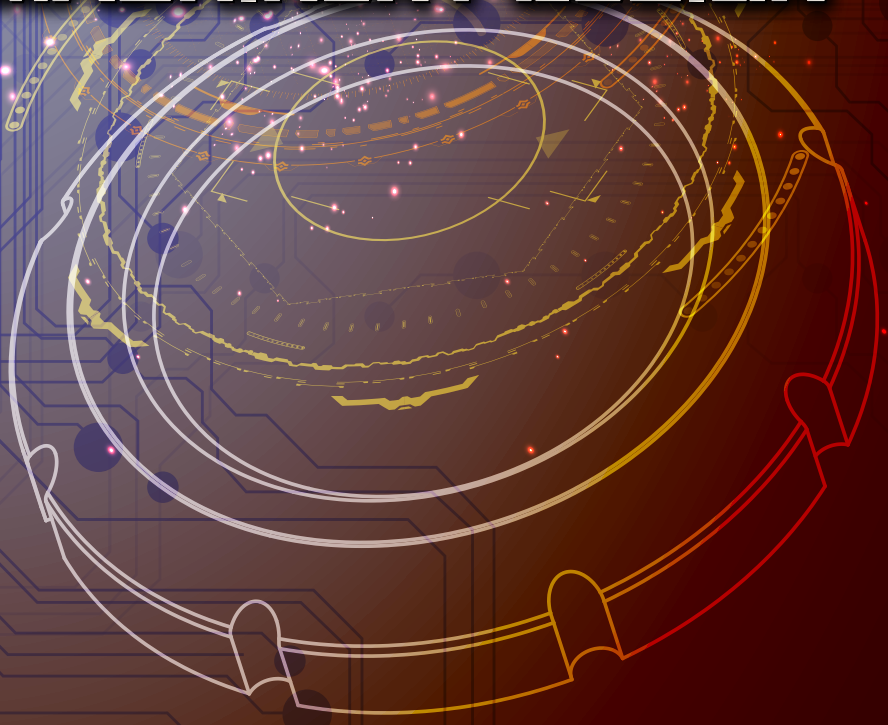
香港工商業獎

2018

HONG KONG AWARDS FOR INDUSTRIES

設備及機器設計
EQUIPMENT AND MACHINERY DESIGN



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

2018香港工商業獎：
設備及機器設計
得獎產品名單

2018 Hong Kong Awards for Industries: Equipment and Machinery Design
List of Winning Products

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

得獎公司 Winning Company	得獎產品 Winning Product
路邦動力有限公司 Roborn Dynamics Limited	動感控制機械人 Motion Controlled Humanoid Robot

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

得獎公司 Winning Company	得獎產品 Winning Product
遊艇主義有限公司 Aviva Yacht Limited	納米光催化海洋防污漆(Nano-MAP) Nano-Photocatalytic Marine Antifouling Paint (Nano-MAP)
得能光控有限公司 DeLight Power Products Limited	基於IoT3的環保、護眼、節能、智能光控系統 IoT3 Based, Smart Lighting Control System
Neosen Energy HK Limited	NeoSmart - 牛隻管理追蹤系統 NeoSmart - Cattle Management and Tracking Solution
奧馬迪機器人有限公司 O-Matic Intelligent Robot Limited	鋼索機器人 Cable Robot
創毅技術有限公司 Pinnacle Tech Limited	全自動化微型光學防料馬達生產設備 Fully Automated Production Equipment for OIS/AF Voice Coil Motors
亞洲電鍍器材有限公司 Process Automation International Limited	智能連續電鍍設備 Smart Continuous Plater (SCP)
新科實業有限公司、 香港應用科技研究院有限公司 SAE Magnetics (Hong Kong) Limited, Hong Kong Applied Science and Technology Research Institute Company Limited	用於工業磁頭潔淨室的協同移動機械手 Collaborative Mobile Manipulator for Industrial Magnetic Head Clean Room

設備及機器設計優異證書
Equipment and Machinery Design Certificate of Merit

得獎公司 Winning Company	得獎產品 Winning Product
標準錶針及配件廠有限公司 Biu Chun Watch Hands & Parts Manufacturers Ltd	自動撥針機 Automatic Watch Hand Alignment Machine
康訊生物分析有限公司 Health View Bioanalytic Limited	全自動視網膜分析中風及認知障礙風險 Automatic Retinal Image Analysis (ARIA) for Risk of Stroke and Dementia
香港應用科技研究院有限公司 Hong Kong Applied Science and Technology Research Institute Company Limited	VR一體機 All-in-one VR Head Mount Display
科能三維技術(醫療)有限公司 Koln 3D Technology (Medical) Limited	科能三維™可控性醫療金屬三維打印系統 Koln 3D™ Customizable Medical Metal 3D Printing System
PowerArena Limited	PowerArena Deep Learning AI on Manufacturing Shop Floor
瑞柏科技控股有限公司 SPECTRA Technologies Holdings Company Limited	T300 電子交易終端機 T300 Countertop POS Terminal
香港理工大學 - 超精密加工技術國家重點實驗室 The Hong Kong Polytechnic University - State Key Laboratory of Ultra-precision Machining Technology	精密玻璃光學微結構及光學元件壓印裝備 A Novel Molding and Embossing Machine for Precision Optical Glass Microstructures and Micro-optics
永星化工有限公司 Winstar Chemicals Company Limited	ZICOLLUM™環保納米無鉻鋅鋁塗料系統 ZICOLLUM™ Environmentally-friendly Zinc & Aluminum Nano Coating System

香港中華廠商聯合會會長吳宏斌博士 BBS MH 獻詞
Message by Dr Ng Wang Pun, Dennis BBS MH
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。

創新和科技是推動「再工業化」的重點，亦是令香港能持續發展和保持競爭力的重要元素。今年，廠商會首次向城內的天使基金作出投資，目的是要對本港具潛力的初創公司提供實質性的支持，期望為香港的創科發展出力。與此同時，我們明白傳統工業和中小企業對實現升級轉型和在科技應用上有一定的難度，廠商會將加強作為推動者的角色，以營造業界創新的氛圍。我們深信，香港設備及機器製造商亦會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郭位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支持機構，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。

吳宏斌

香港中華廠商聯合會會長

吳宏斌博士 BBS MH

"The Hong Kong Awards for Industries" scheme is fully supported by the HKSAR Government and is an important annual event in Hong Kong's trade and industry circle. 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 industrial competitiveness, and to give recognition to outstanding products.

Innovation and technology are key to promoting "re-industrialisation", as they are important factors in Hong Kong's continuous development and competitiveness. This year, CMA has for the first time made an investment into an angel fund to help potential innovative companies raise startup funding. We understand that it is often difficult for traditional industries and SMEs to upgrade and transform and to grasp the latest technologies. The CMA will continue strengthen its role as a facilitator to foster a climate for innovation. We firmly believe that Hong Kong's equipment and machinery manufacturers will continue to innovate and produce high value-added and high quality products.

I wish to pay special tribute to members of the Judging Panel, especially to Panel Chairman Prof Way KUO, for the most important task of selecting the winners. I would also like to thank all participating companies and supporting organizations and wish they will continue to support this meaningful event in future.

Last but not least, I would like to warmly congratulate all the winners on their outstanding achievements in this year's event.

Dr Dennis W P Ng BBS MH

President

The Chinese Manufacturers' Association of Hong Kong

2018 香港工商業獎：設備及機器設計組別最終評審委員會
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Final Judging Panel

左起：

盧金榮博士、柯嘉倫博士、陳雲青博士工程師、郭位教授（最終評審委員會主席）、楊立門先生（香港中華廠商聯合會行政總裁，非最終評審委員會成員）、賴漢忠先生、陳鏡昌教授、葛明博士（技術小組成員）

From left:

Dr LO Kam Wing; Dr Kalun OR; Ir Dr Lawrence W CHAN; Prof Way KUO (Chairman of the Final Judging Panel); Mr Raymond YOUNG (CEO of CMA – Not a Final Judging Panel Member); Mr LAI Hon Chung, Harry; Prof Keith K C CHAN; Dr GE Ming (Technical Team Member)

2018 香港工商業獎：設備及機器設計組別最終評審委員會
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Final Judging Panel

郭位教授（最終評審委員會主席）
Prof Way KUO
(Chairman of the Final Judging Panel)
香港城市大學校長
President
City University of Hong Kong

畢堅文先生
Mr Mohamed Din BUTT
香港生產力促進局總裁
Executive Director
Hong Kong Productivity Council

陳鏡昌教授
Prof Keith K C CHAN
香港理工大學工業及系統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

鍾國輝工程師
Ir Edwin CHUNG Kwok Fai
香港工程師學會副會長
Vice President
The Hong Kong Institution of Engineers

郭始剛教授
Prof Paul C K KWOK
香港科技專上書院副校長
Vice President
Hong Kong Institute of Technology

賴漢忠先生
Mr LAI Hon Chung, Harry
機電工程署副署長 / 規管服務
Deputy Director / Regulatory Services
Electrical and Mechanical Services Department

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

盧金榮博士
Dr LO Kam Wing
香港中華廠商聯合會副會長
Vice President
The Chinese Manufacturers' Association of Hong Kong

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
Chair Professor of Electronic Engineering
Department of Electronic Engineering
City University of Hong Kong

柯嘉倫博士
Dr Kalun OR
香港大學工業及製造系統工程系副教授及助理系主任
Associate Professor & Assistant Head
Department of Industrial and Manufacturing Systems Engineering
The University of Hong Kong

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暫任院長、機械及自動化工程學系教授
Interim Dean, Faculty of Engineering
Professor of Department of Mechanical & Automation Engineering
The Chinese University of Hong Kong

2018 香港工商業獎：設備及機器設計大獎
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Grand Award

產品名稱： **動感控制機械人**
Product Name: **Motion Controlled Humanoid Robot**

公司名稱： **路邦動力有限公司**
Company Name: **Roborn Dynamics Limited**

設計者： **麥騫譽博士、呂力君先生**
Designer Name: **Dr Mak Hin Yu Mark, Mr Lu Li Han Eden**

網址 /Website: **www.roborn.com**

評審委員會意見：

這產品是一部人形機械人，它複製了操作人員的身體尺寸和操控時身體活動的三維空間定位，從而控制機械人的所有動作。同時通過無線傳輸，它的手、手掌和手指的活動皆可由操作人員的身體移動和定位直接控制。

另一方面，透過安裝在機械人身上的鏡頭，操作人員可利用 VR 眼鏡，感受到機械人所在的工作環境，來處理它周邊的工作。

由於此產品可複製操作人員手臂的動作，作遙距操控的應用，其應用範圍包括炸彈處理、在放射性污染環境中工作、以及在其他可能危害人類的環境下執行任務。雖然機械人現時仍未能完全取代人類的工作，但此機器能夠透過複製人類的動作來執行任務，已是向人工智能機械人邁進一大步。

General Comments on the product:

This product is a humanoid robot, replicating the dimension and geometry of the human operator. In particular, the arm, palm and finger movements can be actuated remotely according to similar movement and positioning of the operator.

The important consideration in this kind of application is for the human operator to be able to see and feel the working environment where the robot is deployed. With cameras mounted on the humanoid robot, the human operator can visualize through VR the live operating environment in first person.

There are applications that call for the replication of human arm movements at a remote location. These include bomb disposal, working in a radioactive contaminated environment, and other dangerous environment that can endanger a human being. Therefore, these are the situations where a robot can replace a human being. While it is premature for a robot to be able to have the intelligence to perform tasks as well as a human being, a machine that can replicate human movement is one step closer to bringing intelligence to a robot.

2018 香港工商業獎：設備及機器設計獎
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產品名稱： 納米光催化海洋防污漆 (Nano-MAP)
Product Name: Nano-Photocatalytic Marine Antifouling Paint (Nano-MAP)

公司名稱： 遊艇主義有限公司
Company Name: Aviva Yacht Limited

設計者： 梁顯庭先生、梁國熙教授、梁耀彰教授
Designer Name: Mr LEUNG Hin Ting, Prof Michael K H LEUNG, Prof Dennis Y C LEUNG

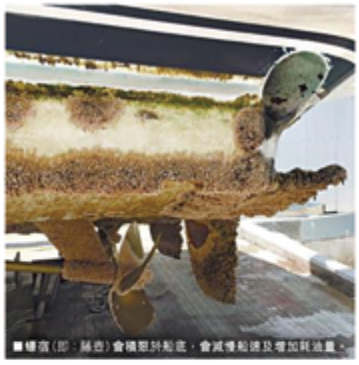
網址 /Website: avivayacht.com

評審委員會意見：

此產品使用了光催化原理的防污漆，嶄新地引進到海洋工業。與傳統的防污漆相比，光催化防污漆的成份不含重金屬，防污性能更優越。這研究項目由兩所香港的大學和兩家公司合作進行研發，並已獲得創新及科技基金支持。光催化防污漆已應用於香港的遊艇、船隻或其他海洋防污設備上，其防污功能亦備受認同，具備有很大的市場潛力。

General Comments on the product:

This antifouling paint which uses the principles of photocatalysis is new for the marine industries. As compared to conventional antifouling paints, this paint is designed without heavy metals and is of enhanced antifouling performance. The research and development work is supported by an on-going Innovation and Technology Fund project with collaborations among two local universities and two companies. The paint has been applied to yachts in Hong Kong, and good antifouling performance is reported. The paint is of good potential for using in more small yachts/ships and other applications.



Hull fouling reduces speed resulting in high fuel consumption.

NAP maintains hull surface clean at all times for years.

產品名稱： **基於 IoT3 的環保、護眼、節能、智能光控系統**
Product Name: **IoT3 Based, Smart Lighting Control System**

公司名稱： **得能光控有限公司**
Company Name: **DeLight Power Products Limited**

設計者： **尤建興先生**
Designer Name: **Mr Henry Yau**

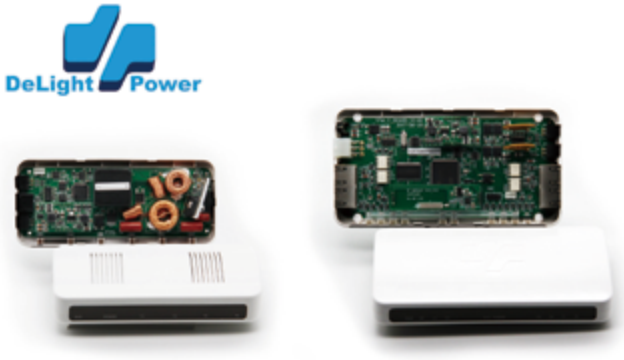
網址 /Website: **www.delightintl.com**

評審委員會意見：

此智能照明系統採用恆流分佈式網絡，以及利用傳感器和控制器，來控制不同區域的 LED 照明。產品採用了低壓直流供電系統，以提高安裝的安全性。另一方面，產品因透過分佈式控制系統、手機應用程式和傳統開關，令操作十分簡易，並具備靈活性、穩定性，及無單點故障（除電源）等特點。此系統實現了精確照明控制和節能需求：滿足某些市場需精確地控制電能使用率，以確保電力的使用保持在電網限制範圍內。

General Comments on the product:

The smart lighting system uses a distributed network of sensors, controllers and constant current supply to control the lighting level of LEDs in different locations. The low DC power distribution improves safety in installation. With the distributed control system, and user interface via wireless mobile phone apps or wall switches, the system appears to be user friendly and has inherent flexibility and robustness, without a single point of failure (apart from the power supply). The system enables precise control of lighting levels and can enable energy savings: it may satisfy markets which require precise control of power utilization for dynamic control of loads to keep peak electrical power utilization to within limits of local power grids.



TermiDrive : TD205　　SmartController : SC24

2018 香港工商業獎：設備及機器設計獎
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Award

產品名稱： NeoSmart - 牛隻追蹤和管理系統
Product Name: NeoSmart - Cattle Management and Tracking Solution

公司名稱：
Company Name: Neosen Energy HK Limited

設計者： Mr Paul Garrity、劉定國先生
Designer Name: Mr Paul Garrity, Mr Damon Lau

網址 /Website: https://www.neosenenergy.com

評審委員會意見：

NeoSmart - 牛隻追蹤和管理系統，允許管理人員遙距收集和管理七公里半徑範圍內所有牛隻的位置及其身體狀況。只需在牛隻耳朵戴上附有太陽能板和溫度感測器的追蹤牌及在牛場設置簡單的硬件（如閘道器），即可在無 GPS 的情況下利用三角定位追蹤牛隻位置。此系統大大減低 80% 至 90% 的戶外追蹤和管理系統的硬件成本，而且比 GPS/ 藍芽更省電。

General Comments on the product:

NeoSmart is a system to manage and track live stock in a ranch. The typical application is in a cattle ranch which traditionally make use of guide dogs to keep the livestock in range.

The system consists of electronic cow tags that can transpond signals from three beacons so that the cow's position can be established, tracked and maintain in the central database. The electronic cow tags can also gather biometric data (temperature, breathing, pulse, etc.) from the cow and report to the central database so the system can also track the healthiness of the live stock.

The technology does not rely on GPS and Bluetooth, which consumes a large amount of power and is more costly. These reduces the cost of location tracking and sensing by 80% to 90% when compared with other tracking solutions.

產品名稱： **鋼索機器人**
Product Name: **Cable Robot**

公司名稱： **奧馬迪機器人有限公司**
Company Name: **O-Matic Intelligent Robot Limited**

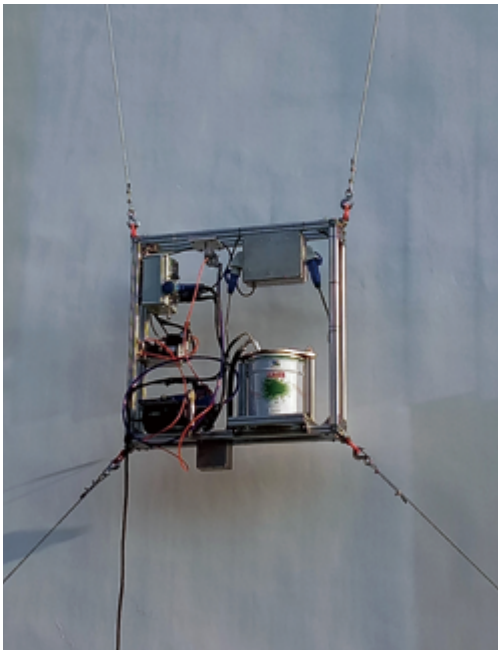
設計者： **李偉民先生**
Designer Name: **Mr Lee Wai Man**

網址 /Website: **www.o-matic.cn**

評審委員會意見：

鋼索機器人一般由四條鋼索所牽引，通過鋼索的收放配合來控制機器人的位置。它可應用於建築工地、以及其他有潛在危險的高空工作，例如噴漆、拋光、抹灰、鑽孔、洩漏檢測和預製件安裝檢查等，此產品亦有助解決香港及其他地區的人手短缺問題。

此產品除了提高建築工人的工作安全外，還可確保產能和質量的一致性。它具有多功能，可擴展及易於裝配和拆卸工具的特性，可取替需要採用棚架和吊船的高空工作。



General Comments on the product:

The Cable Robot is a robot suspended by typically 4 cables which also control the positioning of the robot by a combination of contraction and release of the cables. It finds its application in construction sites and relieves human workers from dangerous aerial working environment and exposure to potentially hazardous situation such as painting, polishing, plastering, drilling, leaks detection & façade inspection in mid-air. It also helps to address the worker shortage problem in Hong Kong and elsewhere.

Apart from safety of the workers, the Cable Robot also enhances throughput and quality consistency. It is versatile, scalable, easily to assembly and disassembly tools that can replace scaffolding and gondola at aerial work.

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產品名稱： **全自動化微型光學防料馬達生產設備**
Product Name: **Fully Automated Production Equipment for OIS/AF Voice Coil Motors**

公司名稱： **創毅技術有限公司**
Company Name: **Pinnacle Tech Limited**

設計者： **王俊強先生**
Designer Name: **Mr Jason Wang**

網址 /Website: **www.pinnacle-techpro.com**

評審委員會意見：

此產品是一台全自動生產設備，適用於生產小型相機模塊中常用的光學防震（OIS）/ 自動對焦（AF）的音圈馬達。 由於該設備是一個高度自動化的系統，它取代了大批量勞動密集型的生產，並可減少勞動力高達 90%，同時提高 4 倍的生產力（即每件 5 秒的生產週期），減少使用的功耗 30%，更可節省空間，提升毛利潤達 20%。此外，該設備是一款高度模塊化的設計，當產品設計需要變更時，稍作修改相關模塊便可，這大大降低產品修改的成本。

General Comments on the product:

The machine is a fully automated production machine for producing Optical Image Stabilization (OIS)/Auto Focus (AF) voice coil motors employed in compact camera modules. Since the machine is a fully automated system, it replaces the labor-intensive production for high-volume manufacturing. The use of the machine results in a 90% reduction in human workforce, a faster production (4 times faster, resulting in a cycle time of 5 seconds per piece), a 30% reduction in power used in production, a reduction in the use of physical space, and an average of 20% increase in net profit. Also, the machine has a highly modular system that the modules can be modified easily when there are changes in the product design in order to avoid high capital investment for the changes.

產品名稱： 智能連續電鍍設備
Product Name: Smart Continuous Plater (SCP)

公司名稱： 亞洲電鍍器材有限公司
Company Name: Process Automation International Limited

設計者： 韓保羅博士、許貴濱先生、趙汝謙先生、鄭光祖先生
Designer Name: Dr Paul Henington, Mr Hui Kwai Pun, Mr Chiu Yu Him, Mr Cheng Kwong Cho

網址 /Website: www.palhk.com

評審委員會意見：

智能連續電鍍設備旨在滿足頂尖移動電話市場對 PCB 上超細線路通電的嚴格電鍍要求。此產品主要有兩項創新功能：

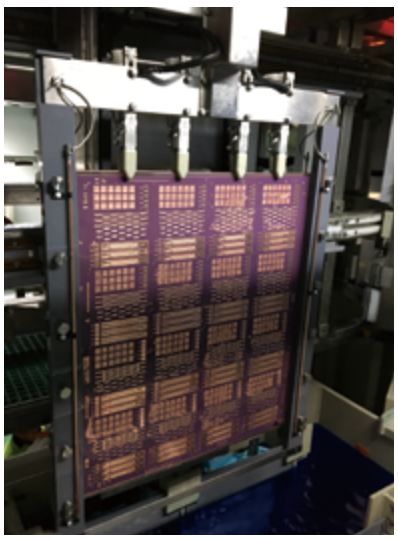
1) 每台智能小車獨立控制每片 PCB 流程和提供精準電流控制；

2) 每片 PCB 放置於薄板框內，以提供非接觸的電鍍環境，從而提高產品良率。

該設備亦配合機械手臂，可全自動上落 PCB。主控制系統能檢測到有故障的小車，提示操作員自動更換。

General Comments on the product:

The Smart Continuous Plater (SCP) is designed to meet the stringent requirements of plating conductive materials on ultra-thin printed circuit boards (PCBs) for the top-of-the-line mobile phone market. Its innovative features have two major components: 1) smart PCB carriers for exerting precise current control and motion control on individual work-pieces and communicating with the main control unit, and 2) PCB frame-racks for improving the production yield by supporting the work-pieces without contacting the surrounding environment during the plating process. In addition, the SCP is equipped with a robotic arm that can automatically load and unload trays of work-pieces on and off the PCB feeder. The main control unit can also detect malfunctioning of smart carriers and signal an operator to remove the defective carriers automatically off the production line.



2018 香港工商業獎：設備及機器設計獎
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Award

產品名稱：
Product Name: **用於工業磁頭潔淨室的協同移動機械手**
Collaborative Mobile Manipulator for Industrial Magnetic Head Clean Room

公司名稱：
Company Name: **新科實業有限公司、香港應用科技研究院有限公司**
SAE Magnetics (Hong Kong) Limited, Hong Kong Applied Science and Technology Research Institute Company Limited

設計者：
Designer Name: **鄭子樂先生、谷德權博士**
Mr Cheng Tsz Lok Alfred, Dr Koo Tak Kuen John

網址 /Website: **www.sae.com.hk**

評審委員會意見：

這是一個集移動、傳感和協作於一體的產品，它可靈活配置於高度自動化作業的移動協作式操作平台。產品配備了激光雷達和圖像傳感器，為行駛和停泊提供了毫米級的精度，視覺式的取放定位更達亞毫米級的精度。該設備採用虛擬和實物的交互研發，減低其複雜性，並能降低成本及減省時間。該設備既可和工人協同工作，也可無人自主運作。該產品在現行應用中，展示了在磁頭潔淨室從事物料搬運及交換，彰顯了工業 4.0 智慧工廠的能力。

General Comments on the product:

The Collaborative Mobile Manipulator (CMM) is a platform with mobility, sensing and manipulation capabilities for reconfigurable, flexible, and highly automated manufacturing. The CMM is equipped with LIDAR and vision sensors to enable parking and unparking at mm-level accuracy. Vison-based pick-and-place in various ways can be carried out in sub-mm level. The CMM also adopts the Digital and Physical Twins approach in its development, which helps to minimize the complexity as well as the cost and time spent in the process. The CMM can work collaborating with human operators, or autonomously. For the current application, the CMM is demonstrated to handle material logistics and exchange with Automatic Work Cells that produce magnetic heads in a clean room environment. The product serves well to support the Smart Factory Initiative advocated by Industry 4.0.

產品名稱： **自動撥針機**
Product Name: **Automatic Watch Hand Alignment Machine**

公司名稱： **標準錶針及配件廠有限公司**
Company Name: **Biu Chun Watch Hands & Parts Manufacturers Ltd**

設計者： **鄒正濤先生、盧應平先生、吳錦培先生**
Designer Name: **Mr Zou Zheng Tao, Mr Lu Ying Ping, Mr Wu Jin Pei**

網址 /Website: **www.biuchun.com**

評審委員會意見：

此機器為勞工密集的表針製造過程中提供一個解決方案。它利用視覺技術識別錶針位置，並靠機器手引導，使錶針擺放在正確的位置。此機器設計簡單，成本低，對於傳統鐘錶工業具有成本效益。加上操作容易及安全，能提高生產力及減少耗材。

General Comments on the product:

The machine provides a solution on a common but time/labour-consuming process in the watch hand manufacturing. The machine vision technology was applied for identifying the watch hand position, which gives a guidance for a 3-axis robot arm to put the pin in right position. The machine is designed in simply and low cost, which is cost-effective to the traditional watch industry. It is easy for worker to learn and operate and it is safe in operation. Moreover, the machine improves the productivity and reduces the waste.

2018 香港工商業獎：設備及機器設計優異證書
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Certificate of Merit

產品名稱： **全自動視網膜分析中風及認知障礙風險**
Product Name: **Automatic Retinal Image Analysis (ARIA) for Risk of Stroke and Dementia**

公司名稱： **康訊生物分析有限公司**
Company Name: **Health View Bioanalytic Limited**

設計者： **徐仲錡教授、李作為博士**
Designer Name: **Prof Benny Zee, Dr Jack Lee**

網址 /Website: **www.healthviewbio.com**

評審委員會意見：

此系統由機器學習技術識別視網膜特徵並進行研發，因眼底血管與腦部以至全身血管相連且能用肉眼直接透視，故只需以一幅眼底相上載到互聯網，便可初步評估中風及多個疾病之風險。現時用戶包括康復中心、醫療健康中心、驗光單位、社區衛生服務中心及非牟利機構等。

General Comments on the product:

The product is a cloud-based image analysis service which uses a database of images of the retina fundus and pattern recognition techniques developed by machine learning algorithms to identify features in the retina that are correlated with risk factors of stroke and dementia. The business model is based on service charges to access the database and retina image analysis software. The product is now used in ophthalmology clinic, optometry shop, social services and NGO.

產品名稱： VR 一體機
Product Name: All-in-one VR Head Mount Display

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

網址 /Website: www.astri.org

評審委員會意見：

VR 一體機是一個同時採用虛擬現實及增強現實技術的獨特產品。它結合了傳感器融合及嵌入式操作系統優化等核心技術，可以為醫學、健康保健及教育等不同領域提供先進的多功能應用。該產品已分別於中國和美國申請了一項專利。

General Comments on the product:

This product is a unique all-in-one Head Mount Display (HMD) device leverages both Virtual Reality (VR) and Augmented Reality (AR) technologies. The device uses core techniques of sensor fusion and embedded OS optimization. It offers advanced multi-functional features that can be used across numerous applications such as healthcare, medical and education. The product has already been filed one patent each from China and the US.

2018 香港工商業獎：設備及機器設計優異證書
2018 Hong Kong Awards for Industries: Equipment and Machinery Design Certificate of Merit

產品名稱： 科能三維™可控性醫療金屬三維打印系統
Product Name: Koln 3D™ Customizable Medical Metal 3D Printing System

公司名稱： 科能三維技術（醫療）有限公司
Company Name: Koln 3D Technology (Medical) Limited

設計者： 丘榮豐先生，謝龍峰醫生，麥思爾博士，翁正行先生，譚光亮先生，董天舒先生，蘇寶祥先生及關思敏小姐
Designer Name: Mr Edmond Yau, Dr Thomas Tse, Dr Sibyl Mak, Mr Bob Yung, Mr Kend Tam, Mr Leo Tung, Mr Po Cheung So & Miss Jennifer Kwan

網址 /Website: medical.koln3d-tech.com

評審委員會意見：

該系統運用專利技術，以及金屬激光燒結和數控系統及打磨機械人，能按患者結構及手術需求定制「個性化」產品。其一站式系統將二位斷層掃描轉化為三維圖檔，從而優化產品質量，減低成本和製作週期。此外，產品在燒結過程中利用了惰性氣體，確保氧氣合乎適當水平，以保障工人的安全。

General Comments on the product:

By application of CNC and laser sintering technologies, the machine provides the patients an effective and efficient solution on customized medical products, including personalized implants to assist bone in-growth and tailor-made surgical jigs to facilitate surgery. The system supports traditional 3D drawing software, and supports various materials with a short lead-time. To protect the worker, the inert gas is supplied to ensure the safety level of oxygen while using explosive powder.

產品名稱：
Product Name: **PowerArena Deep Learning AI on Manufacturing Shop Floor**

公司名稱：
Company Name: **PowerArena Limited**

設計者：
Designer Name: **Mr Ken Law**

網址 /Website: **www.powerarena.com**

評審委員會意見：

PowerArena 是利用鏡頭及深度學習的人工智能技術，為製造業提供實時監察系統。同時亦提供數據分析，為廠商找出低生產效能的根本原因，以作出改善來提高效益。另外，此技術可由工廠直接採用，並主要應用在勞動密集行業或自動化含量較低的工序上。

General Comments on the product:

This product which uses the computer vision and artificial intelligence techniques is a real time monitoring system for manufacturing shop floors. It helps to identify the root causes for low efficiency and to improve the productivity of a manufacturing shop floor. The technology can be directly adopted by the factories, as well as the System Integrators and this system is mainly for labour intensive or less automated processes.

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2018 Hong Kong Awards for Industries: Equipment and Machinery Design Certificate of Merit

產品名稱： **T300 電子交易終端機**
Product Name: **T300 Countertop POS Terminal**

公司名稱： **瑞柏科技控股有限公司**
Company Name: **SPECTRA Technologies Holdings Company Limited**

設計者： **李遠明先生、郭君雄先生、黃家駒先生、馮卓榮先生**
Designer Name: **Mr Lee Yuen Ming, Mr Kok Kwan Hung, Mr Wong Ka Kui, Mr Fung Cheuk Wing**

網址 /Website: **www.spectratech.com**

評審委員會意見：

T300 電子交易終端機集多種流行的支付方案於一機。包括 Visa PayWave，MasterPass，QuickPass，ExpressPay，Apple play，Android Pay 和手機支付，產品並附設電子簽名及印發收據的功能，方便記錄，更可無線使用。

產品外形小巧，並配備了現今支付技術所需的功能，比市場上的同類產品具競爭力。

General Comments on the product:

T300 is an all-in-one POS terminal which supports many popular payment scheme including Visa PayWave, MasterPass, QuickPass, ExpressPay, Apple play, Android Pay and QR Payment. It provides e-signature function by signing on the screen and then print on the receipt. With added wireless communication, it becomes a truly mobile device. The device is compact and is cheaper than those similar products in the market.

The strength of the product lies in the integration of most of the payment technologies being deployed today into a small form factor.

產品名稱： 精密玻璃光學微結構及光學元件壓印裝備
Product Name: A Novel Molding and Embossing Machine for Precision Optical Glass Microstructures and Micro-optics

公司名稱： 香港理工大學 - 超精密加工技術國家重點實驗室
Company Name: The Hong Kong Polytechnic University - State Key Laboratory of Ultra-precision Machining Technology

設計者： 李榮彬教授、李莉華博士、陳建良先生、吳文祥先生
Designer Name: Prof Lee Wing Bun, Dr Li Lihua, Mr Chan Kin Leung, Mr Ng Man Cheung

網址 /Website: www.sklumt.polyu.edu.hk

評審委員會意見：

該設備主要應用於模壓和印壓微結構於光學玻璃上。相比現時以紅外線加熱至 1000℃的方法，新技術在印壓過程中不用把模具加熱至 1000℃，其帶來的好處如下：1）壓印模具以低成本硅代替昂貴的碳化鎢，並易於用鑽石刀進行超精密加工；2）減低耗電量；3）減少模具的熱膨脹和變形；4）改善產品的微米級精確度和納米級的光潔度；和 5）降低製造成本和時間。

General Comments on the product:

The machine is developed to mold and emboss fine microstructures in optical glass. Compared to the conventional process that involves the use of an infrared heating method to heat up the mold up to 1000 degree Celsius for fine-microstructure molding/embossing, the new machine/method does not require to heat up the mold to such a high temperature which is claimed to result in the following benefits: 1) Use of low cost silicon as die material to replace expensive tungstun carbide which is not suitable for ultraprecision machining; 2) lower energy consumption; 3) reduced thermal expansion and deformation of the mold; 4) improved micron level accuracy and nanometric surface finish; and 5) lower manufacturing cost and time.

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2018 Hong Kong Awards for Industries: Equipment and Machinery Design Certificate of Merit

產品名稱： ZICOLLUM™ 環保納米無鉻鋅鋁塗料系統
Product Name: ZICOLLUM™ Environmentally-friendly Zinc & Aluminum Nano Coating System

公司名稱： 永星化工有限公司
Company Name: Winstar Chemicals Company Limited

設計者： 張志恒先生
Designer Name: Mr Chang Chi Hang Nicholas

網址 /Website: www.winstarchem.com

評審委員會意見：

此系統採用納米包覆的表面處理塗覆技術，把超細鋅鋁薄片結合各種化學材料，不含被歐盟禁止使用的致癌物六價鉻。系統採用了已獲頒發實用專利證書的特別塗層疊加理論的工藝，提供可調節厚度的防腐塗層，滿足客戶對產品的防腐需求。

General Comments on the product:

The system utilizes special surface coating materials comprising of nano-sized thin Zinc and Aluminum slices mixed with various chemical agents. The system has the advantage that the coating material is free of hexavalent chromium used in previous anti-corrosion coating materials such as Dacromet but is banned by the EU since 2000 as cancer causing agent. By applying the layers one by one, which is another patented technology of Winstar, the system also offers adjustable thickness in the coating depending on the level of corrosion resistance the customers desire.

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。

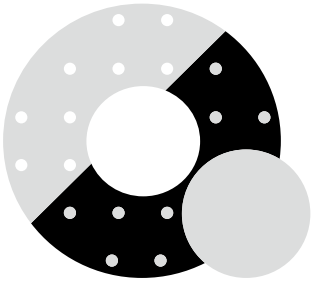
INTRODUCTION

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



2018 香港工商業獎：設備及機器設計
2018 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

參賽類別 CATEGORIES

生產機器及設備
Production Machinery / Equipment

機器設備的工具、配件及零件
Machine Tools, Device and Add-on Accessory for Production Machinery / Equipment

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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2019 年香港工商業獎：設備及機器設計
主辦機構：香港中華廠商聯合會

**2019 Hong Kong Awards for Industries:
Equipment and Machinery Design**
Organizer : The Chinese Manufacturers' Association of Hong Kong

Tel 電話 : 2542 8621/2542 8624 Fax 電話 : 2541 8154

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Name of Company

業務性質
Nature of Business

地 址
Address

聯絡人
Contact Person

電 話
Telephone

傳 真
Facsimile

電 郵
Email

二零一八香港工商業獎籌備委員會
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