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CEO'S MESSAGE 行政總裁的話

Welcome to the October 2017 issue of JEC Magazine.

Among our customers and across the world, sustainability, environmental protection, climate change and ecological footprint are increasingly significant considerations in both strategy and operations.

Looking over the services that JEC offers, and the way that we operate as a business, I am proud that our commitment to providing and delivering sustainable solutions is such a deeply ingrained part of what we do.

The breadth and depth of our engineering and product sourcing expertise means we can help customers achieve their sustainability goals – lowering the environmental impact of delivered systems through technologies and design, optimally employing recycled resources, and managing projects to avoid waste and pollution.

Complementing the engineering projects we deliver, our internal business practice is always sustainability-conscious.

We recently joined the Business Environment Council's "Fostering Sustainable Consumption for Hong Kong Business and the Community" Programme, becoming a "Sustainable Consumption Enterprise" and a "Sustainable Product Supplier", reflecting our green practices and product portfolio.

In July, we were delighted to have Mr Richard Lancaster, CEO of CLP Group, share his insights on developing a strategy on sustainability based on the risks and opportunities arising from climate change, at our annual Speaker Luncheon.

In the long term, JEC is committed to the sustainable development of our people and the engineering industry as a whole. Our 2015 intake of management trainees recently began work as engineers, reinforcing the talent pool that always underpins this company.

Additionally, we presented our 12th Outstanding Engineering Project Awards to engineering students who have developed practical and innovative engineering solutions to a wide range of challenges. We wish to play our part in inspiring future engineers to embrace change and cultivate an innovative spirit to ensure a sustainable future for our communities.

I hope you will enjoy reading this issue of magazine.

歡迎閱讀2017年10月號怡和機器雜誌。

無論是我們的客戶以至全球各地機構，在經營策略及營運上愈趨關注可持續發展、環保、氣候變化及生態足跡等議題。

一直以來，怡和機器所提供的服務及業務營運模式，皆秉持可持續發展的原則，對此我引以為傲。

憑藉我們精湛的技術專長和一應俱全的產品採購服務，我們得以協助客戶實現他們的可持續目標——透過科技及設計減少系統對環境的影響、善用再循環資源，以及有效地管理項目以減少廢物和污染。

除了工程項目外，我們的經營理念亦一直強調可持續性。

最近，怡和機器參加了商界環保協會的「推動香港商界及社區可持續消費」計劃，並成為「支持可持續消費行為企業」及「可持續產品供應商」，推廣我們的環保實務及產品組合。

今年7月，我們很榮幸邀請到中電集團首席執行官藍凌志先生，於我們的客戶及業務夥伴年度午宴上，分享他基於氣候變化所帶來的挑戰和機遇而訂立的持續發展策略。

長遠而言，怡和機器致力為員工創造價值，並推動整個工程業界的可持續發展。我們的2015年度管理培訓生最近晉身工程師行列，進一步擴大了公司的團隊規模。

此外，我們亦頒發了第12屆傑出工程項目獎，以表揚工程系學生們研發的實用和創新的工程解決方案。我們希望透過此獎項鼓勵未來的工程師尋求創新，不斷改進，為我們的社區建設可持續發展的未來。

希望各位喜歡今期雜誌的內容。

Wilson Kwong
鄺永銓

Saving the Environment, One Step at a Time —JEC Helps Customers Foster Sustainability

保護環境 循序引領
——怡和機器與客戶攜手推動可持續發展



Many private and public sector organisations are coming under increasing pressure to behave in a more socially responsible manner, not only in the way they treat their stakeholders and conduct themselves. But also in how they manage their environmental impacts — the 'E' in Environmental, Social and Governance (ESG) criteria.

許多公私營機構正面對更大的挑戰，推動他們履行更多社會責任，當中不但涉及經營業務和對待持份者的方式，還包括如何管控這些因素對環境所造成的影響——即ESG（環境、社會及管治）中的環境範疇。

This is particularly true for organisations whose operations might affect the health, safety and wellbeing of the community. At JEC, we can help these organisations to achieve their environmental sustainability objectives in the following three areas:

- Energy: carbon emission and consumption control
- Water: water saving and enhancement of water quality and usage
- Waste: convert waste to energy, waste reutilisation for optimal usage

這一點對部分機構而言尤為重要，因為他們的營運作業有機會影響到公眾的健康、安全和福祉。怡和機器能從以下三方面著手，協助他們實踐環境可持續發展的目標：

- 能源：控制碳排放和耗能
- 用水：節約用水、改善水質和善用水資源
- 廢物：轉廢為能、廢物再用以達致最有效的運用



Staying Cool While Saving Energy 節能但不減涼意



▲ Perspective of M+ Building
M+大樓設計圖

Most new buildings are far more energy-efficient than even a decade ago, meanwhile existing structures and major building service installations can be retrofitted to achieve substantial gains in terms of energy savings and lowered carbon emissions.

JEC has extensive experience in chiller upgrades in Hong Kong, working on various Hongkong Land, Swire and MTR properties to help their owners comply with the new energy efficiency standard.

For Hongkong Land, we have assisted in the first cycle of chillers upgrade in its Central portfolio and recently we are conducting the second cycle at Exchange Square. In this latter project, we are supplying and installing three Trane centrifugal chillers, including two 1,000TR (ton of refrigeration) chillers for heating and cooling purpose and another 2,000TR chiller for cooling purpose, as well as a new chiller plant control system for optimum energy-efficiency.

What makes the Trane chillers so much more efficient is their use of low-pressure refrigerant, which consumes less energy and achieves a higher coefficient of performance. In addition to its efficient cooling properties, the 1,000TR chiller has a heat recovery function, offering further energy savings. Another advantage of the environmentally-balanced low-pressure refrigerant is that it counts towards LEED accreditation under the Enhanced Refrigerant Management Calculation (EAc4).

The chiller replacement project for Exchange Square, which got underway in October 2016, is scheduled for completion in the first quarter of 2018.

We have also been engaged to provide four sets of 1,100TR CenTraVac™ HFO chillers for the M+ Building project at West Kowloon Cultural District, utilising next generation HFO refrigerant. The new 60,000 m² museum, scheduled to open in 2019, is currently under development on Hong Kong's Kowloon waterfront.



▲ New CenTraVac™ HFO chiller
嶄新的CenTraVac™ HFO製冷機

These brand-new HFO chillers will be capable of providing 4,400TR of chilled water to M+ building facilities with R-1233zd refrigerants, offering near-zero direct Global Warming Potential (GWP) levels, a 9.4% improvement in thermodynamic fluid efficiency as well as a 35% gain in cooling capacity change. While HFO chillers are currently in use in many large infrastructure projects across Europe, the Middle East and Japan, this project will be one of the largest HFO chiller installations in Hong Kong.

大部分新建樓宇的能源效益已較十多年前為佳，而現存樓宇的結構及主要屋宇裝備亦可進行改裝，從而在節能和降低碳排放方面取得成效。

怡和機器於製冷機組更新工程方面經驗豐富，為多個置地公司、太古和港鐵物業進行改裝，以符合新的能源效益標準。



▲ Exchange Square
交易廣場

我們曾為置地公司的中環物業進行製冷機組更新工程，近期亦再度為交易廣場提升空調系統，包括供應及安裝三部特靈的離心式製冷機組，當中兩部為1,000冷噸供暖及供冷用離心機，餘下一部則為2,000冷噸供冷用離心機；另加全新的製冷機組控制系統，務求達致最佳能源效益。

特靈製冷機之所以帶來更高的能源效益，在於機組採用了低壓雪種，其耗能較少且效能系數更高。除了製冷性能出色外，該部1,000冷噸製冷機組亦具備了熱回收功能，有助進一步節約能源。環保的低壓雪種還有一項優點，就是符合領先能源與環境設計（LEED）認證中「更佳冷媒管理」（能源及大氣評分項目4）的要求。

為交易廣場更換製冷機組的項目已於2016年10月展開，預定於2018年首季完成。

此外，我們亦為西九龍文化區M+大樓，供應四部採用新世代HFO雪種的1,100冷噸CenTraVac™ HFO製冷機組。這座佔地共60,000平方米的全新博物館正於九龍海濱興建中，預計於2019年對外開放。

嶄新的HFO製冷機組採用了R-1233zd雪種，為M+大樓設施提供4,400冷噸凍水。該雪種的全球變暖潛能值（GWP）接近零，同時亦提升熱力流體效率達9.4%，並把製冷量增加35%。HFO製冷機已廣泛用於歐洲、中東和日本等地多個大型基建項目，而M+項目成為全港其中一個最大型的HFO製冷機組安裝工程。



Cleaner Water for a Greener Environment 水更潔淨 環境更綠

In Hong Kong, access to clean water is not widely considered to be a serious environmental concern. Yet keeping the supply of water and our surrounding water free from contamination is critical.

One example of a clean-water project is the water filtration system we are installing for all the water-related attractions at Ocean Park's new Water World. For this project, we are supplying water filtration system and disinfection plants for 11 pools, rivers, slides, waves and other facilities. Features of the system include a water circulation pumping system, UV disinfection system, ozone system, chlorine generation system, chemical dosing and aquatic management control system.



▲ Perspective of an outdoor wave pool of Ocean Park Water World
海洋公園水上樂園戶外衝浪池構思圖

At the heart of this new system is a ground-breaking regenerative media filter known as the Defender, which uses ultrafine volcanic perlite powder to better trap dirt. Each Defender filter also has a greatly-reduced footprint, requiring only one-fifth of the space needed for old sand filtration systems of the same capacity. Other environmental benefits include backwash water savings of up to 90% and energy savings of about 50%. What's more, the Defender is capable of removing particles down to 1 micron, which means less fuel and fewer chemicals are required.

A total of 13 Defender filter units will be installed at the new Water World, which is targeted for completion in the first half of 2019.

Another water project now being carried out by JEC is the design and construction of the Putatan Water Treatment Plant 2 in the Philippines. Due to increased service demand, additional treatment capacity is needed at this plant for providing up to 150 million litres per day of potable water. To meet this demand, we have partnered with technology experts to build Plant No. 2 and treat incoming raw water from Laguna de Bay. At the plant, we are installing advanced ultra-filtration technology that makes use of hydrostatic pressure and reverse osmosis, a technique similar to that employed in desalination. Through this project we are helping the local community obtain a sufficient supply of potable water.

JEC also has capabilities in sewage waste treatment, including the provision of E&M Facilities for the Shek Wu Hui Sewage Treatment Works (STW) expansion plan.

在香港，獲取潔淨水源暫未算是重要的環保議題。然而，要保持供水及附近水域不受污染才是主要考慮。

其中一項淨水項目，是為海洋公園全新水上樂園所有需要用水的景點裝設過濾系統。我們為園內11個游泳池、漂流河、滑水梯、衝浪池以及其他設施等供應過濾系統及消毒設施，當中包括循環泵水、紫外光消毒、臭氧處理、氯化、化學處理及水質管控等系統。

新系統的核心，是創新的再生介質過濾器 Defender。Defender採用的超細火山珍珠岩未能更有效地隔濾污染物；其體積亦較細小，佔地僅傳統砂缸的五分之一。至於其他對環境的好處，包括減少高達九成的回洗用水，以及節省約五成用電。更重要的是，Defender能夠清除水中小至1微米的顆粒，這等於可減少燃料和化學品用量。

我們將為新的水上樂園安裝合共13個 Defender過濾器，而整個樂園預計於2019年上半年落成。

另一項怡和機器正在施工的水資源項目，是設計和興建菲律賓 Putatan 食水處理廠二期。隨著需求增加，食水廠需要加大處理能力以提供高達每日 1.5 億公升的食水。為達成目標，我們與技術夥伴合力興建食水廠二期，以處理來自貝湖的原水。此項目採用先進的超過濾技術，利用靜水壓和逆滲透裝置進行過濾，與海水淡化所運用的技術相似。我們希望透過新的食水廠協助當地居民獲得足夠的食水。

除此之外，怡和機器亦有承辦污水處理項目，包括為石湖墟污水處理廠擴建計劃提供機電設施。



► Regenerative media filter - Defender
再生介質過濾器Defender

Having completed the original upgrading works for the plant in 2001, JEC was asked to undertake the advance works for its new expansion project phase 1A as the existing STW facilities were reaching their design capacity owing to population growth in the catchment area. To meet the increased demand, the Drainage Services Department decided to upgrade the STW in phases to increase its treatment capacity. The scope of works for this project calls for JEC to convert the existing bioreactor and final sedimentation tanks into membrane bioreactor, helping to upgrade the effluent standards and increase the plant's treatment capacity by 20,000m³/day. Phase 1A Advance Works for the STW began in mid-2015 and are scheduled for completion in the fourth quarter of 2018.



▲ Shek Wu Hui Sewage Treatment Works
石湖墟污水處理廠

In another project for the Shek Wu Hui STW, JEC designed and constructed Hong Kong's first reclaimed water treatment plant. Equipped with ultrafiltration membrane technology and a disinfection system, it removes particulates and macromolecules from the raw water. The reclaimed water is then available for non-potable usage in nearby schools and an elderly home.



New Energy from Old 轉廢為能

Two of the most pressing environmental challenges we face today are finding sources of clean, renewable energy and minimising the dangers of biogas.

In mainland China, we have worked in partnership with Cummins, a leading international supplier of power generation equipment, to provide biogas conversion facilities. For Shandong Zhenlong, one of China's biggest alcohol manufacturers, we helped to design, supply and install a combined Cooling, Heating and Power (CCHP) system. We installed two 2,000kW biogas engine generators along with selected absorption chillers and other associated equipment, making use of the biogas from distillery to fuel the CCHP gas genset. This was the first biogas project involving a Cummins product in China.



▲ Shandong Zhenlong Alcohol Plant
山東振龍酒廠



▲ Cummins gas generator
康明斯燃氣發電機

繼2001年為原有廠房完成升級工程後，怡和機器獲委任承辦污水廠擴建項目第1A期的前期工程；隨著服務地區的人口增加，污水廠現有設施的處理量已接近飽和，為應付需求，渠務署決定分階段擴建廠房以提升其處理能力。怡和機器在項目中負責把現有的生物反應器和最後沉澱池更換成薄膜生物反應器，協助提升污水排放標準，並將每日的處理量提高20,000立方米。第1A期的前期工程已於2015年中展開，預計於2018年第四季完成。

在石湖墟污水處理廠裡，怡和機器亦設計和建設了全港首個再造水處理設施。設施採用超過濾薄膜技術並裝設了消毒系統，可清除原水中的微粒和聚合物，所生產的再造水可供鄰近的學校和安老院舍作非飲用用途。

目前我們正面對兩個迫切的環境挑戰，一是尋找清潔、可再生能源的來源，二是減少沼氣所帶來的危險。

為此，怡和機器與國際領先的發電設備供應商康明斯合作，提供沼氣轉化設施。早前，我們為中國內地其中一間最大的酒精製造商山東振龍酒廠設計、供應和安裝燃氣三聯供系統。我們安裝了兩個2,000千瓦的沼氣引擎發電機組和吸收式製冷機及其他相關設備，利用廠房產生的沼氣為三聯供發電機組提供燃料。這是首個在中國使用康明斯產品的沼氣項目。

We also partnered with Cummins on a project for a Petro-chemical Plant at Shaoxing, converting biogas produced from the plant to fuel Cummins' low-BTU gas gensets.

In Hong Kong, the government is dealing with the potential hazards associated with migrating landfill gas (LFG). The Environmental Protection Department, for instance, is currently using landfill gas at three landfill sites (in the West New Territories Landfill, South East New Territories Landfill and North East New Territories) to generate energy.

JEC fully supports this initiative and we have a professional team poised to take up any challenge, bringing Cummins's international experience in the same area to Hong Kong, so as to help the city make use of LFG for power generation. Our services in this area range from the design, supply and installation of gas generators to the construction of gas pipelines and the system for remote operation of the entire plant.

我們亦曾與康明斯為紹興市的石化工廠提供設備，利用廠內產生的沼氣作為康明斯低BTU燃氣發電機組的燃料。

在香港，政府正應對與堆填氣體飄移有關的潛在危險，例如環境保護署便正在三個堆填區（新界西、新界東南及新界東北）使用堆填區的沼氣生產能源。

怡和機器全力支持這項措施，我們的專業團隊亦已準備就緒，把康明斯在同類項目上的國際經驗帶到香港，以善用堆填區的沼氣發電。從設計、供應及安裝燃氣發電機組，以至建設輸氣管和機組遠程操作系統，我們均能提供全面的解決方案。



Next Steps For a More Sustainable Future 邁向可持續發展的未來

The United Nations has defined sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The Government of the Hong Kong SAR recognises the importance of this objective and has published its Climate Action Plan 2030+ to meet the key provisions of the Paris Agreement, including the reduction of our carbon intensity by 65% to 70%, using 2005 as the base.

This may be a daunting task. But at JEC we have the experience, the capabilities and technology that can help Hong Kong achieve its environmental targets while enabling clients to reach their sustainability goals. In doing so, we hope to create a sustainable living environment for future generations, both here in Hong Kong and across the APAC region.

聯合國將可持續發展定義為「既能滿足當代的需要，而同時又不損及下一代需要的發展模式」。香港特區政府意識到此目標的重要性，並發表了《香港氣候行動藍圖2030+》，以符合《巴黎協議》的主要規定，其中包括相對於2005年基礎年，碳強度能減少65%至70%。

這是一項艱鉅的任務；然而怡和機器擁有經驗、能力和技術，在推動香港實現願景同時，亦能協助客戶達成其可持續發展的目標，為香港以至整個亞太地區創造可持續的生活環境。

Green Products for Sustainable Society

綠色產品 貢獻可持續發展

With environmental sustainability being a priority in JEC's operations, we are proud to become a "Sustainable Consumption Enterprise" and a "Sustainable Product Supplier" under the "Fostering Sustainable Consumption for Hong Kong Business and the Community" Programme by the Business Environment Council (BEC) in 2017, where our green product portfolio will be introduced to the public. Below are some of the green products:



怡和機器在營運業務時一向十分重視環境的可持續性。我們很榮幸成為今年商界環保協會（BEC）「推動香港商界及社區可持續消費計劃」之「支持可持續消費行為企業」和「可持續產品供應商」，讓怡和機器得以向公眾介紹一系列的綠色產品和方案，以下為部份綠色產品：



Activated Carbon Fibre V Filter for Air Purification 活性碳纖維V型空氣淨化過濾網

With high activity activated carbon fibre (ACF) manufactured using unique spinning and activation technology, the filter has the highest removal efficiency for contaminants. Unlike other carbon filter with adhesive or other bonding materials, it provides the highest surface area of the activated carbon exposed to contaminants which can be regenerated.

活性碳纖維V型空氣淨化過濾網利用其獨特的活性碳纖維激活技術，能有效去除污染物。有別於其他黏附性活性碳過濾網或黏接物料，此過濾網能為活性碳提供最大的表面面積接觸空氣污染物並可再生重用。

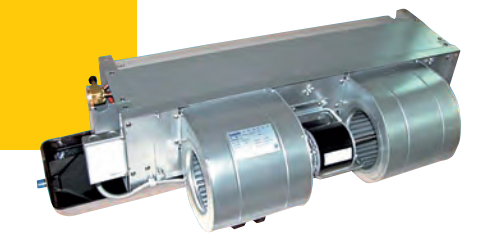
Eco-friendly features 環保特色

- 99% activated carbon without binder
- Able to remove both organic and non-organic gases
- With superior adsorption kinetics (10 times higher than granular)
- Able to regenerate for reuse
- 99%活性碳沒有黏合劑
- 能去除有機及無機氣體
- 具卓越的吸附動力（比活性碳顆粒高10倍）
- 可再生重用

Seasons FT Series Rear Flange Fan Coil 西臣仕FT系列後法蘭風機盤管機組

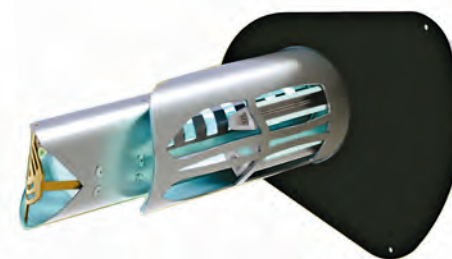
Seasons offers a full series of fan coil unit which is rear flange designed and easy to install, clean and maintain. It is more energy-saving, quiet, durable, stable, environmental friendly, precise, smooth, and can be handled by non-professionals.

西臣仕FT系列風機盤管採用後法蘭設計，使其容易安裝、清潔和保養。其特點是節約能源、寧靜、耐用、穩定、環保、精密及運作流暢，一般普通人員均可處理。



Eco-friendly features 環保特色

- With EC variable frequency motor, the green energy conversion rate of the unit reached 80% while that of a traditional AC unit is 40%
- Saves up to 60% of energy when compared with traditional AC unit
- 機組配備電子整流變頻馬達，其環保能源轉換率可達到80%，而傳統交流電機的環保能源轉換率則約40%
- 與傳統交流電機相比，可節省多達60%能源



RGF Duct Type Air Purifier RGF管道式空氣淨化器

Photohydroionisation (PHI) is an advanced photo-catalytic oxidation technology developed by RGF to reduce sick building syndrome risks. The HVAC-PHI Cells are easily mounted into air conditioning and heating system air ducts where many sick building problems start.

RGF以專利的PHI技術設計了一系列專為中央空調系統使用的空氣淨化器，PHI是一項先進的光催化氧化科技，只需把空氣淨化器安裝在空調系統的通風管道中，淨化器產生的PHI淨化氣體會隨着流過的空氣進入到各房間中，主動淨化室內空氣以降低患上病態樓宇綜合症的風險。

Eco-friendly features 環保特色

- With RGF HVAC PHI Cell Advanced Oxidation System, micro-organisms can be reduced by over 93%
- Significantly reducing odours, air pollutants, volatile organic compounds (VOCs), smoke, mold, viruses and bacteria
- PHI淨化因子能夠減少空氣中超過93%的微生物
- 可去除異味、污染物、揮發性有機化合物、煙霧、霉菌、病毒及細菌等

Marley NC Everest Cooling Tower 馬利NC Everest冷卻塔

Marley NC Everest provides epic customer advantages, including greater cooling capacity, higher energy savings, fewer components and lower maintenance costs.

馬利NC Everest為客戶帶來之優勢，包括提升冷卻能力、節省更多能源、採用更少的組件和更低的保養成本。



Eco-friendly features 環保特色

- Gains up to 50% more cooling capacity and get the highest performance available when compared to other single-cell, factory-assembled cooling towers
- Uses up to 35% less fan power/ton of cooling to achieve higher energy savings
- Patent-pending Markey™ Drift Eliminators achieve the lowest measurable drift rate down to 0.0005% of circulating water flow, such that less water escapes from the tower

- 與其他工廠組裝單台冷卻塔相比，其冷卻能力最高提升50%並且可發揮最高性能
- 可降低高達35%的風機能源消耗，實現更高效的節能效果
- 專利申請中之Markey™收水器可實現最低可測漂移率低至迴圈水流量的0.0005%，使漂移損失更少



Photovoltaics Panels 光伏太陽能板

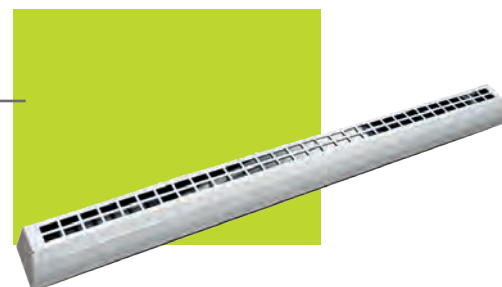
JEC provides an all-in-one service for installing photovoltaics (PV) systems including PV panels, inverter and monitoring system. Our all-rounded support from planning, implementation, commission to maintenance and system renovation makes sure that a reliable and commercially viable solution is delivered to our customers.

怡和機器提供一站式光伏太陽能系統的安裝服務，包括光伏太陽能板、變流器以及監控系統等，從策劃、安裝、調試、保養以至系統翻新，為客戶帶來可靠和具商業價值的方案。

RGF Mini Split PHI Cell RGF微型空氣淨化器

The Mini Split PHI Cell by RGF is designed to eliminate sick building syndrome risks by reducing odours, air pollutants, VOCs, smoke, mold bacteria and viruses. The system is easily mounted onto air conditioning unit without modification of the unit using hook and loop adhesive strips.

RGF微型空氣淨化器專為淨化室內空氣，減少異味、污染物、揮發性有機化合物、煙霧、病毒和細菌而設計，此淨化器可用鈎環膠帶簡易安裝到冷氣機上。



Eco-friendly features 環保特色

- The mini split incorporates its own pull out reusable copper/silver ionic germicidal electro static filter
- Creates an Advanced Oxidation Process consisting of hydro-peroxides, super oxide ions and hydroxide ions, which revert back to oxygen and hydrogen after the oxidation of the pollutant when a HVAC system is in operation

- 配備可重用的銅或銀離子殺菌靜電過濾器
- 於暖通空調系統運作時透過先進氧化技術產生過氧化氫、超氧離子及氫氧離子，從而將空氣污染物氧化成氧和氫

Liantang/ Heung Yuen Wai Sewage Treatment Plant Achieves Provisional Platinum Rating under BEAM Plus New Building V1.2

蓮塘/香園圍口岸污水處理廠榮獲綠建環評新建建築（1.2版）暫定鉑金級

JEC completed the design of E&M system for the Sewage Treatment Plant (STP) at Liantang/ Heung Yuen Wai Boundary Control Point (BCP). Together with some other architectural and landscape features, it is recognised as the first STP project in Hong Kong which achieved Provisional Platinum rating under BEAM Plus New Building V1.2.

As a design and build E&M contractor, JEC designs and installs membrane bioreactor for the STP to recycle 50% of municipal wastewater collected from BCP and the re-sited Chuk Yuen Village, which promises high quality treated effluent for reuse as irrigation water or discharge the surplus to Shenzhen River. Besides, we take the major role in supplying and installing E&M green features in the STP, such as photovoltaic panel, deodorisation system, LED lighting and water saving irrigation system, etc.

早前，怡和機器為蓮塘/香園圍口岸污水處理廠完成機電系統的設計。連同其他建築及園景設計，這項工程獲甄選為香港首個榮獲綠建環評新建建築（1.2版）暫定鉑金級的污水廠項目。

作為設計連建造機電工程之承辦商，怡和機器為污水廠設計及安裝薄膜生物反應器，將從蓮塘/香園圍口岸及竹園村遷置區收集的一半污水處理至再用水規格，作綠化灌溉或將剩餘的排入深圳河中。

此外，我們亦負責供應及安裝綠化機電設施，例如光伏太陽能板、除臭系統、LED照明系統以及節水灌溉系統等。



JEC Secured Improvement, Operation and Maintenance Contract for Ngau Tam Mei Animal Waste Composting Plant

怡和機器獲得牛潭尾動物廢料堆肥廠的改善、營運和維修合約

Preceded by the upgrading works in 2015, JEC secured a new contract for the improvement, operation and maintenance works at Ngau Tam Mei Animal Waste Composting Plant. The major improvement works include the construction of superstructure for new enclosed organic waste unloading bay, the provision of a wastewater treatment plant using membrane biological reactor, an underground pig waste container complete, deodorisation systems with active carbon filters, as well as new Programmable Logic Controller and Supervisory Control and Data Acquisition systems. JEC also takes charge of the collection services of livestock and yard waste for composting treatment. In all, our improvement works will help to optimise the composting treatment process such that the treatment capacity can be maximised at 40 tonnes per day.

The contract commenced in July 2017 and is due to complete in 2024.

繼2015年的改善工程之後，怡和機器再度獲得牛潭尾動物廢料堆肥廠的工程合約，負責廠房的改善、營運和維修。主要的改善工程包括：為新的密封式生物廢料卸料區興建上蓋；提供裝設了薄膜生物反應器的污水處理設施、地下豬隻廢料收集系統和配備活性碳過濾器的除臭系統，以及安裝新的可編程邏輯控制器和監控及數據收集系統。怡和機器亦會負責收集禽畜及園林廢物供堆肥之用。是次改善工程將有助優化堆肥處理過程，以提升處理量至每日最多40公噸。

項目已於今年7月展開，預計於2024年完成。



JEC Thailand Provides New Air-Conditioning System to Chatrium Residence Sathon

泰國怡和機器為察殿曼谷沙吞酒店式公寓提供全新空調系統

JEC Thailand has been awarded the contract for the renovation of air-conditioning system at Chatrium Residence Sathon, which is located near the central business area of Sathon and Silom Roads in Bangkok. Occupying a total area of 82,500m², the 4-star hotel comprises 7 octagonal buildings, offering a total of 560 rooms for short-term and long-term residence and a variety of facilities.

The project is due to complete in September 2019.

泰國怡和機器獲察殿集團委任為旗下曼谷沙吞酒店式公寓更新空調系統。該面積達82,500平方米的四星級酒店毗鄰曼谷沙吞路和是隆路的中心商業區，由7幢八角形大廈組成，提供一系列設施及560間客房供短期及長期租住。

此項目預計於2019年9月完成。



JEC Thailand Awarded M&E Contracts for Carpark of The Mall Bangkai

泰國怡和機器獲得The Mall Bangkai停車場之機電工程合約

JEC Thailand got another contract win from The Mall Bangkai to supply, install, test and commission the electrical & communication system, sanitary & fire protection system, and air-conditioning & ventilation system for its carpark.

Located at Petchkasem Road with a total area of 67,709 m², the shopping mall is sectioned into various themed zones where visitors can enjoy sweeping city views of Bangkok and its carpark offers almost 1,500 parking spaces.

The project is expected to be completed in March 2019.

此外，泰國怡和機器亦取得購物中心The Mall Bangkai的工程合約，為其停車場供應、安裝、測試和調試電力與通信系統、衛生與消防系統以及空調與通風系統。

The Mall Bangkai坐落於碧甲盛路，總面積達67,709平方米，商場劃分成多個主題區，訪客可在場內飽覽曼谷市內風光，而停車場則提供近1,500個泊車位。

此工程預計於2019年3月竣工。



JEC Speaker Luncheon 2017

2017 年度怡和機器客戶及業務夥伴午宴

Themed with "Sustainability – What It Means for the Energy Industry", the annual JEC Speaker Luncheon was successfully held on 7th July at The Excelsior, Hong Kong. Graced by an audience mix of top management from the public and commercial sectors, our guest speaker Mr Richard Lancaster, Chief Executive Officer of CLP Group, shared his invaluable insights on the risks and opportunities arising from climate change, and highlighted the importance of effective communication and transparency in managing those risks and opportunities.

怡和機器的客戶及業務夥伴年度午宴於7月7日假香港怡東酒店舉行，今年的演講嘉賓中電集團首席執行官藍凌志先生就主題「可持續發展 — 對於能源產業的意義」與在場的政商界管理層分享見解，闡述氣候變化所帶來的危機與機遇，並強調有效溝通和維持高透明度在當中的重要性。



JEC Thailand Contributes 10,999 Sandalwood Flowers for the Cremation of His Majesty Late King Bhumibol Adulyadej

泰國怡和機器為已故泰王普密蓬·阿杜德的火葬儀式獻上10,999朵檀香花飾

The royal cremation ceremonies of His Majesty Late King Bhumibol Adulyadej will take place on 25th-29th October, with the cremation itself on 26th October. According to the Bureau of The Royal Household, different patterns of sandalwood flowers will be presented in the ceremony, and the public are invited to show their reverence by making the flowers.

To support the Bureau, colleagues of JEC Thailand have made 10,999 pieces of sandalwood flowers in less than two months. These flowers will be distributed to public mourners who participate in the royal cremation.

已故泰王普密蓬·阿杜德的皇家火葬儀式將於10月25至29日舉行，遺體定於26日火化。泰國王室宮務處公佈將於儀式中獻上各式檀香花飾，並歡迎公眾參與製作，向已故泰王致敬。

泰國怡和機器的同事為表支持，在兩個月內製成了10,999朵檀香花飾。這些花飾將分發予參加皇家火葬儀式的國民，讓他們表達哀悼。





Jardine Distribution, Inc. Goes into High Gear with "Tytanit" Launch across the Philippines

Jardine Distribution, Inc. 大力推廣全新產品 — 「Tytanit」生物刺激素

Following the launch of Tytanit Biostimulant in March this year, Jardine Distribution, Inc. (JDI) continued to enjoy keen responses from farmers in subsequent launch events across the Philippines, celebrating success for this debut offering from its recent partnership with Arysta, Platform Specialty Products.

Tytanit is currently the only biostimulant in the Philippines utilising the latest titanium-based technology, and is pivotal in the uniform flowering of rice plants which can lead to an increased number of grains per panicle and hence a higher yield.

"With Tytanit being the only one of its kind in the Philippines, it is not surprising that we sold out all of our Tytanit stocks during the events," said Ms Kathleen Aguilan, Product Manager of Agro Products Division. Tytanit currently enjoys a 95% acceptance rating by farmers in Vietnam and is being marketed in nine European countries.



Jardine Distribution, Inc. (JDI) 自今年三月推出全新產品——Tytanit生物刺激素後，隨即展開全國性推廣之旅，並深受農民歡迎。這是JDI與其業務夥伴Arysta, Platform Specialty Products 合作以來首次在菲律賓推出的農用產品。

Tytanit是現時菲律賓當地唯一採用最先進鈦基技術的生物刺激素，能統一水稻的開花期，增加每一穗作物的穀粒數量從而提高收成。

JDI農用產品經理Kathleen Aguilan說：「Tytanit在菲律賓市場上獨一無二，故在我們的宣傳活動上很快便被搶購一空。」Tytanit目前在越南大受好評，獲得當地95%的農民認同，並同時在九個歐洲國家有售。

North of Manila 馬尼拉北部

- 1 Urdaneta, Pangasinan 邦阿西楠省烏達內塔

South of Luzon Island, north Philippines 呂宋島南部（菲律賓北部）

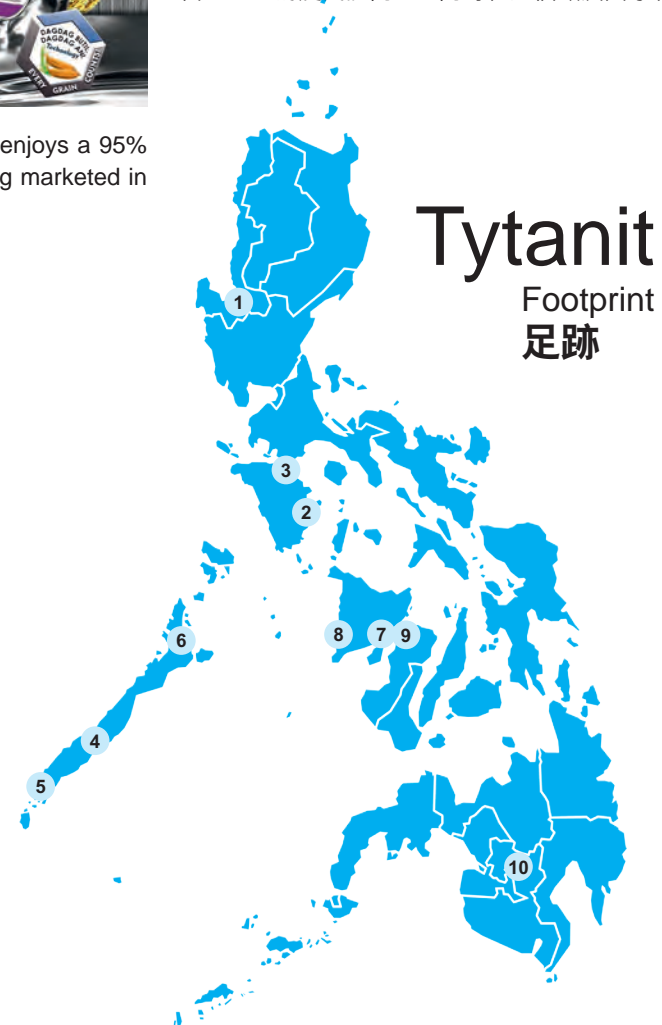
- 2 Gloria, Oriental Mindoro 東民都落省Gloria
- 3 Calapan, Oriental Mindoro 東民都落省卡拉潘
- 4 Narra, Palawan 巴拉望省帕納坎
- 5 Batarraza, Palawan 巴拉望省巴塔拉薩
- 6 Taytay, Palawan 巴拉望省泰泰

Visayas Island, central Philippines 維薩亞斯群島（菲律賓中部）

- 7 Pototan, Iloilo 伊洛伊洛省波托坦
- 8 Sibalom, Antique 安蒂克省錫巴洛姆
- 9 Bago City, Bacolod 巴科洛德省巴戈市

Mindanao Island, south Philippines 棉蘭老島（菲律賓南部）

- 10 M'Lang, Cotabato 哥打巴托省M'Lang



JEC Outstanding Engineering Project Awards 2017

怡和機器2017年度傑出工程項目獎

On 17th July 2017, JEC presented the Outstanding Engineering Project Awards (OEPA) to teams of engineering students with practical and innovative engineering solutions. The Awards aims to encourage future engineers to embrace changes for improvement and cultivate the innovative spirit among them. Throughout the past 12 years since its inception in 2005, over a thousand engineering students from different universities in Hong Kong took part in the event and shared their creative engineering ideas.

In competition for the Gold, Silver and Bronze Award, the participants presented their ideas and project details to the judging panel. The judging panel of the Final Round Presentation included Chairman of HK Green Building Council Sr Wong Bay; Past President of the Hong Kong Institution of Engineers Ir CC Chan; JEC's Chief Executive Mr Wilson Kwong, Chief Operating Officer Mr Penn Yeung and Managing Director of E&M Contracting Ir CK Tam. The finalists' ideas were evaluated based on five criteria, including vision and sustainability, conceptual design, project execution and testing, commercial viability of the ideas, and presentation skills of the students.

The Gold Award of this year's OEPA was won by the "Biomimetic Soft Crawling Robot for GI Tract Inspection" project team from The Chinese University of Hong Kong ("CUHK"). Due to fierce competition, two Silver Awards were handed out this year: "A Compact Chinese Calligraphic System for Personal and Commercial Use" project team from The Chinese University of Hong Kong and the "Underwater Robot for Ocean Exploration" project team from The Hong Kong University of Science and Technology ("HKUST").

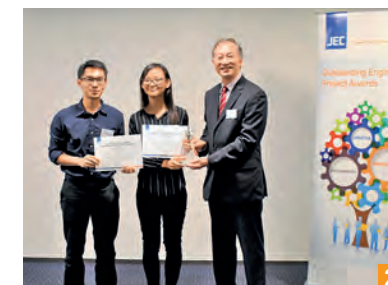
怡和機器於2017年7月17日向一批研發實用及創新工程解決方案的工程系學生頒發傑出工程項目獎。此獎項始於2005年，旨在鼓勵未來工程師不斷創新求進。在過去十二年，過千名來自香港不同大學的工程系學生曾經參與此活動，分享他們的創新工程概念。

為競逐金、銀、銅獎，參賽者需要向評審團講解他們的工程概念及項目詳情。總決賽評審團包括香港綠色建築議會主席黃比測量師、香港工程師學會前會長陳志超工程師、怡和機器行政總裁鄭永銓先生、營運總監楊志強先生及機電合約工程董事總經理譚俊傑工程師。評審按五大要素評分，包括項目的願景及可持續性、設計概念、項目執行計劃及試驗、商業可行性及參賽者的演說技巧。

今年傑出工程項目獎的金獎由香港中文大學的「軟性大腸檢測平台」項目隊伍奪得。由於競爭激烈，今年出現了雙銀獎，得主分別為香港中文大學的「桌面中國毛筆書畫機」以及香港科技大學的「海洋探索水下機器人」項目隊伍。



1 The Gold Award winner is the "Biomimetic Soft Crawling Robot for GI Tract Inspection" project team from CUHK. 金獎得主香港中文大學的「軟性大腸檢測平台」項目隊伍。



2 "A Compact Chinese Calligraphic System for Personal and Commercial Use" project team from CUHK is one of the Silver Award winners this year. 香港中文大學的「桌面中國毛筆書畫機」項目隊伍是今年其中一個銀獎得主。



3 Another Silver Award winner is the "Underwater Robot for Ocean Exploration" project team from HKUST. 另一銀獎得主香港科技大學的「海洋探索水下機器人」項目隊伍。



▲ Management site walk
管理層探訪工地



▲ Meeting with sub-contractors: simple exercise demonstration
分判商研討會：全天候運動示範



▲ Health check
健康檢查



▲ Onsite briefing on work at height
高空工作安全簡說



▲ Cardiopulmonary Resuscitation Training
心肺復甦法訓練

Occupational Safety Promotion Campaign, A Way to Instil a Positive Safety Culture

建立正面安全文化 有賴職業安全推廣活動

During the first 4 months of 2017, there were 11 industrial fatalities in Hong Kong, compared with 9 cases in the same period last year. The increase in the fatal accident rate heightened concerns over workers' awareness on occupational safety. To prevent work injuries and fatality, safety promotion campaign is needed to enhance safety awareness across every sector in the construction industry.

The "Construction Industry High-Risk-Work Safety Summit" is a great example and platform to group different sectors together, including labour unions, contractors and government departments, to have in-depth exchange and discussion on how to enhance work safety. The summit addresses important issues in the industry where labour unions and contractors can communicate their concerns directly with government representatives.

There are other activities in the industry to build up safety awareness: learning activities to transfer safety knowledge and serve as a reminder to workers; promotions in media with an emphasis on the well-being of family members and friends help to inculcate safety awareness among workers. To arouse attention more effectively, it requires repetitive reminder to reinforce the awareness. Signage and posters are physical reminders commonly used to alert people of the potential hazards around them.

2017年首四個月，香港已發生11宗致命的工業意外，相較去年同期的9宗為多，情況引起各界對工人職業安全意識的關注。為了避免因工受傷或致命的意外，有必要舉辦職業安全推廣活動，以提升建造業各階層的工作安全意識。

「建造業高風險作業安全峰會」可謂是其中一個模範例子及平台，集合了工會、承辦商及多個政府部門的代表，就如何提升工作安全作深入的交流和討論。該峰會針對業內的重要議題，讓工會及承辦商直接向政府代表提出所關注的事宜。

此外，業內亦不時舉辦其他活動以加強安全意識，包括透過培訓向工友灌輸安全知識，並作為溫馨提示；另又善用媒體，宣傳愛惜家人和朋友的重要性，誘導工友關注安全。為了更有效地引起關注，必須再三提醒；張貼標誌及海報便是常用方法，以提醒工友警惕身邊的潛在危險。

Apart from raising safety awareness, it is more important to cultivate a good safety culture in the long term. An effective culture should involve different parties to show their commitments, have good communication and develop a sense of responsibility for safety. Safety helmet is a symbol of the safety culture in Hong Kong. Through the massive promotions in the last decade, the sense of wearing safety helmet in construction sites has been well-developed and widely implemented in the industry. The wide adoption of safety helmet is a testament to the effectiveness of occupational safety promotions. Another on-going example would be using appropriate working platform for work-above-ground works instead of using timber ladders, and we are glad to see more platforms in use at work.

Playing an active role in developing a zero accident and environmental-friendly community, JEC organises Environmental, Health & Safety (EHS) week every year to foster a positive safety culture and enhance safety and health awareness within our company and industry partners. With the theme of "Bringing Together Physical and Mental Health" this year, the EHS week focused on the importance of mental health. A series of activities have been scheduled to promote a safe and healthy workplace so as to minimise physical injuries and help our colleagues and sub-contractors achieve a healthy lifestyle.

All in all, these activities require the co-operation between different stakeholders in the industry in order to improve safety performances. An occupational safety promotion campaign is definitely a good way to instil a positive safety culture — a top priority in JEC.

除了提升安全意識外，長遠而言，更重要是建立良好的安全文化。要建立一個有效的文化，有賴各持份者勇於承擔和保持良好溝通，並積極履行安全責任。安全帽正好是香港的安全文化象徵。過去10年，透過大型的推廣活動，建築業界已成功讓工友明白在地盤配戴安全帽的重要性，安全帽獲廣泛應用正好引證了推廣職業安全活動的成效。另一個現正推廣的信息，則是進行離地工作時，應使用恰當的工作台以取代木梯，而我們亦喜見更多工地棄用木梯而改用工作台。

怡和機器一直在推動零意外和環保方面擔當積極主動角色，我們每年舉辦「環境、健康及安全周」加強正面的安全文化，並提升員工及業界夥伴的安全和健康意識。以「安全與身心健康同行」為主題，今年的活動聚焦於精神健康。我們舉辦了一系列的活動，以提倡安全及健康的工作環境，從而減少對身體的損傷，並鼓勵同事及分判商建立健康人生。

總括而言，上述各項活動均需要建造業內各持份者緊密合作，務求改善行內的安全表現。我們相信職業安全推廣活動是一個良好的渠道，有助培養正面安全的文化——這也是怡和機器的首要目標。

Hire 先聘用



What it is 課程內容

This programme has been designed to equip apprentices with the basic knowledge and skills relating to their trade and have the opportunities of adapting and fine-tuning these skills at the workplace. Apart from the traditional trade skills-related learning modules, the curriculum also emphasise on personal development, such as, whole person development, vocational English, application of information technology, etc.

The apprentices will be awarded a Diploma in Engineering (Air-conditioning and Refrigeration) upon successful completion of the programme, which is at Level 3 of the Hong Kong Qualifications Framework. They are then eligible to articulate to higher diploma or degree programmes.

課程的設計是讓學徒學習行業的基本知識和技巧，並有機會在實際工作環境加以應用和調整。除了有關行業技能的傳統學習單元，課程也注重個人發展，例如全人發展、職業英語和資訊科技應用等。

畢業學徒將獲頒工程文憑（空調及製冷），屬香港資歷架構的第三級，並可憑此資歷繼續進修高級文憑或學位課程。



to Learn 後培訓



How it works 如何報讀

This dual track training programme is only offered to employees of designated industry partners with successful track record in the apprenticeship programme. Being one of the designated industry partners in the air-conditioning discipline, interested candidates have to apply for the apprentice position with JEC. The company, after careful screening and selection process, will send successful apprentices to participate in this 4-year programme, bearing their tuition fees.

In this programme, the apprentices will undergo basic training at VTC on a full-time basis for the whole of first semester, which sets out to equip the apprentices with the necessary knowledge about the industry and to develop their safety awareness. Starting with the second semester, the apprentices will study at the VTC for 2 days during the week, and work at JEC on the remaining work days. There is no evening class so that these apprentices can fully enjoy study-work-life balance.

This Hire to Learn arrangement is targeted towards school leavers who had completed Secondary 3 or above and interested in pursuing their careers in the air-conditioning engineering discipline. As the programme is designed with well-balanced consideration between study, work and life, it has successfully attracted graduates beyond the minimum education requirement.

JEC is one of the pioneering companies offering this dual-track programme, aiming to develop more professionals for the industry. Together with VTC, we engineer a better future.

此雙軌制訓練課程只供職業訓練局指定合作機構的僱員報讀，他們須在學徒訓練計劃中有良好紀錄。怡和機器是空調及製冷行業的指定合作機構之一，故有興趣報讀之人士須應徵怡和機器的學徒職位；經過仔細篩選，怡和機器將保送合資格學徒入讀這個4年制課程並為其支付學費。

在課程的第一個學期，學員會於職業訓練局院校接受全日制的培訓，學習行業所需的知識並建立安全意識。自第二個學期起，學員每周會於職業訓練局上課兩天，其餘工作日則在怡和機器辦公。課程不設晚間課堂，使學員能於工作、學習與生活之間取得平衡。

「先聘用，後培訓」的對象為中三離校生或有志投身空調及製冷工程行業的人士。由於課程兼顧工作、學習與生活的平衡，因此吸引了不少學歷高於課程最低要求的畢業生報讀。

怡和機器是其中一間率先提供雙軌制課程的企業，旨在為業界培訓更多專業人才，與職業訓練局攜手，建設更美好未來。

Jardine Engineering Corporation (JEC) has partnered with the Vocational Training Council (VTC) to offer structured apprenticeship programmes for over two decades, to attract young talents to join our industry and equip them with the required skills and knowledge. Throughout these years, the apprenticeship programmes had undergone changes to be more in line with the social and economic growth and changes of the society.

Recently, VTC has launched a new Diploma in Engineering programme for apprentices. This is a “dual-track” programme which emphasises the integration of school-based vocational education and workplace training to meet the needs of the air-conditioning industry. In addition, this “Hire to Learn” approach will assist school leavers pursue recognised qualification and accumulate work experience at the same time. With its well-balanced design between professional development and work, JEC had audaciously committed itself to partner with VTC in offering this new programme.

過去20多年，怡和機器夥拍職業訓練局舉辦有系統的學徒訓練計劃，以吸引年輕人入行，並向他們傳授所需知識和技術。多年來，學徒訓練計劃幾經革新，以配合社會經濟的發展和轉變。

最近，職業訓練局為學徒推出全新的工程文憑課程，課程採雙軌制，著重結合課堂學習及在職培訓，以滿足冷氣工程業界對人才的需求。此外，這種「先聘用，後培訓」模式讓離校生一面修讀認可資歷課程，一面累積工作經驗；由於課程設計包含專業發展及在職工作的元素，怡和機器大膽決定與職業訓練局合辦這個新課程。

JEC Spreads Love in MINDSET Fun Day

參與「思健」同樂日 怡和機器宣揚關懷

JEC colleagues volunteered in the annual MINDSET Fun Day which was held on 3rd June 2017 at the Chinese YMCA - Wu Kwai Sha Youth Village in Ma On Shan. The theme of this year's event was "Act to Express"; it aimed to help the participants communicate their feelings and understand themselves better through drama. With the guidance of the instructors from Chung Ying Theatre Company, JEC volunteers teamed up with people recovered from mental illness to share their own experiences and stories by acting on stage.

Organised by the Jardine Ambassadors, the MINDSET Fun Day helps raise the awareness of mental health and promote acceptance and understanding on mental illness.



一年一度「思健」同樂日已於2017年6月3日假馬鞍山香港中華基督教青年會烏溪沙青年新村舉行，怡和機器的同事亦有參與其中。今年活動的主題為「戲劇Fun享」，透過戲劇體驗幫助參加人士表達所思所感，從而認識自己。在中英劇團導師的指導下，義工們與來自不同社福機構的精神康復者打成一片，一同將生活上的經驗和故事搬上舞台。

「思健」同樂日由怡和親善大使籌劃，旨在提升社會對精神健康的關注，並宣揚對精神病的接納和理解。



Outing to Tree Top Cottage

樹屋田莊半天遊

Spending a couple of hours on a sunny day in the countryside is definitely a healthy and fun-filled activity for children! On 15th July, JEC's Caring Team partnered with Jockey Club Tai Po Integrated Children & Youth Services Centre to organise a green outing to the Tree Top Cottage for 22 children.

Accompanied by eight JEC volunteers, the children had a great time playing group games and zip-lining, where they were trained to build up team spirit, courage and self-confidence.

Located at Lam Tsuen in Tai Po, the Tree Top Cottage is a recreation centre renowned for its tree house built on a 90-year-old Hackberry tree.

在燦爛的陽光下郊遊幾個小時，對小朋友來說絕對是健康而充滿樂趣的活動。7月15日，怡和機器義工隊聯同賽馬會大埔綜合青少年服務中心，帶領22位兒童到「樹屋田莊」遊玩。

當日8位怡和機器義工與兒童大玩群體遊戲和飛索，從中鍛鍊小朋友的團隊精神、勇氣和自信。

位於大埔林村的「樹屋田莊」是一所康樂中心，其知名樹屋建於有90年歷史的朴樹之上。



Hong Kong

Project (Location)	Scope of Work
39 King Wah Road, North Point	Supply of active chilled beam and induction VAV and automatic tube cleaning system
Caritas Centre	Maintenance services for pneumatic tube system
Cathay Pacific Catering Services Ltd	Maintenance services for HVAC plant
Central Police Station	Supply of ironmongery
Central-Wanchai Bypass Tunnel Building	Supply and installation of metal door, glass door, ironmongery and raised flooring
	Supply and installation of diesel genset system
	Supply and installation of ELV systems and fire services system
	Design, supply and installation of building maintenance unit and pneumatic tube
Centre of Excellence in Paediatrics	Supply of central battery system
	Supply and installation of automatic door system
	Supply and installation of raised floor system
	Supply of LED exit sign
China Mobile Data Centre Expansion	Supply and installation of diesel genset system
China Resources Headquarters	Supply and installation of diesel genset system
Chinese University of Hong Kong	Supply and installation of building maintenance unit and pneumatic tube system at medical centre
City Garden	Supply and replacement of sea water cooled chiller
City One Shatin	Supply of LED lightings
City University of Hong Kong	Supply and installation of diesel genset system
Cityplaza Three	Fitting out offices with combined building service installation
CMI China Mobile Data Center at TKO	Supply and installation of diesel genset system
Commercial Development at Wang Chiu Road and Lam Lee Street, Kowloon Bay	Supply and installation of diesel genset system
EMSD Headquarters Building	Supply of 'Flamebar' fire resistant ductwork
Equinix Data Centre HK2-IV	Supply and installation of LED sensor tubes with batten
	Supply and installation of cooling tower
	Supply of automatic tube cleaning system and valves
	Electrical installation - power supply upgrade works
	FSID work for Tower 1, 2 and 3
	MVAC Work for FSID
Exchange Square	One and Two Exchange Square public area renovation at Central, Hong Kong Circulation, 3/F lobbies and Rotunda, and 4/F restaurant balcony
	Supply of LED lightings, valves and pumps
	Tower 1 and 2 lift lobbies renovation and FS renovation
	ASD Contract No. SS D505 - building maintenance unit for reprovisioning of FEHD Sai Yee Street Environmental Hygiene Offices-cum-Vehicle Depot at Yen Ming Road
FEHD Environmental Hygiene Offices-cum-Vehicle Depot	Supply and installation of steel doors
Fire Services Training School, Tseung Kwan O	Supply of central battery system and valves
Fortune Pharmaceutical New Factory Development	Supply and installation of pneumatic tube system
Global Switch Hong Kong 1	Supply and installation of dummy loadbank for diesel genset system
Global Switch Hong Kong 2	Design, supply and installation of lifting platform and dock leveler
Grade A Office Development at 348 Kwun Tong Road	Supply and installation of raised floor
Grandtech Centre	Supply of cooling tower, HVAC pumps and fire pumps
Hactl	Supply and installation of LED high-bay and LED tubes
Hang Seng Bank Headquarters	10-year FS maintenance contract on dry fire
Harmony Redevelopment at Hysan Avenue	Supply and installation of stairlift
	Supply and installation of diesel genset system
	Supply of 'Flamebar' fire resistant ductwork, VRF air-conditioning system and vibration isolator
	Mechanical handling and lifting installation
Haven of Hope Hospital	Supply and installation of diesel genset system
Heung Yip Road Hotel	Supply and installation of linen chute
HKEx Data Centre	Term maintenance contract of MEP installations
Home Ownership Scheme Development at Sha Tsui Road, Ex-Tai Wo Hau Factory Estate, and Ching Hong Road, Tsing Yi	Supply and installation of PV system, smart metering system and information display system
Hong Kong Airlines Aviation Centre	Supply and installation of lifting appliance
Hong Kong Convention Exhibition Centre	Supply and installation of carpets
Hong Kong Disneyland	Supply and installation of air-compressors
Hong Kong Electric (Contract No. 15/9024)	Supply and commissioning of mobile gas turbine genset
Hong Kong Housing Authority - Construction of Public Housing Developments at North West Kowloon Reclamation Site 6 and Fat Tseung Street West	Supply and installation of MVAC system
Hong Kong Housing Society - Subsidized Sale Flats Project at Shatin Area 36C	Electrical, ELV and MVAC installation nominated sub-contract
	Contract P568 supply and installation of diesel genset system
	Design, supply and replacement of programmable logic controllers and associated input/output modules for baggage handling system (phase 2)
	Design, supply, installation, testing and commissioning of baggage handling system for arrival bags delivery and early bags storage at Terminal 1
	Maintenance services for automatic sortation systems of baggage handling system
	Maintenance services for conveyor systems of baggage handling system
	Maintenance, improvement and refurbishment works for baggage trolley mechanical recirculation systems
	Maintenance, improvement and refurbishment works for electrical and mechanical systems at Midfield Concourse and North Satellite Concourse
	Provision of static VAR generator for sortation system of baggage handling system
	Replacement of door mechanism for automatic sliding doors at Terminal 1
	Replacement of emergency stop pushbuttons in baggage handling system at Terminal 1
	Supply and installation of metal design ceiling at Midfield
Hong Kong Jockey Club	Supply and installation of filtration system for Olympic Equine Pool
Hong Kong Ocean Park	Ocean Park Tai Shue Wan Water World Project water filtration system
Hong Kong Ocean Park Marriott Hotel	Aquarium and all associated works, and supply and installation of swimming pool filtration system
Hong Kong Science Park	Supply of cooling tower, pumps and valves
Hong Kong-Zhuhai-Macao Bridge - Hong Kong Boundary Crossing Facilities Vehicle Clearance Plazas and Ancillary Building and Facilities	Supply and installation of LED lightings
	Supply and installation of diesel genset system and PV panel
	Supply and installation of aluminum baffle ceiling
	Supply and installation of dock leveler and weighbridge
	Supply and installation of lifting appliances at road section between Scenic Hill and Hong Kong Boundary Crossing Facilities
Hong Kong-Zhuhai-Macao Bridge	Supply and installation of raised floor and carpets
	Supply and installation of smoke curtain
	Supply of central battery system
	Supply of ironmongery for PCB façade package
HSBC Main Building, HMB Project Bridge II	Supply and installation of fuel system
I Tech Data Centre Phase 2	Supply and installation of diesel genset system
Jubilee Garden	Supply and installation of LED lightings
Kai Tak District Cooling Project Phase 3 & 3B	Supply of seawater pumps
Kai Tak Nullah Reconstruction and Upgrading	Supply and installation of stoplogs

Major Contracts Listing 工程合約

Kennedy Town Swimming Pool (Phase II)	Supply and installation of swimming pool filtration system
KLB Centre	Modification of FS system
Kwai Tsing Theatre	Supply and installation of retractable seating
Lai Chi Kok Park Swimming Pool	Replacement of boilers and associated pipework system
Landmark, Central	FSID work MVAC and electrical work for toilet renovation MVAC work for FSID
Liantang / Heung Yuen Wai Boundary Control Point Building	Design, supply and installation of building maintenance unit for building and associated facilities project Design, supply and installation of sewage treatment plant Supply and installation of diesel genset system Supply of central battery system, ironmongery, cooling tower, centrifugal separator, automatic tube cleaning system VRF air-conditioning system and D.O. system
Luk Hop Industrial Building	Supply and installation of LED lightings
M+ Museum at West Kowloon Cultural District	Supply and installation of smoke curtain system and diesel genset system Supply of ironmongery, pumps and valves
Maxim's Office Building	Supply and installation of carpet tiles Building management system installation and modification for East Rail Line station control room in Tai Wo, Fanling and Sheung Shui stations Chiller plant replacement for Wanchai station Design, supply and installation of electrical works, fire services, pumps and drains, swimming pool filtration system and supply of ironmongery for the reprovision of Harbour Road Sports Centre and Wan Chai Swimming Pool Mobile lifting jack in Pat Heung Depot Modification works of train wash plant at Ho Tung Lau Refurbishment of rail track lifting hoist control system in Ho Tung Lau Depot Replacement of underfloor wheel lathe at Ho Tung Lau Depot SCL Contract 1122 - building services for Admiralty South Overrun Tunnel SCL Contract 1191 - floodgate system for Shatin to Central Link Phase 2 Supply and installation of lifting appliance for Ho Tung Lau Depot Supply and installation of access cover for South Island Line (East) Supply and installation of LED lighting at Coastal Skyline Supply and installation of LED motion sensor tubes and emergency battery kits at Sorrento and Tung Chung Crescent Supply and installation of LED motion sensor tubes with emergency battery kits and LED downlights at The Arch Supply and installation of outdoor timber at 810A West Kowloon Terminus Station North Supply and installation of steel door and frames for Shatin to Central Link Supply and installation of stoplogs for 810B West Kowloon Terminus Station South Supply and installation of wheelset balancing machine at Pat Heung Depot Supply of cooling tower for SCL Contract 1164 Diamond Hill station Supply of cooling tower water pumps and valves for SCL Contract 1173 Hung Hom station Supply of fire pumps and cooling tower for Shatin to Central Link Supply of 'Flamebar' fire resistant ductwork at SCL Contract 1177 Ma Tau Wai station and ancillary building Supply of 'Flamebar' fire resistant ductwork for Express Rail Link Supply of metal door and ironmongery at Tin Shui Wai station
Mui Wo Sewage Treatment Works	Supply and installation of the lifting appliances Supply and installation of building maintenance unit Supply and installation of diesel genset system
Murray Building Hotel Development	Supply and installation of filtration system for indoor swimming pool Supply of PHI air purifier Supply of pumps and fire resistant ductwork, fire pumps and central battery system
New Shun Hing Centre	Supply and installation of building maintenance unit Supply and installation of IPC wall protection Supply and installation of outdoor timber decking Supply and installation of smoke curtain Supply of valves, fire pumps, 'Flamebar' fire resistant ductwork
Ngau Tam Mei Animal Waste Composting Plant	Improvement, operation and maintenance of animal waste composting plant and collection services
NTT Data Centre (FDC2-EXP-001)	Supply and installation of diesel genset system
NTT Data Centre at Tai Po	Supply and installation of diesel genset system
NTT Data Centre at TKO Wonder 9 (EXP-002)	Supply and installation of diesel genset system
Office Development at 1 Hennessy Road, Wanchai	Supply and installation of vehicle turntable
Oil Street, North Point	Supply of 'Flamebar' fire resistant ductwork
Organic Waste Treatment Facilities Phase 1	Supply of absorption chiller and fire hydrant pumps
Pacific Place	Replacement of high tension chillers
Peninsula Centre	Supply and installation of LED lightings
Prince's Building and Alexandra House	Electrical installation - power supply upgrade works
Public Library and Indoor Recreation Centre in Area 3, Yuen Long	Supply and installation of steel doors and supply of ironmongery
Public Rental Housing Development at Choi Yuen Road	Supply and installation of diesel genset system
Public Rental Housing Development at Fo Tan Phase 1 & 2	Supply and installation of diesel genset system
Public Rental Housing Development at Tuen Mun Area 54 Site 2 Phase 1 & 2	MVAC installation Supply of centrifugal separator Pneumatic tube transportation system integration works at Yau Mai Tei Specialist Clinic and extension to Block R Supply of cooling tower and valves Supply and installation of swimming pool filtration system Supply and installation of diesel genset system Supply and installation of swimming pool filtration system Supply and installation of linen chute, vertical lifting platform and vehicle turntable Supply and installation of Exterpark outdoor decking Supply of pumps
Queen Elizabeth Hospital	Overhaul and testing of electrical and mechanical equipment of sewage treatment plant and pumping stations
Residential Development at Deep Water Bay Drive	Provision of electrical and mechanical facilities for further expansion phase 1A advance works and Ng Chow South
Residential Development at Kai Tak	Road Sewage Pumping Station
Residential Development at Ngau Tam Mei	Supply of diffuser aeration system
Sai Kung Hotel	Improvement of dewatering plant
Shangri-La Hotel, Hung Hom	Sale of used laundry equipment
Shatin and Sai Kung Sewage Treatment Works and Pumping Stations	Supply and installation of carpets Supply of ironmongery Supply and installation of LED lightings Modification works for food waste & sewage sludge anaerobic co-digestion pilot trial Supply and installation of building maintenance unit Supply of cooling tower and granular activated carbon Supply of 'Flamebar' fire resistant ductwork, cooling towers, centrifugal separators, pumps and valves Retrofit of chillers in plant room A Replacement of PAUs Design, supply and installation of pneumatic tube system, and supply of pumps, air quality products and central battery system Supply and installation of diesel genset system Provision of electrical and mechanical equipment for detritor no.1 and 2
Shek Wu Hui Sewage Treatment Works	Supply and installation of stairlift
Sheung Shui Water Treatment Works	Supply of valves
Shum Wan Laundry of Queen Mary Hospital	Supply and installation of outdoor timber decking
Sing Tao Office at TKO	Supply of valves
South Horizons	Supply and installation of stoplogs
Tai Po Sewage Treatment Works	Supply and installation of aluminum ceiling at bathroom & kitchen
Tai Po Sports Centre	Supply and installation of pneumatic tube system
Tai Po Water Treatment Works	Design, supply and installation of grey water and rainwater recycling plant
Taikoo Place 2A Redevelopment	MVAC repair and maintenance services for various stores (2016 - 2018)
Telford Plaza I	
The Education University of Hong Kong	
Tin Shui Wai Hospital	
TKO Town Lot 93	
To Kwa Wan Preliminary Treatment Works	
Tseung Kwan O Heritage Hiking Trail and the Heritage Information Centre	
Tsuen Wan 5 Bayside	
Tuen Mun Government Complex	
Tuen Mun Western Trunk Sewerage Tunnel	
TW5 Residential Development	
Union Hospital, Shatin	
Water Supplies Department Regional Office	
Wellcome & Mannings Various Stores at HK, Kowloon and NT	

Wellcome Supermarket, Park Central	MVAC works
West Kowloon Government Office at Yau Ma Tei	Design, supply and installation of building maintenance unit Supply and installation of diesel genset system Supply and installation of raised floor Supply of central battery system
West Rail Nam Cheong Station Pty Development	Supply and installation of swimming pool filtration system
WF Joseph Lee Primary School	Supply and installation of swimming pool filtration system
Wing On House	Upgrading of sea water system
World-Wide House, Central	Replacement of water-cooled chiller
XiQu Centre	Supply and installation of smoke curtain system and timber doors
Youth Square	Seating improvement works

Macau

Project (Location)	Scope of Work
Louis XIII Hotel	Supply and installation of genset systems and supply of valve
Macau Light Rail Transit	Design and supply for painting booth Supply and installation of lifting appliance Supply and installation of cooling tower, smoke guard, and supply of pumps and valves Supply of floor drains and bathtubs
MGM Cotai	Design, supply and installation of building maintenance unit and turntable
MGM Grand Paradise	Supply of valves
SJM Hotel at Cotai	Supply of ironmongery and sanitaryware
St. Regis, Venetian Macau, Parcel 5B	Supply of towel warmers
Parisian, Venetian Macau	Supply and installation of diesel genset system Supply of ironmongery and sanitaryware
Venetian Cotai P3	Supply and installation of conveyor system

Thailand

Project (Location)	Scope of Work
Bangkok International Trade & Exhibition Centre (BITEC) and Bhiraj Tower	Supply, installation, testing and commissioning of air-conditioning & ventilation system, electrical & communication system and sanitary & fire protection system
Carpark Building of The Mall Bangkok	Supply, installation, testing and commissioning of air-conditioning & ventilation system, electrical & communication system and sanitary & fire protection system
Chatrium Hotel Pathumwan	Supply, installation, testing and commissioning of electrical & communication system and fire protection system
Chatrium Residence Sathon	Supply, installation, testing and commissioning of air-conditioning system
Gayson Tower	Supply, installation, testing and commissioning of air-conditioning & ventilation system, electrical & communication system and sanitary & fire protection system Preventive maintenance services for ventilation and air-conditioning plant, electrical and plumbing system
Goodyear Factory	Supply, installation, testing and commissioning of process piping system, sanitary & fire protection system and air-conditioning & ventilation system
ICONSIAM	Supply and installation of BAS system
King Power at Suvarnabhumi Airport	Operation and maintenance of air-conditioning & ventilation system and sanitary system
Mahasawin Hotel	Supply, installation, testing and commissioning of air-conditioning system and sanitary & fire protection system
Mass Rapid Transit Authority of Thailand (MRTA Blue Line : Wat Mangkon station and Sam Yod station)	Supply, installation, testing and commissioning of air-conditioning & ventilation system
Mega Bangna Expansion Project	Supply, installation, testing and commissioning of air-conditioning & ventilation system, sanitary & fire protection system and electrical & communication system
Shrewsbury International School, City Campus	Supply, installation, testing and commissioning of air-conditioning & ventilation system, electrical & communication system and sanitary & fire protection system
Singha Complex	Supply, installation, testing and commissioning of air-conditioning & ventilation system, electrical & communication system and sanitary & fire protection system
Suvarnabhumi Airport Expansion Project	Supply, installation, testing and commissioning of sanitary & fire protection system and tunnel ventilation system
The Construction of Mass Transit System Project in Bangkok(Red Line - Don Mueang station, Lak Hok station and Rangsit station)	Supply, installation, testing and commissioning of air-conditioning & ventilation system and sanitary & fire protection system

Singapore

Project (Location)	Scope of Work
77R Investments Pte Ltd at 77 Robinson Road	Air-conditioning preventive maintenance
AIA Singapore Pte Ltd	Air-conditioning preventive maintenance
Asia Square Tower 1 & 2 at 8 Marina View	Air-conditioning preventive maintenance
Avnet Asia Pacific Pte Ltd	Air-conditioning preventive maintenance
Bank of America (CBRE Pte Ltd)	Subcontract for facilities management services
Bank of America at Harbourfront Place	Air-conditioning preventive maintenance
CityDev Real Estate at Palais Renaissance	Air-conditioning preventive maintenance
DBS China Square Ltd (PWC Building)	Maintenance of ACMV system and provision of technicians
Digo Corporation Pte Ltd	Air-conditioning preventive maintenance
Far East Organisation at Orchard Central Pte Ltd	Air-conditioning preventive maintenance
JLL - DBS Asia Central/Asia Hub/Asia Gateway	Air-conditioning preventive maintenance
JLL - OUE Bayfront	Maintenance of ACMV system and provision of technicians
Mandai Crematorium & Columbarium	ACMV maintenance contract
Marina Bay Business Financial Tower 1&2 (RQAM)	ACMV and plumbing services
MBFC Tower 1 & 2 and Link Mall	ACMV preventive maintenance and plumbing and sanitary maintenance
Media Hub (Ayer Rajah)	Design and build of air-conditioning and mechanical ventilation installations, testing and commissioning, servicing and maintenance
Orchard Boulevard Development	Design, supply and installation of ACMV and BMS
Singapore Technologies Electronics Limited (AMK)	ACMV maintenance contract
ST Electronics Ltd	Maintenance agreement for comprehensive maintenance works for air-conditioning chiller plant and converted air distribution systems
ST Marine Pte Ltd	Air-conditioning preventive maintenance
ST Microelectronic Pte Ltd (AMK & TPY Sites)	Ball tech auto tube system maintenance contract
STATSChip Pte Ltd	Trane chiller preventive maintenance
The Food, Drinks and Allied Workers Union	Provision of MA services
The MCST Plan No. 224 & 225 at Thong Teck Building	Air-conditioning preventive maintenance
Victorian Property Holding Pte Ltd (Elishan) at Manulife Centre	Air-conditioning preventive maintenance
Westin Singapore (Daisho Development S'pore Pte Ltd)	Air-conditioning preventive maintenance

Philippines

Project (Location)	Scope of Work
Doehle Haws Building	Maintenance of VRF air-conditioning system and relocation works of fan coil units
HVAC system of Plant A-C Admin Building (Tiwi, Albay)	Preventive maintenance
Integrated Facilities Management for JLL - IBM and JLL - Schneider Electric	Property and asset management
Marikina North Sewer Network and Pump Station	Design, build, testing and commissioning of sewage pumping station
Mondelez	Operation and maintenance
Property and Asset Management for various facilities managed by Jones Lang LaSalle	Operation and maintenance of facilities equipment
Property Management for Ayala Properties Management Corporation	Operation and maintenance
Putatan Water Treatment Plant 2	Design, build, testing and commissioning of water treatment plant
Sewage Treatment Plant in Libingan ng mga Bayani	Design and construction of sewage treatment plant facilities
Shopwise - Makati	Supply and installation of chilled water system
Sonion Manufacturing Plant	Supply and installation of HVAC units and MEPF
Taguig North Sub-Catchment Sewerage Project - Makati South	Supply, build, testing and commissioning of sewage pumping station and lift stations
Sewer Line and Pumping Station	
United Laboratories	Operation and maintenance
Universal Robina Corporation	Operation and maintenance

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