GOLD AWARD 金獎

★ **Excellence in MiMEP Application (RMAA Project)**
MiMEP卓越應用大獎(維修改建及加建工程)

Project Owner: 業主:	The Hong Kong University of Science and Technology 香港科技大學
Main Contractor & E&M Contractor: 總承建商及機電承辦商:	Skyforce Engineering Limited 天科工程有限公司



Improvement Works for Central Lab Humidity Control at Main Academic Building of HKUST
香港科技大學本部大樓中央實驗室濕度系統改善工程

The "Improvement Works for Central Lab Humidity Control at Main Academic Building of HKUST" showcases an innovative integration of MiMEP within an operational campus, setting a new benchmark for RMAA projects. Designed to overcome complex HVAC constraints and maintain strict environmental parameters across 30,040 m² of laboratory space, the project pioneered a façade-integrated MiMEP solution. To mitigate the risks of working at heights up to 34m on a 35-year-old building, the team deployed a scaffold-free "Design for Safety" methodology. By leveraging advanced BIM coordination and off-site fabrication, 153 pre-fabricated modules were seamlessly hoisted using electric boom lifts and a remote-controlled lifting beam. This streamlined DfMA approach eliminated traditional hot works on site and ensured statutory compliance within the contract period.

- Delivered energy-efficient humidity control, generating HKD 2.8 million in annual operational cost savings.
- Achieved 100% first-pass fit rate, 60% reduction in on-site installation duration and 70% less construction debris, demonstrating outstanding environmental sustainability.

「香港科技大學主教學樓中央實驗室濕度控制改善工程」展示出卓越創新的機電裝備合成法(MiMEP)應用，成為維修改建及加建工程(RMAA)工程的卓越典範。項目旨在克服空調系統局限，確保30,040平方米實驗室維持嚴格的環境標準，項目團隊開創性地採用外牆結合的MiMEP方案。為克服於35年歷史校園樓宇進行34米高空作業的挑戰，項目團隊貫徹「建築設計安全」理念推行免棚架施工。透過建築信息模擬(BIM)技術協調及廠房預製，153件組件利用電動起重機及遙控吊具精準吊裝。此可供製造和裝配的設計(DfMA)方案免除工地高溫作業，確保項目於合法合規竣工。

- 交付節能高效濕度控制系統，每年為校方節省280萬港元營運開支。
- 100%首次安裝合格率，現場機電安裝時間縮短60%，減少70%建築廢料，彰顯環境可持續性。




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Architectural Services Department
機電工程署
EMSD
合辦單位：
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香港機電工程商協會
HKFEMC
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