

部門簡介及架構 Organisational Profile and Structure



機電工程署(機電署)是負責保障香港機電安全和推廣能源效益,並向其他政府部門及公營機構提供機電工程服務的政府部門。我們既是機電安全及能源效益的規管者與推廣者、機電工程服務提供者,也是各種與機電有關事項的促成者。透過這些工作,機電署致力提升香港市民的生活質素,為社會創造公眾價值,促進社會不斷發展。

機電署轄下設有規管服務及營運服務兩大服務範疇,後者亦稱為機電工程營運基金(營運基金)。

規管服務團隊負責規管機電及氣體安全、鐵路安全, 以及推廣能源效益。團隊由多個部別組成,各有專責 的規管工作範疇,以推行在上述各方面的執法和公 眾教育工作。此外,團隊亦根據「管制計劃協議」, 監管電力公司的技術表現和發展計劃,以及為政府 的各種安全及環保計劃提供專業意見及技術支援。

為保持政府部門及公營機構的設施運作效率,營運服務團隊負責向其提供專業的機電、電子工程及屋宇裝備服務。我們的客戶層面廣泛,包括機場、醫院、學校、紀律部隊、運輸及公路、港口及海港、政府合署、法院大樓,以及公眾文娛康樂設施等。

The Electrical and Mechanical Services Department (EMSD) is a government department responsible for safeguarding electrical and mechanical (E&M) safety and enhancing energy efficiency for the public as well as providing E&M engineering services to other government departments and public bodies. Acting as a regulator and promoter of E&M safety and energy efficiency, a provider of E&M engineering services and a facilitator on a wide variety of E&M related issues, the Department endeavours to enhance the quality of life for the people of Hong Kong and create public value for community betterment.

The EMSD consists of two functional units, namely Regulatory Services (RS) and Trading Services (TS). The latter is also known as the Electrical and Mechanical Services Trading Fund (EMSTF).

The RS team is responsible for regulating E&M and gas safety, railway safety and the promotion of energy efficiency in the community. It comprises a number of divisions which specialise in diverse areas to carry out law enforcement and public education on the above-mentioned regulatory areas. In addition, the RS team is in charge of monitoring the technical performance and development plans of the electricity supply companies based on the Scheme of Control Agreements, as well as providing professional advice and technical expertise to the Government on various safety and environmental initiatives.

To maintain the facility operational efficiency of government departments and public bodies, the TS team provides them with professional services on E&M, electronic engineering and building services. Our client departments range from the airport, hospitals, schools, disciplined services, transport and highways, port and harbour, government offices and law court buildings, to various public recreational and leisure facilities.

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在2017/18年度,我們繼續以提升市民生活質素為目標,各同事用心服務,努力不懈,與業界及持份者同行協作,在多方面都取得顯著成績。我們建立了網上創新科技協作平台,讓初創企業的研發項目可與公共服務要求作配對。該平台已支持多個項目成果「落地」,並在機電署總部大樓試用。

同事多年來竭誠服務之餘,亦主動尋求 突破。我們的工作亦廣獲認同,包括與 其他政府部門合作,確保多條新鐵路綫 順利開通,而獲2017年公務員優質服務 獎勵計劃頒發最高榮譽的「部門合作獎」 金獎;我們的能源效益推廣工作,亦在 2017年獲美國能源工程師學會頒發兩個 亞太區的主要節能獎項。

本報告詳列我們在2017/18年度的工作表現,雖然各方面都取得長足發展,但我們不會因此而自滿。我們會更加努力,為建設香港成為智慧型及可持續發展的城市作出貢獻。

薛永恒太平紳士 Mr Sit Wing-hang, Alfred, JP

機電工程署署長 機電工程營運基金總經理 Director of Electrical and Mechanical Services General Manager, Electrical and Mechanical Services Trading Fund In 2017/18, improving people's quality of life remained our goal, and our colleagues served with dedication and worked hard in collaboration with the trade and stakeholders, with significant results in various aspects achieved. We established the E&M InnoPortal, which enables matching between the research projects of start-ups and the demands from public services. The portal has supported the commercialisation of a number of projects, which are under trial in our headquarters building.

Besides years of dedicated service, our colleagues have always tried to seek breakthroughs. Our work has also received wide recognition. Among other things, we won the Gold Prize in the Partnership Award, the highest accolade, under the Civil Service Outstanding Service Award Scheme 2017 for our collaboration with other departments in ensuring the smooth opening of several new railway lines. Our efforts in promoting energy efficiency also earned us two major energy saving awards in the Asia-Pacific region from the Association of Energy Engineers in 2017.

This report details our performance in 2017/18. Though remarkable progress has been made on different fronts, we will not be complacent. We will step up efforts and contribute to building Hong Kong into a smart and sustainable city.



署長的話 MESSAGE FROM THE DIRECTOR

署長的話 Message from the Director

用心服務 同心共創 跨越七十載

我們的規管服務一向把香港的機電安全維持在高水平。有賴同事同心協力,推行規管及安全教育工作, 市民對香港的機電安全保持信心,得享安心。我們的 能源效益工作也有相當進展,勢頭甚佳。

我們的營運服務,即機電工程營運基金(營運基金),在2017/18年度的業績持續穩健,總收入為65.11億港元,收入回報率達9.6%。年內,營運基金除了成立創新辦公室,以促進本港在創新及科技方面的發展外,在提升客戶服務方面也完成了不少重要項目。此外,我們已完成營運基金的組織架構檢討,使我們的資源得以更有效地配合客戶需要。營運基金將於2018年10月進行重組。

2018年是機電署成立70周年,而「用心服務 同心共創」的誌慶活動標語,正好形容我們數十年來服務市民的精神。行政長官在2017年《施政報告》中提出,面對環球激烈競爭,政府必須加強在人才和創新方面的政策力度,以確保經濟長足發展,我們亦準備就緒,全力配合有關政策。

面對轉變、培育人才和領先創新,是營運基金在不斷 變遷的環境中保持競爭力的要素,這亦是部門文化 的核心。我們會繼續利用這項優勢,與各持份者同行 為本港機電行業共創新猷。

機電署作為規管者及推廣者

我們的規管服務團隊,主要職責是執行相關法例和規則,同時也向業界及市民宣傳機電安全和能源效益的訊息,因此也是推廣者。對觸犯法例者,我們必會果斷檢控執法,但長遠來說,社會要享有較高水平的機電安全和能源效益,進行公眾教育是更有效的方法。

以舊式升降機為例,現時舊式升降機的優化工作落 後於這類機電資產的老化速度,是一大挑戰。更複雜 的是,部分舊式升降機的擁有人即使知道其升降機 有需要進行優化工程,也往往由於種種困難而無法 開展工作。因此,政府必須採取更主動的方式去協助 這類擁有人,並加快舊式升降機的優化工作。我們已 準備就緒,就這些措施提供專業支援。

CARING, SERVING AND CO-CREATING FOR 70 YEARS AND BEYOND

Our Regulatory Services has maintained a high level of E&M safety in Hong Kong. Thanks to the concerted effort of our colleagues in regulatory and safety promotion work, the public has remained confident in Hong Kong's E&M safety and enjoyed peace of mind. Our energy efficiency work has also progressed with good momentum.

Our Trading Services, the Electrical and Mechanical Services Trading Fund (EMSTF), had another year of steady performance, with total revenue of HK\$6,511 million and return on revenue of 9.6%. During the year, apart from setting up an Inno-Office to facilitate innovation and technology development in Hong Kong, EMSTF also achieved further milestones in customer service enhancement. We also completed an organisational review to better align our resources with client needs. The new EMSTF structure will take effect in October 2018.

The year 2018 marks the 70th anniversary of EMSD. Our spirit to serve the public over the decades is well summarised in the slogan of "Caring Serving Co-creating" for the 70th anniversary celebrations. We are also fully geared up in support of the Chief Executive's call in her 2017 Policy Address to step up the Government's policy effort in the areas of talent and innovation to ensure sustainable economic development in the face of keen global competition.

Indeed, our track records show that embracing change, nurturing talent and pioneering innovation to stay competitive in changing times have become the key elements of our departmental culture. We shall continue to leverage on this strength to co-create with our stakeholders new successes for the E&M sector in Hong Kong.

EMSD AS A REGULATOR AND PROMOTER

Our Regulatory Services primarily acts as a regulator in enforcing the relevant laws and regulations. But we also serve as a promoter in publicising E&M safety and energy efficiency messages as well as good practices to the trades and the public. Although we shall not hesitate to prosecute offenders, public education is more effective in achieving a higher level of E&M safety and energy efficiency in the long run.

Take aged lifts as an example. One aspect of the aged-lift-challenge is that the lift modernisation rate cannot catch up with the speed at which these E&M assets are ageing. This becomes even more complicated when some owners of aged lifts with needs are hindered by various practical difficulties from undertaking modernisation works. Therefore, the Government has to be more proactive in assisting these owners and to expediting lift modernisation. We stand ready to provide professional support to such measures, as and when required.

我們也採取相似的做法處理電氣和氣體安全工作。 近年電氣和氣體事故雖然持續處於低水平,但我們 也必須預備應對電氣及氣體裝置資產未來老化所帶 來的潛在挑戰。我們有責任監察市場趨勢,並以創意 制訂宏觀措施,應對和減低老化機電資產的潛在安 全風險。

我們在鐵路發展方面擔當獨特角色。香港擁有全球最佳鐵路網絡之一,這也是香港在世界基建發展排名中屢佔榜首或有極高排名的主要原因。事實上,我們對鐵路營運機構的規管越嚴格、採用的標準越高,營運機構的安全表現就會越好,公眾信心也會因此而加強。香港下一輪的新鐵路發展,將會落實「鐵路發展策略 2014」,屆時鐵路營運更安全,公眾信心更大,都會有利新鐵路發展。

通過我們就廣深港高鐵香港段參與的安全規管工作, 我們與內地的鐵路規管單位和營運機構都建立了良 好的工作關係,機電署因而有優勢發揮促成者的角 色,讓國際社會,包括國際鐵路安全議會等機構,更 深入了解內地高鐵的發展。我們更能藉此協助本港 的鐵路業界,向內地的高鐵取經學習,從而受惠。

新增角色: 促成者

我們的能源效益事務處,成立初期主要是推廣各項 自願性質的能源效益計劃,近年已發展為全面的規 管者,根據多項能源效益條例及規例進行執法工作。 能源效益事務處目前一方面向業界及公眾持續發揮 主要推廣者的角色,推動各項有先驅作用的能源效 益計劃及約章,與此同時,也協助電氣產品進口商和 零售商、物業發展商、物業管理公司和屋宇裝備專業 人士,符合其規管範疇內的各項能源效益條例和實 務守則,發揮促成者的角色。

此外,能源效益事務處繼成功實施啟德發展區區域 供冷系統後,更由擔當規管者和推廣者,進而兼任本 港區域供冷設施促成者的角色,大規模節省能源和 減少碳排放。我們期望未來能為新的發展區,陸續實 施其他區域供冷系統項目。 A similar approach applies in electrical and gas safety. Whilst incident numbers in recent years have remained low, we must anticipate the potential challenge of ageing electrical and gas installation assets in the future. It is our duty to monitor carefully the market trends and use creative ideas to formulate macro measures that address and mitigate the potential safety risks arising from ageing E&M assets in these two sectors.

We play a unique role in railway development, too. Hong Kong has one of the best railway networks in the world, and this is a key factor in our top or near-top position in various world infrastructure rankings. In this regard, the more stringent and objective are the standards we apply in regulating the railway operator, the more robust its safety performance will be, which in turn will further boost public confidence. Both of these outcomes will be beneficial to the next phase of the city's new railway development under the Railway Development Strategy 2014.

Through our involvement in regulating the safety of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL), we have forged a good working relationship with the Mainland's railway regulator and operator. The EMSD is thus well positioned to facilitate a better understanding of the Mainland's achievements in high-speed rail development among the international community, including the International Railway Safety Council. We can help our local railway industry learn and benefit from the Mainland's high-speed rail experience, too.

ADDED ROLE AS A FACILITATOR

Starting as a promoter of various voluntary energy efficiency schemes, our Energy Efficiency Office (EEO) has developed in recent years into a full-fledged regulator enforcing various energy efficiency laws and regulations. It also continues to be a leading promoter of many pioneering energy efficiency schemes and charters for the trade and the public, while facilitating the compliance of electrical appliance importers and retailers, property developers, property management companies and building services professionals with various energy efficiency laws and codes of practice under its purview.

With its successful implementation of the District Cooling System (DCS) at Kai Tak Development, the EEO has progressed beyond being a regulator and promoter to also become a facilitator of district cooling in Hong Kong to save energy and reduce emissions on a major scale. We look forward to implementing other DCS projects in new development areas.

署長的話

Message from the Director

創新與數碼化 帶領業界精益求精

營運基金客戶或已留意到我們近期在促進創科協作方面的措施,包括成立創新辦公室,作為營運基金與外界進行合作項目的主要聯絡點,以及推出網上創新科技協作平台,為客戶部門與機電初創企業進行配對。這些措施主要旨在為客戶創造更大價值,並為機電業界樹立良好榜樣。

此外,我們開放機電署總部大樓,供選定初創企業試 行其試驗項目。我們在報告年度內更首次舉辦「創新 科技日」,讓初創企業展示其創科項目,以及與客戶 部門和大學討論日後的協作機會。同時,我們繼續協 助客戶為機電系統進行數碼化工程,例如加裝綜合 樓宇管理系統,以加強對有關系統的監控,從而改善 運作表現。我們也協助客戶把老化的設備更換為更 具能源效益的型號,以及採用重新校驗作業模式。

營運基金現正編製一套全面的機電裝置維修保養指南,以詳細記錄我們為主要機電設施提供妥善維修保養服務的知識、經驗及建議做法。我們作為全港規模最大且服務最全面的機電維修保養服務提供者,有責任協助客戶部門延長其機電資產的壽命和提升表現。再者,我們認為營運基金有責任帶領機電業向前發展,訂定高水平的作業標準供業界參考,使其客戶(即私營機構)能受惠於高質素的機電維修保養服務。

上述工作除了涉及採用更佳的維修保養方法外,還 涉及科技應用、員工培訓、維修記錄管理等範疇。營 運基金會成為「示範單位」,向機電業界示範妥善的維修保養方法和所需的培訓工作,從而改變本港機 電資產的維修保養和管理文化。我們會朝着這個方向繼續努力。

環球視野

雖然我們以服務香港為己任,但也必須具備環球視野,方能與國際最新發展接軌。作為政府部門,我們亦致力向海外的對口機構學習,藉此提升我們的服務,並使香港能在國際論壇上發聲。

同樣,機電署在「一帶一路」和粵港澳大灣區等內地 政策中亦發揮作用。舉例來說,營運基金可把握大灣 區所產生的機遇,促進本港機電行業在創科方面的 交流和人才培訓工作。我們已為業界舉辦大灣區考 察團,探討與當地的協作機會。

INNOVATION, DIGITISATION AND TAKING THE LEAD

EMSTF clients might have noticed our recent initiatives in facilitating I&T collaboration, primarily to deliver greater value to our clients and set a good example for the E&M trade. These initiatives include, for example, setting up an Inno-Office to act as the key contact point for EMSTF's collaborative efforts with outside parties, and launching an E&M InnoPortal to match client departments with E&M start-ups.

Besides, we have made available our headquarters building to selected start-ups for trial run of their pilot projects. During the reporting year, the first Innovative Technology Day was held to facilitate showcasing of I&T projects by start-ups and their discussions with client departments and universities about future collaboration opportunities. Meanwhile, we have continued to help clients digitise their E&M systems, such as the installation of integrated Building Management Systems, for better control and monitoring to enhance operational performance. We have also helped clients replace ageing equipment with more energy-efficient models and adopt retro-commissioning practices.

The EMSTF is working on a comprehensive maintenance guide on E&M installations to document in detail our knowledge, experience and recommended practices in the proper maintenance of key E&M facilities. As Hong Kong's largest E&M maintenance service provider that offers the most comprehensive service, we are responsible for helping our client departments to enhance the lifespan and performance of their E&M assets. Furthermore, we believe it is EMSTF's duty to lead and set high standards for the reference of the E&M trade, so that its customers, i.e. the private sector, can benefit from quality E&M maintenance.

In addition to adopting better maintenance practices, the above work will also involve technology application, staff training, maintenance record management and so on. The EMSTF will be the showcase to demonstrate to the E&M trade proper maintenance practices and the training required. This would mean transforming the city's E&M asset maintenance and management culture. We shall continue to press ahead towards this direction.

GLOBAL VISION

While our duty is to serve Hong Kong, our vision must be global so that we stay connected with the latest international developments. As a government department, we also seek to learn from our overseas counterparts to enhance our services and make Hong Kong's voice heard in international forums.

By the same token, EMSD has a role to play in Mainland initiatives such as the Belt and Road Initiative and the Guangdong-Hong Kong-Macao Greater Bay Area. For instance, EMSTF can leverage on the opportunities arising from the Greater Bay Area to facilitate exchange in I&T and manpower training of our E&M sector. We have already organised study tours for the E&M trade to the Greater Bay Area to explore collaboration opportunities there.

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此外,機電署正計劃於2018年稍後與廣州市工貿技師學院簽訂合作備忘錄。學院以優秀的技術培訓聞名,而簽訂備忘錄的目的,是加強雙方在製冷和空調技術方面的人才培訓和交流,有助我們招募更多年輕人才入行,提升香港機電業的專業水平。我們相信,未來與大灣區其他機構的合作機遇將會日益增加。

積極求變 聯繫互通

我們可憑藉機電署建立的紮實基礎,為社會帶來改變。我們希望在全體員工共同努力下,把創新思維融入工作,協助我們積極求變。

我們也非常重視與大灣區等地的客戶及其他持份者, 包括個人和機構,保持聯繫互通。這既能讓我們學習 其良好作業方式,提升服務水平,也能加深他們對香 港機電行業的認識,使雙方能探討促進業務增長和 改善運作的合作機會。

致謝

機電署取得以上成就,實有賴客戶、業界和全體員工的鼎力支持。各承辦商、專業團體、學者、培訓機構及其他持份者對我們的工作也貢獻良多,謹此衷心致謝。我們亦感謝市民大眾、傳媒、立法會議員及其他意見領袖,不時對我們作出監察和提供意見。

最後,我們衷心感謝各決策局和政府部門的大力支持。我們會不忘初心,牢記服務香港市民的宗旨。

我們期盼未來繼續與各持份者合作,共創豐碩成果。

客文文

薛永恒 機電工程署署長 機電工程營運基金總經理

The EMSD is also planning to sign a memorandum of co-operation later in 2018 with the Guangzhou Industry and Trade Technician College, which is known for its excellent technical training, to enhance manpower training and mutual exchanges in refrigeration and air-conditioning techniques. This will support our efforts in recruiting more young talents and raising the professional standards of Hong Kong's E&M industry. We believe there will be increasing collaboration with other entities in the Greater Bay Area in future.

MAKE A DIFFERENCE, STAY CONNECTED

The EMSD has a strong foundation on which we can make a difference for the society. With the combined effort of all staff, we hope that an innovative mindset can be integrated in our work to help us make a difference.

It is equally important that we recognise the importance of staying connected with clients and other stakeholders, both individuals and organisations, such as those in the Greater Bay Area. This not only enables us to learn from their good practices and improve our services, but also enhances their understanding of Hong Kong's E&M sector, allowing both sides to explore collaboration opportunities for business growth and operational improvement.

GRATITUDE

The achievements of EMSD owe much to the strong support from our clients, the trades and all of our staff. Our heartfelt thanks go to our contractors, professional bodies, academics, training institutes and other stakeholders, who have made valuable contributions to our work. We would also like to express our gratitude to the public, media, Legislative Councillors and other opinion leaders for their constant vigilance and feedback.

Last but not least, we are grateful to the various policy bureaux and government departments for their strong support. We shall always bear in mind our primary aim of serving the people of Hong Kong.

We look forward to many more decades of fruitful collaboration with our stakeholders in the years to come.

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Sit Wing-hang, Alfred

Director of Electrical and Mechanical Services General Manager, Electrical and Mechanical Services Trading Fund



規管服務業務概覽

REGULATORY SERVICES ACHIEVEMENTS OVERVIEW

抱負VISION

我們的抱負,是要成為促使香港在機電安全及善用能源 方面,都達到世界首要都會水平的政府機構。

Our vision is to be the government agency that makes Hong Kong a top-ranking city in E&M safety and in the utilisation of energy.

使命MISSION

我們的使命,是確保機電及能源科技均以安全、可靠、經 濟及環保的方式得以善用,並藉此促進社會的安全及提升 生活質素。

Our mission is to enhance the safety and the quality of life of our community by ensuring that E&M and energy technologies are harnessed in a safe, reliable, economical and environment-friendly manner.

信念VALUES

- 專業才能 EXPERTISE
- 誠信 INTEGRITY
- 可靠 RELIABILITY
- 承擔 COMMITMENT



高層管理人員 Senior Management



Mr Pang Yiu-hung, JP

助理署長/氣體及一般法例 Assistant Director/Gas and General Legislation **Mr Chan Chau-fat**

助理署長/鐵路 Assistant Director/Railways

薛永恒太平紳士 Mr Sit Wing-hang, Alfred, JP

機電工程署署長 Director of Electrical and Mechanical Services

- 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
- 梁建民博士、太平紳士出任助理署長/鐵路至2017年5月26日 Dr Leung Kin-man, JP was Assistant Director/Railways up to 26 May 2017

賴漢忠太平紳士 Mr Lai Hon-chung, Harry, JP

副署長/規管服務 Deputy Director/Regulatory Services

潘國英先生 Mr Poon Kwok-ying, Raymond

Departmental Accountant

助理署長/電力及能源效益 Assistant Director/Electricity and Energy Efficiency

- 薛永恒太平紳士出任副署長/規管服務至2017年6月30日
- Mr Sit Wing-hang, Alfred, JP was Deputy Director/Regulatory Services up to 30 June 2017
- 何家儀女士出任部門會計師至2017年11月7日
 - Ms Ho Ka-yee, Camilla was Departmental Accountant up to 7 November 2017
 - 賴漢忠太平紳士出任助理署長/電力及能源效益至2017年11月14日 Mr Lai Hon-chung, Harry, JP was Assistant Director/Electricity and Energy Efficiency up to 14 November 2017

Departmental Secretary



規管服務在2017/18年度持續發展,而我們在擔當「促成者」和「推廣者」的角色方面, 也有新的挑戰。

The year 2017/18 was marked by continuous development of Regulatory Services and new ventures in our role as a facilitator and promoter.

國際視野

年內主要成就之一,是成功主辦了兩個大型國際會議,再次彰顯了規管服務的國際視野。首先是2017年10月於香港舉辦國際鐵路安全議會年度會議,這個國際性高層會議為來自全球的運輸部長、鐵路規管者、政策制訂者、鐵路營運商、學者、專家及鐵路行業商界領袖提供交流平台,商討有關鐵路發展及安全議題。

今次會議由機電署與香港鐵路有限公司(港鐵公司) 合辦,吸引了來自40個國家/地區的300多位代表出 席,當中包括國家鐵路局和中國鐵路總公司的領導, 兩者皆首次參與國際鐵路安全議會的年度會議。是 次會議更讓海外與會者有機會透過與國內官員面談 和考察廣州與香港的高鐵設施,親身體驗中國在發 展高鐵方面的成就。對於能藉此機會增進與會者對 內地鐵路建設的認識,我們感到非常榮幸。

年內,我們也為2018年5月在香港舉行的亞太經濟合作組織(亞太經合組織)能源工作組第55次會議進行籌備工作,並藉此盛事再次展現香港在能源效益和節能方面的領導地位。今次會議由環境局與機電署合辦,已是第三次在香港舉行,邀得亞太經合組織19個經濟體中約180多位代表參與。我們更在會議期間,特別舉辦了「年輕人與亞太經合組織專家交流會」工作坊,讓50多位年輕人與海外及本地專家探討區內能源效益與節能的前景。

舉辦這類大型國際會議,既符合我們作為規管者和推廣者的角色,也有其他裨益,例如籌備過程能提高同事的國際視野和辦事能力,有助提升我們的規管服務水平。國際會議也讓本地業界親身接觸內地及海外的政策制訂者、專家和業界領袖,拓闊眼界。同時,引入國際元素也配合我們的策略方向之一,即「建立一支有創意、高效、專業、用心服務社羣和具國際視野的團隊」。我們會繼續朝這方向努力。

GLOBAL VISION

A major achievement was our hosting of two successful international conferences which once again highlighted our global vision. The first one was the 27th annual conference of the International Railway Safety Council (IRSC) held in Hong Kong in October 2017, a high-level international forum for transport ministers, railway regulators, policy makers, railway operators, academics, experts and business leaders from the railway industry around the world to discuss railway development and safety matters.

Jointly organised by EMSD and the Mass Transit Railway Corporation (MTRC), the event attracted over 300 delegates from 40 countries/regions, including the heads of National Railway Administration (NRA) of China and the China Railway (CR), both participating in the IRSC annual conference for the first time. The occasion was an excellent opportunity for overseas delegates to experience first-hand China's achievements in high speed rail development via face-to-face discussions and visits to high speed rail facilities both in Guangzhou and Hong Kong. We are delighted to have played a role in raising participants' awareness of railway construction in the Mainland.

By the same token, our preparatory work in 2017/18 for hosting the 55th Asia-Pacific Economic Cooperation (APEC) Energy Working Group (EWG) and associated meetings, which took place in May 2018 in Hong Kong, marked another initiative by EMSD to position Hong Kong as a leading city in energy efficiency and conservation. Jointly organised by the Environment Bureau and EMSD, this was the third EWG meeting hosted in Hong Kong, attracting the participation of over 180 delegates from 19 APEC economies, with a special "Youth Dialogue with APEC Experts" workshop organised for more than 50 young participants to explore with overseas and local experts the future of energy efficiency and conservation in the region.

Hosting major international conferences is not only consistent with our role as a regulator and promoter, but also brings about other benefits. The process builds our team's global vision and capabilities which will in turn raise the quality of our regulatory services. The conferences also put the local trades in direct contact with Mainland and overseas policy makers, experts and business leaders, allowing trade members to broaden their horizons. Bringing an international dimension to our work also aligns with one of our strategic directions, which is to build an innovative, efficient and professional team with global vision to serve the community with heart. We shall continue to strive towards this direction.



服務回顧 Operations Review

執行法例

執行法例是規管服務的核心工作,我們必須強調,對任何不遵守法規的人士或機構,我們必會毫不猶疑採取執法行動。例如2017年3月導致18名乘客受傷的朗豪坊自動梯事故,我們經深入調查後,已對有關人士採取檢控行動及紀律處分,包括負責該自動梯維修保養的註冊承辦商、註冊工程師及註冊工人。

機電資產老化將是未來一大挑戰,從年內發生的數宗舊式升降機事故便可見一斑。有見及此,我們已加緊巡查,並提醒業界必須嚴格遵守相關的實務守則及最佳的行業做法。

除了進行日常的規管工作外,我們現在更主動與市 民及業界同行協作,以促進社會安全和提升市民的 生活質素,例如推動市民加快舊式升降機的優化工 作,以及尋求可行的創新科技,藉以提升整體的機電 安全水平。這方面的工作,使我們在規管者的身分之 外,額外增添了促成者的角色。我們相信,只要能夠 令市民大眾更安全安心,多走這一步是非常值得的。

2017/18年度是鐵路團隊的豐收年。我們與另外五個政府部門攜手合作,以「為新鐵路把關」這參賽項目贏得2017年公務員優質服務獎勵計劃的「部門合作獎」金獎。這獎項表揚這支跨部門團隊過往幾年以專業服務和合作精神,順利開通了三條新鐵路綫的出色表現。

廣州 — 深圳 — 香港高速鐵路(香港段)計劃於2018 年9月開通,規管服務的鐵路團隊於年內就高鐵香港 段的機電設施和系統,進行了大量安全測試及巡查。 由於新綫涉及一連串關乎過境安排的雙互認可及合 作,我們一直與國家鐵路局及中國鐵路總公司保持 緊密聯繫,以確定具體落實細節。我們也為本港相關 的政府部門安排了為期一星期的培訓,讓同事熟習 高鐵的管理工作。

內地鐵路當局有豐富的高鐵管理經驗,香港可借鑒 學習,因此我們與有關機構的聯繫十分重要。當廣深 港高鐵香港段全面投入運作後,我們預計與國家鐵 路局及中國鐵路總公司會保持緊密的工作聯繫。

LEGISLATION ENFORCEMENT

Legislation enforcement is the core of Regulatory Services. It must be emphasised that we will not hesitate to take enforcement action against any parties that fail to comply with laws and regulations. For example, subsequent to our thorough investigations into the Langham Place escalator incident which took place in March 2017 and injured 18 passengers, both prosecution actions and disciplinary proceedings were taken against the concerned parties, including the Registered Contractor, the Registered Engineer and the Registered Worker responsible for the maintenance of the escalator concerned.

Ageing E&M assets will be a challenge in the years ahead, as highlighted by a number of incidents that occurred on aged lifts during the year. In this regard, we have stepped up inspections and reminded the trade to adhere strictly to the relevant codes of practice and best trade practices.

In addition to our ongoing regulatory work, we are also proactively connecting and collaborating with the general public and the trades to enhance the safety and quality of life of the community, such as facilitating the public to expedite the modernisation of aged lifts and exploring feasible innovative technology to enhance the overall E&M safety level. This would take us one step further to become a facilitator on top of our role as a regulator. We believe that this extra step will be well worth taking if the public could, as a result, enjoy a higher level of safety and peace of mind.

2017/18 was a fruitful year for the railways team. Our joint submission with five other government departments, titled "Safeguard our New Railway Lines", has won the Gold Prize in the Partnership Award under the Civil Service Outstanding Service Award Scheme 2017, recognising the joint team's professional services and collaborative efforts in the past few years which enabled the safe and smooth opening of three new railway lines.

During the year, the railways team also conducted numerous safety tests and inspections for the E&M installations and systems of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL), which is scheduled to open in September 2018. In view of a series of reciprocal recognition and collaboration efforts related to cross-border arrangements, we have been in close liaison with NRA and CR to iron out specific details. We have also arranged a one-week training for relevant government departments in Hong Kong to familiarise colleagues with the management of XRL.

Our connection with the Mainland's railway authorities is important as they have rich experience in high speed railway management which Hong Kong can learn from. Upon full commissioning of the Hong Kong Section of XRL, we anticipate to maintain a close working relationship with both NRA and CR.

節能行動

能源效益方面,2017/18年度的重大進展是立法會通過了《能源效益(產品標籤)條例》修訂建議,讓我們順利推行「強制性能源效益標籤計劃」第三階段,進一步擴大計劃的涵蓋範圍。與此同時,該計劃第四階段的可行性研究工作正在進行中,目的是把更多具有龐大節能潛力的產品(例如LED燈和住宅氣體用具)納入計劃的涵蓋範圍。

年內,我們繼續為業界和市民大眾舉辦推動節能的活動,例如「全民節能」運動和「慳神有計大比拼 2017」計劃,並新增了相關的比賽組別,參加人數也 持續上升。

至於啟德發展區區域供冷系統,已由2017年6月開始 向機電署總部供應冷凍水,使我們的空調系統能以 更節能的方式運作。由於啟德發展區未來的供冷需 求會不斷增長,我們已計劃在區內多建一個區域供 冷廠房,以滿足未來需要。啟德區域供冷系統於2025 年完全落成後,將會接駁至啟德發展區內約50幢建 築物。我們亦正研究在古洞北和東涌新市鎮擴展區 等新發展區推行區域供冷系統的可行性。

提倡更廣泛使用可再生能源,是政府的重點措施之一。我們會就2017年推出的「可再生能源上網電價」 (「上網電價」)計劃,向環境局提供技術支援,例如出版技術指引、提供工程承辦商名冊、操作電話熱線和推出相關網站等。

推動創科

作為本港機電安全及能源效益的規管者、促成者和 推廣者,我們必須掌握新科技的發展趨勢,並作出有 效回應。以氣體安全為例,近年家用空調機漸多採用 較環保但易燃的雪種,而有關的安全問題也涉及多 個部門的規管範圍,因此我們於早前成立了「跨部門 工作小組」,以理順相關工作。

我們成功協助空調機進口商、供應商和業界人士,採取相應的配合行動,促進他們以安全手法處理含易燃雪種的空調機,並加強對公眾的宣傳工作,讓市民認識使用含易燃雪種空調機的安全須知。

ENERGY SAVING INITIATIVES

On the energy efficiency front, a key development in 2017/18 was the Legislative Council's passing of the proposed amendments to the Energy Efficiency (Labelling of Products) Ordinance. This enabled us to introduce the third phase of Mandatory Energy Efficiency Labelling Scheme (MEELS), further extending the coverage of MEELS. Meanwhile, the feasibility study on the fourth phase of MEELS is now underway, which is aimed to incorporate more products with good potential for significant energy saving (such as LED lights and domestic gas appliances) into the Scheme

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During the year, we organised for the trade and members of the public various activities to drive energy saving, such as the "Energy Saving for All" campaign and the Energy Saving Championship Scheme 2017, with new competition categories added and a continuous rise in the number of participants.

As for the District Cooling System (DCS) at Kai Tak Development (KTD), it began supplying chilled water to EMSD Headquarters in June 2017 to enable the operation of our air-conditioning system in a more energy-efficient manner. As there will be increasing cooling demand at KTD in the coming years, we are already planning for an additional DCS plant at Kai Tak to meet future needs. Upon full completion in 2025, the DCS at Kai Tak will be connected to about 50 buildings in KTD. Furthermore, we are currently studying the feasibility of implementing DCS in new development areas, such as Kwu Tung North and the Tung Chung New Town Extension Area. etc.

Promoting wider adoption of renewable energy is one of the Government's priorities. We shall provide technical support to the Environment Bureau on the Renewable Energy Feed-in Tariff (FiT) Scheme launched in 2017, such as publishing technical guidelines, maintaining a register of contractors, operating the hotline and launching a related website, etc.

PROMOTING INNOVATION AND TECHNOLOGY

As the regulator, facilitator and promoter of E&M safety and energy efficiency, we must be alert to the development trends of new technology and respond effectively. Take gas safety as an example, the increasing use of household airconditioners with eco-friendly but flammable refrigerants has prompted us to set up an Inter-departmental Working Group earlier to address the issue that touches on the regulatory regimes of various government departments.

We have successfully facilitated importers, suppliers and trade practitioners of air-conditioners to take complementary actions in handling household air-conditioners with flammable refrigerants in a safe manner. We have also stepped up our publicity efforts to raise public awareness of the safe use of air-conditioners containing such refrigerants.

服務回顧 Operations Review

鑑於網上購物越來越流行,規管服務的電氣產品安全團隊更積極調查和跟進在電子商貿平台出售的電氣產品。另一方面,2016年發生的牛頭角迷你倉大火,促使我們考慮收緊迷你倉這類場所的規管要求,例如考慮強制規定所有迷你倉必須就其固定電力裝置進行定期檢測。以上僅列舉幾個例子,説明我們經常主動探討新科技帶來的挑戰,以及觀察社會大眾不斷變化的需要,從而採取適切的行動回應。

因此,規管服務不單大力支持營運基金最近成立的創新辦公室,協助初創企業發展創科項目,更會主動尋求和應用各種創科方案,包括與大學合作,以進一步加強規管工作的成效。舉例來說,在巡查舊式升降機的制動器方面,如有一套網上方案供機電署同事對全港註冊承辦商和註冊工人的維修保養時間表進行實時監察,對於加強我們進行相關的抽查工作會有很大幫助。我們會與創新辦公室聯繫,尋找可提供類似方案的企業。

社區參與

機電署總部大樓近年進行了不少改善工程,這是我們接觸社區人士和市民大眾的整體措施之一。此外,我們的教育徑也不斷進行優化,以更方便和互動的方式,讓市民大眾了解我們在機電安全、能源效益和為社會提供機電服務方面的各項工作,而年內的里程碑之一,就是經全面翻新並已於2018年3月重開的「機電・夢飛翔」展覽館。我們近年也在總部大樓外的露天廣場,添置了很多可再生能源設施和綠化景物,讓途人能享用這公共空間。我們會繼續優化露天廣場,加添更多綠色元素,為社會起示範作用。

我們亦積極透過多項活動主動接觸市民,推廣各項機電安全和能源效益的信息。在2018年1月,我們聯同十多間業界機構舉辦「機電嘉年華2018」,藉着有趣的攤位遊戲和表演,吸引了12000多名市民參與。我們亦透過定期舉辦的外展講座及「機電青少年大使」計劃,向學童及青少年作重點推廣,為社會培育更多具機電知識及對此感興趣的人才。

Likewise, as online shopping is increasingly popular, our electrical product safety team has investigated and followed up on the electrical products sold on e-commerce platforms in a more proactive manner. On a separate note, the Ngau Tau Kok mini storage fire in 2016 has prompted us to consider tightening the regulatory control of mini storage premises, such as requiring all mini storage facilities to carry out periodic testing of their fixed electrical installations. These are just a few examples of our proactive approach in exploring and responding to the challenge of new technology and the community's evolving needs.

Therefore, Regulatory Services not only support the work of EMSTF's newly established Inno-Office to assist I&T development by start-ups, but also actively source and deploy I&T solutions, including collaboration with universities, to further improve the effectiveness of our regulatory work. One possible area is our inspection of brake maintenance in aged lifts, which will benefit from having an online I&T solution that enables our colleagues to monitor real-time the maintenance schedule of Registered Contractors and Registered Workers so that we can carry out prompt random checks. We shall liaise with the Inno-Office to identify enterprises that can provide such a solution.

COMMUNITY ENGAGEMENT

Improvement works at our headquarters in recent years were part of our overall effort to reach out to our neighbourhood and the community. The revamped EMSD Gallery, re-opened in March 2018, was a milestone in our ongoing work to make our Education Path more accessible and interactive, so that the public can learn more about our work on E&M safety, energy efficiency and our E&M services provided to the community. Likewise, we have added many renewable energy and green features to our piazza in recent years, making it a truly enjoyable public space for our neighbours and passers-by. We will continue to enrich our piazza with more green elements to set a good example for the community.

We also get in touch with the community in a proactive manner to promote E&M safety and energy efficiency through a series of events. In January 2018, we jointly organised the E&M Carnival 2018 with more than ten organisations from the trade. The interesting game booths and shows attracted the participation of over 12 000 people. We also focused our publicity efforts on students and young people through regular outreach talks and the E&M Young Ambassador Programme, with a view to nurturing more talents with E&M knowledge and interest in this area.

016 / 017

來年重點

踏進2018/19年度,我們將忙於籌備高鐵香港段及沙中綫大圍至紅磡段的開通工作。升降機及自動梯安全工作則會是另一重點,政府如就加快優化舊式升降機的措施作出最後決定,我們必會全力提供支援。此外,我們正以啟德發展區區域供冷系統及其他能源驗為基礎,計劃實施新的區域供冷系統及其他能源效益基建項目,亦會積極推廣可再生能源發電設施的安裝及應用。在氣體安全方面,我們會密切監察空調機易燃雪種的發展及應用,以確保安全。為準備未來日益增加的工作,規管服務團隊已由原來的300多人增至400多人。我們必會盡力善用珍貴的人力資源。

致謝

作為規管者,我們一直與機電業界緊密聯繫,確保他們符合法例,同時也與市民大眾保持溝通,提高其安全及節能意識。隨着我們加強作為「促成者」和「推廣者」的角色,我們與其他持份者的聯繫,例如創科界的初創企業以至總部大樓的鄰近社區等,將會更形重要。

對於所有持份者、機電署員工、決策局及其他政府部門的大力支持,我們謹此衷心致謝。我們也感謝出任各諮詢及技術委員會成員的學者、專業團體、非政府機構、培訓機構及業界組織,給予我們的鼎力支持。至於內地和海外的規管機構,更慷慨分享其知識與經驗,讓我們在年內克服了多個挑戰,實在獲益良多。

有賴大家繼續支持,我們期待為香港再創佳績。

HIGHLIGHTS NEXT YEAR

Stepping into 2018/19, we shall be busy with final preparations for the opening of the Hong Kong Section of XRL and the Tai Wai to Hung Hom Section of the Shatin to Central Link. Lift and escalator safety is another priority, and we stand ready to provide support when the Government has made its final decision on measures to accelerate the modernisation of aged lifts. Riding on the success of the DCS in KTD, we are planning to implement new DCS and related energy efficiency infrastructure projects, and will also actively promote the installation and application of renewable energy generating facilities. As for gas safety, we will closely monitor the development and application of flammable refrigerants in air-conditioning units to ensure safety. Indeed, the Regulatory Services team has expanded from about 300 to over 400 staff in anticipation of a growing portfolio. We shall make the best use of our valuable human capital.

GRATITUDE AND APPRECIATION

As a regulator, we have always worked closely with the E&M trades to ensure their compliance with the law, and communicated with the public to enhance their awareness of safety and energy efficiency. As we step up our role as a "facilitator" and "promoter", our contact with other stakeholders such as I&T start-ups and our neighbouring community have become increasingly important too.

We wish to express our sincere gratitude to all stakeholders, EMSD staff, policy bureaux and fellow government departments for their valuable support. Our appreciation also goes to those academics, professional bodies, NGOs, training institutes and trade organisations serving on our advisory and technical committees that have given us unfailing support. Our Mainland and overseas counterparts have been most generous in sharing their knowledge and experience, without which we could not have overcome so many challenges in the past year.

With your continued support, we look forward to striving further for the benefit of Hong Kong.

杨星玉

賴漢忠 機電工程署副署長/規管服務

Lai Hon-chung, HarryDeputy Director/Regulatory Services, EMSD

年度亮點 Highlights of the Year

2015年版全面落實

《電力(線路)規例工作守則》(2015年版)經過兩年寬 限期後於2017年11月30日全面生效。此經修訂的工 作守則包含各項修訂及新要求,並利用更多圖片説 明各項工序,有助電業人員易於理解,以符合《電力 (線路)規例》的法定要求。

為煤氣用戶進一步拓展定期 安全檢查計劃

我們擴大了香港中華煤氣有限公司專為「長期沒接受 安全檢查服務」的煤氣用戶而設的定期安全檢查計 劃,增至涵蓋香港房屋委員會轄下共40個公共屋邨 及香港房屋協會轄下共13個屋邨,分別為3200及 660個這類用戶提供定期安全檢查服務。

《電力(線路)規例工作守則》 COP FOR THE ELECTRICITY (WIRING) **REGULATIONS (2015 EDITION)EFFECTIVE**

The Code of Practice for the Electricity (Wiring) Regulations 2015 Edition came into full effect on 30 November 2017, after a two-year grace period. With various amendments and new requirements, this revised CoP, with more visual depictions of various working processes for easy understanding, can help the electrical trade meet the legal requirements of the Electricity (Wiring) Regulations.

REGULAR SAFETY INSPECTION PROGRAMME FURTHER EXTENDED FOR **TOWNGAS USERS**

We extended the scope of the Regular Safety Inspection programme of the Hong Kong and China Gas Company Limited for Long-Time-No-Service town gas account holders to a total of 40 public housing estates under the Hong Kong Housing Authority and 13 housing estates under the Hong Kong Housing Society, reaching 3 200 and 660 such accounts respectively.

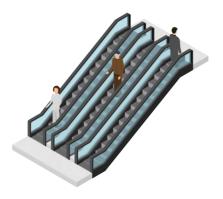


《升降機工程及自動梯工程 實務守則》修訂版出版

《升降機工程及自動梯工程實務守則》修訂版已於 2018年8月出版, 並將由2019年2月1日起全面生效。 此新版本包含有關升降機和自動梯工程的最新安全 及工作要求,以及為舊式升降機而設的新短期措施, 目的是提高升降機及自動梯工程的安全水平及質素。

ISSUE OF THE REVISED COP FOR LIFT **WORKS AND ESCALATOR WORKS**

The revised version of the Code of Practice for Lift Works and Escalator Works was issued in August 2018 and will take effect on 1 February 2019. This new edition contains the latest safety and working requirements for lift and escalator works, as well as new short-term measures for aged lifts, aiming to raise the safety and quality of lift and escalator works.





在香港主辦第27屆國際鐵路 安全議會年度會議

我們於2017年10月與港鐵公司攜手,成功舉辦了第 27屆國際鐵路安全議會年度會議,主題為「鐵路安全 一 創新及協作」。是次鐵路界的國際盛事,吸引了來 自40個國家/地區超過300名代表參加,包括內地的 高層官員。

HOSTING THE 27TH IRSC ANNUAL CONFERENCE IN HONG KONG

The EMSD hosted the highly successful 27th International Railway Safety Council (IRSC) annual conference in Hong Kong in October 2017, jointly with the MTR Corporation, with the theme "Railway Safety — Innovation and Collaboration". An important international event for the railway industry, the conference attracted over 300 delegates from 40 countries/regions, including senior officials from the Mainland.



主辦亞太經合組織能源工作 小組第55次會議和相關會議

有關亞太經合組織能源工作小組第55次會議和相關 會議的籌備工作,也是年內重點之一。這是香港在 APEC成立28年來第三次主辦有關會議,並吸引了來 自19個亞太經合組織成員經濟體的180多名代表參 加。是次會議再次彰顯香港這城市在推動能源效益 及有關議題上的國際領先地位。

HOSTING THE 55TH APEC ENERGY WORKING GROUP MEETINGS AND ASSOCIATED MEETINGS

Preparations for hosting the 55th Asia-Pacific Economic Cooperation (APEC) Energy Working Group and Associated Meetings was a highlight of the year. This was the third time that the meetings had been hosted in Hong Kong over the past 28 years since APEC was founded, with over 180 representatives from 19 APEC member economies attending, once again putting Hong Kong on the map as a leading city in energy efficiency and related issues.

重要數字 Key Figures

電業工程人員 ELECTRICAL WORKERS



註冊電業工程人員 REGISTERED ELECTRICAL

2016 **76 739**名 Nos.

78 304 名 Nos.

電業承辦商 ELECTRICAL CONTRACTORS



註冊電業承辦商 REGISTERED ELECTRICAL **CONTRACTORS**

11 676 ^間NOS.

12 169 Nos.

升降機及自動梯 LIFTS AND ESCALATORS



升降機 LIFTS

64 930 ^部Nos.

66 735 Nos.



9 156 部 Nos.

9 502 ^部Nos.

燃氣供應 GAS SUPPLY



2016 **3 614** 公里

3 636 A里 KM

車輛維修技工 VEHICLE MECHANICS



註冊車輛維修技工 REGISTERED VEHICLE **MECHANICS**

2016 **8 384** 名 Nos.

9359

車輛維修工場 VEHICLE MAINTENANCE WORKSHOPS



2016 **1 675** 問 Nos.

1 942 Nos.

鐵路 RAILWAY



1 893 百萬 MILLION

1945

保障公眾安全 Protecting Public Safety

電力安全 ELECTRICAL SAFETY

事故減少

電力安全於2017年持續改善,歸功於固定電力裝置、 家用電器及供電電纜事故的相關數字下降。電力事 故總數由2016年的151宗,減至2017年的130宗。

儘管香港目前正進行多項基建工程,供電電纜事故 數目仍能降至34宗,創歷年新低,我們感到十分欣 慰。相信是我們增加巡查,確保工作各方人員都遵守 規定,以及整年舉辦多場安全簡介會及業界培訓計 割的成果。

經過兩年寬限期後,《電力(線路)規例工作守則》 (2015年版)於2017年11月30日全面生效。修訂後的 《工作守則》,可謂香港7萬多名註冊電業工程人員的 「聖經」,主要修訂包括把守則涵蓋範圍擴展至高壓裝 置、使用可上鎖開關掣新規定、審視工作許可證制度 等。我們亦把「帶電工作風險評估報告」簡化至清單 列表格式,方便前線工作人員填寫。

總括而言,此經修訂的《工作守則》就如何達到《電力 (線路)規例》的法定要求提供實用技術指引,並利用 更多圖片説明各項工序。

為提升電業界對此《工作守則》的認知,我們透過業 界研討會及經驗分享會,廣泛宣傳其條文。我們亦透 過電子通訊和一系列短片,講解可上鎖的斷路器和 工作許可證制度等。這些宣傳活動均廣受業界好評。

Fewer Incidents

Electrical safety continued to improve in 2017 with a decline in incident figures related to fixed electrical installations, household appliances and electricity supply lines. The total number of electrical incidents in 2017 was 130, down from 151 in 2016

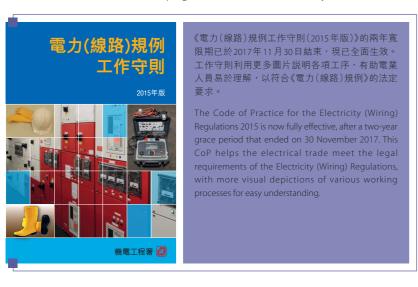
We are especially pleased to note that the number of electricity supply line incidents has decreased to 34, a record low, despite the many infrastructure projects currently underway in Hong Kong. This was the result of the greater number of inspections carried out to ensure all working parties were complying with the regulations, as well as our year-round safety briefings and trade education programmes.

《電力(線路)規例工作守則》(2015年版) CoP for the Electricity (Wiring) Regulations (2015 Edition) Implemented

The Code of Practice for the Electricity (Wiring) Regulations (2015 Edition) came into full effect on 30 November 2017, after a two-year grace period. Key amendments to this revised CoP, known as the "bible" among more than 70 000 registered electrical workers in Hong Kong, included the extension of coverage to high voltage installations, new requirements on the use of lockable switches and a review of the permit-to-work system, among others. The Risk Assessment Report on Live Work was also simplified with a more user-friendly checklist format for frontline workers.

Overall, the revised CoP gives useful general technical guidelines on how to meet the legal requirements of the Electricity (Wiring) Regulations, and contains more visual depictions of various working processes.

To raise the electrical trade's awareness of this CoP, we carried out extensive briefings on its provisions via trade seminars and experience sharing sessions as well as e-newsletters and a series of videos covering issues such as the proper use of lockable circuit breakers and the permit-to-work system. All of these publicity programmes were well-received by the trade.



審視《有關在供電電纜附近工作的實務守 則》

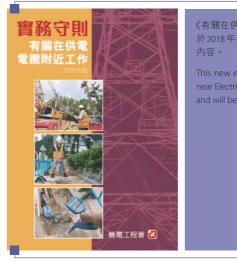
我們於年內持續改善其他實務守則。早前,我們與業 界成立了工作小組,審視及更新《有關在供電電纜附 近工作的實務守則》,諮詢不同持份者的意見,如政 府部門、公用事業機構、行業協會、工會及專業團 體。收納了業界意見的《實務守則》新版本已於2018 年6月29日在憲報刊登,而正式實施前設有六個月寬 限期。

《實務守則》新版本有助進一步降低事故發生的風險, 以及減低因在地下電纜附近挖掘及在架空電纜附近 使用起重機或吊機而造成停電的可能性。我們將制 訂宣傳計劃,多管齊下,透過簡介會、研討會及講座 等,向業界推廣《實務守則》新版本。

Review of the Code of Practice (CoP) on Working near **Electricity Supply Lines**

Our work to enhance other codes of practice continued during the year. Earlier, we had set up a working group with the trade to review and update the CoP on Working Near Electricity Supply Lines, with comments solicited from different stakeholders such as government departments, utility companies, trade associations, workers' unions and professional organisations. The new edition of the CoP, incorporating the trade's input, was published in the Gazette on 29 June 2018 and has a six-month grace period before implementation.

The new edition of the CoP will further reduce the risk of incidents and power outages arising from excavations near underground electricity cables, as well as cranes or hoists operating near overhead electricity lines. Publicity plans will be formulated to promote this new edition to the trade via multiple channels, such as briefings, seminars and talks.



《有關在供電電纜附近工作的實務守則》更新版已 於2018年6月刊憲,我們並將向業界廣泛宣傳其

near Electricity Supply Lines was gazetted in June 2018 and will be widely publicised to the trade.

有關迷你倉巡查的最新資訊

2016年6月牛頭角迷你倉火災後,我們除了協助消防 處調查外,亦於年內繼續加強巡查香港的迷你倉,並 就違規個案發出改善通知書。巡查範圍包括所有不 設自動灑水系統的迷你倉,以及抽查三成設有自動 灑水系統的迷你倉。

鑑於迷你倉的潛在危險,我們計劃更嚴謹地進行規 管,包括引入法定年度檢查。另一個可行措施,是要 求迷你倉每五年進行固定電力裝置定期測試。目前, 大部分迷你倉電力裝置的允許負載量均低於100安 培,未須依法例要求進行定期測試,我們現正就此事 官諮詢業界。

Mini-Storage Inspections Update

After the fire at a mini-storage in Ngau Tau Kok in June 2016, we continued to step up inspections of mini-storages in Hong Kong throughout the year and issue improvement notices in cases of non-compliance, while also assisting in investigations led by the Fire Services Department. The inspections covered all mini storages without automatic sprinkler systems and 30% of mini storages with automatic sprinkler systems.

In view of the potential hazards posed by mini-storages, we intend to regulate the market more closely, including the introduction of statutory annual inspections. Another possible measure would be to require all mini-storages to carry out Periodic Testing (WR2) of fixed electrical installations once every five years, a requirement from which most mini-storages are currently exempted as the approved loading of their electrical installations is usually below 100 A. Consultation with the trade on these matters is currently underway.

保障公眾安全 Protecting Public Safety



機電署及國家質檢總局根據合作協議雙方代表於2017年 6月假香港舉行第14次年度會議。

EMSD and AQSIQ representatives at the 14th annual general meeting of their cooperation arrangement, held in Hong

會議期間,我們在九龍灣舉辦聯合公開展覽,提高公眾 對兩家機構過去14年來,在推廣機電安全和能源效益方 面工作的認識。

A joint public exhibition was concurrently held in Kowloon Bay to raise public awareness of the two organisations' work in promoting E&M safety and energy efficiency in the past 14 years.



與內地通力合作十四載

2017年是機電署與國家質量監督檢驗檢疫總局(國家質檢總局)合作以促進內地和香港的機電安全及能源效益的14周年。在2018年4月,國家質檢總局有關部門已納入海關總署,我們將與新伙伴繼續通力合作。

在2017年6月,我們與國家質檢總局於香港舉行第14次年度會議。藉此機會,我們於九龍灣舉行聯合公開展覽,以提高公眾對機電署與國家質檢總局多年來在推廣機電安全和能源效益方面工作的認識。與此同時,我們亦籌辦了業界聚會,以促進香港製造商、批發商和零售商之間的聯繫,以及提供直接溝通的機會。

目標為本的方針

我們秉持以目標為本為方針與持份者溝通。我們就經修訂的《電力(線路)規例工作守則》為「問題」承辦商及其工作人員提供指引,以發揮最大影響力。有關該工作守則的新影片,早在實施前已上載到機電署網站及社交平台供公眾觀看。我們的同事更舉辦超過40場研討會及出訪工地300多次,向承辦商及前線工作人員講解該工作守則的要點。

14 Years of Cooperation with the Mainland

The year 2017 marked the 14th anniversary of EMSD's cooperation with the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) to promote E&M safety and energy efficiency in both the Mainland and Hong Kong. In April 2018, the related departments of AQSIQ have since been integrated into the General Administration of Customs, which will become our new partner for continued cooperation.

We held the 14th annual general meeting with AQSIQ in June 2017 in Hong Kong. Taking this opportunity, a joint public exhibition was held in Kowloon Bay to raise public awareness of the two organisations' work in promoting E&M safety and energy efficiency over the years. Concurrently, we organised a trade gathering for manufacturers, wholesalers and retailers in Hong Kong to facilitate their networking and direct communication.

Target Oriented Approach

In line with our targeted approach of communicating with stakeholders, we have been engaging with "problem" contractors and their workers to provide guidance on the revised Code of Practice on Electricity (Wiring) Regulations in order to maximise its impact. A new video on the Code of Practice was uploaded, well before its implementation date, onto our website and social media for public viewing. Our team also held over 40 seminars and made more than 300 work site visits to brief contractors and frontline workers on its key points.

在電氣產品安全方面,我們於2018年3月與電氣產品 業界舉行了半年一次的定期會議,參與者包括來自 六個行業協會的製造商、批發商和零售商,讓它們就 電氣產品安全、法定要求、宣傳工作和事故預防等事 宜直接溝通。這個新聯合平台,對於討論電氣產品行 業不同界別之間有共同利益或關注的議題,實十分 有用。

每年一度的「傑出註冊電業工程人員選舉」亦有所改善。我們採納了業界的意見,在現有的「個人組」以外增設了「團隊組」,從而鼓勵更多註冊電業工程人員參加。頒獎典禮於2017年11月「年度電力規例研討會」上舉行,得獎的個人和團隊來自機電業不同範疇,他們致力實踐安全守則,卓越表現得到肯定。

大亞灣應變計劃演習

在2017年12月,我們參與了由保安局帶領多個政府 部門進行為期兩天的跨部門大亞灣應變計劃演習。 是次演習充分檢視了我們對大亞灣核電廠狀況的認 知,以及我們處理嚴重核事故的應變能力。 With regard to electrical product safety, in March 2018 we held our biannual regular meeting with the electrical product trade, including manufacturers, wholesalers and retailers from six trade associations, to engage them directly on matters of electrical product safety, statutory requirements, publicity work and incident prevention. This new joint platform is particularly valuable for discussing issues of common interest or concern across different sectors of the electrical product trade.

Our annual Outstanding Registered Electrical Worker Awards Scheme was also enhanced. Based on the feedback from the trade, we added a new "Team" category to the 2017 Awards Scheme as a supplement to the existing "Individual" category in order to encourage more participation by Registered Electrical Workers. The awards presentation ceremony was held in November 2017 at the Annual Technical Seminar, during which winning individuals and teams from different disciplines of the electrical industry were recognised for their excellent performance and safe practices.

Drill Exercise on the Daya Bay Contingency Plan

In December 2017, we participated in a two-day inter-departmental drill of the Daya Bay Contingency Plan, which was led by the Security Bureau and involved many government departments. The drill critically examined our knowledge of nuclear power plant conditions at Daya Bay and our response capabilities in dealing with serious nuclear incidents.





保障公眾安全 Protecting Public Safety

未來一年

2018/19年度將開展多項活動以加強電力安全,包括 落實獲業界支持的迷你倉法定年度檢查。另外,我們 將會透過通訊和海報、新的電視宣傳片,以及帶有一 至兩個簡明訊息的一分鐘有聲/無聲動畫短片,向業 界及公眾傳達電氣安全(包括產品安全)的訊息。這 些宣傳資訊亦會經由傳統媒體、社交媒體、外展計劃 及機電署的網站發放,把訊息傳遞給目標受眾。

在電氣產品安全方面,我們將檢視《電氣產品(安全) 規例指南》,加深供應商對有關規定的了解,並更新 相關產品的安全標準。新一輪以零售商為主要對象 的外展活動將於來年展開,會特別針對電氣產品安 全意識較薄弱的小商戶。此外,我們還計劃製作新動 畫影片,提醒消費者在網上購買電氣產品時,要注意 額定電壓和插頭規格,尤其是非源自香港的產品。

最後,我們將會為政府與兩電最近達成的《管制計劃協議》中的上網電價計劃提供支援,透過向公眾提供 有關註冊可再生能源發電設施的指引,鼓勵社區參 與生產可再生能源。

The Year Ahead

Various initiatives to enhance electrical safety will kick off in 2018/19, including the implementation of statutory annual inspections of all mini storage facilities, a measure supported by the mini storage trade. We will also communicate our messages on electrical safety (including product safety) to the trade and the public through newsletters and posters, new TV announcements and one-minute short animation videos carrying one or two concise messages, with or without sound. All will be delivered via traditional media, social media, outreach programmes and EMSD's own website to reach specific audiences.

With regard to electrical product safety, we will review the Guidance Notes for the Electrical Products (Safety) Regulation to help suppliers understand more clearly the regulation's requirements and to update the relevant product safety standards. A new round of outreach activities aimed at retailers, especially owners of small shops whose awareness of electrical product safety might be lower, will be held in the year ahead. Also planned is the production of a new animation video advising consumers to heed rated voltage and plug information when purchasing electrical products online, particularly products not originating in Hong Kong.

Finally, we will provide support for the recently announced FiT scheme that forms part of the new Scheme of Control Agreements between the Government and the two power companies by providing guidelines to the public on how to register their renewable energy generating facilities to encourage the community to participate in generating renewable energy.



服務社區,樹立榜樣

Serving the Community and Setting an Example

身為機電署第一位女性電氣督察,電力法例部的陸婉明鼓勵年輕女性加入部門的「技術員訓練計劃」,在事業上全面發揮潛能。

EMSD's first female Electrical Inspector, Luk Yuen-ming of the Electrical Legislation Division, encourages young women to join the Department's Technician Training Scheme to realise their full potential in career development.



人稱「師妹」的陸婉明,是機電署首位女性獲委任為 電氣督察。

1996年,機電署的「學徒訓練計劃」只有兩名女性,師妹就是其中之一。儘管少數男同事最初對女性從事技術工作感到抗拒,但她堅毅不屈,更證明女性也能在這行業取得成功。

她的首個任務是負責整個赤鱲角香港國際機場的配電系統。其後,她更通過考試,成為機電署首位助理電氣督察,並於2017年晉升為電氣督察。

目前,她於機電署總部電力法例部工作。在這崗位, 她負責巡查樓宇,確保它們符合電力安全要求。

婉明説:「我從服務提供者變成執法者,需要好好調整心態,幸好我為人豁達開朗,很快便能適應過來。」

當被問及她對年輕女性選擇職業時有何建議,她說: 「即使學業成績一般,女性仍可在職業生涯發揮所 長。隨着更多女性加入職場,機電署給予女性的支援 亦越來越多。」

她也很感謝機電署給予的機會。在回顧其職業生涯時,她衷心感激一直幫助自己的資深同事。「我的一位上司趙師兄曾對我說:『不要忘記身邊有很多同事一直幫助你』。這句話時刻提醒我,不要因得着而自負,亦成為我在遇到困難時的鼓勵和支持。」

Known as *si mui* (junior colleague) to her workmates, Luk Yuen-ming is the first woman at EMSD to be appointed as an Electrical Inspector.

In 1996, she was just one of two women to enter the EMSD Apprentice Training Scheme. Despite some initial resistance from a few male colleagues, she went on to prove that women could succeed in a technical career.

Her first assignment was working on the power distribution system for the entire airfield of the Hong Kong International Airport located at Chek Lap Kok. After passing an exam, she then became the first Assistant Electrical Inspector at EMSD and was promoted to Electrical Inspector in 2017.

Today, she works in the Electricity Legislation Division at EMSD Headquarters. In this role, she inspects buildings to ensure they comply with electrical safety requirements.

"I went from being a service provider to a law enforcer," said Yuen-ming. "That required a big change in mentality but fortunately I am an open-minded person and can adapt quite fast."

When asked what advice she might have for girls choosing a career path, she said that "even if you don't excel academically, you can still be productive in your career. As more women enter the workforce, EMSD has offered increasing support to women."

She is also grateful to EMSD for the opportunities she has been given. Looking back on her career, she truly appreciates her senior colleagues who have helped her along the way. "One of my superiors, Mr Chiu, once told me not to forget there are many supportive colleagues around me. His words are a constant reminder to me that I should not be conceited for what I have achieved, and have been an encouragement and support to me in difficult times."

保障公眾安全 Protecting Public Safety

氣體安全 GAS SAFETY

氣體事故宗數下降

氣體事故總計宗數由2016年的275宗下降至2017年的236宗。當中因煤氣用戶喉管銹蝕及氣體用具故障導致的事故宗數,由2016年的54宗下降至2017年的32宗。石油氣事故宗數亦維持在低位。

事故宗數大幅下降,有賴我們與香港中華煤氣有限公司(「煤氣公司」),以及其他公共機構,包括香港房屋委員會(「房委會」)和香港房屋協會(「房協」)的通力合作,攜手推出多項氣體安全宣傳活動及定期安全檢查計劃。

擴大屋邨氣體裝置定期安全檢查的覆蓋範圍

2017/18年度,我們擴大了煤氣公司定期安全檢查計劃的覆蓋範圍,涵蓋在過去五年因工作人員未能進屋為煤氣裝置進行檢查及保養,而「長期沒接受安全檢查服務」的屋邨煤氣用戶。

煤氣公司與房委會合作,擴大其定期安全檢查計劃至「長期沒接受安全檢查服務」的用戶,由2016/17年度的八個房委會轄下的公共屋邨,增加至2017/18年度合共40個,覆蓋約3200個有關用戶。在計劃實施後,截至2018年第一季,就這些「長期沒接受安全檢查服務」的屋邨煤氣用戶而言,整體成功入屋率約為77%,成績令人鼓舞。

Drop in Gas Incidents

The total number of gas incidents in 2017 was 236, down from 275 in 2016. Of these, incidents caused by town gas installation pipe corrosion and appliance faults dropped from 54 in 2016 to 32 in 2017. The number of LPG incidents also remained low

The considerable reduction in incident numbers can be largely attributed to the efforts of our Gas Standards Office and co-operation with the Hong Kong and China Gas Company Limited (HKCG), as well as other public bodies such as the Hong Kong Housing Authority (HKHA) and the Hong Kong Housing Society (HKHS) in various joint gas safety promotions and regular safety inspection programmes.

Greater RSI Coverage in Housing Estates

In 2017/18, we extended the scope of HKCG's Regular Safety Inspection (RSI) programme to Long-Time-No-Service (LTNS) town gas account holders at housing estates, whose town gas installations had not been inspected or maintained within the previous five years due to difficulties in accessing the households.

Working with HKHA, HKCG extended its RSI programme to LTNS accounts from 8 HKHA public housing estates in 2016/17 to a total of 40 HKHA public housing estates in 2017/18, covering approximately 3 200 LTNS households. As of the first quarter of 2018, an encouraging RSI access rate of about 77% was achieved among LTNS accounts in these estates.



機電署員工於青衣某公共屋邨進行氣體安全巡查。該屋邨也是煤氣公司為「長期沒接受安全檢查服務」用戶・進行定期安全檢查計劃的屋城之一。

EMSD staff inspecting gas safety at a public housing estate in Tsing Yi covered by HKCG's Regular Safety Inspection programme for Long-Time-No-Service town gas account holders





煤氣公司員工為公共屋邨煤氣管道進行安全檢查,機電署同事在旁監 87.

HKCG staff performing safety inspection on a town gas pipe at a public housing estate, with EMSD staff monitoring the process.



檢查煤氣錶狀況,是定期安全檢查的工作之一,以確保公眾氣體安全。 Checking the condition of gas meters is part of the Regular Safety Inspection

經優化的定期安全檢查計劃,於2017年在房協轄下的13個屋苑推行,覆蓋約660個「長期沒接受安全檢查服務」用戶。計劃已於2018年第一季完成,成功入屋率約為86%。

年內,我們與市區重建局(「市建局」)合作,敦促老化樓宇的業主更換嚴重銹蝕的煤氣喉管。此外,我們亦為業界舉行氣體安全講座,並探訪工地,為前線工作人員講解正確工序,避免損壞氣體喉管,進一步減低因第三方造成氣體喉管事故的數字。

為進一步提高《避免氣體喉管構成危險工作守則》的成效,我們在考慮業界的最新發展、從過往氣體事故所汲取的經驗,以及業界最新的工作標準及慣例後,就上述《工作守則》作出修訂。經修訂的《工作守則》將於2018年刊憲後生效,並會更名為《避免損壞氣體喉管工作守則》第二版,與新修訂《工作守則》相關的宣傳工作將陸續展開。

A similar enhanced RSI programme was conducted for about 660 LTNS town gas users at 13 housing estates under HKHS in 2017, which was also completed in the first quarter of 2018. An RSI access rate of around 86% of LTNS accounts was achieved at these estates.

During the year, we also collaborated with the Urban Renewal Authority (URA) to urge owners of ageing buildings to replace heavily corroded town gas pipes. Furthermore, we conducted gas safety talks for trade associations and visited the worksites of frontline workers to offer guidance on the proper procedures for avoiding damage to gas pipes and further reduce the number of third-party damage incidents to gas pipes.

To further enhance the effectiveness of the Code of Practice (CoP) on Avoiding Danger from Gas Pipes, we have updated the CoP to take into account the latest developments in the trade, experiences learned from past gas incidents, up-to-date work standards and prevalent trade practices. The revised CoP will take effect upon its gazetting in 2018 and will be retitled as the CoP on Avoidance of Damage to Gas Pipes (2nd Edition). Associated publicity work for the revised CoP will be implemented accordingly.

保障公眾安全 Protecting Public Safety

社區的石油氣安全

我們於2017/18年度完成了「瓶裝石油氣分銷商安全 表現評級計劃」的全面檢討,尤其在評分及評估準則 方面,期望能更準確地反映分銷商在安全方面的表 現。該計劃由氣體標準事務處及所有註冊氣體供應 公司於2016年年初推出,旨在鼓勵瓶裝石油氣分銷 商提升安全水平。

經修訂的評級計劃以更有效的機制,避免分銷商向用户過量供應及經由未獲授權的途經銷售瓶裝石油氣。該計劃亦積極推廣使用電腦化的銷售記錄系統,以確保記錄可靠和可以追查。我們已公布2017年根據經修訂計劃進行的評級結果。在166間參與的分銷商中,36間的安全表現獲評最高級別「金級」,而獲評為「銀級」及「銅級」的分銷商則分別有13間及117間。

LPG Safety in the Community

A comprehensive review of the LPG Cylinder Distributor Safety Performance Recognition Scheme was completed in 2017/18, particularly with regard to the marking and assessment criteria, to more accurately reflect distributors' safety performance. Introduced by the Gas Standards Office and all Registered Gas Supply Companies in early 2016, the Scheme aims to encourage safer practices among LPG cylinder distributors.

The enhanced Scheme has a strengthened mechanism for discouraging the oversupply of LPG cylinders to customers and monitoring the unauthorised sale of LPG cylinders. It also promotes the use of computerised sales record systems to ensure the reliability and traceability of records. Rating results for the year 2017 under the enhanced Scheme have been announced. Among the 166 participating distributors, 36 attained a gold rating, the highest level of safety performance, while 13 and 117 received silver and bronze ratings respectively.





針對公眾日漸關注壓縮氣瓶被棄置於公眾地方及垃圾收集站的問題,我們聯同另外三個政府部門,製作了一系列宣傳單張及海報,教育公眾及相關行業如何妥善處理用完的壓縮氣瓶。宣傳刊物將於2018年派發,同時亦會展開宣傳活動。

2017年的另一新舉措是首次批准在墟市活動中使用 卡式石油氣爐翻熱熟食,透過跨部門合作為墟市籌 辦者帶來便利。我們與食物環境衞生署和消防處合 作,就草擬有關設立墟市的申請指引,提供氣體安全 相關的資料。

我們亦於家庭傭工的熱門聚腳點進行巡查,並加以宣傳教育,提醒他們安全和正確使用卡式煮食爐。

In response to increasing public concern about compressed gas cylinders abandoned at public places and refuse collection points, we have produced a series of leaflets and posters with three other government departments to educate the public and relevant business sectors on the proper handling of used gas cylinders. The publicity materials will be distributed in 2018, along with a promotional drive.

Another new development in 2017 was that LPG cassette cookers were allowed to be used for reheating pre-cooked food at bazaar events for the first time, as part of a joint departmental effort to facilitate the work of bazaar organisers. Working with the Food and Environmental Hygiene Department and the Fire Services Department (FSD), we provided gas safety related input for the drafting of application guidelines on the setting up of these bazaars.

We also conducted inspections and promotional activities at gathering places popular with domestic helpers to alert them on the safe and proper use of cassette cookers.

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食肆及商業樓宇的氣體安全

繼土瓜灣的一間餐廳於2017年7月發生氣體爆炸後, 我們加強了對食肆的巡查及宣傳工作。年內,我們到 訪了18區內逾2000間食肆,向餐廳東主及員工宣傳 氣體安全。我們亦在職業安全健康局舉辦的研討會 上,就商業樓宇的氣體安全事宜進行講座,與來自飲 食業的參加者分享安全資訊。

至於其他商業樓宇,例如商場及美食廣場,我們正研究聯同多個本身為煤氣用戶的商戶及店鋪東主,舉辦氣體安全及定期安全檢查推廣活動的可能性,藉以提高商業場所的氣體安全水平,使商戶/店鋪東主、顧客及市民受惠。

石油氣車輛安全新動向

《石油氣車輛燃料缸保安封條系統工作守則》於2017 年1月3日生效後,我們為所有設有內置燃料泵的石油氣車輛燃料缸貼上紅色或藍色保安封條的措施, 有助提高石油氣車輛車主、司機及技工的安全意識, 以合法途徑更換石油氣燃料缸配件。這項措施旨在 阻遏非法更換石油氣燃料缸配件,在年內順利推行。

年內,我們的氣體標準事務處就擬於新款混合動力 的士使用的石油氣燃料缸的審批過程,主動與一間 大型石油氣車輛進口商進行多次磋商,要求進口商 推出額外風險緩解措施,把非法更換石油氣燃料缸 配件的可能性減至最低。

2017/18年度,我們為「第六類勝任人士」舉辦了多場講座,簡介有關「第六類勝任人士」證明卡及證書的最新續期機制,以及維修石油氣車輛的最新要求。我們藉此機會,邀請職業訓練局及石油氣車輛進口商,與「第六類勝任人士」分享石油氣車輛的操作及保養知識。我們亦為行業協會、車輛進口商及政府部門舉辦分享會,以便他們就有關石油氣車輛的操作及保養議題交流看法和意見。

Gas Safety in Restaurants and Commercial Premises

Following the gas explosion at a restaurant in To Kwa Wan in July 2017, we have stepped up gas safety inspections and publicity work for restaurants. During the year, our teams visited more than 2 000 restaurants in 18 districts to promote gas safety practices to restaurant owners and their staff. We also delivered talks on gas safety in commercial premises at seminars organised by the Occupational Safety and Health Council, sharing safety information with participants from the catering industry.

For other commercial premises such as shopping malls and food courts, we have been exploring the possibility of organising joint gas safety and RSI promotions by aligning a substantial number of store/shop owners who are town gas users. This will enhance gas safety in commercial venues for the benefit of store/shop owners, their customers and the public.

LPG Vehicle Safety Update

Further to our introduction of the Code of Practice on Security Label System for LPG Vehicle Fuel Tanks that took effect on 3 January 2017, the exercise to affix red and blue security labels on LPG vehicle fuel tanks equipped with internal fuel pumps has enhanced safety awareness among LPG vehicle owners, drivers and mechanics and encouraged them to replace the fuel tank components lawfully. This exercise, which aims to deter unlawful replacement of fuel tank components, ran smoothly during the year.

During the year, the Gas Standards Office proactively liaised with a major LPG vehicle importer on the vetting process for the approval of LPG fuel tanks to be used in a new hybrid taxi. We urged the importer to implement additional risk mitigation measures that would minimise the possibility of unlawful replacement of fuel tank components.

In 2017/18, we organised seminars for Competent Persons (Class 6) (CP6) to inform them of the latest renewal mechanism for CP6 identification cards and certificates, as well as the latest requirements for servicing LPG vehicles. Taking this opportunity, we invited the Vocational Training Council (VTC) and LPG vehicle importers to share their knowledge on the operation and maintenance of LPG vehicles with CP6. We also held sharing sessions for trade associations, importers and government departments to facilitate exchange of views and feedback on the operation and maintenance issues associated with LPG vehicles.

保障公眾安全 Protecting Public Safety

車輛維修技工及車輛維修工場自願註冊計劃

車輛維修技工及車輛維修工場自願註冊計劃均繼續 獲業界大力支持。至今,已有逾九成的車輛維修技工 及七成的維修工場註冊。這兩項註冊計劃每三年續 期一次,年內取得穩步進展,註冊數字維持穩定水 平。

我們的專責大使團隊全年定期探訪香港各區的車輛 維修技工及工場,以推廣有關計劃及協助他們註冊 和續期。

我們亦於機電署總部大樓設置示範車輛維修工場,展示在該計劃下成為註冊車輛維修工場的所需設備和設施,對於小型車輛維修工場的東主尤其有用。是次活動吸引了逾400位參加者,包括職業訓練局的學生及澳門某車輛維修行業協會的成員。

Voluntary Registration Schemes of Vehicle Mechanics and Vehicle Maintenance Workshops

Both the Voluntary Registration Scheme for Vehicle Mechanics (VRSVM) and the Voluntary Registration Scheme for Vehicle Maintenance Workshops (VRSVMW) continued to enjoy strong support from the trade. To date, over 90% of vehicle mechanics have registered for the VRSVM while about 70% of vehicle maintenance workshops have registered for the VRSVMW. The three-year registration renewal cycle of both Schemes made steady progress during the year, with registration numbers maintained at a steady level.

Our dedicated team of ambassadors made regular visits throughout the year to vehicle mechanics and vehicle maintenance workshops across Hong Kong to promote the Schemes and assist them with registration and renewal matters.

We also established a sample vehicle maintenance workshop at the EMSD Headquarters Building to demonstrate the set-up and facilities required for registration as a vehicle maintenance workshop under the VRSVMW. This was particularly useful to owners of smaller vehicle maintenance workshops. The event attracted over 400 participants, including students from the VTC and members of a vehicle maintenance trade association in Macau.



車輛維修業界人士與我們的同事在機電署總部設置的示範車輛維修工場前合照,共享歡樂一刻。示範工場的目的,是向業界展示在「車輛維修工場自願註冊計劃」下所要求的工場設備和設施。

Members of the vehicle maintenance trade sharing a happy moment with our colleagues in front of a sample vehicle maintenance workshop at EMSD Headquarters. The sample workshop demonstrates the set-up and facilities required for registration under the Voluntary Registration Scheme for Vehicle Maintenance Workshops



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圖為環保署於大嶼山小蠔灣的 首個有機資源回收中心,能將 廚餘轉化為生物氣作發電用 途,預計於2018年年底開始運 作。我們與環保署及其承辦商 緊密合作,審查有關氣體裝 置,為風險評估作出建議及監 督項目。

The first Organic Resources Recovery Centre of EPD at Siu Ho Wan, Lantau Island, which converts food waste into biogas for power generation, is scheduled to be commissioned in late 2018. We collaborated with EPD and its contractor to vet the gas installations, advise on the risk assessment and monitor the project.

轉廢為能過程中的氣體安全

過去數年,氣體標準事務處一直支援煤氣公司、其他政府部門及公立醫院應用堆填氣體。為了減低堆填區所棄置的廚餘,以及達至政府於2022年減廢四成的目標,環境保護署(環保署)已展開有機資源回收中心項目,把廚餘轉化為生物氣用作發電用途。大嶼山小蠔灣的首個有機資源回收中心將於2018年年底投入運作。回收中心每天能處理從工商業源頭產生的200噸廚餘。這些廚餘透過生物過程產生堆肥及生物氣,以發電予回收中心使用及輸出至電網。

為確保有機資源回收中心符合氣體安全規例,以及 其生物氣處理設備運作暢順,我們與環保署及其承 辦商緊密合作,審查有關氣體裝置、批核負責操作和 保養的合資格人士、就風險評估提出建議,以及監察 項目。我們亦就粉嶺及元朗的有機資源回收中心的 各項技術及環境研究提供意見,確保工程能如期竣 工。

Gas Safety in the Waste-to-Energy Process

Over the past few years, the Gas Standards Office has been supporting the HKCG, other government departments and public hospitals in the utilisation of landfill gas. To reduce food waste disposal at the landfill sites and meet the Government's reduction target of 40% by 2022, the Environmental Protection Department (EPD) has initiated the Organic Resources Recovery Centres (ORRCs) project to convert food waste into biogas for power generation. The first ORRC at Siu Ho Wan, Lantau Island is scheduled to be commissioned in late 2018. The plant is capable of treating 200 tonnes of food waste per day from commercial and industrial sources. The food waste undergoes biological processes to produce compost and biogas, which is then used to generate electricity for in-situ plant operations and the power grid.

To ensure statutory compliance with gas safety regulations and the smooth running of the biogas processing equipment at the ORRC, we collaborated closely with the EPD and its contractor to vet the gas installations, approve competent persons for its operation and maintenance, advise on the risk assessment and monitor the project. We also provided advice on various technical and environmental studies to ensure the timely completion of the ORRCs in Fanling and Yuen Long.

保障公眾安全 Protecting Public Safety

監察易燃雪種

為監察環保易燃雪種的發展及實施情況而設立的跨部門工作小組,於年內的工作進度良好。工作小組由機電署擔當領導角色,成員包括消防處及勞工處。工作小組已向空調和製冷業界、物業管理公司、地產發展商協會及其他持份者發出聯署信函,建議不應於工商樓宇的大型空調系統中使用易燃雪種。信中亦建議易燃雪種不應用於空調系統的更新工程。

我們亦協助使用輕度易燃雪種的家用冷氣製造商或 進口商,確保其產品在市場上安全使用。我們就警告 標籤、雪種量限制、樓宇建築面積及安裝高度限制等 事宜,以及技術和銷售人員的培訓,向有關製造商或 進口商提供建議。

此外,我們加強了宣傳工作,以提升公眾對使用易燃 雪種的意識,包括該等電氣產品的潛在風險、製造商 規定的安裝限制,以及聘請受訓技術人員對產品進 行安全的安裝和保養工作的重要性。

年內,為政府和業界提供平台就推廣易燃雪種的安全交流意見和合作的政府與業界聯絡小組,已表示會支持由業界及職業訓練局為從業員舉辦有關處理環保雪種(尤其是易燃雪種)的培訓課程。

未來一年

來年,我們將繼續擴展氣體裝置定期安全檢查計劃 至更多屋邨的「長期沒接受安全檢查服務」用戶。另 外,我們會制訂多項石油氣車輛安全措施,並提醒煤 氣公司及石油氣業界檢驗和更換老化設備。最後,我 們會繼續密切注意冷氣機易燃雪種的發展和使用情 況,並制訂更有效的安全指引及預防措施。

Monitoring of Flammable Refrigerants

The Inter-departmental Co-ordination Group, which monitors the development of eco-friendly flammable refrigerants and their handling, continued to make good progress during the year. With EMSD taking a leading role, members of the Co-ordination Group including FSD and the Labour Department issued a joint letter to the air-conditioning and refrigeration trade, property management companies, estate developer associations and other stakeholders, recommending that flammable refrigerants should not be used in large-scale air-conditioning systems at commercial and industrial premises. The letter also recommended that flammable refrigerants should not be used in the retrofitting works of air-conditioning systems.

We also helped manufacturers or importers of household air-conditioners that use mildly flammable refrigerants to ensure their products are used safely in the market. We advised them on how to address issues such as warning labels, refrigerant charge limitations, floor area and installation height restrictions, and training for technicians and sales staff.

In addition, we stepped up publicity to enhance public awareness of the potential risks of electrical products using flammable refrigerants, the installation restrictions specified by manufacturers and the importance of hiring trained technicians to carry out safe installation and maintenance of products.

During the year, the Government and Trade Liaison Group, a platform for the Government and trade to exchange views and collaborate in promoting the safety of flammable refrigerants, indicated it would support training courses by the trade and the VTC for practitioners on handling eco-friendly refrigerants, especially flammable refrigerants.

The Year Ahead

In the year ahead, we will continue to extend RSI to LTNS households in more housing estates, develop various LPG vehicle safety initiatives and remind both HKGC and the LPG trade to review and upgrade their aged assets. We will keep an eye on the development and use of flammable refrigerants in air-conditioning units and also formulate more effective safety quidelines and preventive measures.

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從構思到實踐 — 示範車輛維修工場

From Concept to Reality — A Sample Vehicle Maintenance Workshop for the Trade

車輛維修註冊組工程師吳玉華,帶領團隊於機電署總部大樓設置了一間極受歡迎的示範車輛維修工場,讓業界對「車輛維修工場自願註冊計劃」的要求有更深入了解。

Alice Ng Yuk-wa, an engineer at the Vehicle Maintenance Registration Unit, led a team to set up a highly popular sample vehicle maintenance workshop at EMSD Headquarters that help the trade better understand the requirements of the Voluntary Registration Scheme for Vehicle Maintenance Workshops.



為提升車輛維修業的服務水平及專業形象,機電署 於2015年推出「車輛維修工場自願註冊計劃」(下稱「計 劃」)。

2017年,我們就該計劃向業界進行意見調查時,發現部分小型維修工場的東主認為自己缺乏足夠的設備或能力,難以符合註冊計劃和《車輛維修工場實務指引》的要求,因此未有申請註冊。

機電署工程師吳玉華説:「香港九成以上的車輛維修工場屬小型工場,所以我們必須尋求既創新又實際的方案,以釋除他們的疑慮。」

為此,玉華的團隊在機電署總部大樓設置了一間示範車輛維修工場,讓業界更了解計劃的基本註冊要求。同時,我們還與業界協作,舉辦了一系列講座及示範工場參觀活動。玉華說:「參加者的反應非常積極,多位業內人士更表示示範工場的佈置與他們的工場相若。參觀活動提供有效平台,讓我們與業界保持更緊密的聯繫。」

除了參觀示範工場外,參加者還有機會參觀機電署 的車輛維修工場,令他們認識到機電署用以為政府 車隊提供維修、保養和測試的裝置,以及相關的良好 作業方式。

玉華解釋:「我們的目標不僅是為推廣計劃,更希望 促成業界進一步提升服務水平。目前,約有2000間 車輛維修工場已於該計劃下註冊。」

由於參加者反應積極,機電署決定進一步宣傳該計劃,致力推廣至更多受眾,特別是吸引更多年輕人入行。為達成這目標,玉華表示正製作虛擬實景(VR)示範車輛維修工場。

To enhance service standards and the professional image of the vehicle maintenance trade, EMSD launched the VRSVMW in 2015.

In a trade survey on the VRSVMW in 2017, it was discovered that some small workshop owners felt they did not have the equipment or the ability to meet the registration requirements and the Practice Guidelines for Vehicle Maintenance Workshops. They therefore hesitated to apply for registration.

Alice Ng Yuk-wa, an engineer at EMSD, said, "More than 90% of vehicle maintenance workshops in Hong Kong are small, so we had to think of an innovative but practical way to address their concerns."

Alice's team then established a sample workshop at the EMSD Headquarters so that the trade could understand the basic requirements for registration under the Scheme. A series of talks and visits to the sample workshop were also organised in collaboration with trade associations. "The feedback from the visitors was very positive," Alice said. "Many in the trade said that the sample workshop was almost the same as theirs. It was a very useful platform for us to connect more closely with the trade"

In addition to visiting the sample workshop, visitors had the opportunity to tour the EMSD vehicle maintenance workshops, where they could appreciate the set-up for vehicle maintenance, repair and testing as well as the good practices of EMSD's maintenance services for the government fleet.

"Our aim was not only to promote the VRSVMW, but also to assist the trade in upgrading their services to a new level of excellence," explained Alice. "Now, we have around 2 000 workshops registered under the Scheme."

In response to the positive feedback from the visitors, EMSD decided to further promote the Scheme to reach a wider audience and, in particular, to attract more young people to join the trade. Alice said they are now developing a Virtual Reality (VR) sample vehicle maintenance workshop to meet this objective.

保障公眾安全 Protecting Public Safety

機械安全 MECHANICAL SAFETY

加強升降機和自動梯安全

2017/18年度的優先事項,是回應公眾對升降機及自動梯安全的關注,以及嚴格檢視如何進一步提高升降機和自動梯的安全。

2017年3月下旬,朗豪坊發生了一宗自動梯事故,一部上行的自動梯突然停止,並朝反方向運行,造成18名乘客受傷。2017年6月,我們發布了該事故的技術調查報告,指出事故成因是主驅動鏈和驅動鏈斷裂裝置出現雙重失效,導致無法啟動附加制動器以制停自動梯。

隨後,負責保養朗豪坊自動梯的註冊承辦商被控以 未能妥善執行保養工作,法院於2018年3月判定其罪 名成立,並處以罰款320000元。另外,負責檢驗和 維修該自動梯的註冊工程師及註冊工程人員,亦被 裁定疏忽職守,被暫時吊銷註冊。暫時吊銷註冊期屆 滿後,涉事註冊工程師未有為其已屆滿的註冊申請 續牌。至於該註冊工程人員,機電署根據《升降機及 自動梯條例》,認為他並非根據條例有關條文獲繼續 註冊的適當人選,最終於2018年7月取消其註冊。

荃灣海灣花園的升降機事故發生於2018年4月,雖然在2017/18年度的報告期外,但仍值得一提。該事故導致兩名乘客受傷,引起公眾對舊式升降機安全的關注。該事故的技術調查報告已於2018年7月發表,揭示升降機制動系統的一塊組件磨損,碎屑從中剝落,使制動器無法暢順運作,導致機廂被對重裝置向上拉,直到與井道頂板碰撞才停下。

為舊式升降機的安全而制訂的短、中及稍 為遠期措施

鑑於2018年所發生的升降機事故,機電署即時要求 所有註冊承辦商檢查轄下與涉事升降機同一品牌的 升降機,並加強巡查,以確保升降機安全。

與此同時,我們已與發展局積極制訂短、中及稍為遠 期措施,以提升舊式升降機的安全水平。

Stepping up Lift and Escalator Safety

One of our priorities in 2017/18 was to address public concerns about lift and escalator safety and to critically review how lift and escalator safety could be further enhanced.

In June 2017, we released our technical investigation report on the Langham Place escalator incident of late March 2017, in which an ascending escalator came to a sudden stop and reversed direction, injuring 18 passengers. The investigation found that the incident was caused by the double failure of the main drive chain and the broken chain safety device, leading to the inactivation of the auxiliary brake that should have stopped the escalator.

In a subsequent development, the registered contractor responsible for maintenance of the Langham Place escalator pleaded guilty to charges of failing to carry out maintenance work properly and was fined \$320 000 by the court in March 2018. Separately, the registered engineer and registered worker responsible for examining and maintaining that escalator were found negligent in performing the escalator works. The registration of the engineer and the worker was suspended. Following the suspension period, the registered engineer did not renew his registration which was due for renewal. As regards the registered worker, his registration was eventually cancelled by EMSD in July 2018 as he was, according to the Lifts and Escalators Ordinance, considered not fit and proper to continue to be registered under the Ordinance.

The lift incident happened at Waterside Plaza in Tsuen Wan in April 2018, although outside our 2017/18 review period, is worth mentioning. The incident caused injury to two passengers and raised public concerns about the safety of aged lifts. Our technical investigation report on the incident, released in July 2018, revealed that the wearing down of a component in the brake system of the lift had generated considerable debris, which hindered the smooth functioning of the brake and resulted in the lift being pulled upwards by the counterweight until it collided with the lift shaft ceiling.

Short, Medium and Medium to Long-term Measures for the safety of Aged Lifts

Following the lift incidents that occurred in 2018, EMSD immediately required all registered contractors to promptly examine all lifts of the same brand under their maintenance and step up inspections with a view to ensuring lift safety.

Concurrently, we have been actively formulating short-, medium- and medium-tolong-term measures together with the Development Bureau to enhance the safety of aged lifts. 036 / 037



去年9月的「優質樓宇管理週2017」,由水務署聯同機電署及多個政府部門舉辦,是本港首次舉辦的同類活動。管理週旨在提高公眾對妥善管理樓宇的意識·並推廣本港樓宇管理的良好作業方法。

The first event of its kind, Building Management Week was organised by the Water Supplies Department in collaboration with various government departments including EMSD in September 2017. The event aimed to raise public awareness of proper building management and promote good building management practices in Hong Kong.



短期措施包括加強升降機維修的檢查和監管,特別 檢查可能會影響升降機安全操作的組件。所有升降 機負責人及註冊承辦商必須加強保養尚未優化的舊 式升降機,尤其是會影響升降機安全運作的組件。

中期措施參考了「樓宇更新大行動 2.0 」及「消防安全 改善工程資助計劃」,研究撥款資助有需要業主的可 行性,鼓勵他們加快優化升降機工程。至於稍為遠期 的措施,我們正研究分階段推行強制性優化升降機 工程,並參考海外國家的相關經驗,以及考慮社區及 業界的承受力。

我們明白,足夠的人手及培訓,對升降機和自動梯的 安全至關重要。為此,我們一直與業界、職業訓練 局、建造業議會及其他培訓機構緊密合作,確保有足 夠的培訓和宣傳,從而吸納新人並加以培訓,以滿足 保養及優化工程的持續需求。

推動在升降機及自動梯培訓中使用科技

為響應行政長官有關政府創新的呼籲,我們正與職業訓練局、電梯業協會及建造業議會磋商,為業界制訂一套利用虛擬實境(VR)的培訓計劃。首項工作是由職業訓練局及電梯業協會提供資源及支援,以製作VR培訓影片。我們在過程中繼續擔當推動角色,期間我們察悉有業界人士建議把VR培訓納入註冊升降機工程人員的訓練要求。

此外,我們亦與職業訓練局、電梯業協會及其他行業協會合作,製作一系列宣傳短片,鼓勵年輕人投身升降機及自動梯行業。影片概述業界、行業前景及對社區的重要性,並已上傳至機電署網站和社交媒體。

Short-term measures include stepping up surveillance checks of lift maintenance and, in particular, examining components that may affect the safe operation of lifts. All Responsible Persons (RPs) and registered contractors will be required to step up the maintenance of aged lifts that have not yet been modernised, especially those components that may affect the safe operation of lifts.

Medium-term measures involve looking into the feasibility of allocating funds to subsidise owners in need and encouraging them to speed up lift modernisation works, with reference to the ongoing Operation Building Bright 2.0 and Fire Safety Improvement Works Subsidy Scheme. For medium-to-long-term measures, we are studying the feasibility of mandating lift modernisation works in phases, taking into account the relevant experiences of overseas countries as well as the likely impact on the community and the trade.

We are mindful that adequate, well-trained manpower in the lift and escalator trade is essential to safety. To this end, we have been working closely with the industry, the Vocational Training Council (VTC), the Construction Industry Council (CIC) and other training institutes to ensure that adequate training and publicity programmes are in place in order to attract and train new workers and satisfy the demand for ongoing maintenance and modernisation works.

Facilitating the Use of Technology for Lift and Escalator

In response to the Chief Executive's call for innovation in the Government, we have been in talks with the VTC, Lift and Escalator Contractors Association (LECA) and CIC to develop a VR training programme for the trade. The first initiative will be to produce VR training videos with resources and support from both VTC and LECA. While continuing to play a facilitating role in this process, we have taken note of one of the trade's suggestions to include VR training as a training requirement for registered lift workers

Also in conjunction with VTC, LECA and other trade associations, we produced a series of four promotional videos encouraging young people to enter the lift and escalator trade. Available on the EMSD website and social media, the videos provide an overview of the trade, career prospects and its importance to the community.

保障公眾安全 Protecting Public Safety

其他升降機及自動梯安全活動

2011年,機電署推出《優化升降機指引》,引入措施 以提升舊式升降機的安全和鼓勵加裝升降機保護裝 置。自指引推出以來,我們一直與業界緊密溝通,推 廣升降機優化工程,如發信提醒升降機負責人為舊 式升降機開展優化工程。我們將會持續與升降機負 責人加強溝通。

優化自動梯是我們本年度的另一工作焦點。我們繼續呼籲自動梯負責人及業主為舊式自動梯開展優化工程,並持續推廣2016年出版的《優化自動梯指引》。

為提高升降機工程的安全水平及質素,我們根據最新的安全及工作要求、有關升降機和自動梯工程的新本地要求,以及針對舊式升降機的新短期措施,修訂了《升降機工程及自動梯工程實務守則》。新版《實務守則》於2018年8月出版,並將於2019年2月1日起全面生效。

機動遊戲機安全

與往年一樣,我們嚴格審核機動遊戲機的設計,並持續監察其營運和保養情況,確保於2017年12月至2018年2月舉行的歐陸嘉年華,所有機動遊戲機都能安全操作。我們在時間緊迫的情況下完成審批程序,好讓公眾能及時享受機動遊戲機,歡度一年一度的佳節。

2017年8月,位於中環海濱的香港摩天輪因營運合約 屆滿而暫停開放。新營運商接管後於2017年12月重 新開放摩天輪。儘管摩天輪一直運作暢順,從沒事故 發生,但我們作為規管者亦一如以往,在授權摩天輪 重開前,堅持仔細完成審批程序。

Other Lift and Escalator Safety Initiatives

In 2011, EMSD promulgated the *Guidelines for Modernising Existing Lifts*, introducing measures to enhance the safety of aged lifts and recommending retrofitting of safety devices. Since then, we have been communicating closely with the trade to promote lift modernisation works, such as sending letters to remind RPs of aged lifts to undertake lift modernisation works. More communication with RPs will take place on an ongoing basis.

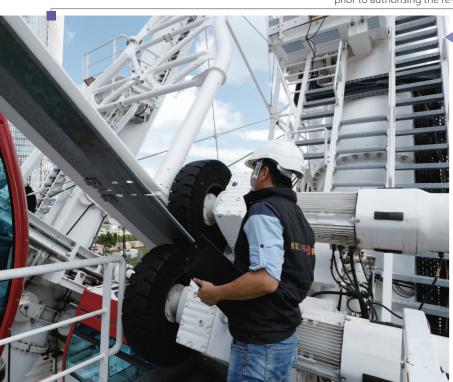
Escalator modernisation was another focus of our efforts during the year, as we continued to urge RPs and property owners to implement modernisation works for aged escalators. We also continued to promote our *Guidelines for Modernising of Existing Escalators* published in 2016.

For improving the safety and quality of lift works, we revised the Code of Practice for Lift Works and Escalator Works based on the latest safety and working requirements, new local requirements related to lift works and escalator works, as well as new short-term measures for aged lifts. The new edition of the Code of Practice was issued in August 2018 and will be fully effective from 1 February 2019.

Amusement Ride Safety

As in past years, we ensured the safe operation of the many amusement rides at the Great European Carnival held from December 2017 to February 2018 by stringently vetting the design of the rides and continuously monitoring their operation and maintenance. The vetting and approval process was completed against a tight schedule in time for the public to enjoy the rides during the annual festive season.

The Hong Kong Observation Wheel at the Central Harbourfront was temporarily closed in August 2017 when the former operator's lease expired and re-opened in December 2017 when it was taken over by a new operator. Despite the fact the Ferris wheel had been operating smoothly since its opening without incident, as the regulator we insisted on conducting a thorough vetting and approval process prior to authorising the re-opening of the ride.



香港摩天輪由於營運合約屆滿,曾於2017年8月暫停開放。新營運商經機電署為摩天輪進行仔細審核並發出批准後,已於2017年12月重開系統。

The Hong Kong Observation Wheel underwent a thorough vetting and approval process by EMSD before it was respected by the new operator in December 2017. The system was temporarily closed when the former operator's lease expired in August 2017.

機電署在時間緊迫的情況下,為中環海濱「歐陸嘉年華」的機動遊戲機完成審批程序,讓嘉年華趕及在一年一度的佳節開放。

The Great European Carnival 2017 at the Central Harbourfront was opened in time for the public to enjoy the annual festivities. The EMSD completed the vetting and approval process for the rides against a tight schedule.



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我們的員工正巡查「越礦飛車」上的虛擬實境裝置,以確保安全。 該裝置能讓乘客置身於360度模擬場景,享受親歷其境般的虛擬 體驗。

Our staff inspecting the VR device on the Mine Train to ensure its safety. The device simulates a 360-degree environment for riders to interact with their surroundings for a fully-immersive virtual experience.

海洋公園為「越礦飛車」增設了虛擬實境裝置,經機電署就有關的改動進行審批後,這機動遊戲機已於2017年12月重開。 Ocean Park added a VR device to its Mine Train, which was re-opened in December 2017 after EMSD approved the alteration of the amusement

年內,海洋公園為「越礦飛車」增設虛擬實境(VR)裝置。我們的角色是審批該機動遊戲機的改動申請,並於2017年12月重新開放後監察運作過程,確保安全。VR裝置讓乘客置身於360度的模擬場景,享受互動和親臨其境的虛擬體驗。我們預料,使用VR和其他機動遊戲機新技術的趨勢將會上升,我們會增進規管範疇的相應專業知識,以配合科技發展趨勢。

2017年8月,香港迪士尼樂園關閉了「巴斯光年星際歷險」,以騰出空間設置新的遊樂設施。我們將繼續審批和監察新機動遊戲的安全,並與迪士尼樂園就 其擴展計劃的安全工作保持緊密聯繫。

未來一年

來年的首要工作之一,是全力實施上述各種提高升 降機和自動梯安全的短期措施。對於中期及稍為遠 期的升降機安全措施,我們正與發展局積極研究向 有需要的樓宇業主提供經濟誘因,並提供適切的專 業支援,鼓勵他們加快為其舊式升降機進行優化工 程。相關資助計劃預計於2019年年初推出。此外, 我們將訪問海外有關當局,了解他們在制訂和執行 強制措施要求樓宇業主優化舊式升降機的經驗。

另一重點為修訂《升降機及自動梯設計及構造實務守 則》。我們亦會致力全面推行「優質升降機服務認可 計劃」,鼓勵更多私人樓宇的升降機負責人參與。

繼2017/18年度的註冊升降機承辦商及註冊升降機工程師註冊周期完結後,本輪註冊升降機工程人員的 註冊將於2018年年底完成。

早前,《升降機及自動梯條例》的新監管措施已獲立法會通過,因此,某些註冊升降機/自動梯工程師及註冊升降機/自動梯工程人員的過渡註冊措施,如豁免特定要求等,已於2018年5月1日後停止。業界對加強註冊制度以提高業界整體水平的安排表示十分支持。

During the year, Ocean Park added a VR device to its Mine Train attraction. Our role was to vet and approve the alteration of the amusement ride and monitor its safe operation when it re-opened in December 2017. The VR device simulates a 360-degree environment with features that allow riders to interact with their surroundings and enjoy a fully-immersive virtual experience. We anticipate the trend in VR and other new technologies on amusement rides will increase, and we will build up our expertise in this regulatory area accordingly.

Hong Kong Disneyland closed the Buzz Lightyear ride in August 2017 to make way for a new attraction. We will continue to vet and monitor the safety of the new attraction and closely liaise with the theme park on the safety-related aspects of their expansion projects.

The Year Ahead

A priority for next year will be to implement, with full force, the various short-term measures mentioned above to increase lift and escalator safety. For the medium- and medium-to-long-term lift safety enhancement measures, we are actively working with the Development Bureau to provide financial incentives and suitable professional support to building owners in need to expedite implementation of modernisation works for their aged lifts. The subsidy scheme is expected to be launched in early 2019. Additionally, we will visit relevant authorities in overseas countries to learn about their experiences in developing and enforcing mandatory measures for building owners to implement modernisation works for aged lifts.

Another focus will be to update the Code of Practice for Design and Construction of Lifts and Escalators. We will also work towards the full-scale implementation of the Quality Lift Service Recognition Scheme, so that more RPs for lifts of private buildings will participate.

Further to the completion of the registration cycle for registered lift contractors and registered lift engineers in 2017/18, the current round of registrations for registered lift workers will be completed by the end of 2018.

As a result of the new control measures under the Lifts and Escalators Ordinance introduced earlier and endorsed by the Legislative Council, certain transitory arrangements for the registration of registered lift/escalator engineers and registered lift/escalator workers, such as exemptions from specific requirements, ceased after 1 May 2018. The trade fully supports the move, which aims to strengthen the registration regime and raise the overall standards of the trade.

保障公眾安全 Protecting Public Safety

於「優質樓宇管理週2017」推廣優化升降機及自動梯

Promoting Lift and Escalator Modernisation at Building Management Week 2017

一般法例部工程師雷家浩參與了「優質樓宇管理週2017」的 籌備工作,這也是首次由數個政府部門、包括機電署合辦 的同類活動。他更借此機會,向與會者推廣現有升降機和 自動梯的優化工作和相關指引。

Graham Lui, engineer at the General Legislation Division, helped organise Building Management Week 2017, the first event of its kind jointly organised by several government departments including EMSD. He also took the opportunity to promote the modernisation of existing lifts and escalators and the relevant quidelines.

2017年9月21日至24日舉行的「優質樓宇管理週2017」(「管理週2017」),是機電署與水務署、屋宇署、消防處、食物環境衞生署及民政事務總署首個合辦有關樓宇管理的活動。

「管理週2017」推出一連串以「樓宇管理要做好,齊來 參與無難度」為主題的精彩活動,包括開幕典禮、工 作坊、管理論壇、嘉年華及比賽,旨在提高公眾對妥 善管理樓宇的意識,並促進香港樓宇管理的良好作 業。

「管理週2017」的重頭戲之一是在2017年5月至8月期間舉行的「識管·惜樓宇」物業管理比賽,藉以鼓勵業主和物業管理機構持續改善樓宇管理工作、向居民宣揚優質樓宇管理的重要性,並嘉許表現優秀的樓宇管理團體。

正如擔任「管理週2017」籌委會成員家浩所說:「樓宇管理涉及多個範疇,包括維修保養、環境衞生、消防保安及大廈管理宣傳教育等,工作殊不簡單。要維持良好的居住環境,住戶與樓宇管理組織的合作,以及優質的日常管理工作至關重要。」

至於2017年9月23日舉行的管理論壇,機電署邀請了著名的政府官員、學者及業界領袖,討論有關樓宇管理的各個主題。「雖然籌備這次活動的挑戰很大,但我很高興看到參加者對管理論壇的積極反饋。管理論壇匯聚了數百名持份者,促進香港卓越的樓宇管理。」

機電署亦於「管理週2017」期間,透過展覽、工作坊及攤位遊戲,推廣機電安全。家浩説:「除了安全使用升降機和自動梯的訊息外,我們亦推廣機電署推出的優化升降機和自動梯指引,以協助升降機和自動梯的負責人透過優化措施,使其現有的升降機和自動梯,特別是那些舊式的,更安全、可靠及舒適。」

Building Management Week 2017 ("BMW 2017"), from 21 to 24 September 2017, was the first-ever event of its kind organised by EMSD in collaboration with the Water Supplies Department, Buildings Department, Fire Services Department, Food and Environmental Hygiene Department and Home Affairs Department.

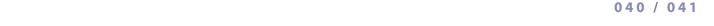
Featuring an opening ceremony, workshops, symposium, carnival and competition under the theme "Quality Property Management, Let's Work Together", BMW 2017 was organised to enhance public awareness of proper building management and promote good building management practices in Hong Kong.

One of the pillar events of BMW 2017 was the Quality Management • Caring Buildings Property Management Competition, which took place from May to August 2017. The competition encouraged continuous improvement in building management among property owners and property management agencies, highlighted the importance of quality building management to building residents, and recognised outstanding building management organisations.

As one of the organising committee members of BMW 2017, Graham said, "Building management is never simple as it involves various aspects such as maintenance, environmental hygiene, fire safety, as well as promotion and education in building management. To maintain a good living environment, co-operation between residents and building management organisations, along with quality daily management routines, is absolutely essential."

For the Symposium on 23 September 2017, EMSD invited prominent government officials, scholars and trade leaders to discuss various topics on building management. "Although it was a great challenge to organise this event, I was delighted to see that the Symposium received positive feedback from participants. It brought together hundreds of relevant stakeholders and helped to promote excellence in building management in Hong Kong."

The EMSD also promoted electrical and mechanical safety via exhibition panels, workshops and game booths during BMW 2017. "Apart from the safe use of lifts and escalators, we promoted our guidelines on modernising existing lifts and escalators, which aimed at helping Responsible Persons for lifts and escalators implement modernisation solutions to make their existing lifts and escalators, particularly aged ones, safer, more reliable and comfortable," said Graham.



鐵路安全 RAILWAY SAFETY

新鐵路綫運作暢順

觀塘延綫及南港島綫(東段)已於2016年正式啟用。 這兩條新鐵路綫運作順暢,無重大事故發生。我們今 年另一重點為籌備工作,包括實施多項測試及巡查, 為2018年9月廣深港高鐵香港段,以及2019年屯馬綫 啟用做好準備。

鐵路科榮獲「公務員優質服務獎勵計劃2017」頒發的「部門合作獎」金獎,表揚機電署領導由五個政府部門組成的跨部門小組,「為新鐵路綫把關」。他們通力合作,全力以赴,為近年多條新鐵路綫順利啟用出一分力,因而獲得獎勵計劃的最高榮譽。頒獎典禮於2017年9月舉行,並由行政長官親自頒獎。

New Lines Operating Smoothly

After the successful opening of the Kwun Tong Line Extension and the South Island Line (East) in 2016, the two new lines operated successfully in 2017/18 without any major incident. Another focus of our activities during the year was the preparatory work, including numerous tests and inspections, for the opening of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) scheduled for September 2018 and the opening of the Tuen Ma Line scheduled for 2019.

The Railways Branch was honoured to receive the Gold Prize of the Partnership Award under the Civil Branch Service Outstanding Service Award Scheme 2017 for its entry, "Safeguard our New Railway Lines". This top award recognised an interdepartmental team led by EMSD and comprising five other government departments for its efforts to open various new railway lines successfully in recent years. The award was presented by the Chief Executive at a ceremony in September 2017.



行政長官林鄭月娥女士親臨主持第27屆「國際鐵路安全議會」年度會議開 幕禮。是次會議由機電署與港鐵公司合辦,於香港舉行。

The Chief Executive Mrs Carrie Lam officiated at the opening ceremony of the 27th annual conference of the International Railway Safety Council held in Hong Kong in October 2017, jointly organised by EMSD and MTRC.

「國際鐵路安全議會」會議在香港

我們於2017年10月22至27日舉辦了第27屆「國際鐵路安全議會」會議,為年內的重點活動。我們與香港鐵路有限公司合作(「港鐵」),並以「鐵路安全」為主題,「鐵路安全 — 創新及協作」舉辦一連六日的會議,吸引40個國家/地區超過300位代表參加,包括各地政府鐵路監管部門及政策制訂者、鐵路營運商、學者、鐵路業界專家及商界領袖。

會議高朋滿座,國家鐵路局局長及中國鐵路總公司 的領導亦應邀出席,是內地官員首次參加此項全球 盛事。會議由行政長官主禮,泰國交通部長及老撾工 務及運輸部部長亦同場參與。機電署能在這高水準 的國際論壇擔當東道主,讓全球代表分享鐵路安全 知識和交流經驗,深感榮幸。

IRSC Annual Conference in Hong Kong

A major achievement during the year was the highly successful 27th annual conference of the International Railway Safety Council (IRSC) held in Hong Kong 22–27 October 2017. Jointly organised by the Mass Transit Railway Corporation (MTRC) and EMSD under the theme "Railway Safety — Innovation and Collaboration", the six-day conference attracted more than 300 delegates from 40 countries/regions. They included railway regulators and policymakers from various governments, railway operators, academics, experts and business leaders from the railway industry.

One of the most noteworthy aspects of the conference was the attendance by the heads of the National Railway Administration of China and the China Railway — the first time that Mainland officials had taken part in this global event. Officiated by the Chief Executive, the conference was also attended by the Minister of Transport of Thailand and the Minister of Public Works and Transport of Laos. EMSD was delighted to play a role hosting this high-level international forum for sharing insights on railway safety and exchanging experiences.

保障公眾安全 Protecting Public Safety

我們亦借此機會,帶領各地代表參觀廣深港高鐵(香港段)位於石崗的列車停放處及廣州高鐵設施,讓他們親身了解中國高速鐵路的發展。

此外,我們亦於2018年3月在香港舉辦了第二十屆亞 太鐵路大會,區內鐵路營運商、監管機構、行業領導 及供應商聚首一堂,就鐵路技術及設備交流見解。大 會吸引逾2000多位參加者,鐵路科總工程師則獲邀 擔任講者。

我們會繼續積極參與各大國際鐵路安全論壇,以鐵 路安全監管機構的身分扮演促成者/推動者的角色。 We also took the opportunity to lead interested delegates on a visit to the Shek Kong Stabling Sidings of the XRL Lead in Hong Kong and high speed rail facilities in Guangzhou so they could gain a first-hand understanding of China's high speed rail development.

Another conference in Hong Kong, the 20th annual gathering of Asia Pacific Rail 2018, was held in March, when railway operators, regulators, industry leaders and suppliers in the region came together to exchange views on railway technology and equipment. The event was attended by over 2 000 participants, with a Chief Engineer from the Railways Branch as one of the speakers.

We will continue to play an active role in similar international railway safety forums in our capacity as the railway safety regulator and as a promoter/facilitator of cooperation where appropriate.



「國際鐵路安全議會」是次年會的特色之一,是「一帶一路論壇」。論壇講者包括部長級嘉賓,包括泰國運輸部部長Arkhom Termpittayapaisith 先生(左)、老撾工務部及運輸部部長Bounchanh Sinthavong博士(中)。右邊為港鐵學院校長張少華先生。

A special feature of the IRSC conference was the Belt and Road Forum with ministerial level officials as speakers, including the Minister of Transport of Thailand Mr Arkhom Termpittayapaisith (left) and the Minister of Public Works and Transport of Laos Dr Bounchanh Sinthavong (centre). The President of the MTR Academy, Mr Morris Cheung is on the right.

加強輕鐵安全

年內,我們與港鐵緊密合作,監察各項輕鐵系統安全 措施的實施情況,包括由地鐵公司在內部開發的綜 合車速與位置監督系統。

由於輕鐵列車以人手操控,車長必須時刻觀察路面 交通情況,不時與道路上的車輛及道路使用者擦肩。 車長的警覺性與態度對安全至關重要。近年輕鐵事 故主要成因的分析顯示,車長的駕駛習慣有待改善。 有見及此,我們要求港鐵方面提出解決方案,綜合車 速與位置監督系統應運而生。

綜合車速與位置監督系統,結合全球定位系統及無 綫射頻識別技術,具有多種功能,如速度監控、道岔 訊號警報、月台當值提示、列車距離監測等。我們會 監察系統目前於其中一條輕鐵綫的試行成效,並與 港鐵繼續合作,在未來改善及更新系統版本,務求於 所有輕鐵綫使用。

Light Rail Safety Stepped Up

During the year, we worked closely with MTRC to oversee its implementation of various measures for increasing safety on the Light Rail Transit (LRT) system, including the trial of a new Integrated Speed and Position Supervision (iSPS) system developed inhouse by MTRC.

As LRT trains are driven manually, train captains must constantly observe road traffic conditions and interact with vehicles and other road users. Their alertness and driving behaviour are critical to safety. Our analysis of the root causes of LRT incidents in recent years showed that there is room for improvement in driver behaviour, and we requested that MTRC propose solutions, which led to the development of the iSPS system.

The iSPS system, an integrated solution based on GPS and RFID technologies, has multiple functions such as speed supervision, turnout signal alerts, platform duty reminders and inter-vehicle distance monitoring. The system can also provide real-time alerts and reminders to train captains, thus helping to improve their driving behaviour and operational safety. A pilot iSPS system is now running on one LRT line, and we are monitoring its effectiveness. We will continue to work with MTRC on future enhanced versions of the iSPS system, with the aim of having it implemented on all LRT lines in due course.



定期審核安全系統

2017年的鐵路事故數字與去年相若,共86宗,主要由於設備故障及職員疏忽職守所引致。即使如此,身為監管機構,我們時刻尋找機會,務求改善情況。年內,我們開始與港鐵合作,定期全面及深入地審核資產管理系統和安全管理系統,不再像以往一樣,因事故才開展審核工作。

我們亦成立了新的工作小組,專門負責資產管理系統和安全管理系統的審核工作,辨識存在於兩個系統中的風險,為港鐵建議緩解措施。

資產及系統升級

近年,港鐵採取了多項措施,以加強鐵路安全,如更 換鐵道車輛及信號系統、供電系統及其他老化資產。 我們的角色是確保更換計劃安全、合時及有效地執 行,不會干擾正常的列車服務。

最近,港鐵為較舊的市區路綫,如荃灣綫等,從原來的「固定區間」信號系統升級至「通訊為本列車控制」系統,更換工程將於2019年年中陸續完成。與現有系統相比,新的「通訊為本」系統利用固定標籤、轉速計和軌旁 Wi-Fi接入點來計算及傳達列車之間的安全距離,使列車班次可以更為頻密,對列車服務需求不斷增長的香港至關重要。

Regular Audit of Railway Safety Systems

The number of railway incidents due to equipment failure and staff behaviour in 2017 remained steady at 86 cases, but as the regulator we are constantly on the lookout for opportunities to make further improvements. During the year, we began working with MTRC on a more holistic and in-depth audit of both its Asset Management System (AMS) and Safety Management System (SMS) on a regular basis, rather than relying only on incident-based audits as in the past.

We are also setting up a new team dedicated to conducting these regular AMS and SMS audits in order to identify risks in both systems for MTRC's mitigation.

Asset and System Upgrades

Much has been done by MTRC in recent years to enhance the safety of existing railways, such as replacing rolling stock, the signalling system, power supply system and other ageing assets. Our role is to make sure that it implements the replacement programmes in a safe, timely and effective manner without disrupting normal train services.

A case in point is the upgrading of the existing fixed block signalling system to the moving block Communication Based Train Control (CBTC) system on older urban lines, such as the Tsuen Wan Line for which the replacement works will be completed in mid-2019. Compared with the existing system, the new CBTC signalling system makes use of stationary tags, tachometers and trackside Wi-Fi access points to calculate and communicate safe distances between trains and has the advantage of allowing a shorter headway. This will enable higher train frequencies on our railway network, which are essential to satisfying Hong Kong's ever-increasing demand for more frequent train services.

保障公眾安全 Protecting Public Safety

現有的港鐵市區綫,以及香港國際機場的新自動捷 運系統,最終亦會轉用「通訊為本列車控制」系統。 我們會監察更換及升級過程,確保高準則安全水平, 特別側重於同時使用兩套信號系統的過渡期間。

年內,我們的同事亦忙於檢查和測試現有和新鐵路 綫的新車輛。新車輛包括為多條路綫購入的93列青 島中國四方列車、17列屯馬線長春鐵路列車、37列 港鐵東鐵綫現代列車,以及30列川崎重工輕鐵列車。 部分新列車已經順利投入服務。隨着老化的鐵路車 輛退役,乘客將享受更舒適的港鐵之旅。 All existing MTR urban lines, as well as the existing and new Automatic People Mover (APM) systems at the Hong Kong International Airport, will eventually adopt the CBTC system. We will monitor the replacement and upgrading process to ensure a high level of safety, especially the integration of different signalling systems during the transition.

During the year, our colleagues were also busy inspecting and testing new rolling stock for existing and new lines. The new rolling stock includes 93 trains from CRRC Qingdao Sifang for various urban lines, 17 trains from Changchun Railway Vehicles for the Tuen Ma Line (TML), 37 trains from Hyundai Rotem for the East Rail Line, and 30 light rail trains from Kawasaki Heavy Industries for LRT. Some of the new trains are already in service and running smoothly. With the eventual replacement of all ageing rolling stock, passengers will enjoy a more comfortable train ride.



我們的同事及港鐵工程人員巡查香港國際機場的自動捷運系統 的安全裝置。機場現有及未來新增的自動捷運系統・將會轉用 「通訊為本列車控制」系統・讓列車班次可更頻密。

An EMSD colleague and MTR technical staff inspect the safety devices of the Automatic People Mover (APM) system at Hong Kong International Airport. Both existing and future APM systems will eventually adopt the Communication Based Train Control system to enable higher train frequencies on the APM network.

技術和安全的未來挑戰

為回應行政長官創新科技的施政重點,我們積極推 廣使用新技術,提升鐵路安全水平。除了呼籲港鐵使 用創作科技解決方案,達至更高的安全水平,我們亦 與機電署新成立的創新辦公室合作,從初創企業中 選取或能提高我們監管工作的合適創作科技解決方 案。

然而,科技亦會為安全構成威脅,如黑客入侵、勒索 軟件攻擊,以及Wi-Fi風險等。我們會與港鐵緊密合 作,為鐵路網絡安全運行制訂所有必要的安全措施 和系統。

Technology and New Safety Challenges

In line with the Chief Executive's focus on innovation and technology (I&T), we have taken a more active role in promoting the use of new technology to enhance railway safety. Apart from urging MTRC to deploy I&T solutions to achieve greater safety, we will also work with EMSD's new Inno-Office to identify suitable I&T solutions from start-ups, which could help to enhance our regulatory work.

However, technology also poses new safety challenges, such as cyber security risks from hackers, ransomware attacks and Wi-Fi risks. We will work closely with MTRC to ensure that all necessary security measures and systems are in place for the safe operation of the railway network.





行政長官林鄭月娥女士於港鐵石崗列車停放處參觀高鐵 列車「動感號」。廣深港高鐵香港段於2018年9月通車後, 「動感號」列車將正式投入載客服務。

The Chief Executive Mrs Carrie Lam at a preview of the high speed railway train, Vibrant Express, at the MTR Shek Kong Stabling Sidings. The train will start passenger services upon commissioning of the Guangzhou-Shenzhen-Hong Kong Express Rail Link Hong Kong Section in September 2018.

高鐵和沙中綫準備開幕

由於廣深港高鐵(香港段)涉及中港雙方的列車及駕駛人員的跨境工作,我們需與國家鐵路局就安全監管工作機制、過境駕駛人員資格管理事宜等緊密聯繫。鐵路企業之間的營運安排、港鐵公司已與中國鐵路總公司達成共識。高鐵於2018年下半年啟用,我們會繼續與內地相關單位合作,確保高鐵的營運安全達到高水平。

為準備2019年屯馬綫啟用,我們分別完成了馬鞍山 綫列車四卡變八卡,以及西鐵綫七卡變八卡的改裝 工程安全檢查。除了使馬鞍山綫的載客量增加一培, 更重要的是把整段馬鞍山綫及西鐵綫均以八卡列車 模式操作,為連接至沙中綫的大圍至紅磡段做好準 備。

未來一年

來年亦將是繁忙的一年。我們會在非常緊迫的時間內,奮力完成高鐵及沙中綫最終測試和檢查工作,為通車啟用做好準備。與此同時,我們的同事會繼續監察港鐵在現有鐵路綫各個系統及資產更換及升級的工作,以及開展定期為資產管理系統及信號管理系統作深入審核。

如2014年鐵路發展策略所言,當高鐵及沙中綫投入服務後,香港將踏入鐵路發展的新里程。這亦包括設計和建造七條新鐵路綫、延伸綫和車站,以滿足新市鎮發展和持續增長的人口需求。因此,我們將擴大鐵路科,包括新增11個公務員職位,應付不斷增加的工作量。我們亦會重整內部和重新部署,以確保知識和經驗能夠傳承。

至於區域和國際層面,機電工程署將繼續於各大鐵路會議中代表香港,如參加在2018年7月舉行的「新加坡國際交通大會暨展會」,以及在2018年10月於愛爾蘭舉行的「國際鐵路安全議會」。

Getting Ready for XRL and SCL Opening

As XRL involves cross boundary coordination for train operation and driver management, we have been in close communication with the National Railway Administration on issues such as safety regulations and train driver qualifications. MTRC and China Railway also settled their operating agreement accordingly. When XRL is up and running later in 2018, we will continue to cooperate with our Mainland counterparts to ensure a high level of safety in XRL operations.

To get ready for the TML opening in 2019, we completed the safety inspection of the conversion of 4-car to 8-car trains on the Ma On Shan Line (MOL) and from 7-car to 8-car trains on the West Rail Line (WRL). This has doubled the carrying capacity of MOL and, more importantly, paved the way for 8-car train mode along the whole length of the TML connecting MOL and WRL to SCL. Our team also overcame the challenge of ensuring both MOL and WRL will operate safely and normally during the construction of the SCL, as well as the smooth integration of the existing and new signalling systems on different sections of the entire TML.

The Year Ahead

The coming year will be another busy one as we strive to complete the final testing and inspection work for the opening of XRL and SCL against very tight timeframes. Concurrently, our colleagues will continue to monitor MTRC's work in replacing and upgrading various systems and assets on existing lines, as well as carry out regular in-depth AMS and SMS audits.

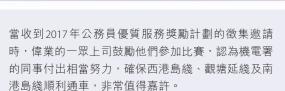
When both the XRL and SCL are up and running, Hong Kong will enter a new phase of railway development as outlined in the Railway Development Strategy 2014. This will entail the design and construction of seven new railway lines, extensions and stations to satisfy the needs of new urban development and a growing population. Accordingly, we will be expanding the Railways Branch, including the addition of an initial 11 new civil service posts, to handle the increased workload. We will also carry out some internal restructuring and re-deployment of duties to ensure continuity of knowledge and experience.

On a regional and international level, EMSD will continue to act as an ambassador for Hong Kong at major railway conferences, such as the Singapore International Transport Congress and Exhibition in July 2018 and the next IRSC annual conference in October 2018 in Ireland.

機電署如何協助贏取「金獎之最」 **How EMSD Helped to Win** the "Gold of the Gold"

機電署與另外五個政府部門攜手參加2017年公務員優質服 務獎勵計劃,並贏得「部門合作獎」金獎。當時負責統籌參 賽項目文件的鐵路科高級工程師何偉業認為,獎項是對整 個參賽團隊以至機電署所有員工的肯定和嘉許。

EMSD joined hands with five other government departments to participate in the Civil Service Outstanding Service Award Scheme 2017 and won the Gold Prize in the Partnership Award. Chris Ho Wai-vip, senior engineer at the Railways Branch and co-ordinator of the joint-departmental submission, noted that the award served as recognition of and commendation for the efforts of the entire team and all EMSD staff.



由於新鐵路綫通車需要多個政府部門的合作和統籌, 機電署遂決定參加「部門合作獎」,讓各方努力均獲 肯定。偉業負責代表機電署及其他參與的政府部門, 統籌以「為新鐵路綫把關」為題參加「部門合作獎」。

偉業表示,當我們準備幾條新鐵路綫通車時,在南港 島綫遇上最大挑戰,因為這是一條設有無人駕駛列 車的全新鐵路綫。身為鐵路督察,我們的職責不僅是 測試列車及系統,還要識別和消除任何潛在危險,以 保護乘客和工作人員的安全。

「就南港島綫而言,我們步行途經金鐘至海怡半島的 隧道、高架橋及橋樑,檢查架空電纜、路軌、路軌旁 的設備及疏散路徑。」偉業説:「我們更通宵工作多 個晚上。」

們終於收到通知,獲得夢寐以求的金獎。

署所有員工的貢獻和成就的肯定,此獎可堪稱為獎 勵計劃的『金中之金』。」



When the call went out inviting submissions for the Civil Service Outstanding Service Award Scheme 2017, Chris Ho's supervisors encouraged Chris's team to participate in this prestigious competition as it would recognise his team's painstaking efforts to ensure the smooth opening of the new West Island Line, Kwun Tong Line Extension and South Island Line.

As the opening of the new railway lines involved the co-operation and coordination of a number of government departments, EMSD decided to enter the Interdepartmental Partnership Award. Chris's responsibility was to coordinate the submission — "Safeguard our New Railway Lines" — for the Partnership Award on behalf of EMSD, as well as the other participating government departments.

When working on the railway openings, Chris said the South Island Line was the most challenging as it was all new and had fully automatic operation. The role of railway inspectors was not only to test the trains and systems but also to identify and eliminate any potential hazards for the protection of both passengers and employees.

"Regarding the South Island Line, we walked in the tunnel, viaduct and bridge from Admiralty to South Horizons to inspect the overhead line, rails, trackside equipment and evacuation pathways," Chris said. "We worked overnight many times."

該獎項的評審過程,同樣極具挑戰。六個月之後,我 The judging process for the award was almost as challenging, but after six months they eventually learned they had won the coveted gold prize.

「我們很高興贏得這個獎項。」偉業説:「這是對機電 "We were delighted to win the award," said Chris, "as it recognises the contributions and achievements of all our staff at EMSD. It is truly the 'gold of the gold' of the awards scheme

與時間競賽:高鐵如期於 2018年9月投入客運服務

Racing Against Time: Timely Opening the XRL for Passenger Services in September 2018

鐵路科高級工程師施培康(右二)與他的團隊,日以 繼夜進行各種安全檢查,務求全港首條高速鐵路 一廣深港高鐵(香港段) 一能如期開通。

Jason Sze Pui-hong, senior engineer at the Railways Branch (2nd right) with his team, raced against time to complete various safety inspections to ensure the timel opening of the new XRL, Hong Kong's first high speed



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廣深港高速鐵路香港段如期於9月通車,培康與他的 團隊扮演了重要角色。

廣深港高速鐵路香港段為香港首條高速鐵路,項目 當中充滿了挑戰。為確保新鐵路在投入客運服務前 達至 「安全良好」 狀況,機電署鐵路科必須分階段完 成與鐵路糸統有關的安全測試工作。

作為香港監管鐵路安全的機構,我們必須緊貼測試 和校驗的進度,以及就不同系統作相關的綜合測試。 培康領導他的團隊負責進行高鐵安全規管工作,在 非常緊迫的時間內完成所需的檢測及評估。自2017 年7月高鐵列車進行動態測試起,培康及其團隊經常 須日以繼夜地工作,以完成多項不同的檢測和處理 「安全良好」評估所需的數以千頁計的報告和圖則。 有賴團隊靈活應變,以配合各項檢測安排,有關任務 方能以緊絀的資源和在極為緊迫的時間內完成。

高鐵香港段為跨境鐵路,會有列車直達內地44個站 點,接通國內高鐵網絡,這樣亦增加了項目的複雜 性。在高鐵香港段測試和校驗期間,整個團隊需頻繁 往返內地及嚴密監察港鐵公司驗證不同類型的內地 列車與高鐵香港段基礎設備的兼容性。

培康説:「因此,高鐵項目與我過往負責過的其他鐵 路線截然不同。」

作為負責統籌鐵路安全及保安範疇的政府部門,機 電署一直與相關的政府部門就開通高鐵香港段的安 全評估緊密溝通,包括被列為現時世界最大型的地 底高鐵車站 一 香港西九龍站的運作要求,並趕及於 2018年8月中向港鐵公司確認高鐵香港段狀況「安全 良好」,可以啟用,讓港鐵公司有足夠時間為投入客 運服務做好準備。

儘管須克服重重挑戰,培康與他的團隊仍然堅定不 移,完成繁重的測試工作,以及統籌不同政府部門進 行所需的安全評估工作,使整條高鐵香港段能於9月 開通。

Jason and his team played an important part in the scheduled opening of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) in

As the Hong Kong Section of XRL is Hong Kong's first high-speed rail, the project was full of challenges. The Railways Branch of EMSD had to complete the safety inspections for the railway systems in phases to ensure the new railway would be in a "safe and sound" condition before opening for passenger service.

As the railway safety regulator in Hong Kong, we had to keep track of the testing and commissioning progress, as well as to conduct integration tests for various systems. Jason led his team to carry out regulatory work on XRL safety, and complete the required inspections and assessments in a very tight timeframe. Since the start of the dynamic tests for the high-speed trains in July 2017, Jason and his team often had to work day and night in order to complete the numerous inspections and process thousands of pages of reports and drawings necessary for the "safe and sound" assessment. Without team members' flexibility and versatility in accommodating various inspection arrangements, this task would not have been completed with limited resources and the extremely tight deadlines.

What made the project even more complicated was the fact that XRL is a cross boundary railway line which connects with the national high-speed rail network, offering direct trains to 44 destinations in the Mainland. During the testing and commissioning stage of the Hong Kong Section of XRL, the entire team had to make frequent trips to the Mainland and closely monitor how MTRCL verified the compatibility of different types of Mainland trains with the infrastructure of the Hong Kong Section of XRL

"This made the XRL project completely different from other rail lines I had worked on in the past," said Jason.

As a government department responsible for co-ordinating the safety and security aspects of railway systems, EMSD had been communicating closely with relevant government departments on the safety assessments for the opening of the Hong Kong Section of XRL, including the operational requirements of Hong Kong West Kowloon Station, the largest underground high-speed railway station in the world, and managed to provide MTRCL with confirmation in mid-August 2018 that the Hong Kong Section of XRL was in a "safe and sound" condition and ready for opening so that MTRCL would have sufficient time to prepare for passenger service.

Despite the challenges that had to be overcome, the steadfast commitment of Jason and his team to completing the onerous testing work and co-ordinating the necessary safety assessments by different government departments made possible the opening of the entire Hong Kong Section of XRL in September 2018.

推廣能源效益及節能 Promoting Energy Efficiency and Conservation

亞太經濟合作組織能源工作小組會議

我們於2018年5月舉行亞太經濟合作組織能源工作小組第55次會議和相關會議,而年度亮點落於我們為此所作的最後準備工作。這是機電署第三次與環境局合作,在香港舉辦此會議。來自19個亞太經合組織成員經濟體的180多名代表,參加為期五天的會議,其中包括「亞太經合組織專家與青年對談」特別工作坊,聚集50多名年輕人與能源工作小組專家,就能源效益和節能方面分享其觀點及探討未來發展。

是次活動,使香港再度成為推動能源效益和節能的 領導城市,並提升香港在能源議題上的國際形象。

APEC Energy Working Group Meeting

A highlight of the year was our final preparation for hosting the 55th Asia-Pacific Economic Cooperation (APEC) Energy Working Group and Associated Meetings (EWG55), which took place in May 2018. This was the third time that the meeting had been held with the Environment Bureau in Hong Kong by EMSD. More than 180 representatives from 19 APEC member economies attended the five-day conference, which included a special Youth Dialogue with APEC Experts workshop for over 50 youths on future developments in energy efficiency.

The event once again put Hong Kong on the map as a leading city in promoting energy efficiency and conservation and enhanced its international profile on energy issues.



在「亞太經合組織專家與青年對談」工作坊裏, 來自香港的年青工程專才有機會與亞太經合組織 的專家,就能源效益事宜交換意見。多位中學生 亦參與其盛,與同場的專家和專才互動交流。

At the Youth Dialogue with APEC Experts workshop, young engineering professionals from Hong Kong had the opportunity to exchange views with APEC experts on energy efficiency matters. Secondary students also attended the workshop and interacted with the experts and professionals on stage.

強制性能源效益標籤計劃(強制標籤計劃) 第三階段

立法會於2018年3月通過《能源效益(產品標籤)條例》 修訂建議,令強制性能源效益標籤計劃第三階段順 利推行。第三階段把涵蓋範圍擴大,新增三種電器, 包括電視機、儲水式電熱水器及電磁爐。現行計劃的 涵蓋範圍亦會擴大,包括具供暖功能的空調機,以及 額定洗衣量為7至10公斤的洗衣機。

Third Phase of the Mandatory Energy Efficiency Labelling Scheme

The Legislative Council passed the proposed amendments to the Energy Efficiency (Labelling of Products) Ordinance in March 2018, making it possible to launch the third phase of the Mandatory Energy Efficiency Labelling Scheme (MEELS). The third phase extended the coverage of MEELS to three additional types of electrical products, namely televisions, storage-type electric water heaters and induction cookers. It also expanded the existing scope of MEELS covering room airconditioners to include those with heating functions, as well as washing machines with rated washing capacities between 7 kg and 10 kg.

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強制標籤計劃第三階段於2018年6月1日生效,全面實施前設有18個月寬限期。預計新階段能每年節省1.5 億度電以及減少排放105 000公噸二氧化碳。強制性標籤計劃三個階段合共佔香港住宅類別每年電力消耗總量約70%。

如去年年報所述,我們察覺到把強制標籤計劃的涵蓋範圍擴展至家用燃氣設備的節能潛力。近年越來越受歡迎的發光二極管燈,目前在自願性能源效益標籤計劃內,節能效果將更加顯著。我們目前正與業界商討,以期將發光二極管燈和家用燃氣設備納入強制標籤計劃第四階段內。同時,我們鼓勵發光二極管燈製造商,盡早採用國際電工委員會標準,為強制標籤計劃將來可能實施的規定做好準備。

The third phase of MEELS took effect on 1 June 2018, followed by a grace period of 18 months before full implementation. The new phase is expected to bring about energy savings of 150 GWh and a reduction of 105 000 tonnes of carbon emissions per year. The three phases of MEELS together will account for about 70% of the total annual electricity consumption in Hong Kong's residential sector.

As mentioned last year, we see great energy saving potential with the extension of MEELS to cover domestic gas appliances. LED lights, increasingly popular in recent years and currently under the Voluntary Energy Efficiency Labelling Scheme, will also generate significant energy savings if covered by MEELS. We are now talking to the trade with a view to incorporating both LED lights and domestic gas appliances into the proposed fourth phase of MEELS. We also encouraged manufacturers of LED lights to adopt International Electrotechnical Commission standards in advance of future MEELS requirements.





機電署同事在商鋪巡查電氣產品,確保產品的能源效益標籤上 的資料正確無誤,符合法例規定。

EMSD colleagues inspecting electrical products in retail shops, ensuring proper energy labels are affixed with accurate information as required by the law.

強制性能源效益標籤計劃第三階段在2018年6月1日生效,電磁爐是計劃內新涵蓋的三種電氣產品之一。

Phase 3 of the Mandatory Energy Efficiency Labelling Scheme (MEELS) took effect on 1 June 2018. Induction cookers are one of the three additional types of electrical products covered in Phase 3 of MEELS.

推廣能源效益及節能 Promoting Energy Efficiency and Conservation



環境局局長黃錦星先生主持「慳神有計大比拼2017」 的啟動禮。這比賽已發展為一大型慳電活動,獲得數 百個機構及社會大眾積極支持。

Launching ceremony of the Energy Saving Championship Scheme 2017, officiated by the Secretary for the Environment Mr Wong Kam-sing. The Scheme has become a major energy saving initiative, with strong support from hundreds of organisations and the community.

全民節能

為應對氣候變化,政府致力推動香港低碳轉型,並採取一系列措施,多管齊下,以節省能源和減少排放。這些措施有助我們達成目標,即是與2005年相比,於2025年把能源強度降底40%,以及於2030年把碳強度降底65%至70%。要達成這些目標,公眾參與至為重要。

由環境局和機電署合辦的「全民節能」運動,已成為一項年度綜合計劃,包括各項節能約章、比賽及活動。通過是次運動和經驗分享,我們期望能提高公眾的節能意識,並和社會各界合作,達成香港能源和碳強度的減排目標。「全民節能 2018」運動包括「節能約章2018」、「4Ts約章」及「慳神創科大比拼2018」等活動。

2012年推出的「節能約章」,鼓勵物業管理公司簽署 承諾,在夏季把平均室內溫度維持於攝氏24至26度, 以減少空調的耗電量。多年來,「約章」的範圍已擴 展至最佳內務管理、採購節能電器,並鼓勵員工/學 生參與採用節能措施。參與機構從2012年約100家, 增至2018年3600多家,證明了「約章」深受歡迎。

「4Ts約章」於2017年推出,專注四大原則,包括訂立設有「時間表」的節能「目標」、確保「透明度」報告節能成效,以及鼓勵同行「參與」以邁向節能目標。目前,已有超過1300個場所簽署「4Ts約章」,鋭意訂立可衡量的節能目標,為應對氣候變化出一分力。

Energy Saving for All Campaign

To combat climate change, the Government is committed to promoting the low-carbon transformation of Hong Kong and has undertaken a series of multi-pronged measures to save energy and reduce emissions. This will enable us to move towards our targets of reducing energy intensity by 40% by 2025 and carbon intensity by 65% to 70% by 2030, as compared with the 2005 levels. To achieve these targets, public participation is essential.

The Energy Saving for All Campaign, jointly organised by the Environment Bureau and EMSD, has become an annual umbrella initiative comprising various energy saving charters, competitions and events. Through this campaign and experience sharing, we are aiming to raise public awareness of energy conservation and engage all sectors of the community to achieve Hong Kong's reduction targets in energy and carbon intensity. The Energy Saving for All 2018 Campaign comprises the Energy Saving Charter 2018, the 4Ts Charter and the Energy Saving Championship Scheme 2018, among others.

The Energy Saving Charter, introduced in 2012, requires signatories such as property management companies to maintain average indoor temperatures at their premises between 24 and 26 degrees Celsius during summer to reduce electricity consumption on air-conditioning. Over the years, the scope of the Charter has expanded to include best housekeeping practices, procurement of energy efficient appliances, and engagement of staff/students to adopt energy saving practices. The Charter has proved to be popular, as evidenced by the growing number of signatories from about 100 organisations in 2012 to over 3 600 in 2018.

The 4Ts Charter, launched in 2017, focuses on the 4Ts principles, i.e., setting an energy saving "Target" with a "Timeline", ensuring "Transparency" to track energy saving results, and encouraging people to work "Together" to achieve energy saving targets. More than 1 300 premises have signed on to the 4Ts Charter and indicated they are keen to work towards measurable energy saving targets that help to combat climate change.

年度節能比賽「慳神大比拼」自2016年推出以來,規模不斷擴大。從2016年的五大類別開始,目前已擴展至十大類別,包括商場,住宅大廈/屋苑,辦公室/商業/工業大廈、醫院、酒店、專上教育學院、辦公室、店鋪/餐廳/超級市場、非政府機構/社區設施,

以及學校(幼稚園、小學及中學)。

「慳神有計大比拼2017」反應熱烈,參加機構從2016 年287家增至合共317家。獲獎機構將於研討會分享 及討論節能經驗,並會把其節能措施上載至「全民節 能」網站施分享心得,帶領大眾共同節約能源。

淡水冷卻塔

2017/18年度,在提高建築物和基礎設施能源效益方面,我們的工作取得顯著進展。

本年度的主要成果,是我們以《建築物能源效益條例》 的能源審核結果,向建築物業主及物業管理公司推 廣淡水冷卻塔計劃。從風冷式轉換至水冷式空調,可 以節省電力消耗約20%。不少業主採納我們的建議, 採用淡水冷卻塔,我們對此感到高興。

我們還於2017年12月舉辦淡水冷卻塔技術研討會,超過600多人參與,包括行業顧問、承辦商、業主及物業管理公司代表。我們將繼續運用《建築物能源效益條例》能源審核所帶來的機會,游說更多業主轉用淡水冷卻塔。

The annual Energy Championship Scheme competition launched in 2016 has also grown considerably. Beginning with 5 categories in 2016, it now covers 10 categories including shopping malls, residential buildings/housing estates, office/commercial/industrial buildings, hospitals, hotels, post-secondary education institutions, offices, shops/restaurants/supermarkets, non-governmental organisation/community facilities, and schools (kindergartens, primary and secondary schools).

The Energy Saving Championship Scheme 2017 received enthusiastic responses, with 317 premises participating, up from 287 in 2016. Winning organisations will take the lead to promote energy saving by discussing their experiences at seminars and uploading their energy saving measures to the Energy Saving for All website for sharing.

Fresh Water Cooling Towers

Our work to increase energy efficiency in buildings and infrastructure made substantial progress in 2017/18.

A key achievement during the year was our promotion of the Fresh Water Cooling Towers (FWCT) Scheme to building owners and property management companies, using the results of our energy audits carried out under the Buildings Energy Efficiency Ordinance (BEEO). The switch from air-cooled to water-cooled air-conditioning can save about 20% in electricity consumption, and we were delighted that many owners had taken our advice to adopt FWCT.

We also organised an FWCT technical forum in December 2017, attended by over 600 participants, including consultants, contractors, property owners and representatives of property management companies. We will continue to leverage the opportunity arising from BEEO energy audits to persuade more building owners to switch to FWCT.



「慳神有計大比拼2017」啟動禮於2017年5月假油塘大本型舉行,出席者包括來自各參與機構的數百位嘉賓、學生和市民,反應熱烈。

The Launching ceremony of the Energy Saving Championship Scheme 2017 in May 2017 was well attended by hundreds of guests from participating organisations, students and members of the public at Domain Mall in Yau Tong.

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推廣能源效益及節能 Promoting Energy Efficiency and Conservation

建築物能源效益註冊計劃

香港建築物能源效益註冊計劃(註冊計劃)是機電署於1998年推出的自願計劃,旨在鼓勵建築物擁有人及物業管理公司提高建築物的能源效益。《建築物能源效益條例》現已實施,我們一直協助更多建築物擁有人參與註冊計劃,以及提升其建築物能源效益表現至超越《建築物能源效益條例》的要求。

自2018年1月1日起,能源表現高於《建築物能源效益條例》最低法定要求的各類新建及現有建築物/處所,以及獲綠建環評認證或其他國際認可建築環境評估評級的建築物/處所,可透過提交簡單表格,申請加入註冊計劃。另一新計劃則鼓勵建築物擁有人以非經常開支採購符合條件的能源效益建築物裝置,包括照明裝置、空調裝置、電力裝置及升降機和自動梯裝置,便有資格獲更佳的稅務優惠。

Energy Efficiency Registration Scheme for Buildings

The Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB) is a voluntary scheme introduced by EMSD in 1998 that encourages building owners and property management companies to enhance energy efficiency in their buildings. Now that BEEO is in place, we have been helping more building owners to participate in HKEERSB and increase their buildings' energy efficiency performance beyond BEEO requirements.

With effect from 1 January 2018, all types of new and existing buildings/premises that have achieved energy performance above the minimum statutory requirements under BEEO, as well as buildings/premises that have obtained BEAM Plus certification or other internationally-recognised building environmental assessment ratings, may apply to join HKEERSB by submitting a simple form. In another new incentive programme, building owners who have made capital expenditures to procure eligible energy efficient building installations, including lighting installations, air-conditioning installations, electrical installations and lift and escalator installations, may be eligible for an enhanced tax incentive.



機電署於2017年11月榮獲香港顧問工程師協會首屆年獎的「整體最佳大獎」,以表揚我們在啟德發展區區域供冷系統鋪設海底管道方面的工作。獎項由發展局常任秘書長(工務)韓志強先生頒發。

EMSD received the "Overall Best Award" in the inaugural Annual Awards of the Association of Consulting Engineers of Hong Kong in November 2017 in recognition of our work in laying the subsea pipelines for the District Cooling System (DSC) at Kai Tak Development. The Award was presented by the Permanent Secretary for Development (Works), Mr Hon Chi-keung.



《建築物能源效益條例》的修訂

根據《建築物能源效益條例》的規定,商業建築的首次能源審核已大致完成。截至目前,香港已有超過800幢建築物/裝置及7300個大型翻新工程,符合《建築物能源效益守則》的規定。

機電署亦剛剛完成《建築物能源效益守則》和《能源審核守則》的第二次全面檢討及在2018年11月刊憲,最新版本將於2019年全面生效。

Update of the Buildings Energy Efficiency Ordinance

The first energy audit for commercial buildings as required under the BEEO was substantially completed. To date, over 800 buildings/installations and 7 300 major renovation works in Hong Kong have been found compliant with the requirements of the Building Energy Code under BEEO.

EMSD has just completed the second comprehensive review of the Building Energy Code and the Energy Audit Code. With the gazetting of this latest edition in November 2018, it will take full effect in 2019.

發展區域供冷系統

啟德發展區的區域供冷系統於2017年5月開始為機電 署總部大樓供應冷凍水,是該項目又一里程碑。區域 供冷系統亦於2017年9月開始為香港兒童醫院供應冷 凍水,為醫院開幕做好準備。

此外,區域供冷系統將為港鐵沙中綫即將落成的宋皇臺站供應冷凍水,使用區域供冷系統的建築物將再添一員,目前用戶包括啟德郵輪碼頭、晴朗商場、工業貿易大樓、兩所學校、機電署總部、香港兒童醫院及啟德站。為滿足啟德發展的未來需求,我們目前正計劃興建另一個區域供冷系統,補充現有區域供冷系統(設有南、北廠)的不足。

在2025年全面峻工後,啟德發展區目前的區域供冷系統將連接約50幢樓宇,每年可節省約8500萬度電,相當於每年減少59500公噸二氧化碳排放量。使用區域供冷系統的建築物的業主可享受較低的安裝成本,亦可幫助減輕熱島效應,並減少傳統空調系統的噪音及振動。

政府正考慮於其他新發展區,包括東涌新市鎮擴展 及古洞北等地,提供類似的區域供冷系統。機電署將 再次負責有關規劃和實施新的區域供冷系統項目, 以及未來的運作和保養工作。

Development of the District Cooling System

The District Cooling System (DCS) at Kai Tak Development began supplying chilled water to the EMSD Headquarters Building in May 2017, another milestone in the project. The DCS also began supplying chilled water to the Hong Kong Children's Hospital (HKCH) in September 2017 in preparation for its opening.

What's more, the DCS will supply chilled water to the future Sung Wong Toi Station of the MTR Shatin to Central Link. This station adds to DCS's portfolio of existing customers, which includes Kai Tak Cruise Terminal, Ching Long Shopping Centre, Trade and Industry Tower, two schools, EMSD Headquarters, HKCH and Kai Tak Station. To meet future demand at Kai Tak Development, we are now planning to build an additional DCS to complement the existing DCS with North and South Plants

Upon its full completion in 2025, the existing DCS at Kai Tak Development will be connected to about 50 buildings to achieve estimated energy savings of 85 million kWh every year, equivalent to a yearly reduction of 59 500 tonnes of carbon dioxide emissions. Building owners who use the DCS can also enjoy lower installation costs, mitigate the heat island effect and eliminate the noise and vibration associated with conventional air-conditioning systems.

The Government is considering similar DCS systems in the new development areas, including the Tung Chung New Town Extension and Kwu Tung North. EMSD will again take on the planning and implementation of the new DCS projects and their future operation and maintenance.



推廣能源效益及節能 Promoting Energy Efficiency and Conservation

區域供冷系統首個開放日

區域供冷系統為富前瞻意義的能源效益基建項目,對社區有很多益處。為向鄰近社區的居民介紹區域供冷系統,我們於2018年5月舉辦首個區域供冷系統開放日,並邀請學生、青少年中心及長者中心、非政府機構、觀塘區議員,以及公眾人士參觀,深入了解區域供冷系統的廠房及設施。850多名參觀者對該項目的技術、規模和效益印象深刻。

First DCS Open Day

As a pioneering energy efficiency infrastructure project, DCS is of great interest to the local community. To inform our neighbours and the community about the DCS, we held the first DCS Open Day in May 2018 and invited students, youth and elderly centres, NGOs, Kwun Tong District Councillors and the public for an in-depth tour of the DCS plants and facilities. The more than 850 visitors who attended were impressed with the technology, scale and benefits of the project.



推廣重新校驗

我們於2017年6月推出香港首份《重新校驗技術指引》,以推廣重新校驗,為香港提升樓宇能源效益開創新階段。年內,我們舉辦多個講座及研討會,並邀請本地及海外講者,與業界、政府部門、物業管理公司、學者及專業團體,就重新校驗方面分享專業知識和經驗。

目前,我們正計劃推出培訓課程,提升本港在重新校驗方面的專業知識水平,第一批受訓對象為工程師,然後是技術人員。重新校驗涉及相當專門的技術知識、數據收集和分析。因此,我們制訂了長遠策略,協助香港業主和業界了解重新校驗的價值、採納並付諸實行。

為推動重新校驗,我們的首要任務之一,是透過各種方式,例如建立像網上黃頁的資料庫,為業主及物業管理公司物色服務供應商。另外,我們亦會促進香港重新校驗行業的發展,因為利用重新校驗,有利香港在未來進一步降低能源強度。

支援上網電價計劃

機電署支援2017年公布的「上網電價」計劃。此計劃 為政府與兩電重新簽訂管制計劃協議的一部分。在 此計劃下,兩電的住宅及商業用戶可在自己的處所 安裝太陽能和/或風能可再生能源系統,從而獲得「上 網電價」之費用。此計劃亦大大有助鼓勵香港市民生 產可再生能源。

為支援「上網電價」,機電署修改了「香港可再生能源網」,提供安裝工程承辦商名單及相關申請程序等資訊。我們亦已設立「上網電價」公眾查詢熱線,並將發行小冊子,說明「上網電價」相關事宜,如安裝光伏電池板等,促進公眾參與。

2018/19年度的活動

我們將繼續就強制性能源效益標籤計劃第四階段諮詢業界,該階段或會涵蓋發光二極管燈和家用燃氣器具。隨着區域供冷系統工程不斷增加,我們將擴大項目團隊,跟進區域供冷系統新項目。「全民節能」運動下的各項計劃,來年亦會繼續發展和增加。

與此同時,我們亦會繼續做好恒常工作,例如推廣淡水冷卻塔和建築物能源效益註冊計劃,確保建築物已根據《建築物能源效益條例》進行能源審核、執法,以及推行我們為向業界和公眾推廣能源效益及節能而開展的各種社區參與計劃。

Promoting Retro-Commissioning

Our launch of Hong Kong's first Technical Guidelines on Retro-commissioning (RCx) in June 2017 marked a new stage in the promotion of RCx in Hong Kong for greater energy efficiency in buildings. During the year, we held talks and seminars featuring local and overseas speakers who shared their expertise and experiences in RCx with the trade, government departments, property management companies, academics and professional bodies.

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We are currently planning to introduce RCx training courses to upgrade local expertise in this field, first for engineers and then technicians. As RCx involves considerable technical expertise, data collection and analysis, we have developed a long-term strategy to help Hong Kong's building owners and the trade recognise the value of RCx and adopt RCx practices.

One of our main priorities with RCx is to help building owners and property management companies source RCx service providers by, for example, setting up an online yellow-page style database. Another priority is to facilitate the development of an RCx industry in Hong Kong as adopting RCx will be vital to the further reduction of Hong Kong's energy intensity in future.

Support for the Feed-in Tariff Scheme

The EMSD supports the Feed-in Tariff (FiT) Scheme announced in 2017, which is part of the Government's renewed Scheme of Control Agreement with the two power companies. Under FiT, residential and business customers of the two power companies can earn FiT payments by installing solar- and/or wind-powered renewable energy systems on their premises. This scheme is a major step forward in encouraging the people of Hong Kong to generate renewable energy.

To support FiT, EMSD has revamped the HK RE Net website to provide information such as a list of installation contractors and the relevant application procedures. We have also set up an FiT public enquiry hotline and will issue a booklet with guidance notes on matters such as installing photovoltaic panels to promote participation in

Initiatives for 2018/19

With regard to MEELS, we will continue to consult the trade on the fourth phase of the scheme, which will likely cover LED lights and domestic gas appliances. As DCS work continues to increase, we will expand our team to take on new DCS projects. The various programmes under the Energy Saving for All campaign will also grow and develop in the year ahead.

At the same time, ongoing work such as the promotion of FWCT and HKEERSB, BEEO energy audits and law enforcement, as well as our full range of community engagement initiatives to promote energy efficiency and conservation to the trade and the public, will continue.

重新校驗—機電署「樓宇醫生」

Retro-commissioning with the "Building Doctors" of EMSD

能源效益事務處高級工程師江嘉華相信,「重新校驗」透過 調校樓宇各種系統與設備操作,以及知識共享,對提高建 築物能源效益有極大潛力。

Kong Ka-wah, senior engineer at the Energy Efficiency Office, believes Retro-commissioning has enormous potential to enhance building energy efficiency via fine-tuning building systems and equipment operations as well as knowledge sharing.



重新校驗是一項有系统及成本效益的檢測方法,通 過追蹤耗能設備/系統的操作數據,分析及診斷,定 期檢查現有建築物的能效表現,從而制訂一套以科 學為本且能節省能源的操作改善的方案。雖然重新 校驗的概念在香港仍然相對較新,但很快已被本地 屋宇裝備業界認可。這全賴嘉華與能源效益事務處 團隊,機電署的致力制訂重新校驗指引、透過舉辦技 術講座和促成持份者之間的合作以推廣重新校驗, 以及幫助業主透過重新校驗提高能源效益。

嘉華憶述:「兩年前,在我們開始就重新校驗制訂指 引的時候,根本無法想像原來大家會對這計劃感興

從那時起,他一直研究如何提高屋宇裝備系統的能 源效益,例如冷氣、照明、電氣裝置、升降機和自動 梯。正如他所描述的那樣:「重新校驗這些樓宇時, 我們的工作就像是『樓宇醫生』,為樓宇檢查健康狀

他與團隊負責的其中一項重新校驗試行項目,涵蓋 六座政府大樓。通過團隊和營運基金同事之間的緊 密合作,結果令人鼓舞,每年能節約3%至9%的電力。

隨後,嘉華和他的團隊開始向私營界別推廣重新校 驗,並制訂針對不同持份者的宣傳計劃。自2016年 以來,嘉華和他的團隊已為超過3000人,包括物業 發展商、物業管理公司、專業機構及工會,舉辦了 40多場簡介會、技術講座及經驗分享會。嘉華和他 的團隊對持份者的積極反應感到非常鼓舞。

在私營界別的合作伙伴香港綠色建築議會合作,共 同為業界及專業人士設計重新校驗培訓課程。

嘉華還希望在現有政府大樓實施重新校驗,藉以開 始新一輪的樓宇節能改善計劃。

Retro-commissioning (RCx) is a systematic and cost-effective process of periodically checking an existing building's energy performance. It involves tracking operational data from energy-consuming equipment and systems, analysis and diagnosis to provide solutions that can save energy. Although RCx is still a relatively new concept in Hong Kong, it has quickly become recognised by the local building services sector. This has been largely due to the work of Ka-wah Kong and a team of the Energy Efficiency Office (EEO), whose role at EMSD is to formulate guidelines on RCx, promote RCx via technical talks, encourage co-operation among stakeholders, and facilitate the improvement of energy efficiency through RCx by owners of existing buildings.

"Two years ago, we started to formulate the guidelines on RCx," Ka-wah said. "We couldn't imagine then that so many people would be interested in it."

Since that time, he has been studying how to improve the energy efficiency of building services systems, such as air-conditioning, lighting, electrical installations, lifts and escalators. As he describes it, "When retro-commissioning buildings, we act like "building doctors" who examine the health of buildings."

One of the initiatives he and the team undertook was a pilot RCx project covering six government buildings. With close collaboration between the team and Trading Fund colleagues, the results were very encouraging, with annual electricity savings ranging from 3% to 9%.

Following this project, Ka-wah and the team began to promote RCx to the private sector with a publicity plan aimed at stakeholders. Since 2016, Ka-wah and the team have conducted over 40 presentations, technical talks and experience sharing sessions for over 3 000 people, including developers, property management companies, professional institutions and trade unions. The positive feedback from stakeholders has been very encouraging for Ka-wah and the team.

嘉華的下一步,是調整目前的技術指引,並與機電署 The next step for Ka-wah is to fine-tune the current technical guidelines and work with EMSD's private sector partner, the Hong Kong Green Building Council, to cocreate an RCx training programme for the trade and professionals.

> Ka-wah would also like to start a new round of building energy efficiency improvements by implementing RCx in existing government buildings.



為促進能源效益立法

Translating Energy Efficiency into Legislation

能源效益事務處前工程師陳瑩瑩、曾於「強制性能源效益標籤 計劃|第三階段實施前,負責諮詢不同持份者意見的工作,並 編訂了新的《實務守則》。

Dorothy Chan Ying-ying, former engineer at the Energy Efficiency Office, was responsible for stakeholder consultation prior to the implementation of the third phase of the Mandatory Energy Efficiency Labelling Scheme and compilation of the new Code of Practice.



具備能源效益的產品在節能方面擔當十分重要的角 色,因此,機電署積極把更多節能產品納入強制性能 源效益標籤計劃(強制性標籤計劃)。在籌備實施第 三階段強制性標籤計劃時,陳瑩瑩負責向不同持份 者,例如製造商、供應商及公眾進行諮詢,並尋求他 們的支持。她亦編製了新的《實務守則》、舉辦多次 業界研討會及零售商探訪活動等。

此外,在修訂《能源效益(產品標籤)條例》工作方面, 她積極與環境局及律政司合作,草擬相關修訂條文。 瑩瑩説:「這是我第一次參與立法工作,把工程術語 翻譯成法律條文,是一項甚具挑戰的工作。能夠代表 機電署向環境局及律政司提供協助,我感到很高興。 在推動實施第三階段強制性標籤計劃的過程中,最 難忘的是在立法會審議條例期間,我為環境局提供 支援,迅速把正確全面的資訊發放到會議,這有助確 立機電署的正面形象,亦促成了條例獲得順利通過。」

瑩瑩正籌備把另一批產品納入下一階段的強制性標 籤計劃。瑩瑩説:「到目前為止,強制性標籤計劃的 涵蓋範圍約佔家居全年用電量的70%。在下一階段, 我們計劃涵蓋發光二極管燈、燃氣用具及其他電器。 我們正不斷研究和挑選適當的產品納入計劃的範圍, 以節省更多能源,並推動香港應對氣候變化的最佳

As energy-efficient appliances play a very important role in saving energy, EMSD looks for new energy-efficient appliances to be introduced into the Mandatory Energy Efficiency Labelling Scheme (MEELS). In the lead-up to the implementation of the third phase of the MEELS, Dorothy Chan Ying-ying was responsible for conducting consultations to solicit feedback and support from different groups of stakeholders, including manufacturers, suppliers and the public. She also compiled the new Code of Practice and organised trade seminars and publicity visits to

In addition, Dorothy collaborated with the Environment Bureau (ENB) and the Department of Justice (DoJ) to amend the Energy Efficiency (Labelling of Products) Ordinance. Dorothy said, "This was the first time I was engaged in shaping legislation and translating engineering terms into legal language, which was a very challenging task. Working on behalf of EMSD, I was delighted to offer support to the ENB and the DoJ. In the process of promoting the implementation of the third phase of MEELS, the most memorable thing was that during the deliberation of the Ordinance at the Legislative Council, I supported the ENB in swiftly providing correct and comprehensive information to the meeting, which helped maintain the positive image of EMSD and contributed to the successful passage of the legislative amendment.

Dorothy is preparing to include another batch of appliances in the next phase of MEELS. Dorothy said, "Until now, the coverage of MEELS accounted for about 70% of the annual electricity consumption in the residential sector. In the next phase, we are planning to cover LED lamps as well as gas and other electrical appliances, and we will conduct regular studies and select suitable appliances for incorporated into MEELS in order to save more energy and contribute to the fight against climate change in Hong Kong."

提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

我們致力與主要持份者,建立可靠及透明的溝通渠 道。我們亦相信要享有高水平的機電安全及能源效 益,公眾教育比檢控更行之有效。

2017/18年度,我們以雙管齊下的方式,與業界及公眾溝通。我們亦意識到新科技包括手機應用程式、社交媒體、短片及視訊對年青一代的影響。因此,我們因時制宜,使用相應的溝通方法和工具與他們溝通。與此同時,我們必須確保各種安全及能源效益的訊息,能通過印刷媒體、電視及電台等傳統途徑,傳送給社會其他階層人士。

鼓勵業界參與

我們的策略,是促進機電業界遵守相關法律及工作 守則,並鼓勵他們效法最佳實踐做法,提高專業水 準。我們亦會就如何提升安全及能源效益表現,定期 諮詢業界。近年,我們在推廣機電行業方面走得更 前,以期吸引更多年輕人加入我們的行列。

年內,我們經常通過會議、簡報會及研討會,以及向 行業協會、工會、專業團體及培訓機構派發的通告和 通訊,與受監管的行業和相關行業溝通。我們亦會透 過不同的工作小組及諮詢委員會,就一些影響業界 及業內人士的議題收集行業組織及個別人士的意見。

我們亦推出了各樣績效評估及認可計劃、比賽及自願註冊計劃,增加業界的透明度,提升行業專業標準及形象。為照顧機電行業新生代的需要,我們於機電署YouTube頻道、相關的非政府機構網站及其他社交平台,上傳了多條短片分享技術知識和培養安全意識。

We are committed to building trust and transparency in our communications with key stakeholders. We also believe that public education is more effective than prosecution in achieving a high level of E&M safety and energy efficiency.

In 2017/18, we adhered to our two-pronged communication approach of engaging the regulated trades and the public. As we are aware of the impact on the younger generation of new technology, including mobile apps, social media, short videos and visual communication, we tailored our approach and tools accordingly. At the same time, we continued to ensure that various safety and energy efficiency messages are available via traditional channels such as print media, TV and radio for other sectors of the community.

Engagement with the Trades

Our approach is to help the E&M trade comply with the relevant laws and codes of practice, encourage them to adopt best practices and raise professional standards. We also seek the trade's views on how to enhance their safety and energy efficiency performance on an ongoing basis. In recent years, we have made an extra effort to help promote the E&M trade to young people in a bid to attract more new blood to the industry.

During the year, we communicated frequently with the regulated trades and related industries via meetings, briefings and seminars, as well as circulars and newsletters for trade associations, workers' unions, professional bodies and training institutes. We also consulted with trade groups and individuals through various working groups and advisory committees to solicit their views on matters affecting their sector and practitioners.

Various performance assessment and recognition schemes, competitions and voluntary registration schemes have also been put in place to increase the trade's transparency, their professional standards and image. Catering to a younger generation of E&M workers, we posted short videos on the EMSD YouTube channel, the websites of relevant NGOs and other social media to share technical knowledge and build safety awareness.



我們每年均為機電業內不同界別舉辦各種講座 及研討會,以協助業界符合相關法律及各種實 務守則,並採納最佳作業方法。

We hold talks and seminars for different sectors in the E&M trade throughout the year to help them comply with the relevant laws and codes of practice





我們與前國家質檢總局於2017年6月,在香港舉行聯 合公開展覽,作為慶祝機電署與國家質檢總局攜手推 動內地和香港的機電安全和能源效益14周年的活動 之一,圖為展覽開幕槽。

Opening ceremony of the joint 14th anniversary celebrations of EMSD-AQSIQ cooperation in promoting E&M safety and energy efficiency in the Mainland and Hong Kong.

國際及區域交流

香港是多個機電安全及能源效益相關國際機構的成員,並扮演着獨特的角色。近年,機電署積極舉辦不同的國際及區域會議,確保香港在向海外同業學習的同時,能表達自己的見解。

舉例來說,我們與香港鐵路有限公司於2017年10月 22至27日合辦了第二十七屆國際鐵路安全議會年度 會議(「鐵路會議」),為重要的鐵路安全國際論壇。是 次會議吸引逾300個來自40個國家與地區的代表參 加,包括內地鐵路局官員首次應邀出席,以及分別來 自泰國與老撾負責工務及運輸方面的部長級官員參 加。

另一盛事是我們與前國家質量監督檢驗檢疫總局(國家質檢總局)於2017年6月在香港舉行了第14次年度會議及聯合公開展覽暨業界聚會。機電署與國家質檢總局的合作,已踏入第14個年頭,攜手促進內地和香港的機電安全和能源效益。2018年4月,國家質檢總局的出入境檢驗檢疫管理職責和隊伍已劃入中國海關總署,我們將與新伙伴繼續通力合作。

在2018年5月舉辦的第55屆亞太經濟合作組織能源工作小組會議,是環境局及機電署合辦的區域盛事。 我們在2017/18年度努力籌備下,吸引了來自19個亞太經合組織成員經濟體的180多名代表參加。

International and Regional Exchange

Hong Kong is a member of many international organisations on E&M safety and energy efficiency and has a unique role to play. In recent years, EMSD has been active in hosting various international and regional conferences to ensure that Hong Kong's voice is heard while learning from our overseas counterparts.

An example was the 27th annual conference of the International Railway Safety Council (IRSC) — one of the most important international forums on railway safety — from 22 to 27 October 2017, which we co-hosted with MTR Corporation. The 2017 conference in Hong Kong attracted over 300 delegates from more than 40 countries and regions, including Mainland railway officials for the first time, as well as two ministers for transport and public works from Thailand and Laos.

Also significant was the 14th annual meeting with the former General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ), which we held in Hong Kong, together with a joint public exhibition and a trade gathering in June 2017. The event marked the 14th anniversary of EMSD's cooperation with AQSIQ in promoting E&M safety and energy efficiency in the Mainland and Hong Kong. The team for entry-exit administrative law enforcement under AQSIQ was transferred to and integrated under the General Administration of Customs of the People's Republic of China, our new cooperation partner, in April 2018.

An important regional event was the 55th meeting of the Asia-Pacific Economic Cooperation (APEC) Energy Working Group in May 2018 hosted by the Environment Bureau and EMSD in Hong Kong. Preparatory work was undertaken in 2017/18 for this event, with over 180 delegates from 19 APEC member economies attending.

提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

「機電・啟航」迎新典禮

作為香港機電業推廣工作小組(工作小組)的召集人,機電署聯同工作小組成員,首次舉辦了「機電,啟航」迎新典禮。來自成員機構的逾700位機電業年青學員首次參與了是次活動。

工作小組於2012年成立,由香港的19家機電機構組成,旨在推動機電業人才招聘和培訓,以滿足對業內人手不斷增加的需求。政務司司長為活動主持揭幕儀式,標誌着在香港未來發展的帶動下,機電事業前景一片光明。

改善各項計劃和約章

年內,我們修訂了「瓶裝石油氣分銷商安全表現評級計劃」,優化評級準則及審核機制,使參與計劃的石油氣分銷商繼續提升氣體安全標準及客戶服務。

我們亦豐富了兩年一度的「傑出註冊電業工程人員選舉」的內容,在現有的「個人組」以外增設了「團隊組」,從而鼓勵更多註冊電業工程人員參加。

"E&M GO!" Orientation Ceremony

As convenor of the Hong Kong E&M Trade Promotion Working Group, EMSD hosted the first "E&M GO!" orientation ceremony together with Working Group members. Held in September 2017, the event attracted over 700 first-year technician trainees from various E&M organisations in the Working Group.

Established in 2012, the Working Group comprises 19 major E&M organisations in Hong Kong and aims to promote E&M talent recruitment and training to satisfy the ever-increasing manpower needs of the E&M industry. Officiated by the Chief Secretary for Administration, the ceremony highlighted the bright prospects of the E&M trade in the context of Hong Kong's future development.

Enhancing Various Schemes and Charters

During the year, we enhanced the LPG Cylinder Distributor Safety Performance Recognition Scheme by strengthening its marking criteria and the audit mechanism, so that participating LPG cylinder distributors would continue to raise their standards in gas safety and customer service.

We also enriched our biennial Outstanding Registered Electrical Worker Awards Scheme by extending the existing Individual category to include a new Team category, with the aim of encouraging greater participation among practitioners.



我們於2017年下半年在機電署總部大樓設置了一間 示範車輛維修工場,讓業界更了解「車輛維修工場自 願註冊計劃」的基本註冊要求。圖為我們同事於現場 向業界講解。

A colleague gives a guided tour of the sample vehicle maintenance workshop, set up at the EMSD Headquarters Building in the second half of 2017. At the workshop, members of the trade can learn about the basic requirements for registration under the Voluntary Registration Scheme for Vehicle Maintenance Workshops.





機電青少年大使計劃定期舉辦參觀活動,提高青少年對 機電業的興趣。

Regular visits are organised under the EMYA Programme t enhance young people's interest in the E&M trade.

「車輛維修工場自願註冊計劃」已踏入第三個年頭, 我們成功鼓勵全港約七成車輛維修工場註冊,高於 2016/17年度的六成。我們亦於機電署總部大樓,設 置車輛維修示範工場,鼓勵業界深入探究設施。事實 證明,該活動有助業界,尤其是小型車輛維修工場的 東主及技工,理解自願註冊計劃的安全和營運準則。

香港建築物能源效益註冊計劃亦已檢討及改善。由 2018年1月1日起,各類新建及現有建築物/處所的 能源表現只要超出法定最低要求,並取得由香港綠 色建築議會管理的綠建環評或其他國際認可的建築 物環境評估制度頒發的良好能源表現認證,均可申 請加入此計劃。相關的合資格環保裝置招致的資本 開支或可享有加快的稅務扣除。

這些改善措施,旨在鼓勵更多樓宇業主及物業管理公司提升轄下建築物的能源效益表現,以超出《建築物能源效益條例》的法定要求。

In the third year since the launch of the Voluntary Registration Scheme for Vehicle Maintenance Workshops (VRSVMW), we have succeeded in encouraging about 70% of local vehicle maintenance workshops to register, up from 60% in 2016/17. We also set up a vehicle maintenance demonstration workshop at the EMSD Headquarters and invited the trade to take an in-depth tour of the facility. The event proved to be very useful in enhancing the trade's understanding of the safety and operational standards required under the VRSVMW, especially for the owners and mechanics of small vehicle maintenance workshops.

The Hong Kong Energy Efficiency Registration Scheme for Buildings (EERSB) was also reviewed and enhanced during the year. Starting 1 January 2018, owners of all types of new and existing buildings/premises can apply to join the EERSB if they have achieved energy performance exceeding the minimum statutory requirements under the Buildings Energy Efficiency Ordinance and obtained certificates of good building energy performance through the BEAM Plus Assessment System or other internationally-recognised building environmental assessment. Capital expenditures incurred on the construction of energy efficient building installations registered under EERSB may be eligible for accelerated tax deduction.

All these enhancements are aimed at encouraging more building owners and property management companies to raise the energy efficiency performance of their buildings above and beyond the BEEO requirements.

提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

公眾參與

年內,我們舉辦了一系列目標為本的活動,提高公眾 對機電安全和能源效益的意識。我們與大眾定期溝 通的活動包括公眾研討會、講座、通訊、機電嘉年 華、教育徑導覽團、「機電青少年大使」計劃,以及 為學校、幼稚園及安老院,持續舉行外展講座和展 覽。這些活動均為2017/18年度機電署的重點社區參 與計劃。

我們還定期與傳媒會面,為記者的查詢及訪問邀約 提供迅速兼專業的回應。我們與媒體的年度聚會,為 記者和編輯另闢途徑,了解機電署的工作重點,以及 提供與我們的高層管理人員重新聯繫的機會。我們 還不時為同事安排傳媒會面培訓,特別是那些負責 事故調查的同事,讓他們能夠專業地處理傳媒現場 查詢,保持我們工作的透明度。

慳神大比拼、機電青少年大使及其他公眾 活動

市民大眾可參加由機電署舉辦的各項獎勵活動,如透過學校、屋邨、辦公室及其他組別參加「慳神大比拼」。同樣,公眾亦可透過自己的工作地點、學校及其他場所,參加「全民節能」下的各項活動,如「節能約章」及「4Ts約章」。

年內,機電署透過「機電青少年大使」計劃,為6000 多名成員舉辦參觀活動,例如參觀香港鐵路公司的 九龍灣車廠及香港中華煤氣有限公司的總部。此外, 機電工程署署長在2018年4月舉辦的首個「機電青少 年大使」計劃年度大會,與150多位青年大使及其家 人分享經驗。

Engagement with the Public

Throughout the year, we held a wide range of target-specific activities and events for the general public to promote E&M safety and energy efficiency. Regular communications such as public seminars and talks, newsletters, the E&M Carnival, group visits to our Education Path, our E&M Young Ambassador programme as well as ongoing outreach talks and exhibitions at schools, kindergartens and elderly homes formed the core of our community engagement programme in 2017/18.

We also engaged with the media regularly, providing prompt and professional responses to journalists' enquiries and interview requests. Our annual media gathering provided another channel for journalists and editors to understand EMSD's current priorities as well as an opportunity to refresh contacts with our senior management. From time to time, we also arranged media training for our colleagues, especially those with incident investigation responsibilities, so that they could handle on-site media enquiries professionally and with a high level of transparency.

Awards, EMYA and Other Activities for the Public

Members of the public are able to take part in a wide variety of award events held by EMSD, such as the Energy Saving Championship Scheme, via their schools, housing estates, offices or other appropriate categories. Similarly, they may also participate in initiatives such as the Energy Saving Charter and the 4Ts Charter under the annual Energy Saving for All campaign through relevant channels at their workplace, schools or other venues.

The E&M Young Ambassadors (EMYA) programme, EMSD's youth engagement initiative with over 6 000 members, organised visits for members during the year, such as the MTR Corporation's Kowloon Bay depot and the Hong Kong and China Gas Company Limited headquarters. Our Director hosted the first EMYA annual gathering in April 2018, where he shared experiences with over 150 young ambassadors and their families.

樂齡科技顯愛心

機電署於2017年6月參加由香港社會服務聯會(社聯) 舉辦的首屆「樂齡科技博覽暨高峰會」。此外,我們 又與社聯合辦了「樂齡科技顯愛心」青少年比賽,旨 在通過鼓勵參賽隊伍提出創意產品方案,提高長者 的生活質素,讓他們生活更方便、更健康愉快。

比賽吸引了共93支隊伍參加,包括小學、中學及共 融組別。獲獎的創意項目包括醫療警報裝置、輪椅助 力裝置和長者智能坐墊。各得獎隊伍之獎金已全數 捐贈給指定的慈善機構。

我們亦計劃與社聯繼續合作,尋找各種方法,讓樂齡 科技在社區發展。

Gerontech Youth Challenge

EMSD took part in the first Gerontech Expo cum Summit organised by the Hong Kong Council of Social Services (HKCSS) in June 2017. Together with HKCSS, we coorganised the Gerontech Youth Challenge as part of the overall programme. The competition was held to enhance health, convenience and well-being for the elderly by encouraging participating teams to come up with creative product ideas that improve quality of life for the elderly.

A total of 93 teams participated under the Primary School Teams, Secondary School Teams and Integrated Teams categories. Winning project ideas included a medicine alert device, a wheelchair power-assist device and a smart cushion for the elderly. Cash prizes were donated to charities designated by the winning teams.

We also plan to collaborate with HKCSS to explore further ways of supporting gerontech development in the community.



2017年首次與香港社會服務聯會合辦 「樂齡科技顯愛心」比賽・鼓勵年青人 關懷長者生活。

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The Gerontech Youth Challenge was held in collaboration with the Hong Kong Council of Social Service in 2017 for the first time to promote care for the elderly by the younger generation.

提升公眾安全及節能意識 Raising Public Awareness of Safety and Energy Conservation

公眾機電意識調查

作為評估公眾的機電意識的一部分,我們於2017年7月至10月期間展開了「公眾機電意識調查」,以衡量公眾在機電安全及能源效益方面的知識及意識水平。調查範圍包括電話調查,訪問合共2006名10歲至64歲的市民,以及四個專責小組。從討論中收集更深入的資訊及小組成員的第一手回應。調查結果有助於我們找出在規管服務方面有待改善之處。

Public Awareness Survey

As part of our ongoing effort to gauge public perceptions, we conducted a Public Awareness Survey from July to October 2017 to measure the general public's knowledge and awareness of E&M safety and energy efficiency topics. The Survey consisted of a telephone survey, which covered a total of 2 006 respondents from the age of 10 to 64, as well as four focus groups to collect in-depth information and first-hand feedback from respondents. The findings were useful in helping us to identify areas for improvement in our Regulatory Services.



機電署的展覽館經全面翻新後已於2018年3月重開。圖為學生於展覽館內試玩觸屏式遊戲,了解機電工程署的服務,與趣盎然。

Students having fun with a touch-screen interactive panel in the revamped EMSD Gallery learn about EMSD's services. The new Gallery was re-opened in March 2018.





機電署高層管理人員於2017年11月舉行的傳媒聚會,為傳媒朋友闡釋部門如何支援初創企業,並促進本港的創新科技發展。來自廿多家傳媒機構的記者和編輯出席了是次聚會,並參觀了數個以機電署總部為據點、就多個項目進行測試的初創企業創科專案。

At the media gathering in November 2017, our senior management explained how EMSD supports start-ups and facilitates I&T development in Hong Kong, Journalists and editors from more than 20 media organisations attended the event and were shown some of the I&T trial projects by start-ups using EMSD Headquarters as the pilot site.

「機電・夢飛翔」展覽館隆重開幕

我們致力改善機電署總部大樓,當中包括改建教育 徑展覽館。展館正式改名為「機電·夢飛翔」展覽館, 並已於2018年3月重新向公眾開放。

「機電・夢飛翔」展覽館的新展品,為參觀者創造猶如親歷其境的「機電之旅」,讓他們認識機電署的日常工作及各種有關機電和能源效益的知識。展覽館內的互動遊戲和有趣展品,老少咸宜。歡迎公眾隨時前來參觀,或預約團體導賞。學生及其他人士均無任歡如。

除了「機電·夢飛翔」展覽館,教育徑亦包括總部大樓的其他環保及教育設施。在2017/18年度,我們共為學校、社區團體、青年中心、海外代表團和專業團體舉辦了267次導賞。

傳媒聚電

我們最近一次的傳媒聚會已於2017年11月舉行,主題圍繞機電署如何能支援初創企業,並提出以總部為據點,發展創新科技(I&T)先導專案。來自20多家傳媒機構的記者和編輯出席是次聚會,一同觀摩創新科技先導專案,例如智能温度調節器及電池狀態診斷系統。在聚會上,高層管理人員亦概述了機電署在促進香港創新科技發展的策略和措施。

機電嘉年華2018

「機電嘉年華2018」於2018年1月假機電署總部大樓舉行,吸引近12 000名公眾人士參加為期兩天的活動。參與者和訪客從中了解機電安全、能源效益與科技應用,以及機電署與機電業過往數十載的發展。

Grand Opening of the EMSD Gallery

As part of the ongoing effort to transform and upgrade the facilities in our headquarters building, we revamped our Exhibition Gallery and renamed it the EMSD Gallery, which was re-opened to the public in March 2018.

The new features of the EMSD Gallery create an experiential journey for visitors to explore and learn about EMSD's work, as well as E&M safety and energy efficiency. With interactive games and fun exhibits, the Gallery welcomes walk-in guests as well as pre-arranged groups of students and other visitors.

The EMSD Gallery is a key element of the Education Path at our headquarters building, which also comprises other green and educational features. In 2017/18, we hosted a total of 267 guided tours of the Education Path for schools, community groups, youth centres, overseas delegations and professional bodies.

Media Gathering

Our latest media gathering, held in November 2017, focused on how EMSD supports start-ups by using our headquarters as a pilot site for their innovation and technology (I&T) projects. Journalists and editors from more than 20 media organisations attended the gathering and were shown some of the I&T trial projects, such as smart controllers for fan coil units and a battery state diagnostics system. At the gathering, our senior management outlined EMSD's strategies and initiatives that will facilitate I&T development in Hong Kong.

E&M Carnival 2018

Our E&M Carnival 2018 was held in January 2018 at EMSD Headquarters, with nearly 12 000 members of the public participating in the two-day event. Participants and visitors learned about E&M safety, energy efficiency and technology applications, as well as the development of EMSD and the E&M trade in the past few decades.



為期兩天的「機電嘉年華2018」,已於2018年1月於機電署總部大樓露天廣場舉行,圖為開幕禮上各主禮嘉 夏及參與機構代表。嘉年華吸引了12000多位市民參 加,透過攤位遊戲與教育活動,加深對機電安全、能 源效益和科技應用的認識。

organisations at the opening ceremony of the E&M Carnival 2018, a two-day event in January 2018 at the EMSD Headquarters piazza. Over 12 000 members of the public took part in booth games and educational activities to learn about E&M safety, energy efficiency and technology applications.



機電工程營建金報告

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.

機電工程營運基金報告 EMSTF REPORT

常務委員會 Executive Board

主席 CHAIRMAN



成員 MEMBERS





秘書 SECRETARY





- * 發展局副秘書長(工務)2麥成章太平紳士出任常務委員會成員至2017年4月11日 Mr Mak Shing-cheung, Vincent, JP, Deputy Secretary for Development (Works)2 was the board member up to 11 April 2017
- * 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

管理委員會 Management Board



主席 CHAIRMAN

1 薛永恒太平紳士

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 Mr Wong Sek-cheung, JP 機雷工程睪助理睪론 /1

機電工程署助理署長/1 Assistant Director/1, 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

L 張遠芳太平紳士 Mr Cheung Yuen-fong, JP

機電工程署助理署長/2 Assistant Director/2, EMSD

5 陳志偉先生 Mr Chan Chi-wai, Richard

機電工程署助理署長/3 Assistant Director/3, EMSD

6 李碧雲女士 Ms Li Pik-wan, Clara

機電工程署財政經理 Finance Manager, EMSD

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

- * 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
- 張國輝太平紳士出任機電工程署助理署長/3至2017年7月22日 Mr Cheung Kwok-fai, JP was Assistant Director/3 up to 22 July 2017
- 周厚強先生出任署理機電工程署助理署長/3至2017年10月8日 Mr Chow Hau-keung, Vincent was Acting Assistant Director/3 up to 8 October 2017



機電工程營運基金於2017/18年度續有穩定表現,總收入為65.11億港元(2016/17年度:62.03億港元),收入回報率為9.6%(2016/17年度:5.3%)。收入回報率上升,是由於大型基建項目及資產更新工程帶動服務需求,但我們以微利營運的方針則未有改變。

2017/18 was another year of steady performance for the Electrical and Mechanical Services Trading Fund, with total revenue at HK\$6,511 million (2016/17: HK\$6,203 million) and return on revenue at 9.6% (2016/17: 5.3%). The higher return on revenue was attributable to increased service demand from major infrastructure projects and asset replacement works, though our slim-profit operating principle has remained unchanged.

完成首個五年策略計劃

2017/18是營運基金首個五年策略計劃的最後一年,計劃的目標是「透過與客戶的伙伴關係,創造公眾價值利惠市民」。我們並以五個策略落實計劃,引領營運基金的中期發展。首個五年計劃對營運基金近年在提升優質服務、運作效率、員工發展、關懷文化和可持續發展方面的表現都有極大幫助。舉個例,我們在最近一輪的2016年客戶意見調查中,以8分為滿分計,獲得歷來最高的6.45分客戶滿意指數,證明策略計劃的方向正確。

年內我們一邊開始檢討首個五年策略計劃的成果,同時也着手制訂第二個五年策略計劃,並充分考慮員工對首個五年計劃的意見與經驗。正如以往本欄提過,我們對計劃之下達成的多個里程碑深感高興,像新的「顧客為本電子平台」流動網上工作管理系統,和取代舊有資訊服務中心的全新「客戶服務中心」,在設施和規模方面都大有提升。這些新設施都會大幅提升營運基金的工作流程管理,也有助員工在客戶查詢相關工作推度時,提供實時回應。

上述的新硬件,再配合我們近年推出各種更有效遙 距監察、和更精準調控客戶機電系統的新科技方案, 已見實質成效,也促使我們在制訂第二個策略計劃 時,以數碼化、創新和科技為重點。

第二個策略計劃:機電2.0

經過連番討論,並以「同行·共創」方式讓員工參與, 我們已於2018年4月推出第二個策略計劃。新計劃的 目標是為社會創造更大的公眾價值,讓營運基金朝 着機電2.0的時代進發。我們會以三個策略去落實計 劃,包括提供數碼化機電服務及創新方案,配合發展 智慧城市和應對氣候變化的政策;培育掌握專門技 術及數碼化作業,並具備國際視野的卓越團隊;及擁 抱科技並與行業團隊同行,成為一所樂於嘗試新科 技、推動機電服務數碼化的機構。

CONCLUDING THE FIRST STRATEGIC PLAN

2017/18 was the final year of the EMSTF's first Five-year Strategic Plan. With its goal to "create public value for community betterment through partnership with our clients", we deployed five strategies to guide EMSTF's medium-term development. The plan proved valuable in enhancing EMSTF's service excellence, operational efficiency, staff development and caring culture as well as sustainability performance in the past few years. Our latest Customer Opinion Survey in 2016, for example, returned a record high Customer Satisfaction Index of 6.45 out of 8, indicating that the plan was on the right track.

As we critically reviewed the results of the first strategic plan, we also spent much of 2017/18 formulating our second Five-year Strategic Plan, taking into account staff input and experience gained from the first plan. As reported in these columns before, we were delighted with the milestones achieved under the first plan, such as the new Customer Centric-ePlatform (CCeP), a mobile online job management system, and the new Customer Service Centre which has upgraded, expanded and replaced the former Information Service Centre. They will significantly enhance EMSTF's work flow management and real-time response to customer enquiries on job status updates.

These hardware deliverables, together with the introduction of various new technology solutions for more effective remote monitoring and finer control of clients' E&M systems in the past few years, have already yielded positive results and paved the way for our emphasis on digitisation, innovation and technology as we formulated the second strategic plan.

THE SECOND STRATEGIC PLAN: E&M 2.0

After much deliberation and extensive staff engagement using a "co-own" and "co-create" approach, our second strategic plan was launched in April 2018. The new plan aims to maximise public value for the community, and enable EMSTF to move towards a new era of E&M 2.0. We shall deploy three strategies to implement the plan, namely: providing digitised E&M services and innovative solutions in tandem with smart city development and policies in response to climate change; establishing an excellent work team with global perspectives, professional expertise and best practices for digitisation; and embracing technology and collaborating with trade partners to develop into an organisation that is willing to leverage innovative technology and promote the digitisation of E&M services.



業務回顧與前瞻 Operations Review and Outlook

上述策略要達到的成果,是讓客戶能透過機電數碼 化提高機電資產的表現,讓我們的員工進一步發展 為本港機電業的領軍團隊,並促使營運基金成為一 個具備協作精神和ICAT一即創新、同心協力、靈活 應變及具透明度 一 這四項組織特質的機構。假如説 營運基金首個二十年的特點,是奮力求存、提高競爭 力和持續改善,那我們的第二個策略計劃就應揭開 新一章,以數碼化、創新及科技為基礎,為營運基金 在優質服務、員工發展和機構文化轉變方面拓闊領 域。

新策略也會讓我們團隊更能應對諸如氣候變化和日 益激烈的競爭等的全球性挑戰,和更充分掌握各種 機遇,例如智慧城市發展與粵港澳大灣區等。

營運基金架構重組

另一重要發展是營運基金架構重組,相關的籌備和員工參與工作大部分於2017/18年度及2018/19上半年度進行。重組的目的,是理順各個部別的分工,以達致更佳的協同效益、讓各種工程策劃和機電服務更以客為本、及根據第二個策略計劃為營運基金在數碼化和科技方面的未來發展鋪路。

在新架構下,現時的「機場及車輛工程部」將改名為 「邊境及運輸工程部」,負責所有關於運輸工程及邊境 設施的工程策劃與維修保養工作,客戶部門包括運 輸署、路政署、香港海關及入境事務處等。

「運輸、保安及中央工程部」將會接手現時「機場及車輛工程部」的車輛工程服務,另由於主要客戶將為紀律部隊,故將改名為「保安及車輛工程部」。至於「工程策劃部」的所有工程項目和資源,則會重新部署到負責相關客戶部門的其他部別,讓他們的客戶服務更聚焦。

有見數碼化、創新及科技(創科)對營運基金的未來發展十分重要,我們成立了一個新的「數碼科技部」,下設「創新辦公室」,「資訊科技策略支援分部」、「建築信息模擬分部」和三個工程科技發展分部。這個新部別會負責推動營運基金的數碼化、把握各種創科業務的機會、及帶動營運基金轉型成為在營運各方面都能充分利用創科技術的靈活機構。

The intended outcomes of these strategies are to help clients optimise their E&M asset performance via digitisation, upgrade our workforce into a leader of Hong Kong's E&M trade, and transform our organisation into one that embraces collaboration and our "ICAT" characteristics, namely Innovative, Connected, Agile and Transparent. If the first 20 years of EMSTF were characterised by the quest for survival, increasing competitiveness and continuous improvement, then our second strategic plan should open a new chapter with broader horizons for EMSTF in client service excellence, staff development and organisational culture change, all riding on the platform of digitisation, innovation and technology.

The new strategies will also enable us to respond to global challenges such as climate change and increasing competition, and capture opportunities such as those arising from smart city development as well as the Guangdong-Hong Kong-Macao Greater Bay Area.

RESTRUCTURING EMSTF

Another major development is the re-organisation of EMSTF. Much of the planning and staff engagement were conducted in 2017/18 and the first half of 2018/19. The exercise aims to streamline the allocation of work among our various Divisions for better synergy, sharper customer focus in both project and engineering service delivery, and pave the way for the future advancement of EMSTF in digitisation and technology in accordance with the second strategic plan.

Under the new structure, the existing Airport and Vehicle Engineering Division (AVED) will be renamed as the Boundary Crossing Facilities and Transport Services Division. It will take over all projects and O&M work for transport and border related departments including Transport Department, Highways Department, Customs and Excise Department and Immigration Department.

The Transport, Security and Central Services Division will take over the vehicle engineering services from AVED and be renamed the Security and Vehicle Services Division, as its key clients will be the disciplined forces. As to the Projects Division, all its projects and resources will be re-allocated to those Divisions serving the relevant client departments, to sharpen their customer focus.

In view of the importance of digitisation, innovation and technology (I&T) to EMSTF's future development, we will set up a new Digitalisation and Technology Division which comprises the Inno-Office, the IT Strategic Support Sub-division, the BIM Sub-division and the three Technology Development Sub-divisions. The new Division will be responsible for driving the digitisation of EMSTF, capturing various I&T business opportunities and spearheading EMSTF's transformation into an agile organisation that can fully leverage I&T in all aspects of its operation.

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七大部別

營運基金的新架構將由2018年10月1日起生效,屆時我們將分成七個部別,分別是:邊境及運輸工程部、保安及車輛工程部、綜合工程部、衞生工程部、市政工程部、數碼科技部及企業服務部。

在員工參與過程中,無論管理層或其他各級員工,都 有充分渠道和機會表達建議及意見反饋,新架構也 得到員工全面支持。我們會確保新舊架構順利過渡, 對客戶的正常運作和公眾服務不會做成影響。

支援初創企業及創科發展

創科界的初創企業與營運基金未來發展息息相關,值得一談。我們新設的創新科技協作平台E&M InnoPortal已於2018年3月開始試用,並於2018年6月正式啟用,部分客戶可能已曾使用該平台提供的服務。這是個全新網站,目的是就政府部門與公營機構在創科方面的服務需求,與有能力研發及提供該種產品或服務的初創企業進行配對。

同時,我們更多走一步,以機電工程署總部大樓作為 試用場地,讓部分初創企業為其產品原型進行試驗, 並核實試驗數據,以加快產品的開發過程。我們除了 身為機電工程服務的提供者,也很高興發揮了促進 者的角色,幫助初創企業成長並推動本港創科發展。

初創企業對機電行業也會帶來正面影響。儘管初創企業的創科意念和產品對客戶可能極有價值,但因為初創企業缺乏往績可供參考,政府根據傳統做法的採購及招標過程對初創企業頗為不利。我們未來的挑戰,是如何協助初創企業,讓它們既能參與政府的採購招標,但又不損現有招標程序的嚴謹公正。屆時公營界別及市民大眾就可同時得享經驗豐富、歷史悠久的機電服務供應商提供的服務,也可享用初創企業新意十足的創科服務。

THE SEVEN DIVISIONS

When the new organisational structure takes effect on 1 October 2018, EMSTF will have seven Divisions, namely the Boundary Crossing Facilities and Transport Services Division, Security and Vehicle Services Division, General Engineering Services Division, Health Sector Division, Municipal Sector Division, Digitalisation and Technology Division and Corporate Services Division.

Management and staff at all levels have had ample channels and opportunities to give input and feedback during our engagement process, and the new structure has their full support. We shall also ensure the transition is smooth with no disruption to clients' normal operation and services to the public.

SUPPORTING START-UPS AND I&T DEVELOPMENT

The role of I&T start-ups merits some discussion as it is directly relevant to our future development. Our clients may have already used the services of our E&M InnoPortal, a new website put on trial since March 2018 and formally launched in June 2018, dedicated to matching the I&T needs of government departments and public bodies with those start-ups which can develop and provide such products and solutions

At the same time, we have gone the extra mile to make available the EMSD Headquarters Building as a testing ground for selected start-ups to test their product prototypes and verify trial data so as to expedite their product development process. In addition to being an E&M engineering service provider, we are delighted to play a facilitator's role to help start-ups grow and contribute to Hong Kong's I&T development.

Start-ups can bring positive changes to the E&M industry too. Traditionally, start-ups are disadvantaged in the government procurement and tender process due to the lack of job reference, though their I&T ideas and products could potentially be of great value to client departments. The future challenge is how to facilitate start-ups to participate in the procurement process without compromising the integrity of the existing procedures, so that the public sector can secure both the services of experienced, established E&M service providers and the creativity and I&T capabilities of start-ups.

業務回顧與前瞻 Operations Review and Outlook

機電業前路

香港正邁向智慧城市發展,機電行業也應與時並進, 反思自身的角色。市面上很多機電服務提供者仍守 着傳統模式,只滿足於銷售和安裝機電系統,忽略了 售後跟進和為客戶進行長遠的資產管理。初創企業 在這方面可以發揮填補作用嗎?眼下創科發展愈來 愈重要,機電業又該如何回應?營運基金期待能與機 電行業和初創企業攜手協作,找出雙贏方案以解決 這些問題,並讓機電業朝着價值鏈的高端發展。

要討論香港的創科發展,不可不連同粵港澳大灣區 一併考慮。大灣區是新科技和成功創科企業的匯萃 中心,可供香港好好運用。營運基金的業務雖然專注 香港,但我們的團隊未來也應透過與大灣區的機電 及初創企業雙向交流,拓闊眼界視野。營運基金更可 擔當推廣者的角色,協助本港機電業界在大灣區找 尋協作機會。

回望過去,我有幸負責督導第一個策略計劃的執行 工作,也在2017/18年度參與了第二個策略計劃的制 訂及初步落實工作。至2022/23年度,營運基金應已 實現了新五年計劃內大部分我們今天展望的願景, 成為一個更靈活、數碼化、創新及高效的機構,為客 戶提供優質服務,為社會創造公眾價值。

個由創科主導且前人無法想像的未來作好準備。今 日世界充滿不確定變數,也常被科技顛覆。要迎接這 些挑戰,最佳辦法可能就是不斷學習。在客戶支持 下,營運基金團隊定能堅毅努力,迎難而上。

THE E&M INDUSTRY GOING FORWARD

As Hong Kong moves towards smart city development, the E&M industry should also keep up with the times and reflect on its role. Many service providers in the market still adhere to the traditional business model of simply selling and installing E&M systems, paying little attention to subsequent follow-up and long-term asset management for clients. Can start-ups play a role to bridge the gap? As I&T gets increasingly important, how should the E&M industry respond? We at EMSTF look forward to collaborating with the industry and start-ups to find win-win solutions to address these issues and take the industry further up the value chain.

No discussion of I&T development in Hong Kong is complete without considering the Guangdong-Hong Kong-Macao Greater Bay Area, a hub of new technologies and successful I&T enterprises that we can leverage. Whilst EMSTF services are focused in Hong Kong, there is no reason why our people should not broaden their horizons via two-way exchange with E&M players and start-ups in the Greater Bay Area in future. Moreover, EMSTF will also act as promotor to help our E&M trade to explore collaboration opportunities in the Greater Bay Area.

Looking back, I am indeed privileged to have overseen the implementation of the first strategic plan and taken part in the formulation of the second strategic plan in 2017/18 and its initial implementation. By 2022/23, EMSTF should have achieved much of what we envision today to become a more agile, digitised, innovative and effective organisation providing excellent service to clients and great public value to the community.

近年我常鼓勵同事突破框框思考,加強靈活性,為一 In recent years I have always encouraged EMSTF colleagues to think out of the box, be flexible and get ready for a future driven by innovation and technologies unimagined before. We all face today a world of uncertainty and frequent disruptions by technology. Perhaps the only way to rise to these challenges is to keep on learning. With support from our clients, our people will no doubt continue to persevere and forge ahead.

感恩謝忱

客戶多年來對我們不離不棄,大力支持,我們深表謝 意。營運基金的成功,實有賴常務委員會和各個政策 局的指導和支持,我們衷心致謝。而全體員工專心致 志,表現出色,各個承辦商提供種種支援與服務,我 們非常感恩。多年來我們也得到機電業界及其各行 業公會、大學、學者、專業團體與培訓機構的寶貴意 見和支援,我謹致謝忱。

未來。

APPRECIATION AND GRATITUDE

Our heart-felt gratitude goes to all our clients for their unfailing support over the years. The success of EMSTF owes much to the guidance and support of the Executive Board and policy bureaux, and we extend our sincere thanks to them. We must thank all our staff for their excellent work and dedication, and our contractors for their support and services. Our deep appreciation also goes to the E&M industry and its trade associations, the universities and academics, professional bodies and training institutes that have given us sound advice and valuable support all along.

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祝願機電工程營運基金前景璀璨,迎接碩果豐盛的 I wish the EMSTF a bright future and many more successful decades to come.

機電工程署副署長/營運服務

Deputy Director/Trading Services, EMSD

營運服務 Trading Services

城市活繽紛 DYNAMIC CITY LIFE

香港是一個充滿活力的城市,設施完善,為各行各業人士提供各種便利,帶來生活樂趣。各政府部門致力確保這些重要設施順利運作,而我們的角色,是支援各個為公眾提供市政及文娛康樂服務的客戶部門,使其運作暢順無縫。

街市對市民的日常生活非常重要,年內我們繼續與 食物及環境衞生署(食環署)合作,為公共街市及熟 食中心進行升降機及自動梯更換工程。一如以往,我 們的同事評估更換工程可能會對攤檔運作造成的影 響,並努力為攤檔東主排難解紛,把投訴轉化為讚 賞。

我們也加大力度,在街市的升降機及自動梯應用綜合樓宇管理系統的硬件,遙距監控這些設施的運作狀況,並提高其可用率和可靠度。我們亦正為各客戶部門草擬一套有關機電裝置的綜合樓宇管理系統標準,以利便客戶部門日後進行這方面的工作。

為保障持份者的利益,我們加緊工作,確保維多利亞公園2018年農曆年宵市場獲得穩定的電力供應。我們與各承辦商適時溝通,提醒他們只可使用可靠的新器材,而在為期七天的年宵市場開放期間,我們的員工也全程候命支援。至於其他地區的年宵市場,我們亦採取了類似措施,確保電力供應源源不絕,讓攤檔得以順利營運,市民也能盡享節日歡樂。

As a vibrant city equipped with well-developed facilities, Hong Kong offers many conveniences and pleasures to people from all walks of life, with various government departments working to ensure that these valued facilities operate smoothly. Our role is to support the seamless operation of client departments which provide municipal, cultural and leisure services to the public.

Markets are an important part of our daily lives. This year we continued to work together with the Food and Environmental Hygiene Department (FEHD) on the lift and escalator replacement programme at public markets and cooked food centres. As in past years, our staff assessed the potential disruption to the operation of stalls and worked hard to address stall owners' concerns and difficulties, turning complaints into compliments.

We have also put in great efforts in applying integrated Building Management System (iBMS) hardware to lifts and escalators in markets to remotely monitor their operating status and enhance their availability and reliability. Besides, we are drafting a set of iBMS standards for E&M installations for all client departments to facilitate this aspect of work in the future.

With stakeholders' interests in mind, we stepped up efforts to ensure a reliable power supply for the 2018 Victoria Park Lunar New Year Fair. We communicated with contractors timely to ensure that they used only new and reliable equipment, and our staff were on standby throughout the seven-day fair period for provision of support. Similar measures were taken at other fair venues to ensure an uninterrupted power supply for booth operations and people's enjoyment of festivities.





我們的同事為遠距冷凝系統進行檢查,以確保系統運作正常,為 大會堂提供後備空調。

Our colleagues inspect a remote condensing system to ensure its normal operation as back-up air-conditioning for the City Hall.





我們監察「幻彩詠香江」的機電設備運 作,並進行更新及維修保養工程,讓 市民及旅客欣賞到精彩的燈光匯演。

We oversee the operation of E&M equipment for A Symphony of Lights and conduct upgrade and maintenance works, in order to provide spectacular light shows for citizens and tourists.





我們的團隊也積極協助康樂及文化事務署在香港大會堂落實後備空調方案。由於大會堂的空調系統是利用海水進行冷卻,但輸送海水的管道卻深藏地底,若輸水管道有任何損壞,都需要很長時間進行路面工程才能修理好管道,期間空調供應也必中斷。我們的方案,是在大會堂低座的天台安裝兩台遙距風冷式冷凝器,並接駁至中央系統。當海水供應中斷或不足時,這個後備系統便能迅速替代現有的冷凝器,使空調供應盡快恢復,並讓工程人員有充足時間維修損壞的海水管道。

另一方面,我們亦致力確保對緊急事故作出迅速應變。以2018年2月在大埔發生導致19人死亡的巴士車禍為例,我們支援食環署火葬場運作的團隊特別作出額外安排,讓家屬可趕及在農曆新年前為先人火化。早前,我們的火化工程組憑藉多個自行研發的創新方案,例如遙控鏟灰車和條碼流程控制系統,於2017年9月榮獲2017年公務員優質服務獎勵計劃的「特別嘉許(創新意念)」獎,這些方案顯著提高了食環署火化服務的效率和可靠性。

除了為其他政府部門提供恒常的機電服務,例如為香港郵政中央郵件中心的機械揀信系統提供維修保養服務,以及為「幻彩詠香江」提供操作及維修保養服務和進行改良工程之外,我們亦會協助客戶進行重要的特殊項目,最新的例子是將於2018年年底左右展開的香港居民換領身份證計劃。

Similarly, our team has proactively helped the Leisure and Cultural Services Department implement a back-up air-conditioning solution at Hong Kong City Hall. As the venue's air-conditioning system uses seawater from deep-buried underground pipelines for cooling, any pipeline damage will result in suspension of air-conditioning supply, and require prolonged roadworks before pipeline repair is possible. Our solution was to install two remote air-cooled condensers on the rooftop of the Low Block of City Hall and connect them to the central unit. If the seawater supply is interrupted or insufficient, the standby units will quickly take over the existing condensers to promptly resume air-conditioning supply, allowing ample time for the damaged seawater pipelines to be repaired.

On the other hand, we also strive to ensure prompt response to emergency incidents. Take the bus crash in Tai Po in February 2018, which claimed 19 lives, as an example. Our team supporting the crematoria operations of the FEHD put in extra efforts to ensure prompt provision of services where required in time before the Chinese New Year, assisting the FEHD in serving the needs of the deceased and their families. Earlier in September 2017, our cremation engineering team received the Civil Service Outstanding Service Award 2017 Special Citation (Innovation) for its innovative in-house developed solutions, such as the Mobile Ash Collector and Barcode Verification Control System, which significantly boosted the efficiency and reliability of cremation services for the FEHD.

Apart from provision of ongoing E&M services for other government departments, such as maintaining the Mechanised Letter Sorting System at Hongkong Post's Central Mail Centre and conducting O&M and upgrade works for A Symphony of Lights, we also work with clients on major special projects. The latest example is the replacement exercise of Hong Kong Identity Cards (HKICs) for Hong Kong residents, which will commence around the end of 2018.

營運服務 Trading Services

新的香港身份證是一張智能卡,為持有人(即香港居民)提供數碼個人身份,使其能以單一的數碼身份作為認證,在網上跟政府和商業機構進行交易,此舉也是香港智慧城市發展的一環。由於入境事務處現時的人事登記處各個辦事處的工作量已經飽和,政府須在私人樓宇另覓地點設立換證中心,以供進行換證工作。

年內,我們的同事一直與政府產業署合作,就九個換證中心的選址進行可行性研究,訂定承辦商須符合的各項屋宇裝備要求,以及監察其工程進度。我們的目標是確保在整個換證計劃期間,這些換證中心都有高效可靠的電力及空調供應,並配備消防裝置,以及供工作人員和市民使用的相關設施。

展望來年,我們的重點是機電系統數碼化,並會成立 區域控制中心,以提升各個市政及康樂場地的機電 系統表現,從而提升效率。 As part of Hong Kong's smart city development, the new HKIC will be a smart card that provides an electronic identity for its holder, i.e. a Hong Kong resident, allowing the holder to use a single digital identity as authentication to conduct government and commercial transactions online. As the existing Registration of Persons Offices of the Immigration Department are already operating at full capacity, new replacement centres in private premises must be made available for the replacement exercise.

During the year, our colleagues have been working with the Government Property Agency to conduct feasibility studies on the premises identified for use as the nine HKIC replacement centres, specify various building services requirements for contractors, and monitor their works progress. Our aim is to ensure that these replacement centres are equipped with an efficient and reliable supply of electricity, air-conditioning, fire services, and related facilities for workers and visitors throughout the replacement exercise.

Going into next year, we will focus on further digitalisation of E&M systems. To optimise the performance of systems at various municipal and recreational venues, we will also set up regional control centres for enhancement of efficiency.



改善通風系統 獲頒嘉許獎

Improvement of Ventilation System
Wins The Ombudsman's Award

市政工程部工程師何志明先生榮獲2017年申訴專員嘉許獎(公職人員獎)·表揚他在處理問題及投訴時的專業表現。 Mr Ivan Ho Chi-ming, an engineer at Municipal Sector Division, wins The Ombudsman's Award 2017 for Officers of Public Organisations, in recognition of his professionalism in handling issues and complaints.



市政工程部工程師何志明先生本着提供優質服務的 精神,把投訴轉化為讚賞,並榮獲2017年申訴專員 嘉許獎(公職人員獎)。

· 因不 The complainant, a cooked f 公署隨 Centre, was unhappy with his

投訴人是黃泥涌熟食中心一個熟食檔的檔主,因不滿攤檔的通風系統而向申訴專員公署投訴,公署隨後聯絡機電工程營運基金跟進。何先生馬上到現場視察並向投訴人了解情況,發現該攤檔廚房所使用的烹調方式有重大改變,即由製作小食改為烹煮中式小炒,以致通風系統不敷應付,廚房變得非常悶熱,引發投訴。

何先生的團隊為通風系統進行數次清洗,但基於清洗時間有限,只獲得短期改善效果。團隊建議徹底清洗整個除油器,但由於拆除、清洗和重新安裝除油器的工序需要頗長的時間,而該攤檔每天營業20小時,由清晨五時至翌日凌晨一時,實難撥出時間進行徹底清洗。

何先生説:「經我們向檔主詳細解釋和多次游説後, 他終於願意合作,答應於兩個晚上提早休息,讓我們 有足夠時間完成清洗工作。」工作過程非常順利,廚 房的溫度大有改善,檔主也很滿意。

為縮短清洗時間,團隊事先製備了一套新的備用除油器以供更換,免卻即場清洗程序和節省時間。

由於每個通風系統的種類和尺寸都不同,新的除油 器必須度身訂做。儘管如此,如其他場地有需要,團 隊都可隨時提供解決方案。

如何總結今次的經驗?何先生說:「最重要是與投訴人有良好溝通,找出問題根源,然後積極解決。」

True to the spirit of service excellence, Mr Ivan Ho Chi-ming, an engineer at our Municipal Sector Division, turned a complaint into a compliment and won The Ombudsman's Award 2017 for Officers of Public Organisations.

The complainant, a cooked food stall owner at Wong Nai Chung Cooked Food Centre, was unhappy with his stall's ventilation system and approached the Office of The Ombudsman, which in turn contacted the EMSTF. Mr Ho promptly visited the site, talked to the complainant and found that the problem stemmed from a significant change in the cooking style of the kitchen from preparation of light refreshment to Chinese cuisine. Thus, the ventilation system was no longer adequate and the kitchen was very hot, which triggered the complaint in the first place.

Within the limited maintenance window, though the ventilation system had been cleaned several times, the improvement proved short-lived. Therefore, Mr Ho's team proposed a thorough cleansing of the oil eliminator, but dismantling, cleaning and re-installing would take considerable time which the stall, open 20 hours a day from 5:00 a.m. to 1:00 a.m., could ill afford.

"After much explanation and persuasion, the owner was willing to co-operate by closing the stall earlier for two nights, giving us enough time to complete the cleansing work," said Mr Ho. The work went smoothly with the temperature in the kitchen reduced finally, and the owner was happy with it.

To facilitate the cleansing operation, the team then made available a new set of spare oil eliminator for replacement so as to minimise the on-site cleansing and thus save time.

As each ventilation system is different in type and size, the new oil eliminator must be tailor-made. But the team is ready to roll out the solution to other venues as necessary.

"Communicate well with the complainant, discover the root cause of the problem, and tackle it proactively," Mr Ho concluded the key learning experience in this case.

營運服務 Trading Services



安康大都會 A SAFE AND HEALTHY METROPOLIS

支援香港在這兩方面的公共服務。

營運基金與醫院管理局(醫管局)新簽訂的五年合約 已於2017/18年度展開,範圍涵蓋醫管局轄下大部分 醫院及診所的機電、空調、屋宇裝備系統及生物醫療 設備。年內,我們亦取得數份新合約,為醫管局轄下 另外三家醫院的機電系統和生物醫療設備,提供操 作及維修保養服務,以及為醫管局各醫院的低風險 醫療及非醫療儀器,提供操作及維修保養服務,使我 們為醫管局提供的服務更加全面。

2017/18年度其中一個里程碑是天水圍醫院全面投入 運作,我們的團隊開始負責其機電及相關系統的操 作及維修保養服務。天水圍醫院配備最先進的醫療 設施和能源效益設計,旨在為新界西北居民帶來更 優質的公共醫療服務。

香港兒童醫院將於2018年稍後啟用,我們已為院內 各種機電系統及生物醫療設備進行測試及校驗。因 應該醫院的啟用,我們也增添了公務員人手,而此舉 正是我們廣泛提升員工能力的舉措之一。這支更強 大的團隊,能讓我們更有效地支援醫管局,應付因人 口不斷老化及增長而日趨殷切的醫療需求,例如協 助醫管局翻新現有醫院和設計新醫院。

健康與保安是每個社會的基本需要,我們很高興能 Health and security are basic needs of every community. We are happy to play a role in supporting the public services for Hong Kong in both areas.

> Our new five-year contract with the Hospital Authority (HA) commenced in 2017/18, covering O&M services for E&M, air-conditioning, building services systems and biomedical equipment in most of the HA hospitals and clinics. During the year, we also secured several new contracts to provide O&M services for E&M systems and biomedical equipment at another three HA hospitals, as well as O&M services for low-risk medical and non-medical items at HA hospitals, making our services to the client more comprehensive.

> One of the milestones in 2017/18 was the full operation of the Tin Shui Wai Hospital, with our team taking up the O&M services for its E&M and related systems. Equipped with the latest medical facilities and energy-saving features, the hospital aims to enhance public healthcare services in the northwest New Territories.

> In view of the opening of the Hong Kong Children's Hospital later in 2018, for which we have completed testing and commissioning of various E&M systems and biomedical equipment, we have expanded our civil service team as part of a broader capacity-building effort. This larger and stronger team will enable us to better support the HA in coping with the pressing healthcare needs of the ageing and growing population, such as assisting the HA in retrofitting existing hospitals and designing new ones.



我們為天水圍醫院內的機電設備 例如手術室照明系統及醫療設施 提供維修保養服務。

We provide maintenance services for such E&M equipment as operating theatre lighting systems and medical facilities at the Tin Shui Wai Hospital.

為改善運作安全,新型的「概念救 護車」髹上特定的黃色,讓它與周 遭環境產生較大的色差對比,容易 皮其他的道路使用者察覺:

or operational safety enhancement he new "concept ambulance" has been hanged to specific bright yellow which provides a sharp contrast with its urroundings, making it more visible to ther road users



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為達致更佳的能源管理,我們為公共衞生檢測中心更換了更高效能的製冷機並為大樓內的機電設備進行數碼轉型工作,以便傳輸數據進行分析。

To achieve better energy management, we replaced the chillers at the Public Health Laboratory Centre with more energy-efficient models, and implemented digital transformation of F&M installation in the building to facilitate data transfer for further analysis

另一項值得注意的項目,是我們為衞生署轄下的公 共衞生檢測中心進行的數碼轉型工作。這項工作於 年內展開, 需時數年完成, 其目的是把該中心現有的 製冷機和照明系統更換為更具能源效益的型號,藉 以減低能源消耗量。相關的系統更新後,我們將利用 綜合樓宇管理系統收集數據和進行大數據分析,以 優化該中心機電系統的表現。此外,我們正協助該中 心採用「建築信息模擬 — 資產管理」, 務求更有效地 管理建築物的維修保養工作。該中心的數碼化經驗, 將為其他客戶部門起示範作用。

年內,我們亦拓展企業社會責任的版圖,並涉足樂齡 科技領域。我們參與香港社會服務聯會(社聯)於 2017年6月舉辦的全港首屆樂齡科技博覽暨高峰會, 設置展覽攤位展出改善長者生活質素的工程項目。 此外,我們亦與社聯合辦「樂齡科技顯愛心2017」, 鼓勵青少年和公眾人士提出意念創新的智能家居及 生活項目,同時推廣居家安老及社區關愛文化。我們 在2018年會繼續支持樂齡科技博覽暨高峰會。

我們的高層管理人員亦參加了由社聯率領的台灣和 日本考察團,了解當地的樂齡科技應用情況,以期協 助本港的非政府機構引進樂齡產品, 並提供所需技 術支援。

繼去年為消防處採購新的「概念救護車」後,已有三 輛新救護車交付並開始試用。新救護車的設計,是把 病人車廂與駕駛室完全分隔,以擴大病人車廂的空 間,而設於車外的儲物空間則可讓救護人員更方便 地存取所需設備。新設計的病人車廂內配備中置但 可左右移動的救護牀快拆裝置,讓救護人員在車內 行動時更加自如。此外,其中一輛救護車的電動救護 牀更配備電動油壓式操作及氣壓避震功能, 救護牀 可調校至不同高度,不但有助救護工作,更使病人倍 感舒適。此外,一輛全新的「輔助醫療裝備車」已投

Also of note is the digital transformation of the Department of Health's Public Health Laboratory Centre (PHLC). The exercise, which began during the year and will take several years to complete, aims to reduce energy consumption by replacing the existing chillers and lighting systems with more energy-efficient models. With these in place, we will implement integrated Building Management System (iBMS) for data collection and big data analysis so as to optimise the building's E&M system performance. In addition, we are currently facilitating the PHLC to adopt Building Information Modelling for Asset Management for enhancing the management of building maintenance. The digitisation template of the PHLC will serve as a role model for other client departments.

We also broadened our spectrum of corporate social responsibility by embarking upon gerontechnology in the year. We participated in Hong Kong's first Gerontech and Innovation Expo cum Summit organised by the Hong Kong Council of Social Service (HKCSS) in June 2017, where we set up booths to showcase our engineering projects for improving the living quality of the elderly. Besides, we co-organised the Gerontech Youth Challenge 2017 with the HKCSS to encourage youngsters and the public to come up with innovative ideas on smart home and living particulars for the elderly, and to promote ageing in place as well as community caring culture. We will continue to support the event in 2018.

Our senior management also took part in visits to Taiwan and Japan led by the HKCSS to study gerontechnology applications, with a view to facilitating Hong Kong's non-governmental organisations to introduce gerontech products and rendering necessary technical support.

Further to the procurement of new "concept ambulances" for the Fire Services Department (FSD) last year, three new ambulances have been delivered and put into operation for trial. The new vehicles are designed with a totally separated patient compartment and external access storage. The former enlarges the patient compartment and the latter allows access to equipment more effectively. The newly designed patient compartment is equipped with a snap-on middle-mounted stretcher device which is adjustable transversely to facilitate movements of ambulancemen. Besides, one of the vehicles is equipped with an electro-hydraulic lifting cum air suspension platform, where the multi-height level adjustable stretcher not only facilitates treatment but also provides greater comfort. Also in

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我們的專業人員為大赤沙消防局的製冷機進行定期檢查,以 供應穩定的空調予該場地。

Our professional staff conduct regular inspection of the chiller at Tai Chik Sha Fire Station to provide stable air-conditioning for the venue.

入服務,加強了消防處現時的救護車服務。為了道路 安全起見,上述四輛新車均已按照EN1789標準,全 部髹上令人耳目一新的鮮黃色,使其在路上更為顯 眼。

與此同時,多項新邊境管制基建工程正進行最後準備工作。年內的重要里程碑之一,是為駐守即將啟用的廣深港高速鐵路香港段(廣深港高鐵)、港珠澳大橋和蓮塘/香園圍口岸的各個紀律部隊,安裝和測試機電及電子系統及設施。我們亦正協助多個紀律部隊採購家具及設備,這些家具及設備必須於有關基建設施開通前的緊迫時限內,全部完成測試及備妥。

我們的團隊亦一直與負責邊境管制職務的客戶合作,研發各種智能方案,以提升其運作效率。舉例來說,我們為香港海關安裝了一套智能過境系統,在現有的車牌號碼識別系統上應用無線射頻識別技術,使系統在監控過境車輛時能更準確地識別車牌資料。

懲教署以密集人手進行的工序(例如押送囚犯和夜間 巡視囚室等),如可透過運用智能科技而減少工作 量,該署便可受惠。我們正支援懲教署制訂「智能監 獄方案」,尋找適用且有助益的科技供懲教所採用, operation is a new "Paramedic Equipment Tender", which augments the FSD's existing ambulance services. All the four new vehicles have been painted in refreshingly bright sulphur yellow according to EN1789 standards to enhance their conspicuousness for road safety purpose.

Meanwhile, final preparations are underway for new border control infrastructure works. An important milestone during the year was the installation and testing of E&M and electronic systems and facilities for various disciplined services at the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL), the Hong Kong-Zhuhai-Macao Bridge (HZMB) and the Liantang/Heung Yuen Wai Boundary Control Point, all scheduled to open soon. We are also helping a number of disciplined forces procure furniture and equipment, all of which must be tested and made available in a tight timeframe prior to the opening of the infrastructure.

Our team has been working with clients with border control responsibilities to develop smart solutions for enhancement of their operational efficiency. A case in point was the installation of a smart crossing system for the Customs and Excise Department, which applied radio frequency identification technology to the existing licence plate number recognition system for greater recognition accuracy in monitoring cross-boundary vehicles.

The Correctional Services Department stands to benefit if its labour-intensive work, such as movement of inmates under staff escort and cell patrol at night, can be reduced with smart technology. We are supporting the client in developing "smart prison protocol" and identifying suitable enabling technologies for application in

以期提升其運作效率,同時加強保安和提高安全。就 此,我們一直與數家本地初創企業和一間首屈一指 的資訊和通訊科技公司合作,進行多項概念驗證試

驗,以制訂關於實時囚犯健康監測,以及適時干預違

禁活動和囚犯自殺行為的工程方案。

另一方面,我們的團隊協助消防處轄下的消防及救護學院設計、採購及安裝多個實物原大的飛機、火車和船舶實景模型,作模擬火警和訓練之用,並憑此項目而與消防處和建築署一同獲頒2017年公務員優質服務獎勵計劃的「部門合作獎」銀獎,實在令人欣喜。此外,我們亦擔當關鍵角色,協助香港警務處把八鄉的前消防訓練學校改建為「少年警訊永久活動中心暨青少年綜合訓練營」,並在緊迫的時限內完成有關工作。該設施已於2017年8月由行政長官正式揭幕。培育年輕新血,對香港的持續進步非常重要,我們很高興能為此盡一分力。

展望未來,我們在公共醫療和保安方面的工作重點,是透過數碼化工程、綜合樓宇管理系統和大數據分析,提高市民的生活質素,同時為本港的老化人口提供支援,並滿足本港持續的機電及節能需求。此外,由於廣深港高鐵和港珠澳大橋等大型新基建啟用在即,我們也期待為這些重要設施日後的營運工作提供支援。

correctional institutions, with a view to improving their operational efficiency and enhancing security and safety at the same time. In this regard, we have been collaborating with some local start-ups and a leading information and communication technology practitioner on a number of proof-of-concept trials to develop engineering solutions on real-time health monitoring, and timely intervention in illicit activities and suicidal behaviour of inmates.

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On a different note, we are delighted that the team which helped FSD's Fire and Ambulance Services Academy design, procure and install various life-size mock-ups of ships, trains and aircraft for fire simulation and training has won the Silver Prize of Partnership Award under the Civil Service Outstanding Service Award Scheme 2017 for the project in tandem with the FSD and the Architectural Services Department. We also played a key role in reprovisioning the former Fire Services Training School in Pat Heung into the Junior Police Call Permanent Activity Centre and Integrated Youth Training Camp for the Hong Kong Police Force, completing the project on a tight schedule. The facility was officially opened by the Chief Executive in August 2017. Nurturing young talent is vital to the continuous progress of Hong Kong, and we are glad to play a part.

Going forward, our focus in public health and security will be on enhancing people's quality of life through digitalisation, iBMS and big data analytics, as well as supporting the city's ageing population and addressing its ongoing E&M and energy-saving needs. Furthermore, as major new infrastructure such as the XRL and the HZMB will soon open, we look forward to supporting the future operation of these key facilities.





我們為懲教署位於西九龍法院大樓內的羈留室設置新的電子鎖, 以提升安全及保安。

A brand new electric lock is installed at the cell of West Kowloon Law Courts Building for the Correctional Services Department so as to enhance security and safety.

營運服務

機電工程營運基金報告 EMSTF REPORT

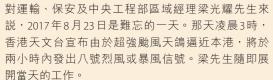
Trading Services

在超強颱風下搶修登船舷梯

Emergency Repairs for Gangways During Super Typhoon

區域經理梁光耀先生無懼颱風天鴿的挑戰,帶領一眾手足 戰勝風雨,順利在上班時間前修補渡輪碼頭的登船舷梯, 使渡輪服務得以回復正常。

In the face of the challenge posed by typhoon Hato, Mr Leung Kwong-yiu, a regional manager, fearlessly led his team to overcome the storm and worked diligently to repair the piers' boarding gangways, thus resuming ferry services before morning commuting hours.



身為運輸、保安及中央工程部緊急事故應變小組的 負責人,梁先生馬上召集組員在機電署總部候命。天 文台在清晨5時20分發出八號信號的時候,團隊已整 裝待發,可隨時出動迎接忙碌的一天。及至早上9時 10分,天文台再發出十號颶風信號。

在之後的十多小時內,緊急事故應變小組應運輸署的要求搶修多個損毀的機電設施,例如交通燈、水浸的行人隧道內的水泵和照明設備等。然而,最大的挑戰是要為運輸署轄下六個分別位於中環、北角、尖沙咀、紅磡、東涌和梅窩的碼頭搶修登船舷梯,這是因為天鴿帶來的嚴重風暴潮,導致登船舷梯許多木板移位。

梁先生表示:「碼頭地點非常分散,而登船舷梯的搶修工作須在很短時間內冒着惡劣天氣完成。至關重要的是,我們要確保當天文台改發三號強風信號時,碼頭能恢復正常服務,特別是往返那些只有渡輪接達香港其他地方的地區。」

緊急事故應變小組分為三個小隊,由當天下午3時至晚上11時,馬不停蹄地把這六個碼頭的登船舷梯修妥,令渡輪順利恢復正常服務。

梁先生補充説:「天鴿的經驗證明,部別之間和部門 與其他政府部門之間的合作均非常重要,今次也是 因為大家能通力合作,才能克服挑戰。此外,我們已 協助運輸署檢視登船舷梯的物料和安裝方法,希望 提高舷梯日後抵禦颱風的能力。」



Mr Leung Kwong-yiu, a regional manager at our Transport, Security and Central Services Division (TSCSD), will never forget the day 23 August 2017. The day began for him at 3 a.m., when the Hong Kong Observatory announced that a gale or storm signal No. 8 would be issued within two hours as super typhoon Hato came close to Hong Kong.

As the Head of the TSCSD's Emergency Response Team (ERT), Mr Leung marshalled his team at EMSD Headquarters in the early hours. When the No. 8 signal was issued at 5:20 a.m., followed by a hurricane signal No. 10 at 9:10 a.m., the team was ready for a busy day.

In the coming hours, the ERT was called out to repair damaged E&M facilities for the Transport Department (TD), such as traffic lights, and pumps and lighting in flooded pedestrian subways. Yet the top challenge was repairing damaged boarding gangways at six TD ferry piers in Central, North Point, Tsim Sha Tsui, Hung Hom, Tung Chung and Mui Wo respectively, where many wooden planks were displaced by the severe storm surge accompanying Hato.

"The locations were widely dispersed, and the gangways had to be repaired in a very short time under severe weather conditions. It was important that normal ferry services could resume once the typhoon signal came down to No. 3, especially for locations where ferry is the only link with the rest of Hong Kong," Mr Leung said.

Three ERT sub-teams worked from 3 p.m. till 11 p.m. to repair all six gangways and enable ferry services to resume smoothly.

"The Hato experience shows the value of inter-divisional and inter-departmental collaboration, as we helped each other to overcome the challenge. We have also helped the TD review gangway materials and mounting methods for better protection against future typhoons," Mr Leung added.

暢達旅程 A SMOOTH JOURNEY

香港公共交通的速度和效率備受旅客讚賞,更是數以百萬計居民每日賴以往返目的地的系統。機電工程營運基金擔當重要角色,除了為相關部門提供服務,維修保養各項機電設施,以支援本港的交通系統及基建外,亦不時實施創新的工程方案,以提升有關系統及基建的效率和可持續性。

將於2018年稍後時間啟用的港珠澳大橋,是最令人期待的運輸基建項目之一。我們的團隊除了為大橋口岸過境的檢測及清關建造多個機電系統和設施外,亦準備就緒,待大橋投入運作後負責有關系統的操作及維修保養。

大老山隧道將於2018年7月由私人營運商交回政府, 我們正忙於籌備接管監察該隧道的操作及維修保養 服務的工作,並同時為監察全港六條新建行車隧道 的操作及維修保養服務作好準備。

位於機電署總部,並為擁有6000多部車輛的政府車隊提供維修保養服務的汽車工場,年內也有重大突破。繼去年成功推出專為大型客貨車而設的車輛預約系統試行計劃後,我們已把計劃擴展至電單車。車輛預約系統整體成效卓著,參加試行計劃的車隊的車輛可用率增加了4.4%。此外,參加計劃的大多數客貨車的檢修工作均能於預約日當天完成,車輛無需停留工場一晚,大大提升了政府車隊的效率。

Visitors often admire the speed and efficiency of public transport in Hong Kong, which is relied upon by millions of residents each and every day for commuting. EMSTF plays a key role not only in providing services to relevant departments for the maintenance of various E&M facilities to support the city's transport systems and infrastructure, but also in implementing innovative engineering solutions from time to time to enhance their efficiency and sustainability.

One of the most exciting developments in transport infrastructure is the Hong Kong-Zhuhai-Macao Bridge (HZMB), which is scheduled to open later in 2018. Apart from building various E&M systems and facilities for boundary-crossing checks and clearance, our team is also prepared to take up the O&M services for the systems once the HZMB commences operation.

Concurrently, we have been preparing to take over the responsibility of monitoring the O&M services of the Tate's Cairn Tunnel, which will be returned to the Government in July 2018 from the private operator. Our team is also getting ready to monitor the O&M services for six new vehicular tunnels throughout the territory.

Back in EMSD Headquarters, our vehicle depot, which maintains a government fleet of 6 000-plus vehicles, made major strides in 2017/18. Further to a successful pilot of the Advance Vehicle Booking System (AVBS) for large vans in the previous year, we have extended the scheme to cover also motorcycles. The overall results of the AVBS are impressive, with a 4.4% increase in the vehicle availability of fleets participating in the pilot scheme. In addition, most of the participating vans could have their servicing completed on the appointment day without the need to be kept overnight, greatly enhancing the efficiency of the government fleet.



我們的員工正在監察和檢查青沙管制區的電子繳費系統,以確保運作正常。

Our staff are monitoring and inspecting the e-payment system for Tsing Sha Control Area to ensure its normal operation.



營運服務 Trading Services

我們更加強了總部汽車工場的Wi-Fi系統,讓員工可於工場任何位置使用流動裝置,取得有關保養或維修工作進度的實時資料,以便同事快捷準確地與客戶溝通。維修管理系統及工場的工作流程邁向數碼化,以及把車輛預約系統擴展至更多類型的車輛及其他汽車工場,定能進一步提高政府車隊的可用率和效率。

年內,我們協助運輸署採購全港首批五軸重型拖車,以加強其救援常於交通意外後阻塞路面的重型壞車的能力。新拖車配備旋轉起重臂及額外車軸,可在有限空間快速吊起重達24公噸的壞車或被堵塞的車輛,而其拖拉力更高達70公噸,十分適合用來移走壞貨櫃車、吊臂車及其他重型特別用途車輛。首批七輛五軸重型拖車已完成測試,並已交予運輸署使用。

We have also strengthened the Wi-Fi system at our vehicle depot so that staff can make use of mobile devices to access real-time information on the progress of maintenance or repair work anywhere in the depot, facilitating prompt and accurate communication with clients. The migration of both the maintenance management system and workshop workflow towards digitisation, together with the expansion of the AVBS to more vehicle types and other vehicle depots, will definitely further enhance the availability and efficiency of the government fleet.

During the year, we assisted the Transport Department (TD) in procuring Hong Kong's first five-axle heavy recovery vehicles to strengthen its capability in recovering broken-down heavy vehicles obstructing the roads, typically after traffic accidents. Equipped with a swirl boom and an extra axle, the new vehicles can swiftly lift up a damaged or stuck vehicle of up to 24 tonnes in a limited space and have a towing capacity of up to 70 tonnes, making them ideal for recovering broken-down container trucks, crane trucks and other heavy special-purpose vehicles. The first batch of seven recovery vehicles has already been tested and handed over to TD for operation.





同事透過工場的Wi-Fi系統接收實時數據,了解車輛的機件狀況,以進行維修保養工作。

Colleagues receive real-time data through the Wi-Fi system at our depot to find out the conditions of the vehicle's components for carrying out maintenance work.

我們為運輸署採購全港首批五軸 重型拖車,其額外的負載能力可 迅速移走重型壞車,使交通盡快 恢復正常。

The extra loading capacity of Hong Kong's first five-axle heavy recovery vehicles we procured for the Transport Department can swiftly recover broken-down heavy vehicles so that normal traffic can be restored as soon as possible.





我們協助路政署為中環至半山自動扶梯系統進行大型更新 工程,藉此增加其可用率和可靠性。

We assist the Highways Department in the large-scale refurbishment of the Central-Mid-Levels Escalator and Walkway System to enhance its availability and reliability.

上述工程未必為市民所見,但我們為路政署進行的中環至半山自動扶梯系統更新工程,卻是備受注目的項目,與每天使用該系統的市民息息相關。系統全長800米,由德輔道中貫穿九條街道至干德道,是全球最長的室外有蓋自動扶梯系統,亦是著名的旅遊景點。整個系統的更新工程已於2018年3月展開,分12期進行,涉及更換16條自動扶梯及三條行人道。更新工程預期於2022年完成,屆時將會大大提升系統的可用率和自動扶梯服務的可靠性。

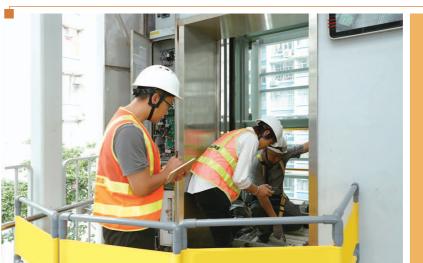
另外,市民較易察覺到的新一代行人天橋升降機的 維修保養工作,亦已由我們接手。新的升降機配備更 多百葉窗以取代冷氣機,提供更佳的通風效果,以配 合政府推動環保、節能和低碳作業的政策。

海上交通方面,在2017年6月於橫瀾島站完成第11個(亦即最後一個)雷達系統的修復工作後,我們為海事處第三代船隻航行監察服務系統(航監系統)第二期工程進行的更換及升級工程亦接近竣工。

While these works might not be visible to the public, our refurbishment of the Central-Mid-Levels Escalator and Walkway System for the Highways Department is a highly conspicuous project and touches the local community on a daily basis. Spanning nine streets from Des Voeux Road Central to Conduit Road, this 800-metre escalator system is the world's longest outdoor covered escalator system and a renowned tourist attraction. Refurbishment of the entire system, which involves replacement of 16 escalators and three walkways, already commenced in March 2018 and will be carried out in 12 phases. The refurbishment work, which is expected for completion in 2022, will greatly enhance the availability and reliability of the escalator service.

Also visible to the public is a new generation of lifts on pedestrian footbridges, for which maintenance has been taken over by us. The new lifts are fitted with more louvres instead of air-conditioners for better ventilation in order to dovetail with the government policy of promoting environment-friendly, energy-saving and low carbon practices.

Turning to sea transport, our replacement and upgrading works for Phase II of the third-generation Vessel Traffic Services (VTS) System for the Marine Department (MD) were close to completion when we finished the 11th (also the last) radar system renovation at Waglan Island Station in June 2017.



我們負責維修保養新一代的行人天橋升降機。這些新 式升降機配備百葉窗,以取代傳統冷氣機,配合政府 的環保政策。

We are responsible for maintenance of the new generation of lifts on pedestrian footbridges. In line with the Government's green policy, these new models of lifts are fitted with louvres to replace traditional air-conditioners.

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這個橫跨數年的項目的最後一環,是為設於馬灣海上交通控制站的全新後備航監系統,以及位於偏遠地點的雷達及無線電通訊站進行測試和校驗,預計全部工作可於2018年完成。新航監系統具備最先進的電子及資訊科技和設備,大大有助海事處提升本港水域船隻航行的安全和效率,也能加強該處的環保作業。

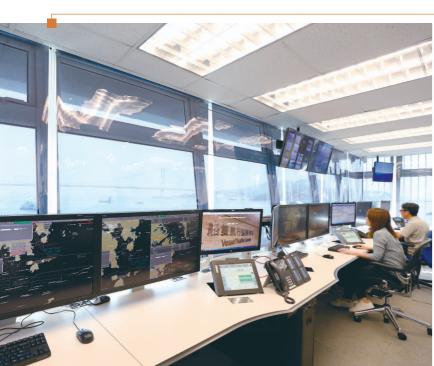
至於航空交通,我們繼續為香港機場管理局(機管局)就香港國際機場的助航燈系統、一般抽水系統和污水處理裝置提供操作及維修保養服務,也為駐守機場和東涌的政府部門提供各種機電設施的支援服務。由於機場不斷擴展,我們會投放更多資源於高壓電力工程的培訓和其他提升員工能力的工作,使助航燈系統及其他機場服務得以受惠。此外,我們或會與機管局探討把新科技應用於機場系統的可行性。

隨着中港兩地經濟未來進一步融合,對口岸過境機電設施的需求亦會與日俱增。營運基金具有相當優勢,可把握機遇和應用嶄新科技,為客戶提供先進的口岸管制及清關方案。鑑於本港交通系統及基建的需求持續上升,我們必須支援客戶推行系統數碼轉型,以提升營運效率。

The final step of this multi-year project will be testing and commissioning of the new fallback VTS System at the Ma Wan Marine Traffic Control Station, as well as that of the radar and radio stations in remote locations, all scheduled for completion in 2018. With state-of-the-art electronics and information technology and equipment, the new VTS System has greatly facilitated MD in improving the safety and efficiency of vessel traffic in Hong Kong waters and enhanced its environmental practices.

On air transport, we continue to provide O&M services for the Airfield Ground Lighting (AGL) System, General Pumping System and Sewage Treatment Plants at the Hong Kong International Airport for Airport Authority Hong Kong (AA), while also supporting various E&M facilities of government departments stationed at the airport and in Tung Chung. As the airport continues to expand, more resources will be devoted to training on high-voltage electrical works and other capacity-building work that will benefit the AGL System and other airport services. We may also explore with AA the potential application of new technologies to airport systems.

As the economic integration between Hong Kong and the Mainland will grow further in the future, so will the demand for boundary-crossing E&M facilities. We are well positioned to capture the opportunities and deploy new technologies to provide state-of-the-art boundary control and clearance solutions for clients. Given the ever-increasing demand for transport systems and infrastructure in the city, it is imperative that we support our clients in the digital transformation of systems to achieve higher operational efficiency.



我們為海事處馬灣海上交通控制站的第三代船隻航行監察服務系 統進行更換、升級及測試,該系統可與上環船隻航行監察中心一 同運作,從而提升香港水域船舶交通的安全及效率。

We have replaced, upgraded and tested the third-generation Vessel Traffic Services System for Marine Department's Ma Wan Marine Traffic Control Station, which can operate with the Vessel Traffic Centre in Sheung Wan, thereby improving the safety and efficiency of vessel traffic in Hong Kong waters.



新預約系統提升車隊可用率 New Booking System Boosts Fleet Availability

車輛工程分部區域經理譚志恒先生及其團隊在機電署總部 大樓的汽車工場推行全新的車輛預約系統試行計劃,以提 高維修效率。

Mr Tam Chi-hang, a regional manager of the Vehicle Engineering Sub-division, and his team launched the new AVBS pilot scheme at the vehicle depot of the EMSD Headquarters Building to enhance maintenance efficiency.



營運基金車輛工程分部區域經理譚志恒先生説:「要解決問題,與客戶溝通至關重要。」譚先生帶領同事於2016年7月在機電署總部工場推出全新的車輛預約系統試行計劃,革新了營運基金車輛維修保養的工作流程。

計劃推行前,客戶車輛經常未能在約定時間抵達工場進行預防性維修保養,嚴重影響工場的時間表,令遲到的車輛往往需要停泊在工場一晚甚或數天,工場人員方能為有關車輛進行維修保養。滯留的車輛使工場變得擠迫,更不必要地減低客戶車隊的可用率。

為了解決這個問題,譚先生及團隊在與客戶詳細討論後,研訂了車輛預約系統試行計劃。根據該計劃,工場人員會預先提醒司機其車輛進行預防性維修保養的預約時間,而司機也承諾會按時抵達。當車輛於預約時間到達時,工場人員已準備好所需的零件及材料和預留泊位,使有關維修保養工作能於數小時內迅速完成,車輛也可即日離開工場,投入服務。

有賴客戶的合作和同事的努力,試行計劃的成績相當理想,尤其對警車和救護車等大型車輛而言。截至2017年年初,客戶車隊的整體可用率上升了4.4%。

譚先生補充説:「這項計劃將會擴展至其他類型的車輛,而我們的車輛接待處亦會遷至工場的樓層並進行擴建,以加強與客戶溝通及提升服務質素。|

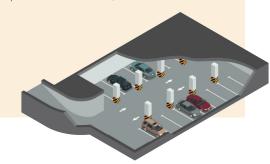
"When it comes to trouble shooting, having communication with clients is vital," said Mr Tam Chi-hang, a regional manager of EMSTF's Vehicle Engineering Subdivision. Mr Tam led the launch of the new AVBS pilot scheme at the EMSD Headquarters depot in July 2016, which has revolutionised EMSTF's vehicle maintenance work process.

Before the implementation of the AVBS, client vehicles often failed to show up at the appointed time for preventive maintenance (PM), seriously affecting the depot's schedule, such that vehicles arriving late often had to remain on site overnight or even for several days before the depot crew could work on them. The backlog of vehicles led to congestion at the depot, unnecessarily reducing the availability of our clients' fleets.

To tackle the problem, Mr Tam and his team have developed the pilot AVBS after extensive discussions with clients. Under the scheme, depot staff alert vehicle drivers to their PM appointments in advance, and drivers undertake to show up as scheduled. When the vehicles arrive at the appointed time, depot staff already have the necessary parts and materials ready and parking spaces reserved, so that PM work can be promptly completed within a few hours and the vehicles can be released for operation on the same day.

Thanks to clients' co-operation and our colleagues' hard work, the results of the scheme are impressive, particularly for large vehicles such as police vans and ambulances. As at early 2017, the overall client fleet availability increased by 4.4%.

"The scheme will now be rolled out to other vehicle types. Our vehicle reception office will also be relocated to the workshop floor and expanded to enhance communication with and services provided to our clients," Mr Tam added.



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聚焦創新科技 FOCUS ON INNOVATION AND TECHNOLOGY

營運基金近年一直積極應用新科技,協助客戶提升 營運效率和節能。行政長官於2017年《施政報告》中 提出以創新及科技(創科)為重點,營運基金隨即作 出配合,於2018年2月成立創新辦公室,專責領導機 電署的創科工作,並於3月1日開始試行網上創科協 作平台「E&M InnoPortal」。

創新辦公室的主要角色之一是發揮橋樑作用,為物色特定創科方案的政府部門及公營機構,與能開發和提供該等產品及服務的初創企業進行配對。我們除了以機電署總部大樓作為初創企業產品的試驗場地外,亦以創新辦公室作為機電署所有創科協作和措施的首個接觸點。

我們在2017年12月於機電署總部舉行「創新科技日」, 有12間來自香港科學園的初創企業展示其產品意念 或原型,吸引逾200名來自機電署、政府部門及公營 機構的參加者出席,他們對於進一步討論和協作很 感興趣。

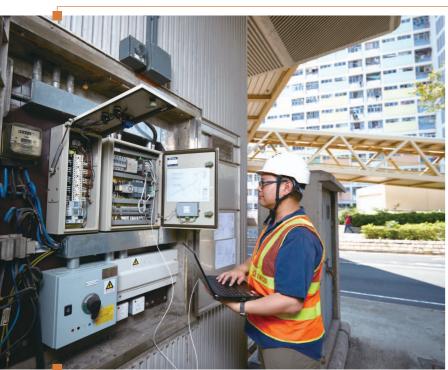
政府建築物是應用創料的重要場地,能為社會樹立良好榜樣,以提倡樓宇智能維修保養及環保作業方式。繼機電署總部大樓榮獲「綠建環評既有建築」最終鉑金級證書和「綠建環評社區」鉑金級證書後,我們再接再厲,着力協助其他客戶部門獲取「綠建環評」證書。

The EMSTF has been actively deploying new technologies in recent years to help clients enhance operational efficiency and save energy. In line with the Chief Executive's focus on innovation and technology (I&T) in her 2017 Policy Address, we promptly set up a dedicated Inno-Office in February 2018 to spearhead EMSD's I&T efforts and soft-launched an online I&T collaboration platform "E&M InnoPortal" on 1 March

A key role of our Inno-Office is to be a matchmaker, bridging government departments and public bodies seeking specific I&T solutions with start-ups that can develop and provide those products and services. We have also made the Inno-Office EMSD's first point of contact for all I&T collaborations and initiatives, in addition to making available our headquarters building as a venue for start-ups' product pilots.

An Innovative Technology Day was held in December 2017 at EMSD Headquarters where 12 start-ups from the Hong Kong Science Park showcased their product ideas or prototypes. Over 200 participants from EMSD, government departments and public bodies attended the event, showing great interest in further discussion and collaboration.

Government buildings are important venues for I&T application, as they can set a good example for the community in smart building maintenance and environment-friendly operations. Further to the success of the EMSD Headquarters Building in obtaining the Final Platinum Rating Certification under BEAM Plus Existing Buildings and the Platinum Rating Certification under BEAM Plus Neighbourhood, we have moved on to assist other clients in obtaining BEAM Plus certification too.



我們的同事正在檢查首個安裝於彩虹斧山道行人天橋的「智能調光 照明控制系統」。

Our colleagues are conducting inspection of the Smart Footbridge Lighting Dimming Control System, first installed at the footbridge at Hammer Hill Road, Choi Hung.





我們持續監察醫管局大樓的能源使用,引入先進的節能科技,例如安裝發光二極管照明裝置,並強化環境及能源管理措施,最終成功為大樓取得「綠建環評既有建築2.0版自選評估計劃」能源使用節轉的自執評級。

We have been monitoring the HA Building's energy use, introducing the latest energy-saving technologies such as application of LED lighting system, and stepping up environmental and energy management measures. With these efforts, we successfully assisted the building in achieving an Excellent grade for Energy Use under the BEAM Plus Existing Buildings (V2.0) Selective Scheme.



醫院管理局(醫管局)大樓便是一例。我們為大樓提供技術支援,使其成為首幢在「綠建環評既有建築2.0版自選評估計劃」能源使用範疇榮獲卓越評級的政府建築物,是營運基金在協助政府建築物節能方面的里程碑。同樣,在我們的技術支援下,建築署的建業中心亦於該計劃的能源使用範疇取得卓越評級。

我們現正進行差距分析,探討建業中心取得「綠建環 評既有建築20版綜合評估計劃」證書的潛力。建築 物必須符合該計劃全部六個範疇的規定,方能獲頒 證書,難度更高。

在2017/18年度完結時,共有17幢政府建築物已安裝綜合樓宇管理系統。該系統連接至各主要場地的經優化中央控制及監察系統和流動技術,有助我們改善為政府建築物提供的操作及維修保養服務。年內,我們更為機電署總部、土瓜灣政府合署和粉嶺法院大樓安裝配備能源管理功能的綜合樓宇管理系統。憑藉營運基金團隊對運用綜合樓宇管理系統的豐富經驗,我們將研究為客戶成立區域數碼控制中心的可行性。這些控制中心可進行大數據分析,協助建築物羣改善運作表現。

由於創新科技系統有助提升人力效率及向公眾所提供服務的質素,負責邊境管制的客戶部門亦能從有關方案中受惠。舉例來說,我們正為全新的「智能體溫檢查系統」進行測試,以供衞生署轄下的港口衞生處使用。該系統結合熱能顯像和人工智能科技,既能實時準確地識別發燒旅客,亦能應用大數據分析,以改善各邊境管制站的健康檢查措施。

A case in point is the Hospital Authority (HA) Building which, with our technical support, became the first government building to earn the Excellent grade for Energy Use under the BEAM Plus Existing Buildings (V2.0) Selective Scheme, a milestone in our efforts to help government buildings save energy. Likewise, with our technical support, the APB Centre of the Architectural Services Department (ArchSD) also obtained the Excellent grade for Energy Use under the Selective Scheme.

We are now conducting a gap analysis to explore the potential of the APB Centre in obtaining certification under the BEAM Plus Existing Buildings (V2.0) Comprehensive Scheme, which is a more ambitious goal as the requirements of all six aspects under the Scheme must be fulfilled in order to be certified.

At the end of 2017/18, the integrated Building Management System (iBMS) was installed in a total of 17 government buildings. Connected to upgraded Central Control and Monitoring Systems at critical venues as well as mobile technologies, iBMS will enable us to improve our O&M services for government buildings. During the year, iBMS with energy management function was also installed at EMSD Headquarters, To Kwa Wan Government Offices and Fanling Law Courts Building. With rich iBMS experience, we shall look into the feasibility of setting up regional digital control centres for clients. Such centres will generate big data analytics to facilitate groups of buildings to improve their operational performance.

Client departments with boundary control responsibilities can also benefit from innovative technology solutions, as these systems can help increase manpower efficiency and enhance the quality of service provided to the public. For instance, combining thermal imaging with artificial intelligence, the new Smart Fever Screening System being tested for the Port Health Office of the Department of Health can accurately identify febrile travellers in a real-time manner, and will also enable big data analysis for improving health screening measures at boundary control points.

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為客戶節能是我們創科工作的另一個重要範疇,而 這方面的工作更於2017年9月為我們帶來兩項國際殊 榮。營運基金的衛生工程團隊聯同醫管局獲美國能 源工程師學會頒發亞太區「區域能源項目獎」,以表 揚我們與醫管局自2015年起,合力把公立醫院共38 台老化的傳統製冷機組更換為高能效的型號。有關 項目為醫管局每年節省約1300萬度電。

機電署同時奪得美國能源工程師學會亞太區「區域能源管理機構獎」,以表揚部門多年來在能源管理項目方面的整體傑出表現。

此外,由我們的衞生工程團隊自行研發的「流動製冷系統」,更取得為期八年的香港專利。當醫療場地的主要製冷機組發生故障時,該系統可於數小時內開始為整個場地提供緊急空調供應。我們希望與業界分享有關設計,推動更廣泛使用該系統。

營運基金的各個團隊,利用為協助政府部門於2015/16至2020/21年度內實現節能5%而預留的特別撥款,一直協助客戶申請資助,並為其提供技術支援,以推行能源管理措施。所進行的項目種類非常廣泛,由更換製冷機組、優化中央控制及監察系統和照明系統,以至為全部政府建築物進行全面的能源改善工程。建業中心便是能源改善工程的例子之一。我們在該座建築物安裝了製冷量達1400千瓦的高效製冷機組,又為冷水循環系統升級,加裝變速驅動泵,以進一步提升節能效果。

Saving energy for clients is another key aspect of our I&T work. Our efforts in this area won two prestigious international awards in September 2017. Our health sector team and HA jointly received from the Association of Energy Engineers (AEE) the Regional Energy Project of the Year Award for the Asia-Pacific region, in recognition of our joint efforts in replacing a total of 38 aged conventional chillers in public hospitals with highly energy-efficient chillers since 2015. An annual electricity consumption of around 13 million kWh has been saved for HA.

The other award was the AEE Regional Institutional Energy Management Award for the Asia-Pacific region to commend EMSD's overall outstanding performance in energy management programmes throughout the years.

On a related note, our health sector team's in-house developed Mobile Chiller System, which can start providing emergency air-conditioning to the entire healthcare venues within a few hours in the event of breakdowns of the main chillers, has obtained an eight-year Hong Kong patent. We hope to share the design with the trade to promote its wider adoption.

With a special funding earmarked to help government departments achieve 5% energy saving from 2015/16 to 2020/21, various teams of EMSTF have been assisting clients in fund bidding and providing technical support to implement their energy management opportunities. The nature of projects undertaken is extensive, ranging from replacement of chillers, upgrading of Central Control and Monitoring Systems and lighting systems, to comprehensive energy improvement works for all government buildings. An example of the latter is the APB Centre where a high efficiency chiller plant with a cooling capacity of 1 400 kW was installed and the chilled water circulation system was upgraded with variable speed drive pumps to further enhance energy saving.



我們協助建築署的建業中心取得「綠建環評室內建築1.0版」鉑金 級評級。文樓一樓的綠化牆壁為員工提供舒適的工作環境,有助 保維可持續發展。

We assisted ArchSD's APB Centre in attaining the Platinum Rating under BEAM Plus Interiors (V1.0). The green wall on the 1/F of Main Block provides a cosy working environment for staff, facilitating the promotion of sustainable development.





我們在香港天文台總部外的花園安裝了配備太陽能板的柱燈,利用可再生能源 發電,以達致零碳排放的目標。

Bollard lights equipped with solar panels have been installed at the garden outside the Hong Kong Observatory Headquarters for generating electricity with renewable energy to achieve zero carbon emission.

機電署總部大樓的學習資源中心安裝了「智能風機盤管控制器」。這個控制器屬於 具潛力的初創節能項目,可透過調節電壓,控制冷氣機風機的馬達速度,以提高 能源效益。

A Fan Coil Unit Energy Saver is installed in the Learning Resources Centre at EMSD Headquarters. As part of a potential energy saving start-up project, this energy saver can enhance energy efficiency by adjusting the voltage to control the motor speed of the fan in an air-conditioning system.



另一項有關節能的工作,是我們於年內大量採購了約700部具有變頻功能的窗口式冷氣機,供各客戶場地作更換之用。是次採購促使供應商加快把更具能源效益的冷氣機型號進口香港,供應予消費市場,從而改變市場的供應情況,有利環保。

我們亦正籌備多類具備創科元素的節能或營運效率 改善項目。營運基金各個團隊正研究不同項目構思, 例如為民航處的火警偵測系統進行遠程監察、 港天文台位處偏遠地區的較小型雷達站安裝可再生 能源應用設備以達致零碳排放,以及為小蠔灣政府 維修廠裝設控制照明和空調系統的流動應用程式。 此外,我們已就於18個公園安裝太陽能街燈,為建 築署展開可行性研究。待項目完成後,新的太陽能街 燈可讓市民於日常生活中更近距離接觸可再生能源。

創科是促進香港經濟多元發展和提升競爭力的關鍵。 在創新辦公室及營運基金各團隊的共同努力下,我 們將繼續與客戶攜手在創科路上跨步向前。 A related effort was our bulk purchase of about 700 window-type room airconditioners with frequency inverter control for replacement at various client venues. This has in turn prompted the supplier to expedite the import of these more energy-efficient models into Hong Kong for the consumer market, thereby changing the supply to be in favour of environmental protection.

In the pipeline too is a variety of energy saving or operational efficiency enhancement projects with I&T elements. Our teams are exploring different project ideas such as remote monitoring of fire detection systems for the Civil Aviation Department, renewable energy applications at smaller outlying radar stations of the Hong Kong Observatory to achieve zero carbon emission, and mobile applications for the control of lighting and air-conditioning systems at the Siu Ho Wan Government Maintenance Depot. We have also started a feasibility study for ArchSD on the installation of solar lamp poles in 18 parks. On completion, the new lamp posts will bring renewable energy closer to people's everyday life.

I&T is important in helping Hong Kong diversify its economy and become more competitive. With the concerted efforts of our Inno-Office and various teams of EMSTF, we shall continue to progress together with our clients on the I&T journey.

營運服務 Trading Services



營運基金工程策劃部高級工程師陳賀賢先生自2014 年起參與「建築信息模擬 — 資產管理」研發項目以 來,有重拾年青的感覺。他説:「與年青工程師團隊 一同在未知的領域探索新科技,使人既興奮又充滿 活力,令我回想起年輕時對探索和應用新科技以進 行設計工作的熱情和幹勁。這豈不是專業工程師所 追求最浪漫的事嗎?」

他帶領的年青工程師團隊,在應用「建築信息模擬一資產管理」系統以提高建築物機電系統的操作及維修保養服務的效率方面開創先河,於建築及工程領域贏得多項本地及國際殊榮,成就廣獲認同。

團隊成功研發並在機電署總部應用「建築信息模擬一資產管理」系統,更因此而獲建造業議會及香港工程師學會等機構頒發創新獎項。陳先生也多次獲邀在本港及海外就該系統發表演講,其中最矚目的是2016年由電機電子工程師學會主辦的自動化科學及工程國際會議和2017年的歐特克大學拉斯維加斯會議(兩會均在美國舉行)。

機電署在2017年為「建築信息模擬 — 資產管理」系統取得八年香港專利,並出版《建築信息模擬 — 資產管理系統的標準和指引》,利便業界採用該技術進行樓宇維修保養。同時,市場對該技術的興趣日增。

陳先生説:「我們下一步將會為整座機電署總部大樓、香港兒童醫院、天水圍醫院和西九龍政府合署建造完整的『建築信息模擬一資產管理』模型,而後三幢大樓均為新建建築物。這代表該技術會由先導計劃的階段,進展至全面應用於建築物。我們正計劃把『建築信息模擬一資產管理』結合大數據分析、物聯網和5G無線通訊,以進一步發揮該技術在資產數碼化方面的潛力。」

Ever since taking on the Building Information Modelling — Asset Management (BIM-AM) R&D project in 2014, Mr Steve Chan Hor-yin, a senior engineer of our Project Division, has felt youthful again. "Exploring new technology in uncharted territory with a team of young engineers is exciting and energising. It recalls me of my passion and enthusiasm in exploring and applying new technology to carry out design work when I was young. It is the most romantic thing pursued by a professional engineer, isn't it?" he said.

His young engineering team has received awards and recognition locally and internationally from the construction and engineering sectors for its pioneering work in applying BIM-AM to boost the efficiency of O&M services for the E&M systems of buildings.

The team's successful pilot in developing and applying BIM-AM System to EMSD Headquarters has won innovation awards from such organisations as the Construction Industry Council and the Hong Kong Institution of Engineers. Mr Chan was also invited to speak on BIM-AM locally and overseas, most notably at the International Conference on Automation Science and Engineering hosted by the Institute of Electrical and Electronics Engineers in 2016 and the Autodesk University Las Vegas Conference 2017 in the United States.

The EMSD obtained an eight-year Hong Kong patent for BIM-AM in 2017 and issued the BIM-AM Standards and Guidelines, with a view to facilitating the adoption of BIM-AM by the trade in building maintenance. Meanwhile, market interest in the technology has continued to surge.

"The next steps are to build a full BIM-AM model for the entire EMSD Headquarters Building, Hong Kong Children's Hospital, Tin Shui Wai Hospital and West Kowloon Government Offices, with the latter three being new buildings," said Mr Chan. "This means BIM-AM will proceed from a pilot stage to full implementation in buildings. To further leverage on the potential of BIM-AM in asset digitisation, we are planning to integrate BIM-AM with big data analytics, Internet of Things and 5G wireless communication."

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for Hospital Authority Building

我們的工程師趙偉略先生(右)和一級監工伍裕賢先生(左)協助醫院管理局大樓取得「綠建環評既有建築2.0版自選評估計劃」能源使用範疇的卓越評級。

Mr Vincent Chiu Wai-leuk, an engineer (right), and Mr Ng Yu-yin, a works supervisor I (left), assisted HA in earning an Excellent grade for Energy Use under the BEAM Plus Existing Buildings (V2.0) Selective Scheme for the HA Building.



2017年,醫管局大樓成為首幢在「綠建環評既有建築 2.0版自選評估計劃」能源使用範疇榮獲卓越評級的 政府建築物,是營運基金持續支援該大樓節能工作 的里程碑。

帶領團隊協助醫管局大樓取得證書的衞生工程部工 程師趙偉略先生表示,最大的挑戰是要使醫管局的 非技術人員相信參加計劃所帶來的可持續發展效益。

他又説:「大樓落成至今已21年,在工作開展初期, 要確定需更換的資產以節省最多能源,確有難度。」

經過精心策劃,有關工程在2015年展開,當中包括 更換製冷機組和照明系統、為機電系統加裝變速驅 動器和感應器,以及遵行大量報告和文件規定。我們 的努力得到回報,醫管局大樓2016年的用電量較 2012年下降18%,更於「綠建環評」評審中以高達 90%的得分獲得卓越評級。

一級監工伍裕賢先生是項目團隊的重要成員,致力協助醫管局大樓取得「綠建環評」證書。伍先生自醫管局大樓於1997年啟用以來,一直駐守該處,對其機電系統瞭如指掌,更具備數十年的豐富經驗。他與大樓的行政單位和技術人員緊密合作,促進日常溝通,並監督各項更換工程和節能測量工作。

趙先生及伍先生感謝醫管局大樓管理層的大力支持, 以及員工的理解和合作,使這項工作取得成功。趙先 生説:「良好規劃、客戶支持、對客戶機電系統的深 入了解,以及傑出的團隊合作,都是今次成功的關 鍵。|

伍先生補充説:「這個項目不但鞏固了我們與醫管局的緊密伙伴關係,更提供絕佳機會,讓我們培訓年輕同事,實在一舉兩得。」

In 2017, the HA Building became the first government building to earn an Excellent grade for Energy Use under the BEAM Plus Existing Buildings (V2.0) Selective Scheme, a milestone in EMSTF's continued efforts to help the HA Building save energy.

Engineer of the Health Sector Division, Mr Vincent Chiu Wai-leuk, who led the team that helped the HA Building obtain the certification, noted that the biggest challenge was to convince HA non-technical staff of the sustainability benefits of participating in the Scheme.

"As the building has been in service for 21 years, it was initially difficult too to identify the assets for replacement in order to maximise energy saving," he added.

After meticulous planning, work began in 2015. This included replacing chillers and lighting systems, installing variable speed drives and sensors on E&M systems, and meeting extensive reporting and documentation requirements. The hard work paid off as the HA Building's electricity consumption dropped by 18% in 2016 compared to 2012. The HA Building attained an extremely high score of 90% in the BEAM Plus assessment to earn the Excellent grade.

Mr Ng Yu-yin, a works supervisor I, was a key member of the project team striving to achieve HA Building certification. Having stationed at the HA Building since it opened in 1997, Mr Ng has superb knowledge of the Building's E&M systems and decades of experience. He worked closely with the administration unit and technical staff of the Building to facilitate day-to-day communication and oversee replacement works and energy-saving measurements.

Both Mr Chiu and Mr Ng appreciated the strong support from the HA Building's management, as the exercise would not have been successful without the understanding and co-operation from the client's staff. "Good planning, support from client, in-depth knowledge of the client's E&M systems and excellent teamwork were the key to success," Mr Chiu said.

"The project reinforced our strong partnership with HA and gave us an excellent opportunity to train up our younger colleagues," Mr Ng added.

Corporate Stewardship

機電工程營運基金已於2017/18年度完成首個五年策 略計劃。憑藉在「提供優質服務」及「建立員工才能 與關懷文化」等各項策略下取得的成果,我們正朝着 正確方向,邁向落實「透過與客戶的伙伴關係,創造 公眾價值利惠市民」的企業目標。為保持這良好勢 頭,營運基金在首個策略計劃所奠定的穩固基礎上, 制訂了第二個五年策略計劃,以數碼化和創新及科 技(創科)為主題,往「機電2.0服務新里程」的方向邁 進。營運基金已準備就緒,按照第二個五年策略計劃 所訂明的三大策略、五個策略目標及八個策略行動 推行工作。

The year 2017/18 was the closing year of EMSTF's first five-year strategic plan. With accomplishments made under various strategies such as "delivering excellent service" and "building capacity and caring culture", we are on the right track to achieving our corporate goal of "creating public value for community betterment through partnership with our clients". Continuing with the momentum and building on the solid foundation laid down by the first strategic plan, EMSTF has formulated its second five-year strategic plan, with the main theme being digitisation as well as innovation and technology (I&T) to move towards E&M 2.0 a new era of E&M services. The EMSTF is fully geared up for action in accordance with the three strategies, five strategic goals and eight strategic tasks stated in the second five-year strategic plan.



我們在制訂營運基金第二個五年策略計劃的過程中 推出專門網站,鼓勵客戶及其他持份者積極參與討

In formulating EMSTF's second five-year strategic plan, a special website was launched to engage clients and other stakeholders in active discussion

我們在2018/19年度落實第二個五年策略計劃前,現 先於下文載述營運基金在2017/18年度的工作重點, 以及年內用以監察營運基金表現的關鍵績效指標。

提供優質服務

分階段推出的「顧客為本電子平台」,是2017/18年度 在提升客戶服務和滿意度方面的里程碑,旨在向客 戶提供有關工作進度的實時資訊。「顧客為本電子平 台一工作管理」軟件也於2017年11月起在44個客戶 場地/營運設施進行實地測試,我們隨後更為前線員 工及各策略業務單位的用戶代表舉行多場簡報會, 務求讓員工參與其中和收集意見,以改善平台運作。

截至2018年3月底,在合共290個客戶場地/營運設 施當中,達82%已推出「顧客為本電子平台」,客戶 對平台的反應正面。客戶服務中心經全面革新後,亦 已於2018年6月試用,大大提高了處理客戶查詢的能 力。「顧客為本電子平台」將配合客戶服務中心,為 客戶提供全新體驗,讓其獲取有關工作進度的實時 更新,以便更有效監察工程項目,並且更加安心。

Before embarking on the second five-year strategic plan in 2018/19, EMSTF has set out as follows the highlights of its work in 2017/18 and a set of Key Performance Indicators (KPI) for monitoring the performance of EMSTF during the year.

Deliver Excellent Service

Rolled out by phases with the aim to provide clients with real-time information on job progress, our Customer Centric e-Platform (CCeP) was a milestone in enhancing customer service and satisfaction in 2017/18. Field-testing of the CCeP-Job Management (CCeP-JM) software also began at 44 client venues/operations in November 2017, followed by numerous briefing sessions for our frontline staff and user representatives from the Strategic Business Units (SBUs), both to engage staff and solicit feedback for fine-tuning of the platform.

As at end March 2018, the rate of CCeP roll-out reached 82% out of a total of 290 client venues/operations, with positive feedback received. Complementing the fully revamped Customer Service Centre which was soft-launched in June 2018 with greatly improved capabilities to handle customer enquiries, the CCeP will offer clients a whole new experience in obtaining real-time updates on job progress for better works monitoring and extra peace of mind.

關鍵績效指標成績及表現承諾

KPI Results and Performance Pledges

項目 ltem	關鍵績效指標(單位)¹ Key Performance Indicators (Unit)¹	目標 Target	成績 Results
1.	收入回報率(%)2		
	Return on Revenue (%) ²	4.0	9.6
2.	新業務及業務增長(百萬元) New Business and Growth of Business (\$M)	474.9	526.6
3.	客戶滿意指數[以8分為滿分計] Customer Satisfaction Index (CSI) [on an 8-point scale]	6.3	6.45³
4.	年內續訂的服務水平協議 (%) Percentage of Service Level Agreement (SLA) Renewed during the Year (%)	95	99.84
5.	每月電話調查客戶滿意度 (%) Percentage of Satisfaction Level Based on Monthly Customer Feedback (%)	98	99.95
6.	營運基金員工的訓練日數(每名員工接受訓練的日數) Training Days of EMSTF Staff (no. of training days per staff)	4.5	5.27
7.	員工滿意度指數[以 10 分為滿分計] Staff Satisfaction Rating [on a 10-point scale]	6.8	6.8 ⁴
8.	員工建議計劃的建議書(份) Awards for Staff Suggestion Scheme Proposal (no.)	75	107
9.	達到服務水平協議所訂的表現目標 (%) Percentage of SLA Service Performance Target Compliance (%)	99	99.99
10.	每千名營運基金員工須呈報的累積意外宗數(每千人計算) Accumulated Reportable Accident per 1 000 EMSTF Staff (no. per 1 000 staff)	5.0 ⁵	2.51
11.	違反法例次數 (宗) Statutory Non-compliance (no.)	0	0
12.	耗電量 (千瓦小時) [機電署總部大樓、企業數據中心及各策略業務單位場地] Electricity Consumption (kWh) [EMSD Headquarters Building, Corporate Data Centre and all SBUs Venues]	10 838 767 ⁶	9 817 693 ⁷

- 各項目只適用於機電工程營運基金。
- 2 機電工程營運基金的收入回報率乃按照税前狀況計算。
- 數字為2016年的調查結果。下一次調查將於2018年進行, 客戶滿意指數目標為6.6。
- 平均績效指數目標為7.0。
- 5 此為警戒水平,並非目標。
- 2013/14財政年度的基線耗電量(扣除客戶使用量)。
- 2017/18財政年度經調整後的耗電量(扣除客戶使用量)。

- 1 除第7、第8及第12項適用於機電工程署整個部門外,表內 1 All items apply to EMSTF only, except items 7, 8 and 12 which apply to EMSD as a whole.
 - EMSTF's return on revenue (ROR) was calculated on before-tax position.
 - Result from the survey conducted in 2016. The next survey will be conducted in 2018 with target
- 4 數字為2016年的調查結果。下一次調查將於2019年進行・ 4 Result from the survey conducted in 2016. The next survey will be conducted in 2019 with target mean performance rating at 7.0.
 - This is an alert level, not a target
 - Baseline electricity consumption (exclude client usage) as of FY2013/14.
 - Normalised electricity consumption (exclude client usage) as of FY2017/18.



機電署總部大樓四樓的客戶服務中心,經全面翻新 後已全面投入服務,能更迅速有效地處理客戶查 詢,加強與客戶聯繫。

The newly revamped Customer Service Centre on 4/F of EMSD Headquarters is now fully operational. Client enquiries are now handled more promptly and effectively, further strengthening our client relations.

企業管理

Corporate Stewardship

品質及職安健乃營運基金卓越服務的基石。我們的年度活動「品質及安全日」已於2017年11月在香港科學館順利舉行,藉以表揚員工在推動部門的持續改善文化方面作出的貢獻。這項活動更提供機會,讓員工了解「最佳改善個案獎」、「最佳職安健改善個案獎」及「最佳環保個案獎」各得獎團隊的最佳做法。

早於2017年5月,營運基金舉辦了到訪日本的四天海外考察團,目的是學習該國在品質和安全管理方面的最佳做法。考察團共有13名成員,當中包括上述獎項的得獎者,他們造訪知名的製造公司和科技機構,以深入了解如何利用品質管理及新科技創造競爭優勢,並學習日本在風險、危機和資產管理方面的最佳做法。

Quality as well as occupational health and safety (OHS) are the cornerstones of EMSTF's excellent service. Our annual Quality and Safety Day was successfully held at the Hong Kong Science Museum in November 2017 to recognise staff's contribution in promoting the culture of continuous improvement for the Department. The event also provided an opportunity for staff to learn about the best practices from the winning teams of the Best Improvement Project Awards, Best OHS Enhancement Project Awards and Best Green Project Awards.

Earlier in May 2017, a four-day overseas study mission to Japan was organised to learn about the country's best practices in quality and safety management, with a total of 13 members comprising winners of the above-mentioned awards. The mission visited renowned manufacturing companies and technology organisations to gain insights on how to utilise quality management and new technologies in creating competitive advantage, as well as to learn from Japan's best practices in risk, crisis and asset management.



「最佳改善個案獎」和「最佳職安健改善個案獎」得獎團隊的同事參加了在2017年5月舉行的日本考察團,造訪當地著名企業,探究其創新、品質管理及知識管理方面的發展,並於回港後與同事分享考察成里。

Colleagues from the winning teams of the Best Improvement Project Awards and Best OHS Enhancement Project Awards visited renowned companies during their Japan Study Trip in May 2017 for a closer look at their development in innovation, quality and knowledge management, followed by a sharing session with fellow colleagues upon return

我們與香港科技園公司於2017年12月合辦首個「創新科技日」· 讓初創企業展示最新的研發成果,以推動創科發展。

Our first Innovative Technology Day, co-organised with the Hong Kong Science and Technology Parks Corporation in December 2017 showcased latest research projects from start-ups to foster I&T development.



營運基金的另一里程碑是於2018年2月成立創新辦公室。這支企業支援團隊專責推動機電署的創科活動,並支援各策略業務單位、初創企業及大學於機電署總部大樓試行其創科項目。營運基金本着推動創科的精神,於2017年12月與香港科技園公司首次合辦「創新科技日」,並計劃於2018年6月再次舉辦該活動,以展示初創企業和學術界的創科項目,使有關項目能與有興趣的政府部門及公營機構進行配對。

Another milestone was the setting up of EMSTF's Inno-Office in February 2018, a dedicated corporate support team to drive the Department's I&T initiatives. It also supports SBUs, start-ups and universities in the trial implementation of their I&T projects at the EMSD Headquarters Building. It was in this spirit that EMSTF held its first Innovative Technology Day with the Hong Kong Science and Technology Parks Corporation in December 2017, with a second one planned for June 2018, to showcase I&T projects from start-ups and the academia for potential matching with interested government departments and public bodies.



機電署的「網上創新科技協作平台」E&M InnoPortal於2018年2月推出,為大學及初創企業的創科方案提供平台,促成它們與有相應需要的政府部門和公營機構 推行配對。

EMSD's E&M InnoPortal, launched in February 2018, is an on-line I&T collaborative platform to match start-ups and universities offering the suitable I&T solutions with government departments and public bodies having corresponding needs.

創新辦公室成立後,迅即於2018年2月試推「網上創新科技協作平台」(E&M InnoPortal)。這個網上平台旨在促使初創企業及大學把其創科項目與公營機構的潛在用戶或合作伙伴進行配對。此外,我們將會以總部大樓作為多個創科項目(例如智能燈柱及多層停車場系統)的試驗場地,並為初創企業及大學選定的創科項目進行測試和數據驗證。我們亦正成立創新小隊及創新沙盒,兩者均按營運基金第二個策略計劃,為機電服務數碼化和推動創科發展鋪路。

我們在2017年公務員優質服務獎勵計劃中奪得兩個獎項,可謂營運基金於年內提供優質服務的最佳證明。有關獎項包括以「共建精英搖籃」項目獲得「部門合作獎」銀獎,表揚我們為建設新的消防及救護學院所作的傑出貢獻,以及以「市民為心,先人為敬」項目奪得「隊伍獎(專門服務)」特別嘉許(創新意念),表揚我們的優秀火葬工程服務。

The E&M InnoPortal, an online platform to facilitate the matching of I&T projects by start-ups and universities with potential users or collaboration partners from the public sector, was promptly soft-launched by the Inno-Office in February 2018. Besides, our headquarters building will be made as a testing ground for several I&T projects, such as smart lampposts and a multi-deck carpark system, as well as for the trial and data validation of selected I&T projects by start-ups and universities. InnoTeams and InnoSandboxes are also being set up — both paving the way for the digitisation of our E&M services and the promotion of I&T development in accordance with our second strategic plan.

Perhaps the best testimony to EMSTF's service excellence during the year was our winning of two awards in the Civil Service Outstanding Service Award Scheme 2017, namely Silver Prize of the Partnership Award for the "Team Up for the Cradle of Elites" project in recognition of our outstanding work in the new Fire and Ambulance Services Academy, and Special Citation (Innovation) of the Team Award (Specialised Service) for the "Caring for the Public, Respecting the Departed" initiative to recognise our excellent cremation engineering services.



機電署四位同事榮獲2017年公務員事務局局長嘉許狀計劃的嘉許獎,並於頒獎禮上與行政長官林鄭月娥女士(右四)、公務員事務局局長羅智光先生(右五)及機電署高層管理人員合照。

Four EMSD colleagues received commendation awards at the Secretary for the Civil Service's Commendation Award Presentation Ceremony 2017. Picture shows the awardees with the Chief Executive, Mrs Carrie Lam (4th right), the Secretary for the Civil Service, Mr Joshua Law (5th right), and the senior management of EMSD.

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2018年是機電署成立70周年,我們將於今年稍後推出一系列慶祝活動,邀請營運基金客戶及其他持份者參與。新一輪的客戶意見調查也將於2018年稍後時間展開,以客戶滿意指數最高8分計,我們的目標是取得6.6分。

The year 2018 marks the 70th anniversary of EMSD and a series of celebration activities will be held later in the year to engage EMSTF clients and other stakeholders. The next Customer Opinion Survey will also commence later in 2018, with a target Customer Satisfaction Index of 6.6 on a scale of 8.

成為業界典範

機電署作為香港機電業推廣工作小組(工作小組)的 召集人,在2017/18年度繼續致力為機電業供應更多 優秀人才。有關工作包括參加「機電業博覽2018」, 為業界招募年青人入行,以及推行「為業界培訓人才」 項目,我們更承諾透過技術員訓練計劃,在2016至 2020年間每年培訓100名新的見習技術員。我們亦已 在適當情況下,藉着這些活動和項目,向業界及公眾 推廣把創科(例如「建築信息模擬一資產管理」技術) 應用於機電工作。

Become a Trade Model

As the convenor of the Hong Kong Electrical and Mechanical Trade Promotion Working Group (Working Group), EMSD continued its ongoing efforts in enhancing the supply of quality talents for the E&M trade in 2017/18. Such efforts included participation in the E&M Trades Expo 2018 to recruit young people to the trade, as well as our "Train for the Trade" initiative for which we pledged to train 100 new technician trainees per year from 2016 to 2020 via our Technician Training Scheme. Where appropriate, the application of I&T (such as Building Information Modelling-Asset Management technology) in E&M works was promoted to the trade and the public too through these events and initiatives.



我們於 2017 年 9 月舉辦首次「機電·啟航」迎新典禮,歡迎機電署及其他機電機構 500 多位年輕的見習技術員,並邀得政務司司長張建宗先生擔任主禮嘉賓。資深工程人員更於台上與見習技術員分享經驗。

The Chief Secretary for Administration, Mr Matthew Cheung, was invited to officiate at our first "E&M GO!" Orientation Ceremony held in September 2017 to welcome over 500 young technician trainees from EMSD and other E&M organisations. Experienced engineering personnel also shared their insights with trainees on stage.



2017年9月,工作小組主辦一個名為「機電·啟航」迎新典禮的全新活動,邀得政務司司長擔任主禮嘉賓,機電業界人士及商界領袖也踴躍參與。迎新典禮邀請了來自工作小組的成員機構及機電署「合作培訓技術員先導計劃」的各個伙伴政府部門、公用事業和企業的數百名新見習技術員及其家屬參加,祝願新學員在機電業揚帆啟航,前途似錦。

The "E&M GO! 2017" Orientation Ceremony, a new event hosted by the Working Group, was held in September 2017, with the Chief Secretary for Administration as the officiating guest. Well attended by professional and business leaders of the E&M trade, the ceremony welcomed hundreds of new technician trainees from EMSD and our partnering departments, utilities and companies under our Pilot Cooperative Apprentice Training Scheme as well as their families. These new trainees were wished a bright future ahead.



部門的「品質及安全日2017」旨在表揚同事在提升服務質素 及安全管理方面的貢獻。

Our Quality and Safety Day 2017 was held to recognise the contribution of our colleagues in enhancing the quality of service and safety management.



為協助承辦商維持高水平的工作表現,我們每年均舉辦承辦商研討會,讓機電承辦商及其工程人員就合約和誠信管理、工地安全、工程人員行為、壓力管理及其他職安健議題等,分享經驗和最佳做法,而年內的兩場承辦商研討會已於2017年4月和10月舉行。營運基金除了參加「建造業安全周嘉年華2017」以推廣工作安全外,亦參與由發展局及建造業議會合辦的「公德地盤嘉許計劃」。

對內而言,我們於2017年10月舉辦「健康及安全周」, 邀請嘉賓講者主講職安健講座,並安排員工訪問外 間機構,令同事獲益良多。2017/18年度為機電工程 署全體員工舉辦的伸展運動比賽,亦廣受同事歡迎。

建立員工才能與關懷文化

繼機電署2016年員工滿意度調查的整體員工滿意度 指數創下6.8分(以10分為滿分計)的歷史新高後,我 們正籌備於2019年年初進行下一次調查,目標是整 體員工滿意度指數取得7.0分或以上(以平均表現得分 計)。這項調查乃重要渠道,讓高層管理人員了解員 工對營運基金工作環境和文化的意見,並評估自2016 年調查後實施的各項改善措施的成效。 To help contractors upkeep high standards in their work, two sessions of our annual Contractors Forum were held in April and October 2017 for E&M contractors and their engineers and workers to share their experiences and best practices in such areas as contract and integrity management, site safety, workers' behaviour, stress management and other OHS issues. Apart from participating in the Construction Safety Week Carnival 2017 to promote safety at work, EMSTF also took part in the Considerate Contractors Site Award Scheme organised by the Development Bureau and the Construction Industry Council.

Internally, staff were benefitted from OHS talks by guest speakers and visits to external organisations during the Health and Safety Week in October 2017. The stretching exercise competition organised for all EMSD staff in 2017/18 was also well received by colleagues.

Build Capacity and Caring Culture

Further to the EMSD Staff Satisfaction Survey 2016 which achieved a record high score of 6.8 out of 10 in overall staff satisfaction rating, we are preparing for the next Survey which is scheduled for early 2019, with the target of achieving a mean performance score of 7.0 or above in overall satisfaction. The Survey is an important exercise for the senior management to solicit staff feedback on EMSTF's work environment and culture, as well as to measure the effectiveness of the various improvement measures implemented since the 2016 Survey.

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團隊建立工作坊有助提升員工在團隊合作、互動和溝通方面的技巧。

Team building workshops are instrumental in helping our staff improve their skills in teamwork, interaction and communication.

同事參與「身心靈綠洲」工作坊,有助加深對身心和精神健康的認識,以及 保持工作與生活平衡。

Our staff participated in Oasis of Body-mind-spirit workshops which helped them raise their awareness of physical, psychological and mental health and maintain work-life balance





建立員工才能對他們的全面發展非常重要。在2017/18年度,我們舉辦了2700多個員工培訓及發展活動,提供超過23000日的各類型培訓項目,涵蓋機電業新科技以至管理發展和軟技術等多個範疇。此外,值得一提的是,機電署兩位見習技術員代表香港參加2017阿布扎比世界技能大賽,其中一位更在「電氣安裝」項目中獲得優異獎,屬世界級比賽中的重大成就。機電署參賽隊伍的傑出表現,有助公眾更深入認識香港的高水平職業培訓。

我們繼續委託香港家庭福利會為機電署所有員工(包括借調至其他部門的人員)提供次數不限的輔導服務,該服務其後改由香港基督教服務處提供。自2017年12月起,我們為員工新增了專用電話熱線。年內,上述機構為我們的員工舉辦了六場簡介會,推廣工作與生活平衡,以及身體及精神健康。如有需要,輔導員還會為特定員工羣組安排羣組危機介入輔導環節。

Capacity building is important to all-rounded staff development. During 2017/18, over 2 700 staff training and development activities were held, providing over 23 000 days of wide-ranging training programmes from new technologies in the E&M trade to management development and soft skills. It is also worth noting that two EMSD technician trainees represented Hong Kong to join the WorldSkills Abu Dhabi 2017, and one of them won a Medallion for Excellence in Electrical Installations, a major achievement in a world-class competition. The outstanding performance of the EMSD team has helped raise public awareness of the high standards of vocational training in Hong Kong.

We continued to commission the Hong Kong Family Welfare Society and subsequently the Hong Kong Christian Service to provide counselling services of unlimited consultations to all EMSD staff, including those seconded to other departments. A new designated telephone hotline was added from December 2017 onwards. Six briefings for staff were held during the year to promote work-life balance as well as physical and mental health. Counsellors were also available to arrange group crisis intervention sessions for specific staff groups where necessary.



在榮休聯歡會上,高層管理人員向 退休同事頒發感謝狀,退休同事也 樂意地分享他們多年來的工作經驗。

Retiring colleagues were presented with Certificates of Appreciation by the senior management at a farewell party. They happily shared their working experience with fellow colleagues.



表揚傑出員工是我們關懷文化的重要部分。對於機 電署四名職員在2017年獲頒公務員事務局局長嘉許 狀,使他們多年來持續的卓越表現得到認同,我們十 分高興。

至於內部方面,長期服務機電署的員工會獲頒長期 優良服務獎狀,而工作表現卓越的同事則會獲頒署 長嘉許狀。署長及高層管理人員會出席頒獎禮,親自 向員工頒發獎狀和嘉許狀。此外,我們更不時為即將 退休的同事舉行榮休聯歡會,由署長及高層管理人 員主持和頒發感謝狀,讓這些同事在歡樂氣氛中與 同儕分享經驗,並接受後者的祝福。 Staff recognition is a key part of our caring culture. We are delighted that four EMSD staff members received commendations from the Secretary for the Civil Service's Commendation Awards in 2017 in recognition of their sustained excellent performance over the years.

Internally, staff members with long service are awarded the Long and Meritorious Service Certificates while colleagues with excellent performance at work are recognised by the Director's Commendation. The certificates and commendations are delivered at a presentation ceremony attended by the Director and the senior management. We also hold farewell parties for retiring colleagues from time to time. Hosted by the Director and the senior management, these farewell parties are joyous occasions where retiring colleagues share their experience with fellows and receive wishes from the latter. Each retiree is presented with a Certificate of Appreciation.



록用心服務 同心共創 Caring Serving Co-creating

機電署70周年的標誌和標語是由全體員工從多個方案 中挑選出來的,有關的標誌和標語選舉活動於2017年 第三和第四季舉行。

The EMSD 70th Anniversary logo and slogan were selected by all colleagues from various proposals in the logo and slogan selection exercise conducted in the third and fourth quarters in 2017.



繼上年度邀請員工參與新制服的設計及試穿活動後, 部門工作服工作小組已收集和分析員工意見,並完 成隨後的諮詢及採購工作,新制服將於2018年年底 推出。 Further to engaging staff on the design and trial wearing of the new uniforms in the previous year, the Department's Uniform Working Group collected and analysed staff feedback and completed the subsequent consultation and procurement. The new uniforms will be launched by end 2018.

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機電署70周年紀念,高層管理人員齊切生日蛋糕慶祝。

The senior management cut a birthday cake to celebrate EMSD's 70th anniversary.

年內,我們着手為2018年機電署成立70周年籌備慶祝活動,藉此機會鼓勵全體員工參與其中。我們透過2017年9月舉辦的機電署70周年標誌及標語選舉活動,邀請員工就各擬議選項發表意見和投票。機電署成立70周年的一連串慶祝活動獲員工積極參與,更加強了他們對部門的歸屬感。

During the year, we leveraged the opportunity of preparing for the celebration activities of EMSD's 70th anniversary in 2018 to engage all staff via an EMSD 70th anniversary logo and slogan selection exercise in September 2017, in which staff members were invited to comment on and vote for the proposed options. The series of celebration activities for the 70th anniversary of EMSD has been met with active staff participation and has fostered their sense of belonging to the Department.

優化知識管理

營運基金在知識管理方面的目標是培養學習文化。 年內,我們繼續推廣「知識地圖」、「睿智小組」、「知 識群體網站」、「滙智論壇」和「智庫」中的「事故分 享」。這些工具全都十分實用,有助同事掌握和分享 知識,支援他們不同領域的工作。

Enhance Knowledge Management

The goal of knowledge management in EMSTF is to foster a learning culture. During the year, our work in promoting Knowledge Maps, Interest Groups, Knowledge Communities Portal, Forums, and Incident Sharing under Knowledge Hubs has continued. These are all useful tools to help colleagues grasp and share knowledge to support their work in diverse areas.



機電署的內聯網網站EMSDHome已轉移至SharePoint 平台,提供全新的版面設計、網格布局、動態橫額和各種易用的功能,讓同事更方便掌握部門資訊。

Our intranet portal EMSDHome has been migrated to the SharePoint platform with new layout, grid structure, dynamic banner and more user-friendly features facilitating staff to grasp handy departmental information.

我們在2017年7月推出以SharePoint為本的線上平台,讓員工能共同撰寫《政策手冊》等內部企業刊物。刊物文檔使用「維基」模式,方便編輯團隊共同編輯內容和有效地控制版本以供審批,令撰寫和更新文檔更便捷高效。

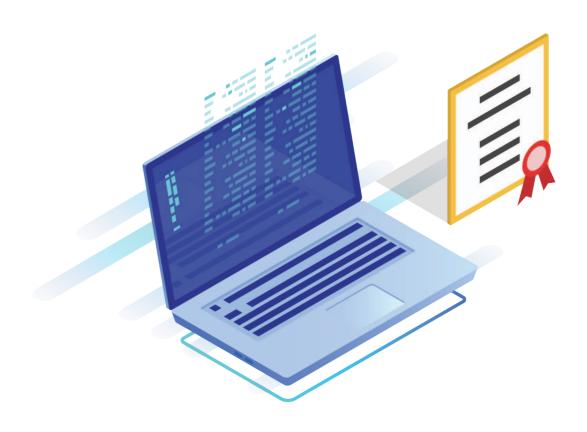
年內,營運基金所有部別的內聯網網站已轉移至 SharePoint平台,而部門內聯網網站EMSDHome亦在 2018年3月在這個新平台上推出。我們發揮了 SharePoint的最大效益,建立了多個新主題的內聯網 子網站,例如就不同議題(包括新策略計劃、機電署 70周年及營運基金架構檢討),設立意見箱徵求員工 看法,使溝通更快捷方便。

為進一步提升使用電腦設施的資訊安全水平,我們協助營運基金各個部別的系統軟件開始轉用微軟視窗10,亦同時把部門大量的網絡設備和網絡管理系統,也進行了升級工程。

We launched new SharePoint-based online platforms in July 2017, enabling staff to co-author internal corporate publications such as Policy Manual. With the documents in "wiki-version", editorial teams can co-edit the contents with effective versioning control for approval, boosting the convenience and efficiency of document authorship and updating.

During the year, all EMSTF divisional intranet homepages were migrated to the SharePoint platform, while the intranet portal EMSDHome for use by all staff was also launched at the new platform in March 2018. Making best use of SharePoint features, we created new thematic intranet sub-sites hosting suggestion boxes to solicit staff views on diverse topics, including the new strategic plan, EMSD 70th anniversary and EMSTF organisation review, making staff communication faster and easier.

To further strengthen information security in relation to the use of computing facilities, we helped all EMSTF Divisions migrate their system software to Microsoft Windows 10 and upgraded a large number of departmental network devices as well as the Department's network management system.



企業管理

Corporate Stewardship

在資訊科技保安方面的工作,我們取得豐碩的進展,並完全符合保安局和政府資訊科技總監辦公室為加強數據保安而訂定的嚴格要求。營運基金各個部別通力合作,在2017年7月1日前加密了大部分系統的「限閱靜態數據」,並在2018年1月1日前加密了所有「儲存在流動裝置和可移除媒體上的限閱數據」,及加強銷毀保密資料的能力。此外,我們會迅速落實其他系統的升級計劃。

Much progress was made in IT security towards full compliance with tightened requirements by the Security Bureau and the Office of the Government Chief Information Officer (OGCIO). Working with all Divisions, we strengthened the protection of restricted data at rest by 1 July 2017, encrypted all restricted data stored on mobile devices and removable media by 1 January 2018 and enhanced our capability for destruction of classified information. Upgrading plans to ensure compliance with the latest security requirements for a handful of systems were also swift put on-stream for implementation.

我們出版了《安全使用USB儲存裝置使用者手冊》,提醒所有員工應為USB儲存裝置加密以確保安全。我們在SharePoint平台上建立了中央登記錄冊,以更有效地控制和監察USB儲存裝置的使用情況。我們也按照政府資訊科技總監辦公室的最新指引,檢視和更新了部門一系列資訊科技保安文件,並已向全體員工發布有關文件。

A "User Instruction for Secure Use of USB Storage Devices" was published to alert all staff to adopt encryption in USB storage devices to ensure best-in-class information security. A central registry was created and maintained for effective control and monitoring of the use of USB storage devices. A whole range of departmental IT security documents was fully reviewed and updated according to the latest OGCIO guidelines and promulgated to all staff.



機電青少年大使參觀「機電·夢飛翔」展覽館,並與環境局局長黃錦星先生互相交流。展覽館以互動展品和活動介紹機電安全、能源效益、智慧城市的發展,以及機電署各種服務。

E&M young ambassadors visit the EMSD Gallery and meet the Secretary for the Environment, Mr Wong Kam-sing. The Gallery features interactive exhibits and activities on E&M safety, energy efficiency, smart city development and EMSD's services.







持續發展綠色作業

啟德發展區區域供冷系統的冷凍水已於2017年5月接 駁到機電署總部大樓的空調系統,標誌着我們「綠色 作業」策略的另一里程碑。機電署總部大樓隨之成為 香港首幢與區域供冷系統連接的既有建築物,能源 效益表現也因而大幅提升。

年內,我們繼續施行各項計劃,確保營運基金的運作,均以環保及可持續發展的方式進行,並節省水、電和紙張等天然資源。我們也為營運基金不同職系員工舉行多場簡報會,介紹有效的採購、盤點和存貨控制做法,盡量減少因存貨積壓和流轉緩慢而造成的浪費。與此同時,物料採購及管理工作小組已發揮顯著作用,不但幫助各策略業務單位加快存貨流轉,而且與各策略業務單位緊密協調有關大批採購配件的安排,大幅節省成本。

在2017/18年度,我們首次按照「全球報告倡議組織標準」擬備機電署的《社會及環保報告》,使我們的可持續發展報告更符合國際做法。此外,我們亦為負責的同事舉辦簡報會和培訓班,讓他們熟習「全球報告倡議組織標準」。

位於機電署總部大樓教育徑的「機電·夢飛翔」展覽 館經全面革新後,已於年內重新開放,供市民在辦公 時間內免費參觀。展覽館展示機電署的各項服務、能 源效益事宜,以及香港機電業的資料,內容豐富,信 息易明,深受學生和訪客歡迎。

Sustain Green Operation

Our "green operation" strategy reached another milestone in May 2017 when the air-conditioning system in the EMSD Headquarters Building was connected to the chilled water supply from the District Cooling System (DCS) at Kai Tak Development. This made the EMSD Headquarters Building the first existing building in Hong Kong to be connected to the DCS, greatly boosting our energy efficiency performance.

Various programmes to operate all EMSTF activities in a green and sustainable manner and to save natural resources like water, electricity and paper have continued during the year. We also organised various briefing sessions for EMSTF officers of different grades on effective procurement, stocktaking and stock control practices to minimise wastage from overstocking and slow-moving stock. At the same time, the Working Group on Stores and Procurement Management has proved to be a useful forum to help SBUs reduce slow-moving stock. Close coordination with SBUs on arrangements for spare parts bulk purchases has also led to substantial cost savings.

The year 2017/18 was our first year to prepare EMSD's annual Social and Environmental Report in accordance with the Global Reporting Initiative (GRI) Standards, so as to better align our sustainability reporting with international practices. Briefing and training sessions were held for the responsible colleagues to familiarise themselves with the GRI Standards.

During the year, the fully revamped EMSD Gallery in the Education Path at the EMSD Headquarters Building was opened to the public for free access during opening hours. It continues to be popular with students and visitors as it contains rich and user-friendly information about EMSD's services, energy efficiency matters and the E&M industry in Hong Kong.



關於本報告 About this Report

匯報原則

本報告是香港特別行政區政府機電工程署(機電署)」的年度²社會及環保報告(本報告)。本報告全面闡述 我們於2017/18財政年度,在環境、社會及經濟方面的措施和表現。

本報告參照全球報告倡議組織標準的核心選項3編寫,並且參照環境保護署的《環境管制人員適用環保報告指引》。

所有相關的全球報告倡議組織披露議題和對照的報告章節及頁次已載於本報告最後部分的全球報告倡議組織內容索引表。為提高本報告的公信力及可靠性,我們已委託獨立第三方核實報告的內容,確保符合全球報告倡議組織標準核心選項的要求4。

報告範圍

本報告載述機電署由2017年4月1日至2018年3月31日5期間主要的可持續發展措施及成果。除另外説明,報告中截至2018年3月31日止的所有數據乃根據部門所知悉的實際數字。報告涵蓋截至2018年3月31日止的財政年度的財務數據,所有金額均以港元為單位6。於報告期內,本署的權責關係、規模、架構,及其供應鏈並無重大改變7。

重要議題及邊界

為確保報告所涵蓋的議題與本署的營運和持份者息息相關,我們透過重要性評估界定一系列環境、社會及經濟層面的重要議題。我們與不同持份者組別®(即員工、客戶及供應商®)緊密聯繫,以問卷調查形式收集他們的意見。此外,我們亦透過焦點小組®就機電署2017/18年度的可持續發展事務收集實質的意見,據此歸納出18項重要議題,並按持份者問卷調查結果排列優先次序"。

REPORTING PRINCIPLES

This is the annual² Social and Environmental Report (hereafter "the Report") published by the Electrical and Mechanical Services Department (EMSD)¹ of the Government of the Hong Kong Special Administrative Region (HKSAR), which presents our initiatives and performance on environmental, social and economic aspects in the fiscal year 2017/18.

The Report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option³ and made reference to the Environmental Protection Department's A Guide to Environmental Reporting for Controlling Officers.

Details of relevant GRI topic disclosures and the corresponding chapters and pages are tabulated in the GRI Content Index at the end of the Report. To enhance the credibility and reliability of the Report, we have commissioned an independent third-party to verify the contents of the Report and to ensure compliance with the requirements of the Core option of the GRI Standards⁴.

REPORTING SCOPE

The Report highlights our key sustainability initiatives and achievements from 1 April 2017 to 31 March 2018⁵. Unless otherwise stated, all data in the Report are presented as absolute figures as of 31 March 2018, to the best of our knowledge. Financial data are reported for the financial year, which ended on 31 March 2018. All monetary values in this Report are expressed in Hong Kong Dollars⁶. There were no significant changes with regard to departmental ownership, size, structure, or its supply chain during the reporting period⁷.

MATERIAL TOPICS AND BOUNDARY

To better address topics that are of greatest significance to our operations and stakeholders, a materiality assessment was conducted to identify a list of material topics including those of environmental, social and economic aspects. We engaged our key stakeholder groups⁸ (i.e. staff, clients and suppliers⁹) to collect their opinions in the form of questionnaire survey. In addition, a staff focus group¹⁰ was also conducted to collect qualitative feedback on EMSD's sustainability issues for 2017/18. As a result, a total of 18 material topics were consolidated and prioritised based on the outcome of the stakeholder survey¹¹.

Categories	Material Topics ¹²	Boundaries ¹³	
		機電署的運作 Operations of EMSD	主要供應商的運作 Operations of Our Major Suppliers
	生態保育 Ecological Conservation	✓	
	節約能源 Energy Conservation	✓	✓
	污水及廢物處理 Effluents and Waste Treatment	✓	
環境 Environment	廢氣控制 Emissions Control	✓	
	節約用水 Water Conservation	✓	
	物料使用 Use of Materials	✓	
	評估供應商/承辦商的環境表現 Supplier/Contractor Environmental Assessment	✓	
6	財務表現 Financial Performance	✓	
經濟	部門的採購政策 Departmental Procurement Practices	✓	1
Economic	間接經濟影響 Indirect Economic Impact	✓	
	遵守市場行為法規 ¹⁴ Market Behaviour Compliance ¹⁴	✓	
	員工培訓及教育 Employee Training and Education	√	
	職業健康及安全 Occupational Health and Safety	✓	
	多元化及平等機會 Diversity and Equal Opportunity	✓	
社會 Social	員工政策及相關統計數據 Employment Policy and Statistics	✓	
	避免對員工強迫勞動 Avoid Forced Labour	✓	
	保安政策及培訓 ¹⁴ Security Policy and Training ¹⁴	✓	
	客戶健康及安全 ¹⁴ Customer Health and Safety ¹⁴	✓	

重要議題12

本社會及環保報告 2017/18已在網上發布。歡迎讀者直接與我們聯繫(電郵: cpsd@emsd.gov.hk),就我們在可持續發展方面的績效或報告方式提出寶貴意見 15。

The Social and Environmental Report 2017/18 is also published online. Readers are welcome to provide feedback on our sustainability performance or reporting approach by contacting us directly at cpsd@emsd.gov.hk¹⁵.

¹ 102-1 ² 102-52 ³ 102-54 ⁴ 102-56 ⁵ 102-50 ⁶ 102-45 ⁷ 102-10

⁸ 102-42 主要持份者組別主要參考其與機電署的運作之相關性而 挑選及聯繫

^{9 102-40 10 102-43 11 102-46}

 $^{^1}$ 102-1 $\,^2$ 102-52 3 102-54 $\,^4$ 102-56 $\,^5$ 102-50 $\,^6$ 102-45 $\,^7$ 102-10

^{8 102-42} Major stakeholder groups are identified and engaged with reference to their relevance to FMSD's operations

^{9 102-40 &}lt;sup>10</sup> 102-43 ¹¹ 102-46

¹² 102-44, 102-47 ¹³ 102-46

^{14 102-49} 本報告新增內容 15 102-53

^{12 102-44, 102-47 13 102-46}

¹⁴ 102-49 Newly covered in this report ¹⁵ 102-53

可持續發展管理方針 Sustainability Management Approach

管理方針

管控風險是機電署日常運作不可或缺的一環,藉此確保內部營運符合可持續發展的原則。我們為市民提供機電服務,時刻將安全放在第一位。除了制訂環境、安全及健康政策外,我們還積極應用風險為本的預防模式,務求盡量減低本署和供應鏈對社會及環境造成的影響。

規管服務的可持續發展

為支持香港於《巴黎協定》下的責任和環境局2017年公布的《香港氣候行動藍圖2030+》,機電署廣開途徑尋找能源管理的機遇,全力舒減氣候變化對政府及客戶的影響。

機電署作為規管機構,負責檢視和制訂包括能源效益及機電公用設施安全等範疇的主要法例和標準。早前推行的「強制性能源效益標籤計劃」第一及第二階段成效理想,我們將於2018年6月啟動第三階段。第三階段涵蓋三類新增的電器產品,包括電視機、儲水式電熱水器及電磁爐,並把逆轉循環型冷氣機現時的涵蓋範圍擴大至供暖功能,而洗衣機現時的涵蓋範圍損大至洗衣量超過七公斤但不超過十公斤。

我們致力推動及提供可提升能源效益的專業諮詢、技術支援和指引,例如《建築物能源效益條例》、香港建築物能源效益註冊計劃、「全民節能 2017」及《重新校驗技術指引》等。此外,我們亦透過不同渠道舉辦各類推廣運動,致力提高公眾對節能和機電安全的意識。此類活動包括「慳神有計大比拼 2017」、技術講座、樓宇機電安全及能源效益講座、學校外展計劃和展覽。

與此同時,本署亦提倡香港各界推動優質樓宇管理和安全工作的文化。2017年9月,機電署協辦首屆跨部門「優質樓宇管理周」活動,向業界和公眾提供實用的樓宇管理資訊。年內,機電署亦繼續舉辦「傑出註冊電業工程人員選舉」,向電業工程人員推廣工作安全意識。

MANAGEMENT APPROACH

One of the integral parts of EMSD's operation is managing risk to ensure sustainability within our department. We place safety as first priority in the course of our Electrical and Mechanical (E&M) services. On top of our environmental, safety and health policies, we foster a pro-active risk-based precautionary approach to minimise impacts of our department and our supply chain on their social and environmental aspects where feasible.

Sustainability Approach in our Regulatory Services

In view of Hong Kong's commitment under the Paris Agreement and the Hong Kong's Climate Action Plan 2030+ published by the Environment Bureau in 2017, EMSD continues to seek energy management opportunities in order to mitigate the climate change impacts for the Government and our clients.

EMSD uptakes the regulatory role of reviewing and establishing key legislations and standards on different aspects including efficient utilisation of energy and safety of E&M public utilities. With the successful implementation of the first and second phases of Mandatory Energy Efficiency Labelling Scheme (MEELS), EMSD will push forward the third phase of the MEELS in June 2018. The third phase of MEELS covers three additional types of new electrical appliances including televisions, storage type electric water heaters and induction cookers as well as expand the existing scopes of reverse cycle type room air-conditioners to heating function and washing machines to a rated washing capacity exceeding 7 kg but not exceeding 10 kg.

We continuously drive and deliver professional advisory, technical support and guidelines on energy efficiency such as the Buildings Energy Efficiency Ordinance, Hong Kong Energy Efficiency Registration Scheme for Buildings, Energy Saving for All 2017 Campaign, Technical Guidelines on Retro-commissioning, etc. We also organised different types of promotional campaigns through extensive means with the aim to build public awareness on energy conservation and safety compliance. Examples include Energy Saving Championship Scheme 2017, technical forums, Property Management Seminar, school outreach programmes and exhibitions.

Furthermore, EMSD advocates quality building management and work safety culture in Hong Kong. In September 2017, EMSD has jointly debuted the interdepartmental Building Management Week to provide practical building management information for the industry and the public. EMSD has continued to organise the Outstanding Registered Electrical Worker Awards Scheme to promote work safety awareness among electrical workers.

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規管服務及機電工程營運

ISO 14001 Certificates of

Regulatory Services Units and

Electrical & Mechanical

基金ISO 14001 證書

Services Trading Fund

營運服務的可持續發展

機電工程營運基金致力保持專業及卓越的機電服務 水平。我們利用運作上的彈性,持續推廣本地機電業 在各種優化能源效益技術的普及應用。

機電署致力保障我們的員工和客戶的健康及安全,同時希望減低營運對環境的影響。透過採用結合ISO 9001、ISO 14001及OHSAS 18001認證的綜合管理系統,我們精簡了在品質、環境和職業安全健康方面的影響的管理流程。於2017年,我們完成了多次監督審核,證明無任何違規情況,成功通過ISO 14001升級認證,達到持續改善的目標。此外,我們的總部大樓亦獲得ISO 50001證書,再次證明機電署致力不斷提升管理能源的措施。

Sustainability Approach in our Trading Services

EMSTF maintains high standards of professional E&M service. By leveraging our operational flexibility, we continue to pave the way to pursue a widespread of technology application for improving energy efficiency performance of the E&M industry in Hong Kong.

EMSD endeavours to protect our staff and client health and safety, as well as minimising the operational impacts to the environment. Through deploying an Integrated Management System (IMS), combining ISO 9001, ISO 14001, and OHSAS 18001, we have streamlined the management of our impact on quality, environmental and occupational health and safety. In 2017, we underwent surveillance audits and successfully upgraded our ISO 14001 without non-conformity for continuous improvement. In addition, obtaining the ISO 50001 certification for our headquarters building is yet another testament to EMSD's commitment in energy management.



多年來,機電工程營運基金與客戶建立了長遠的伙伴關係,並鼓勵業界廣泛協作推動可持續發展。為實現可持續發展的低碳經濟,機電工程營運基金將繼續為客戶提供先進的解決方案和技術,致力為香港於可持續發展方面謀福祉。

Throughout the years, EMSTF has established long-term partnerships with our clients and encouraged extensive collaborations among industry in advancing sustainability. In the quest for a sustainable low carbon economy, EMSTF will continue to offer advance solutions and technologies for our clients to create lasting sustainability benefits to Hong Kong.

可持續發展管理方針 Sustainability Management Approach

持份者的參與

STAKEHOLDER ENGAGEMENT

我們的主要持份者及參與方法1

Our Key Stakeholders and Engagement Process¹

客戶 Clients	客戶意見調查 Customer Opinion Survey 持份者參與問卷調查 Stakeholder Engagement Questionnaire
供應商及承辦商 Suppliers and contractors	持份者參與問卷調查 Stakeholder Engagement Questionnaire
員工 Staff	員工滿意度調查 Staff Satisfaction Survey 員工工會及員工協商委員會 Staff Unions and Departmental Consultative Committees 持份者參與問卷調查 Stakeholder Engagement Questionnaire 焦點討論小組 Focus Group
專業團體、行業公會 Professional and trade associations 受規管行業 Regulated trades	業界參與計劃 Trade Engagement Programme
決策局及部門 Policy bureaux and departments 公眾人士 General Public 學術團體 Academia 非政府組織 Non-governmental organisations 培訓機構 Training institutes	機電安全及節能社區推廣活動 Community-wide Promotion of E&M Safety and Energy Efficiency
傳媒 Media	傳媒聚會 Media Gathering

機電署經常透過左頁所述途徑²與各界持份者緊密聯繫,其中包括但不限於我們的員工、客戶、供應商及承辦商和其他重要持份者。持份者參與活動的範圍和界限涵蓋受機電署的營運、資源、產品及服務直接影響,或參與在內的持份者。我們聽取持份者的意見,根據本署的抱負、使命與策略,及按優先排序識別出對本署營運可持續性具有關鍵意義的重大議題。我們非常重視與持份者的交流,致力透過擴闊溝通層面,為公眾創造更多正面的裨益,與此同時不斷提升我們在可持續發展的表現。

聯繫我們的客戶

我們致力為客戶提供優質機電服務,為評估服務質素,我們每兩年委託獨立市場研究公司進行一次客戶意見調查,以協助我們持續改善機電工程營運基金的表現。最近期的客戶意見調查在2016年進行,調查結果顯示我們的客戶滿意指數達到6.45分(8分為滿分),再創歷史新高。我們已根據是次調查結果擬出優化客戶服務的計劃,力求達致卓越水平。新一輪的客戶意見調查將於2018年第四季進行。在處理客戶私隱方面,我們嚴格遵從我們的私隱政策,確保所有個人資料均按照《個人資料(私隱)條例》的有關條文處理。

2018年3月,我們推出了「顧客為本電子平台」。本項目是機電工程營運基金五年策略計劃的主要措施之一,為客戶提供更高效率的資訊及溝通平台,加強彼此的聯繫。為確保機電工程營運基金的服務質素,我們改善了合約管理,促進客戶提供更完善的公共服務。此外,機電署亦嚴守管制反競爭行為的本地法規。

At EMSD, we regularly engage our stakeholders, including but not limited to our staff, clients, suppliers and contractors and other important stakeholders through various methods described on the left page². The scope and boundary of our stakeholder engagement activities include stakeholders directly affected by or involved in EMSD's operations, resources, products and services. By taking into account the inputs from our stakeholders as well as EMSD's vision, mission and strategies, we identify and rank key material topics areas that are pivotal to the sustainability of our operations. We value such interactions to extend our reach and magnify our positive impacts on the community, which also enable continual furtherance of our sustainability performance.

ENGAGING OUR CLIENTS

We strive to uplift our E&M service standards provided to our clients. To review our service quality, we have engaged an independent market research company to conduct a Customer Opinion Survey (COS) every two years for EMSTF's continuous improvement. The most recent round of COS was conducted in 2016, in which survey results hit another record high Customer Satisfaction Index of 6.45 out of 8. Based on the customers' opinion, we have formulated customer service improvement plans to strive for service excellence. A new round of COS will be conducted again in the fourth quarter 2018. When handling our customer privacy, we strictly follow with our Privacy Policy to ensure that all personal data are handled in accordance with the Personal Data (Privacy) Ordinance.

As part of EMSTF's key initiatives in its five-year strategic plan, we have successfully launched a "Customer Centric e-Platform" in March 2018. We will be able to offer a more efficient information and communication platform for our clients and strengthen our ties with them. We have also enhanced contract management to ensure EMSTF's service quality, enabling our clients to provide better services to the public. In addition, EMSD is committed to comply with any local law and regulations that guard against anti-competitive conduct.

可持續發展管理方針 Sustainability Management Approach

管理我們的供應鏈

機電署的供應商主要提供與機電安裝、運作及維修 相關的零部件或設備及服務。在甄選承辦商時,我們 堅持公平及開放的方式,同時訂有一套有關可持續 提供優質產品與服務。

承辦商是我們的重要伙伴,以確保能夠提供安全而 卓越的機電服務。在甄選承辦商時,我們會檢討他們 過往的表現和確保他們已實施穩健的安全管理系統。 於2017/18年度,我們共有兩項維修、保養、改建及 加建工程合約於第23屆公德地盤嘉許計劃中獲得金 獎和銀獎, 肯定了承辦商在協助業界實現「零意外」 上作出的貢獻。除此之外,我們亦鼓勵承辦商構思創 新意念,改進他們在工地的表現。

MANAGING OUR SUPPLY CHAIN

EMSD's suppliers are mainly involved in provision of parts or equipment and services related to E&M installation, operation and maintenance. When selecting contractors, we follow an open and fair process and lay down sustainability-related 發展的標準,以鼓勵準供應商盡量以可持續的方式 criteria to encourage potential suppliers to provide quality goods and services in a sustainable manner wherever applicable and available.

> Contractors are our important partners to ensure the delivery of safe and quality E&M services. When selecting contractors, we will review their past performance and ensure that they have a robust safety management system in place. In 2017/18, two of our repair, maintenance, alteration and addition works contracts were granted the Gold Award and the Silver Award in the 23rd Considerate Contractors Site Award Scheme. Contractors were acknowledged for their contribution towards achieving "Zero Accidents" in the industry. We also encourage our contractors to provide innovative ideas for uplifting their performance on-site.



兩項維修、保養、改建及加建工程合 約於第23屆公德地盤嘉許計劃中獲得 金獎和銀獎。

Two of our repair, maintenance, alteration and addition works contracts were granted the Gold Award and the Silver Award in the 23rd Considerate Contractors Site Award Scheme.

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可持續發展的卓越成果

取得ISO認證

機電署在可持續發展的路上不斷求進。自1999年設 立首個ISO 9001 品質管理系統後,我們定期檢討工作 程序,不斷增廣專業知識與技術,確保可為公眾提供 優質服務及全面推行可持續的綠色作業。

機電署獲ISO認證的時序

SUSTAINABILITY EXCELLENCE

Achieving ISO Certifications

EMSD continues to endeavour and mature in our sustainability journey. Through on-going review of our processes, we strive to maintain our competence in delivering quality service and sustaining green operation ever since our first ISO 9001 Quality Management System established in 1999.

Timeline for ISO Certifications Achievements



獎項及嘉許

機電署竭誠為客戶提供優質機電服務。於匯報年度, 本署及本署傑出的員工獲得多個獎項及殊榮,為我 們帶來莫大鼓舞。透過參與各種比賽及計劃,可鼓勵 員工與時並進,緊貼最新的創新科技發展,使香港成 為更優秀、更具能源效益的綠色城市。

Awards and Recognition

EMSD places a high premium on providing high quality E&M services to our clients. In the reporting year, we are encouraged by the awards and recognitions received at the departmental level as well as for our dedicated and talented staff. Through participating these competitions and schemes, it can be of great help in keeping up our staff with advanced innovations and technologies that could make Hong Kong a better, more energy-efficient and greener city.

可持續發展管理方針 Sustainability Management Approach

區域能源管理機構獎

於2017年9月,機電署獲美國能源工程師學會頒發亞太區「區域能源管理機構獎」,以表揚我們在制訂、籌辦、管理和實施綜合能源管理計劃方面的傑出表現。此外,本署並聯同醫院管理局(醫管局)奪得亞太區「區域能源項目獎」,以嘉許我們推展創新能源管理項目。自2015年起,機電署和醫管局合作為多間醫院更換高效能製冷機,並安排香港科技大學核實成本效益,結果顯示有關措施每年可節省約1,300萬港元的用電成本。

Regional Institutional Energy Management Award

In September 2017, EMSD was awarded the Regional Institutional Energy Management Award for the Asia-Pacific Rim Region by the Association of Energy Engineers (AEE), commending our outstanding performance in developing, organising, managing and implementing our comprehensive energy management programme. In addition, EMSD and the Hospital Authority (HA) jointly received the Regional Energy Project of the Year Award for the Asia-Pacific Rim Region in recognition of the innovative energy management projects that we have implemented. Since 2015, EMSD has been co-operating with the HA in installing high-efficiency chillers in various hospitals, and engaged the Hong Kong University of Science and Technology in verifying their cost effectiveness, which concluded that an annual electricity cost of around HK\$13 million could be saved.



美國能源工程師學會在美國亞特蘭 大舉行2017年頒獎典禮。

The 2017 Award Presentation Ceremony of the AEE in Atlanta in the United States.

2017年傑出學徒獎勵計劃

於2018年3月,兩位參與本署技術員訓練計劃的見習技術員劉至正先生(見習二級技術員(空氣調節))及楊凱超先生(見習一級技術員(屋宇裝備))在職業訓練局舉辦的傑出學徒獎勵計劃獲選為優異學徒。

2017 Outstanding Apprentices Award

In March 2018, two trainees under our Technician Training Scheme, Mr Lau Chi-ching (Technician Trainee II (Air-conditioning)) and Mr Yeung Hoi-chiu (Technician Trainee I (Building Services)) were both selected as one of the Outstanding Apprentices (Merit) by the Vocational Training Council.



2017年傑出學徒獎勵計劃頒獎典禮

The 2017 Outstanding Apprentices Award Presentation Ceremony.

機場管理局工程承包商安全運動

我們的機場工程分部出色的安全表現獲得香港機場管理局(機管局)認同。在機管局工程及維修部所舉辦的工程承包商安全運動2017/18中,本署麥國樑先生、徐志傑先生、曾德信先生及岑惠峯先生獲得安全短片比賽第三名。麥先生、徐先生和陳卓年先生亦獲得最佳工作間比賽第三名。

Airport Authority's Technical Services Department (TSD) Contractors Safety Campaign

Our Airport Engineering Services Sub-division's outstanding safety performance was recognised by the Airport Authority (AA) Hong Kong. Mr Mak Kwok-leung, Mr Tsui Chi-kit, Mr Tsang Tak-shun, and Mr Shum Wai-fung won the 2nd runner-up in the Safety Video Shooting Competition while Mr Mak, Mr Tsui, together with Mr Chan Cheuk-nin also won the Best Workplace Competition in the AA's TSD Contractors Safety Campaign 2017/18.



工程承包商安全運動頒獎典禮。 TSD Contractors Safety Campaign Award Presentation Ceremony.

機場安全嘉許計劃

本署員工梁凌峯先生及機場污水處理廠組分別奪得由機管局主辦的2017/18機場安全嘉許計劃最優秀安全督導員獎及企業安全表現大獎,表揚他們在2017/18年度持續作出貢獻,促進機場安全。

Airport Safety Recognition Scheme

Mr Leung Ling-fung was honoured with the Best Safety Supervisor while the Airport Wastewater Treatment Team was awarded the Corporate Safety Performance Award respectively at the 2017/18 Airport Safety Recognition Scheme held by the AA which commended their continuous contribution to airport safety in 2017/18.





2017/18機場安全嘉許計劃頒獎典禮。

2017/18 Airport Safety Recognition Scheme Award Presentation Ceremony.

可持續發展管理方針 Sustainability Management Approach

香港青年技能大賽2017

機電署用心培育年青一代的見習技術員,鼓勵他們參加各類比賽接受新的挑戰。2017年6月,本署的見習技術員陳肇霖先生(見習二級技術員(電氣))以香港代表身份,參與青年技能比賽常務委員會舉辦的「香港青年技能大賽」,憑着出眾技能於「電氣安裝」組別奪得金獎,並入選成為香港代表出戰「2017阿布扎比世界技能大賽」。

WorldSkills Hong Kong Competition 2017

EMSD is committed to grooming young technician trainees and encouraging them to take on new challenges by participating in various competitions. In June 2017, one of our technician trainees, Mr Chan Siu-lam (Technician Trainee II (Electrical)) represented Hong Kong in the WorldSkills Hong Kong Competition 2017 which is organised by the Standing Committee on Youth Skills Competition. With his outstanding skills, Mr Chan clinched the gold award in the "Electrical Installations" category and was selected to represent Hong Kong in the WorldSkills Abu Dhabi 2017



陳肇霖先生(中)於「香港青年技能大賽2017」 頒獎典禮。

Mr Chan Siu-lam (centre) at the WorldSkills Hong Kong Competition 2017 Prize Presentation Ceremony.



2017阿布扎比世界技能大賽

第44屆「世界技能大賽」於阿聯酋阿布扎比市舉行,本署的見習技術員陳肇霖先生在「世界技能大賽」的「電氣安裝」組別中獲得優異獎,而劉至正先生(見習二級技術員(空氣調節))在「空調製冷」組別中順利完成有關安裝工程和測試,表現令人滿意。

WorldSkills Abu Dhabi 2017

The 44th WorldSkills Competition held in Abu Dhabi, the United Arab Emirates. We were proud of our technician trainees, Mr Chan Siu-lam in obtaining the Medallion for Excellence in "Electrical Installations" category and Mr Lau Chi-ching (Technician Trainee II (Air-conditioning)) for his effort in competing in the "Refrigeration and Air-Conditioning" category.



劉至正先生參與「空調製冷」項目。 Mr Lau Chi-ching competing in "Refrigeration and Air-Conditioning".





助理署長/氣體及一般法例彭耀雄 先生(左二)出席2017年仁愛堂義工 嘉許典禮。

Assistant Director/Gas and General Legislation, Mr Pang Yiu-hung (2nd left) at the 2017 Yan Oi Tong Volunteer Award Presentation Ceremony.



仁愛堂愛心團體義工獎

機電署員工康樂會義工小組過去二十年來一直參與 仁愛堂義工服務。2017年10月,員工康樂會義工小 組的「仁愛堂義工隊」獲仁愛堂頒發愛心團體義工獎, 以讚揚機電署義工攜手造福社群,為長者和有需要 人士提供家居維修服務。

Yan Oi Tong Volunteer Award Scheme

EMSD Staff Club Volunteer Team has been actively joining the Yan Oi Tong volunteer service in the last two decades. In October 2017, the Yan Oi Tong Volunteer Team under the Staff Club Volunteer Team was awarded the Compassion Group Volunteer Award by Yan Oi Tong in recognition of the concerted efforts of EMSD's volunteers for providing household maintenance service to the elderly and the needy in our community.

年度重點



升級認證至ISO 14001: 2015環境管理系統。

HIGHLIGHTS OF THE YEAR

Upgraded to ISO 14001:2015 Environmental Management System Certification.



發布《重新校驗技術指引》。

Issued Technical Guidelines on Retro-commissioning.



推出自願性的香港建築物能源效益註冊計劃。

Launched the voluntary Hong Kong Energy Efficiency Registration Scheme for Buildings.



榮獲美國能源工程師學會頒發兩項國際權威 獎項包括亞太區「區域能源管理機構獎」及亞 太區「區域能源項目獎」。

Won two international prestigious awards in the AEE Awards including the Regional Institutional Energy Management Award for the Asia-Pacific Rim Region and Regional Energy Project of the Year Award for the Asia-Pacific Rim Region.



推出創新科技協作平台 E&M InnoPortal,支援初創企業推展創新項目,並羅列各政府部門、公營機構、機電業界及各大學對科技發展相關的需求,提供科技工程方案的配對平台。

Launched E&M InnoPortal as an innovation and technology collaboration platform for facilitating start-up projects, and pairing up technology needs with engineering solutions among government departments, public bodies, E&M trade, universities and start-ups.



協助醫院管理局大樓及建築署的建業中心榮獲「綠建環評既有建築2.0版自選評估計劃」中能源使用範疇之卓越評級。

Assisted in earning the Excellent rating for Energy Use under the BEAM Plus Existing Buildings (V2.0) Selective Scheme for the Hospital Authority Building and the APB Centre of the Architectural Services Department.



獲得研發全球市場首創的「流動製冷系統」的香港註冊專利。

Obtained a patent in Hong Kong for developing the Mobile Chiller System which is the first of its kind in the global market.

環保成效 Environmental Performance

我們十分重視與日常營運及廣大市民息息相關的環 保成效。機電署致力發揮最大的資源使用效益,藉着 環境管理系統持續改善環保措施,與此同時亦積極 建議訂立法例或政策措施優化香港的能源效益。

優化香港的能源效益

機電署全力支持政府實現減低能源強度的目標,除 推出多項計劃提高能源效益外,我們亦使用更多可 再生能源。

高能源效益產品

強制性能源效益標籤計劃

為了讓消費者選購產品時可根據產品的能源效益表現作出明智決定,我們於2009年11月開始實施「強制性能源效益標籤計劃」,提供產品的能源效益資訊。計劃第一及第二階段涵蓋五種產品,包括冷氣機、冷凍裝置、慳電膽、洗衣機及抽濕機。截至2018年3月,約有8700款產品型號已被列入計劃名單當中。

為進一步推廣公眾的節能意識,政府已修訂《能源效益(產品標籤)條例》以推行「強制性能源效益標籤計劃」第三階段。新一期計劃預計於2018年6月1日正式生效,寬限期為18個月,涵蓋三類新增的電器產品,包括電視機、儲水式電熱水器及電磁爐,並把原有計劃內的逆轉循環型冷氣機的涵蓋範圍擴大至供暖功能,而洗衣機則擴大至七公斤至十公斤洗衣量的型號。第三階段料會創造更多節能機遇,估計實施後本港每年可節省約1.5億千瓦小時電力,即每年可減少排放105 000噸二氧化碳。「強制性能源效益標籤計劃」第三階段新規定的技術詳情已載於《產品能源標籤實務守則2018》。

建築物能源效益

《建築物能源效益條例》

機電署向來注重建築物的能源效益。建築物的用電量佔全港用電總額很大比重,政府早於2012年9月頒布《建築物能源效益條例》,監管建築物的能源效益。

《建築物能源效益條例》為主要的屋宇裝備裝置訂明 多項最低能源效益設計標準。根據該條例,四類主要 屋宇裝備裝置,包括新建建築物的空調、照明、電力 裝置、升降機和自動梯裝置及主要裝修工程,必須符 合《建築物能源效益守則》所定的設計標準。 EMSD cares about the environmental performance for our operation and for the wider community. Committed to optimise the resources usage efficiency, EMSD continues to improve its environmental initiatives through the adoption of its Environmental Management System (EMS). Dedicated to enhance the energy efficiency for the city, EMSD takes every opportunity to propose legislation or policy initiatives that promote energy efficiency.

ENHANCING ENERGY EFFICIENCY FOR THE CITY

To take steps towards the Government's energy intensity reduction target, EMSD has endeavoured to implement various schemes and programmes to promote energy efficiency and the wider use of renewable energy.

Energy Efficient Products

Mandatory Energy Efficiency Labelling Scheme

In order to help consumers make a better choice with reference to the product's energy efficiency performance, we have implemented the Mandatory Energy Efficiency Labelling Scheme (MEELS) since November 2009, providing product's energy efficiency information. Five types of products including room airconditioners, refrigerating appliances, compact fluorescent lamps, washing machines and dehumidifiers were covered in the first and second phases of the MEELS. As of March 2018, around 8 700 product models have been listed under the Scheme.

To further promote public awareness on energy saving, we introduced the third phase of MEELS through amendments to the Energy Efficiency (Labelling of Products) Ordinance, which will commence on 1 June 2018 with a grace period of 18 months. The third phase of MEELS will cover three additional types of electrical appliances including televisions, storage type electric water heaters and cookers, as well as expanding the existing scopes of reverse cycle type room air-conditioners to heating function and washing machines to a rated washing capacity exceeding 7 kg but not exceeding 10 kg. The additional energy-saving potential yielded by the third phase of MEELS is estimated to be around 150 million kWh per year, equivalent to 105 000 tonnes of carbon reduction annually. The technical details of the new requirements of the third phase of MEELS were covered in the Code of Practice on Energy Labelling of Products 2018.

Buildings Energy Efficiency

Buildings Energy Efficiency Ordinance

Buildings energy efficiency has long been a focus area for EMSD. As the major electricity consumption source in Hong Kong, buildings' energy efficiency was regulated by the Buildings Energy Efficiency Ordinance (BEEO) since its enforcement in September 2012.

The BEEO has set out the minimum energy efficiency design standards for major building services installation. Under the BEEO, four key types of building services installation, namely air-conditioning, lighting, electrical installation, lift and escalator installations in newly constructed buildings and major retrofitting works, have to comply with the design standards stipulated in the Building Energy Code (BEC).

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根據《能源審核守則》,商業樓宇業主除了必須依從 能源效益設計標準外,亦需要為上述四類主要屋宇 裝備裝置每十年進行一次能源審核。

透過實施《建築物能源效益守則》和《能源審核守則》,本港預期可在2025年前累計節省50億千瓦小時的能源,相當於減少約350萬噸溫室氣體排放。機電署每三年便會檢討《建築物能源效益守則》和《能源審核守則》,確保緊貼最新的技術及行業發展。首次檢討已於2015年完成,第二次檢討已於2017年初展開籌備,預計於2018年年底完成。

香港建築物能源效益註冊計劃

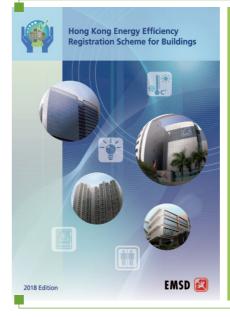
為鼓勵樓宇業主進一步提升建築物的能源效益,以達致比法定要求更佳的表現,我們修訂了自願性的香港建築物能源效益註冊計劃,並於2018年1月1日正式生效。各類新建及現有建築物/處所(不限於訂明建築物)的能源表現只要超出《建築物能源效益條例》的法定最低要求,並取得由香港綠色建築議會管理的綠建環評或其他國際認可的建築物環境評估制度頒發的良好能源表現認證,均可申請加入此計劃。合資格的建築物能源效益裝置(包括照明、空調、電力裝置、升降機和自動梯裝置)的資本開支或可享受扣稅優惠。

Apart from following the design standards, according to the Energy Audit Code (EAC), it is also required for owners of commercial buildings to carry out energy audit for the above-mentioned four key types of building service installation once every ten years.

Through the adoption of BEC and EAC, it is expected that a cumulative energy saving of 5 billion kWh by 2025, equivalent to a reduction in greenhouse gas (GHG) emissions of about 3.5 million tonnes, can be achieved. EMSD reviews the BEC and EAC every three years to suit with the technology development and industry practices. With the first review completed in 2015, EMSD has started the preparation for the second review in early 2017 and targeted to be completed by end of 2018.

Hong Kong Energy Efficiency Registration Scheme for Buildings

To promote building owners to drive towards better building energy performance beyond the statutory requirement, we reviewed the voluntary Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB), which took effect from 1 January 2018. New and existing buildings/premises (not limited to prescribed buildings) which achieved energy performance better than the minimum statutory requirements under the BEEO, and obtained certificates of good building energy performance through the BEAM Plus Assessment System managed by the Hong Kong Green Building Council, or other internationally recognised building environmental assessment systems, are eligible to apply for joining the HKEERSB. The capital expenditure incurred by procuring the eligible energy-efficient building installations (include lighting installation, air-conditioning installation, electrical installation, lift and escalator Installations) may be eligible for accelerated tax deduction.



《香港建築物能源效益註冊計劃》 Hong Kong Energy Efficiency Registration Scheme for Buildings

環保成效

Environmental Performance

《重新校驗技術指引》

除監管建築物的能源效益設計外,我們亦積極推廣「重新校驗」的概念,鼓勵業主採取有系統的流程,定期檢查現有建築物的能源表現,尋找節約能源的改進空間。首份《重新校驗技術指引》於2017年6月發布,該份指引説明重新校驗的重點、主要流程及技術方法。指引獲得廣大認同,我們會繼續向業界推廣重新校驗。

Technical Guidelines on Retro-commissioning

Apart from regulating buildings energy efficiency designs, we also actively promote the concept of "Retro-commissioning", which is a systematic process to check an existing building's performance periodically to identify operational improvements that can save energy. The first Technical Guidelines on Retro-commissioning (RCx) issued in June 2017 illustrates the focus area, key procedures, and technical approaches to RCx. The general responses we received have been very positive, and we will continue to promote RCx.



政府建築物的節能措施

機電署作為政府轄下機電服務的專責部門,自2003 年起我們一直全力協助各決策局和部門安裝具能源 效益的系統及推行最佳節能作業方式。於2017/18年 度,我們協助多個決策局及部門推展不同的節能工 程,工程總開支約1.5億港元。工程主要涉及更換舊 空調、以LED燈取代原有的照明系統和優化製冷機等。

Energy Savings in Government Buildings

As a government department specialised in electrical and mechanical services, we have been assisting government bureaux and departments (B&D) to install energy-efficient engineering systems and implement energy-saving best practices since 2003. In 2017/18, we implemented various energy-saving projects for B&D with a total project cost of around HK\$150 million. These projects mainly involve replacement of aged air-conditioning equipment, replacement of lighting system with LED lighting, optimisation of chiller plants, etc.





提倡使用可再生能源

為應對氣候變化,政府率先以身作則在技術及經濟可行的情況下廣泛使用可再生能源。由2017年5月起,新建政府建築物將採用更高的可再生能源供應目標。於2017/18年度,政府預留了2億港元為現有政府建築物、場地及社區設施安裝可再生能源裝置。我們會積極向其他政府部門推廣使用可再生能源,並協助這些建築物加上可再生能源的設計。

淡水冷卻塔計劃

冷氣系統是建築物內耗用最多能源的裝置之一,研究發現水冷式空調系統相比風冷式空調系統在環境及經濟方面均有更大效益。為推廣非住宅樓宇的空調系統採用淡水冷卻塔,我們於2000年推出淡水冷卻塔計劃,迄今已接獲1095項申請,當中2438個淡水冷卻塔已落成並投入運作。按照估計,已落成的裝置每年可節省5億千瓦小時用電量,相當於每年減少排放約350000噸二氧化碳。

Promoting the Use of Renewable Energy

To cope with climate change, the Government is committed to take the lead in applying renewable energy (RE) on a wider and larger scale where technically and financially feasible. Starting from May 2017, higher RE provision targets have been set for new government buildings. In 2017/18, the Government has earmarked HK\$200 million for the provision of RE installations in existing government buildings, venues and community facilities. We will actively promote the use of RE to other government departments and assist these buildings to incorporate the RE design as far as possible.

Fresh Water Cooling Towers Scheme

Air-conditioning system was one of the largest energy consuming units in buildings. It was found that the use of water-cooled air-conditioning systems has greater environmental and economic benefits than air-cooled air-conditioning systems. To promote the use of fresh water in cooling towers for air-conditioning systems in non-domestic buildings, we launched the Fresh Water Cooling Towers (FWCT) in 2000. EMSD has received 1 095 applications since the launch of the FWCT Scheme. Among them, 2 438 FWCTs have been completed and put into operation. It is estimated that the completed installations could save up to 500 million kWh electricity annually, which is equivalent to around 350 000 tonnes carbon reduction per annum.

環保成效

Environmental Performance

啟德區域供冷系統

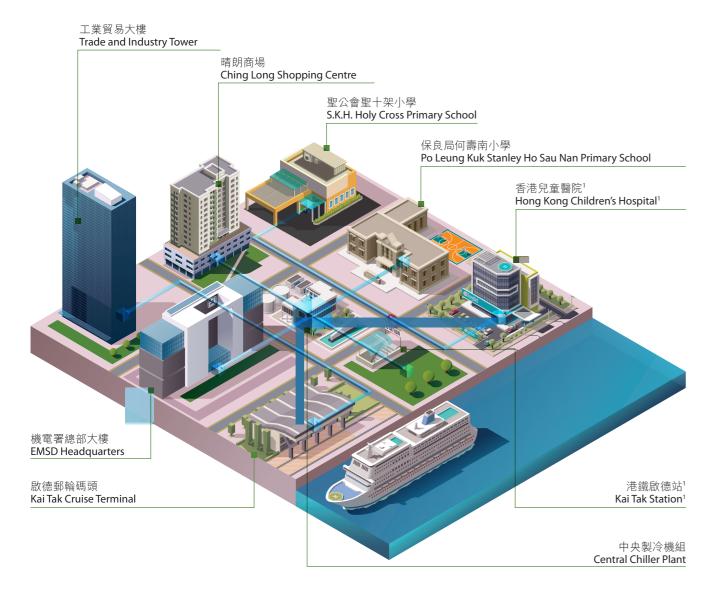
為提升新發展區域的節能效益,我們在啟德發展區安裝了區域供冷系統。該大型中央空調系統設有中央製冷機組,負責製造冷凍水,透過地下水管網絡輸送到啟德發展區內的建築物。啟德發展區的區域供冷系統較傳統風冷式空調系統的用電量節省35%,較獨立使用冷卻塔的水冷式空調系統節省20%,估計每年可節省高達8500萬千瓦小時電力,相當於每年減少排放59500噸二氧化碳。此計劃的第1、II期及第III期(組合甲)的工程經已落成,現正進行第III期(組合乙)及第III期(組合丙)的工程。

啟德發展計劃區域供冷系統用戶(截至2018年中期)

District Cooling System at the Kai Tak Development

To promote energy saving in newly developed areas, we have installed the District Cooling System (DCS) at the Kai Tak Development (KTD). The DCS is a large scale centralised air-conditioning system which produces chilled water at the central plants and distributes the chilled water to buildings in the Kai Tak Development through underground water piping network. It consumes 35% and 20% less electricity as compared to traditional air-cooled air-conditioning systems and individual water-cooled air-conditioning systems using cooling towers respectively. It is estimated that the use of DCS at KTD can save up to 85 million kWh electricity annually, which is equivalent to 59 500 tonnes of carbon reduction per annum. The Phase I, II and III (Package A) of the KTD DCS project were completed and the Phase III (Package B) and III (Package C) are underway.

Users of DCS at KTD (as of mid-2018)



區域供冷系統於 2017/18 的新增用戶。 1 New users of DCS since 2017/18

全民節能計劃

除了推動落實政策及措施外,我們也致力倡導各行各業節約能源,一同應對氣候變化。環境局與我們攜手合辦「全民節能2017」運動,此項運動包括「節能約章2017」、「4Ts約章」及「慳神有計大比拼2017」。各約章和比賽旨在鼓勵香港社會各界採取各種節能措施並定下節能目標,同時表揚在規劃、應用和推廣節能方面表現傑出的機構。

Energy Saving for All Campaign

Apart from driving policy and initiatives, we have actively promoted energy saving in all sectors to combat climate change. The Environment Bureau and the EMSD jointly held the Energy Saving for All 2017 Campaign. The Campaign covered the Energy Saving Charter 2017, the 4Ts Charter and the Energy Saving Championship Scheme 2017. These charters and schemes aim to encourage all sectors of the community in Hong Kong to adopt energy-saving practices, set energy-saving targets, and recognise organisation with outstanding performance in the planning, application and promotion of energy saving.



機電署綠色作業

我們一方面鼓勵公眾節約能源,另一方面亦致力優 化資源的使用效益,盡量減低日常營運對環境的影響,培育綠色文化。

環境管理系統

我們自2000年起實施ISO 14001環境管理系統,以管理與法規、環境問題、物料消耗和企業關注等議題衍生的環境影響、風險及機遇。我們的環境管理系統已於2017/18年度升級至符合ISO 14001標準最新的2015年版本。

環境管理系統為我們提供規範方針,以檢視本署的 營運對不同環境範疇,包括空氣、水、噪音、視覺、 土地污染、資源利用、動植物及一般營運所造成的影響。當發現到重要的潛在影響時,環境管理系統設有 管控機制,向員工提供相關的環境指引及程序手冊, 避免造成實際影響。

PROMOTING GREEN OPERATIONS IN EMSD

Apart from enlisting the community in energy saving, we strive to optimise the resources usage efficiency, minimise the environmental impacts of our operation and cultivate a green culture.

Environmental Management System

EMSD has adopted the ISO 14001 Environmental Management System (EMS) since 2000 to manage the impacts, risks and opportunities of potential environmental aspects arising from legal requirements, environmental consequences, use of materials and corporate concerns. In 2017/18, we have upgraded our EMS to comply with the latest ISO 14001:2015 version.

The EMS has governed our approach in reviewing the environmental aspects such as air, water, noise, visual, land contamination, resource use, flora and fauna, and general nuisance of our operations. A control mechanism will also be in place when significant potential impacts are identified. Corresponding environmental instruction and procedure manual will be available and communicated to the staff to prevent the occurrence of the potential impacts.

環保成效

Environmental Performance

指標,包括:

為促進持續改善,我們制訂了與環保相關的目標及 To facilitate continuous improvement, we have set environmental-related objectives and targets including:



積極應用可再生能源及智能科技。

Actively apply the use of renewable energy and smart technology.



或重新校驗,以推動我們的客戶於他們的場 所實踐更多節能措施。

應用創新的工程方案,例如冷氣系統的優化 Apply innovative engineering solutions such as adopting optimisation or retro-commissioning of air-conditioning system in supporting our clients to implement more energy-saving measures in their venues.

善小組計劃及業務流程改善計劃提供環保範 疇的建議。

為員工培養綠色文化,鼓勵他們透過工作改 Nurture our staff on green culture and encourage their suggestion on green aspects through Work Improvement Team Scheme and Business Process

> To align with our Environmental Policy, we also place high regards to optimise our resources usage efficiency, minimise waste generation, and reduce our emissions.

> These messages were also conveyed to our staff, contractors and suppliers as far as

practicable in order to achieve a greener operation and supply chain.

為了配合我們的環保政策,我們全力提高資源利用 效率、盡量減少廢物產生及廢氣排放,同時積極向所 有員工、承辦商和供應商傳遞以上訊息,令整體營運 及供應鏈更環保。

Waste Management

廢物管理

我們的廢物主要來自辦公室和工場作業,例如更換 車胎及零件、修理機電裝置等。為紓減我們對環境構 成的影響,我們除了在營運過程中採取環保措施,亦 會盡量回收廢舊物料。從辦公室回收的廢棄物主要 是舊光管、紙張和碳粉盒,而從工場回收的廢棄物則 以舊光管、舊充電池、金屬廢料、廢潤滑油和舊車胎 為主。具體回收數據請參閱統計資料摘要,廢紙及碳 粉盒的回收量趨勢列表如下。

In EMSD, our major source of waste generation comes from our office operation and workshop activities such as replacing vehicle tyres and parts, repairing E&M installations, etc. To minimise our impacts to the environment, apart from adopting the environmental procedures during our operation, we maximise the waste recycling as far as practicable. The major office wastes that we recycled include paper, spent fluorescent tubes and toner cartridges, while those for workshops include spent fluorescent tubes, rechargeable batteries, metal scraps, waste lubricant oil, and vehicle tyres. Details of the waste recycling data can be found in Summary of Statistics. The trend for waste paper and toner cartridge recycling is shown in below chart.

辦公室廢物循環再用量 **Amount of Recycled Office Waste**



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廣泛採用雙面印刷,至於碳粉盒回收量減少則因為 營運所需的碳粉盒數目減少。

減少氣體排放

為支持政府達到2030年將香港的碳強度由2005年的 水平降低65%至70%的減排目標,機電署積極節約用 電及不斷改善轄下建築物的能源效益,從而控制和 減低營運產生的溫室氣體。我們的溫室氣體排放主 要來自辦公室及工場的用電和運輸工具的排放。機 電署轄下建築物於2017/18年度的碳足跡(公噸)列表 如下。

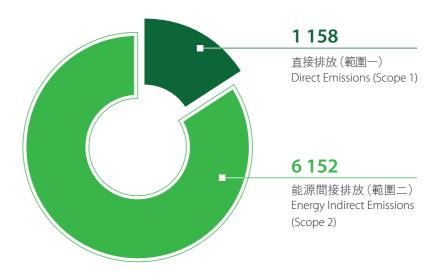
2017/18年度廢紙回收量下降,主因是用紙量減少和 The decrease in the amount of waste paper recycled in 2017/18 is mainly due to the decreasing paper consumption and the extensive use of both sides of paper. While the decrease in the number of toner cartridge recycled is due to the decrease in toner consumption for operational requirement.

Emission Reduction

To achieve the Government's 65–70% carbon intensity reduction target in 2030 compared to 2005 level, we have strived to control and reduce the GHG emissions from our operation through electricity conservation and continuously improvement of the energy efficiency of our buildings. Our major GHG emissions come from the electricity consumption in our offices and workshops, and transportation emission. The breakdown of carbon footprint of EMSD premises in 2017/18 (in tonnes) is shown in the graph below.

機電署2017/18年度溫室氣體排放 **EMSD Greenhouse Gas Emissions in 2017/18**

溫室氣體排放	公噸(二氧化碳當量)	Greenhouse Gas Emissions	Tonnes of CO ₂ -equivalent
直接排放(範圍一) 能源間接排放(範圍二)	1 158 6 152	Direct Emissions (Scope 1) Energy Indirect Emissions (Scope 2)	1 158 6 152
總排放	7 310	Total Emissions	7 310



環保成效

Environmental Performance

外,基於營運所需,本署亦設有不同類型的車隊。截 至2018年3月31日,我們的車隊共有216部車輛,包 括貨車、客貨車、大型房車及電單車等。除此之外, 我們亦為客戶部門的5 826部政府車輛提供維修服務。 為盡量減少廢氣排放,我們妥善維修所有車輛及實 行良好的內務管理,並定期更新。我們目前共有 13部電動車及七部混能車,其燃料消耗量較體積相 近的傳統車輛少40%,同時能減低路邊空氣污染及碳 排放。

綠化總部大樓

我們是香港推廣節能建築設計的先驅之一。本署總 部大樓是首棟連接啟德區域供冷系統的現有建築物, 我們亦在大樓的設計當中加入可再生能源的元素。 機電署總部大樓安裝的太陽能光伏系統自2005年至 2018年3月底已產生215萬千瓦小時的能源,最高可 產出350千瓦的再生能源。我們亦於總部大樓增設了 「能源儀錶板」,實時監察大樓的能源消耗量,以及提 供大樓的碳排放資訊。

機電署其中一項主要職責是維修保養政府車輛。此 As one of EMSD's services, we provide vehicle maintenance for government vehicles. Our operations also require the use of different vehicle fleet types. As of 31 March 2018, we have a total of 216 vehicles including lorries, vans, saloon cars and motorcycles. We are also responsible for maintaining 5 826 government vehicles for our client departments. Through proper vehicle maintenance, good housekeeping and regular upgrade, we aim to reduce our transportation emission as much as possible. Currently, we have 13 electric vehicles, and seven hybrid vehicles which consume 40% less fuel than conventional vehicles of similar size for lessen roadside air pollution and carbon emissions.

Greening our Headquarters

We have been one of the pioneers in promoting energy-efficient building designs in Hong Kong. EMSD Headquarters Building was the first existing building connected to District Cooling System at the Kai Tak Development and incorporated with renewable energy feature in the building design. The photovoltaic system installed in the EMSD Headquarters, with a maximum output of 350kW, has generated a total of 2.15 million kWh up to end of March 2018 since its inception in 2005. We have also added an "Energy Dashboard" to monitor the real-time energy consumption and provide the carbon emission information of the headquarters.



据描此二維碼或登入以下網址可 連結至機電署總部大樓的「能源 儀錶板|資訊。

The information on the "Energy Dashboard" can be accessed through canning this QR Code or visit: nttps://bems.emsd.gov.hk/bems/ aces/dist/public.10031.139.xhtml.

節約資源

為配合政府所訂由2015/16至2019/20年度減少用電量 5%的目標,我們現正將設施升級和廣泛採用環保措 施,全方位減低營運的能源耗用,同時亦致力節省用 水及其他資源的用量。

於2017/18年度,除由第三方營運的員工飯堂及基建 設施外(例如連接總部的行人天橋和無線電站),我 們轄下各政府建築物(例如總部大樓、工場、租用辦 公室及數據中心)的總用電量較2013/14年度減少 19.3%。在2013/14年度相若的運作情況下,2017/18 年度所節省的用電量達10.1%。用電量下降是多項節 能措施的成果,包括使用更多LED照明設備、辦公室 午飯時間關燈、調整通風系統運作時間表、連接冷氣 系統至區域供冷系統等。

Resource Conservation

To step towards the government 5% electricity reduction target from 2015/16 to 2019/20, we have been upgrading our facilities and adopting various green measures to reduce our operations' energy consumption. We also made every effort to conserve other resources such as water.

In 2017/18, the total electricity consumption of our government buildings (e.g. the headquarters, depots, rented offices and data centre) excluding staff canteen operated by the third party and infrastructure (e.g. the footbridge connecting to the headquarters, and radio stations) was decreased by 19.3% compared to 2013/14 level. There was also a 10.1% saving in electricity consumption in 2017/18 when compared with similar operating conditions in 2013/14. This was achieved by extending the use of LED lighting, switching off the lights during lunch time, reviewing the operating schedule of the ventilation system, connecting our airconditioning system to the District Cooling System, etc.

本署政府建築物2013/14年度至2017/18年度的用電量

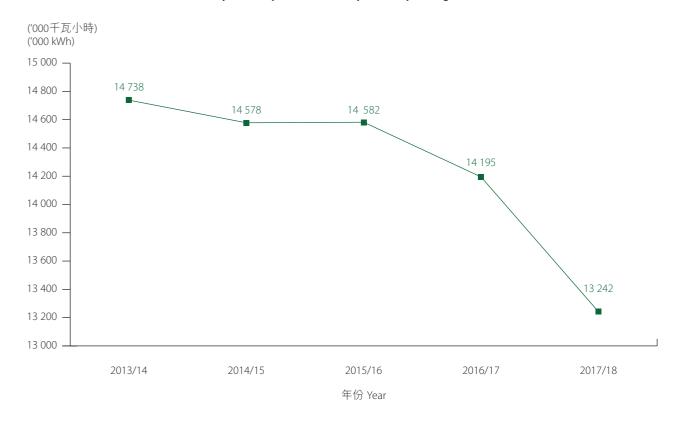
列表如下:

Electricity consumption of our government buildings from 2013/14 to 2017/18 is tabulated below

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	用電量 Electricity consumption ('000千瓦小時) ('000 kWh)	於相若運作情況下的用電量 ² Electricity consumption under comparable operating conditions ² ('000 千瓦小時) ('000 kWh)
2013/14 (基線 baseline)	14 738	不適用 Not Applicable
2014/15	14 920 (+1.2%)	14 578 (-1.1%)
2015/16	14 998 (+1.8%)	14 582 (-1.1%)
2016/17	14 521 (-1.5%)	14 195 (-3.7%)
2017/18	11 894 (-19.3%)	13 242 (-10.1%)

機電署於相若運作情況下的用電量 **Electricity Consumption under Comparable Operating Conditions**



此計算比較於 2013/14 至 2017/18 年度仍然運作的營運單 位淨耗雷量的改變。

The calculation compares the net consumption changes for operating units that are still under operations from 2013/14 to 2017/18.

環保成效

Environmental Performance

機電署的用水量列表如下:

The water consumption at EMSD is shown in the table below:

	2015/16	2016/17	2017/18
總用水量(立方米) Total water consumption(m³)	40 226	36 422 (-9.5%)	16 061 (-55.9%) ³
有關空調系統的用水量 Water consumption related to air-conditioning system	15 039	17 802 (+18.3%)	2 913 (-83.6%)
其他用途的用水量 ⁴ Water consumption for other use ⁴	25 187	18 620 (-26.1%)	13 148 (-29.4%)

環保採購

我們致力提供比法規和國際標準更高的優質產品及 服務。在足夠供應商及可行的情況下,我們會在日常 採購中加入環保要求。我們參考環境保護署擬備的 環保產品規格,此外亦鼓勵可提供環保產品的供應 商登記成為機電署供應商。

2017/18年度,機電署供應商名冊新增了173間可提供符合環保規格產品的供應商,目前名冊上共有995間環保供應商。年內,本署在總採購金額的3.98億元中, 下資3,740萬元採購環保產品,佔部門總採購金額逾9%。

Green Procurement

At EMSD, we go beyond compliance with legal requirements and international standards for our products and services engaged. Environmental requirements have been incorporated into our procurement practices wherever applicable and available. Apart from referencing to the green specifications established by the Environmental Protection Department, EMSD also welcome suppliers who are able to provide environmental friendly products to register on the EMSD supplier list.

In 2017/18, the updated EMSD Suppliers Lists contained newly added 173 suppliers who are able to provide environment-friendly products complying with our green specifications, making up a total no. of 995 environment-friendly suppliers on our supplier list. During the year, we have spent a total of \$37.40 million (over 9%) purchasing green products out of our total purchase amount of \$398 million.



我們並於2001年開始使用再造紙。2017/18年度,我們使用的紙張全都是再造紙,共購入25 870令紙,比原訂限額低1.5%。

為了協助採購人員和其他員工實踐環保採購,我們在內聯網提供了環保採購指引,高效能產品及裝置的標準,以及綠色產品的規格等。我們於2010年成立環保採購工作小組,協助員工為各類機電工程選定符合環保要求的材料、產品、系統及建造方法,全力推進綠色作業。

- 用水量包括總部大樓(由第三方營運的飯堂除外)及加路 連山的工場。2017/18年度用水量的明顯跌幅主要由於機 電署總部大樓自2017年5月所應用的區域供冷系統所致。
- 4 包括用於機電署總部大樓及工場的灌溉、清潔及一般淋 浴的用水。

We have also adopted the use of recycled paper since 2001. In 2017/18, all our paper consumed was recycled paper and we purchased a total of 25 870 reams of paper, which was 1.5% below the set quota.

Green procurement-related guidelines, energy-efficient products and installations' standards, and green product specifications were available in intranet for procurement officers and staff to facilitate green procurement. To coordinate the identification of suitable green materials and products, systems and construction methodologies for E&M works, a Working Group on Green Procurement in E&M Works was established in 2010 to further enhance our green operation.

- The water consumption covers the headquarters (excluding staff canteen operated by third party) and workshops in Caroline Hill. The significant drop of water consumption in 2017/18 was due to the application of District Cooling System since May 2017 at the EMSD Headquarters.
- Including water use for irrigation, cleansing and general ablution purpose for EMSD Headquarters and workshops.

社會成效 Social Performance

作為規管者和機電工程服務供應商,我們在日常的 營運中充分履行社會責任,致力提升工程服務以滿 足市民的需要。我們亦重視長遠的人力資源發展和 投資,積極為員工提供培訓機會,以及安全穩健的工 作環境。

提升本港的機電工程服務

機電署多年來一直為本港的機電裝置範疇提供各種諮詢及規管服務,範圍涵蓋機械安全、氣體安全、電力安全、鐵路安全以至能源效益和機電公用設施監察等。我們為機電服務制訂了極高的品質與安全標準,為市民提供更安全及更優質的生活。

由始至終的整全服務

我們的機電服務範圍廣泛,除了為眾多政府部門、決策局和公營機構提供多元化的支援外,同時亦為不同年齡組別的市民及各行各業服務。我們提供廣泛的顧問、工程及維修服務,主要涵蓋醫院、機場、政府建築物和設施、學校、紀律部隊、公路、港口、康樂文娛設施以至靈灰安置所等,在市民生活的各個階段給予整全的支援。

Wearing two hats as both a regulatory body and a leading Electrical & Mechanical (E&M) engineering service provider, we are fully aware of our social responsibility in which we take it at the heart of our daily operations. We are highly committed in continuous improvement of our engineering service to meet the needs for the community. We also value the long-term investment to our staff through providing training opportunities, as well as a safe and sound working environment.

IMPROVING ELECTRICAL & MECHANICAL SERVICE FOR THE CITY

EMSD has been providing various consultation and regulatory service for the City's E&M installations area, including mechanical safety, gas safety, electrical safety, railway safety as well as energy efficiency and E&M public utilities monitoring. We follow a high standard to ensure quality and safe E&M services to enhance the safety and quality of life of citizens.

From Cradle to Grave

The diverse scope of our E&M service not only offers a full-range support to an extensive number of government departments, bureaux and public bodies, but also reaching out to different age groups and industries. Our consultancy, engineering and maintenance services provide cradle-to-grave support to every stage of our lives, including but not limit to hospitals, airport, government buildings and facilities, schools, security forces, highways, ports to recreational and leisure facilities, and to columbarium and more.



社會成效

Social Performance

提高業界技能

機電署致力與業界分享專業知識和加強聯繫。我們早於2012年便率先帶領業界成立香港機電業推廣工作小組,成員包括公營機構、行業組織和工會,致力向公眾推廣機電業。多年來,我們經常舉辦技術研討會、論壇、工作坊和會議,積極向業界推廣和交流科技應用、職安健、工程操作及維修服務、能源效益、綠色作業等良好作業方式。以下簡介機電署部分提升行業技能的計劃及活動。

車輛維修自願註冊計劃

為提高車輛維修業的服務水平,機電署先後於2007年及2015年推出「車輛維修技工自願註冊計劃」和「車輛維修工場自願註冊計劃」。當中,「車輛維修工場自願註冊計劃」鼓勵更多車輛維修工場履行關於技術、環境、安全、員工培訓、服務及文件處理等範疇的業界指引。截至2017年年底,在上述兩項計劃下,已有約9500名車輛維修技工和1870間車輛維修工場獲批計冊。

Enhancing Industry Capabilities

EMSD is committed in sharing professional knowledge and strengthening communication with the industry. We take the lead to establish the Hong Kong Electrical and Mechanical Trade Promotion Working Group with different practitioners from public organisations, trade associations and unions since 2012 to promote the E&M industry to the public. Over the years, we have organised technical seminars, symposiums, workshops and conferences to help promote and exchange best practices on technology applications, occupational health and safety, engineering operational and maintenance services, energy efficiency, green operation to the industry. Below show some examples of our industry capability enhancement schemes and programmes.

Voluntary Registration Schemes for Vehicle Maintenance

To help raise the service standard of the vehicle maintenance industry, EMSD launched the Voluntary Registration Scheme for Vehicle Mechanics in 2007, and the Voluntary Registration Scheme for Vehicle Maintenance Workshops in 2015. The Voluntary Registration Scheme for Vehicle Maintenance Workshops further encourages more vehicle workshops to fulfill the industry guidelines in terms of technical, environmental, safety, staff training, services and documentation aspects. By the end of 2017, there were approximately 9 500 vehicle mechanics and around 1 870 workshops have been registered under the respective schemes.



2017年度傑出註冊電業工程人員選舉

為增進電業界人員的技術水平和安全意識,我們與多個業界團體合辦「2017年度傑出註冊電業工程人員選舉」,嘉許致力提升電業界安全標準的傑出註冊電業工程人員,表彰他們的成就和努力。得獎者可藉此機會與其他同業分享工作經驗與心得,促進電業界達到更高的安全水平。

Outstanding Registered Electrical Worker Awards Scheme 2017

To strengthen the technical know-how and raise the safety awareness among electrical workers, we collaborated with trade associations to organise the Outstanding Registered Electrical Worker Awards Scheme 2017 to commend the outstanding registered workers on their achievement and dedicated effort in uplifting the safety standard of the electrical trade. The awardees were given the opportunity to share their work experience and insights with other practitioners, which helped to further promote the safety standard among the electrical work industry.

建造業安全周嘉年華

機電署於2017年9月23日參與由發展局和建造業議會合辦的首屆「建造業安全周嘉年華」,以提高建造業從業員及公眾對建築安全的認識。

Construction Safety Week Carnival

EMSD participated the first Construction Safety Week Carnival that was jointly organised by the Development Bureau and the Construction Industry Council on 23 September 2017 to help raise the construction practitioners and public awareness on construction safety.



機電署於「建造業安全周嘉年華」設置富教育意義的遊戲攤位。

EMSD's educational game booth at the Construction Safety Week Carnival.



我們與參加者一起砌出「人體組成的最大反光衣圖形」來推廣建造業安全,並創下當時的健力士世界紀錄。

Participants lined up in the "Largest Human Image of a Safety Vest" for promotion of construction safety and set the Guinness World Record at that time.



社會成效 Social Performance

創新科技日

為促進工程方案應用創新科技,我們於2017年12月 12日與香港科技園公司合辦首屆「創新科技日」,邀 請了12間初創企業介紹其創科方案予多個政府部門 及公營機構。

Innovative Technology Day

To facilitate the uptake of innovative technology application in engineering solution, we have co-organised with Hong Kong Science and Technology Parks Corporation (HKSTP) on the first Innovative Technology Day that was held on 12 December 2017. Twelve start-ups were invited to share their I&T solutions to various government departments and public organisations.



首次合辦的「創新科技日」吸引多名客戶部門的代表參與。 The first Innovative Technology Day attracted many participants from various client departments.

淡水冷卻塔和建築物能源效益技術研討會

淡水冷卻塔和建築物能源效益技術研討會於2017年 12月15日圓滿舉行,共吸引了600多名參加者。研討 會的第一部分邀請了政府部門及於「慳神大比拼 2016」的得獎物業管理公司分享他們的節能經驗。我 們和水務署的代表亦於研討會上介紹了淡水冷卻塔 的重要範疇及最新規定。在研討會的第二部分,我們 向參加者簡介了《建築物能源效益條例》下有關主要 裝修工程的要求及注意事項,同時亦就「建築物重新 校驗」作出深入淺出的介紹。

Technical Forum on Fresh Water Cooling Towers and Buildings Energy Efficiency

The Technical Forum on Fresh Water Cooling Towers (FWCT) and Buildings Energy Efficiency was held on 15 December 2017, attracting over 600 attendees to participate in the event. At the first session of the forum, government departments and property management companies who were awarded with the Energy Saving Championship 2016 were invited to share their experience in energy saving. Together with representatives from the Water Supplies Department, we explained the major aspects and the updated requirements of FWCT. At the second session, "building retro-commissioning" was introduced, and the requirement and consideration in conducting major retrofitting works under the Buildings Energy Efficiency Ordinance were highlighted.

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社區教育計劃

除了舉辦行業計劃及活動外,社區外展活動亦是我們的工作之一。我們在社區推行林林總總的宣傳計劃和教育,例如安全講座、嘉年華、巡迴宣傳及展覽、大型計劃及比賽等,加深公眾對我們的機電工作和服務的了解,同時推廣能源效益。

「樂齡科技顯愛心」比賽

機電署與香港社會服務聯會合辦「樂齡科技顯愛心」 比賽,旨在鼓勵年青人和市民開創新穎的智能家居 及生活項目,促進長幼共融。是次活動共有93隊報 名參賽,大家運用創意與機電知識構思解決方案,使 長者的生活更便利。

Community Educational Programmes

Apart from organising industry schemes and programmes, community outreach is also an integral part of our work. Within the community, we host a wide array of promotional and educational campaigns, ranging from safety talks, carnivals, road shows and roving exhibitions, to large-scale programmes and competitions to enhance public understanding of our E&M work and services as well as to promote energy efficiency.

Gerontech Youth Challenge

EMSD joined with Hong Kong Council of Social Service to organise the Gerontech Youth Challenge competition, aiming to encourage teenagers and the general public to come up with innovative ideas to promote smart living environment and integration of the young and old generations. A total of 93 teams signed up for the competition where they utilised their creativity with electrical and mechanical knowledge to create solution for the betterment of the elderly.





「樂齡科技顯愛心」比賽得獎者及嘉賓。

Awardees and honourable guests of the Gerontech Youth Challenge.

參賽者展出作品和介紹設計特色。

Participants presenting their finished product to explain the characteristics of their design.

機電青少年大使計劃

我們透過「機電青少年大使」計劃招募兒童及青少年成為機電署的大使,為他們提供機電安全、能源效益及機電工程的知識。2017年,本計劃為大使們組織了不同機電設施的考察活動,包括參觀發電廠、香港天文台和港鐵車廠。我們希望透過安排不同活動,促進青少年關注機電安全的良好作業,以及提升他們對工程的興趣。

E&M Young Ambassador Programme

We recruit children and teenagers as our young ambassadors through the E&M Young Ambassador (EMYA) programme and provide them with solid knowledge on E&M safety, energy efficiency and E&M engineering. In 2017, the programme has organised various visits to E&M facilities, including visits to power plants, the Hong Kong Observatory, and MTR depot. By organising different activities, we hope to arouse teenagers awareness on the E&M best practices, and their interest in engineering.

社會成效 Social Performance

機電嘉年華2018

為提高公眾對我們的規管服務及營運服務的認識, 我們於2018年1月與香港工程師學會合辦了機電嘉年華,向公眾推廣機電安全、節能環保和科技應用。嘉 年華當日安排了精彩的活動,包括表演、展覽、動畫和遊戲攤位,吸引了約12000名市民參加。

E&M Carnival 2018

To raise public understanding of our Regulatory Services and Trading Services, we have organised the E&M Carnival together with the Hong Kong Institution of Engineers in January 2018 to promote E&M safety, energy efficiency, environmental protection and technology application to the public. A variety of performances, exhibitions, animation, and game booths were arranged and attracted approximately 12 000 visitors.



機電嘉年華安排了不同的精彩表演,小 朋友樂在其中。

Children were enjoying the interesting performance in the E&M Carnival.







機電業博覽2018 一機電工程新力量

我們聯同香港機電業推廣工作小組於2018年2月1日至4日在教育及職業博覽中舉辦機電業博覽2018,向到場人士推廣機電業,並在2月2日的「機電工程日」舉行「機電工程新力量」系列講座,邀請業界代表介紹機電業最新的培訓、職業發展前景和晉升機會,為行業吸納人才。

E&M Trades Expo 2018 — E&M Gear Up!

Between 1 and 4 February 2018, we organised the E&M Trades Expo 2018 in conjunction with the Hong Kong E&M Trade Promotion Working Group at the Education and Careers Expo to promote E&M industry. On 2 February 2017, a seminar series entitled "E&M Gear Up!" were held on the E&M Day with a purpose to attract new talents to the E&M trade. During the seminars, we have introduced the latest information on training, career advancement and promotion pathways of E&M trade.



機電署的同事介紹本署的職業發展及晉升機會。

Our colleagues introduced the career development and advancement opportunities at EMSD.







2017國際環保博覽

於2017年10月26日至29日期間,我們參與國際環保博覽,向參觀者介紹本署在推廣能源效益及節能的工作及成效。除了推廣啟德區域供冷系統、節能裝置、新政府建築物的節能項目外,我們亦向參觀者重點介紹「強制性能源效益標籤計劃」的優化方案、淡水冷卻塔計劃及《建築物能源效益條例》。於博覽會舉辦的「政府部門論壇」上,我們更分享了最新發布的《重新校驗技術指引》予業界人士,並藉此與業界分享政府部門實行的環保項目。

Eco Expo Asia 2017

EMSD participated in the Eco Expo Asia from 26–29 October 2017 to introduce our works on energy efficiency and conservation. Besides showcasing the Kai Tak District Cooling System, energy-efficient installation and energy-saving projects at new government buildings, we have also highlighted the enhancement of the Mandatory Energy Efficiency Labelling Scheme, Fresh Water Cooling Towers Scheme, and the Buildings Energy Efficiency Ordinance to the visitors. During the "Government Departments' Forum", we introduced the newly released Technical Guidelines on Retro-commissioning for trade personnel to facilitate the sharing of environmentally-conscious governmental projects with industries.

社會成效 Social Performance

其他業界及公眾參與活動

我們於匯報期內舉辦了連串業界參與活動,促進業內技術。此外,我們亦與多個政府部門和公營機構緊密合作,共同籌辦各類公眾活動。以下是年內的主要活動:

舉行30場簡報會或分享會給各界機構,宣傳《重新校驗技術指引》。

舉辦63場外展講座及接待276個團體共11176位訪客參觀機電 署總部教育徑,向各機構及學校宣傳能源效益和節能。

在幼稚園、青年中心及老人中心舉行466場外展講座,向逾 25 000位參加者宣傳使用機動遊戲、吊車、升降機及自動梯的 安全須知。

舉辦84場學校展覽推廣「強制性能源效益標籤計劃」。

舉行簡介會,介紹即將實施的「強制性能源效益標籤計劃」第三階段和詳細渦渡安排。

舉辦19場講座及其他宣傳活動予行業代表、升降機/自動梯擁有人、業主立案法團成員及物業管理人員,講解《升降機及自動梯條例》和升降機及自動梯的管理、更新工程及使用安全。

舉辦「車輛維修技工自願註冊計劃」宣傳短片故事大綱及標語 創作比賽。

到訪超過2 000間車輛維修工場,向車輛維修同業及公眾推廣「車輛維修工場自願註冊計劃」和「車輛維修技工自願註冊計劃」。 劃 。

組織八次講座暨參觀示範工場,向車輛維修同業講解註冊成為「車輛維修工場自願註冊計劃」的車輛維修工場的基本要求。

為氣體用戶、氣體業界及各類承辦商舉辦36場氣體安全研討會,並進行201次工地坑道巡查,推廣有關避免損壞氣體喉管的安全作業守則。

2017年9月21日至24日聯同水務署、屋宇署、消防處、食物環境衞生署及民政事務總署合辦「優質樓宇管理週2017」,推廣優質樓宇管理。

我們的員工共花了370小時完成11個義工項目。於2017年 11月份的「華懋行」及2018年1月的港島、九龍區百萬行各成功籌得4,390港元及6,780港元。

Other Trade and Public Engagement Activities

In this reporting year, we hosted a wide array of engagement events for the trade to enhance the industry capabilities. In addition, we have worked closely with other government departments and public organisations to host different types of public activities. Major events and activities are highlighted below:

Delivered 30 presentations/sharing sessions to various organisations to promote Technical Guidelines on Retro-commissioning.

Organised 63 outreach talks and 276 visits to the Education Path of EMSD Headquarters for 11 176 visitors from different organisations and schools to promote energy efficiency and conservation.

Conducted 466 sessions of outreach talks for kindergartens, youth centres and elderly centres, reaching over 25 000 participants to promote the safe use of amusement rides, aerial ropeways, lifts and escalators.

Conducted 84 school exhibitions on the Mandatory Energy Efficiency Labelling Scheme (MEELS).

Carried out briefing session on commencement and detailed transitional arrangement of the third phase of MEELS.

Conducted 19 talks and other publicity activities for trade representatives, lift/escalator owners, members of incorporated owners and building management staff to introduce the Lifts and Escalators Ordinance as well as the management, modernisation and safe use of lifts and escalators.

Organised the Voluntary Registration Scheme for Vehicle Mechanics API Storyline and Slogan Writing Competition.

Visited over 2 000 vehicle maintenance workshops to promote the Voluntary Registration Scheme for Vehicle Maintenance Workshops and the Voluntary Registration Scheme for Vehicle Mechanics to the vehicle maintenance trade and the general public.

Conducted eight talks cum visits to the Sample Workshop to introduce to the vehicle maintenance trade the basic requirements for acquiring registration as a Vehicle Maintenance Workshop under the Voluntary Registration Scheme for Vehicle Maintenance Workshops.

Conducted 36 gas safety seminars for gas users, trades and different contractors, and 201 trench inspections to construction sites to promote safety practices on avoiding damage to gas pipes.

Jointly organised the Building Management Week 2017 with the Water Supplies Department, Buildings Department, Fire Services Department, Food and Environmental Hygiene Department and Home Affairs Department on 21 to 24 September 2017 to promote quality building management.

Eleven volunteering projects were completed by our employees who had spent a total of 370 man-hours. Our staff had successfully raised HK\$4,390 and HK\$6,780 for Chinachem Eco-Walk and Hong Kong & Kowloon Walk for Millions in November 2017 and January 2018 respectively.

關懷我們的員工

機電署的工作成果建基於我們的團隊,而員工是我們最寶貴的資產,所以我們矢志確保所有員工享有安全健康的作業環境。此外,我們亦根據政府的公務員聘用條款和非公務員合約僱員計劃提供具競爭力的薪酬及福利。與此同時,我們亦為員工提供培訓機會,讓他們盡展所長。我們力求樹立企業公民的良好榜樣,更連續第四年榮獲香港社會服務聯會頒發「同心展關懷」標誌。

職業安全與健康

基於業務性質,我們非常關注工作間的健康與安全。機電署各分部均已設立安全管理系統,負責規劃、實施、評估及持續改善職業安全與健康(職安健)的措施和良好作業守則。我們嚴格遵守機電署的安全與健康政策,執行機電工程時必定將安全放在首要位置。為確保員工和承辦商於施工時遵從職安健守則,我們特別成立職業安全及健康策導委員會(職安健策導委員會),專責統籌和監察部門營運涉及的所有職安健事務。委員會亦會定期檢討我們的表現,杜絕不安全的作業方式。

CARING FOR OUR STAFF

The success of EMSD rests upon our staff for they are our most valuable asset. We are committed to provide a safe and healthy environment for all employees. Besides following the Government's civil service employment terms and the non-civil service contract staff scheme to offer competitive remuneration and benefits, we also provide numerous staff training opportunities to enable our employees in maximising their potential. Underlining our dedicated support to good corporate citizenship, we have been awarded the Caring Organisation Logo by the Hong Kong Council of Social Service for the fourth consecutive year.

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Occupational Safety and Health

We pay a high regard on workplace health and safety considering the nature of our operations. Safety management systems are in place in our divisions to govern the planning, implementation, evaluation and continuous improvement of Occupational Safety and Health (OSH) initiatives and best practices. We strictly adhere to the EMSD Safety and Health Policy that affirms work safety as the first priority when comes to E&M service delivery. To ensure the compliance of OSH at work for in-house staff and contractor, we formed Steering Committee on OSH to oversee and monitor all OSH issues of our operations. The committee also regularly review our performance and deter unsafe work practices.



社會成效 Social Performance

除了職業安全及健康策導委員會,部門亦設有部別 職業安全及健康委員會(部別職安健委員會),成員 涵蓋管理層及員工代表,以加強在安全與健康議題 上的溝通,及促進推行有關措施。部別職安健委員會 成員由各職級員工代表組成,並定期舉行會議,商討 和審議與職安健相關的議題及措施。截至2018年3月 31日,全體員工均在部別職安健委員會中設有代表。

Apart from the Steering Committee on OSH, there are Divisional Occupational Safety and Health Committees (DivOSHCs) which are formed by management and staff representatives to enhance communication and facilitate the practice of safety and health. DivOSHCs comprise staff representatives from different levels and meet on a regular basis to discuss and review on OSH-related issues and initiatives. All workforce is represented by the DivOSHCs as at 31 March 2018.

培訓及發展

機電署現有的見習工程師及技術員訓練計劃為新入 職員工提供優質及專業的培訓。未來我們會投資超 過六億元,在2020年前招募和培訓逾千位見習技術 員。為確保團隊可在個人及專業層面持續發展,我們 每年均會制訂部門培訓發展計劃,擬定員工培訓發 展的方向。

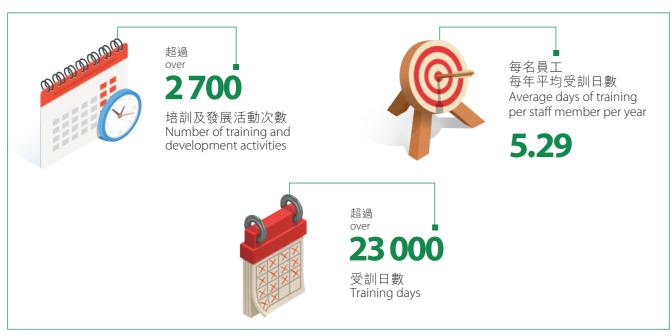
Training and Development

EMSD Staff Training Statistics in 2017/18

Alongside Engineering Graduate and Technician Training Schemes that offer professional and quality training, we will invest over \$600 million on internal recruiting and training for over a thousand of technician trainee till 2020. To further ensure the ongoing personal and professional growth of our people, we prepared a Departmental Training and Development Plan on an annual basis to guide the training and development directions.

2017/18年度機電署員工培訓數據





見習工程師訓練計劃

我們的見習工程師訓練計劃歷史悠久,於1960年代 開辦,是本港最佳的工程師在職培訓計劃之一,更獲 香港工程師學會認可。我們迄今已培育超過700位見 習工程師,透過結合理論知識、實習與實用技巧的課 程培育專才,滿足香港工程界的需要。受訓學員還有 機會加入機電署,建立長遠的事業發展。訓練為期兩 年,期間見習工程師會到機電署及其他政府部門工 作,接受多個範疇的專業知識及技術培訓。2017/18 年度共有20位見習工程師受訓,各來自電力、機械、 電子、屋宇裝備、資訊科技及生物醫學工程等背景。

Engineering Graduate Training Scheme

As one of the best on-the-job engineering training schemes in Hong Kong, our engineering graduate training scheme is recognised by the Hong Kong Institution of Engineers and has been in place since 1960s. Over the years, we have trained over 700 engineering graduates, instilling them with theoretical knowledge, hands-on training as well as practical skills to fulfill the needs of the local profession that can allow them to develop their long-term career. During the two-year training period, the engineering graduates work at EMSD and other government departments on a rotation basis to receive different types of professional knowledge and skills. In 2017/18, 20 engineering graduates were recruited, and they came from the fields of electrical, mechanical, electronics, building services, information technology and biomedical engineering.

技術員訓練計劃

已舉辦60多年的技術員訓練計劃是機電署另一旗艦 培訓項目,為學員提供系統化的技術訓練。實習學員 會被分配到政府轄下不同場所工作,認識各類機電 工程系統。此外,我們亦安排部分傑出學員參與職業 訓練局(職訓局)的傑出學徒獎勵計劃,修讀職訓局 舉辦的相關證書或文憑課程。

我們目前計劃於2016年至2020年間為業界培訓100位 四年制的見習二級技術員。於匯報年度,我們成功招 募295位見習技術員,包括140位四年制的見習二級 技術員、116位三年制的見習二級技術員及39位三年 制的見習一級技術員。

除派學員參加如「世界技能大賽」等國際比賽擴闊視 野外,我們也提名學徒參加職訓局舉辦的交換生計 劃。2017年8月,我們安排了六名見習技術員到英國 參觀多間企業,與當地學徒交流意念,增廣見聞。

員工溝通

與員工保持溝通對於持續改善我們的營運至為重要。 正因如此,我們鼓勵與員工保持雙向溝通和互動,同 時設有多種途徑聽取員工的意見及建議。

員工諮詢途徑

為加強內部溝通,我們設有四個部門協商委員會和 五個部別協商委員會,定期與管理層會面,表達員工 的意見。此外,員工還可自由參加11個部門工會和 機電署以外的政府人員工會組織,表達他們的意見 和關注議題,以參與集體談判。除此之外,為確保員 工的投訴得到妥善處理,我們制訂了員工投訴程序, 讓員工就任何不善對待或不滿發表意見。

員工建議計劃

為廣開思路提升機電署的營運表現,我們定期舉辦 各類型員工建議計劃,例如工作改善小組計劃、員工 建議書計劃及業務流程改善計劃。於2017/18年度, 我們共收到25項建議

Technician Training Scheme

With over 60 years of history, Technician Training Scheme is another flagship training programme on systematic technical training offered by EMSD. Our trainees are assigned to different government premises to train up their skillset on E&M engineering systems. In addition, we nominated some of the outstanding trainees to study relevant certificate or diploma courses offered by the Vocational Training Council (VTC) under the Outstanding Apprentices Award.

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Between 2016 and 2020, we aim to train 100 technician trainees II (four-year) for the industry. During the reporting year, we have successfully recruited 295 trainees, including 140 technician trainees II (four-year), 116 technician trainees II (three-year) and 39 technician trainees I (three-year) respectively.

Apart from sending our staff to gain exposure in international competitions, like WorldSkills Competitions, we also nominated our apprentices to participate in an exchange programme organised by VTC. In August 2017, we sent six technician trainees to the United Kingdom to broaden their horizon. During the exchange programme, company visits were organised and trainees were given opportunities to exchange ideas with the local apprentices.

Staff Communication

Maintaining an open dialogue with our staff is vital in continuous improvement of our operations. In view of this, we encourage two-way internal communications and interaction amongst employees. We have established a few communication channels to collect employees' feedback and ideas.

Staff Consultation Channels

To further enhance internal communication, we have established four departmental consultative committees and five divisional consultative committees to collect and exchange views regularly with the management. Also, our staff members are welcome to participate in 11 departmental staff unions, as well as government staff unions outside EMSD to gauge their views and concerns for collective negotiations. In addition, to ensure proper handling of staff complaints, the Staff Complaints Procedures is a mechanism that allows our staff members to report in case of any mistreatment and dissatisfaction.

Staff Suggestion Programmes

To promote idea-jamming on the advancement of EMSD's operational performance, we have been organising various staff suggestion programmes such as the Work Improvement Team Scheme, Staff Suggestion Scheme, and the Business Process Improvement. In 2017/18, a total of 25 proposals were received.

社會成效 Social Performance

	員工活動 我們在匯報年度舉辦了多項員工活動,部 分列表如下:	Staff Engagement Activities A number of staff engagement activities were organised during the year. Some of them are listed below.
	規管服務於2017年12月8日及2018年2月 7日舉行年度管理工作坊。	Held the Regulatory Services' annual Management Workshops on 8 December 2017 and 7 February 2018.
	機電工程營運基金於2017年7月5日及 11月21日舉行了年度策略制訂工作坊。	Organised two EMSTF's annual Strategy Formulation Workshops on 5 July 2017 and 21 November 2017.
	機電工程營運基金於本年度舉行了四次針 對內部客戶意見調查的焦點小組會議,蒐 集策略業務單位對部門內部所提供支援服 務的意見。	Held four sessions of EMSTF Internal Customer Opinion Survey — Focus Group Meeting to collect Strategic Business Units' opinion on internal supporting services provided.
	於2017年11月至2018年1月舉行四場署長 簡報會。	Arranged four sessions of Director's Briefing from November 2017 to January 2018.
	組織86次親善探訪活動,安排首長級人員 到訪188個場地。	Carried out 86 ambassador visits by directorate officers at 188 venues.
	於2017年4月及2018年3月與部門11個工 會舉行兩次聯席會議。	Conducted two joint meetings with 11 staff unions of EMSD in April 2017 and March 2018.
%	於2018年1月至3月為部門的專業員工、 外調的督察級、技術級及初級員工舉行五 次周年論壇。	Ran five sessions of the Yearly Forums for professional staff, seconded inspectorate, technical and junior staff from January to March 2018.
	員工福利組為抱恙或住院員工進行了五次 家訪、43次醫院探訪、29次工作間探訪、 372次電話問候及34次吊唁探訪。	Conducted five home visits, 43 hospital visits, 29 workplace visits, 372 goodwill phone calls and 34 condolence visits to sick or hospitalised staff, by the Staff Welfare Unit.

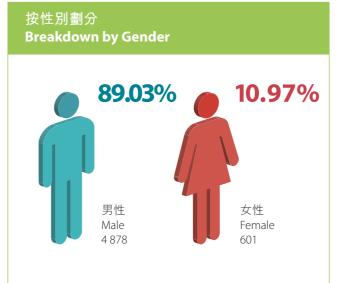
多元化與平等機會

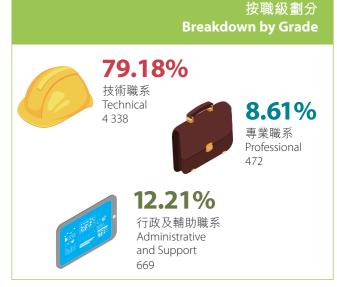
員工數據

截至2018年3月,機電署共有5479名員工(包括常任制及合約制員工),其中708名員工為新入職人員,約佔員工總人數12.9%。年內並無聘用兼職員工。於本匯報年度的離職率為8.1%。我們恪守多元化及平等機會的僱傭原則,全力創造共融的工作環境,並嚴格遵守和履行公務員事務局制訂的行為守則規範。我們繼續參與《有能者·聘之約章》和共融機構嘉許計劃的僱主機構,積極推動殘疾人士就業。年內我們共僱用210名輕度殘疾人士,約佔員工總人數3.8%。我們十分重視人權,並一律禁止轄下所有單位聘用強迫及強制性勞工。匯報年內並無發現任何營運或供應商違反關於童工及強迫勞工的法規。

Diversity and Equal Opportunity Employment Statistics

As of March 2018, we had a total of 5 479 employees (including permanent and contract), amongst them 708 are new hires that constitute to around 12.9%. No part-time staff was recorded during the year. We recorded a turnover rate of 8.1% in this reporting year. Our commitment to promote diversity and equal opportunity employment in the workplace is demonstrated through our close observation and adherence to the Civil Service Bureau's code of conduct. We continued to take part in the Talent-Wise Employment Charter and Inclusive Organisations Recognition Scheme as an Employer Organisation to promote the employment of persons with disabilities. During the period, we had employed a total of 210 staff with minor disabilities which takes up about 3.8% of our total employment. In addition, our respect to human rights is ingrained in our culture where we prohibit the use of forced or compulsory labour at all of our units. In this reporting year, we did not identify any operations or suppliers in breaching the laws and regulations in relation to child and forced labour.





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可持續發展 報告標準 GRI Standards	一般披露 General Disclosures		參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance
GRI 102:一般	機構簡介 Org	ganisational Profile			
披露 2016 GRI 102: General	102-1	機構名稱 Name of the organisation	關於本報告 About this Report	p. 110	✓
Disclosures 2016	102-2	業務活動、品牌、產品及服務 Activities, brands, products, and services	可持續發展管理方針 Sustainability Management Approach	p. 112–113	✓
	102-3	機構總部的位置 Location of headquarters	香港九龍啟成街3號 3 Kai Shing Street, Kowloon, Hong Kong	-	✓
	102-4	營運地點 Location of operations	只限香港 Hong Kong only	-	1
	102-5	擁有權及法律形式 Ownership and legal form	屬於香港特區政府的一部分 Part of the Hong Kong SAR Government	-	✓
	102-6	所服務的市場 Markets served	香港 Hong Kong	-	✓
	102-7	機構的規模 Scale of the organisation	社會成效 Social Performance	p. 145	✓
	102-8	有關僱員及其他員工的資料 Information on employees and other workers	社會成效 Social Performance 統計資料摘要 Summary of Statistics	p. 145 p. 155–156	✓
	102-9	供應鏈 Supply chain	機電工程署聘請了 2 465 名供應商,他們大多負責提供機電安裝、運作及保養相關的配件/設備及服務。 There are 2 465 suppliers engaged by EMSD. They are mainly involved in provision of parts/equipment and services related to E&M installation, operation and maintenance.	-	√
	102-10	機構與其供應鏈方面的重大改變 Significant changes to the organisation and its supply chain	關於本報告 About this Report	p. 110	✓
	102-11	謹慎方針或原則 Precautionary Principle or approach	可持續發展管理方針 Sustainability Management Approach	p. 112–113	✓
	102-12	由外部所制訂的倡議 External initiatives	可持續發展管理方針 Sustainability Management Approach	p. 118–121	✓
	102-13	機構參與的協會的會員資格 Membership of associations	機電工程署屬於以下協會的成員: EMSD holds membership in the following associations. 1) 美國能源工程師學會 Association of Energy Engineers 2) 香港綠色建築議會 Hong Kong Green Building Council 3) 香港照明學會 CIE (Hong Kong) Limited 4) 國際物業設施管理協會 International Facility Management Association 5) 國際鐵路安全議會 International Railway Safety Council 6) 保障資料主任聯會 Data Protection Officers' Club	-	✓

102-14	最高決策者的聲明 Statement from senior decision-maker	機電工程署二零一七至一八年年報 EMSD Annual Report 2017/18	p. 2–7	✓
102-15	重大影響、風險及機遇 Key impacts, risks, and opportunities	可持續發展管理方針 Sustainability Management Approach	p. 112–113	1
道德與誠信	Ethics and Integrity			
102-16	價值、原則、標準和行為規範 Values, principles, standards, and norms of behaviour	機電工程署二零一七至一八年年報 EMSD Annual Report 2017/18	p. 9, 67	✓
管治 Gover	rnance			
102-18	管治架構 Governance structure	機電工程署二零一七至一八年年報 EMSD Annual Report 2017/18	p. 1	✓
102-20	管理層在經濟、環境和社會議題方面 的責任 Executive-level responsibility for economic, environmental, and social topics	我們的高級管理層參與了品質、環境及生產力策導委員會以及內部環保採購工作小組。 Our senior management staff participates in Quality, Environmental & Productivity Steering Committee and internal working group on green procurement.	-	✓
持份者參與	Stakeholder Engagement			
102-40	持份群體清單 List of stakeholder groups	關於本報告 About this Report	p. 110	✓
		可持續發展管理方針 Sustainability Management Approach	p. 114	
102-41	集體談判協議 Collective bargaining agreements	共有11個機電工程署工會由員工以自願性質參與,另有9個員工協商委員會代表不同職級的機電工程署員工就員工福利與部門溝通。 There are 11 EMSD staff unions joined on voluntary basis. There are also 9 departmental consultative committees who are representatives of all grades and ranks of EMSD staff to liaise with the Department for the well-being of the staff.	-	1
102-42	界定及挑選持份者 Identifying and selecting stakeholders	關於本報告 About this Report	p. 110	✓
102-43	引入持份者參與的方針 Approach to stakeholder engagement	關於本報告 About this Report	p. 110	1
		可持續發展管理方針 Sustainability Management Approach	p. 115	
102-44	提出的主要議題及關注事項 Key topics and concerns raised	關於本報告 About this Report	p. 111	1

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102-45	財務報表所包含的單位 Entities included in the consolidated financial statements	關於本報告 About this Report	p. 110	✓
102-46	界定報告內容及議題界限 Defining report content and topic boundaries	關於本報告 About this Report	p. 110–111	1
102-47	重要議題清單 List of material topics	關於本報告 About this Report	p. 111	✓
02-48	重整信息 Restatements of information	機電署已於 2017/18 年度調整資料範圍,以涵蓋 純粹機電署內部的碳排放、棄置量及物料消耗 量。因此 2015/16 年度及 2016/17 年度的數據未 能提供。 EMSD has fine-tuned the data scope in 2017/18 to cover the carbon emission, disposal and materials consumption by EMSD internal use only. Thus the figures for 2015/16 and 2016/17 are not available.	-	✓
02-49	匯報上的改變 Changes in reporting	新增的議題請閱關於本報告。 Newly added material topics can be found in About this Report.	p. 111	1
02-50	匯報期 Reporting period	關於本報告 About this Report	p. 110	✓
02-51	上一份報告的日期 Date of most recent report	2017年12月 December 2017	-	✓
02-52	匯報周期 Reporting cycle	關於本報告 About this Report	p. 110	✓
02-53	查詢報告的聯絡點 Contact point for questions regarding the report	關於本報告 About this Report	p. 111	✓
02-54	按照 GRI 標準提出的匯報申述 Claims of reporting in accordance with the GRI Standards	關於本報告 About this Report	p. 110	1
02-55	全球報告倡議組織內容索引 GRI content index	全球報告倡議組織內容索引 GRI Content Index	p. 146–152	1
02-56	外部認證 External assurance	關於本報告 About this Report 核實聲明 Verification Statement	p. 110 P. 159–160	✓

可持續發展 報告標準 GRI Standards	特定議題標準 Topic-specific Standards		參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance
經濟 Economic					
經濟成效 Economic P	erformance				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		機電工程署二零一七至一八年年報 EMSD Annual Report 2017/18	p. 3	✓
GRI 201:經濟成效 2016 GRI 201: Economic Performance 2016	201-1	機構所產生及分配的直接經濟價值 Direct economic value generated and distributed	機電工程署二零一七至一八年年報 EMSD Annual Report 2017/18	p. 3	✓
間接經濟影響 Indired	t Economic Imp	acts			
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		社會成效 Social Performance	p. 133–140	✓
GRI 203: 間接經濟 影響 2016 GRI 203: Indirect	203-1	基礎設施投資與支援性服務 Infrastructure investments and services supported	機電工程署二零一七至一八年年報 EMSD Annual Report 2017/18	p. 12–17, 70–75	✓
Economic Impacts 2016	203-2	重大間接經濟影響 Significant indirect economic impacts	社會成效 Social Performance	p. 133–140	✓
採購實務 Procureme	nt Practices				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 132	✓
GRI 204:採購實務 2016 GRI 204: Procurement Practices 2016	204-1	本地供應商採購的支出比例 Proportion of spending on local suppliers	物料供應分部的服務及產品主要購自本地供應商/承辦商或分銷商。海外供應商於2017/18 年度只佔大約 2%。 Acquisition of services and goods handled by Supplies sub-division are mainly from local suppliers/contractors or local agents. Only around 2% of suppliers are from overseas in 2017/18.	-	√
遵守市場行為法規 M	arket Behaviour	r Compliance			
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		可持續發展管理方針 Sustainability Management Approach	p. 112–113, 116	✓
GRI 206:反競爭行為 2016 GRI 206: Anti- competitive Behaviour 2016	206-1	就反競爭行為、反壟斷及壟斷獨營手法採取法律行動 Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	統計資料摘要 Summary of Statistics	p. 157	
環境 Environmental					
物料 Materials GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 127–128	✓
GRI 301: 物料 2016 GRI 301: Materials 2016	301-1	所採用原材料的重量或體積 Materials used by weight or volume	統計資料摘要 Summary of Statistics	p. 153	✓
能源 Energy					
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 130	✓
GRI 302:能源 2016 GRI 302: Energy 2016	302-1	機構內部的能源消耗量 Energy consumption within the organisation	環保成效 Environmental Performance 統計資料摘要 Summary of Statistics	p. 130–131 p. 153	✓

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水 Water					
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 130–132	✓
GRI 303: 水 2016 GRI 303: Water 2016	303-1	依來源劃分的總取水量 Total water withdrawal by source	環保成效 Environmental Performance 統計資料摘要 Summary of Statistics	p. 132 p. 153	✓
生物多樣性 Biodivers	ity				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 127–128	✓
GRI 304:生物多樣性 2016 GRI 304: Biodiversity 2016	304-1	機構所擁有、租賃、管理的營運 地點或其鄰近地區位於環境保護 區或其他高生物多樣性價值的地 區 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	所有營運點均不在環境保護區或其他具有高生物多樣性價值的地區或其毗鄰地區。 No operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	-	✓
排放物 Emissions					
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 129–130	✓
GRI 305:排放物2016 GRI 305: Emissions 2016	305-1	直接溫室氣體排放(範疇 1) Direct (Scope 1) GHG emissions	環保成效 Environmental Performance 統計資料摘要 Summary of Statistics	p. 129 P. 153	1
	305-2	能源間接溫室氣體排放(範疇 2) Energy indirect (Scope 2) GHG emissions	環保成效 Environmental Performance 統計資料摘要 Summary of Statistics	p. 129 P. 153	✓
污水及廢物 Effluent a	nd Wastes				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 128–129	✓
GRI 306:污水及 廢物 2016 GRI 306: Effluent and Vastes 2016	306-2	按類別及處置方法劃分的廢物 Waste by type and disposal method	環保成效 Environmental Performance 統計資料摘要 Summary of Statistics	p. 128–129 p. 153–154	✓
評估供應商的環境表	現 Supplier E	nvironmental Assessment			
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		環保成效 Environmental Performance	p. 132	✓
GRI 308:評估 供應商的環境 表現 2016 GRI 308: Supplier Environmental Assessment 2016	308-1	按照環境準則篩選的新供應商 New suppliers that were screened using environmental criteria	環保成效 Environmental Performance	p. 132	✓

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僱員關係 Employme	nt				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		社會成效 Social Performance	p. 145	✓
GRI 401:僱員關係 2016 GRI 401: Employment 2016	401-1	新入職員工及員工離職率 New employee hires and employee turnover	社會成效 Social Performance 統計資料摘要 Summary of Statistics	p. 145 p. 155–156	✓
	401-2	不提供予臨時或兼職員工的全職 員工福利 Benefits provided to full-time employees that are not provided to temporary or part-time employees	公務員及非公務員僱員根據自身的聘用條款,如符合相關規定及守則要求,均享有醫療及 牙醫服務、教育津貼、年假、房屋津貼等。 Employees appointed on civil service and non-civil service terms are entitled with medical and dental services, education allowance, leave and passage, housing benefit, etc. based on their employment terms, if they meet the eligibility criteria as stipulated in the relevant rules and regulations.	-	<i>√</i>
職業健康及安全Occi	ipational He	ealth and Safety			
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		社會成效 Social Performance	p. 141–142	✓
GRI 403:職業健康及 安全 2016 GRI 403: Occupational Health and Safety 2016	403-1	由勞資雙方組建的職工健康與安全委員會中員工代表所佔的百分比 Workers representation in formal joint management — worker health and safety committees	社會成效 Social Performance	p. 142	✓

p. 157

		Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities			
	403-3	因職業關係而發病率高或患病風 險高的工人 Workers with high incidence or high risk of diseases related to their occupation	2017/18 年度並無任何僱員組別存在重大的職業病風險。 In 2017/18, there is no specific group of employee who faces significant risk related to occupational disease.	-	✓
培訓與教育 Training	and Education				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		社會成效 Social Performance	p. 142–143	✓
GRI 404:培訓與教育 2016 GRI 404: Training and Education 2016	404-2	提升員工技能計劃及過渡支援計劃 Programmes for upgrading employee skills and transition assistance programmes	社會成效 Social Performance	p. 142–143	✓
多元化與平等機會 Di	versity and Equ	al Opportunity			
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		社會成效 Social Performance	p. 145	✓
GRI 405:多元化與 平等機會 2016 GRI 405: Diversity and Equal Opportunity 2016	405-1	管治機構及員工多樣性 Diversity of governance bodies and employees	社會成效 Social Performance 統計資料摘要 Summary of Statistics	p. 145 p. 155–156	✓

工傷類別及工傷率、職業疾病、 統計資料摘要

損失日數及缺勤和與工作相關死 Summary of Statistics 亡個案

全球報告倡議組織內容索引 GRI Content Index

強迫與強制性勞工 Fo	orced or Compu	ılsory Labour			
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2	,	社會成效 Social Performance	p. 143	✓
GRI 409:強迫與 強制性勞工 2016 GRI 409: Forced or Compulsory Labour 2016	409-1	強迫或強制勞工風險偏高的營運 活動及供應商 Operations and suppliers at significant risk for incidents of forced or compulsory labour	沒有發現任何營運點和供應商具有嚴重強迫 或強制勞工事件風險。 No operations and suppliers were identified to have high risk of forced or compulsory labour.	-	✓
保安政策 Security Pr	actices				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		社會成效 Social Performance	p. 141–142	✓
GRI 410:保安政策 2016 GRI 410: Security Practices 2016	410-1	保安人員接受人權政策或程序培訓 Security personnel trained in human rights policies or procedures	保安人員由我們的承辦商提供。他們必須遵守我們的職安健政策,並遵守本地所有職安健相關的法規。當工程控制方法已不可行時,他們必須向員工提供適當的個人防護設備作為最後方案。但是,有關人權政策或程序的正式培訓並不是保安人員的強制性要求。在資訊保安方面,我們的數據中心遵循ISO 27001 資訊保安系統。 The security personnel are provided by our contractor. They have to follow our Occupational Health and Safety policy and comply with all relevant local occupational health and safety legislation. They are required to provide appropriate personal protective equipment to employees as a last resort where engineering control methods are not feasible. However, formal training on human rights policies or procedures is not a mandatory requirement for our security personnel. For information security, our Data Centre follows the ISO 27001 Information Security System.		
客戶健康及安全 Cust	omer Health a	nd Safety	system.		
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2	·	可持續發展管理方針 Sustainability Management Approach	p. 115	√
GRI 416:客戶健康及 安全2016 GRI 416: Customer Health and Safety 2016	416-2	關於產品及服務健康與安全影響 的違規事件 Incidents of non-compliance concerning the health and safety impacts of products and services	統計資料摘要 Summary of Statistics	p. 158	1
客戶私隱 Customer P	rivacy				
GRI 103:管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3		可持續發展管理方針 Sustainability Management Approach	p. 115	✓
GRI 418:客戶私隱 2016 GRI 418: Customer Privacy 2016	418-1	關於違反客戶私隱和遺失客戶資料而證明屬實的投訴 Substantiated complaints concerning breaches of customer privacy and losses of customer data	統計資料摘要 Summary of Statistics	p. 158	√

統計資料摘要 Summary of Statistics

環境 Environment

	單位			
	Unit	2015/16	2016/17	2017/18
能源¹Energy¹				
柴油	升	139 926	133 184	91 618
Diesel	L	139 920	133 184	91018
汽油	升	351 939	324 864	335 126
Gasoline	L	331 333	324 004	333 120
電力	′000千瓦小時	14 998	14 521	11 894
Electricity	′000 kWh	14 990	14 321	11094
水 ² Water ²				
水	立方米	40.226	26.422	16.061
Water	m^3	40 226	36 422	16 061

機電署已於2017/18年度調整以下資料範圍,以涵蓋純粹機電署內部的碳排放、棄置量及物料消耗量。

EMSD has fine-tuned the following data scope in 2017/18 to cover the carbon emission, disposal and materials consumption by EMSD internal use only.

	單位	
	Unit	2017/18
溫室氣體排放³GHG Emissions³		
直接排放(範疇一)	噸	1.150
Direct Emissions (Scope 1)	tonnes	1 158
能源間接排放(範疇二)	噸	6.452
Energy Indirect Emissions (Scope 2)	tonnes	6 152
物料⁴ Material⁴		
紙張	令	25.070
Paper	ream	25 870
油漆及溶劑	升	1.40
Paint & Solvent	L	149
潤滑油	升	
Lubrication Oil	L	4 434
油脂	公斤	
Grease	kg	249
工業用氣體	立方米	
Industrial Gas	m^3	25
蓄電池電解液	升	
Battery Electrolyte	L	50
原子車胎	條	
Tubeless Tyre	No.	220
外車胎	條	
Outer Cover Tyre	No.	160
車胎內膽	條	
Inner Tube	No.	30

^{302-1 2 303-1}

^{305-1,305-2,}參考《香港建築物(商業、住宅或公共用途) 3 的溫室氣體排放及減除的審計和報告指引》(由環境保護 署及機電工程署發布)。

^{305-1, 305-2.} Made reference to the Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings of Commercial, Residential or Institutional Purposes in Hong Kong (by Environmental Protection Department & EMSD).

^{4 301-1 4 301-1}

統計資料摘要 Summary of Statistics

		201	17/18
	單位	棄置	回收
污水及廢物 5 Effluent and Wastes5	Unit	Disposed	Recycled
無害廢物 Non-hazardous Waste			
廢紙	公斤	6.005	26.421
Waste Paper	kg	6 895	26 431
鋁罐及金屬罐	個		27.062
Aluminium and Metal Cans	No.	_	27 063
膠樽	固		6.456
Plastic Bottles	No.	_	6 156
即棄電池	公斤		500
Disposable Batteries	kg	667	529
金屬廢料	公斤	40.007	
Metal Scraps	kg	13 897	5 691
有害廢物 Hazardous Waste			
碳粉盒	個		2.500
Toner Cartridges	No.	_	2 589
可充電電池	公斤		0.000
Rechargeable Batteries	kg	_	9 800
廢油	升		
Waste Oil	L	_	35 975
舊車胎	條		
Used Vehicle Tyre	No.	_	3 269
舊光管/含水銀照明燈	盏		7 170
Spent Fluorescent/Mercury Lamp	No.		7 179

5 306-2 5 306-2

Social 社會

僱員人數 6 Employees Statistics 6

	截至2018年3月31日	百分比
	As of 31 March 2018	Percentage
總人數Total Number	5 479	_
男女分佈 By Gender		
男性 Male	4 878	89.0%
女性Female	601	11.0%
合約類型分佈 By Employment Type		
常任制Permanent		
男性 Male	3 356	87.6%
女性Female	473	12.4%
合約制Contract		
男性 Male	1 522	92.2%
女性Female	128	7.8%
年齡分佈 By Age Group		
50 歲或以上 Aged over 50	1 668	30.4%
30-49 歲 Aged 30-49	2 579	47.1%
29歲或以下 Aged under 29	1 232	22.5%

2017/18 新入職員工⁷ 2017/18 New Hires⁷

	截至 2018 年 3 月 31 日 As of 31 March 2018	百分比 Percentage
總人數Total Number	708	佔總員工12.9% 12.9% of total employee
年齡分佈 By Age Group		
50 歲或以上 Aged over 50	152	21.5%
30-49	128	18.1%
29歲或以下 Aged under 29	428	60.5%
男女分佈 By Gender		
男性Male	638	90.1%
女性Female	70	9.9%

員工均在香港執勤。

^{6 102-8,405-1,}機電署並無聘用任何非僱員的工人,所有 6 102-8, 405-1. EMSD does not employ workers who are not employees. All staff are based in Hong Kong.

⁷ 401-1

統計資料摘要 Summary of Statistics

離職員工® Turnover®

	截至2018年3月31日	百分比
	As of 31 March 2018	Percentage
總人數Total Number	442	佔總員工8.1%
		8.1% of total employee
年齡分佈 By Age Group		
50 歲或以上 Aged over 50	316	71.5%
30-49 歲 Aged 30-49	21	4.8%
29歲或以下 Aged under 29	105	23.8%
男女分佈 By Gender		
男性Male	407	92.1%
女性Female	35	7.9%

管理層的結構⁹ Composition of Senior Management⁹

	截至2018年3月31日	百分比
	As of 31 March 2018	Percentage
總管理層人數Total Number of Senior Management Staff	145	佔總員工2.6%
		2.6% of total employee
年齡分佈 By Age Group		
50 歲或以上 Aged over 50	100	69.0%
30-49 歲 Aged 30-49	45	31.0%
29歲或以下 Aged under 29	0	0
男女分佈 By Gender		
男性Male	134	92.4%
女性 Female	11	7.6%

⁸ 401-1 ⁹ 401-1 ⁸ 401-1 ⁹ 401-1

職業健康及安全指標 10 Occupational Health and Safety Indicators 10

			2017/18
機電署員工 For EMSD Employees	工傷人數 11 Number of injuries 11	致命性Fatal	0
		非致命性Non-fatal	20
	工傷率 ¹² Injury rate ¹²	男性Male	每十萬工時 0.16 宗
			須呈報意外
			0.16 reportable accident per 100 000 man-hours
		女性Female	0
	職業病比率 Occupational disease rate	男性Male	0
		女性Female	0
	誤工率 ¹³ Lost day rate ¹³	男性Male	0.0036%
	·	女性Female	0
	缺勤率 14 Absentee rate 14		1.79%
	死亡人數 Number of fatalities	男性Male	0
		女性Female	0
機電署承辦商 For EMSD Contractors	工傷人數 Number of injuries	致命性Fatal	0
		非致命性Non-fatal	8
	工傷率 ¹⁵ Injury rate ¹⁵	每十萬	京工時0.14宗須呈報意外
		0.14 reportable accide	nt per 100 000 man-hours
	死亡人數 Number of fatalities	男性Male	0
		女性Female	0

- 10 403-2
- 報告涉及機電署人員工作時的任何意外・包括未導致給 予受傷人員病假的意外。
- ² 匯報期內總工傷人數與所有員工原訂的總工作時數之百 ¹² 分比。
- 一名或多名工人因工傷或患職業病而無法正常工作,引致的不能作業(以致「損失」)的時間(「日數」),有關數字表述為匯報期內總損失日數與所有員工原訂的總工作時數之百分比。
- 14 員工因任何類型的喪失工作能力,而並非純粹因工傷或 疾病缺勤,缺勤員工不包括正在休假、進修、產假或侍 產假和恩恤假獲許可缺勤的員工,有關數字表述為同一 時期所有員工原訂工作總日數之百分比。由於無法從電 子休假系統中檢索,因此未能提供性別細分的缺勤率。
- 由於沒有承辦商員工性別的數據,因此未能提供按承辦商性別細分的工傷率的數字。

- 10 403
- Any accident involving EMSD personnel on duty reported, including those accidents which have not resulted in the granting of any sick leave to the injured person.

- Frequency of injuries relative to the total number of hours scheduled to be worked by the workforce during the reporting period.
- Time ("days") that could not be worked (and is thus "lost") as a consequence of a worker or workers being unable to perform their usual work because of an occupational accident or disease. It is expressed by comparing the total lost days to the total number of hours scheduled to be worked by the workforce in the reporting period.
- An employee absent from work because of incapacity of any kind, not just as the result of work-related injury or disease. Permitted leave absences such as holidays, study, maternity or paternity leave, and compassionate leave are excluded. It is expressed as a percentage of total days scheduled to be worked by the workforce for the same period. Gender breakdown is not available due to the inability to retrieve from the e-Leave system.
- Gender breakdown for contractor injury rate is not available due to no available data for contractor staff gender.

統計資料摘要 Summary of Statistics

其他社會指標 Other Social Indicators

	單位			
	Unit	2015/16	2016/17	2017/18
須予呈報意外宗數	宗/千名員工	4.00	4.0	2.65
Reportable Accidents	No./1 000 staff	4.09	4.9	3.65
平均培訓日數(目標: 4.5) Average Training Days (Target: 4.5)	日/員工 Days/staff	4.37	5.41	5.29
就反競爭行為、反壟斷及壟斷獨營手法採取法律行動 ¹⁶ Legal Actions for Anti-competitive Behaviour, Anti-trust, and Monopoly Practices ¹⁶	案件數量 No. of case	未能提供數據 Figure not available		0
關於產品及服務健康與安全影響的違規事件 ¹⁷ Incidents of Non-compliance Concerning the Health and Safety Impacts of Products and Services ¹⁷	案件數量 No. of case		供數據 t available	0
關於違反客戶私隱和遺失客戶資料而證明屬實的投訴 ¹⁸ Substantiated Complaints Concerning Breaches of Customer Privacy and Losses of Customer Data ¹⁸	案件數量 No. of case		供數據 t available	0

16 206-1,首次在本報告新增的內容。

206-1 Newly covered in this Report.

17 416-2,首次在本報告新增的內容。

416-2 Newly covered in this Report.

418-1,首次在本報告新增的內容。

418-1 Newly covered in this Report.

核實聲明 Verification Statement



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獨立驗證聲明

簡介

香港德國萊茵技術監護顧問股份有限公司是德國萊茵TÜV集團成員(以下簡稱我們或TÜV萊茵),受香港特別 行政區機電工程署(以下簡稱該署)委託對《機電工程署2017/18年度社會及環保報告》(以下簡稱報告)進行 獨立驗證。是次驗證工作的合約內容由客戶訂立,而我們的工作是對《機電工程署2017/18年度社會及環保報告》 作出公正和合適的評價。

本驗證聲明的讀者對象是關注機電工程署在2017/18年度(即2017年4月1日至2018年3月31日)社會及環保整體表現及受該署工作影響的持份者。我們在驗證過程中完全公正獨立,亦沒有參與報告的編撰工作。

驗證範圍:

驗證內容包括:

- 按照全球報告倡議組織GRI準則:核心選項的要求,驗證該署在報告中所述的社會及環保表現;以及
- 採用下述驗證方法評估報告披露的資料。

限制:

驗證過程於香港九龍啟成街3號機電工程署總部大樓進行。我們沒有諮詢外間持份者,亦沒有發現任何或會限制驗證工作的重大問題。我們是根據(i)機電工程署提供的數據和資料(假設有關數據和資料完整無誤);以及(ii)與機電工程署編撰報告團隊會面所得資料(假設他們提供的資料可靠)進行是次驗證。

驗證方法:

是次獨立驗證採用現今最佳的做法。報告按照全球報告倡議組織制訂的匯報原則和準則進行檢核。

 $T\ddot{U}V$ 萊茵已詳閱報告內容,並評估該署在披露有關社會及環保表現的資料/數據的整個過程。我們根據上述匯報原則和準則,客觀地檢核報告內的資料並作出評價。

我們按照驗證工作的合約條款,透過隨機抽樣進行分析、會面及數據核證,證明及確認報告內的數據和內容。我們亦已會見機電工程署及編撰報告團隊的代表。報告內所有數據均備有文件佐證、由人員直接確認及來自經核證的數據庫,全部可予核實,因此我們認為上述做法可有效驗證報告內容。

是次驗證由我們的跨界別專家團隊負責,他們在企業可持續發展、環境、社會和持份者參與等領域具有豐富經驗。 根據合約內容,我們從驗證工作所得的資料足以支持以下結論。TÜV萊茵毋須就第三方依據此份驗證聲明對機電 工程署作出的看法和決策承擔任何責任。

結論:

我們沒有發現任何事件或資料牴觸以下陳述:

- 《機電工程署2017/18年度社會及環保報告》符合依循全球報告倡議組織報告GRI準則:核心選項進行編製的要求。
- 報告內有關表現的數據以有系統和專業的方式收集、貯存和分析,我們認為可合理地反映該署的表現。
- 報告已充分說明蒐集和披露資料的限制以及遺漏。

香港德國萊茵技術監護顧問股份有限公司代表



劉佳 主任核證員 大中華區體系部 2018 年 10 月 10 日

核實聲明 Verification Statement



Independent Assurance Statement

Introduction:

TÜV Rheinland Hong Kong Limited, member of TÜV Rheinland Group, Germany (TÜV, We) has been commissioned by the Electrical and Mechanical Services Department (EMSD) of the Hong Kong Special Administrative Region (HKSAR) to conduct independent assurance of EMSD's Social and Environmental Report 2017/18 (the Report). All contractual contents for this assurance engagement rest within the responsibility of the client. Our task was to give a fair and adequate judgment on EMSD's Social and Environmental Report 2017/18.

The intended readers of this assurance statement are stakeholders having relevance to EMSD's overall social and environmental performance and impacts of its operations during 2017/18 (1 April 2017 to 31 March 2018). We have maintained complete impartiality and independence during the assurance engagement and were not involved in the preparation of report contents.

Scope of Assurance:

Our Assurance engagement covers the following:

- EMSD's social and environmental performance as described in the Report in accordance with Global Reporting Initiative (GRI) Standards: Core Options; and
- Evaluation of disclosed information in the Report as per the Assurance Methodology.

Limitation:

The assurance engagement was carried out at EMSD Headquarters at 3 Kai Shing Street, Kowloon, Hong Kong. The consultations with external stakeholders were not carried out. We did not observe any significant situations to limit our assurance activity. The verification is carried out based on (i) the data and information provided by EMSD, assuming they are complete and true; and (ii) interview of the EMSD's report preparation team, assuming information reliable.

Assurance Methodology:

The Independent Assurance was carried out based on the current best practices and the Report was reviewed against the GRI reporting principles and standards.

TÜV has examined the report contents and assessed the process undertaken by EMSD from source to aggregate in disclosure of information/data related to social and environmental performance. Our judgment is based on the objective review of reported information as per the assurance principles and standards.

Analytical methods and the performance of interviews as well as verification of data, were done by random sampling to verify and validate the correctness of reported data and contents in light of contractual assurance agreement. Our work included interviewing EMSD representatives and report preparation staff. The approach deemed to be appropriate for the purpose of assurance of the Report since all data therein could be verified through document evidences, staff direct response and verified database entries.

The Assurance was performed by our multidisciplinary team of experienced professionals in the field of Corporate Sustainability, Environment, Social and Stakeholder Engagement. Based on the content of our contract, our work offers a sufficient and substantiated basis to enable us to come to a conclusion mentioned below. TÜV Rheinland shall not bear any liability or responsibility to a third party for perception and decision about EMSD based on this Assurance Statement.

Conclusion

In conclusion, we can mention that no instances or information came to our attention that would be to the contrary of the statement made below:

- EMSD Social and Environmental Report 2017/18 meets the requirement of GRI Standards: Core Options.
- The performance data we found in the Report are collected, stored and analyzed in a systematic and professional manner and were reasonable.
- . The limitation of information collection, disclosure and its omission have been clearly explained and stated in the Report.

For and on behalf of TÜV Rheinland Hong Kong Ltd.



Jasmine Liu Lead Verifier Systems Greater China Date: 10 October 2018

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建築署 Architectural Services Department

民航處 Civil Aviation Department

懲教署 Correctional Services Department

衞生署 Department of Health

環境保護署 Environmental Protection Department

食物環境衞生署 Food and Environmental Hygiene Department

政府產業署 Government Property Agency

路政署 Highways Department

香港兒童醫院 Hong Kong Children's Hospital

香港消防處 Hong Kong Fire Services Department

香港天文台 Hong Kong Observatory

香港郵政 Hongkong Post

醫院管理局 Hospital Authority

司法機構 Judiciary

康樂及文化事務署 Leisure and Cultural Services Department

海事處 Marine Department

昂坪 360 有限公司 Ngong Ping 360 Limited

海洋公園 Ocean Park Corporation

The Entertainment Corporation Limited The Entertainment Corporation Limited

中華煤氣有限公司 The Hong Kong and China Gas Company Limited

天水圍醫院 Tin Shui Wai Hospital

運輸署 Transport Department



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