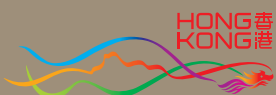


香港工商業獎
2017
HONG KONG
AWARDS FOR
INDUSTRIES



慶祝香港回歸二十周年
HKSAR 20th Anniversary



TECHNOLOGICAL ACHIEVEMENT 科技成就





2017

**HONG KONG AWARDS FOR INDUSTRIES:
TECHNOLOGICAL ACHIEVEMENT**

香港工商業獎：科技成就

GRAND AWARD

06 ASM Pacific Technology Limited

AWARD

10 Amonics Limited
安力光電有限公司

12 Dunwell Engineering Company Limited
正昌科技有限公司

CERTIFICATE OF MERIT

14 Appcara Limited

15 Austreme International Limited

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

17 MotherApp Limited

18 Pacific Telecom & Navigation Limited
泛太通信導航有限公司

19 Sanomics Limited
善覓有限公司

CHAIRPERSON'S MESSAGE

主席的話

I'm delighted that the 2017 Hong Kong Awards for Industries (HKAI) is being celebrated at a time when Hong Kong is upbeat about innovation and technology, buoyed by the high priority the HKSAR Government is placing on this sector. With more resources and policy support, Hong Kong is set to scale even greater heights as an innovation-led economy and the region's leading research and development hub.

Hong Kong Science and Technology Parks Corporation (HKSTP), as the Organiser for the "Technological Achievement" awards of HKAI, is heartened that the winning entries in this year's Awards are prime examples of how innovation and technology can contribute to the development of smarter production, smarter cities, and smarter health.

Our Grand Award winner has devised a fully-automated machine for assembling mobile CMOS camera modules, which are widely adopted in smart devices, robotics and surveillance systems. Other winning solutions will help us build smart cities. They include technologies for wind detection

lidar, waste water treatment and crowd management, software application automation on cloud infrastructure, an LTE system for mission-critical communication, and a high-precision satellite positioning system. Innovative solutions to detect fraudulent transaction laundering and lung cancer using a liquid biopsy will also bring enormous benefits to the health and well-being of our financial systems and society at large.

These winners not only make Hong Kong proud, they serve as an inspiration for emerging entrepreneurs ready to develop exciting new concepts. On behalf of HKSTP, my sincere congratulations to all the 2017 HKAI award winners!

Fanny Law, GBM, GBS, JP
Chairperson, HKSTP



今年，香港創新科技界在充滿新能量的大環境下，迎來2017年度香港工商業獎，令人十分欣喜。在香港特區政府最新的施政推動下，創新科技獲得更強大的資源以及政策支持。種種有利條件均有助促進香港建立為智慧城市以及區內的頂尖科研樞紐。

香港科技園公司作為香港工商業獎「科技成就」組別的主辦單位，喜見今年的得獎產品，均是有利於促進智慧型工業生產、城市發展及醫療健康的絕佳例證。

「科技成就」組別的大獎作品，可進行全自動化機械組裝CMOS相機模塊，有助智能地生產廣泛應用於智能裝置、機器人和監控系統的相機模塊。其他得獎產品，包括測風雷射雷達系統、污水處理、人群管理、雲端軟件應用自動化、使用於重點通信的LTE系統，以及精準衛星定位系統，均有利於建設智能城市。此外，創新的防洗黑錢等欺詐交易監控系統和液體活檢檢測肺癌等技術，

也可為我們的金融體系和整個社會的健康和福祉帶來莫大的裨益。

上述得獎產品不僅讓香港引以為傲，更可啟發新一代企業家開發精彩新概念。我謹代表香港科技園公司，向各2017年度香港工商業獎得獎者，致以熱烈祝賀！

香港科技園公司主席

羅范椒芬 GBM, GBS, JP

2017 HONG KONG AWARDS FOR INDUSTRIES

二〇一七香港工商業獎



1 Ms. Ruth Yu
Executive Director
Hong Kong Retail Management Association
余麗姚女士
香港零售管理協會執行總監

2 Mr. Emil Yu
Chairman, Industry & Technology Committee
Hong Kong General Chamber of Commerce
于健安先生
香港總商會工業及科技委員會主席

3 Mrs. Agnes Mak
Former Executive Director
Hong Kong Productivity Council
麥鄧碧儀女士
香港生產力促進局前任總裁

4 Prof. Joseph J Y Sung
Chairman of the Final Judging Panel
Vice-Chancellor and President
The Chinese University of Hong Kong
沈祖堯教授
最終評審委員會主席
香港中文大學校長

5 Mr. George Tee
Chief Technology Officer
Hong Kong Science and Technology Parks Corporation
戴紹龍先生
香港科技園公司首席科技總監

6 Mr. Cheung Kit
Ex-officio Advisor
Hong Kong Young Industrialists Council
張傑先生
香港青年工業家協會當然顧問

HONG KONG AWARDS FOR INDUSTRIES: TECHNOLOGICAL ACHIEVEMENT

香港工商業獎：科技成就



- 1 Dr. Lawrence Poon
Principal Consultant in Smart Electronics and Automotive
Hong Kong Productivity Council
潘志健博士
香港生產力促進局汽車及電子部首席顧問
- 2 Prof. OnChing Yue, Science Advisor
Innovation and Technology Commission, HKSAR
余安正教授
香港特別行政區政府創新科技署科學顧問
- 3 Mr. Michael KM Leung, MH
Immediate Past President, Hong Kong Computer Society
梁建文先生，MH
香港電腦學會前任會長
- 4 Mr. Kenny Yiu, Chairman
Hong Kong Wireless Technology Industry Association
姚金鴻先生
香港無線科技商會主席
- 5 Ir Victor Ng, Chairman
Hong Kong Electronics & Technologies Association
吳國豪先生
香港電子科技商會主席
- 6 Dr. CH Ng, Chairman
The Hong Kong Electronic Industries Association
吳自豪博士
香港電子業商會會長
- 7 Mr. George Tee, Chief Technology Officer
Hong Kong Science and Technology Parks Corporation
戴紹龍先生
香港科技園公司首席科技總監
- 8 Ir Dr. CL Chan, Chairman, IT Division
The Hong Kong Institution of Engineer
陳真良博士
香港工程師學會資訊科技分部主席
- 9 Mr. Hailson Yu
Deputy Director of Technology Transfer Office
The University of Hong Kong
余梓山先生
香港大學技術轉移處副處長
- 10 Mr. Clement Lam
Associate Director of Knowledge Transfer
City University of Hong Kong
林振宇先生
香港城市大學知識轉移處副處長
- 11 Dr. Chi Ming Lee, Director, Knowledge Transfer
The Chinese University of Hong Kong
李志明博士
香港中文大學知識轉移處長
- 12 Prof. Felix Chan
Associate Dean (Research), Faculty of Engineering
The Hong Kong Polytechnic University
陳東燊教授
香港理工大學工程學院副院長 (科研)
- 13 Prof. Ming Liu
Assistant Professor, Department of ECE
Director, Robotics and Multi-perception Lab
The Hong Kong University of Science and Technology
劉明教授
香港科技大學電子及計算機工程學系助理教授
機器人與多感知實驗室主任



ASM PACIFIC TECHNOLOGY LIMITED

Listed in Hong Kong (stock code: 522) since 1989, ASM Pacific Technology (ASMPT) is the world's leading equipment solution provider for the assembly and surface mount of semiconductors, LED and CCM (CMOS camera module), fully integrated in the development, manufacturing and marketing of end-to-end solutions, inclusive of materials supply.

Established in 1975, Hong Kong, ASMPT has grown its global presence in more than 30 countries including ten manufacturing facilities in Hong Kong, China, Germany, Malaysia, Singapore, The Netherlands and the United Kingdom. With seven R&D centers in Hong Kong, China, Germany, Singapore, Taiwan, The Netherlands and United Kingdom, ASMPT employs more than 1,700 R&D professionals, of which around 600 are based in Hong Kong. To date more than 1,000 patents have been generated by ASMPT various R&D centers, with almost 40% patents originating from Hong Kong.

ASMPT is greatly honored to be the 3rd time Grand Award winner of the Hong Kong Award for Industries in Technological Achievement. The Group is fully committed in driving innovation in Hong Kong and continuing the development of leading assembly equipment solutions for the semiconductor, LED and CCM industry.

Mr. Lee Wai Kwong,
CEO of ASMPT Group
集團行政總裁
李偉光先生



自1989年起在香港上市(股份代號：522)，ASM Pacific Technology (ASMPT) 是全球領先的半導體、LED 和相機模組 (CMOS相機模塊) 組裝和表面貼裝設備解決方案供應商，全面整合了研發、生產和營銷的端到端解決方案，以至包括材料供應。

於香港1975年成立，ASMPT的營運網絡遍布30多個國家，其中包括香港、中國、德國、馬來西亞、新加坡、荷蘭和英國的10個生產基地。ASMPT在香港、中國、德國、新加坡、台灣、荷蘭和英國設有7個研發中心，擁有1,700多名研發人員，其中約600人以香港為基地。迄今為止，ASMPT各研發中心已獲得了1,000多項專利，其中近40%來自香港。

ASMPT 非常榮幸第三次成為「香港工商業獎 — 科技成就大獎」的得獎者。本集團致力推動香港創新，以至



ASMPT has been in the forefront of CCM assembly technology and development, from the start of this millennium when CCM in mobile device was still in its infancy.

Phone makers today continues to strive for DSLR-grade mobile photography experience, and Active Alignment is the key enabling technology that allows the CCM to be built with the best optical performance for capturing outstanding photos. ASMPT led the industry in the research and development of Active Alignment since 2009 and through years of engagement with leaders in the industry, has designed the industry's leading current state-of-the-art six degree of freedom active alignment system. The HVM (High Volume Manufacturing) solution of the AA technology was deployed since 2013. To date, over 80% of the high-end mobile phone CCM in the market are assembled using ASMPT's AA tools.

半導體、LED 及相機模組行業的領先裝配設備解決方案之持續發展。

當相機模組(CCM)的開發還處於萌芽階段時，ASMPT 已積極與業界合作，發展相機模組裝配技術。消費者對手機鏡頭的要求不斷提升，希望手機鏡頭能達至數碼單反 (DSLR) 的質素，透過主動式對位 (AA) 技術，可以讓相機模組達到最佳的光學性能，從而拍攝出能與數碼單反 (DSLR) 媲美的高質素相片。

ASMPT自2009年起已帶領業界為 AA 技術進行不同的研發，並透過多年與頂尖的相機模組生產商不斷合作，設計出領先業界的六軸主動式對位系統 (6 axis AA system) ，於2013年更推出量產型的主動式對位解決方案。迄今為止，ASMPT在高端手機的相機模組生產市場已擁有超過80%的市佔率。



ASMPT has always been committed to R&D as we strive to innovate and deliver products and services with the highest quality to our customers.

ASMPT 一直致力研發,努力創新並為客戶提供最高品質的產品和服務。

SOME OF THE ASMPT'S UNIQUE DIFFERENTIATORS FOR THIS TOOL INCLUDE: ASMPT 主動對位平台的獨特優勢包括:

更具成本效益的量產系統

IS600GS 是一個全自動量產型的主動式對位平台，結合四組主動式對位系統和一組共享式物料處理系統，不但佔地小，令生產商的成本效益增加。而且加上全面的數據管理系統，不僅可以提高產品的可追溯性，還可實時匯報產量和良率，令生產商更易管理。

高精度主動式對位焊頭

主動式對位焊頭透過先進的六軸運作系統，精確地將相機模組於 X-Y-Z 軸對準至 $1\mu\text{m}$ 內，Roll-Pitch-Yaw 軸對準至1弧分內。

優化的相機模組對位演算法

在ASMPT自主研發的對位演算法及硬件設計配合下，令高像素相機模組 (> 20M像素) 的對位過程可於三秒內完成，更無損影像清晰度，是業界之冠。

自主研發模組，令設備達至完美

光學系統中的主要模組，從設計、研究、開發至生產，皆憑著 ASMPT 四十多年來累積的經驗，透過不斷創新、嶄新生產流程及強大的科研團隊全力支持，打造出零失真和干擾的完美成像環境。

完美的整合，打造出完美的機台

ASMPT能夠完整結合生產自動化、圖像檢查、運作控制和精深的工藝知識，提供最佳的流程和處理方式，與客戶自身的製程互相配合，達到行業最高產量和最短上市時間。



Our continuous effort in R&D has enabled us to develop our key leading technology — Active Alignment that brings about state-of-the-art performance.

持續的投入研發使我們能夠發展領先業界的核⼼技術 — AA 技術，帶來最頂尖 的性能 / 表現服務。

Patented HVM tool with low cost of ownership

IS600GS is a fully automatic active alignment HVM platform combining four stations and a shared material handling system in a small footprint. Comprehensive data management system not only ensures full traceability of products but also provides real-time reporting on productivity and yield.

High precision active alignment bond head

The AA bonding apparatus is a state-of-the-art six degree of freedom motion system that precisely aligns the CCM to within 1 μ m in X-Y-Z axes and within one arc minute in Roll-Pitch-Yaw axes.

Optimized CCM alignment algorithm

Using ASMPT's proprietary software algorithm and seamless hardware synchronization, the active alignment process can be completed less than three seconds resulting in razor-sharp image quality for high megapixel CCM (>20 megapixel).

Robust In-house developed key components

Key components in the optical system, from image extended Relay Lenses, high-uniformity light panel, to the high-speed imaging capturing system, are designed in-house and fully supported by a strong Technology Enabling Team. This allows a near perfect imaging environment with zero distortion and disturbance at the component level.

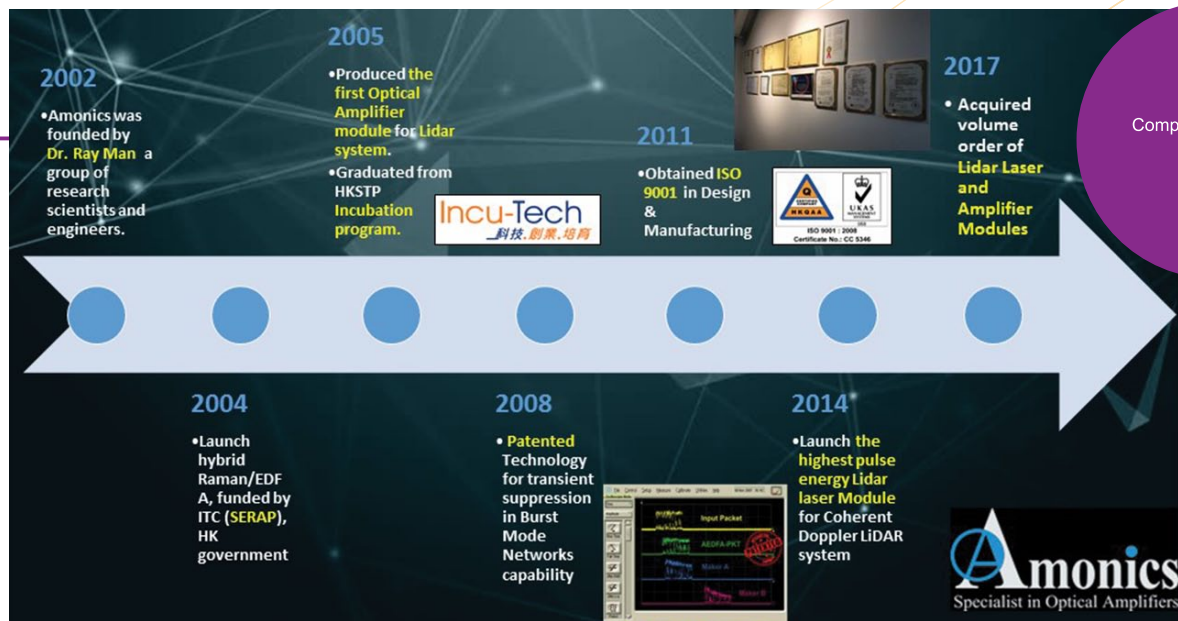
Fully integrated automation, vision & motion control and deep process know how results in Highest AA Throughput

ASMPT full integrated capability in automation, vision & motion control and deep process know-how results in optimal machine sequence and handling to match with customer's propriety process to achieve the industry's highest productivity and the shortest time-to-market.



AMONICS LIMITED

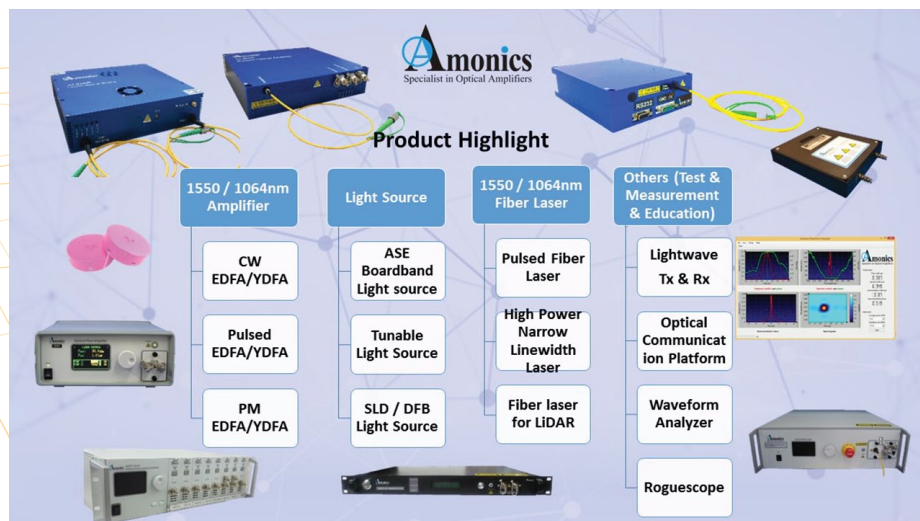
安力光電有限公司



Amonics Ltd. was founded in 2002 by a group of enthusiastic research scientists and competent engineers with many years of experience in the field of fiber optics and optical science. We started with small quantity of custom-made optical amplifiers for R&D; purposes and went on to establish ourselves as an international provider of a range of high quality photonics equipment for various high-end research and industrial applications.

We take pride in our capability to accommodate challenging technical specifications, as well as our capacity to cope with quality-demanding production of standard products. Our development on new technology and thus new products is informed by the latest research and the next in-demand applications.

By taking years of extensive research and mature manufacturing process forward, we have now successfully produced high-energy and delicate laser systems. Nano-second pulsed fiber laser systems for LiDAR applications are the latest addition to the list. They come with selections of pulse energy levels, pulse widths and repetition rates to suit applications of different probing ranges and resolutions. We also provide Narrow Line-width Laser systems with low phase-noise and RIN, high stability and tunability, particularly addressing the stringent requirements of optical heterodyne detection applications, such as coherent detection systems. Our Raman Laser systems are characterized by their reliable performance over a long span of wavelengths. They are the essential elements in system integration for various applications of medical instrumentation, communication and remote sensing.



Product Highlight
產品亮點

安力光電有限公司成立於2002年，由一群熱衷於光學領域的科研專家和工程師建立而成。我們一開始是製造少量定制研發用的光學放大器，品牌經過多年建立，逐步成為一間國際知名，專為各種不同類型高端研究及工業用途的高品質光電設備供應商。

安力光電有限公司致力於開發嶄新技術和產品來應對未來的應用需求。最令我們引以為傲的是即使面對嚴謹的生產標準以及對保持產品質量要求，團隊亦可克服各種挑戰，致力生產出具備質素，符合各種應用需要的光學產品。

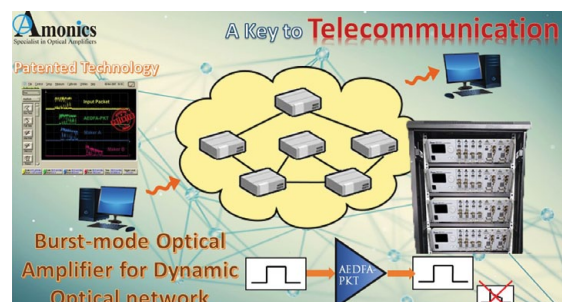
通過多年努力、廣泛研究以及不斷改良生產技術，我們現在已經成功掌握生產極高效能和精密激光系統的技术。

以安力光電有限公司最新推出產品，用於激光雷達 (LiDAR) 的光纖激光模塊為例子：我們的光纖激光模塊是一套納秒脈衝光纖激光系統，它的特點是根據用家需要而可自行調較脈衝能量、脈衝寬度和重覆頻率，從而應付不同探測範圍和分辨率的需求。

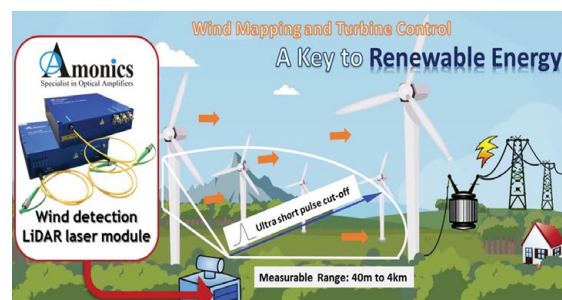
此外，我們亦提供了低相位噪聲和相對噪聲指數的窄線寬激光系統。這產品更具備高穩定性和可調性，能滿足光外差探測應用的嚴格要求，例如相干檢測系統。另外，我們出產的拉曼激光系統可以在長波長範圍內仍能保持

可靠表現。這些產品是應用於各種醫療儀器、通信系統和傳感設備的重要元素。

總括而言，安力光電有限公司是一間具備質素，擁有強大團隊的國際性設備供應商。在日新月異的光學科技領域內，不斷接受挑戰，開發更多嶄新的產品和技術來面對未來強大的需求。而產品也受到來自世界各地，不同客戶的推崇備至。



Burst-mode Fiber Amplifier for Dynamic Optical Network
應用於動態光纖網絡的觸發模式光纖放大器



Laser Module for LiDAR Application
應用於激光雷達的光纖激光模塊



DUNWELL ENGINEERING COMPANY LIMITED

正昌科技有限公司



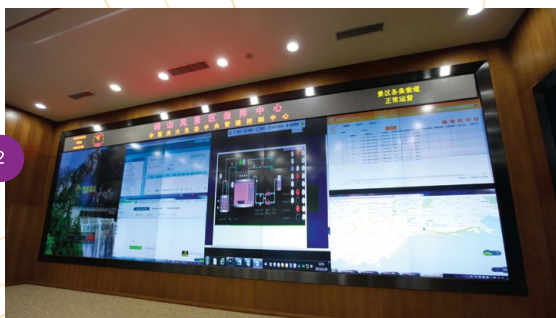
Dunwell Engineering Company Ltd. (Dunwell) is an environmental engineering company specialized in providing solutions and services on water & wastewater treatment and reuse, plant maintenance & operations and other environmental engineering related consultations.

In recent years, Dunwell has further diversified into other businesses scopes and extended its focus to water treatment, due to the growing water pollution problem, climate change and human population continues to increase aggravate water scarcity conditions. Nowadays, Dunwell is actively involved in water treatment and recycling solutions for Zero Liquid Discharge. Through years of efforts in R&D, Dunwell has developed her specialized Membrane BioReactor (DMBR) technology that treats municipal wastewater (from toilets, bathrooms, kitchen and laundry) into reuse purposes.

After years of R&D on the energy consumption pattern of DMBR, Dunwell has developed an efficient, advanced aeration technology, A-JET which replaces the conventional air blower or compressor. With a specially designed nozzle and proprietary concept, A-JET generates the micro bubbles for a better function but at 50% less energy that enables a solar powered DMBR for the market.

DMBR offers a practical solution to proper sewage treatment of public toilets and new residential complex in rural areas that are inaccessible to government wastewater treatment facilities. It also provides a cost effective and quick alternative to redevelopment property projects in busy districts.

It is Dunwell's vision to develop a wastewater treatment & reuse solution for areas where clean water and electricity are not easily accessible.



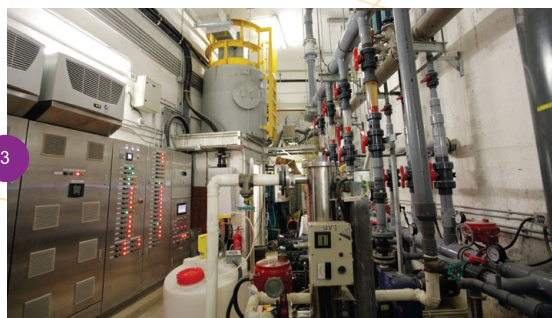
正昌科技有限公司（正昌）為正昌集團旗下的子公司之一，專門提供環保工程、水和生活污水處理及回用、運作和設備保養及其他環保工程顧問等服務。

有見日益增加的水污染問題、氣候改變和人口增加等因素而導致水資源日益貧乏，正昌積極拓展業務範圍，提供水處理和回用技術，達至液體零排放。經過多年研發，正昌以自家製造的膜生物污水處理系統 (DMBR) 成功處理各類的生活污水(如廁所、洗澡、廚房及清洗衣物)，繼而回用作其他用途。

正昌多年致力研究其DMBR系統的用電量、研發及尋找最高能效的方法、發展自家的先進曝氣技術A-JET。與傳統曝氣設備比較，正昌的A-JET能透過特別設計的噴咀和專有概念，產生高效的微氣泡。由於此技術比傳統方法節省一半的電量，所以令DMBR成為一個靠太陽能發電驅動的污水處理系統。

正昌DMBR能應用於那些未能接駁到政府污水渠的公共廁所及郊外住宅地區，亦能為繁忙地區的住宅重建項目提供一個低成本、快捷的另類選擇。

正昌的願景，是把污水處理及回用方案擴展至沒有清潔用水和電源提供的鄉郊及新發展地區。



1. Untreated water (left) to reusable water by DMBR system (right)
未經處理的污水 (左) 和DMBR系統處理後的水 (右)
2. Over 160 DMBR systems around Hong Kong are remote monitored twenty-four-seven; the team can monitor each system's status through their mobile phones or other devices
全港超過160個DMBR系統是由遙遠監控系統全天候監控，我們的同事更能隨時從手機或其他手提裝置監控系統的運作情況
3. With an area below 290 m², the DMBR system is used to treat a Sai Kung residential area of over 680 units of 2,000 residents
佔地少於290平方米的DMBR系統能照顧西貢區內一個由680伙，超過2000住戶的屋宅
4. Energy efficient micro bubble A-JET technology is applied in the DMBR system aeration
高能源效益的微氣泡 A-JET技術為DMBR系統曝氣



APPCARA LIMITED

Appcara is a leading software vendor globally offering cloud and application management solutions for enterprises to accelerate their cloud journey. Cloud has been a key strategy for CIOs for over a decade but transition to cloud has been a challenge. Appcara's App360 aims to simplify the cloud journey for enterprises to achieve higher efficiency and true ROI.

In today's economy, enterprises must operate efficiently and able to respond to customer needs quickly. This means their IT environments must be very agile, automated and cost-efficient. Appcara's App360 is a highly advanced and simple-to-use cloud management platform with built-in order approval, chargeback and DevOps automation capabilities. It helps enterprises to easily transition from traditional IT infrastructure to hybrid and multi-cloud environments – gaining centralized control on traditional and modern IT infrastructure resources. In addition, enterprises can significantly improve resource utilization and cost transparency by leveraging order approval workflow and chargeback features.

With App360, enterprise's journey to cloud can be greatly simplified and accelerated.

App360 Accelerates Enterprise Cloud Journey.
App360 加快企業雲歷程。



Portal
ONE Experience
Control

Appcara作為全球領先軟件供應商之一，一直為企業提供雲端及應用程式管理解決方案，以加快企業雲歷程。過去十年，雲端已是CIO關鍵策略，但過渡至雲端極具挑戰。Appcara的App360旨在簡化雲歷程從而達到高效及真正投資回報率。

在現今的經濟環境，企業須高效運作，並能迅速回應客戶。這意味著IT環境須十分靈活，自動化及具成本效益。App360雲端管理平台使用簡便，具有內置訂單審批，退款和DevOps自動化功能。它可幫助企業簡易地從傳統的IT基礎設施過渡到混合及多重雲環境，從而可集中控制資源於傳統和現代的IT架構。透過App360內置訂單審批流程和退款功能，還可提高資源運用及成本透明度。

透過App360，可大大簡化和加速企業的雲歷程。





AUSTREME

AUSTREME INTERNATIONAL LIMITED



Transaction Laundering Detection

Austreme Transaction Laundering Detection is a new way of online merchant compliance monitoring according to standard of card schemes such as Visa, MasterCard and UnionPay. It pinpoints the illegal activities conducted in merchant websites such as gambling, drugs, child pornography, IP infringement, etc. and payment aggregation problem which may lead to heavy penalty for banks and payment service providers. Austreme successfully developed “Transaction Laundering Detection” solution with its big data and detection methodology in 2011 and has been widely introduced at Visa and MasterCard global risk management conferences to their member banks globally. In 2015, Austreme officially became MasterCard’s Merchant Monitoring Service Provider (MMSP). Any acquiring bank who registers Austreme as its MMSP will get penalty waiver. Austreme is also the world first and the only MMSP with its infrastructure that obtained Payment Card Industry Data Security Standard (PCI DSS) compliant certification. This solution is honored the Hong Kong ICT Awards – Best Smart Hong Kong (Open Data / Big Data Application) Silver Award in 2017.

電商支付交易監察

Austreme電商支付交易監察 (Transaction Laundering Detection) 是一種監察網上商戶合規的新方式，按照國際支付卡組織如Visa、MasterCard及銀聯的標準，針對商戶網站的非法活動，例如賭博、毒品、兒童色情、侵權及聚合支付等可能導致銀行及第三方支付服務商受到巨額罰款的問題。Austreme以其大數據及偵測技術於2011年成功研發「電商支付交易監察」方案，現已被Visa及MasterCard廣泛推介予其全球的成員銀行使用，在2015年，Austreme正式成為MasterCard的註冊商戶監察服務商 (Merchant Monitoring Service Provider, MMSP)，任何收單銀行註冊為其商戶監察服務商可以獲得罰款豁免。Austreme亦是全球第一和唯一一家以自主研發的技術和基礎設施取得支付卡行業數據安全標準合規證書的商戶監察服務商。Austreme於2017年獲得香港資訊及通訊科技獎—最佳智慧香港獎 (開放數據 / 大數據應用) 銀獎。





**HONG KONG APPLIED SCIENCE AND TECHNOLOGY RESEARCH
INSTITUTE COMPANY LIMITED**

香港應用科技研究院有限公司

Long-Term Evolution (LTE) is an international standard for high-speed wireless communication for mobile devices and data terminals. LTE technology is evolving toward 5G mobile broadband to support enhanced Mobile Broadband (eMBB), massive Machine Type Communications (mMTC), and Ultra-Reliable and Low-Latency Communications (URLLC).

Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI) strives to enhance Hong Kong's competitiveness through applied research. We research, develop and commercialise leading-edge communications technologies and solutions. ASTRI has developed a commercial-grade end-to-end LTE system that enables both public network and value-added private network applications such as law enforcement, civil aviation, mass transit and railways. ASTRI's LTE system consists of two major elements: (1) an LTE small cell and (2) an evolutionary core network architecture known as Evolved Packet Core (EPC). ASTRI's LTE technology has been licensed to over 10 customers, and deployed in commercial networks, for example at Wuhan Metro Line 6 – the first subway signalling system using LTE technologies in China.



ASTRI's LTE technology enabled partner's LTE small cell RANK #1 in China Mobile small cell tender. The technology is currently being used in Broadband Trunking Communications (B-TrunC) for emergency communications. Left: B-TrunC base-stations and terminals. Right: 4G Evolved Packet Core (EPC).

應科院合作夥伴採用了應科院的LTE技術，使其小基站在中國移動的小基站招標過程中排名第一。該技術目前已應用在寬帶集群通訊（B-TrunC）基站上，用於應對緊急通訊。圖左：寬帶集群通訊基站及終端；圖右：4G演進分組核心

長期演進技術 (LTE) 是用於移動裝置和數據終端的國際高速無線通訊標準。LTE技術現正向5G移動寬帶發展邁進，以支持增強型移動寬帶 (eMBB)、大規模機器類通訊 (mMTC) 和超可靠和低延遲通訊 (URLLC)。

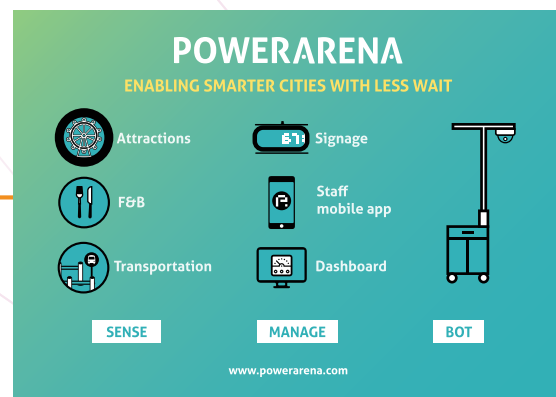
香港應用科技研究院有限公司（應科院）致力透過應用科技研究，協助發展以科技為基礎的產業，藉此提升香港的競爭力。應科院努力不懈地研究、開發和商用化先進的通訊技術及解決方案。應科院開發了一個商業級的端到端LTE系統，可實現公共網絡和增值私有網絡應用，如執法、航空、公共交通和鐵路。應科院的LTE系統由兩個主要元素組成：(1) LTE小基站和 (2) 稱為演進分組核心 (EPC) 的演進核心網絡架構。應科院的LTE技術已授權給10多個客戶，並應用於多個商業網絡中，例如武漢地鐵6號線 - 中國首個使用LTE技術的地鐵訊號系統。

MOTHERAPP[®]

MOTHERAPP LIMITED

MotherApp is a Hong Kong-based digital innovation consulting and solution development company, dedicated to solving challenging business problems with digital technologies, including mobile, artificial intelligence (A.I.), internet of things (IoT), and big data analytics. Over the last decade, MotherApp has been developing digital solutions for a wide spectrum of clients, including listed companies, MNCs, government bodies, startups and entrepreneurs, etc., helping them increase business revenue, improve customer experience, enhance management and facilitate communication.

PowerArena, a platform solution developed by MotherApp, is an integrated crowd management and analytics platform that enables timely collection, analysis and dissemination of people flow and wait times information, using A.I., IoT and Big Data technologies. In addition to precisely managing crowd distribution, the location-based information and guest foot traffic maps can offer an engaging experience to the guests by providing relevant, time-and-location specific information and promotion. The solution has been adopted by theme parks, public facilities and manufacturing plants in Hong Kong and overseas.



PowerArena - an integrated crowd management and analytics platform
PowerArena - 綜合人流管理及分析平台

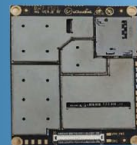
MotherApp的總部位於香港，是一家創新數碼科技顧問及應用方案開發商，透過流動技術、人工智能、物聯網和大數據分析等科技，致力解決各種商業問題。MotherApp 為各類型客戶，包括上市公司、跨國企業、政府機構、初創公司及創業家等，創建數碼應用方案，協助他們提高收益、改善顧客體驗、提升管理效率和促進溝通。

PowerArena 是 MotherApp 研發的綜合人流管理及分析平台，使用人工智能、物聯網和大數據技術，實時收集、分析和發放人流、輪候時間等信息。除了精確地掌握人群分佈之外，基於賓客位置信息和遊覽路線，主辦機構能在平台上利用實時資訊和推廣信息以提供貼心的賓客體驗，並帶來額外收益。PowerArena 的客戶包括香港和海外的主題公園、公共建設和工業設施。

BELT and ROAD

—帶一路—

WE ARE UBIQUITOUS M2M

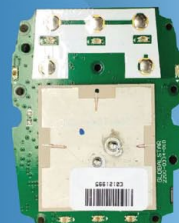


Cloud SIM Module

Beidou (北斗) Module



PTN Customized Solutions



Global Star Module



泛太通信導航有限公司

Pacific Telecom & Navigation Limited

PACIFIC TELECOM & NAVIGATION LIMITED

泛太通信導航有限公司



Based on enhanced Beidou technologies with proprietary technologies, Pacific Telecom & Navigation Limited (PTN) established the first global miniaturized integration system with satellite communication gateway and GNSS CORS. PTN offers advanced satellite communication and navigation modules, terminals, operation services, software, one-stop solutions for M2M and global IoT industries.

泛太通信導航有限公司立足香港、面向“一帶一路”，建立全球首個兼具衛星通信關口站和高精度定位差分站功能的綜合系統，提供自主知識產權的衛星通信與導航終端、服務、綜合運營及解決方案。



SANOMICS LIMITED

善覓有限公司

Sanomics is one of the leaders in cancer genomics technology in Hong Kong and the Asia Pacific region. Its international operation spans across Hong Kong, China and other Asian countries. The Sanomics team is dedicated to bringing the latest and best genomics technologies to the healthcare sectors, and helping oncologists manage patients with high-quality technologies.

Sanomics is headquartered in the Hong Kong Science Park, and works closely with university experts in Hong Kong, Mainland China, Singapore and the US for medical technology development. Sanomics has built an Asia hub project which studied the DNA of over 3,000 cancer patients, and is one of Hong Kong fastest-growing cancer technology companies.

Sanomics is also actively engaged in exporting technologies, with increasing efforts in collaborating with healthcare organizations along the “Belt and Road Initiative” countries and cities. Its technological achievements are also published in international conferences. Sanomics’ vision is becoming the most essential genetics technology company for cancer patients in Asia.



The Next-Generation DNA Sequencing (NGS) is one of the core technologies in cancer genomic diagnostics. It allows fast and accurate detection of mutated cell-free tumor DNA.

次世代定序技術是癌症基因組檢測其中一項核心技術，它能快速和精準地檢測腫瘤游離 DNA 中的基因突變。

善覓 (Sanomics) 創立於香港，使用新一代專有技術，抽取血液樣本，為癌症患者提供癌症基因檢測服務，幫助醫生確定治療策略。善覓作為香港和亞太地區癌症基因組學技術的領導者之一，致力為香港、中國和其他亞洲國家的醫療行業帶來最新和最好的基因組學技術，並幫助腫瘤學家管理癌症患者的病情。

善覓總部設在香港科學園，與香港、中國大陸、新加坡和美國的大學專家密切合作，進行醫療技術開發。更建立了一個亞洲項目，研究了3000多名癌症患者的DNA，並且是香港增長最快的癌症科技公司之一。

善覓更積極發展技術轉移，與「一帶一路」國家和城市的醫療機構合作，透過技術交流進一步提升當地醫療水平。善覓的技術成果亦定期在國際醫學會議上公佈。善覓團隊的願景是打造亞洲最重要的癌症基因組檢測技術公司。

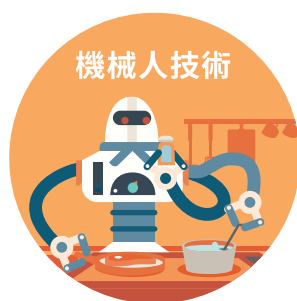
讓創意 閃爍未來



科學園匯聚超過630間科創企業進行尖端科技研發，我們發展三大科技平台，包括提升效率的**智慧城市**解決方案、提供更優質生活的**健康老齡化**科技，及應用於醫療、家居、教育及工業的**機械人技術**，推動科研發展，讓創意締造更美好未來。



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