

**2018 香港工商業獎：科技成就**  
**2018 HONG KONG AWARDS FOR INDUSTRIES:**  
**TECHNOLOGICAL ACHIEVEMENT**

*Grand Award*

Marvel Digital Limited (MDL)

*Award*

Compathnion Technology Limited

Computime Group Limited

Hong Kong Applied Science and Technology Research Institute Company Limited

Sanwa BioTech Limited

Solomon Systech Limited

*Certificate of Merit*

AirStar Air Conditioning Technology Group (HK) Limited

Allystar Technology Co. Limited

Application Technology Co. Limited

AppoTech Limited

Chain Technology Development Co. Limited

Hong Kong EV Power Limited

HybriBio Limited

Neosen Energy (HK) Limited

Retraction Limited

Winstar Chemicals Company Limited

## **Chairman's Message** **主席的話**

I'm very pleased to see Hong Kong's innovation and technology ecosystem thriving through the support of the HKSAR Government and the spirit of collaboration among all stakeholders. In this golden era of rich opportunities, it is heartening to see local enterprises excelling in the 2018 Hong Kong Awards for Industries (HKAI). Innovation and technology are vital for maintaining the competitive edge of our businesses and industries. The innovative solutions created by the R&D talent in different disciplines help different sectors. They contribute collectively to diversifying Hong Kong's innovation economy.

As the Organiser for the "Technological Achievement" awards of HKAI, Hong Kong Science and Technology Parks Corporation (HKSTP) is delighted to see a wide range of award-winning innovations from different technological fields designed to facilitate smart city development and elevate the quality of life.

The Grand Award winner of the "Technological Achievement" category is a 3D display technology that delivers immersive 3D visuals without requiring viewers to wear 3D glasses. The technology will have extensive applications in entertainment, education and marketing promotions. Other winning innovations include a smart indoor navigation service, an automated temperature control system for home heating, an advanced cellular communication technology for the Internet of Things (IoT), an AI facial recognition solution for urban control, and a cloud-based hybrid reality platform for construction planning and management. In the area of biomedical technology, we have a portable rapid diagnostic platform with integrated microfluidic Lab-On-Chip (LOC) technology and a patented retractor that can prevent organs from slipping and enable better visualization of the operating field.

We can also see the cutting-edge technology in integrated circuits (IC), such as the world's first multi-band multi-system SoC chip capable of tracking all global civil navigation systems in all bands, and a touch and display driver integration (TDDI) IC that enables better display quality and touch performance.

All the innovative products will make Hong Kong proud and inspire other enterprising technologists to develop their disruptive ideas. On behalf of HKSTP, my sincere congratulations to all HKAI winners!

**Dr Sunny Chai, BBS**  
**Chairman, Hong Kong Science and Technology Parks Corporation**

我很高興看到本港創新科技生態蓬勃發展，在香港特區政府支持及業界各持分者共同努力下，創造了良好的創科氛圍。身處於這個滿載機遇的黃金時代，同時迎來 2018 年度香港工商業獎、得見眾多出色本地企業，更令人振奮。善用創新科技能提高工商業的競爭力，各個領域的科研人才研發出不同創新解決方案，讓各行各業百花齊放，共同為香港創建多元化的創新型經濟。

作為香港工商業獎「科技成就」組別的主辦單位，香港科技園公司喜見今年一眾得獎作品涵蓋多個技術範疇，將對建構智慧城市、提升大眾生活水平作出貢獻。

「科技成就」組別的大獎得主成功研發出超高清裸眼 3D 技術，讓大眾無需配戴 3D 眼鏡亦可體驗震撼的 3D 立體視覺效果，能廣泛應用在娛樂、教育和市場推廣等方面。而其他得獎創新方案均有助推動智慧城市的發展，包括智能室內導航服務、自動化家居調溫系統、物聯網先進通信技術、配合城市管理的人面識別技術及協助管理建築工程的融合實境系統。快速健康檢測方案及微創手術牽開器則顯出我們在發展醫療科技上的進步。

我們亦看到在集成電路領域上，有多間公司皆開發了不少前沿技術，如加強無線傳輸效能的芯片、高精度導航晶片及提升電子屏幕顯示和觸控性能的突破性芯片技術。

所有得獎產品無疑能讓香港引以為傲，更可啟發更多企業家開發精彩嶄新概念，我謹代表香港科技園公司，向本年度香港工商業獎各位得獎者，致以衷心祝賀！

香港科技園公司主席  
查毅超博士 BBS

**Final Judging Panel**  
**最終評審委員會**

Mr. Emil Yu  
General Committee Member  
Hong Kong General Chamber of Commerce  
于健安先生  
香港總商會理事

Ms. Clara Chan  
Ex-officio Advisor  
Hong Kong Young Industrialists Council  
陳婉珊女士  
香港青年工業家協會當然顧問

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

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

Mr. Peter Luk  
Associate Director  
Hong Kong Science and Technology Parks Corporation  
陸彥鳴先生  
香港科技園公司副總監

Ms. Katherine Yu  
Senior Manager, Communications & Public Relations  
Hong Kong Retail Management Association  
余家恩女士  
香港零售管理協會高級傳訊及公關經理

**Preliminary Judging Panel List**  
**初步評審小組名單**

Ir Dr. CL Chan  
Chairman, IT Division  
The Hong Kong Institution of Engineers  
陳真良博士  
香港工程師學會  
資訊科技分部主席

Mr. Horace Chu  
Director of External Engagement  
Hong Kong Computer Society  
朱凱威先生  
香港電腦學會  
對外事務總監

Mr. Victor Choi  
Chairman  
Hong Kong Electronics & Technologies Association  
蔡劍誠先生  
香港電子科技商會主席

Dr. Chi Ming Lee  
Director, Office of Research and Knowledge Transfer Services  
The Chinese University of Hong Kong  
李志明博士  
香港中文大學研究及知識轉移服務處處長

Mr. Roy Law  
Chairman  
Hong Kong Wireless Technology Industry Association  
羅國明先生  
香港無線科技商會主席

Dr. Simon Law  
Director  
Technology Transfer Center  
The Hong Kong University of Science and Technology  
羅偉能博士  
香港科技大學  
技術轉移中心主任

Dr. Lawrence Poon  
General Manager  
Automotive & Electronics  
Hong Kong Productivity Council  
潘志健博士  
香港生產力促進局  
汽車及電子部總經理

Prof. Wong Sze Chuen Cesar  
Associate Professor  
The Hong Kong Polytechnic University  
黃思銓博士  
香港理工大學副教授

Ir Prof. Alexander Ping-kong Wai  
Vice President  
(Research Development)  
The Hong Kong Polytechnic University  
衛炳江教授  
香港理工大學副校長  
(科研發展)

Dr. Claudia Xu  
Chief Commercial Officer  
Hong Kong Science and Technology Parks Corporation  
徐建博士  
香港科技園公司  
首席商務總監

Mr. Gabriel Chan  
Senior Engineer (Mechanical Systems)  
Innovation and Technology Commission HKSARG  
陳啟聰先生  
香港特別行政區政府  
創新科技署  
高級機電工程師(機械系統)

Dr. CH Ng  
Chairman  
The Hong Kong Electronic Industries Association  
吳自豪博士  
香港電子業商會會長

## GRAND AWARD

*Marvel Digital Limited (MDL)*  
*萬維數碼有限公司*

Marvel Digital Limited (MDL) is a subsidiary of Integrated Media Technology Limited which is a listed company on NASDAQ (“IMTE”). MDL is a technology innovator in the glasses-free 3D visualization who has many years experience in developing and manufacturing innovative products and services with glasses-free 3D visualization. The company devotes to change the world’s perspective by making glasses-free 3D visualization more accessible and cost-effective.

MDL delivers a comprehensive glasses-free 3D solution, from 3D content creation and conversion, glasses-free 3D video wall and displays for industrial applications, to 4K3D mobile devices and other consumer products. Its propriety content generation system combines both software automation and professional 3D artists’ analysis which maximizes the efficiency and effectiveness, and the result is a high precision lifelike visualization.

MDL propriety technology is used across a variety of applications and industries, including education, advertising, retailing, medical and entertainment. The company highly emphasizes on intellectual property protection, thus they employed a group of professionals in the 3D expertise to formulate the strategic intellectual property plan on its very own 3D technology solutions.

### **Core Technology**

- Glasses-free 3D Display: Large screen display, mobile phone and tablets with different size of monitor
- Content Conversion: 2K to 4K, 4K to 8K, and 2D to 3D technology and Marvel Digital Super Workstation
- Cloud Service Platform: Auto conversion and encryption technology
- China 3D Standard: 5 patented core technologies
- Glasses-free 3D ASIC processor
- VR/AR technology
- Glasses-free 3D display module automated manufacturing technology

### **Our Invention**

#### Advanced 3D lens technology

- The critical component “lenticular lens” for glasses free 3D display, for multi-view visual display
- Large 3D viewing angle and adjustable viewing distance

#### Genuine 3D software

- Delivers multi-view 3D images (at least 28 views and 140 degree of viewing)

- Presents more views and smoother transitions between viewpoints
- Enables cloud service of 2D to 3D photos and videos conversion

## **Total 3D Solution**

### Products such as:

#### 1 Glasses-free 4K3D Display/Signage

- Sizes from 28" to 85"
- Latest Ultra-High Definition (4K) 3D Panel
- Advanced Lenticular 3D Technology with 140-degree viewing angle
- Built-in 4K3D conversion engine
- Cloud-based CMS Platform, easy for update content
- Suitable for use in shopping mall, hotel, showroom, exhibition center, home and classroom

#### 2 3D 4K/8K Smart TV

- Provide UHD (3840 x 2160/7680 x 4320) crystal clear image
- Support real time 3D conversion, convert TV signal or any video to 3D format
- Support HDMI input e.g. connect 3D blue ray player
- Android platform with unlimited functions through downloading different APPs

#### 3 3D Content Conversion Super Workstation

- 2D to 3D, 2K to 4K content conversion
- Movie and movie trailer conversion
- Video and gaming 3D conversion
- ISO27001 Certified

#### 4 3D Mobile Phone and Tablet (Optical Bonding and Lenticular Technology)

- Glasses-free 3D mobile devices
- 2D to 3D switchable display panel
- Android operation system - Support 3D games, 3D movies and 3D pictures, etc.
- 3D LTE 4G Smart Phones available from 5.5" to 6"
- 3D Tablets available from 7" to 10.1"



## Contributions

### To the 3D Display industry

- Reducing production lead-time and cost for generating 3D content
- Improving product quality and yield rate
- Ready to Mass Production within this year

### To the community

- Driving the growth of B2C Market with the all-in-one 3D Display solution
- Enhancing users' experience in 3D visual entertainment

萬維數碼是美國納斯達克上市公司 Integrated Media Technology Limited (“IMTE”)旗下的集團成員。萬維數碼是一間專注於裸眼 3D 技術研發的科技公司。擁有多年「裸眼 3D 技術」的研發、製造和銷售經驗，至今已成為「裸眼 3D」範疇的領導者。我們的願景是以超高清顯示及裸眼 3D 技術，為世界各地的觀眾帶來身臨其境的裸眼 3D 體驗。

萬維數碼提供全面的 3D 技術解決方案，從 3D 內容創建及轉換，3D 拼接牆及顯示屏，到裸眼 3D 消費類產品。從硬件及軟件全方面提供更有效率、更專業的 3D 內容自動化轉換的技術，更逼真呈現 3D 內容。

萬維數碼高度重視知識產權保護工作，目前已獲得多項授權及註冊專利。其產品亦已應用於多個行業，包括教育、廣告、零售，醫療和娛樂。

## 核心技術

- 裸眼 3D 顯示技術：顯示大屏，手機及平板電腦
- 內容轉制：2K/4K 轉 4K/8K 及 2D 轉 3D 技術及轉制用超級工作站
- 大型雲端內容服務平台：實時轉制及加密功能
- 中國新 3D 傳輸標準核心技術：擁有 5 個核心技術的專利
- 裸眼 3D 芯片處理器
- VR/AR 技術及有關之芯片處理器
- 裸眼 3D 模組全自動生產技術

## 研發成果

### 先進的光柵技術

- 柱狀透鏡(Lenticular Lens)的裸眼 3D 技術
- 多視點渲染技術

- 廣闊的 3D 可視角度，以及可調較的 3D 可視距離

### 專業的 3D 軟件

- 播放多視點 3D 影像(最少 28 個視點及 140 度可視角度)
- 令 3D 影像的呈現更多角度及更流暢
- 支援即時圖片及影片 2D 轉換 3D 技術

### 一站式 3D 方案

#### 產品舉例：

#### 1 4K 超高清裸眼 3D 顯示屏/廣告機

- 尺寸由 28 寸到 85 寸不等
- 採用最新的 4K UHD 3D 屏幕
- 配備最新光柵技術及 140 度超廣闊 3D 可視角度
- 內置 4K3D 轉換裝置
- 雲端 CMS 內容管理系統，方便上傳內容
- 適合各品牌及企業於商場、戲院、酒店和陳列室等地點作廣告宣傳用途

#### 2 3D 4K/8K 智能電視機

- 提供 UHD (3840 x 2160/7680 x 4320)的畫質
- 支援實時內容 3D 轉換，如可實時觀看 3D 新聞或球賽
- 支援 HDMI 輸入，如可接駁 3D 藍光播放器
- 內置安卓系統，可下載不同的 APP 應用程式，功能無限延伸

#### 3 3D 內容轉換超級工作站

- 2D 轉 3D 轉換，2K 轉 4K 轉換
- 電影和電影預告片轉換
- 視頻和遊戲的 3D 轉換
- ISO27001 認證

#### 4 3D 手機及平板（貼膜及電控光柵技術）

- 裸眼 3D 行動裝置

- 自由轉換 2D 或 3D 顯示
- 採用安卓系統-支援 3D 遊戲，視頻和圖片等
- 3D 智能電話，5.5 吋至 6 吋款式選擇
- 3D 平板電腦，7 吋至 10.1 吋款式選擇

## 應用與貢獻

### 對 3D 顯示行業的貢獻

- 節省 3D 內容製作時間及成本
- 提升產品質素及實際獲益率
- 可於年內量產化

### 對大眾的貢獻

- 提供完善的 3D 顯示方案可有助 B2C 市場增長
- 帶給大眾 3D 的視覺震撼

## **AWARD**

*Compathnion Technology Limited*  
*隨賞科技有限公司*

Compathnion Technology Ltd. is a local startup with core teams from the Hong Kong University of Science and Technology. We have achieved significant accomplishments in developing and commercializing innovative indoor localization technologies since our founding.

**Compathnion is currently led by two talented Chief-level Executives:**

**DIRECTOR:**

Arthur Chan

- Bachelor's of Computer Science, First Class Honours, HKUST
- Over 16 years of experience in IT, eCommerce, O2O and data science. Founder of an AI and Big Data company

**SCIENTIFIC DIRECTOR:**

Professor Gary Chan

- Director of Entrepreneurship Center, HKUST
- Professor of Computer Science and Engineering, HKUST
- PhD. in Electrical Engineering, PhD. minor in Business Administration, Stanford University

Indoor positioning is a lucrative market with high-potential commercial values in its infancy. After several years of laboratory research, Compathnion has developed a state-of-the art system based on WiFi-fingerprinting and magnetic field detection. The technology exploits existing WiFi infrastructure with sensor fusion augmentation to identify individuals' positions precisely, track paths, and to guide people from one place to another. Its real-time navigation and asset tracking functions can be personalized to provide brand recommendations based on user behaviors and to enhance shopping experiences.

After a year of collaboration, Compathnion will complete the deployment of its technology in Harbour City, a major Hong Kong landmark shopping mall. Throughout this project, we were able to overcome many challenges in transforming an academic research into a pragmatic business application.

Our team will be entering a new phase in 2019 as we receive fresh business opportunities and we provide more data-drive solutions for clients. Furthermore, we are creating a total solution including iOS positioning, and we have partnered with Apple SGP and HK indoor positioning team to fulfill that goal.

隨賞科技有限公司是一家本地初創公司，自 2016 年設在香港科學園，更擁有香港科技大學的核心團隊，近年內在開發創新室內本地化技術方面取得了顯著成就。

**隨賞科技有限公司由天賦才華的兩位人工智能專才領導：**

董事長：

陳智銓先生

- 香港科技大學計算機科學學士學位，一級榮譽畢業
- 擁有 16 年在資訊科技、電子商務、線上到線下服務和數據科學分析經驗。人工智能兼大數據公司的創始人

科技總監：

陳雙幸

- 香港科技大學創業中心主任
- 香港科技大學計算機科學及工程學系教授
- 斯坦福大學電子工程博士學位，修商業管理

隨賞科技有限公司開發的導航流動系統應用程式是全港首個根據用戶附近的 Wi-Fi 信號和磁場檢測，提供實時室內導航服務的應用程式。隨賞科技有限公司利用室內定位技術，可根據用戶位置提供線上到線下的智能服務，包括點對點實時導航路線，讓顧客輕鬆在商場內前往任何商店、餐廳及其他設施。另外，程式亦可化身電子私人導購專員，用戶可在程式上標記喜愛的商場品牌，方便未來購物參考。

經過一年的合作後，隨賞科技有限公司將完成海港城的商場導航流動系統，並成功地將學術界研究轉化為實際的商業用途。

踏入 2019 年後，隨賞科技有限公司將開發新的全方面應用程式，包括 iOS 的定位系統，期間亦和蘋果公司合作以提高程式的技能。

## AWARD

*Computime Group Limited*  
金寶通集團有限公司

Computime Group Limited is a global technology and manufacturing company headquartered in Hong Kong, with 14 offices and manufacturing sites in strategic locations around the world. Over the past 40+ years, Computime has worked with global brands to produce meaningful design and manufacturing solutions, as well as developed and launched innovative products under its own brand name.

With its superb R&D and engineering capabilities, coupled with a strong manufacturing heritage, Computime has created, built and successfully commercialized an innovative solution to longstanding problems associated with hydronic heating controls. Traditionally, hydronic heating controls suffer from two main drawbacks: inflexibility and low energy efficiency. Temperature is controlled simply by turning on or off the valves that pump hot water into the heating system. Computime has innovated this traditional technology through three unique improvements:

- 1) Variable flow control. Through a proprietary proportional-integral algorithm, the control system learns through its past performance, delivering just enough energy to maintain the set temperature, thereby reducing energy usage and improving user comfort through the much smoother temperature output.
- 2) Cloud-based system capable of setting unlimited number of time schedules, giving users a high level of flexibility to adjust the heating according to their living patterns.
- 3) Rules-based system that responds to the environment, facilitating home automation.

Computime's hydronic heating control system has been shown to reduce energy consumption by up to 20-25%. This can lead to substantial reductions in energy bills and is a great option for environmentally-conscious users. Additionally, the system is able to maintain a comfortable, consistent temperature.

Computime is the first provider of such comprehensive intelligent connected system for hydronic heating controls, and has emerged as a market leader in the HVAC industry.

金寶通集團有限公司是一家總部設在香港的國際性技術和製造公司，在全球策略性地區共設有 14 個辦事處及生產基地。於過去 40 多年來，金寶通與國際品牌合作，提供切實有效的設計和製造解決方案，並以自家品牌開發和推出創新產品。

憑藉卓越的研發及工程實力，加上豐富的製造經驗，金寶通成功創建並商業化一項創新解決方案，針對熱水供暖系統控制領域長期存在的問題。傳統熱水供暖系統的溫度控制，是透過簡單的閥門開關將熱水泵入系統，因而引致兩大問題，即低靈活性和低能源效益。金寶通通過三項獨有的創新科技改善了這傳統技術：

- 1) 可變流量控制。通過專有的 proportional-integral algorithm，該控制系統能夠從過往表現中學習，利用恰量能源來維持設定溫度，令溫度輸出更穩定，達致節能並提高用戶舒適度。
- 2) 雲端系統讓用戶設定不限數量的時間表，方便用戶根據自己的生活模式靈活地調節供暖。

3) 規程系統可以因應環境而調校，促進家居自動化。

金寶通的熱水供暖控制系統可以節省達 20-25%的能耗，大幅減少能源費用，對注重環保的用戶來說是個很好的選擇。此外，這系統亦能維持舒適且均勻一致的溫度。

金寶通是第一家在熱水供暖控制領域，能夠提供如此全面的聯網智能系統的供應商，並已成為暖通空調業的市場領導者。

## AWARD

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

The Internet of Things (IoT) will pave the way for a vast number of connected devices to enable new services and enhance efficiencies across industries. It will also transform businesses, change the way people live, and fuel innovations of our society into a smart city era.

Extensive IoT applications are enabled by cellular communication technology. According to several industry forecasts, around 2.7 billion IoT devices will be connected via cellular network by 2022. NB-IoT (Narrowband IoT) is the cellular communication technology dedicated for IoT applications. As one of the pioneers in this technology, ASTRI has developed an NB-IoT IP platform supporting 3GPP (The 3<sup>rd</sup> Generation Partnership Project) Release 13 for User Equipment applications which is comprised of RF transceiver, digital baseband, power management unit and power amplifier, and all these functional elements have been designed and implemented into a single CMOS chip to significantly save BoM cost and reduce module size.

物聯網的高速發展將會把海量的裝置連接起來，引領嶄新的產品服務，提高各行業的效率。它還將帶動企業蛻變，改變人們的生活方式，推動社會創新進入智慧城市時代。

蜂窩通信技術令物聯網應用得以廣泛地實現。根據一些行業預測，到 2022 年，大約 27 億個物聯網設備將通過蜂窩網路連接。窄帶物聯網 (NB-IOT) 是專門用於物聯網應用的蜂窩通信技術。作為這項技術的先驅者之一，應科院經已開發了一個支援 3GPP (第三代合作夥伴計畫) 第 13 版 NB-IoT IP 平台，應用在用戶設備上，該平台包括了射頻收發器、數字基帶、功率管理單元和功率放大器，所有這些已集成到單個 CMOS 晶片上，顯著節省了模組物料成本和縮小了模組尺寸。我們開發出來的 NB-IoT IP 平台充分支援 3GPP 標準上複雜的 NB-IoT 用戶場景，同時又能滿足低功耗、低成本和廣泛網路覆蓋的要求。



## AWARD

*Sanwa BioTech Limited*  
三和生物科技有限公司

At Sanwa Biotech, we provide diagnostic solutions based on our microfluidic disposable Lab-On-Chip (LOC) platform, including an integrative point of care device, reagents, software analytics & data management service, which brings convenience and value in diseases monitoring and supports clinical decisions, improves patients health and contributes to innovative solutions that combat challenges on global health care.

ALiA (Array Based LED induced fluorescence ImmunoAssay platform) is a rapid and portable rapid diagnostic platform with integrated microfluidic biochips (Lab-On-Chips) technology. Only a single drop of sample is needed for this immunoassay based in vitro diagnostic platform to deliver an end-to-end solution from sample to result in less than 15 minutes. Drastic reduction in turnaround time from sample to result in this integrated smart system combined with mobile portability revolutionize current laboratory process.

三和生物科技致力開發不同應用領域的微流控生物芯片 (Lab-On-Chip, LOC) 快速檢測方案，其核心技術涵蓋了一體化集成床邊/即地檢測 (Point-Of-Care Test, POCT) 設備，檢測應用試劑盒，自動分析軟件，數據管理分析等。通過集成各種技術和應用系統，我們建立的一體化快速檢測設備有助于簡化醫學臨床診斷和疾病監控的檢測流程，提高疾病診斷和公共衛生安全的監測效力。在應對全球醫療保健的挑戰中，通過全面的疾病監控和便攜式快速檢測設備，我們能提供革新有效的檢測方案，從而有效改善患者的健康護理條件。

ALiA，LED 光誘的蛋白矩陣熒光免疫分析平台，是一個集成微流控生物芯片 (Lab-On-Chip, LOC) 技術和智能免疫分析功能的便攜式快速檢測設備。它只需要一滴血/血清樣本，即可實現 15 分鐘一站式的體外免疫分析診斷。與傳統檢測技術相比，通過這套智能分析系統和便攜式獨立運作的快速檢測設備，它能極大地縮短樣本到診斷結果所需要的時間，徹底簡化目前檢測試驗的操作流程，大大提高檢測效率。

## AWARD

*Solomon Systech Limited*  
*晶門科技有限公司*

Founded in Hong Kong in 1999 and listed since 2004 (stock code: 2878), Solomon Systech Limited (“Solomon Systech”) is a leading semiconductor company specializing in the design, development and sales of display and touch IC products and system solutions that enable a wide range of applications for smartphones, tablets, TVs/monitors, notebooks and other smart devices, including wearables, healthcare devices, smart home devices and industrial appliances.

Headquartered in Hong Kong, Solomon Systech has built a global presence with regional offices in China, Taiwan, UK, Korea and Japan; R&D centers in Hong Kong, Nanjing, Taiwan, Korea, UK and Shenzhen; and a global distribution network.

“Innovation” has always been the cornerstone of Solomon Systech. We have been developing advanced technologies with self-developed IPs and patents. The award winning PMOLED Touch & Display Driver Integration (TDDI) IC (Part number: SSD7317), being the world’s 1<sup>st</sup> of its kind, has remarkably transformed traditional PMOLED display panels into touch + display panels, and set an important milestone in the industry. It has also further enhanced Solomon Systech’s position as a pioneer and market leader in PMOLED technology.

The PMOLED TDDI IC SSD7317 integrates both the PMOLED display and touch microelectronics into a single chip. Compared with traditional out-cell touch approach which adopts separate touch and display ICs, the key competitive features of SSD7317’s in-cell touch technology includes:

- Enables better display quality given higher light transmittance
- Enhances touch performance with the proprietary time multiplexing approach reducing display and touch crosstalk
- Decreases total module costs by reducing the total number of components
- Improves yield rate of final product assembly
- Shortens development cycle
- Enables ultra-slim form factor
- With 7 patents filed globally

This proprietary technology has strong market potential as it best meets the growing demand for wearables and smart home appliances in the IoT (Internet of Things) era.

For further information about Solomon Systech and its products and solutions, please visit: [www.solomn-systech.com](http://www.solomn-systech.com).

晶門科技有限公司（“晶門科技”）於 1999 年成立於香港，並於 2004 年上市（股份編號：2878），是一家具領導地位的半導體公司。晶門科技專門設計、開發及銷售顯示及觸控集成電路晶片及系統解決方案，產品廣泛應用於智能手機、平板電腦、電視／顯示器、筆記型電腦、其他智能產品，包括可穿戴產品、醫療保健設備、智能家居設備，以及工業用設備。

晶門科技的總部設於香港，在中國、台灣、英國、韓國和日本設有地區辦事處；研發中心設於香港、南京、台灣、韓國、英國和深圳；而分銷網絡更遍佈全球。

“創新”一直是晶門科技的基石。我們以自主開發的知識產權和專利發展先進科技。獲獎的 PMOLED 觸控和顯示驅動集成（TDDI）IC（元件編號：SSD7317）作為世界首枚同類產品，成功將傳統的 PMOLED 顯示面板轉化為觸控+顯示面板。此產品標誌著行業的一個重要里程碑，並更進一步強化了晶門科技作為 PMOLED 技術的先驅和市場領導者的地位。

PMOLED TDDI IC SSD7317 集成了 PMOLED 顯示和觸控微電子器件至一單晶片中。與採用獨立觸控和顯示 IC 的傳統外置式觸控方式相比，SSD7317 的內嵌式觸控技術的主要競爭優勢如下：

- 更高的透光率實現更優越的顯示和觸控表現
- 專有的“時間複用驅動方案”減少顯示觸摸串擾，提高觸控性能
- 元件總數減少令模組總成本降低
- 提高終端產品組裝的成品率
- 縮短開發週期
- 實現超薄外形
- 在全球已提交 7 項專利

此獨有技術具有強大的市場潛力，最能滿足 IoT（物聯網）時代對可穿戴設備和智能家電不斷增長的需求。

有關集團以及其產品及服務之詳情，請瀏覽網頁：<http://www.solomon-systech.com>。

## CERTIFICATE OF MERIT

*AirStar Air Conditioning Technology Group (HK) Limited*  
燕通科技（香港）有限公司

Located in Hong Kong Science and Technology Park, AirStar Air Conditioning Technology Group (HK) Limited was formed in 2010 by AirStar Environment Technology Group Limited.

AirStar is a world leader in innovative air-conditioning technologies and real-world solutions. It achieved breakthrough as AirStar's patented Radiant Ceiling and Fresh Air System (RCF) technology, which is registered worldwide, including in Mainland China, Hong Kong, Japan, Singapore, United States, Australia, and Europe. RCF system save at least 40% energy consumption and 70% operation and maintenance cost. It also provides customers with a healthier and more comfortable living environment.

RCF technology is applied to different types of projects in Mainland China, such as Zhuhai Aviation Exhibition Centre, Livzon Pharmaceutical Group, Beijing Airport boarding bridge and Guangzhou Subway Xinang Station.

RCF system also used in Hong Kong projects, for example Hang Seng Bank Building, Office of Property Services Branch of Hong Kong Architectural Services Department, Cathay Pacific Cargo Terminal and Hong Kong Aircraft Engineering Company Limited.

2010 年，思達環境科技集團有限公司創立燕通科技（香港）有限公司，並選址香港科學園。

燕通科技（香港）有限公司成功取得《輻射天花和新風系統技術》（簡稱 RCF 技術）的突破性專利成就，於創新空調技術以及現實世界解決方案領域上，已是全球領導者，RCF 技術並已於中國內地、香港、日本、新加坡、美國、澳洲及歐洲等地註冊，可節省能源消耗至少 40% 及節約至少 70% 的運行維護保養費。更重要的是 RCF 系統提供給客戶一個更健康舒適的生活環境。

RCF 技術在國內多個大城市應用於多種不同類型的項目，如珠海航空新城展覽館、珠海麗珠醫藥集團、北京機場登機橋及廣州地鐵西朗站等。

RCF 系統亦應用在香港多個大型建築項目中，包括恒生銀行大樓、建築署物業事務處辦公室、國泰城貨運站及香港飛機工程有限公司等。

## CERTIFICATE OF MERIT

*Allystar Technology Co. Limited*  
華大北斗科技有限公司

### **HD8040 Brief Introduction**

ALLYSTAR HD8040 is highly integrated GNSS receiver chip. It is the World's 1st multi-band multi-system SoC chip which supports BDS-3. Besides, it is capable of tracking all global civil navigation systems (BDS, GPS, GLONASS, Galileo, IRNSS, QZSS and SBAS) in all bands (L1, L2, L5). HD8040 is based on the state of art CYNOSURE III architecture, integrating RF, Baseband, processor, and Flash memory into one chip. By implementing multi-band positioning technology, this single chip achieve sub-meter level position accuracy without correction data from ground-based augmentation station and higher sensitivity, greater for improved jam resistance and multipath, provide a highly robust service in complicated environment. In the lowest power consumption mode (RTC mode), HD8040 consumes less than 1uA. Meanwhile, HD8040 is equipped with a hardware cryptographic engine (CRYPTO) supporting various encryption/decryption standard (AES/DES/SM4) to protect sensitive data such as position information during data exchange.

### **HD8040 介紹**

華大北斗 HD8040 是全球首顆支援新一代北斗三號信號體制的多系統多頻高精度導航定位 SoC 晶片，該產品創新性的將射頻、基帶、處理器、Flash 記憶體等模組有機集成在一顆晶片上，首次實現了包括北斗全球系統在內的多系統多頻段導航 SoC 單晶片產品解決方案，有效降低了晶片成本和功耗；支援全球所有民用導航系統且實現任意雙模組合；晶片內部採用雙頻定位技術，在標準單點定位情況下可實現亞米級的定位精度；在地基增強或星基增強輔助情況下可實現釐米級的定位精度。同等條件下連續定位功耗較現有產品下降 30%，最小待機功耗可降至 1uA；提供了豐富的週邊介面，可輕鬆應對各種擴展應用；內置了資料加密單元，首次實現北斗晶片“信源級”加密，提升了產品綜合性能及競爭力。

## CERTIFICATE OF MERIT

*Application Technology Co. Limited*

Application Technology Company Limited (AppTech) was established in 2012. We are an Artificial Intelligence development company specializing in Computer Vision and Big Data Analytics.

The product "Pixeleye" achieved Real-time Object Detection, Tracking and Object Recognition by using our award winning A.I. algorithm and high-end GPU computing along with the latest TensorFlow and Keras technologies. "Pixeleye" can also be applied to crowd control while providing a wide range of useful information including: People Count, Average staying time, distribution of objects at specific locations, movement paths and other traffic data.

"Pixeleye" can replace traditional data statistics collection methods, especially in long duration, high density and heavily overlapped images.

The real-time detection/tracking/recognition results will be displayed in our Data Visualized Reports to let the users understand the results easily and accurately. The technology can be applied to different industries and scenerios including: Security Monitoring, Multiple Object Tracking, Marketing and Smart city planning etc.

Application Technology Company Limited (AppTech)成立於 2012 年。我們是一家積極研發人工智能技術(Artificial Intelligence)的軟件開發公司，專業提供影像和大數據分析。

這次參賽的產品「點視」(PIXEL EYE)，採用了 TensorFlow 和 Keras 技術，加上高端 GPU 運算處理，實現了實時物體檢測，追蹤和種類識別。這技術也可應用在人流監控，以提供有關人流的各種信息：例如人數，平均停留時間，每個位置的檢測對象分佈以及預測移動路徑和交通數據等等。

利用這技術可替代傳統數據統計方法，適合應用在長時間，密集和影像大量重疊的環境。

用家可通過資料視覺化(Data Visualization)的報告，準確掌握實時檢測/識別結果，這可幫助實現保安監控，多重物體/對象追蹤，市場統計，智慧城市計劃等等。

## CERTIFICATE OF MERIT

*AppoTech Limited*  
卓榮集團

AppoTech is a semiconductor company that provides one-stop solution in integrated circuit (IC) design and application development. It was founded in 2003 by Mr. Cheng Cheuk Wing from Silicon Valley in the United States. AppoTech is headquartered in Hong Kong, and has wholly-owned subsidiaries and research and development offices in Zhuhai, Shenzhen, Taiwan, the United States, and Canada.

Our expertise includes the design of various sizes of IC, research into advancing-front algorithm, and application of related products. We have conducted in-depth research and accumulated technical experience in audio/video devices, storage devices and industrial devices development, and have successfully developed a series of mature programs in line with international technology.

Our vision is to become one of the world's leading IC design companies. We will continue to uphold our mission of building, optimizing and integrating technology for leading the smart life, and deliver leading-edge technologies and solutions to our customers to meet their demanding requirements.

卓榮集團（卓榮及建榮）成立於 2003 年，由美國矽谷回國的優秀企業家和工程師鄭灼榮先生創辦，是一家設計與銷售自主知識產權芯片的集成電路設計企業。公司總部卓榮集成電路科技有限公司設立在香港，並先後在珠海、深圳、台灣、美國以及加拿大設立了研發機構以及全資公司。

卓榮集團涉及的技術領域包括：各種規模的集成電路設計、前沿算法的研究與實現以及相關產品的應用。公司在音頻類、視頻類、存儲類以及工控類等產品的一站式設計及解決方案方面有著深入的研究和積累，成功研發出了一系列與國際技術同步的成熟方案。目前，公司已與國內外多所著名大學合作，為其提供開發類、學習類芯片，每年培養有潛力的應屆畢業生成為公司新的核心技術成員。

卓榮集團將繼續用「芯」改變世界，肩負「創造、優化及整合科技，引領智慧生活」的使命，為廣大客戶量身打造高性能、低成本的芯片解決方案，努力成為世界領先的集成電路設計企業。

## CERTIFICATE OF MERIT

*Chain Technology Development Co. Limited*  
*倬詠技術拓展有限公司*

Founded in 2016 at Hong Kong Science & Technology Park, Chain Technology Development Co. Limited provides Smart City management solutions. By integrating Building Information Modelling (BIM), Photorealistic Modelling, IoT, Big Data Management and Artificial Intelligence with location-based data, Hybrid Reality Platform (HRP) changes the way of massive data visualization with intuitive 3D representation, empowering our clients to efficiently manage their assets, perform analysis and streamline the decision-making process.

With HRP, different stakeholders can collaborate on a unified cloud platform throughout the entire construction project life cycle, from initial design planning, construction progress tracking to facility management such as energy consumption monitoring and underground utilities inspection. This allows users to draw insights from complicated raw data, effectively manage the performance and ensure continuous improvement.

HRP is compatible with various hardware devices including 4D Immersive CAVE, Training Simulator and Touch Table to enhance interactive user experience. Chain will persist in taking the challenge of developing innovative technologies, and contribute to building Hong Kong as a leading smart city.

倬詠技術拓展有限公司於 2016 年在香港科學園成立，致力研發智慧城市解決方案，透過整合建築信息模型、實境建模技術、物聯網、大數據管理及人工智能技術，成功開發「融合實境系統(HRP)」，讓管理人員從直觀易讀的三維介面上有效地管理資產、分析數據及作出決策，節省時間和成本。

HRP 協助客戶管理整個建築工程的生命週期，從規劃建築項目、監管施工進度到設施管理如監控能源消耗及探測地下管綫，將大量複雜的地理空間數據統一整合於雲端平台，讓項目持份者隨時隨地擷取資訊，使城市運作得以持續改進。

HRP 可搭配不同硬件裝置深化用戶互動體驗，當中包括沉浸式四維 CAVE 系統、場景訓練模擬器及多點觸控桌。倬詠獲獎後，將會繼續投入資源研發更多嶄新的智慧城市解決方案，為推動香港智慧城市發展出一分力。



## CERTIFICATE OF MERIT

*Hong Kong EV Power Limited*  
香港電動能源有限公司

Hong Kong EV Power Limited (“EV Power”) was found in 2010. EV Power currently provide a wide range of Electric Vehicle (EV) charging solutions to major cities in Greater China, which include Beijing, Shanghai, Guangzhou, Shenzhen, Hong Kong & Macau, and is serving over 1500 residences, offices, shopping arcades & other premises.

In this year, we bring to our customers a compact, holistic and economical fast charging solution, the “Wall-mounted Multi-standard 24kW DC Charger” (EVQ-IES Series).

This product is newly designed for charging of all EV models, which supports multiple standards – CCS, CHAdeMO, IEC 62196 Type 2 (AC22). It can effectively overcome the limitations on spatial & power supply requirements and significantly solve the queue time of charging in the urban areas.

香港電動能源有限公司於 2010 年成立，提供一站式的私人及公共充電服務，是目前香港最大的綜合電動車充電設備及服務供應商，集團業務已拓展至北京上海廣州及澳門等地。

今年，我們將為客戶帶來體積更纖細，更具備達到環保經濟效益，支援多標準和可掛牆式的 24kW 直流充電器推出市面。

該產品是為所有 EV 車型充電而設計的，它能夠支持多種標準，包括 CCS, CHAdeMO, IEC 62196 Type 2 (AC22)。該產品能夠有效地克服空間和電力供應需求的限制，並且顯著解決城市地區的排隊充電時間問題。

## CERTIFICATE OF MERIT

*Hyribio Limited*  
凱普生物科技有限公司

Hyribio is a leading provider of IVD assays in Great China with fully integrated operation chain from R&D, manufacturing, sales and marketing to after-sales technical support. Our products have been approved by CFDA and obtained CE-IVD licenses, and extensively used in medical and research laboratories in European and Asian countries.

We developed our IVD platform based on patented technology called “Flow-through hybridization” licensed from The University of Hong Kong and built up two major R&D lines - infectious pathogens detection and genetic disease detection. In 2017, Hyribio was listed in GEM of Shenzhen Stock Exchange. It demonstrated a successful case of Industry-University-Research Collaboration and Guangdong, Hong Kong and Macao Greater Bay Area collaboration.

Over 25 million of our HPV test has been performed in China. In 2016, Hyribio with other 20 leading enterprises including Sinopec and Huawei, was awarded the 18th WIPO-SIPO joint China Patent Gold Medal. And Hyribio was the only molecular diagnostic enterprise to receive this award in 2016.

To better serve our community, we are establishing a network of state-of-the-art molecular diagnostic laboratory covering all major cities in China including Hong Kong, Beijing, Shanghai, Guangzhou and will have more than 25 sites end of 2018.

凱普生物是大中華地區領先的核酸分子診斷產品供應商和製造商，專注於分子診斷試劑及配套儀器等產品的研發、生產和銷售，並提供相關服務。海外市場已拓展到歐洲、拉丁美洲、澳洲和東南亞市場。

借助香港大學兩項美國專利，凱普生物開發了人乳頭狀瘤病毒（HPV）基因分型檢測試劑和技術平臺，覆蓋感染性病原體檢測和遺傳病檢測兩大領域的產品線。凱普生物于 2017 年初在深圳證券交易所創業板成功挂牌上市。這是一個研學合作、港澳大灣區合作的成功案例。

凱普 HPV 試劑已累計為 **2500 萬** 婦女進行宮頸癌檢測，為數百萬婦女提示宮頸癌早期風險。2016 年“人乳頭狀瘤病毒基因分型檢測試劑盒及其基因芯片製備方法”榮獲第 18 屆中國專利金獎，標志著凱普生物 HPV 檢測專利技術實現的經濟效益和社會效益得到國家肯定。

凱普生物已在全國各省會及重點城市，包括香港，布局了 25 家分子醫學檢驗所，形成了覆蓋全國的第三方醫學檢驗服務網絡。

## CERTIFICATE OF MERIT

*Neosen Energy (HK) Limited*

NeoSmart is a wide range and low cost tracking solution that helps to find lost cow instantly, in a range of 7km radius. This is achieved by solar rechargeable tracking tag and simple hardware installation that costs less than a smartphone.

You can simply track cows' locations anytime and anywhere, and alert you when they leave the boundary that you choose in our app. NeoSmart uses long range, low power radio communication and triangular positioning to locate lost cow's location without GPS and it lasts for four years. We are also developing low-cost paper-thin tracking tag with printable battery that supports 10 days battery life. This paper-thin tag extended the application of NeoSmart. It can be the luggage tag to prevent the loss of our luggage or elderly wristband to locate the lost elderly in elderly homes. NeoSmart brings revolutionary tracking method for our customers to manage their valuable assets more effectively.

在傳統牛場管理上，管理人員會設置圍欄或利用狗來防止牛隻離開牛場的範圍。NeoSmart - 牛隻追蹤和管理系統（其硬件配套只相等於一部智能手機的價錢），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。

只要為牛隻配帶附有太陽能板和溫度感測器的追蹤標籤和在牛場設置簡單的硬件（如閘道器），即可在無需使用 GPS 的情況下利用三角定位追蹤牛隻的位置。管理人員可以隨時隨地即時查看在七公里半徑範圍內牛隻的位置。當牛離開在應用程式中預設的指定範圍時，系統便會發出警告至管理人員的流動裝置。此外，我們更研發了與紙一樣薄的追蹤標籤，此技術讓 NeoSmart 發展成多用途物產管理，例如行李標籤以解決行李遺失的問題、病人手帶用在醫院或老人院防止老人走失。

## CERTIFICATE OF MERIT

*Retraction Limited*

We're Radically Rethinking endoscopic retraction.

REVEEL, our patented retractor delivers truly gentle retraction and unparalleled visualization of the operating field. Inserted percutaneously or through a standard 5 mm cannula and featuring Active Traction, REVEEL prevents organ slippage and reduces patient trauma.

### **REVEEL: “The world’s gentlest retractor”**

RETRACTION, based in Hong Kong, specializes in the development of unique laparoscopic retraction and space making tools. We focus on delivering innovative, high quality devices that improve patient outcomes and surgeon satisfaction.

我們正在從根本上重新思考內腹腔牽引。

REVEEL，我們的專利牽引器，在操作領域上，提供真正溫和的牽引及無與倫比的外觀。經皮插入或通過標準 5 毫米套管，加上活躍的牽引力，REVEEL 可以防止器官滑移並減少病人的創傷。

### **REVEEL：世界上最溫和的牽引器**

RETRACTION，總部設在香港，專門開發獨特的腹腔牽引及創造體內操作空間的工具。我們專注于提供創新及高品質的設備，改善患者手術的結果和外科醫生的滿意度。

## CERTIFICATE OF MERIT

*Winstar Chemicals Company Limited*  
*永星化工有限公司*

Winstar Chemicals Company Limited has accumulated a wide range of professional knowledge and techniques in metal and plastic surface finishing industry. It is globally recognized to be one of the most advanced suppliers of surface finishing technologies. In the past four decades, Winstar has always been the pioneer of the R&D of innovative technologies who dedicated to developing different surface finishing techniques being applicable in different industries. Hence, Winstar is able to provide all-rounded chemical techniques and supporting equipment services for customers around the world.

Winstar has also been keeping pace with the latest trend and has developed various kinds of environmentally-friendly products, including ZICOLLUM™. With excellent high corrosive resistant ability, ZICOLLUM™ has successfully gained high reputation in construction and automotive industries in various countries. Together with the R&D team, Winstar will continue developing and offering more comprehensive and stable products in order to join hands with the industry professionals to take part in green technology.

永星化工有限公司在金屬和塑膠表面處理行業累積了廣泛的專業知識和技術，獲認可為擁有最先進表面處理技術的生產商之一。在過去四十多年，永星化工的研發團隊走在最前，積極研發能應用於各個行業的表面處理技術，令永星化工能夠為全球客戶提供全面的化學技術及支援服務。

永星化工更緊貼時代步伐，成功研發多種綠色環保技術，當中包括享負盛名的 ZICOLLUM™無鉻鋅鋁塗料系統。ZICOLLUM™擁有優秀的高防腐性能，成功獲不同國家應用於汽車和建築行業。永星化工的研發團隊將會繼續發展全面及穩定的產品，與業界的專家攜手，為發展綠色表面處理技術出一分力。