

立法會CB(4)696/2023(01)號文件
LC Paper No. CB(4)696/2023(01)



港鐵增加資源提升鐵路資產管理及維修保養 載向智慧未來

MTR Increases Resources Enhancing Railway Asset Management and Maintenance for Smart Future

立法會交通事務委員會
鐵路事宜小組委員會
Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

2023年7月7日
7 July 2023

完成全面檢討鐵路資產管理

Comprehensive Review of Railway Asset Management Completed



香港工程師學會前會長梁廣灝工程師帶領專家小組進行檢討，顧問公司 SYSTRA 協助，期間與政府獨立監督小組互動，報告亦已採納政府專家的意見

Review conducted by Expert Panel chaired by Ir Edmund Leung, former president of Hong Kong Institution of Engineers, with the assistance of consulting group SYSTRA, and the review was an interactive process with the Government's Independent Monitoring Panel and the opinions of the Government's experts opinions were incorporated in the report



確保鐵路資產管理維持高水準，並找出可改善的地方

Ensure asset management is maintained at a high standard while seeking areas for improvement for quality service

在未來五年投放**超過 650 億元**
進行鐵路設施更新及保養維修

Putting in **over HK\$65 billion** in the coming five years on railway asset renewal and maintenance

運用創新科技，達至更高水平的鐵路資產管理

Use innovation and technology to achieve railway asset management to higher standards



全面檢討鐵路資產管理

Comprehensive Review of Railway Asset Management



港鐵資產管理系統獲國際機構 ISO 認證，一直提供
超過99.9% 準時度的鐵路服務

MTR's Asset Management System is certified with ISO, and the network has supported continuous Passenger-Journey-On-Time at over 99.9%



高效及高可靠度的鐵路服務是維修付出的成果，
備受國際認同

Efficient railway service is a result of tremendous efforts made in maintenance and is well recognized internationally



鐵路為香港公共交通骨幹
市民對港鐵持續改善服務可靠度有高期望

Public expectation on continuous improvement on service reliability has been high with
MTR being the major backbone of the public transport system in Hong Kong

檢討結果得出需再提升的範疇

Findings of the Review for Enhancement



資產管理系統 Asset Management System



整合資產管理策略文檔

Align asset management strategic objectives and integrate documentation



提高員工資產管理認識

Foster staff awareness on asset management



整合及優化內部組織

Enhance optimization of committees and working groups



鐵路資產數碼化

Railway asset digitization

維修保養工作 Maintenance Regime and Practice



加強風險預測，盡量減少影響較大事故

Strengthen risk anticipation to minimize high consequence incidents



加強資產登記及 「以可靠性為主的維修安排」

Strengthen asset registration and Reliability Centered Maintenance



提升工作品質保證

Enhance work quality assurance



提升對供應商產品及 承辦商工程的管理

Uplift management of supplier's product and contractor works

港鐵將循五個方向落實建議

MTR to implement enhancements based on five action areas

1

未來五年投放
超過 650 億元進行鐵路設施
更新及保養維修

HK\$65 billion for railway asset renewal and
maintenance in the next five years

2

加快創新科技應用

Accelerate application of
innovation and technology

ASTRI
EAMS



3

強化風險預測及管控

Enhance risk anticipation and management

4

積極應對「黃金兩小時」局限

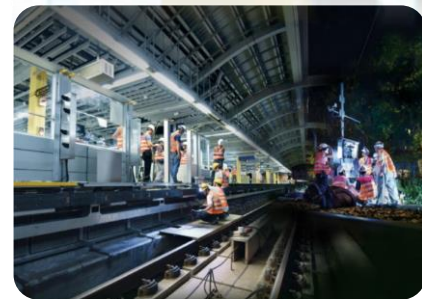
Gain extra working time for maintenance window
during non-traffic hours



5

提升員工資產及風險管理認識，
克服維修人手挑戰

Foster asset and risk management awareness of staff and
address manpower challenges





未來五年投放超過 650 億元進行鐵路設施更新及保養維修

Putting in over \$65 billion on railway asset renewal and maintenance in the next five years

方向

1

Action Area

未來五年 (2023 - 2027)

In the coming five years (2023-2027)



確保港鐵維持一直以來的維修工作，亦有足夠資源落實檢討工作的建議

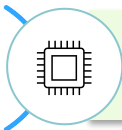
Ensure MTR has enough resources to maintain regular maintenance works and implement enhancement actions from the review



650 億元較上一個五年 (2018 - 2022) 的投入增加約 20%

\$65 billion is an **increase of around 20%** as compared to the previous five-year period (2018-2022)





加快應用創新科技

Accelerate application of innovation and technology

方向

Action Area

2

未來五年，港鐵投放**超過港幣10億元**推動創新科技

MTR will put in over HK\$1 billion to foster I&T development in the coming five years



達致以數據導向、數碼化的鐵路資產管理

To achieve **data-driven and digitized asset management**



南港島綫於今年 11 月率先推行數碼化的資產管理系統 EAMS,

目標其他鐵路綫於明年第三季全面使用

Digitalized asset management system, EAMS, will be launched for **South Island Line** by the end of 2023 and roll out to other lines in the third quarter of 2024



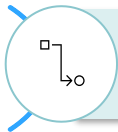
與香港應用科技院共同成立 MTR-ASTRI LAB實驗室

Establish **MTR-ASTRI Lab** with Hong Kong Applied Science and Technology Research Institute



ASTRI





強化風險預測及管控，減低較大影響事故發生
 Enhance risk anticipation and management to minimise incidents of high consequence

方向
 Action Area

3

擴大 Reliability Centered Maintenance 分析工具至關鍵資產

Extend coverage of Reliability Centered Maintenance (RCM) to critical assets

以資產數據支持

Aided by asset data

數據工作室

Data Studio

物聯網

IoT



**更好地掌握外判商工程及
 供應商部件的品質監控**

Better quality control of contractor works and supplier's product

加強風險管理，盡量減少事故

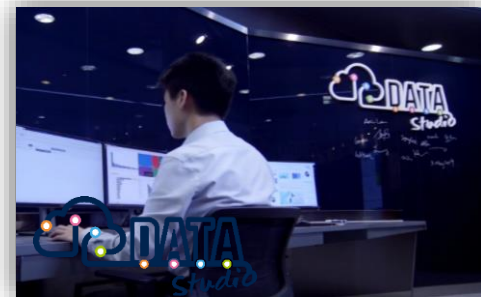
Enhance risk management and minimize incidents

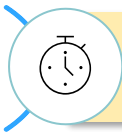


實時影像
 Real-time image



紅外線鏡頭
 Infrared camera





積極應對「黃金兩小時」局限，爭取收車後更多維修時間

Gain extra working time for maintenance window during non-traffic hours

方向

Action Area

4

每晚收車後只有「黃金兩小時」作維修保養、資產更新及拓展新鐵路綫工程等

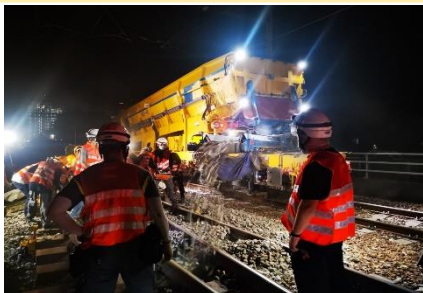
Only **two-hour maintenance window** during non-traffic hours for railway maintenance, asset renewal and construction for new railway projects, etc



投資約 **5 億元**

引入技術及更多設備，提升工作效率，爭取維修時間

Invest about **HK\$500 million** for technology and more equipment to enhance efficiency of works and gain extra working time for maintenance work



按需要探討間中適度調整服務時間的可行性

Explore feasibility of early end/ late start of train service occasionally on a need basis





提升員工資產及風險管理認識，克服維修人手挑戰

Foster asset and risk management awareness of staff and address manpower challenges

方向

5

Action Area



高效鐵路服務是員工不懈努力的成果，感謝員工盡心盡力，謹守崗位

Efficient railway service is a result of tremendous efforts made by staff and the Corporation thanks staff for their dedication and hard work



確保員工有足夠資源、方法及時間，做好工作

Ensure staff have adequate resources, methods and time for their duties



整合及更新資產管理手冊，給予員工足夠指引，提高資產及風險管理認識

Integrate and update asset management manual for sufficient guidelines to staff to foster their asset and risk management awareness



加強安全文化推廣，推動員工上報風險及安全隱患

Further promote "Just Culture" to encourage staff to report risk and safety issues



MTR Corporation



10/7/2023



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提升員工資產及風險管理認識，克服維修人手挑戰
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方向

Action Area

5

全方位招聘及保留人才措施

Comprehensive recruitment and talent retention initiatives



退休延任安排

Deferred retirement



員工推薦計劃

Job referral by staff



多元化招聘渠道及推廣

Diversified recruitment channel and promotion



員工福利和友善措施

Employee wellness/friendly initiatives



增聘不同級別見習人員和學徒

Expand trainee intakes at different levels

MTR Corporation

由人力需求源頭著手

Working on manpower demand



引入機械人及人工智能等執行較簡單及重複性工序，員工可處理更針對性工作

Use of technology such as robotics and AI to handle simple and repetitive tasks while manpower can be used for more sophisticated and targeted works



車底智能檢測機械人
Underframe inspection robot



360度智能列車檢測系統
360 degree smart train inspection system



車頂檢測及清潔系統
Roof inspection and cleaning system

1

未來五年投放超過650億元進行鐵路設施更新及保養維修

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加快應用創新科技

Accelerate application of innovation and technology

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強化風險預測及管控，減低較大影響事故發生

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**港鐵永不停步力臻完善，積極面對挑戰
以「智慧鐵路」新景象回應公眾期望，繼續讓香港前行**

MTR will continue to strive for excellence while taking on challenges

Providing a new era of "Smart Railway" for its railway service to meet public expectations and keep Hong Kong moving