can apply to BCA for lifts equipped with compliant RM&D solutions to be subject to a longer maintenance interval of at least once every three months. Lift service contractors will also need to maintain the lift in accordance with the recommendations of the RM&D solution.

7 BCA has developed the COP in consultation with the local lift industry and has incorporated insights from the pilot trials with JTC and its partners. The COP is the first of its kind in the world and was endorsed by a panel of local and overseas experts at an inaugural virtual roundtable on RM&D in March 2021.

8 BCA will closely monitor lifts in the regulatory sandbox to ensure that lift owners and contractors carry out their duties and responsibilities in maintaining the lifts, and that there are no safety issues. **More details of the regulatory sandbox are in Annex B.**

### **Higher-value jobs for locals**

9 Mr Kelvin Wong, CEO of BCA, commented, “Jobs under the RM&D regime will be much more engaging. Lift technicians will need to be highly skilled and competent in both lift maintenance and using cutting-edge analytical tools. New technologies are transforming jobs in the Built Environment sector: lift maintenance technicians shall command a higher value-add as the workforce becomes leaner and more competent in the long run.”

10 The adoption of RM&D solutions is also aligned with the Lift Progressive Wage Model (PWM), which charts out career progression pathways, sustainable wage increases and targeted training for the lift industry. Under the PWM, lift technicians could progress to a supervisory role leading their own team of technicians or become a specialist in their field. Moving forward, adoption of the PWM will be made a mandatory registration requirement for all lift and escalator maintenance firms.

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<sup>1</sup> A compliant RM&D solution refers to one that is able to meet the requirements under the COP.

Attached:

**Annex A:** Factsheet on RM&D

**Annex B:** Factsheet on maintenance regime for approved RM&D lifts