

機電裝備合成法三合一方案 省成本增效益

MiMEP Three-in-one Integrated Solution to Save Cost and Enhance Efficiency



機電署副署長/營運服務周厚強先生(左四)率領得獎團隊，與香港建設資產及環境信息管理聯盟代表一同出席頒獎禮。

Mr Chow Hau-keung, Vincent, Deputy Director/Trading Services of the EMSD (4th left), led the award-winning team to attend the award presentation ceremony alongside representatives from the Hong Kong Alliance of Built Asset & Environment Information Management Associations.

「機電裝備合成法」(MiMEP)透過場外預製組件和模組化安裝，大幅提升建築效率、質量與安全，並減少施工時間與環境影響，特別適合香港高密度、快速建設的需求。今年，機電署更積極推動MiMEP三合一方案，結合MiMEP、開放式建築信息模擬(open BIM)標準，以及「建築信息模擬－資產管理」(BIM-AM)系統，並把三合一方案應用於24個維修、保養、改建及加建工程試點項目，成果顯著。憑藉這些實戰經驗，我們發表「透過應用開放式建築信息模擬於機電裝備合成法項目的資產管理」方案，榮獲「香港開放式建築信息模擬/開放式地理信息系統比賽2025」的「技術解決方案組別」大獎。

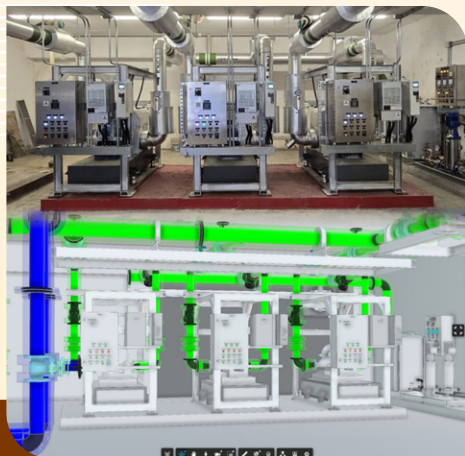
The Multi-trade integrated Mechanical, Electrical and Plumbing (MiMEP) approach enhances construction efficiency, quality, and safety through off-site prefabrication and modular installation, making it ideal for Hong Kong's high-density and fast-paced development needs. This year, the EMSD further introduced the MiMEP three-in-one solution, which integrates MiMEP, open Building Information Modelling (open BIM) standards, and the Building Information Modelling-Asset Management (BIM-AM) system. This approach was applied to 24 repair, maintenance, alteration and addition (RMAA) pilot projects, achieving remarkable results. Building on our hands-on experience, we presented a proposal titled "Era of Digitalisation and Sustainability: open BIM with Asset Management for MiMEP Projects towards New Quality Productive Forces", which earned the Grand Award in the Technology Solution Category at the Hong Kong openBIM/openGIS Awards 2025.



機電署團隊憑藉MiMEP三合一項目在「香港開放式建築信息模擬/開放式地理信息系統比賽2025」榮獲「技術解決方案組別」大獎。

The EMSD team earned the Grand Award in the Technology Solution Category at the Hong Kong openBIM/openGIS Awards 2025 for their MiMEP three-in-one integrated solution.

首個MiMEP先導項目－大龍獸醫化驗所更換製冷機組，把安裝時間由原本的90天縮減至38天，工程質素、效率及安全顯著提升。
The first MiMEP pilot project - replacement of the chillers at the Tai Lung Veterinary Laboratory - with installation time reduced from 90 days to 38 days, delivered significant improvements in project quality, efficiency and safety.



我們在維修、保養、改建及加建工程項目應用MiMEP三合一方案，不但可提升工程效率，更可與日後的機電資產管理數碼化接軌，推動建造業界數碼化。

The MiMEP three-in-one integrated solution has been deployed across various RMAA projects, not only improving project efficiency but also aligning with the future digitalisation of E&M asset management to drive digitalisation of the construction industry.

這三合一方案融合MiMEP與BIM技術，大幅提升工程效率與管理效益。在工程規劃階段，工程團隊先運用BIM技術建立工地環境模型，模擬運輸、吊運及組裝預製組件的過程。項目交付時，BIM模型會載有完整的機電資產信息，協助客戶將機電資產管理數碼化。此外，透過採用open BIM開放數據格式，工程團隊在施工、交付和維修階段可以順暢地溝通和共享數據。此舉免卻客戶負擔多套軟件和相關培訓成本，有助降低使用BIM的門檻。

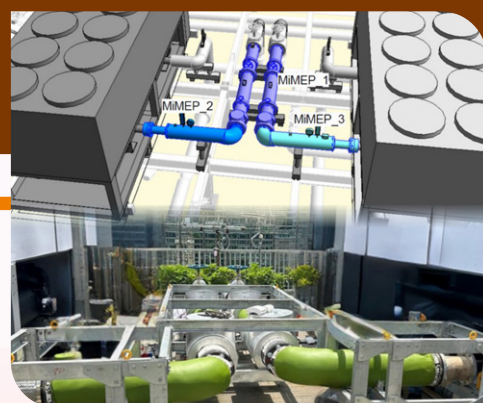
在已展開的24個試點項目，當中包括為醫院、體育館及政府建築物安裝和更換各類機電設備，成果獲客戶高度讚賞。數據顯示，MiMEP可把現場安裝時間縮短約60%。因此，MiMEP特別適合醫院這類需持續運作的場地，可減低工程對醫院運作的干擾。而且，機電設備已於工廠預先組裝，大大減少現場組裝工序，提升工地安全。結合MiMEP和BIM技術，可以降低施工錯誤，提升工程質量和延長設備壽命。BIM-AM系統則有助客戶清晰地掌握資產狀況，方便維修保養，降低運營成本。

除此之外，這個三合一方案將推動BIM技術更廣泛應用，鼓勵更多中小型承辦商採用BIM-AM和open BIM技術，推動業界數碼轉型，促進新質生產力發展。

This three-in-one solution combines MiMEP with BIM, significantly enhancing project efficiency and management effectiveness. During the planning phase, the engineering team uses BIM to create a site environment model and simulate transportation, lifting, and assembly processes of prefabricated modules. At handover, the BIM model contains complete E&M asset information to help clients digitise asset management. Additionally, using the open BIM data format ensures smooth communication and data sharing among the engineering teams throughout construction, handover, and maintenance. This approach eliminates the need for clients to invest in multiple software licence and related training costs, helping to lower the entry barrier for using BIM.

The EMSD has implemented 24 pilot projects, including installation and replacement of various E&M systems at hospitals, sports centres, and government buildings, earning high praise from clients. Data shows MiMEP can reduce on-site installation time by about 60%, making it especially suitable for venues like hospitals that operate continuously, as it minimises disruption and enhances site safety. Additionally, the E&M equipment is pre-assembled in the factory, significantly reducing on-site assembly work and enhancing construction site safety. Combining MiMEP with BIM reduces construction errors, improves project quality, and extends equipment lifespan. The BIM-AM system helps clients clearly understand asset conditions, facilitating maintenance and lowering operational costs.

Furthermore, this three-in-one solution will promote wider adoption of BIM, encouraging more small and medium contractors to use BIM-AM and open BIM technologies, driving digital transformation in the industry and fostering the development of new quality productive forces.



機電署應用MiMEP技術為律政中心更換製冷機組，透過把冷氣喉管模組化，大幅縮短現場安裝時間。

The EMSD applied the MiMEP technology for the replacement of chillers at the Justice Place. By modularising the chiller pipework, the on-site installation time was significantly shortened.