

機電 E&M 服務新里程 A New Journey

機電工程營運基金第二個五年策略計劃
Electrical and Mechanical Services Trading Fund
The 2nd 5-year Strategic Plan



最新進展
Latest Progress

2019年10月
October 2019

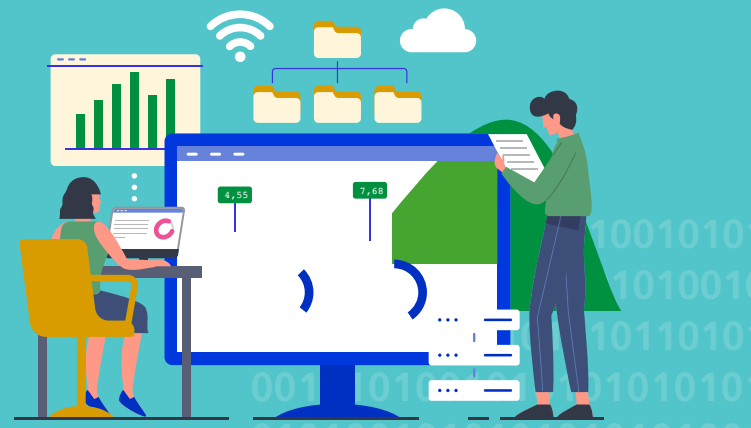


策略 1
STRATEGY

機電數碼化
E&M Digitisation

制訂數碼化工程方案

Developing Digitised E&M Engineering Solutions



深化協作 實踐數碼化

Deepen Collaboration, Implementing Digitisation

事例 1
CASE

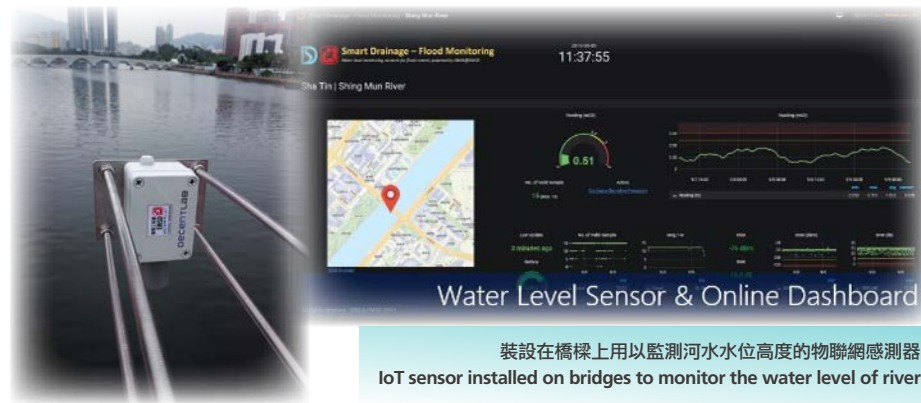
與客戶部門合作 推行政府物聯網網絡先導計劃

Collaboration with Client Departments
Implementation of Government-wide IoT Network (GWIN) Pilot Programme

政府部門的物聯網先導計劃已於 2019 年初展開，試驗計劃使用低功率廣域網路技術，期望能提供具成本效益的解決方案 - 以近乎實時監測及分析有關機電資產的表現，並為機電數碼化作出貢獻。在沙田區，我們已在政府大樓及設施上裝設了 30 多個低功率廣域通訊閘，其信號能覆蓋多個場地以進行實時監測。

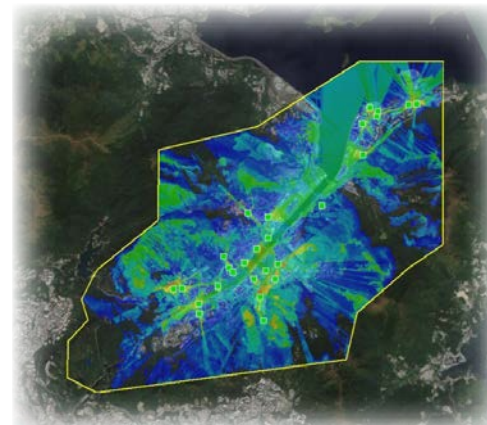
The pilot Government Wide IoT (Internet of Things) Network (GWIN) project using Low Power Wide Area Network (LPWAN) technology was deployed since early 2019, with a view to establishing a cost-effective solution for close-to-real time monitoring and subsequent analysis and enhancement of E&M asset performance contributing to E&M digitalisation.

In Shatin district, more than 30 LoRa gateways, providing the signal coverage, were installed at the government buildings and facilities providing connectivity to sensors at various venues for trials.



Water Level Sensor & Online Dashboard

裝設在橋樑上用以監測河水水位高度的物聯網感測器
IoT sensor installed on bridges to monitor the water level of river



模擬顯示沙田區內特定 LoRa 基地站的室外訊號覆蓋範圍
A simulation indicating the outdoor signal coverage of designated LoRa base stations for Sha Tin District



位於馬鞍山游泳池監測過濾系統的感測器
LoRa sensor for filtration pump system monitoring at Ma On Shan Swimming Pool



位於圓洲角診所監測冷氣系統的感測器
Dry contact sensor installation for air-conditioning system at Yuen Chau Kok Clinic

事例 2
CASE

擴大「綜合樓宇管理系統」覆蓋範圍 開展全面數碼化時代
Expanded Integrated Building Management System Coverage Ushering in a Comprehensive Digital Era

機電署已於約 100 幢主要政府建築物安裝綜合樓宇管理系統 (iBMS)，相關數據會實時經由系統傳送至機電署作統一整合及分析，以便日後加設區域數碼監控中心時再進一步提升資產的運作效率和環保表現。

其中於屯門學童牙科診所之數碼化工程項目更於 2019 年 5 月榮獲英國屋宇裝備工程師學會頒發「最佳 (小型) 項目 / 協作數碼獎」，以表揚機電署在應用數碼技術和數據分析方面的努力，透過提高屋宇裝備系統的效率，以營造優質和可持續的建築環境。

Integrated Building Management System (iBMS) has been installed at about 100 main governmental venues over the past 18 months. Real-time data from the system are being transmitted to EMSD for integration and analysis, such that asset efficiency and environmental performance can be optimised for the Regional Digital Control Centre in development.

EMSD received a Digital Award from the Chartered Institution of Building Services Engineers for Best (Small) Project/Collaboration in May 2019 for the project regarding digitization of building services installation in Tuen Mun School Dental Clinic. The award recognized the department's efforts in the application of digital technology and data analysis to improve the efficiency of building services system with a view to fostering a quality and sustainable built environment.



機電署署長薛永恆先生代表署方
前往倫敦領取獎項
Mr. Alfred Sit accepts award in
London on EMSD's behalf



屯門學童牙科診所內的綜合樓宇管理系統及相關文件
Integrated Building Management System and Digitalized Document in Tuen Mun School Dental Clinic

事例 3
CASE

首個區域數碼監控中心將於年底落成
Completion of Pilot Regional Digital Control Centre in Late 2019

設於機電署總部首個區域數碼監控中心預計在 2019 年底前落成，屆時中心會提供多種服務，包括設備監控、故障系統指示性警報和能源管理等，預期可以協助提升機電資產的運作效率和環保表現。而在發生緊急事故時中心亦能充當控制樞紐，提供實時影像以監測事故現場的處理進度以及應急機電設備的狀態，從而協調應急人手的工作及調動安排。

The first pilot Regional Digital Control Centre (RDCC) will be completed at EMSD Headquarters by the end of 2019. The Centre will be responsible for equipment monitoring, indicative alarm for fault responses and energy management, etc. with the ultimate goal to enhance E&M assets' operational efficiency and environmental performance. In case of crisis, with the Centre's capability of tracking status of E&M emergency equipment and on-site condition via visual images, manpower in relief measures can be effectively coordinated.



位於總部大樓三樓的綜合樓宇管理系統及數碼模擬訓練中心
iBMS and Digital Simulation Training Centre located at 3/F of EMSD HQs

事例
CASE 4

落實《機電人才發展合作備忘錄》內容
本署見習技術員率先到大灣區培訓及交流
Setting on the foundation of the MoC on E&M Talent Development
EMSD Technician Trainees participate in the exchange tour to GuangZhou

承接機電署聯同廣州市人力資源和社會保障局（人社局）簽訂的《合作備忘錄》，深化穗港兩地的合作關係。今年7月起，本署首次為見習技術員提供國內培訓，首批屋宇裝備、電氣、汽車及空氣調節行業的合共82位見習技術員在廣州分別進行為期10-20日的相關技能培訓，希望學員能鞏固實力，滿師後能成為機電署的中流砥柱。

Last year, the Guangzhou Municipal Human Resources & Social Security Bureau (HRSSGZ) and EMSD have signed a Memorandum of Co-operation to further strengthen the collaboration between the two cities. From July 2019 onwards, EMSD sent 82 Technician Trainees to GuangZhou for Building Services, Electrical, Vehicles and Air-Conditioning trainings. This is the first time that EMSD has provided domestic training to trainees, in hope of trainees' improvements in skills, and could be key part of EMSD force after graduation.



學員參觀廣州國際金融中心，了解高層樓宇消防系統的設計
A visit to the Guangzhou International Finance Center provided the trainees with a chance to learn about fire protection system design within high-rise buildings



學員體驗升降機各種安全裝置的測試步驟及裝拆程序
Trainees being shown the test procedures for and installation/dismantling of various safety devices for elevators



演示扶手電梯安全裝置的測試步驟
Demonstration of the test procedures for an escalator's safety devices

事例
CASE 5

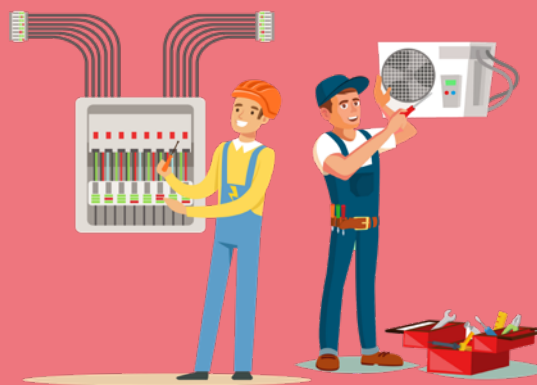
連繫穗港機電人才培訓 連接兩地創科發展
Guangdong and Hong Kong Continue their Strategic Alliance in Talent Development Projects

在機電技術人才培訓、業界交流及參與世界技能大賽的三個範疇上，穗港雙方一直合作無間，並已取得豐碩的成果。本署於7月為新成立的穗港兩地培訓基地舉行揭牌儀式，並邀得香港發展局局長黃偉倫先生及廣州市副市長黎明女士擔任主禮嘉賓，是為穗港兩地攜手發展機電技能人才的又一里程碑。

Guangzhou and Hong Kong have always been close partners in E&M talent development, industrial exchanges and WorldSkills Competition participation. Earlier in July 2019, Mr. Michael Wong, Secretary for Development, and Ms. Li Ming, Deputy Mayor of Guangzhou jointly officiated the plaque unveiling ceremony for the Guangzhou-Hong Kong Electrical & Mechanical Talent Training Bases, marking another milestone in Guangzhou-Hong Kong's combined efforts in developing talent for the industry.



穗港兩地機電培訓基地揭牌儀式
Plaque unveiling ceremony of the Guangzhou-Hong Kong Electrical & Mechanical Talent Training Bases



建立專門技術及數碼化團隊

Establish Work Teams with Specialised Technology and Digitisation Practices

事例
CASE 6

技能評估中心落成
Establishment of Skill Assessment Centre

總部地下舊空調製冷機房已改建成「技能評估中心」，並於2019年6月分階段投入服務。技能評估中心配備最新的設備，讓見習技術員進行電氣、空氣調節、電子、機械、汽車及屋宇裝備六種行業的基礎訓練，並用作進行技能評估測試，讓導師們評核學員的技術水平。

The former EMSD HQs Air-Conditioning Room has been revamped into Skill Assessment Centre and started servicing from June 2019. The Skill Assessment Centre is equipped with the latest facilities that Technician Trainees can access basic training for Electrical, Air-Conditioning, Electronics, Mechanical, Vehicles and Building Services, and trainers can assess trainees' skill levels with those facilities.

眾管理層主持剪綵儀式
Management Team hosting the opening ceremony of Skill Assessment Centre



導師向見習技術員示範基礎技術
Mentors demonstrating basic techniques to technician trainees

見習技術員正在進行基礎訓練
Technician Trainees performing basic training

事例
CASE 7

出戰「世界技能大賽」 成績創出歷史新高
Participating in WorldSkills (Kazan) 2019 Competition with Record-Breaking Victory

機電署以賽促學，為鼓勵學員參加「世界技能大賽（喀山）2019」，特別成立了一隊專業團隊，並將總部大樓3樓改造為「技能發展中心」，提供符合世界技能大賽標準的6個獨立場地作為特訓基地。

於2018年「香港青年技能大賽」勝出的見習技術員郭振銘先生和陳宇泰先生，分別代表香港參與了是次「世界技能大賽」的空調製冷及電氣安裝項目，並雙雙贏得優異獎凱旋歸港。

In order to encourage trainees' enrollment in the WorldSkills Competition 2019 (Kazan), EMSD formed an elite team of experts and modified the ground floor of EMSD Headquarters into Skill Development Centre, with 6 individual workplaces for training and practicing, all equipped according to WorldSkills' standards.

Both winners of WorldSkills Hong Kong in 2018, Training Technicians Mr. C.M. Kwok and Mr. Y.T. Chan were elected to represent Hong Kong in WorldSkills Kazan this year and respectively took part in its Refrigeration & Air Conditioning and Electrical Installations sections. They did not disappoint and each attained a Medallion for Excellence.



見習技術員郭振銘先生於喀山出賽空調製冷項目
Technician Trainee Mr. C.M. Kwok participating in Refrigeration and Air Conditioning



機電署署長薛永恆先生與代表機電署出賽的兩位見習技術員於授旗禮上合影
Mr. Alfred Sit with EMSD representatives in WorldSkills (Kazan) 2019 at the Flag Presentation Ceremony



兩位選手戴上優異獎章
Our champions photographed with their medals

事例 8
CASE

支援政府創新採購政策
Supporting the Pro-Innovation Government Procurement Policy

因應政府 2019 年 4 月起推動創新的採購政策，當中機電署將擔當創新促成者的角色，負責協助各政府部門物色合適的創新科技。為支援創新的採購政策，我們已訂下「E&M InnoPortal」之運作流程，以充分利用該平台物色合適的機電解決方案。

The Hong Kong Government has been promoting Innovative Procurement since April 2019, and EMSD is appointed as one of the Innovation Facilitator in supporting Governmental Departments in I&T application. We have set-up the procedure, in accordance with the Pro-Innovation Government Procurement Policy, in using "E&M InnoPortal" in finding the suitable E&M solution in procurement of supplies.



事例 9
CASE

簽署《合作備忘錄》成立機電創科聯盟 推動本地及粵港創科合作
Memoranda of Co-Operations Signage with Local and Guangdong Institutions Forming the I&T League

機電署主辦的創科研討會暨《網上創新科技協作平台合作備忘錄》簽署儀式已於 6 月 11 日舉行，透過與五所本地大學及七間科研機構簽署《合作備忘錄》，建立策略合作伙伴關係，成為機電創科聯盟。簽署的大學包括香港城市大學、香港中文大學、香港理工大學、香港科技大學和香港大學，而科研機構則有汽車零部件研究及發展中心、香港應用科技研究院有限公司、香港數碼港管理有限公司、香港生產力促進局、香港科技園公司、物流及供應鏈多元技術研發中心和納米及先進材料研發院有限公司。機電署更將創科聯盟推廣至國內機構，並於 8 月分別與廣東省科學技術協會、廣東省生產力促進中心及廣東省科學院簽訂《合作備忘錄》，加強粵港創科合作。

EMSD has signed respective Memoranda of Co-Operations with 5 local Universities and 7 research institutions on the 11th June to form I&T League with a vision to establish a strategic partnership supporting the application of innovation and technology (I&T). The local universities signing the MoC include City University of Hong Kong, the Chinese University of Hong Kong, the Hong Kong Polytechnic University, the Hong Kong University of Science and Technology and the University of Hong Kong while the technological research institutions include the Automotive Parts and Accessory Systems R&D Centre, the Hong Kong Applied Science and Technology Research Institute Company Limited, the Hong Kong Cyberport Management Company Limited, the Hong Kong Productivity Council, the Hong Kong Science and Technology Parks Corporation, the Logistics and Supply Chain MultiTech R&D Centre and the Nano and Advanced Materials Institute Limited. We further promoted the I&T League to Guangdong and signed Memorandums of Co-operations with the Guangdong Provincial Association for Science and Technology, the Guangdong Productivity Centre and the Guangdong Academy of Science respectively this August to enhance I&T cooperation between Guangdong and Hong Kong.

在創新及科技局長楊偉雄先生和機電署署長薛永恒先生見證下，進行《合作備忘錄》簽署儀式
The signage of MoC was witnessed by the Secretary for Innovation and Technology, Mr. Nicholas Yang, and the Director of Electrical and Mechanical Services, Mr. Alfred Sit.

新文化 新環境
New Cultures New Environments



新架構 新工作模式
New Organisational Structures
New Working Modes

事例 10
CASE

機電創科專區展品更新 藉以推動創科教育
InnoZone Revamp, Promoting STEM education

機電署早於 2018 年在總部大樓四樓設立機電創科專區，所展示的互動展品不但是機電署與本港學術機構及科研機構的創科合作成果，更能推動創科教育，激勵學生發揮創意潛能。機電創科專區已於 2019 年 6 月中進行展品更新以涵蓋應用物聯網、自動化科技、人工智能及能源效益等範疇的科技項目。

EMSD has set up an InnoZone at 4/F HQs since 2018 that not only exhibited interesting interactive items worked out by EMSD and local institutions, but also promoting STEM education and enhancing students' hidden talents in creativity. InnoZone has been revamped in mid-June 2019 with new exhibitions on IoT, automation technologies, artificial intelligence and energy efficiency items.



機電創科專區內的展覽
Exhibitions in InnoZone

事例 11
CASE

舉辦兩次「創科日」匯聚業界專家促進創科合作
Hosting Two I&T Days that Converge Industrial Leaders in Facilitating I&T Collaboration



各主禮嘉賓為 8 月舉行之「創科日」舉行開幕儀式
Officiating Guests of Honour hosting the launch ceremony of the I&T Day in August 2019.

機電工程署分別於 6 月 11 日及 8 月 6 日舉辦兩次「創科日」，合共吸引了超過 1000 名來自創科和機電業界、學術界及公營機構的人士參與，連繫各個持份者，了解重點科技領域及市場的發展。除了向社會各界宣揚善用創科之外，更向公眾推廣節能意識和可再生能源的應用，從而促進更多創新科技合作及實踐。

EMSD hosted two I&T Days on 11th June and 6th August to foster collaboration with the E&M trade to develop I&T solutions and understand the key-technology areas and market developments. The two events were attended by over 1,000 participants coming from the I&T and E&M trades, universities and public organisations with an objective to communicate with stakeholders on the benefit of I&T, promote public awareness in energy conservation and reusable energy, and further facilitate Inno-Tech Collaboration and Practices.



如您對機電工程營運基金第二個五年策略計劃有任何建議，
歡迎以電郵方式向我們提出：

We welcome your suggestions on the second five-year strategic plan for the EMSTF.
And for enquiries, please email us at

2nd5yearplan@emsd.gov.hk

如欲瀏覽機電工程署創新科技協作平台，請到以下網址：

For the E&M InnoPortal, please visit:

<https://www.emsd.gov.hk/inno>

如欲瀏覽機電工程署主網頁，請到以下網址：

To view the main website of EMSD, please go to the following website:

<https://www.emsd.gov.hk>

如有其他查詢，請與我們聯絡：

For all enquiries please contact us:

 : (852) 2808 3168

 : (852) 2882 1574



機電2.0
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第二個五年策略計劃

機電工程署
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