

**2017 香港工商業獎：設備及機器設計**  
**2017 HONG KONG AWARDS FOR INDUSTRIES: EQUIPMENT AND MACHINERY DESIGN**

**得獎產品名單**  
**List of Winning Products**

*設備及機器設計大獎*  
*Equipment and Machinery Design Grand Award*

<b>得獎公司 Winning Company</b>	<b>得獎產品 Winning Product</b>
正昌科技有限公司 Dunwell Engineering Company Limited	DMBR（膜生物污水處理系統） DMBR (Membrane BioReactor)

*設備及機器設計獎*  
*Equipment and Machinery Design Award*

<b>得獎公司 Winning Company</b>	<b>得獎產品 Winning Product</b>
高新材料企業有限公司 Advanced Materials Enterprises Company Limited	納米熱高效能工業發熱系統 NanoHeat® High Energy Efficiency Industrial Heating System
卓淮化工有限公司 Champion Chemicals Limited	熱回收版單缸運輸帶式洗碗碟機 Single Tank Conveyor Type Dishwasher with Heat Recovery System
香港應用科技研究院有限公司 Hong Kong Applied Science and Technology Research Institute Company Limited	用於品質檢測和機器人導引的三維視覺系統 3D Vision System for Quality Inspection and Robot Guidance
Sève Studio	MK-ML-08 一體化 CO <sub>2</sub> 激光切割雕刻機 MK-ML-08 All in One CO <sub>2</sub> Laser Cutting & Engraving Machine
偉易達通訊設備有限公司 VTech Telecommunications Limited	三合一網路家居方案 3-in-1 Connected Home Solution

設備及機器設計優異證書

*Equipment and Machinery Design Certificate of Merit*

**得獎公司 Winning Company**

依力柏電能有限公司  
ElecPower Limited

金門建築有限公司  
Gammon Construction Limited

Heycoins Limited

Hong Kong Electronic Vehicle Network  
Limited

香港生產力促進局 — 智能製造及材料  
科技部  
Hong Kong Productivity Council –  
Smart Manufacturing and Materials  
Division

鴻利達模具有限公司  
Hongrita Mold Limited

Neosen Energy HK Limited

佰德石森有限公司  
Partec-Ishimori Company Limited

香港中文大學精密工程研究所  
The Chinese University of Hong Kong –  
Institute of Precision Engineering

未來機器人有限公司  
Visionnav Robotics Limited

**得獎產品 Winning Product**

智能電源模塊  
Smart Distributor

金門模板升降台系統  
Gammon Formwork Hoist System

Heycoins 硬幣機  
Heycoins Coin Kiosk

手提式電動車充電器  
Portable Charger Kit

用於防污表面塗層的先進真空鍍膜機  
Advanced Vacuum Coater for Anti-fouling Surface  
Coating

多組件模內焊接成型的模具  
Intramode Welding Injection Mold with Multi-  
Component & Multi-Cavity

NeoSolar - 流動太陽能再生能源及無線充電智能  
電池裝置  
NeoSolar – portable solar renewable with wireless  
battery storage device

壓阻式防夾手指裝置  
Piezoresistive Anti-Finger Trapping Device

柔性漸進彎曲成形機床  
A Flexible Incremental Bending Machine

視覺導航智能叉車系統  
Vision-based Intelligent Forklift AGV System in  
Natural Environment

## 香港中華廠商聯合會會長李秀恒博士 GBS 太平紳士獻詞

**Message by Dr Eddy S H Li GBS JP**

**President, The Chinese Manufacturers' Association of Hong Kong**

由香港特區政府全力支持的「香港工商業獎」獎勵計劃，是一年一度工商界的盛事，廠商會十分高興繼續成為「香港工商業獎：設備及機器設計」組別的主辦機構，藉此表揚本港在設備及機器的設計水準，提高產品競爭力，並對傑出的產品予以獎勵。

香港的設備及機器製造商一向以生產靈活見稱，產品質素高而價格極具競爭力。縱觀今年的參賽產品，不少產品在創新、應用新技術、市場銷售性、及綠色環保等方面皆表現卓越。我們深信，香港設備及機器製造商將繼續朝着創新及高增值方向發展，生產高質素的產品，為本地工業創造更美好的前景。

在此，本人謹向評審委員會各委員致以衷心感謝，並特別感謝評審委員會主席沈祖堯校長領導委員會完成重要的評審工作，同時感謝所有參賽企業和贊助機構，希望您們繼續支持這項意義非凡的比賽。

最後，本人謹向所有得獎公司致以熱烈祝賀。

香港中華廠商聯合會會長  
李秀恒博士GBS太平紳士

“The Hong Kong Awards for Industries” scheme is fully supported by the HKSAR Government and is an annual eminent event in Hong Kong’s trade and industrial sector. The Chinese Manufacturers’ Association of Hong Kong is honoured to be the organiser of the “Equipment and Machinery Design Competition” again this year. The objective of the competition is to encourage the upgrading of the design of equipment and machinery in Hong Kong so as to enhance competitiveness, and to give recognition to outstanding products.

Hong Kong manufacturers of equipment and machinery are well known for their flexibility in production. They are likewise highly acclaimed for their quality and competitive pricing. We are pleased to note that many participants of this year’s competition have demonstrated their outstanding achievements in terms of innovation, application of new technology, marketability and environmental protection. We firmly believe that Hong Kong equipment and machinery manufacturers will continue to innovate and produce high value-added and high quality products and continue to prosper.

Taking this opportunity, I wish to pay special tribute to members of the Judging Panel, especially to Panel Chairman Prof Joseph J Y SUNG, for the most important task of selecting the winners. I would also like to thank all participating companies and sponsors and wish you will continue to support this meaningful event in future.

Last but not least, I would like to warmly congratulate all winners on their outstanding achievements.

**Dr Eddy S H Li GBS JP**

President

The Chinese Manufacturers’ Association of Hong Kong

**2017 香港工商業獎：設備及機器設計組別最終評審委員會**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Final Judging Panel**

陸貴文教授、余錫萬工程師、楊志雄先生、麥鄧碧儀女士、沈祖堯教授(最終評審委員會主席)、郭始剛教授、麥啟寧博士、任揚教授

Prof LUK Kwai Man; Ir Ringo YU Shek Man; Mr YEUNG Chi Hung, Johnny; Mrs Agnes MAK;  
Prof Joseph J Y SUNG (Chairman of the Final Judging Panel); Prof Paul C K KWOK; Dr K L MAK;  
Prof Yeung YAM

**2017 香港工商業獎：設備及機器設計組別最終評審委員會**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Final Judging Panel**

沈祖堯教授（最終評審委員會主席）

**Prof Joseph J Y SUNG**

**(Chairman of the Final Judging Panel)**

香港中文大學校長

Vice-Chancellor and President

The Chinese University of Hong Kong

陳鏡昌教授

**Prof Keith K C CHAN**

香港理工大學工業及系统工程學系教授及系主任

Professor and Head

Department of Industrial and Systems Engineering

The Hong Kong Polytechnic University

陳雲青博士 工程師

**Ir Dr Lawrence W CHAN**

香港高等教育科技學院行政副校長

Executive Vice President

Technological and Higher Education Institute of

Hong Kong

郭始剛教授

**Prof Paul C K KWOK**

香港公開大學校董會秘書

Secretary to Council

The Open University of Hong Kong

劉堅能教授

**Prof Vincent K N LAU**

香港科技大學電子及計算機工程學系講座教授

Chair Professor

Department of Electronic and Computer Engineering

The Hong Kong University of Science and Technology

陸貴文教授

**Prof LUK Kwai Man**

香港城市大學電子工程學系講座教授

Professor (Chair)

Department of Electronic Engineering

City University of Hong Kong

麥鄧碧儀女士

**Mrs Agnes MAK**

香港生產力促進局前任總裁

Former Executive Director

Hong Kong Productivity Council

麥啟寧博士

**Dr Prof K L MAK**

香港大學工程學院前副院長

Former Associate Dean

Faculty of Engineering

The University of Hong Kong

薛永恒先生

**Mr SIT Wing Hang, Alfred**

機電工程署署長

Director

Electrical and Mechanical Services Department

曾漢奇教授

**Prof TSANG Hon Ki**

香港中文大學電子工程學系教授

Professor

Department of Electronic Engineering

The Chinese University of Hong Kong

任揚教授

**Prof Yeung YAM**

香港中文大學工程學院副院長(代理院長)、

機械及自動化工程學系教授

Associate Dean (Deputy to Dean), Faculty of Engineering

Professor of Department of Mechanical & Automation Engineering

The Chinese University of Hong Kong

楊志雄先生

**Mr YEUNG Chi Hung, Johnny**

香港中華廠商聯合會副會長

Vice President

The Chinese Manufacturers' Association of Hong Kong

余錫萬工程師

**Ir Ringo YU Shek Man**

香港工程師學會副會長

Vice President

The Hong Kong Institution of Engineers

**2017 香港工商業獎：設備及機械設計大獎**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Grand Award**

產品名稱：DMBR (膜生物污水處理系統)  
Product Name: DMBR (Membrane BioReactor)

公司名稱：正昌科技有限公司  
Company Name: Dunwell Engineering Company Limited

設計者：正昌科技工程組  
Designer Name: Dunwell Engineering Team

網址/Website: [www.dunwellgroup.com](http://www.dunwellgroup.com)

**評審委員會意見：**

DMBR 膜生物污水處理系統將生活污水循環再生至可用於廁所沖廁或灌溉用途。憑藉突破性的創新微氣泡技術，系統生物處理部份的效率得以大大提升，令電耗大幅減低五成，使系統得以單靠太陽能發電運行。同時，DMBR 系統有效控制微生物對有機廢物進行降解，然後再通過膜組，穩定過濾出符合要求的再用水。

DMBR 採用密封的運行模式，避免操作人員意外跌入水池，提高污水處理工作的安全性。系統採用完備的即時監控設備，方便操作員了解運作情況；所以 DMBR 可廣泛應用於無法接駁污水處理基礎設施的偏遠地區及相關項目。

DMBR 自 2006 年投產以來技術規格已提升至第三代，在香港銷售了的 160 套系統，足證其認受性。

**General Comments on the product:**

DMBR membrane bio-reactor is designed for municipal wastewater recycling applications where treated water can be reused for toilet flushing and irrigation purposes. Equipped with the latest breakthrough, innovative micro-bubble technology, the bio-treatment process for wastewater has been substantially enhanced; the power consumption is significantly reduced by 50%, transforming the system to be solar enabled. The bio-degradable solid wastes are consumed by the micro-organism maintained by the system and the reliable membrane module will ensure the treated water to meet the design requirements.

The DMBR is operated in an enclosed environment which prevents operators from falling into the wastewater tank by accident, thus providing a safe working environment. With the sophisticated real time monitoring features, the system is well suited for remote areas and projects where access to sewage infrastructures is constrained.

With the 3rd generation of technological advancement since its inception in 2006, the DMBR has demonstrated its creditability through the 160 installed systems in Hong Kong.

**2017 香港工商業獎：設備及機器設計獎**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Award**

產品名稱: 納米熱高效能工業發熱系統

*Product Name: NanoHeat® High Energy Efficiency Industrial Heating System*

公司名稱: 高新材料企業有限公司

Company Name: Advanced Materials Enterprises Company Limited

設計者: 楊榮耀博士、陳文傑先生、陳浩然先生、梁容彰先生、  
洪培元先生

Designer Name: Dr Yeung Wing Yiu, Mr Chan Man Kit, Mr Chan Ho Yin,  
Mr Leung Yung Cheung, Mr Hung Pui Yuen

網址/Website: [www.ames.hk](http://www.ames.hk)

**評審委員會意見:**

該產品包含一個或多個高強度陶瓷玻璃的加熱單元，玻璃面板上附有一層納米厚度的加熱元件。產品透過加熱元件的組合、加熱單元的平面結構、熱量和流量電腦分析等技術，使產品易於安裝，並能保持加熱穩定性、及確保高效地生產高質素的製成品。與傳統工業加熱器相比，此產品能節省 30%至 50%耗電量、減少維修保養，並更好地保護環境。

**General Comments on the product:**

The product contains a single heating unit or multiple heating units, with each heating unit comprises a nano-thickness heating element deposited on a piece of high strength ceramic glass panel. The composition of the heating element, the planar structure of the heating unit, and the application of computer thermal analysis and flow analysis technologies to optimize the product design, heating element area and configuration, and the arrangement of the heating units, ensure easy equipment installation, uniform and stable heating performance at high temperature and high quality end products at high production rates. When compared with conventional industrial electric heaters, the developed heating system can bring about 30% to 50% energy saving depending on the application, requires less maintenance efforts, and achieves better environmental impact.



**2017 香港工商業獎：設備及機器設計獎**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Award**

產品名稱：熱回收版單缸運輸帶式洗碗碟機

*Product Name: Single Tank Conveyor Type Dishwasher with Heat Recovery System*

公司名稱：卓滙化工有限公司  
Company Name: Champion Chemicals Limited

設計者：孫力雄先生及梁顯平先生  
Designer Name: Mr Suen Lik Hung and Mr Leung Hin Ping

網址/Website: [www.champion-chem.com](http://www.champion-chem.com)

**評審委員會意見：**

此專利熱回收版洗碗碟機，利用高速摩打設計及強勁水力輸出，能提升洗滌效果及減省人手。其機身採用全不銹鋼及機械式控制設計，於高溫及潮濕環境下亦能發揮其耐用性及穩定性。

另產品透過自主研發的熱回收系統，能回收機內餘熱，從而提升來水溫度。與其他傳統機型比較，此產品節省能源高達 48%；同時，亦可減低洗滌區的室溫，優化員工的工作環境。

**General Comments on the product:**

The Dishwasher with a patented Heat Recovery System adopts high speed design and strong washing power to enhance the washing efficiency and manpower saving. Moreover, stainless steel and mechanical control are used so that durability and stability can be maintained even in high temperature and high moisture environment.

By recovery of the steam to preheat the water, the dishwasher can achieve a saving of over 48% energy consumption compared with traditional models and at the same time, maintain the hygiene standard required of a commercial kitchen. As the system recycles the steam, the working environment becomes more pleasant with a reduction in room temperature.

**2017 香港工商業獎：設備及機器設計獎**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Award**

產品名稱：用於品質檢測和機器人導引的三維視覺系統  
*Product Name: 3D Vision System for Quality Inspection and Robot Guidance*

公司名稱：香港應用科技研究院有限公司  
Company Name: Hong Kong Applied Science and Technology Research Institute Company Limited

設計者：李思琪女士、吳昌力先生、池勇先生、鄒澤偉先生、鄒衛文先生、劉穎女士  
Designer Name: Ms Cathy Li, Mr ChangLi Wu, Mr Yong Chi, Mr Dennis Chau, Mr Wilman Zou, Ms Anna Y Liu

網址/Website: [www.astri.org](http://www.astri.org)

**評審委員會意見：**

此系統採用了特製的光學投影機和創新的編碼相移算法，即使在陰影和反光的情況下，也可組成檢測物件的三維影像，並擁有高速和微米級精度的檢測優勢。光學投影機擁有「線性化伽馬曲線」的特性，使系統能適用於編碼相移演算法。另系統採用特製的光學成像系統，以達至高解析度，並採用經濟高效的相機和光學投影機，使光學解析度達至現今先進的技術水平。

**General Comments on the product:**

The system developed by ASTRI for 3D computer vision using custom designed optical projectors and a novel coded phase shift algorithm has the advantages of high speed and micrometer accuracy in the three dimensional imaging of objects, even in the presence of shadows and reflections. The coded phase shift algorithm was implemented using self-developed optical projectors. A key feature of the projectors is the linearized gamma curve. To attain high resolution the system employed a custom designed optical imaging system. The optical resolution approaches the state of the art, using cost-effective cameras and optical projectors.

**2017 香港工商業獎：設備及機器設計獎**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Award**

*產品名稱：MK-ML-08 一體化 CO<sub>2</sub> 激光切割雕刻機*

*Product Name: MK-ML-08 All in One CO<sub>2</sub> Laser Cutting & Engraving Machine*

公司名稱： Sève Studio

Company Name: Sève Studio

設計者： 蔡東濠先生

Designer Name: Mr Choi Tung Ho

網址/Website: [www.seve-machinery.com](http://www.seve-machinery.com)

**評審委員會意見：**

此產品之特色是將水冷、過濾、抽氣等外置設備濃縮一體置於機身之內，令所佔空間節省 50%。此機易學易用，其自動伸縮對焦激光頭，令對焦更為精準；由於備有激光自動關機及水冷恆溫等系統，令此機更為安全和耐用。另設 WiFi 及 Lan 使傳送資料方便快捷，此機特設 STEM 單元課程，可供學校選用，這有助配合政府及社會推動科技 STEM 教育及個人化發展。

**General Comments on the product:**

The machine integrates not only the laser and engraving functions but also includes the safety and protection features such as carbon filtration system with dust filter, air circulation system, automatically shut off system, cooling system and laser shielding cover. With the special concerns in safety and environmental impact, the machine is uniquely designed for local education to support training in STEM. The compact and standalone design of the machine is an ideal setup in the workshop and laboratory at School. Students can practice the concept of laser cutting and engraving according to the given hands-on tutorial and guideline to experience the technology.

**2017 香港工商業獎：設備及機器設計獎**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Award**

產品名稱：三合一網路家居方案  
*Product Name: 3-in-1 Connected Home Solution*

公司名稱：偉易達通訊設備有限公司  
Company Name: VTech Telecommunications Limited

設計者：偉易達通訊產品開發部  
Designer Name: VTech Telecommunication Products – R&D Department

網址/Website: [www.vtech.com](http://www.vtech.com)

**評審委員會意見：**

該產品利用先進的技術，將 IP 連線上網、話音通訊及智能家居管理系統三大功能整合至同一網路終端機，使用戶以更靈活可靠的方式管理智能家居。它將物聯網(IoT)的便利帶進生活中，用戶可在任何地方使用智能電話，便可遙距管理家居設備。該產品其中一項特點是使用了超低能耗（DECTULE）技術連接各種無線感應器，與其他 2.4G 感應器相比，覆蓋範圍更為廣泛。

**General Comments on the product:**

“3-in-1 Connected Home Solution” makes use of advanced technologies to connect different devices in households via IP, Voice and Smart Home Gadget networks, giving people flexibility and dependability in managing their homes in the ways they want. It brings the user the convenience of the IoT without the complexity and allows the user to control their home remotely using the portable phone anywhere in the world. One key attractive feature of the product is the use of Ultra Low Energy (DECT ULE) technology to connect various wireless monitoring products, which can cover a larger area compared with other 2.4G sensor devices.

**2017 香港工商業獎：設備及機器設計優異證書**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Certificate of Merit**

產品名稱：智能電源模塊  
*Product Name: Smart Distributor*

公司名稱：依力柏電能有限公司  
Company Name: ElecPower Limited

設計者：朱嘉傑先生  
Designer Name: Mr Chu Ka Kit

網址/Website: [www.elecpower.com.hk](http://www.elecpower.com.hk)

**評審委員會意見：**

此產品能配合專利有源陽極對共陰極電鍍工藝進行精密電鍍。優點包括：能互換週期性換極和極低紋波直流電鍍模式，令鍍層平均細緻；減少耗材；能進行高縱橫比電鍍；體積細小，用全密封設計，能在極端電鍍環境下運作。

**General Comments on the product:**

This distributor, a smart DC-DC converter, has been developed for implementing the new Active Anode – Common Cathode Approach to electroplating. When compared with conventional DC electroplating, the employment of this distributor in the electroplating process increases the plating speed, produces dense fine-grained deposits, reduces variation in coating thickness among the plating surfaces, reduces the waste of plating materials, and supports high aspect-ratio plating. The distributor can be easily stored, maintained and transported, and can be used in hostile electroplating environments.

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**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design Certificate of Merit**

產品名稱：金門模板升降台系統  
*Product Name: Gammon Formwork Hoist System*

公司名稱：金門建築有限公司  
Company Name: Gammon Construction Limited

設計者：李駿輝先生、蘇志峰先生、敖日軒先生  
Designer Name: Mr Li Chun Fai Steve, Mr Su Chi Fung Byren, Mr Ngo Yat Hin Darren

網址/Website: [www.gammonconstruction.com](http://www.gammonconstruction.com)

**評審委員會意見：**

此系統採用了一般應用在載人電梯的齒輪及齒條技術，它比現有的模板升降台更精巧和耐用，且兼備更高的安全性能。系統的路軌自動爬行功能免卻了使用塔式起重機吊運路軌至上層的需要。它可以提高模板吊運的生產力，同時提高安全性，並減省一半的成本。

**General Comments on the product:**

This formwork hoist adopted the Rack & Pinion technology, which is widely used in passenger hoists, into its lifting system. It is more compact, robust and higher in the level of safety performance. The self-climbing feature of the track of this system eliminates the need of tower crane to relocate the track to upper floors. It can improve productivity in formwork lifting, also enhance safety and result a 50% reduction in cost.

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產品名稱: Heycoins 硬幣機  
*Product Name: Heycoins Coin Kiosk*

公司名稱: Heycoins Limited  
Company Name:

設計者: 林振偉先生  
Designer Name: Mr Stephen Lam

網址/Website: [www.heycoins.com](http://www.heycoins.com)

**評審委員會意見:**

此產品能解決硬幣所帶來的煩瑣問題。它將收集得來的各式港幣硬幣進行點算，並可轉化成為電子貨幣，例如電子錢包充值、兌換商戶禮券和慈善捐款等。此產品平均每分鐘能識別 600 枚硬幣，並能識別來自超過 100 個國家的不同貨幣，是目前國際市場上性價比較高的產品。

**General Comments on the product:**

It is a kiosk network that tackles the hassle and inconvenience created by the use of physical coins. It collects coins from users and enables them to convert their physical coins into digital money, redeeming online/offline merchant coupons, and donation to charities. It can count on an average of 600 coins per minute and can recognize over 100 countries' coins. This machine is compact and is cheaper than those similar products in the market.

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產品名稱：手提式電動車充電器  
*Product Name: Portable Charger Kit*

公司名稱： Hong Kong Electric Vehicle Network Limited  
Company Name:

設計者： 陳彥充先生、羅俊偉先生  
Designer Name: Mr Daniel Chan, Mr David Law

網址/Website: [www.hkevn.com](http://www.hkevn.com)

**評審委員會意見：**

此手提式電動車(EV)充電系統備有充電器及插座。透過獨有的無線數據傳輸功能，此系統大幅減低充電樁安裝成本，尤其適合高密度浮動停車場。停車場只須安裝小巧的充電插座，即可向持有專屬充電器的車主提供及管理充電服務。

**General Comments on the product:**

This product is a portable Electric Vehicle Charger that works with proprietary AC charging socket. It is a solution for vehicle charging in a typical carpark in a residential complex in Hong Kong where it is not possible to install charging outlets at designated parking spaces. The charger is to be carried in the vehicle. The user will park the vehicle in a parking space and plug the charger in a nearby socket.



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*產品名稱：用於防污表面塗層的先進真空鍍膜機*  
*Product Name: Advanced Vacuum Coater for Anti-fouling Surface Coating*

公司名稱：香港生產力促進局 - 智能製造及材料科技部  
Company Name: Hong Kong Productivity Council - Smart Manufacturing and Materials Division

設計者：李國強先生、盧偉賢博士、易敏龍先生、鄭穎怡小姐、潘志豪先生  
Designer Name: Mr K K Lee, Dr W Y Lo, Mr M L Yick, Ms W Y Cheng, Mr C H Poon

網址/Website: [www.hkpc.org](http://www.hkpc.org)

**評審委員會意見：**

這設備使用了香港生產力促進局內部所開發的工藝，將防污塗料廣泛應用於不同物質的表面上，例如玻璃、塑料等。該設備能令產品減低被灰塵及油霧等污染，其運作及材料成本皆具經濟效益，預期使用壽命超過 5 年，投資回報率為 2 年半。

**General Comments on the product:**

By using HKPC's in-house developed process, this equipment could apply anti-fouling coatings to wide ranging surfaces such as glass, plastic, textile, metal, and ceramic, etc. The equipment is geared towards products vulnerable to environmental contaminations, such as dust, mist, oil, etc., which could greatly reduce the products' usage lifetimes. The equipment is economical both in operating and material costs, with an expected service life of more than 5 years and ROI in 2.5 years.

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*產品名稱: 多組件模內焊接成型的模具*

*Product Name: Intramode Welding Injection Mold with Multi-Component & Multi-Cavity*

公司名稱: 鴻利達模具有限公司  
Company Name: Hongrita Mold Limited

設計者: 鄧承原先生、許見新先生、周存安先生、王偉光先生  
Designer Name: Mr Deng Chengyuan, Mr Xu Jianxin, Mr Anson Zhou, Mr Jeffery Wong

網址/Website: [www.hongrita.com](http://www.hongrita.com)

**評審委員會意見:**

此產品採用的技術可減少多元件塑膠件的成型和組裝的週期，增強產品的美觀和功能，並降低生產成本。由於成型出來的工件已是成品，不需進行第二次的組裝和焊接。另模具成型的各個部件易於更換，故同一模具可製造不同形狀或不同大小的產品。

**General Comments on the product:**

The technology being employed can decrease cycle time in the molding and assembling of multi-component plastic parts, enhance the aesthetics and functionality of finished products, and reduce labour cost in production. Workpieces coming out from the molding process are already finished products which do not require secondary operations in assembling and joining. It has 5 major components and the individual components of the mold are easily replaceable so that work pieces of different design can be made from the same mold.

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*產品名稱: NeoSolar - 流動太陽能再生能源及無線充電智能電池裝置*  
*Product Name: NeoSolar - portable solar renewable with wireless*  
*battery storage device*

公司名稱: Neosen Energy HK Limited  
Company Name:

設計者: Mr Paul Garrity、劉定國先生、黃鎮濤先生  
Designer Name: Mr Paul Garrity, Mr Damon Lau, Mr Kelvin Wong

網址/Website: [www.neosenenergy.com](http://www.neosenenergy.com)

**評審委員會意見:**

此產品是以太陽能轉化成高容量電池盒作儲備用途。該電池盒具備 100 瓦的容量，可調較以配合不同用途。另產品利用合併主控板專利技術，達至擁有 100 瓦的無線充電及放電功能，大大減少獨立配置無線充電發射模組及接收模組的 50% 成本。

**General Comments on the product:**

The product is a solar power rechargeable water-proof battery pack for high power applications. The battery power pack is capable of delivering 100W of power as well as charging at the same rate, both wirelessly. The batteries can be stacked up during charging wirelessly in sequence. With the patented single rectifier to perform charging and discharging functions, the cost of wireless charging transmitter and receiver hardware cost can be cut in half by combining these two technologies into one single module.

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*產品名稱：壓阻式防夾手指裝置*

*Product Name: Piezoresistive Anti-Finger Trapping Device*

公司名稱： 佰德石森有限公司  
Company Name: Partec-Ishimori Company Limited

設計者： 羅文偉先生  
Designer Name: Mr Law Man Wai Roman

網址/Website: [www.partec-ishimori.com](http://www.partec-ishimori.com)

**評審委員會意見：**

此產品是一個升降機輔助安全裝置，主要防止乘客、尤其是小童的手指意外地被升降機門夾傷。該產品可安裝在新建或舊有的升降機的移動門縫中，有效地減少乘客因手指被電梯門所夾而所造成的傷害。

**General Comments on the product:**

The product helps to prevent the trapping of fingers of lift passengers, particularly children, who accidentally place a hand near the narrow gap between a moving door panel and the stationary lift frame when the lift doors open. It is designed to be installed in existing lifts and could greatly reduce the severity of injuries caused by failure in stopping an opening lift door when passenger's finger(s) are trapped.

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產品名稱: 柔性漸進彎曲成形機床

*Product Name: A Flexible Incremental Bending Machine*

公司名稱: 香港中文大學精密工程研究所  
Company Name: The Chinese University of Hong Kong - Institute of Precision Engineering

設計者: 杜如虛教授、黨曉兵先生  
Designer Name: Prof Du Ruxu, Mr Dang Xiaobing

網址/Website: [www.ipe.cuhk.edu.hk](http://www.ipe.cuhk.edu.hk)

**評審委員會意見:**

三維自由曲面金屬板傳統上是用水火法手工彎製而成，即使熟練的技術工人也需耗費大量時間，而且質量不佳。此產品現利用最小能量原理和電腦視覺無模型控制方法，可以高效率地完成金屬板的自動化彎板。這一技術可應用於多個行業，如船舶製造、建築等。

**General Comments on the product:**

3D free form metal plate is traditionally bended using the so-called line-heating method, which would take a long time by skillful technician, and the quality is often inferior. Based on the minimum energy principle and the vision based model-less control, the new incremental bending machine can effectively and efficiently bend the metal plate to the required 3D free form shape automatically. It can be used in many industry sectors such as shipbuilding, architecture and construction.

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**Equipment and Machinery Design Certificate of Merit**

*產品名稱: 視覺導航智能叉車系統*

*Product Name: Vision-based Intelligent Forklift AGV System in Natural Environment*

公司名稱: 未來機器人有限公司

Company Name: Visionnav Robotics Limited

設計者: 李陸洋博士、方牧博士、魯豫傑博士、彭志富先生、莫祝堅先生、  
吳興華先生、劉鵬程先生

Designer Name: Dr Li Luyang, Dr Fang Mu, Dr Lu Yujie, Mr Peng Zhifu, Mr Mo Zhujian,  
Mr Wu Xinghua, Mr Liu Pengcheng

網址/Website: [www.visionnav.cn](http://www.visionnav.cn)

**評審委員會意見:**

此系統運用了自行研發的基於視覺的同步定位與建圖(SLAM)、視覺實時定位、路徑規劃、視覺智能避障、等共 7 項專利技術。該產品導航僅靠自然環境的視覺特徵，無需改動現場設施，十分靈活，而且價錢較同類型產品便宜。

**General Comments on the product:**

This vision-based navigation AGV system has used some key technologies including simultaneous localization and mapping, real-time localization, obstacle avoidance and online trajectory planning, and seven patents were obtained. The vision-based navigation technology detects and tracks the natural features instead of the traditional markers. Thus, customers do not need to change the on-site facilities. This system is of high flexibility and as compared to the laser-guided AGV systems, the cost of this vision based AGV system is also lower.

**2017 香港工商業獎：設備及機器設計**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design**

**主辦機構 ORGANIZER**

**香港中華廠商聯合會**  
**The Chinese Manufacturers' Association of Hong Kong**

**簡介**

香港中華廠商聯合會成立於 1934 年，至今已超過 80 年歷史，現有會員企業 3000 多家，是香港最大及最具代表性的非牟利工業團體之一，致力服務社會，維護公眾利益。

**宗旨**

本會主要宗旨為：

- 促進香港工業與貿易的發展；
- 就政府政策的訂定與執行代表工業界發表意見；
- 參與社會發展工作；以及
- 促進國際間的了解與合作。

**INTRODUCTION**

Established in 1934, The Chinese Manufacturers' Association of Hong Kong (CMA) is a not-for-profit chamber of commerce and one of the most representative industrial associations in Hong Kong. With over 3,000 member companies from various sectors of industry and trade, the CMA is committed to serving the community and safeguarding public interest.

**OBJECTIVES**

The CMA's primary objectives are:

- to promote Hong Kong's trade and industrial development;
- to represent industry in the formulation and implementation of Government policies;
- to participate in community development work; and
- to foster international understanding and co-operation

**2017 香港工商業獎：設備及機器設計**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design**

*宗旨*  
*OBJECTIVE*

是項比賽旨在鼓勵和提高本港設備及機器的設計及生產水準，藉此提高產品競爭力，及對傑出的產品加以獎勵。

The objective of the competition is to encourage the upgrading of the design of equipment and machinery in Hong Kong so as to enhance competitiveness and to give recognition to outstanding products.

*評審標準*  
*JUDGING CRITERIA*

- |          |                           |
|----------|---------------------------|
| ● 創新     | Innovation                |
| ● 應用新技術  | Application of technology |
| ● 性能     | Functionality             |
| ● 方便使用   | Ergonomics                |
| ● 成本效益   | Cost-performance          |
| ● 安全程度   | Safety                    |
| ● 對環境的影響 | Environmental impact      |
| ● 市場銷售性  | Marketability             |



**2017 香港工商業獎：設備及機器設計**  
**2017 Hong Kong Awards for Industries:**  
**Equipment and Machinery Design**

*參賽類別*  
*CATEGORIES*

**生產機器及設備**

**Production Machinery / Equipment**

供作生產用途而產品為完整的機器或設備。

Machinery/Equipment which in itself is a complete unit and is used for production purposes.

**機器設備的工具、配件及零件**

**Machine Tools, Device and Add-on Accessory for**

**Production Machinery / Equipment**

附於機器或設備上的工具、配件及零件，用以輔助生產、提高生產效率及控制產品質素等。

Machine Tools, Device and Add-on Accessory which are designed as part of the machinery or add-on gadget to facilitate production processes and to improve / upgrade productivity, efficiency and quality control.

**科學儀器、計量儀器、控制及測試設備及其配件或零件**

**Scientific, Measuring, Controlling and Testing Equipment  
and**

**its Parts and Accessories thereof**

**辦公室文儀用具（包括電腦）及通訊器材**

**Office Machine / Equipment (including Computers) and  
Communication Equipment**

**工業用的電腦軟件**

**Computer Software for Industrial Application**

**雜項類**

**Miscellaneous**

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**Equipment and Machinery Design**

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**主辦機構：香港中華廠商聯合會**

**2018 Hong Kong Awards for Industries:**

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**Organizer : The Chinese Manufacturers' Association of Hong Kong**

Tel 電話: 2542 8621 / 2542 8624

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香港玩具協會 Hong Kong Toys Council

香港電燈有限公司 The Hongkong Electric Co., Ltd.

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