

機電工程 營運基金報告

ELECTRICAL AND MECHANICAL SERVICES TRADING FUND REPORT



抱負 VISION



致力提供優質機電工程服務，精益求精，以提升市民的生活質素。

To improve the quality of life for our community through continuous enhancement of our electrical and mechanical engineering services.

使命 MISSION



客戶 CUSTOMER

提供優質的工程方案，以滿足客戶的需要。

Providing quality engineering solutions to satisfy our customers' needs.

員工 STAFF

建立一支卓越的員工隊伍，並維持和諧的工作環境。

Developing a competent workforce and maintaining a harmonious environment.

部門 ORGANISATION

掌握科技發展和流程改善，以提供更佳服務。

Keeping pace with technology development and process improvement for service enhancement.

信念 VALUES



誠信 INTEGRITY

我們秉持誠信，維持良好道德操守。

We uphold honesty and integrity to embrace an ethical culture.

出色服務 SERVICE EXCELLENCE

我們提供安全可靠、高效率、具成本效益和優質的服務。

We provide safe, reliable, efficient, cost-effective and quality services.

關懷 CARING

我們關懷員工、客戶和市民大眾，並重視環保。

We care for our staff, customers, community and the environment.

以客為本 CUSTOMER FOCUS

為滿足客戶的各種需要，我們盡心竭力，積極提供工程方案，以贏取客戶的信任和支持。

We focus on the needs of our customers and provide engineering solutions in a proactive and responsible manner to win their trust and support.

承擔 COMMITMENT

我們言行一致，信守承諾。

We do what we promise.



常務委員會 Executive Board

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Permanent Secretary for
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發展局副秘書長(工務)2
Deputy Secretary for
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Mr Sit Wing-hang,
Alfred, JP
機電工程營運基金總經理
(機電工程署署長)
General Manager, EMSTF
(Director of Electrical and
Mechanical Services)



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機電工程署副署長/營運服務
Deputy Director/Trading
Services, EMSD



羅肇嫻女士
Ms Lo Siu-han, Cynthia
機電工程署主任秘書
Departmental Secretary, EMSD

* 陳志明太平紳士出任發展局副秘書長(工務)2至2016年10月4日
Mr Chan Chi-ming, JP was Deputy Secretary for Development (Works)2 up to 4 October 2016

* 陳帆太平紳士出任機電工程署署長至2017年6月30日
Mr Chan Fan, Frank, JP was Director of Electrical and Mechanical Services up to 30 June 2017

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Mr Sit Wing-hang, Alfred, JP
機電工程營運基金總經理(機電工程署署長)
General Manager, EMSTF
(Director of Electrical and Mechanical Services)

成員 MEMBERS

2 戴德謙太平紳士
Mr Tai Tak-him, JP
機電工程署副署長/營運服務
Deputy Director/Trading Services, EMSD

3 王錫章太平紳士
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4 張遠芳先生
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5 張國輝太平紳士
Mr Cheung Kwok-fai, JP
機電工程署助理署長/3
Assistant Director/3, EMSD

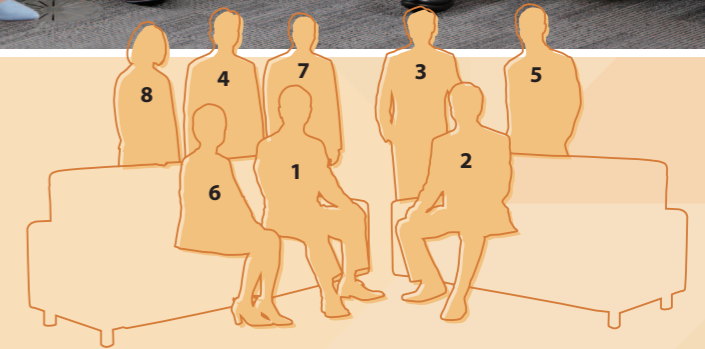
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7 王文剛先生
Mr Wong Man-kong
機電工程署員工關係主任
Staff Relations Officer, EMSD

秘書 SECRETARY

8 羅肇嫻女士
Ms Lo Siu-han, Cynthia
機電工程署主任秘書
Departmental Secretary, EMSD

* 陳帆太平紳士出任機電工程署署長至2017年6月30日
Mr Chan Fan, Frank, JP was Director of Electrical and Mechanical Services up to 30 June 2017
* 張丙權太平紳士出任機電工程署助理署長/1至2017年2月13日
Mr Cheung Ping-ken, Michael, JP was Assistant Director/1, EMSD up to 13 February 2017
* 麥家俊太平紳士出任機電工程署助理署長/2至2016年12月19日
Mr Mak Ka-chun, JP was Assistant Director/2, EMSD up to 19 December 2016



業務回顧 與前瞻 Operations Review and Outlook



戴德謙太平紳士
Mr Tai Tak-him, JP
機電工程署副署長/
營運服務
Deputy Director/
Trading Services, EMSTF

2016/17年度是重要的一年。年內，機電工程營運基金20周年慶祝活動圓滿結束，其間讓我們回顧了營運基金的發展。這也是我們首個五年計劃的第四年，是開始部署下一個十年路向的好時機。

2016/17年度的財務表現穩健，並超越我們的業務目標，總收入為62.03億港元（2015/16年度：57.64億港元），收入回報率為5.3%（2015/16年度：4.8%）。我們繼續以微利營運的方針為客戶創造最大價值，並確保營運基金能持續發展。

The year 2016/17 was significant in that it marked the conclusion of our 20th anniversary celebratory activities, giving us a chance to reflect on EMSTF's development. It was also the fourth year of our first five-year plan, and an opportune time to start thinking about our next decade.

The 2016/17 financial results were steady and exceeded our business targets, with total revenue at HK\$6,203 million (2015/16: HK\$5,764 million) and return on revenue at 5.3% (2015/16: 4.8%). We maintained our slim-profit operating principle to optimise value for clients while sustaining our continuous development.

年內亮點

年內，我們達致了多個里程碑。首先，我們透過公開投標成功取得醫院管理局（醫管局）的工程合約，由2017/18年度起，繼續提供五年服務。這是醫管局由以往簽訂服務水平協議的安排轉為招標方式後，我們取得的首批大型合約。合約範圍包括為醫管局轄下醫院及診所的機電、空調、屋宇裝備、電子系統及多種生物醫療設備，提供操作及維修保養服務。雖然招標過程及隨後的合約管理工作涉及額外成本，但我們尊重客戶改變採購方法的意願。事實上，我們仍與醫管局保持穩固的伙伴關係，也定會不斷提高生產力，以應對未來的挑戰。

第二個里程碑是協助客戶制訂節能計劃及預算以提交政府，所涉及的未來五年建議撥款約為5億港元。隨着港珠澳大橋等重大基建項目快將陸續落成，客戶部門對營運基金的服務需求定必上升。我們必須把握這黃金機會，不單要協助客戶按政府要求完成五年內節能5%的目標，還要透過資產更新，以及善用軟件和數據以對機電系統作更精密的微調，從而加快科技轉型，以優化空調系統等客戶資產的表現。

第三個里程碑是營運基金內部的「Shine 30+」行動，目的是鼓勵年青一代的同事表達他們心中對營運基金未來十年及以後日子的發展願景。營運基金幾位新進高級工程師組成了專責小組，並撰寫「Shine 30+」報告，提出未來十年的機構發展，必須具備「創新」、「同心協力」、「靈活應變」及「具透明度」這四項組織特質。報告已獲高級管理人員接納，其中部分建議會納入營運基金下一個五年計劃內。

2016/17 HIGHLIGHTS

The year was punctuated by several milestones. The first was successfully securing our work for the Hospital Authority (HA) via open tender, our first major contracts from the former Service Level Agreement arrangement, for another five years from 2017/18. The contracts cover operation and maintenance (O&M) services for electrical and mechanical (E&M), air-conditioning, building services and electronic systems and various biomedical equipment at HA hospitals and clinics. Though the tender process and subsequent contract administration pose additional cost implications, we respect the client's wish to change the procurement approach. Indeed, we have maintained strong partnership with HA and shall continue on our journey of productivity improvement to meet future challenges.

The second milestone in 2016/17 was our work to help clients prepare energy-saving projects and budget for submission to the Government, with funding proposals worth about HK\$500 million over the next five years. Together with the forthcoming completion of major infrastructure projects, such as the Hong Kong-Zhuhai-Macao Bridge, demand for EMSTF's services is set to increase. This will give us a golden opportunity not only to help clients achieve 5% energy saving in five years as required by the Government, but also to expedite technology transformation that will optimise the performance of clients' assets, such as air-conditioning systems, via asset upgrading and the smart use of software and data for fine control.

The third milestone was our internal "Shine 30+" initiative, which aimed to encourage the new generation to articulate their vision for EMSTF development in the coming ten years and beyond. The "Shine 30+" report, prepared by a group of up-and-coming EMSTF engineers, outlines four organisational characteristics, namely Innovative, Connected, Agile and Transparent (ICAT) that will be vital to our organisational development in the next decade. The report has been accepted by our senior management, and some of the recommendations therein will be deployed in EMSTF's next five-year plan.

業務回顧與前瞻 Operations Review and Outlook

業務增長和人力資源突破

上述各項節能計劃及新基建項目落成，預期會帶來業務增長，但對我們的人手和資源運用也會構成壓力。可喜的是，營運基金已成功向政府申請開設42個公務員職位，並於2016/17年度全數落實。

經過多年來維持人手編制不變後，如今終於可增聘公務員，讓我們消除了營運上的一個「樽頸」問題。新職位有助營運基金更好地運用資源，而非公務員合約員工及承辦商，則仍是我們人力資源組合的重要部分。另外，四年前我們全面改革技術員培訓計劃時所聘請的首批100名見習技術員，已於2016/17年度畢業。隨着每年都有新一批的見習技術員畢業，這培訓計劃將源源不絕地為我們的前線團隊提供新血。

人力資源的突破，加上我們致力研訂員工才能矩陣，都有助提升員工的能力，並有效地讓員工保留核心技能和學習新技術，兩者對營運基金的發展都至關重要。

由操作及維修保養至節能與系統優化

年內，我們繼續協助客戶更新現有或老化的資產，並加強資產管理。舉例來說，我們把所有服務年期已達25年或以上並須更換的機電資產列入清單，讓政府可預留所需的撥款。

有一點令我們感到興奮的，就是為達到節能5%的目標而實施的各種能源管理項目，讓我們有機會進行改革，為資產營運環境帶來全新景象，而更新資產只是第一步。事實上，隨着我們能更精確地調控機電資產的運作，例如利用感應器和數據分析以提升空調系統的運作表現，我們要為客戶節省更多能源和進一步提升資產可靠度，並非不可能。

BUSINESS GROWTH AND HUMAN RESOURCE BREAKTHROUGHS

The anticipated business growth arising from various energy-saving and new infrastructure projects, as mentioned above, is set to put pressure on manpower and our resource utilisation. The good news is that regarding EMSTF's successful bid to the Government for 42 new civil service posts, all of them were created in 2016/17.

The recruitment of additional civil service staff after years of maintaining the same establishment has removed one of our operational bottlenecks. The new posts will help EMSTF mobilise our resources better, though non-civil service contract staff and contractors will continue to play an important role in our manpower mix. Meanwhile, the first cohort of 100 technician trainees recruited four years ago, when our revamped training scheme was launched, graduated in 2016/17. With new cohorts coming through the system, the scheme will provide a steady stream of new blood for our frontline team.

These human resource breakthroughs, together with our drive to develop the staff competence matrix, will help us build staff capacity and retain core and new skills in-house more effectively, both of which are crucial to EMSTF's development.

FROM O&M TO ENERGY SAVING AND SYSTEM OPTIMISATION

Our work to help clients better manage and upgrade existing or ageing assets continued during the year. For example, we drew up a list of E&M assets that have been in service for 25 years or more and ought to be replaced, so that the Government may prepare the appropriate funding in advance.

We are also excited about the potential for a complete overhaul of our asset operating landscape, which is arising from the various energy management projects that aim to achieve the target of 5% energy saving. Asset replacement is only the first step. Indeed, with more precise control of assets, such as optimised operational control of air-conditioning systems, enabled by sensors and data analytics, additional energy saving and greater reliability for clients are not impossible.

因此，我們操作空調及其他系統時必須採用全新方法，包括重新培訓員工，目的不單是節能，而且要全面提升各種機電系統的整體表現。我們也可善用類似的能源管理機會，提升政府建築物的電力、照明、升降機及自動梯系統的表現。我們的目標是推行新方法，建立成功案例，為業界找出最佳做法，務求惠及各方。

反思營運基金的路

有賴客戶的支持，2016年9月舉行的營運基金20周年壓軸慶典非常成功。我們也藉此機會，反思營運基金發展路上的波折起伏。營運基金的歷史，經歷過掙扎求存與持續改進，並依循成長、整合、調整又再成長的模式發展。自2012年起，我們邁進更成熟的階段，聚焦於為客戶及社會創造公眾價值。

在操作及維修保養服務的心態方面，我們亦大有進步。營運基金成立初期，我們滿足於「包搞掂」。及後，我們的焦點由修理故障轉為預防故障，以做到「包沒事」為目標，提高客戶工程系統及設備的可用性。後來，隨着全球綠色技術一日千里，我們便提高目標以達到「包滿意」，並專注為客戶節約能源。我們最新的目標是「包智能」，即有效地利用資訊與通訊科技和物聯網技術，協助客戶透過數碼化管理其機電資產，同時優化系統表現。

這些變化已令營運基金轉型，而很多其他服務機構也曾經歷類似改變。傳統的操作及維修保養模式，已轉移至領域更廣闊的系統表現優化。

This calls for a new approach to the operation of air-conditioning and other systems, including re-training our staff, with the aim not only to save energy but also to optimise overall system performance. Similar energy management opportunities can also be leveraged to optimise the performance of electrical, lighting and lift and escalator systems in government buildings. Our goal is to implement the new approach, establish a few success cases and then identify the best practices for the trade so as to benefit all.

REFLECTIONS ON THE PATH OF EMSTF

Thanks to the support of clients, EMSTF's 20th anniversary finale ceremony held in September 2016 was a great success. The occasion gave us an opportunity to reflect on the twists and turns of EMSTF's development. Ours is a story of survival and continuous improvement, following a pattern of growth, consolidation and adjustment. Since 2012, we have entered a more mature phase where the focus has been to create public value for our clients and the community.

In terms of the O&M service mindset, we have also come a long way. In the early days of EMSTF, we used to be content with "guaranteed fixed". Then our focus shifted from fault rectification to fault prevention, aiming at "guaranteed no breakdowns" so as to achieve a high availability of plant and equipment for clients. Then, with advancements in green technologies worldwide, we aimed higher at "guaranteed satisfied", with a focus on helping clients save energy. The latest goal is "guaranteed smart", making intelligent use of information and communication technology and Internet of Things technologies to help clients manage E&M assets through digitisation and optimise system performance.

These shifts have changed EMSTF, and also played themselves out in many other service organisations. There has been a paradigm shift from traditional O&M to the wider realm of system performance optimisation.

業務回顧與前瞻 Operations Review and Outlook

揉合經驗與青春活力

轉型是新的挑戰，需要新的解決方案、技術應用及創新意念。正如「Shine 30+」專責小組報告提到，我們應該重新審視機構的發展，為未來作好準備，將焦點集中於「創新」、「同心協力」、「靈活應變」及「具透明度」方面。以培訓技術員為例，新世代的見習技術員從小就接觸智能電話和手機應用程式，如繼續單以上世紀的傳統操作及維修保養方法來訓練他們，未免有違常理。不過，這並不表示現行做法及概念已毫不相關，我們仍應重視現有的技術、知識及經驗，並視之為持續發展的基礎。

保留資深員工的智慧，跟培育新一代的理想和活力同樣重要。我們應該激發和結合不同世代員工的優良質素，發揮「靈活應變」的作用，即是機構須有靈活性，讓員工能不斷嘗試新事物，從而學得更快，並緊貼時代的快速步伐。同樣道理，為了做到「同心協力」和「具透明度」，我們鼓勵員工透過具高透明度的溝通方式積極參與，共同承擔問題，共同制訂方案。

五年展望

展望未來，2017/18年度的首要工作，是認真檢討我們第一個五年計劃的成果，並為未來五年制訂策略。我們雖不宜太早下定論，但現行的五年計劃，在提供優質服務、讓客戶知悉工作進度，以及提升客戶滿意度方面似乎成效最大；而在其他策略，包括成為業界典範、建立員工才能與關懷文化、優化知識管理和持續綠色作業方面，都饒有進展。

我們的五年計劃並非一個僵硬的框架，而是有助我們聚焦和作出較長遠部署的方案。這個五年計劃也給我們帶來新挑戰：如何為香港的機電業創造環境，使業界走得更遠，進步得更快？營運基金為政府資產提供機電工程服務，營運較具彈性，因此有條件成為業界典範。舉例來說，我們可以擔當「科技建築師」的角色，為業界樹立良好榜樣，示範如何善用科技，將操作及維修保養工作提升至更卓越的水平。這也是我們重要的長遠目標，必須秉持。

COMBINING EXPERIENCE WITH YOUTHFUL VITALITY

This transformation is a new challenge that calls for new solutions, technology application and innovation. As the “Shine 30+” report rightly points out, we ought to re-think our organisational development to get ready for the future, focusing our efforts on achieving ICAT. Take technician training as an example: the new generation of technician trainees has grown up with smart phones and mobile apps, and so it would be absurd if we continue to train them only with old O&M methods from the last century. Having said that, it does not mean that existing practices and ideas will become irrelevant. We should treat all our existing skills, knowledge and experience with respect and as the basis for continuous development.

Retaining the wisdom of experienced staff is as important as nurturing the aspirations and vitality of our younger generation. We must bring out and combine the best qualities in different staff generations. This is also where the “agile” element comes into play, meaning we must have the organisational agility to try many new things so that we can learn faster and keep up with the changing times. By the same token, in the effort to “connect” and be “transparent”, we have encouraged our staff to “co-own” issues and “co-create” solutions through highly transparent staff communication and engagement activities.

THE NEXT FIVE YEARS

Looking ahead, a priority in 2017/18 will be to critically review the results of our first five-year plan, and to develop strategies for the next five years. Without pre-empting ourselves, it does appear that the current five-year plan has made the greatest impact on delivering excellent service, keeping customers informed and boosting customer satisfaction, while also making progress in the other strategic directions. The latter includes becoming a trade model, building staff capacity and a caring culture, enhancing knowledge management and green operations.

Rather than being a rigid framework, our five-year plan has in fact helped us stay focused and acquire a longer-term perspective. It also brings us to another challenge: how can we create an environment for the E&M trade in Hong Kong to improve further and faster? EMSTF, as the E&M service provider for government assets, has more operational flexibility and is well positioned to become a trade model for others to follow. For instance, we can take on the role of “technology architect” to set a good example for the trade on how to use technology to transform O&M work for new levels of excellence. This remains one of our key long-term goals.

致謝

最後，我要多謝客戶過去一年的支持，特別是積極參與2016年客戶意見調查。客戶對我們近年的改善措施提出正面回應，令我們深感鼓舞，也推動我們再接再厲，續創佳績。

我們也要感謝常務委員會及各政策局的指導和支持，以及營運基金全體員工盡忠職守，努力不懈。各承辦商用心為我們的客戶提供服務，業界組織積極推廣機電行業，各大學及專業團體慷慨給予支持和意見，我謹向他們致以謝忱。

我們期盼與所有持份者繼續緊密合作，迎接碩果豐盛的另一年。



戴德謙
機電工程署副署長/營運服務

GRATITUDE AND APPRECIATION

Finally, I would like to thank our clients for their support in the past year, in particular their enthusiastic participation in the 2016 Customer Opinion Survey. We have been greatly encouraged by clients’ positive feedback on our improvement measures in recent years, thus motivating us to strive for further progress.

We must express our heartfelt gratitude to the Executive Board and policy bureaux for their guidance and support, and all EMSTF staff for their commitment and hard work. Our appreciation also goes to our contractors for serving our clients, the trade associations for promoting the E&M trades, and the many universities and professional bodies which have generously given us their support and advice.

We look forward to continuously engaging with all our stakeholders for another fruitful year.



Tai Tak-him
Deputy Director/Trading Services, EMSD

營運服務 Trading Services

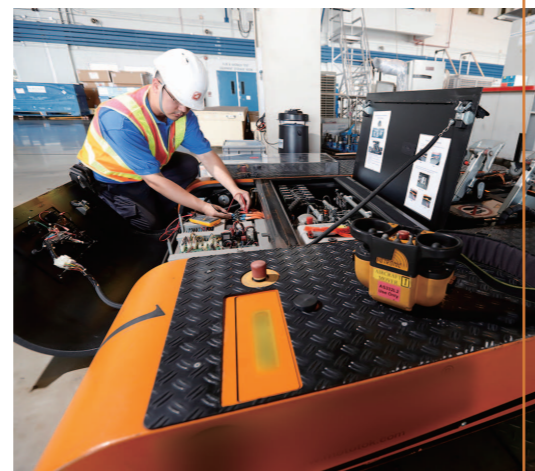
▲▲ 輕鬆暢運 COMMUTING WITH EASE

香港近年與內地及海外城市的運輸聯繫持續增加，突顯本港在國家以至世界舞台上的重要角色，這點亦反映於營運基金在本港海陸空公共交通基建發展方面不斷拓展的支援服務上。

我們近年在香港國際機場的工作大致穩定並持續進行，包括為機場主要系統，例如助航燈系統、一般抽水輸送系統和污水處理設施等，提供操作及維修保養服務。我們亦與香港機場管理局共同設計了一套機場助航燈系統不斷電切換模擬器，並取得設計專利。模擬器有助我們解決在維修保養助航燈時遇到的各種問題，並提升其運作效率。

Hong Kong's transport links with mainland and overseas cities have continued to grow in recent years, underscoring the city's role both in the Mainland and on the world stage. This is reflected in the expanding portfolio of our services supporting the public transport infrastructure, encompassing air, sea and land.

Our work at the Hong Kong International Airport has stabilised in recent years and we continue to provide O&M services for key airport systems such as Airfield Ground Lighting (AGL), General Pumping Systems and Sewage Treatment Plants. We also jointly designed an Uninterruptible Power Transfer Simulator with the Airport Authority Hong Kong and obtained a design patent. The simulator has helped us overcome many AGL system maintenance challenges and improved its operational efficiency.



我們為政府飛行服務隊的無線遙控飛機拖拉車提供預防性維修保養服務。

Preventive maintenance for the wireless remote-controlled aircraft tractor at the Government Flying Service is part of our service.



海事處第三代船隻航行監察服務系統的第二期工程，是另一個由我們提供項目管理服務的大型項目。

The Marine Department's third-generation Vessel Traffic Services System Phase II is another major project for which we provided project management service.



另一項與機場運作同樣有關的工作，是我們與民航處合作，就新航空交通管理系統的過渡工作提供協助。此外，我們與採用新科技的先驅——政府飛行服務隊也合作無間，從德國引進能夠拖拉重達50噸的飛機和直升機，但無需牽引桿的無線遙控飛機拖拉車。與傳統運用牽引桿的型號相比，新的拖拉車車身較小巧靈活，操作更準確安全，而且更節省能源和存放空間。

海運方面，我們已於2016/17年度為海事處進行第三代船隻航行監察服務系統的第二期工程，包括安裝和測試位於偏遠海島的極精密雷達，以配合處方在香港水域進行船隻追蹤、導航和監察工作。年內，我們亦協助海事處就建議設置於香港的「中軌衛星搜救系統」地面站及相關設施，草擬招標規格，讓香港在這個項目上緊貼國際步伐；事實上，全球各大海運國家現正陸續開發或設置類似的地面設施。

營運基金也密切參與本港不少陸上交通基建工作，東區海底隧道便是一例。該隧道自從於2016年8月由私人營辦商交回政府後，便由我們負責協助運輸署監察隧道營辦商提供的操作及維修保養服務。在交接期間，我們監察機電系統的運作，以確保東隧的交接工作得以順利完成。

Also related to airport operations is our collaboration with the Civil Aviation Department to facilitate the transition to the new air traffic management system. We also work closely with the Government Flying Service, another pioneer in using new technologies, on a towbarless wireless remote-controlled aircraft tractor introduced from Germany. This new tractor can tow aircraft and helicopters of up to 50 tonnes. Compared with traditional models with towbars, this compact tractor is more flexible, precise and safe, saving both space and energy.

Turning to sea transport, we implemented Phase II of the Marine Department's (MD) third-generation Vessel Traffic Services System in 2016/17 which involved the installation and testing of highly sophisticated radars at outlying stations for vessel tracking, navigation and monitoring of Hong Kong waters. At the same time, we have been helping MD draft the tender specifications for implementing in Hong Kong a proposed ground station and associated facilities of the Medium Earth Orbit Search and Rescue system. This is an opportune time to pursue such a project, in light of an internationally agreed time frame; in fact, major maritime countries are in the process of developing or implementing similar ground facilities.

EMSTF is closely involved in the city's land transport infrastructure. One example is the Eastern Harbour Crossing (EHC), which was returned to the Government in August 2016 by the private operator. EMSTF is now responsible for offering support to the Transport Department for monitoring the O&M services provided by the tunnel operator. During the handover, EMSTF monitored the operation of the E&M systems to ensure a smooth and seamless handover of the EHC to the Government.

營運服務 Trading Services

營運基金也為行車隧道的機電系統提供工程策劃服務，並為交通管制及監察系統等重要設施進行定期更新工程。我們也負責監察青馬管制區的操作及維修保養服務營辦商，並於年內更新了管制區的收費系統。

此外，我們喜見路政署於2017年2月與營運基金簽訂為期十年的服務水平協議。我們將為港珠澳大橋香港口岸過境設施的機電設備和系統，提供操作及維修保養服務。

年內，我們的工程項目團隊為運輸署完成了「衝紅燈攝影機系統」第四期拓展工程，工作包括系統設計及於全港40個新地點安裝數碼攝影機。第四期工程更採用了雷達訊號偵測汽車，較諸早期採用的地底環線感應系統，新系統維修時無須再掘路，更為便民。

EMSTF also provides project services for E&M systems for road tunnels, and regularly replaces critical systems such as the Traffic Control and Surveillance Systems. We are also responsible for monitoring the contractor that operates and maintains the Tsing Ma Control Area, and we replaced its tolling system in 2016/17.

In an exciting new development, we secured a ten-year Service Level Agreement with the Highways Department in February 2017 to provide O&M services for the E&M equipment and systems at the Hong Kong Boundary Crossing Facilities of the Hong Kong-Zhuhai-Macao Bridge.

During the year, our project team completed the Red Light Camera System Phase IV Expansion Project for the Transport Department. The project involved system design and the installation of digital cameras at 40 new locations across the city. Phase IV uses radar signals to detect vehicles, which eliminates the need for road works during system maintenance, as is necessary with the underground-loop technology used in earlier phases.



運輸署已完成「衝紅燈攝影機系統」第四期拓展工程，以提升交通安全。營運基金協助署方設計和執行該項目。

The Transport Department has completed its Red Light Camera System Phase IV Expansion Project, which EMSTF helped design and implement, to enhance traffic safety.



我們於維修車廠引進流動維修管理系統，記錄車輛維修進度和流量，以提升維修效率。

To enhance efficiency of our workshop, we introduced a mobile maintenance management system to keep track of vehicle maintenance progress and processing volume.

如何減少因交通運輸而產生的有害排放物，是我們另一項挑戰。以興建中的中環灣仔繞道隧道為例，我們要求承建商建造一個全港首見的大型地下通風建築物，以過濾隧道空氣中的所有氮氧化物。

擁有6 000多部車輛的政府車隊是主要的道路使用者之一，我們有責任以可靠的採購及維修保養服務，確保政府車隊維持高可用率及適合在路上行駛。目前我們負責採購的所有政府車輛，都已符合歐盟第六代排放標準。為了提高車隊維修效率，我們於2016/17年度為政府大型客貨車推行了全新的預約系統，把大型客貨車車隊的可用率提升約2.5%。我們更於總部維修車廠推行流動維修管理系統，把車輛接收、檢查和修理的程序簡化。我們也正與香港警務處合作研發一套車隊管理系統，務求更準確地記錄和分析駕駛日誌、司機駕駛行為及車輛運作狀況等有關資訊，以加強道路安全和提升車隊效率。

The next challenge is to reduce harmful emissions. A case in point is the Central-Wan Chai Bypass tunnel now under construction, where we required the contractor to construct a sizeable underground ventilation building, the first structure of its kind in Hong Kong, for filtering all nitrogen oxide from the tunnel air.

The government fleet with over 6 000 vehicles is one of the major road users and we play a role in ensuring its high availability and roadworthiness via sound procurement and maintenance. On procurement, all government vehicles that we help purchase now comply with EURO VI emission standard. To enhance the efficiency of our fleet maintenance, we implemented in 2016/17 a new advance booking system for large vans, which has improved the large van fleet availability by about 2.5%. We have also introduced a mobile maintenance management system at our vehicle depot to streamline our vehicle reception, inspection and repairs process. A fleet management system is also being developed with the Hong Kong Police Force, which will more accurately record and analyse information such as driving log, driver behaviour and vehicle running conditions, to improve road safety and fleet efficiency.

營運服務 Trading Services

見習技術員 矢志向上 The Technician Trainee with the Drive to Succeed



身為一名女性車輛見習技術員，曾詠妍對汽車的興趣，始於童年時多次到訪親屬的汽車維修工場的經歷。她於2016年加入機電署的技術員訓練計劃。在這個為期四年的課程中，學員除了須在機電署汽車工場接受全面的實際操作培訓外，還須修讀職業訓練局的相關課程。

曾女士表示：「技術員訓練計劃最令我興奮的地方，是有機會接觸到大大小小不同種類的汽車。」她最感興趣的是救護車，因為車廂內有很多不同的內部裝置，從中可以學到很多知識。此外，救護車救急扶危、服務人羣的功能亦是她喜歡救護車的原因。

她認為女性需要耐性和注意細節的工作上較有優勢，她說：「女性在操作電子設備和進行系統分析方面，表現也可以很出色。」曾女士的家人十分支持她的事業選擇，她表示待完成機電署技術員訓練計劃後，打算進修高級文憑課程，目標是將來成為機械督察。

As a female vehicle technician trainee, Ms Tsang Wing-yin's interest in vehicles began early, during childhood visits to a relative's vehicle workshop. She joined EMSD's Technician Training (TT) Scheme in 2016. The four-year programme includes comprehensive hands-on training at the EMSD vehicle depot, along with a Vocational Training Council course.

"The best part about the TT Scheme is that we get to work on many types of vehicles, both big and small, which is really exciting," Ms Tsang said. She is most interested in ambulances, as their great variety of interior fixtures means there is much to learn. She likes ambulances also because they serve people and play a life-saving role in the community.

Ms Tsang feels women have an advantage when it comes to tasks that require patience and attention to detail. "Women are good with electronic gadgets and system analysis, too," she said. Her family is very supportive of her career choice, and she already has her eyes set on a Higher Diploma after completing the TT Scheme. Her goal? To become a mechanical inspector in the future.



Ms Tsang Wing-yin has been interested in vehicles since childhood. She joined EMSD in 2016 to become a vehicle technician trainee to pursue her career goal.

自小已對汽車產生興趣的曾詠妍女士，在2016年加入機電署成為車輛見習技術員，實現事業理想。

都會生活 ENJOYING EVERYDAY LIFE

身為都市人，香港市民每天都會享用各種康樂設施及享受購物等活動。營運基金有責任確保街市和文娛康樂場地內所有機電系統的運作暢順可靠，並且高效節能。

繼去年成功推行一項先導計劃後，食物環境衛生署（食環署）於年內撥款，在未來十年全面更換轄下公眾街市和熟食中心的老化升降機及自動梯，為其長遠的資產更換工作踏出重要的一步。我們不但趁此機會為客戶換上高用量及按需求服務的節能自動梯型號，還安裝綜合樓宇管理系統硬件，讓我們可以遙距監察升降機及自動梯的運作情況，從而提高它們的可用率和可靠性。

事實上，我們近年一直着力利用綜合樓宇管理系統方案和技術，提高主要機電系統的能源效益和表現。繼我們去年成功在香港文化博物館推行更換和優化製冷機組先導計劃，為博物館節省15%耗電量後，我們將在其他場地全力進行製冷機組更新優化工作。為葵青劇院安裝新的舞台換景系統，也是更換老化資產的另一個好例子。該套全電腦化的系統是全港最先進的同類系統之一，可同時操控八枝懸桿，用以在演出時移動布幕、燈光、布景和其他舞台裝置。至於興建中的文化場地，例如位於九龍灣的東九龍文化中心，預計於2021年啟用，我們期望屆時能為該場地提供服務。

As city dwellers, the people of Hong Kong make use of varied recreational facilities and enjoy activities like shopping in their daily life. It is EMSTF's duty to make sure that all E&M systems in markets and recreational and cultural venues operate smoothly and reliably and are highly energy efficient.

Following the success of a pilot scheme last year, the Food and Environmental Hygiene Department (FEHD) allotted funding in 2016/17 for a ten-year programme to replace all aged lifts and escalators in its public markets and cooked food centres. The move is significant as it kicked off the client's long-term asset replacement initiative. We have made use of this opportunity to not only replace the old lifts and escalators with heavy-duty and more energy-efficient service on-demand models, but also to apply integrated Building Management System (iBMS) hardware that will allow us to remotely monitor the operating status of these lifts and escalators so as to improve their availability and reliability.

Indeed, deploying iBMS solutions and technologies to optimise the energy efficiency and performance of major E&M systems has been our focus in recent years. Our chiller replacement and optimisation work will be rolled out at full strength at various venues after the successful pilot at the Hong Kong Heritage Museum that saved 15% electricity consumption last year. Meanwhile, a new flying system deployed at the Kwai Tsing Theatre is another good example of aged asset replacement. Essential for moving curtains, lights, scenery and other components during stage performances, the fully computerised system can fly eight bars simultaneously and is one of the most sophisticated in Hong Kong. With regard to cultural venues in the pipeline, the East Kowloon Cultural Centre in Kowloon Bay is expected to open around 2021 and we look forward to servicing the venue.



我們為葵青劇院安裝的全電腦化新舞台換景系統，是全港最先進的同類系統之一，可移動布幕、燈光、布景和其他舞台裝置。

The new, computerised flying system which we installed at the Kwai Tsing Theatre is one of the most sophisticated in Hong Kong. It moves curtains, lights, scenery and other stage components.



營運服務 Trading Services

不恰當使用貨車尾板可導致夾傷。除現有的遙控裝置外，我們的新方案是在貨車尾部安裝感應器，預防意外。

Improper usage of tail lifts may cause trapping injuries. Apart from the existing remote control, our new solution is to install sensors at the back of lorries to prevent such incidents.



感應器
Sensor



乾淨、綠化和安全的都市環境，對本港的生活質素非常重要。年內，我們的車輛工程團隊協助食環署採購新的洗街車。新車採用高壓水清洗潔方法，不但能大大提高清洗街道的效率，而且能降低耗水量。

A clean, green and safe urban environment is vital to the quality of life in Hong Kong. During the year, our vehicle project team helped FEHD procure new street washers that use high-pressure water cleaning method, greatly increasing the efficiency of street cleaning with less water consumption.

近年本港不幸發生多宗涉及車輛尾板的致命意外。有見及此，政府推出新的指引，規定所有尾板都必須安裝防夾裝置。年內，我們協助政府物流服務署草擬該項新裝置的首份技術規格，並為23輛設有尾板的政府車輛完成加裝新裝置（包括緊急按鈕）的工作。憑藉改裝首批車輛的經驗，我們現正着手為其他同類政府車輛加裝新裝置。

Regrettably, there have been several vehicle-mounted tail lift fatalities in Hong Kong in recent years. The Government is now enforcing new guidance notes that require all tail lifts to be fitted with a trapping prevention device. During the year, we helped the Government Logistics Department draft the first specifications and complete the retrofitting of the new device, including a panic emergency button, on 23 government vehicles with tail lifts. With experience from the first batch, the team is retrofitting other similar government vehicles.



我們協助改造摩士公園游泳池，以作為2016年聖誕節期間的「極光飄雪嘉年華」場地。

We assisted in converting the Morse Park Swimming Pool into a venue for the Aurora & Snow Carnival during the 2016 Christmas season.



營運基金於短時間內協助香港警務處把八鄉的前消防訓練學校改建成「少年警訊永久活動中心暨青少年綜合訓練營」，並負責設計和安裝機電設施，如空調、照明及保安系統等。

EMSTF helped the Hong Kong Police Force convert the former Fire Services Training School at Pat Heung into the Junior Police Call Permanent Activity Centre and Integrated Youth Training Camp in a short period of time. We designed and installed E&M systems there, such as air-conditioning, lighting and security systems.



據行政長官於2016年發表的《施政報告》所述，政府會把位於八鄉的前消防訓練學校改建成「少年警訊永久活動中心暨青少年綜合訓練營」。我們協助香港警務處在極短時間內完成有關的改建及翻新工作，而該中心已於2017年4月非正式開放。我們亦協助康樂及文化事務署把摩士公園游泳池變身為具有歐陸色彩的小鎮，以便在2016年聖誕節期間舉辦「極光飄雪嘉年華」，為市民和遊客帶來驚喜。

We also helped the Hong Kong Police Force refurbish, in a very short time, the former Fire Services Training School at Pat Heung and convert it into the Junior Police Call Permanent Activity Centre and Integrated Youth Training Camp, as outlined in the Chief Executive's 2016 Policy Address, with a soft opening in April 2017. Our colleagues also helped the Leisure and Cultural Services Department transform the Morse Park Swimming Pool into an enchanting European town for the Aurora & Snow Carnival held there during Christmas in 2016 to the delight of visitors from home and abroad.



營運服務 Trading Services



為郊外的生化廁所提供定期維修保養服務。
Regular maintenance service is provided at a bio-toilet in the countryside.



我們已為全港郊野公園內73個環保生化廁所的污水處理系統安裝網上遙距監察裝置，此舉應會獲得遠足和大自然愛好者讚賞。我們亦會為另外44個生化廁所安裝同類裝置，以提高故障維修效率。該等項目看似微不足道，但對改善市民生活甚為重要。

Hikers and other nature lovers will appreciate that we have installed web-based remote monitoring devices for waste water treatment operation at 73 environmentally-friendly bio-toilets in country parks throughout Hong Kong. A further 44 bio-toilets will be installed with similar devices to enhance our fault response service. These projects may be small in scale, but they are of value to the betterment of the community.

年內，我們亦為2017年4月在香港單車館舉行的「場地單車世界錦標賽」作仔細周詳的準備。我們全力提供支援及隨時候命服務，以確保在這項世界級賽事中，工程系統的每個重要部分（例如計時器和計分板系統）皆運作暢順。

During the year, we also made extensive preparations for the UCI Track Cycling World Championships held in April 2017 at the Hong Kong Velodrome, where we continued to provide unflinching support and standby service to ensure every critical piece of the engineering systems, such as the timer and scoreboard systems, is always available for such world-class event.

我們會繼續努力，為客戶進行資產更換工作，並投放資源完成安裝綜合樓宇管理系統及各種節能裝置，讓客戶的機電系統得以發揮最高性能，令市民能享用更可靠舒適的服務。

We will continue to work on asset replacement and invest in IBMS as well as energy-efficient installations to help clients get optimal performance from their E&M systems, thus making their services ever more reliable and enjoyable for the public.

2017年「場地單車世界錦標賽」於香港單車館舉行，我們為場地所有機電設備提供技術支援，獲客戶讚賞。
In the 2017 UCI Track Cycling World Championships held at the Hong Kong Velodrome, we provided technical support for all E&M equipment and received appreciation from the client.



靈活變通：更換 自動梯項目要訣 Resilience in Project Management Pays Off in Escalator Replacement



事緣2014年在九龍城街市，一台老化的自動梯正進行更換工程。「由於項目的施工期和圍板安排影響到多位攤檔檔主，我們因而接獲投訴。」負責該項目的工程師王冠平先生解釋說。他於是迅速採取措施，調動工程工序，務求將受影響攤檔的停業時間縮至最短，以及盡量減少對租戶和市民造成的影響。

The story began at the Kowloon City Market in 2014, when an ageing escalator was being replaced. "It all started with complaints about the project duration and hoarding arrangements, which affected several stall owners," Mr Jirus Wong, the project engineer explained. He promptly took steps to rearrange work processes to minimise the business shutdown period and the impact on the tenants and the public.

然而，存放新自動梯的貨倉不幸受到旁邊倉庫起火波及，令自動梯被焚毀，故此須安排另一台新的自動梯付運到港。工程延誤引發新一輪的投訴，但王先生的團隊並不氣餒，繼續與租戶和客戶部門保持緊密聯繫，以訂出新的施工時間表。

Unfortunately, a fire broke out in the neighbouring warehouse where the new escalator was being stored. The escalator was damaged and a new one had to be delivered. The delay triggered new complaints, but Mr Wong's team persevered and kept in close contact with the tenants and the client department to work out a new schedule.

王先生說：「我們向租戶展示同類更換工程的工程圖，並闡釋完成該等工程所需的時間，以供參考。我們同時採取措施，協助租戶在工程暫停期間重開檔位營業。我們盡力解決租戶擔憂的問題，這有利商討工作順利進行。」新的自動梯最終在2015年11月投入服務。王先生在這項極具挑戰性的項目上贏得各持份者的讚賞，更獲頒「2016年申訴專員嘉許獎」以示表揚。

"We showed the tenants the project plans of similar replacement works and explained how long the works had taken as reference. We also took steps to help them reopen their businesses in the interim. It was important that we addressed the tenants' concerns so that discussions could proceed smoothly," Mr Wong said. The new escalator eventually came into operation in November 2015. Mr Wong won the praise of stakeholders in this challenging project, and was presented with the 2016 Ombudsman's Award as recognition of his performance.



Mr Jirus Wong Kwun-ping, project engineer of the Kowloon City Market Escalator Replacement Works, wins the Ombudsman's Award.
負責九龍城街市自動梯更換工程的项目工程師王冠平先生榮獲「申訴專員嘉許獎」。



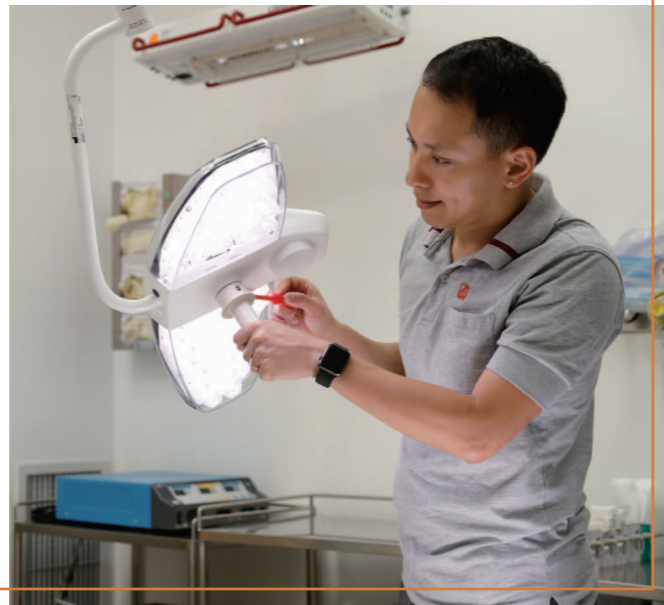
營運服務 Trading Services



全民康泰 STAYING HEALTHY

為天水圍醫院的醫療設備，如手術室照明系統和藥用冷藏櫃等，提供維修保養服務。

Maintenance services for hospital equipment, such as operating theatre lighting and medical refrigerators, are provided at the Tin Shui Wai Hospital.



市民健康是締造幸福社區的關鍵。營運基金的主要職責之一，是為本港公立醫院和醫療部門的機電系統及醫療設備提供操作及維修保養服務，讓病人及家屬受惠。

Good health is essential to a happy community. One of our key duties is to help our public hospitals and healthcare departments operate and maintain their E&M systems and medical equipment for the benefit of patients and their families.

我們欣然報告，營運基金年內成功取得醫院管理局（醫管局）的五年服務合約。合約期由2017/18年度開始，範圍涵蓋醫管局轄下公立醫院及診所的機電、空調和屋宇裝備系統，以及多種生物醫療儀器的操作及維修保養服務。這個新里程碑為我們注入動力，激發同事更用心服務客戶和提高工作效率。

We are happy to report that EMSTF has successfully secured the contracts from the Hospital Authority (HA) for another five years from 2017/18, covering O&M services for electrical, mechanical, air-conditioning and building services systems and various biomedical equipment in public hospitals and clinics under HA. This new milestone has given us extra impetus to be ever more customer-focused and productive.

年內，我們與政府化驗所續簽新一份為期五年的服務水平協議，為菲臘牙科醫院整修其培訓設施，也協助衛生署為即將啟用的政府中藥檢測中心採購新的檢測儀器。

During the year, we also renewed a five-year Service Level Agreement with the Government Laboratory, assisted the Prince Philip Dental Hospital to renovate its training facilities, and helped the Department of Health (DH) procure new testing equipment for the Government Chinese Medicines Testing Institute opening soon.

另一亮點是我們為醫管局轄下多家主要急症醫院及醫管局大樓，完成了「巡視式能源調查」。調查收集所得的豐富數據，讓我們得以為這些場地設計一套有效並以事實為基礎的能源管理系統。由於這項工作十分成功，醫管局已計劃在未來五年實施是次能源調查所定出的能源管理機會。待項目完成後，醫管局的耗能量將可大大減低。

Another highlight was the completion of our "Walk-around Energy Survey" for HA's major acute hospitals and the Hospital Authority Building. The rich data collected from the survey has enabled us to devise an effective and fact-based energy management system for these premises. The exercise was so successful that HA has planned to implement the identified energy management opportunities over the next five years, which will help HA substantially reduce their energy consumption upon project completion.

空調雖可營造舒適的室內環境，卻非常耗電。自2015年起，我們一直與醫管局合作，務求在2018年或之前，把九家公立醫院的38台傳統製冷機組更換為高能效的型號，大幅減少能源消耗和溫室氣體排放。以同類項目而言，這是全港最大規模和最有系統的製冷機組更新項目。營運基金以這項目贏得「美國能源工程師學會2017年亞太區年度能源計劃大獎」，實屬可喜。

Air-conditioning is critical in providing a comfortable indoor environment but consumes much energy. We have been working with HA since 2015 to replace a total of 38 conventional chillers in nine public hospitals with highly energy-efficient chillers by 2018 to substantially reduce energy consumption and greenhouse gas emissions. This is the largest and most systematic retrofit project of its kind in Hong Kong. We are delighted to receive the Association of Energy Engineers' Region Asia Pacific Rim Energy Project of the Year Award for 2017.

醫院內有很多設備都關乎病人的生死安危，因此維持穩定而無間斷的電力供應至關重要。然而，要更換醫院的電力裝置實在是困難重重，因為我們必須把工程對醫院正常服務的影響減至最低。我們與醫管局和電力公司合作，經過長期籌備和周詳部署後，為屯門醫院成功更換了兩組老化的高壓電力裝置，大大提高了醫院電力供應系統的可靠度。

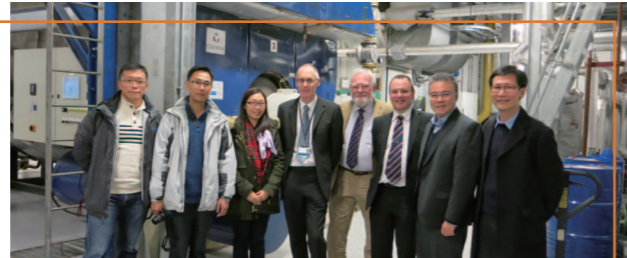
As many facilities in hospitals are life critical, the provision of steady and uninterrupted power supply for hospitals is of vital importance. However, the replacement of electrical installations is highly challenging as disruption to normal hospital services must be kept to a minimum. With co-operation from HA and the power company, we successfully helped the Tuen Mun Hospital replace two ageing high voltage installations after long and meticulous preparation work, raising significantly the reliability of power supply system there.



我們為政府中藥檢測中心採購新的檢測儀器，並在中心啟用前進行最後檢查工作。
We help the Government Chinese Medicines Testing Institute procure new testing equipment and carry out final inspections before its opening.



營運服務 Trading Services



同事於去年12月外訪英國，與海外專家交流鍋爐技術，以加強員工訓練和提升鍋爐操作及維修保養服務的質素。
Our colleagues visiting UK in December 2016 exchanged new ideas about boiler technology with experts overseas, so as to enhance staff training and O&M service quality.

另一方面，我們繼續為消防處提供更有有效的救護車採購服務。最新的方案是為救護車採購工作採納標準化的技術規格，目的是盡用有限的車輛空間來提供救援服務，以及為投標過程引入更多競爭。我們與消防處緊密合作，透過參考國際標準和運用三維立體打印技術打印出1比24的三維立體模型，商討如何設計新的「概念救護車」。將於明年付運的第一批「概念救護車」，是跨部門合作改進本地救護車設計的一大突破，希望藉此為公眾提供更佳服務。

On a different front, we have continued to help the Fire Services Department (FSD) procure ambulances more effectively. The latest initiative was to adopt standardised technical specifications for ambulance procurement so as to maximise the limited vehicle space for rescue services and introduce more competition to the tendering process. With reference to international standards and by making use of 3D printing technology to produce a 3D model on a scale of 1 to 24, we worked closely and discussed with FSD to design a new "concept ambulance". The first batch of "concept ambulances", to be delivered next year, will mark a breakthrough in joint departmental effort to enhance local ambulance design for public service improvements.

除了節能工作，我們亦一直努力提高操作及維修保養服務的效率，着力探討有潛力在將來為客戶帶來最大利益的重要科技，例如鍋爐技術和生物醫療科技。舉例來說，我們去年便邀請了兩位英國鍋爐技術專家來港培訓同事，而有關其他設備的培訓工作亦正籌備中。

Energy-saving work aside, we have been seeking to enhance our O&M practices by focusing on critical technologies with the potential to benefit clients most in the future, such as boiler and biomedical technologies. We brought in two UK experts in boiler technology last year, for example, to train our staff, and training on other equipment is in the pipeline.



利用三維立體打印技術製作「概念救護車」三維立體模型，讓客戶更易明白最新的採購規格。
3D printing technology is used to produce a 3D "concept ambulance" model to help our client better understand the latest procurement requirements.



我們為鑽石山靈灰安置所進行的優化工程，不但解決了化寶爐的噴火屑和排煙問題，還改善了附近環境的空氣質素。

The problem of flying embers and smoke arising from heavy use of joss paper burners at the Diamond Hill Columbarium was resolved by our improvement works, significantly improving air quality in the surrounding areas.



我們的團隊已將「客戶探訪計劃」擴展至衛生署，以便更深入了解客戶需要，從而改善我們的技術支援服務。

Our team has extended its "client visit" programme to the Department of Health to better understand its needs for enhancing our technical support services.



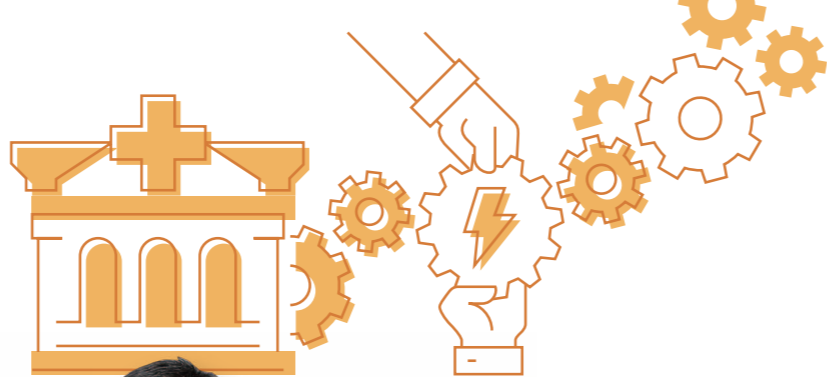
我們的「客戶探訪計劃」在過去兩年深受醫管局臨牀醫護人員歡迎，因此現時已於醫管局所有醫院聯網實行，並將於明年推廣至衛生署。事實上，我們的工作並不局限於醫護場所。以靈灰安置所為例，我們亦有協助解決化寶爐燃燒大量冥鏹時引致的空氣質素問題。在這方面，我們協助食物環境衛生署改善鑽石山靈灰安置所化寶爐的抽風及排煙系統，有效解決化寶爐火屑四濺和排出濃煙的問題，大大改善了附近一帶的空氣質素。

Our "client visit" programme has been so well received by HA's clinical staff over the past two years that it has been adopted in all HA hospital clusters, and will be extended to DH next year. In fact, our work is not limited to health-related venues. For example, we also assisted in resolving air quality problems arising from heavy use of joss burners at columbaria. In this regard, we helped the Food and Environmental Hygiene Department enhance the ventilation and smoke exhaust system of joss paper burners at the Diamond Hill Columbarium. The problem of flying embers and smoke was effectively resolved, significantly improving air quality in the neighbouring areas.

未來幾年，本港多家新醫院和設施將陸續落成啟用，包括最近已局部投入服務的天水圍醫院、設於伊利沙伯醫院的油麻地專科診所、瑪麗醫院T座多用途大樓和香港兒童醫院。就此，我們會相應地擴大前線人員和技術人員團隊，以應付新工作，並同時加強員工在新科技和環保措施方面的培訓。

In the coming years, several new hospital venues are set to open, including the Tin Shui Wai Hospital which has been put into partial operation recently, the Yaumatei Specialist Clinic at the Queen Elizabeth Hospital, the multi-purpose Block T at the Queen Mary Hospital and the Hong Kong Children's Hospital. Accordingly, we will expand our frontline and technical staff teams to take on the new work while building staff capacity in new technologies and green practices.

營運服務 Trading Services



更換高壓電力裝置 團隊投入關鍵 Commitment Crucial in HV Installation Replacement



為醫院更換高壓電力裝置是一項艱巨的工作。我們走訪了為屯門醫院更換高壓電力裝置的人員，發現在這項無縫交接的更換工作背後，團隊的全情投入和良好的時間管理均十分重要。

Replacing high-voltage (HV) electrical installations at hospitals is highly challenging. Going behind the scenes at the Tuen Mun Hospital (TMH), we learned that commitment and good time management were crucial to this seamless HV facilities replacement project.

更換工作由營運基金與屯門醫院和中華電力有限公司緊密籌劃。工程於2016年年初展開，2017年1月完成。該項目的助理督察黃國輝先生和黎耀祺先生認為，項目的最大挑戰是施工時間上的限制。

The replacement works, which EMSTF closely co-ordinated with TMH and CLP Power Hong Kong Limited, began in early 2016 and were completed in January 2017. As assistant inspectors for the project, Mr Wong Kwok-fai and Mr Lai Yiu-ki said the biggest challenge was the time constraint under which works had to proceed.

黃先生透露：「由於我們必須盡量減低對醫院帶來的影響，所以只能在每晚10時後的幾小時內停電施工。在持續一年多的施工期內，我們的同事經常通宵加班工作。」此外，與員工保持溝通也同樣重要。黎先生說：「有一點很重要，就是施工前我們必須把職責清楚告知團隊每位成員，確保資訊充足並且透明度高。」團隊跟屯門醫院員工在整個更換過程中也密切溝通，並為醫院制訂了應變計劃，以及安排多重後備電源供電，以策萬全。

"As power suspension was possible for only a few hours after 10 pm, our team worked extra hours over many nights during the year-long replacement works so as to minimise disruption to the hospital," Mr Wong revealed. This effort was matched by a commitment to communication. "It was important that we briefed every team member in advance on his duty in the works to ensure that sufficient information was given and transparency was maintained," said Mr Lai. The team also maintained frequent communication with TMH's staff throughout the entire replacement works, in addition to drawing up a contingency plan and arranging multiple power supply backups to prepare for all possible contingencies.

這些努力都十分值得，因為新的高壓電力裝置為屯門醫院帶來穩定而且可靠度高的電力供應。

It has been worthwhile making all these efforts as the new HV installations have brought a highly reliable and steady power supply to TMH.



Assistant inspectors Mr Wong Kwok-fai and Mr Lai Yiu-ki said the biggest challenge of replacing high voltage installations in hospitals was the time constraint under which works could proceed.

助理督察黃國輝先生和黎耀祺先生均認為，更換醫院高壓電力裝置的最大挑戰，是施工時間上的限制。

安全城市 FEELING SAFE AND SECURE

香港是全球最安全的城市之一，法治和紀律部隊的卓越表現應記一功。此外，營運基金在背後亦發揮很大作用，透過為有關政府部門提供操作及維修保養服務，令其機電系統有效運作，讓市民感到安心放心。

Hong Kong is one of the safest cities in the world, thanks in large part to the good work of our disciplined forces and the rule of law. EMSTF also plays a significant role behind the scene by supporting the relevant government departments with O&M services that keep their E&M systems operating efficiently, helping everyone in the community feel safe and secure.

在行政長官於2016年3月為消防及救護學院主持開幕典禮後，我們於2016年年底開始為學院的機電系統提供操作及維修保養服務。一如去年年報所述，為學院設計建造的多個實物原大的實景模型如飛機、船隻和火車經已完成。配合較早前完成的多個實物原大的實景模型如迷你倉、劏房和可改動間格的迷宮式空間安裝等機電裝置，可提供全面的滅火和救援實火模擬訓練。

Subsequent to the official opening of the Fire and Ambulance Services Academy by the Chief Executive in March 2016, we started to take up O&M services for its E&M systems at the end of 2016. The life-size mock-ups of an aircraft, a ship, and a train, as reported last year, are fully in place for real-fire simulation firefighting and rescue training, in addition to earlier completed life-size E&M mock-up installations such as mini-storage spaces, subdivided flats and configurable labyrinthine spaces.

我們有責任確保學院內各種實景模型的機電系統及其他機電設施，在任何時候都運作良好，讓消防學員在受訓期間學習到最多有用的知識。

It is our duty to make sure that the E&M systems in the mock-ups and other E&M facilities at the academy perform well all year round so that fire brigade trainees can get the most out of their time at the training facility.



我們協助客戶為消防及救護學院設計和引入的各種實物原大的實景模型，如圖中的船隻及加油站，對模擬訓練十分重要。Life-size mock-ups at the Fire and Ambulance Services Academy, such as a ship and a petrol station, which we helped the client design and introduce, are vital to simulation training.



營運服務 Trading Services



營運基金於2016/17年度接收西九龍法院大樓的機電設施，以提供操作及維修保養服務。

The West Kowloon Law Courts Building was handed over to EMSTF for O&M services in 2016/17.



年內，我們接收了新落成的西九龍法院大樓，以提供操作及維修保養服務。法院大樓設有30多個法庭及各類先進設施，現已全面投入服務。此外，我們也接收了新油麻地警署，為其提供操作及維修保養服務。我們現正向香港警務處建議可為各警署和場地節省能源的方法。我們能為本港的執法和司法工作略盡綿力，服務市民，實在深感欣喜。

The new West Kowloon Law Courts Building, with over 30 courtrooms and state-of-the-art facilities, has been handed over to EMSTF for O&M services and is now fully operational. Another venue we have taken over for O&M services is the new Yau Ma Tei Police Station. Our team is also advising the Hong Kong Police Force on ways to save energy at police stations and venues. We are happy to play a role in work related to law enforcement and administration of justice for the public.

維持現有政府建築物的安全和保安是同樣重要的工作。政府總部及立法會綜合大樓是全港其中兩個最重要的場地，確保其電力裝置安全並處於良好操作狀態是我們的首要任務。年內，我們順利為該兩幢大樓的電力裝置完成了定期檢查、測試及領取證明書的工作。該兩幢大樓在檢測進行期間仍能如常為市民提供服務，實有賴同事上下一心，通力合作，作出妥善的安排。

Maintaining the safety and security of existing government buildings is equally important. It is our first priority to ensure that the electrical installations at the Central Government Offices and Legislative Council Complex, two of the most critical venues in Hong Kong, are safe and in good working condition. We have completed the periodic inspection, testing and certification for their electrical installations smoothly without disrupting normal services to the public. Staff commitment and collaboration are essential to our work excellence.

為懲教機構現有設施進行改善和優化工程，是我們的服務重點之一。年內，我們不但接手為大欖女懲教所的機電系統提供操作及維修保養服務，還一直與懲教署進行商討，為全港所有監獄安裝無匙電鎖保安系統，並提升所有現有的閉路電視系統。

Upgrading and modernising existing facilities at correctional institutions has been another highlight of our work. In addition to taking over O&M services at the Tai Lam Centre for Women in 2016/17, we have been in discussions with the Correctional Services Department to install keyless Electric Locks Security Systems at all prisons in Hong Kong and to upgrade all existing CCTV systems.

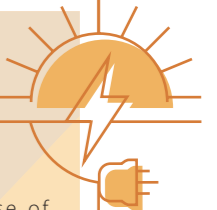
在邊境保安方面，我們年內繼續為香港海關採購和維修保養流動X光檢查裝置，並為港珠澳大橋的啟用作準備。我們一直協助須在港珠澳大橋香港口岸過境設施執勤的紀律部隊，設計和採購各類機電及電子系統和設備。

On border security, we continued to procure and maintain mobile X-ray inspection units for the Customs and Excise Department during the year. In another development, preparation work for the opening of the Hong Kong-Zhuhai-Macao Bridge (HZMB) is underway. We have been helping various disciplined forces involved in the Hong Kong Boundary Crossing Facilities of HZMB to design and procure various E&M and electronic systems and facilities.



為善用再生能源，我們協助懲教署為大欖女懲教所保養太陽能熱水系統和太陽能光伏系統。

To make better use of renewable energy, we maintained a solar hot water system and photovoltaic system at the Tai Lam Centre for Women at the Correctional Services Department.



營運服務 Trading Services

營運基金也負責為選舉事務處所有選舉的投票及點票站提供足夠照明。如有需要，我們更會在票站加裝照明設備及臨時供電插座。年內，我們先後為2016年9月的立法會換屆選舉及2016年12月的選舉委員會界別分組一般選舉，提供票站臨時照明及供電插座。該次立法會換屆選舉與平常不同，部分投票站有很多選民在最後一刻才到達，因此我們須及時為這些票站加裝額外照明設備，讓選民能在照明充足的戶外環境下輪候投票。最後關閉的票站位於太古城，而最後一張選票差不多在凌晨二時半才在該票站投下，較原定票站關閉時間延遲了四小時，我們在該段期間一直在現場候命。

EMSTF is responsible for providing adequate lighting at all polling cum counting stations in all elections in Hong Kong that are conducted by the Registration and Electoral Office. We also set up additional lighting and ad hoc power points at stations where necessary. During 2016/17, we provided temporary station lighting and power for the Legislative Council General Election in September 2016 and the Election Committee Subsector Ordinary Elections in December 2016. The Legislative Council General Election was unusual in that there were so many last-minute voters at some stations that additional lighting had to be promptly put in place to ensure that voters could queue up outdoors in a well-lit environment. The last station to close was in Taikoo Shing. The last vote was cast there at almost 2:30 am, four hours after the poll was originally scheduled to close, and all the while we provided ad hoc standby.



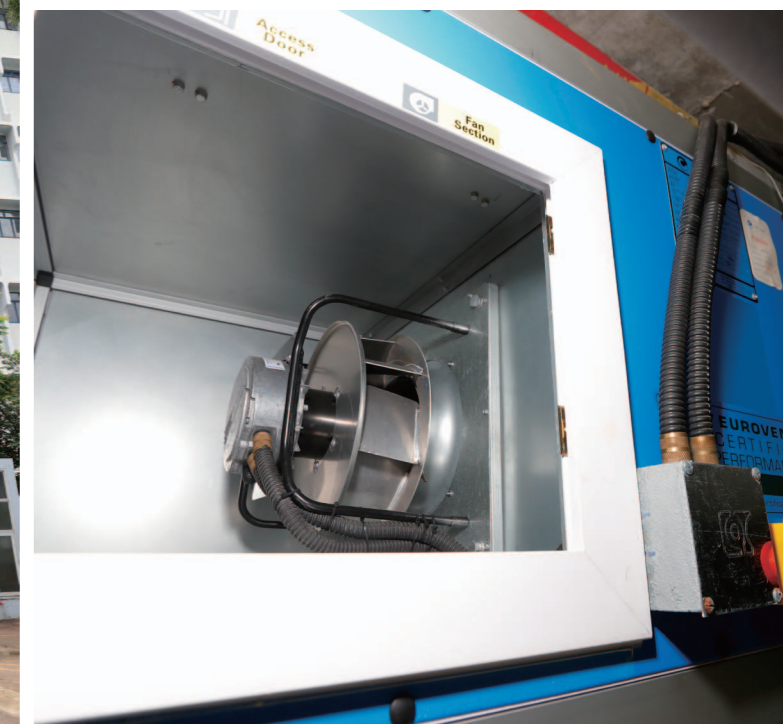
各個投票及點票站在選舉日都必須有足夠照明及候命支援服務。在2016/17年度，我們先後為立法會換屆選舉(右)及選舉委員會界別分組一般選舉(上)提供這些服務。

Adequate station lighting and standby support services are essential to polling cum counting stations at elections. We provided such services for the Legislative Council General Election (right) and the Election Committee Subsector Ordinary Elections (top) held in 2016/17.



為幫助客戶節能，我們主動應用新科技，例如在香港警察學院安裝電子整流風扇。

To help clients save energy, we have proactively applied new technologies such as installing EC fans at the Hong Kong Police College.



我們也協助客戶探討如何應用新科技，舉例來說，我們在香港警察學院安裝配置電子整流風扇的空氣處理機組，作為先導計劃的試點。電子整流風扇配備一個無刷直流電電動機，該電動機可自行進行變壓，令風扇更節能、較易維修保養，以及發揮穩定性能。我們希望電子整流技術在不久的將來可應用於其他客戶和場地。

雖然市民未必能即時察覺到營運基金的支援角色，但我們會認真承擔所肩負的責任，並會繼續透過提供卓越的操作及維修保養服務，以及運用創新科技和環保作業方法，協助客戶取得最佳的營運效益。

We also help our clients explore the applications of new technologies. For example, we installed an air-handling unit with electronically commutated (EC) fans at the Hong Kong Police College as a pilot. An EC fan has a brushless direct current motor and incorporates voltage transformation within the motor. It saves energy, is easier to maintain and delivers reliable performance. We are hopeful that EC technology will be useful to other clients and venues in due course.

While our supporting role may not be immediately visible to the public, we take our responsibilities seriously and will continue to help our clients optimise their operations and efficiency via good O&M work, innovative technologies and green practices.

營運服務 Trading Services

洞悉先機 協力救災 Foresight Proved Valuable in Emergency



2016年6月牛頭角發生迷你倉火警，當時有一段鮮為人知的故事，就是黃大仙消防局一台專為消防員的呼吸器供應壓縮空氣的壓縮氣充氣機，在該場火警中發揮了舉足輕重的作用。

當時負責維修保養該台充氣機的程國強督察說：「由於香港夏天天氣過於炎熱，該台德國製充氣機在消防局裏根本無法持續運作。」

有見及此，在黃大仙消防局於2013年安裝該台充氣機後不久，我們便旋即採取緩解措施，包括在放置充氣機的房間加裝空調，使環境溫度維持在可讓充氣機發揮最高性能的攝氏20至30度，並提供通風設施，以助機器散熱。此外，我們又加裝感應器，確保在充氣期間不會有其他氣體滲入消防員的氧氣筒內。在牛頭角迷你倉發生火警期間，該台充氣機連續四日四夜為數以百計的消防員氧氣筒充氣，效率極高，並且沒有出現故障，足證我們採取的上述措施奏效。「該場火警證明我們的工作經得起嚴峻的考驗。」程先生補充說。

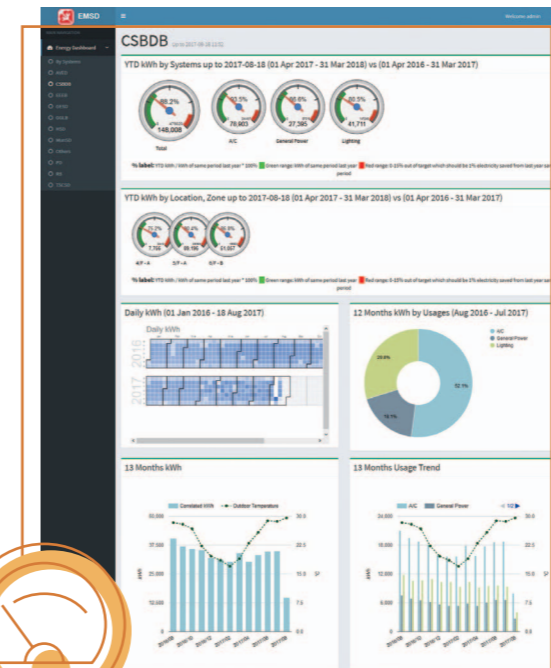
One of the lesser-known stories about the Ngau Tau Kok mini-storage fire incident in June 2016 was the critical role played by a compressed-air filling machine at the Wong Tai Sin Fire Station. The machine is used for supplying compressed air to firemen's breathing apparatus.

"The summers in Hong Kong are too hot for the German-made compressed-air filling machine in the station to operate continuously," Mr Cheng Kwok-keung, an inspector responsible for the maintenance of the machine at the time, shared the story.

Mitigation measures were put in place soon after the air-tank filling machine was installed at the Wong Tai Sin Fire Station in 2013. These measures included air-conditioning to keep the ambient temperature at an optimal level of between 20 to 30 degrees Celsius, ventilation to remove the heat produced by the machine, and sensors to ensure no other gases could get into the firemen's air tanks. The measures proved their worth during the Ngau Tau Kok blaze, when the compressed-air filling machine operated without fail for four days and nights, recharging efficiently hundreds of air tanks for the firefighters. "Our work passed the test under the most demanding conditions," Mr Cheng added.



Inspector Mr Cheng Kwok-keung and his team proactively enhanced the compressed-air filling machine at the Wong Tai Sin Fire Station, and received commendation from the client. 督察程國強先生及其團隊主動為黃大仙消防局的壓縮氣充氣機進行優化工程，獲得客戶嘉許。



我們於機電署總部大樓增設了「能源儀錶板」，協助監察大樓內各特定位置的實時能源消耗量。We have added an "energy dashboard" at EMSD Headquarters Building to help monitor real-time energy consumption of specific areas of the building.

總部露天廣場裝設了太陽能風能混合路燈，以鼓勵環保節能。To encourage energy saving and environmental protection, solar wind hybrid street lights are installed at our headquarters piazza.



科技創新 DRIVING INNOVATION AND TECHNOLOGY

作為政府建築物機電裝置的操作及維修保養團隊，我們大有條件以創新科技方案，協助客戶提高效率、節約能源，以及採用更環保的運作方式。

繼2015/16年度為150幢政府建築物完成能源審核和找出其能源管理機會後，我們於2016/17年度繼續為其他政府建築物進行能源審核工作，並從中找出更多能源管理機會。行政長官於2017年《施政報告》中也作出承諾，會為政府建築物的節能項目預留撥款。

由於政府即將撥款約7億元，投放在政府建築物的節能及可再生能源項目上，預計有關能源管理機會和可再生能源項目會在未來數年全面實施，進一步提升政府建築物的節能水平。

另一項相關措施，是為政府建築物的機電系統加緊安裝能源量度和管理系統，以更準確地量度能源消耗量和其他數據。有關數據會傳送至連接我們的綜合樓宇管理系統的中央監控系統，以便監察各主要政府建築物的機電設施運作情況。

我們亦已在機電署總部大樓安裝了「能源儀錶板」，這項試點計劃旨在準確地監察大樓內各特定位置的實時能源消耗量。此舉有助員工採用更有效的內務管理方法來節能，並可改變員工的耗能行為。儀錶板亦可能對其他政府建築物的節能工作有所助益。

As the maintenance agent of E&M installations in government buildings, we are well positioned to help our clients deploy innovative technology solutions that help them raise efficiency, save energy and be more environment-friendly.

Further to completing energy audits for 150 government buildings in 2015/16, and identifying their energy management opportunities (EMOs), our work on energy audits for other government buildings continued in 2016/17. This has led to more EMOs. The Chief Executive has also pledged in his 2017 Policy Address to earmark provisions for energy-saving projects for government buildings.

With forthcoming government funding at about \$700 million for energy-saving and renewable energy (RE) projects in government buildings, the next few years will see the implementation of EMOs and RE projects in full swing, taking energy saving in government buildings to a new level.

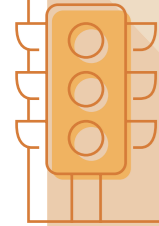
A related measure is stepping up the installation of energy measurement and management systems for E&M systems for more accurate energy consumption and other data measurement. Data is sent to the Central Control Monitoring System, which is connected to our integrated Building Management System for monitoring the operating status of E&M facilities in key government buildings.

We have also installed at EMSD Headquarters Building an "energy dashboard" as a pilot to precisely monitor real-time energy consumption of specific areas of the building. This can help staff adopt better housekeeping measures to save energy and change their energy consumption culture. The dashboard may also be useful to other government buildings to help save energy.

營運服務 Trading Services

安裝於交通燈上的遙距監測裝置一旦偵測到有故障發生，便會觸發中央監察系統即時發出手機短訊，通知我們的維修團隊進行搶修。圖為我們的員工正在檢查交通燈遙距監測裝置的運作情況。

Once faults are detected, the Remote Monitoring Units installed on traffic lights will trigger the Central Monitoring System to send instant SMS notifications to our maintenance team for speedy repairs. Photos show our staff checking the operation of the Units.



我們亦一直推行多項可持續發展措施，向社會樹立好榜樣。在2016/17年度，機電署總部大樓榮獲「綠建環評既有建築」最終鉑金級證書和「綠建環評社區」鉑金級證書。營運基金現正為多個客戶部門提供協助，務求為其取得既有建築物的「綠建環評」證書，藉此提高建築物的節能表現及整體可持續發展能力。

We have also been working on several sustainability initiatives to set an example. During 2016/17, EMSD Headquarters Building was awarded the Final Platinum Rating Certification under BEAM Plus Existing Buildings and the Platinum Rating Certification under BEAM Plus Neighbourhood. EMSTF is now helping client departments achieve BEAM Plus certification for existing buildings, which will benefit their energy saving and overall sustainability.

年內，我們繼續就啟德發展區區域供冷系統分站進行興建工程，為接駁高效節能的區域供冷系統的冷水供應至機電署總部大樓，作最後準備。

During the year, we continued with the construction of a substation of the District Cooling System (DCS) at the Kai Tak Development, as part of the final preparations for connecting EMSD Headquarters Building to the chilled water supply by the highly energy-efficient DCS.

全球有關大數據和智慧城市概念的發展一日千里，營運基金也成立了智慧城市專責小組。小組由高層管理人員領導，負責探討我們能如何協助客戶落實創新意念，促使香港成為放眼未來的智慧城市。

In response to rapid developments in big data and smart city concepts worldwide, EMSTF has set up a Smart City Task Force. Led by the senior management, it explores how we can help clients implement innovative ideas that will facilitate Hong Kong to become a smart city of the future.



總部大樓露天廣場及綠化設施的三維立體模型。有關設施於2016年12月為部門取得「綠建環評社區」(先導評估)鉑金級證書。

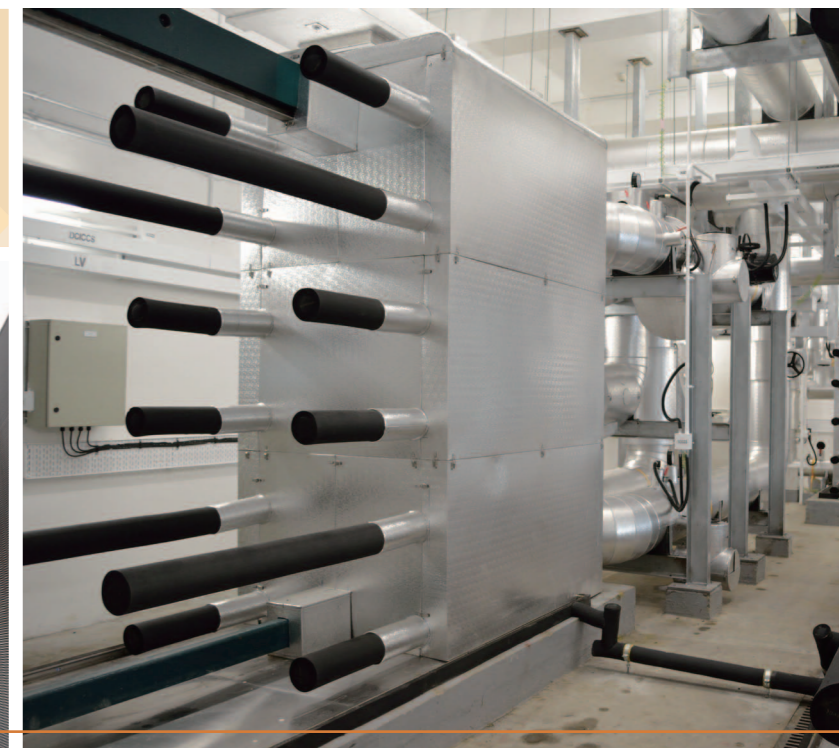
A 3D model of our headquarters piazza and its greening facilities, for which we were awarded the Platinum Rating Certification under BEAM Plus Neighbourhood (Pilot Version) in December 2016.



我們支持發展局的倡議，推廣在建築物的操作及維修保養工作上應用「建築信息模擬」技術，並把該技術與我們的「資產管理系統」整合。這項工作在2017年2月踏入新里程，因為「建築信息模擬—資產管理」系統取得香港專利，讓我們可以進一步把「建築信息模擬」技術推廣至建築物的操作及維修保養工作。我們的下一步工作是與發展局和建造業議會磋商，協助制訂一套切合香港需要的「建築信息模擬」技術標準，讓不同範疇的專業人士和員工在參與建築物的設計、建造和維修保養工作時，能按照一套共通標準行事。

Our work to support the Development Bureau's initiative to promote the use of Building Information Modelling (BIM) in the O&M of buildings, integrated with our Asset Management (AM) System, reached a milestone in February 2017 when a Hong Kong patent for our BIM-AM was granted. This enables us to further promote BIM to the trades in the O&M of buildings. Our next step is to work with the Development Bureau and the Construction Industry Council to help establish BIM standards tailored for Hong Kong, so that professionals and workers of various disciplines involved in the design, construction and maintenance of buildings can work according to a set of common standards.

區域供冷系統熱交換器已接駁至機電署總部大樓，為其空調系統提供冷水，預計每年可為大樓節省約15%耗電量。



營運服務 Trading Services

另一方面，一些既簡單又創新的方案，也能大大提升本港機電設備的可用率和可靠性，我們現時為電掣板、行人天橋升降機和自動梯，以及部分未納入電腦監察網絡的交通燈所安裝的遙距監測裝置，便屬一例。當遙距監測裝置偵測到有故障發生，中央監察系統便能即時發出手機短訊要求維修人員進行搶修，盡量減少對公眾造成的不便。

另一個例子是一套相當獨特，由我們設計和建造的流動製冷系統。這套創新和高效能的系統，可於公立醫院製冷機組發生故障後的24小時內提供緊急後備冷水供應，確保醫院有可靠和持續的中央空調供應，讓病人享受安全舒適的環境。

我們的團隊熱衷於研發有助我們為客戶提供更佳服務的資訊科技方案，例如一套由我們自行研發，名為KITE的系統。這套現時處於試驗階段的系統，是我們致力加強承辦商管理工作的項目之一，可用以遙距監察承辦商員工出勤至預定地點工作的情况。

Simple and innovative solutions can also go a long way towards raising E&M equipment availability and reliability across the city. A case in point is our current efforts to install Remote Monitoring Units (RMUs) on electrical switchboards, footbridge lifts and escalators, as well as some non-networked traffic lights. The Central Monitoring System can send instant SMS messages to maintenance personnel for rectification once faults are detected by RMUs, thus minimising the inconvenience to the public.

Another example is a unique mobile chiller system that we designed and constructed. This innovative, highly efficient system provides emergency chilled water backup supply to public hospitals within 24 hours from the occurrence of a chiller plant breakdown. It helps ensure reliable and continuous supply of central air-conditioning in hospitals for the safety and comfort of patients.

Our colleagues are passionate about developing IT solutions that help us better serve our clients, such as an application called KITE System developed in-house. Currently at the trial stage, it remotely keeps track of contractors' staff attending designated locations as part of our effort to enhance contractor management.



營運基金主動構思和提出各項增值服務方案，例如這個創新的流動製冷機，以滿足客戶的緊急製冷需求。

EMSTF proactively designs and produces various value-added service solutions, such as this innovative mobile chiller, to meet clients' urgent cooling demand.



「建築信息模擬— 資產管理」 系統獲認同 Recognition Given to BIM-AM

自2014年營運基金開始研發「建築信息模擬—資產管理」以來，該項目的助理工程師袁彪洪先生一直參與其中。該項目之所以展開，是源於發展局要求我們於機電署總部大樓進行先導計劃，試行將「建築信息模擬」技術應用於建築物資產管理上。袁先生回想當時的情況：「項目的要求很清楚，只是當時未有解決方案。」他又解釋，雖然香港業界已使用「建築信息模擬」技術來設計建築物，卻不曾將技術應用於建築物的維修保養工作上。項目團隊初時連找合適的承辦商來參與開發工作也很困難，後來終於把多個概念和技術方案成功整合在一起，工作才見突破，成為今天的「建築信息模擬—資產管理」系統。

團隊中另一位要員是首席技術主任嚴志明先生，他負責繪製機電署總部大樓的「建築信息模擬」技術模型，最近也為天水圍醫院繪製同類模型。嚴先生說：「這項工作令人興奮。『建築信息模擬』技術是一套很有用的視覺數據，讓使用者可以即時看見已計劃的工程在完成後的模擬效果。」

至於參與該項目的最大收穫，袁先生及嚴先生都認為是「建築信息模擬—資產管理」系統得到業界和專業團體認同，以及在本地及海外引起極大興趣。

Mr Francis Yuen, the project's assistant engineer, has worked on BIM-AM ever since its inception in 2014. The project began when the Development Bureau asked EMSD to conduct a pilot at EMSD Headquarters Building to try BIM on the asset management of buildings. "The brief was clear but no solution was in sight," recalled Mr Yuen, explaining that BIM had been used in Hong Kong for designing buildings, but not for maintenance. Even finding the right contractor was initially a challenge. The breakthrough came when the project team finally integrated the various ideas and technical solutions into what later became the BIM-AM System.

Another important character in the story of BIM-AM is Mr Yim Chi-ming, a principal technical officer who developed the BIM model for EMSD Headquarters Building and more recently the one for the Tin Shui Wai Hospital. "The work is exciting. BIM is a very useful visual database that helps the users immediately see the results of the planned works," said Mr Yim.

The biggest reward? Both agreed that it was the recognition given to the BIM-AM System by the trade and professional institutions, and the great interest generated locally and overseas.



Mr Francis Yuen, assistant engineer (left), and Mr Yim Chi-ming, principal technical officer (right), are key members of our team that developed the BIM-AM System.

助理工程師袁彪洪先生(左)和首席技術主任嚴志明先生(右)是我們的「建築信息模擬—資產管理」系統研發團隊的重要成員。

企業管理 Corporate Stewardship

在2016/17年度，企業支援及業務發展單位致力推動機電工程營運基金五大策略之相關工作，旨在支援我們的工程團隊本着貼心及創新的態度服務客戶和社會，務求讓廣大市民享受到更優質的生活。我們落實五大策略至今已四年，各項策略下的相關工作正進行得如火如荼。一如往年，我們沿用一套行之有效的關鍵績效指標監察和檢視營運基金的表現。以下是我們這年內的工作重點：

Our corporate support units have been working hard to carry out various initiatives during 2016/17 under our five strategies. The aim is to support our engineering teams in serving clients and the community with care and innovation, so that citizens will enjoy a better quality of life. Four years into implementation, our five strategies are in full swing. Similar to last year, we have monitored and reviewed EMSTF performance using a set of Key Performance Indicators (KPI). The highlights of our endeavours are as follows.

五大策略進展 PROGRESS UNDER OUR FIVE STRATEGIES

提供優質服務

客戶滿意度是這項策略的關鍵指標。我們欣然報告，有賴客戶的支持，在2016年客戶意見調查中，以8分為滿分計，營運基金的客戶滿意指數創出6.45分的歷史新高。為了主動回應客戶的意見和建議，我們近年已落實一系列的持續改善計劃，包括與客戶保持溝通、應用新科技、強化合約管理，以及為客戶準確估算合約價格等。

Deliver Excellent Service

Client satisfaction is a key performance indicator of this strategy. We are delighted to report that, thanks to our clients' continuous support, EMSTF achieved a record high score of 6.45 out of 8 in the Customer Satisfaction Index of its Customer Opinion Survey 2016. Responding proactively to clients' views and suggestions in recent years, we have implemented a series of improvement initiatives, which include keeping clients informed, applying new technology, enhancing contract management, and providing accurate contract price estimates to our clients.



300多位同事及嘉賓參與「品質及安全日2016」，分享和表揚同事在提升服務品質及職安健方面的貢獻。
More than 300 staff members and guests participated in the Quality and Safety Day 2016 to share and recognise staff contribution to service quality and occupational health and safety improvements.



客戶對服務公眾有很高期望，我們為了讓客戶達到甚至超越期望，已開始為客戶的機電資產，按計劃進行分類及認證，以分析相關資產資料，及制訂資產更新計劃。我們更把機電資產資料與營運基金的企業電腦系統結合，設計了一套全面資產管理系統。我們也透過「維修外判合約表現監察系統」，成功運用資訊科技以監察維修保養合約的表現。該系統也能與未來嶄新的「顧客為本電子平台」結合，提供實時的工作進度資訊，加強客戶服務。

To go beyond the aspiration of our clients in delivering public services, we have been carrying out E&M asset categorisation and certification as scheduled for analysing asset information and planning for asset rejuvenation. Moreover, the E&M asset information has been integrated with the Corporate Computer System to set out a holistic asset management system. Besides, we have successfully deployed IT technologies to monitor the performance of maintenance contracts through the "Performance Monitoring System for Maintenance Contract (PMSMC)" system. The PMSMC will integrate with the new Customer Centric e-Platform (CCeP) to provide real time job process information for enhancing our customer services.

全新的「顧客為本電子平台」是我們推行的另一個重要項目。這平台會成為日後的客戶服務中心的骨幹，目的是按照我們現行的五年策略計劃，為客戶提供更佳服務。過去一年，我們由衛生工程服務團隊開始，分階段建立「顧客為本電子平台」。2016年9月，我們為醫院管理局（醫管局）設計的「顧客為本電子平台—醫管局延伸系統」正式啟用，標誌着這項目的首個里程碑。系統介面能與醫管局的新資產管理系統交換工作資訊，精簡資料輸入工序，以及使客戶在電子平台上的資料更為統一。

The implementation of the CCeP, the backbone of our future Customer Service Centre (CSC), is an important strategic initiative for enhancing services to clients under our current five-year strategic plan. The CCeP has been under development in phases starting with the health service teams in the year. The first milestone was achieved in September 2016 when the CCeP – Hospital Authority (HA) Enterprise Asset Management System Interface (CCeP-EAM) was commissioned to exchange job information with the new asset management system of HA. The CCeP-EAM streamlined work process on data input and improved data consistency under the CCeP initiative.

我們年內也採用「敏捷開發方式」，讓員工充份參與「顧客為本電子平台—工作管理系統」的開發工作，並廣納員工的意見。這系統將成為「顧客為本電子平台」的核心組成部分，讓使用者適時取得工作進度資訊，有助客戶服務中心更有效地將我們的工作進度知會客戶。為了爭取於2017/18年度推出這工作管理系統，我們的電腦服務團隊年內與各策略業務單位緊密合作，為來年的系統實施和整合鋪路。至於新客戶服務中心的工作也正進行中，額外的辦公室空間安排已獲批准，初步設計亦已完成。

A CCeP – Job Management (CCeP-JM) system is being developed using agile methodology with full staff engagement. The CCeP-JM will be the core building block of CCeP for capturing job status in a timely manner which will empower the CSC to keep clients better informed of our services. Aiming for a roll-out in 2017/18, our computer services team has been working very closely with Strategic Business Units (SBUs) to pave the way for system implementation and integration in the following year. Work on the new CSC is also underway, with extra accommodation approved and preliminary design completed.

2016年公務員事務局局長嘉許狀頒發典禮 The Secretary for the Civil Service's Commendation Awards Presentation Ceremony 2016



在2016年公務員事務局局長嘉許狀頒發典禮上，時任行政長官梁振英先生與機電工程署三位獲獎同事及家屬合照。

Pictured are the then Chief Executive the Honourable C Y Leung with the three awardees from EMSTF and their families at the Secretary for the Civil Service's Commendation Awards Presentation Ceremony 2016.



企業管理 Corporate Stewardship

項目 Item	關鍵績效指標(單位) ¹ Key Performance Indicators (Unit) ¹	2016/17	
		目標 Target	成績 Results
1.	收入回報率(%) Return on Revenue (%)	3.1	5.3
2.	新收入增長(百萬元) New Business and Growth of Business (\$M)	185	301.5
3.	客戶滿意指數以8分為滿分 Customer Satisfaction Index on an 8-point scale	6.3	6.45 ²
4.	年內續訂的服務水平協議(%) Percentage of Service Level Agreement (SLA) Renewed during the Year (%)	95	99.93
5.	每月電話調查客戶滿意度(%) Percentage of Satisfaction Level Based on Monthly Customer Feedback (%)	95	99.64
6.	每名營運基金員工接受訓練的日數 Training Days/EMSTF Staff (no. of training days per staff)	4.5	5.29
7.	員工滿意指數以10分為滿分 Staff Satisfaction Rating on a 10-point scale	6.8	6.8 ²
8.	員工建議計劃 Awards for Staff Suggestion Scheme Proposal (no.)	75	113
9.	達到服務水平協議所訂的表現目標(%) Percentage of SLA Service Performance Target Compliance (%)	99	99.97
10.	每千名營運基金員工須呈報的意外宗數(每千人計算) Reportable Accidents per 1 000 EMSTF Staff (no. per 1 000 staff)	5	5.35 ^{3,4}
11.	違反法例次數 Statutory Non-compliance (no.)	0	0
12.	耗電量(千瓦小時)機電工程署總部大樓、數據中心及各策略業務單位 Electricity Consumption (kWh) EMSTF Headquarters, Corporate Data Centre and all SBU Venues	10 838 767 ⁵	10 492 055 ⁶

¹ 表內各項目只適用於機電工程營運基金，至於第7、第8及第12項，適用於整個機電工程署。
All items apply to EMSTF only, except items 7, 8 and 12 which apply to EMSD as a whole.

² 數字為2016年的調查結果。

Result from the survey conducted in 2016.

³ 每千名機電工程署員工及營運基金員工須呈報的意外宗數，分別為4.90宗及5.35宗(不包括非因機電工程署司機犯錯導致的意外)。

The number of reportable accidents per 1 000 staff for EMSD and EMSTF were 4.90 and 5.35 respectively (excluding traffic accidents not due to the fault of EMSD drivers).

⁴ 與2015/16年度相比，以下兩類意外於2016/17年度有上升趨勢：(i) 滑倒、絆倒或在同一高度跌倒；(ii) 與固定或不動的物件碰撞。

Two types of accidents showed an increasing trend of occurrence in FY2016/17 when compared with FY2015/16 — (i) Slip, trip or fall on same level; and (ii) Striking against fixed or stationary object.

⁵ 2013/14年度的耗電量(扣除客戶使用量)。

Baseline electricity consumption (exclude client usage) as of FY2013/14.

⁶ 正常化後2016/17年度的耗電量(扣除客戶使用量)。

Normalised electricity consumption (exclude client usage) as of FY2016/17.

服務品質及職安健乃卓越服務的先決條件。我們舉辦「品質及安全日2016」，讓「最佳改善個案獎」、「最佳環保個案獎」及「最佳職安健改善個案獎」的得獎團隊能藉此向300多位員工及嘉賓展示其創新意念和最佳做法。這項一年一度的活動公開肯定員工在提升工作品質和改善職安健方面的貢獻，並讓他們分享經驗及成果，誠然效益良多，因此深受同事歡迎。

Quality service and occupational health and safety (OHS) are prerequisites for service excellence. Our Quality and Safety Day 2016 provided an opportunity for the winning teams of the Best Improvement Project Awards, Best Green Project Awards and the Best OHS Enhancement Project Awards to showcase their innovative ideas and best practices to over 300 staff members and guests. The annual event is meaningful as always and is welcomed by staff as their efforts in quality and OHS improvements are formally recognised and shared.

2016年，營運基金再度憑出色服務獲頒公務員事務局局長嘉許狀。三位分別任職於工程策劃部、運輸、保安及中央工程部和衛生工程部的得獎同事，多年來在客戶服務方面表現卓越，獲獎是實至名歸。

EMSTF's service excellence was once again recognised by the Secretary for the Civil Service's Commendation Awards 2016. Three colleagues from Projects Division, Transport, Security and Central Services Division and Health Sector Division respectively were awarded for their outstanding client service over the years.



《機電工程署二零一五至一六年年報》榮獲美國通訊專業聯盟的「2016 Vision Awards」鉑金獎。

The EMSTF Annual Report 2015/16 won the League of American Communications Professionals' 2016 Vision Awards – Platinum Award.

機電工程署2015/16年度年報榮獲美國通訊專業聯盟的「2016 Vision Awards」，表揚我們在客戶及公眾傳訊方面的成就。年報所獲獎項包括：政府組別鉑金獎、亞太區最佳致股東信函金獎、亞太區80份最佳年報(排名第17位)，以及2016年全球100份最佳年報(排名第50位)。

The EMSTF Annual Report 2015/16 won the 2016 Vision Awards organised by the League of American Communications Professionals, a major recognition for our communication with clients and the public. The awards won included Platinum Award – Government Industry; Gold Award – Best Letter to Shareholders in the Asia-Pacific region; Top 80 Reports in the Asia-Pacific region (ranked 17th) and Top 100 Reports Worldwide (ranked 50th) in 2016.

2016年9月，我們在總部大樓舉辦機電工程營運基金20周年感恩典禮，眾多客戶親臨慶賀。典禮由時任政務司司長主禮，來賓包括多位政府高層官員、歷任機電工程署署長、客戶代表及機電業界領袖。我們很高興能藉此儀式紀念這特別日子，標誌着我們與客戶的廿載成功伙伴關係，和我們為打造卓越未來的不斷努力。

Many clients also joined us at the EMSTF 20th Anniversary Thanksgiving Ceremony held in September 2016 at our headquarters, officiated by the then Chief Secretary for Administration and well attended by senior government officials, past Directors of Electrical and Mechanical Services, clients and E&M industry leaders. We were delighted to commemorate the special occasion marking EMSTF's successful partnership with clients in the past two decades and our continuous quest to excel for the future.



機電工程營運基金20周年感恩典禮主禮嘉賓——時任政務司司長林鄭月娥女士與一眾嘉賓、機電工程署管理層和年青員工代表。

Officiating at the EMSTF 20th Anniversary Thanksgiving Ceremony are the then Chief Secretary for Administration, Mrs Carrie Lam, with our guests, management team and young staff representatives of EMSD.

企業管理 Corporate Stewardship



為吸引年青人加入機電業，我們參與了「教育及職業博覽2017」，介紹機電工程署的就業機會、晉升階梯及培訓計劃。

To attract youngsters to the E&M trade, we participated in the Education & Careers Expo 2017 to showcase the job opportunities, career path and training schemes at EMSD.



成為業界典範

近年來，機電業界十分關注如何確保有足夠的優質人才供應，令行業持續蓬勃發展，並滿足業內不斷上升的人力需求。機電工程署已帶領由19個團體組成的香港機電業推廣工作小組，率先推行了多項措施，鼓勵年青人入行，例如於2月參加一連四天在香港會議展覽中心舉行的每年一度「教育及職業博覽2017」，以及於3月參加在職業訓練局葵涌大樓舉行，專為中學生而設為期兩天的「機電業博覽2017 — 機電新世代」。

為了向業界樹立榜樣，我們承諾在2016至2020年期間，透過技術員訓練計劃推行「為業界培訓人才」的新項目，每年培訓100名見習技術員，為香港持續提供機電技術人員和技工。此外，機電工程署聯同香港機電工程師學會、渠務署、水務署和其他伙伴機構，推出全新的合作培訓技術員先導計劃，為「為業界培訓人才」項目下的見習技術員提供實習機會，助其擴闊視野和提升技術水平。

我們每年籌辦多個技術研討會，以推動機電業界分享知識。2016年5至6月期間，我們特別舉辦了一系列的創新科技交流會及業界科技研討會，作為營運基金20周年慶祝活動之一。本港多間大學的學者及其他專家就50多個議題發表演說，吸引了來自客戶部門、業界及學術界的1 600多名參加者出席。

Become a Trade Model

A major concern of the E&M trade in recent years is how to ensure adequate supply of quality talents so that the trade may continue to thrive and meet soaring manpower demand. As the leader of the Hong Kong Electrical and Mechanical Trade Promotion Working Group comprising 19 organisations, we have spearheaded many initiatives to encourage young people to join the industry, such as participating in the annual four-day Education & Careers Expo 2017 held in February at the Hong Kong Convention and Exhibition Centre. We also took part in the two-day Electrical and Mechanical Trades Expo 2017 – E&M New Generation held in March at the Vocational Training Council Kwai Chung Complex, targeting secondary students.

To set an example for the trade, we have pledged to train 100 new technician trainees per year under the new initiative of "Train for the Trade" via our Technician Training Scheme from 2016 to 2020 to provide a steady supply of tradesmen and craftsmen for Hong Kong. A related new initiative is the Pilot Cooperative Apprentice Training Scheme where EMSD partners with the Hong Kong Federation of Electrical and Mechanical Contractors Limited, the Drainage Services Department, the Water Supplies Department and other partnering companies to provide attachment opportunities for technician trainees under the "Train for the Trade" initiative to enrich their exposure and skills.

Every year we organise many technical seminars to facilitate knowledge sharing among the E&M trade. As part of the EMSTF 20th anniversary celebratory activities, we held a special series of Innovation Technology Sharing and Trade Technology Seminars during May and June 2016. Scholars from various universities in Hong Kong and other experts spoke on some 50 topics, attracting over 1 600 attendees from client departments, the trade and the academia.

「機電工程署創科論壇」探討了多個關於未來城市發展的議題，活動深受業界歡迎。

The EMSD Summit explored a wide range of topics on future city development, and was well received by the industry.



營運基金20周年的壓軸慶祝活動，是2016年11月假香港科學園舉行的「機電工程署創科論壇 — 想像∞創新∞香港」。為期一天半的論壇，旨在從建築物、交通、能源及可持續發展等不同範疇，探討香港未來的城市發展，以期把香港打造成世界級的綠色智慧型未來城市。講者包括著名學者、政府高層官員、機電工程和可持續發展範疇的行業領袖，出席者達400多人。

有賴業界積極參與和提供寶貴意見，《機電工程署安全及健康手冊》已於2016年11月完成和出版。機電工程署亦已按照勞工處的最新要求，於2016年5月出版和實施《加強高處工作安全措施工作指引》。這些文件載列業內目前的最佳做法，我們鼓勵機電業界於日常工作中予以參考。此外，我們於2016年10月舉辦了承辦商研討會，與我們的承辦商分享職安健知識和最佳做法。

建立員工才能與關懷文化

機電工程署2016年員工滿意度調查是2016/17年度的重點工作之一。調查結果顯示，以10分為滿分計，整體員工滿意度指數創下6.8分的歷史新高，比2014年調查所得的6.4分更高。是次調查的回應率達40%，也比2014年的回應率高5%。是次調查及其後進行的20場聚焦小組討論，帶來了嶄新的員工參與模式，讓員工能共同擁有和共同創立各項改進措施。員工滿意度屢創新高，證明我們近年為建立員工才能與關懷文化而推行的各種措施方向正確。

年內，我們繼續研訂員工才能矩陣、加強現行的各項員工福利計劃，以及推出各項新猷。舉例來說，我們繼續委託香港家庭福利會為機電工程署所有員工（包括借調至其他部門的人員）提供輔導服務。該會為員工舉辦了10場簡介會，由專家講解如何促進工作與生活平衡，以及加倍注意身體、精神及情緒健康。該會更設立了專用熱線，為員工提供次數不限的諮詢或輔導服務。

Another pioneering event was the 1.5-day EMSD Summit – Imaginovate Hong Kong held in November 2016 at the Hong Kong Science Park, also the grand finale of our 20th anniversary celebrations. The Summit aimed to explore the future city development of Hong Kong from the perspectives of buildings, transportation, energy and sustainability in a bid to transform Hong Kong into a world-class green and smart city of the future. Speakers included prominent academics, top government officials and leaders in E&M engineering and sustainability disciplines. More than 400 participants attended the event.

The EMSD Safety and Health Handbook was completed and issued in November 2016, with valuable input from the trade. The Guidelines on Enhanced Safety Measures for Work-at-Height were also issued and implemented in May 2016 according to the latest requirements from the Labour Department. The documents capture the most current best practices, and we encourage the E&M trade to make reference to them in their daily work. In addition, a Contractors Forum was organised in October 2016 to share our OHS knowledge and best practices with our contractors.

Build Capacity and Caring Culture

A highlight of 2016/17 was the EMSD Staff Satisfaction Survey 2016 which returned a record high of 6.8 out of 10 in overall staff satisfaction rating, against 6.4 in the previous Survey in 2014. The 40% response rate was also 5% higher than that in 2014. The Survey and the subsequent 20 focus group discussions led to a new staff engagement approach which will enable staff to co-own and co-create various improvement measures. The high satisfaction score shows that our initiatives in recent years to build capacity and a caring culture are on the right track.

During the year, we continued to develop the Staff Competency Matrix. Also, existing programmes on staff well-being were enhanced and new initiatives launched. For example, we continued to commission the Hong Kong Family Welfare Society to provide counselling services to all EMSD staff, including those seconded to other departments. About 10 briefings by experts were held for staff to promote work-life balance and their awareness of physical, mental and emotional health. A designated hotline is available for staff to obtain unlimited consultation or counselling services.

企業管理 Corporate Stewardship



為提高同事對身心健康的重視，我們提供心理輔導服務，並定期舉辦各類工作坊。
To enhance staff awareness of the importance of mental and physical health, we provide counselling services as well as organising various regular workshops.



我們推出了一份名為《機電前線》的全新中文網上員工通訊，以加強與前線員工的溝通，讓他們知悉部門最新發展及有關前線需要的事宜。在2016/17年度，《機電前線》出版了五期。這份通訊可補足以全體員工為對象的現有員工通訊《羣聲》。

A new Chinese online newsletter called EMSD Frontline News was launched to enhance communication with frontline staff, so that they are kept abreast of the Department's latest developments and issues pertinent to frontline needs. Five issues were published during 2016/17. It augments our existing staff newsletter Group Voice which caters for all staff.

為讓員工積極參與部門事務，部門工作服工作小組收集了營運基金前線員工對由香港理工大學專業設計師所設計各款新制服的意見。工作小組還邀請逾2 000位合資格員工投票挑選設計方案。此外，約100位前線員工代表更參加了新制服試穿活動，以助設計師改良設計，務求新制服於2018年年底推出時，員工穿着工作時能倍感舒適。

In the spirit of engaging staff, the Department's Uniform Working Group not only collected the views of EMSTF frontline staff about options of their new uniforms designed by professional designers from the Hong Kong Polytechnic University, but also invited over 2 000 eligible staff members to vote on the design options. Furthermore, about 100 frontline staff representatives participated in a trial wearing of the new uniforms, which has been targeted to launch by end 2018, to facilitate minor touch-ups for extra comfort at work.



工作服工作小組聘請專業顧問，並收集前線員工意見，以設計營運基金前線員工的新制服。
The Uniform Working Group hired a professional consultant and collected the views of frontline staff in designing new uniforms for our frontline staff.



為推廣無障礙工作間，總部大樓出入管制系統的升級工程已於2017年完成。新的通道讀卡器使用藍牙及近距離無線通訊技術，並已安裝於大樓內各主要出入口。員工可利用流動應用程式代替通行證開啟門鎖，令出入更便利。新系統尤其方便輪椅使用者，以及須以手推車運送貨物及文件的員工出入。

To promote barrier-free access for staff, the access control system at our headquarters building was upgraded in 2017. New access readers using Bluetooth and NFC technologies have been installed at key entrance points throughout the building. Staff may use a smartphone app instead of access card to unlock doors for easier access, which is especially convenient for wheelchair users and staff transporting goods and documents in trolleys.

優化知識管理

隨著「知識群體網站」繼續發展，我們也為虛擬專用網絡系統升級，使各個遙距辦事處都能與總部連接，此舉可讓遙距運作的策略業務單位能隨時取用總部的企業資訊科技資源。這些新的便利設施有助促進企業資訊分享和提升知識管理能力。

Enhance Knowledge Management

As our Knowledge Communities Portal continued to develop, we also upgraded the virtual private network system for connecting remote offices to the headquarters. In this way, remote SBU offices were enabled to use our corporate IT resources seamlessly. These new conveniences have boosted our corporate information sharing and knowledge management capabilities.

去年提及的全新知識管理工具「知識地圖」已經推出。「知識地圖」是用於識別知識項目(何事)、其擁有人(何人)及地點(何地)的知識管理工具，以便將知識資產分類。「知識地圖」編集關鍵工序對員工的知識需求(例如取得文件和接觸具備相關知識同事的途徑)，以助新調職同事及時學習新工序。在2016/17年度完結前，我們已完成12份「知識地圖」，內容涵蓋廣泛知識領域的關鍵工序，例如電氣火災調查、升降機及自動梯檢查、工程招標和車輛採購等。

As mentioned last year, a new knowledge management (KM) tool called Knowledge Map (K-map) was introduced. K-map is a KM tool for the identification of knowledge item (what), its owner (who) and location (where) for categorising knowledge assets. K-map codifies the knowledge needs of staff (such as access to documents and knowledgeable colleagues) in critical processes, helping colleagues posted to a new position to learn new work processes in a timely manner. By end 2016/17, a total of 12 K-maps were completed, covering critical processes from a wide range of knowledge areas, for example, electrical fire investigation, lift and escalator inspection, works tendering and vehicle procurement.

新推出的《機電前線》，旨在加強與前線員工的溝通。
The new EMSD Frontline News was launched to enhance communication with frontline staff.

機電前線
2016年9月14日
2016年客戶滿意指數 再創新高

根據2016年客戶意見調查，我們在整體的客戶滿意指數 (Customer Satisfaction Index) 獲得6.45分 (百分為滿分)。這是營運基金成立20年以來的最佳成績。這個結果是各同事日常工作的努力、熱誠及心繫客戶的解決方案，從而不斷提升營運基金的服務質素。

這次客戶意見調查總數發出2,113份問卷，回覆率高達54.8%，相比2014年度的調查，總得2.4%的升幅。全體同事均獲得正增長(見附圖)。從客戶回覆率及對高的客戶滿意指數，充分反映各業務單位提供的服務，深受客戶認同。

部門感謝各同事的努力，對客戶提供專業和可靠的服務。

我們正進行第二部分的客戶意見調查，透過電話訪問及會面訪談，進一步了解客戶對管理基金的評價。整個客戶意見調查預計在9月份內完成，營運基金各業務單位將會知悉調查結果及得以改進服務質素的行動計劃。

衛生工程師獲得醫管局兩份服務合約

機電工程營運基金成立以來，一直以服務水平協議的模式為醫院管理局轄下的公立醫院及專科診所提供機電冷卻系統、以及醫療電子裝置的維修、維修及保養服務。而有關的維修及保養服務於2017年3月31日屆滿。今年年初，醫院管理局及本署，在現行的服務水平協議屆滿後，將會改以公開招標的形式採購有關服務，以符合世界採購協定 (WTO-GPA) 的要求。該局於今年3至4月正式進行公開招標。

經過半年的努力，醫院管理局於上星期正式通知，本署成功獲得機電冷卻系統、以及醫療電子裝置維修、維修及保養服務的兩份合約。而合約的維修及保養服務水平協議相同，並將會同時於2017年4月1日生效。為期五年，衛生工程師將會到七個聯網分別履行兩份合約，為同事介紹合約的詳情與未來的工作安排。

本署衛生工程師與醫院管理局人員合作合照，認為是月與醫院管理局為機電冷卻系統中心合照。

這次投標成功的顯示了本署於衛生工程師方面的專業競爭力，全體多年來各同事的努力以提供卓越且具成本效益的服務，獲得客戶信任。我們的團隊將繼續與醫院管理局並肩為香港市民大眾服務。



企業管理 Corporate Stewardship

啟迪論壇提供平台，讓嘉賓講者及同事分享關於機電及其他相關議題的經驗和心得。

The Enlightenment Forums provide a platform for guest speakers and colleagues to share experience in and insights into E&M and other related matters.



我們亦計劃透過「睿智小組」進一步推廣在工作上應用新技術。截至2016/17年度完結前，同事們已自發組成了40個「睿智小組」，涵蓋19個機電工程領域，參加者包括740多位專業及技術職系的員工。在下一個財政年度，營運基金會考慮為「睿智小組」提供種子基金及配對機會，讓同事與大學研究人員或業界伙伴合作，進行把新技術應用於工作上的先導測試。

Plans are also underway to use Interest Groups (IGs) to further promote new technology application at work. As of end 2016/17, 40 IGs have been formed voluntarily, covering 19 E&M areas and some 740 staff members from both professional and technical grades. In the coming fiscal year, EMSTF will consider providing seed funding and pairing-up opportunities for IGs to work with university researchers or industry partners to conduct pilot testing of new technology applications in our work.



副署長/營運服務戴德謙先生於「營運基金廿載『情』」分享會上，向同事講述營運基金的歷史及發展。

Deputy Director/Trading Services, Mr Tai Tak-him, briefs colleagues on the EMSTF history and development at the EMSTF 20th Anniversary Sharing Session.



機電工程署總部大樓主入口大堂已增添綠化設施。

Additional green features at the EMSD Headquarters Building main entrance lobby.



持續綠色作業

我們的重點是讓營運基金的所有業務及工序，均以環保及可持續發展的方式進行，務求能節省電力、用水和用紙等天然資源。我們在總部大樓引進一套使用智能電錶及能源儀錶板的新能源管理系統，讓每個部別都能取得實時耗電量數據，以便更有效監察和控制其能源消耗量。

環保採購是我們可持續發展作業的重要一環。我們嚴格依循環境局的通告和指引，在採購方面盡可能採用環保規格。我們的企業電腦系統採購模組，現已向所有員工提供最新的環保採購規定以供遵循。

如何處理和棄置廢料及使用期已完結的產品，既是社會關注的問題，也是我們工作的新焦點。環境保護署已發出指引，而《2016年促進循環再造及妥善處置（電氣設備及電子設備）（修訂）條例》亦已闡明若干指導原則。我們亦參考上述有關生產者所需的發牌規定指引及條例。在發牌制度實施後，有關規定即會納入我們的報價邀請及招標文件內。

我們的總部大樓繼續推行多項環保建築計劃和增添室內綠化設計。繼年內獲取「綠建環評社區」鉑金級證書後，我們為大樓的空調系統於2017年5月連接至啟德發展區區域供冷系統，進行最後的準備工作。採用區域供冷系統可提升總部大樓的能源效益，讓我們成為供冷系統的用戶，以收節約能源和減少碳排放之效，同時為保護環境出一分力。

Sustain Green Operation

Our focus is to operate all EMSTF activities and processes in a green and sustainable manner and save natural resources like water, electricity and paper. A new energy management system using smart meters and an energy dashboard was introduced at our headquarters building, so that each division can obtain real-time data of its electricity consumption to facilitate more effective monitoring and control of its energy consumption.

Green procurement is a key component of our sustainability practice and we adhere closely to the Environment Bureau's circulars and guidelines to adopt green specifications in our purchases as far as practicable. The Purchasing Module of our Corporate Computer System now provides to all staff the latest green purchase requirements for compliance.

The handling and disposal of waste and products at the end of their life cycles is an issue of concern in the community and a new focus in our work. The Environmental Protection Department has issued guidelines while the Promotion of Recycling and Proper Disposal (Electrical Equipment and Electronic Equipment) (Amendment) Ordinance 2016 has also made clear certain guiding principles. We have made reference to both in drawing up the necessary licensing requirements in our Producer Responsibility Scheme which will be included in our quotation and tender documents once the licensing regime is in place.

Our headquarters building continues to implement various green building initiatives as well as indoor greening features. Subsequent to our obtaining Platinum Rating Certification under BEAM Plus Neighbourhood during the year, we made final preparation work on connecting our air-conditioning system to the chilled water supply from the District Cooling System at Kai Tak Development in May 2017. This would be another energy efficiency booster for our headquarters and make us one of the System users to save energy, reduce carbon emissions and contribute to protecting the environment.