

香港工商業獎  
2019

HONG KONG  
AWARDS FOR  
INDUSTRIES



# TECHNOLOGICAL ACHIEVEMENT 科技成就





# 2019

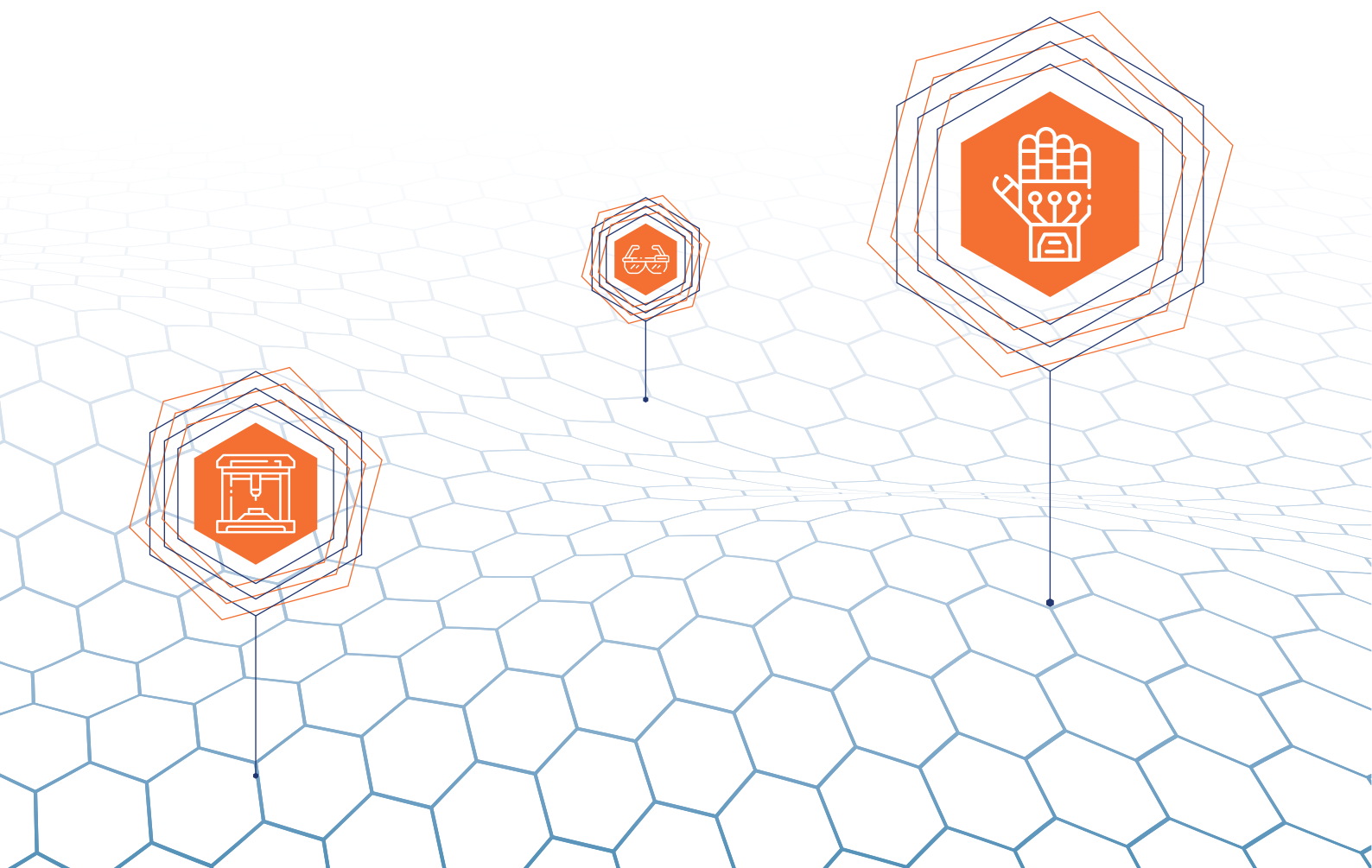
**HONG KONG AWARDS  
FOR INDUSTRIES:  
TECHNOLOGICAL ACHIEVEMENT**  
香港工商業獎：科技成就

## AWARD

- 06** CryptoBLK Limited  
區塊鏈科技有限公司
- 08** Green Breeze Limited  
真毅環境科技有限公司
- 10** Roborn Dynamics Limited  
路邦動力有限公司
- 12** Telefield Medical Imaging Limited  
中慧醫學成像有限公司
- 14** TFI Digital Media Limited  
天開數碼媒體有限公司

## CERTIFICATE OF MERIT

- 16** Acoustic Metamaterials Group Limited  
靜音科技集團有限公司
- 17** Alpha Power Solutions Limited  
創能動力科技有限公司
- 18** Blue Innowater Company Limited  
蔚藍環保有限公司
- 19** PolyDigi Limited  
寶利數碼有限公司



## CHAIRMAN'S MESSAGE

### 主席的話

With the consolidated support from the government as well as stakeholders in society, innovation and technology development in Hong Kong has scaled new heights. I'm incredibly pleased to boast the award-winning technologies that demonstrate remarkable successes in smart city development, advanced manufacturing, digital entertainment, biomedical health and other fields. Injecting more resources into research and development (R&D) will drive further innovative solutions, and help businesses raise their competitiveness, so as to support Hong Kong's economic diversification over time.

As the Organiser of Hong Kong Awards for Industries "Technological Achievement", HKSTP is delighted to see R&D outcomes enabling high-value digital transformation across various businesses. Motor Insurance DLT-based Authentication System (MIDAS) is the first blockchain-based platform for authentication of motor cover notes or policies. The next-generation SIM authentication based on carrier data is designed to facilitate real-time third-party verification. Both award-winning technologies are conducive to augmenting the application scope of data-based technology. SANI®, carbon-sulfur-nitrogen cycle-based wastewater treatment technology that substantially slashes carbon footprint and energy consumption, together with acoustic materials that

absorb over 90% sound frequencies, represent distinctive breakthroughs in advanced manufacturing. In another aspect, Scolioscan®, 3D ultrasound imaging system that facilitates radiation-free scoliosis assessment in a fast, secure and cost-efficient manner, exemplifies the diversity of biomedical technology.

Other award-winning technologies include Silicon & Silicon Carbide (SiC) Diodes that enhances performance of electrical equipment, HDR colour expansion technology that elevates colour levels and image quality, home-grown 5G-enabled motion-controlled humanoid robot, and air filtration. All of them have set new benchmarks of 5G, robotics, precision engineering and other technology applications.

Last but not least, all the awarded technologies will make Hong Kong very proud, and inspire more technopreneurs to translate their enterprising notions into disruptive innovations. On behalf of HKSTP, I would like to offer my sincere congratulations to all HKAI winners!

Dr Sunny Chai, BBS

**Chairman, Hong Kong Science and Technology Parks Corporation**





在特區政府鼎力支持及社會各界同心協力下，我很高興本港創新科技於近年取得長足發展，更喜見眾多得獎作品，皆為促進智慧城市發展、先進工業、數碼娛樂、醫療健康等範疇的優秀典範。社會各界投放更多資源，將有助研發創新解決方案，強化工商業的競爭優勢，成就構建多元經濟體系的宏大願景。

香港科技園公司作為「科技成就」組別的主辦單位，樂見研發成果得以廣泛應用於工商產業，推動香港高增值轉型，令人倍感振奮。

今年得獎創新方案包括全港首創的區塊鏈汽車保險認證系統MIDAS，以真實無虞的保密數據協助車主查驗保單真偽；新一代SIM卡認證技術則利用電訊商數據，即時核對第三方身分，均有助拓展數據分析的應用範疇。大幅減少碳排放及能源消耗的碳硫氮循環污水處理技術 - 殺泥工藝®，及可隔絕九成以上噪音的全新聲學超材料，亦為先進工業發展的傑出成果。3D超聲波成像系統Scolioscan®可以更安全便捷及具成本效益的方式提供無幅射脊柱側彎評估，展示醫療科技更為廣泛的應用場景。

其他得獎科技包括加強電子儀器效能的碳化矽二極體、能顯著提升電視畫面色彩層次的編碼器L、港產5G動作傳感仿生機械人及過濾環境污染物的空氣淨化技術，對5G、機械科技、精密工程等科研領域均樹立了創科應用的絕佳範例。

上述得獎技術不僅讓香港引以為傲，更可激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2019年度香港工商業獎得獎者，致以至誠祝賀！

#### 香港科技園公司主席

查毅超博士 BBS



## 2019 Hong Kong Awards for Industries

二〇一九香港工商業獎

## FINAL JUDGING PANEL

### 最終評審委員會



#### Customer Service, Innovation and Creativity, Smart Productivity, Technological Achievement and Upgrading and Transformation

顧客服務、創意、睿智生產力、科技成就、升級轉型組別

- |  |   |
|--|---|
| <p><b>1</b> Mr. Emil Yu 于健安先生<br/>General Committee Member<br/>Hong Kong General Chamber of Commerce<br/>香港總商會理事</p>                                 | <p><b>4</b> Dr. Claudia Xu 徐建博士<br/>Chief Commercial Officer<br/>Hong Kong Science and Technology Parks Corporation<br/>香港科技園公司首席商務總監</p> |
| <p><b>2</b> Ms. Ruth Yu 余麗姚女士<br/>Executive Director<br/>Hong Kong Retail Management Association<br/>香港零售管理協會執行總監</p>                                | <p><b>5</b> Mr. Mohamed D. Butt 畢堅文先生<br/>Executive Director<br/>Hong Kong Productivity Council<br/>香港生產力促進局總裁</p>                        |
| <p><b>3</b> Prof. Way Kuo 郭位教授<br/>Chairman of the Final Judging Panel<br/>President<br/>City University of Hong Kong<br/>最終評審委員會主席<br/>香港城市大學校長</p> | <p><b>6</b> Mr. Benedict Sin 冼雅恩先生<br/>Ex-officio Advisor<br/>Hong Kong Young Industrialists Council<br/>香港青年工業家協會當然顧問</p>                |

## PRELIMINARY JUDGING PANEL

### 初步評審小組



後排左起 Back row from left:

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

**Prof. Robert Li 李國耀教授**  
Professor of Department of Materials Science & Engineering  
香港城市大學材料科學及工程學系教授

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

**Dr. S. C. Kim 金信哲博士**  
Director (TTO), Managing Director (Versitech)  
The University of Hong Kong  
香港大學技術轉移處處長及港大科橋有限公司執行董事

**Ir Dr. C L Chan 陳真良博士**  
Immediate Past Chairman / HKIE IT Division,  
The Hong Kong Institution of Engineers  
香港工程師學會資訊科技分部前任主席

**Ir Ted Y.T. Suen 孫耀達工程師**  
President, Hong Kong Computer Society  
香港電腦學會會長

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

前排左起 Front row from left:

**Dr. Joanne Yip 葉曉雲博士**  
Associate Professor, Fashion & Textile Technology - Textiles  
The Hong Kong Polytechnic University  
香港理工大學紡織及製衣學系助理教授

**Prof. K.C. Chan 陳鏡昌教授**  
Head of the Department of Industrial and Systems Engineering  
The Hong Kong Polytechnic University  
香港理工大學工業及系統工程學系系主任

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

**Prof. OnChing Yue 余安正教授**  
Science Advisor  
Innovation and Technology Commission, HKSARG  
香港特別行政區政府創新科技署科學顧問

**Dr. Lawrence Poon 潘志健博士**  
General Manager, Automotive and Electronics Division  
and APAS R&D Centre, Hong Kong Productivity Council  
香港生產力促進局汽車及電子部及汽車零部件研究  
及發展中心總經理

## CRYPTOBLK LIMITED 區塊鏈科技有限公司



### AWARD

CryptoBLK Limited is a Hong Kong-based FinTech start-up. CryptoBLK focuses on developing, deploying and operating Blockchain systems, aiming at making global impacts in the financial services industry by delivering software solutions and services based on Distributed Ledger Technology (DLT, a.k.a. Blockchain). Its mission is to unlock new possibilities, improve efficiency and productivity, and simplify workflow and processes using DLT that is secure, transparent and trustworthy.

As one of the most prominent world-leading DLT development teams, CryptoBLK has rich experience in developing industry-wide DLT platforms as well as custom-made DLT-based applications for the financial services industry and many other industries. Besides one-stop enterprise-grade Blockchain-based solutions, the team also provides consultancy service on digital asset management and DLT security assessment.

CryptoBLK 成立於香港，並致力成為世界一流的區塊鏈技術公司。CryptoBLK 團隊專注於開發、部署和運營區塊鏈系統，致力提供基於分佈式帳簿技術，DLT的解決方案，推動全球金融服務行業發展。CryptoBLK 團隊希望透過應用加密技術和DLT，開發新一代值得信賴、可靠、高效和透明的信息科技系統，創造新的可能性，提高效率 and 生產力，並簡化工作流程。

作為全球領先的優秀 DLT 開發團隊之一，CryptoBLK 曾開發多個專為金融及其他行業定制的 DLT 應用程序中。除了提供一站式企業級 DLT 解決方案，團隊還提供加密資產管理和 DLT 系統安全評估的顧問服務。



Motor Insurance DLT-based Authentication System (MIDAS) is the collaborative effort between CryptoBLK and the Hong Kong Federation of Insurers (HKFI). It is the first motor insurance platform in Asia using blockchain technology in production to verify the authenticity of motor cover notes / policies.

With MIDAS, the underlying blockchain technology, or DLT (distributed ledger technology), now offers real-time authentication of motor insurance notes and policies, as well as multi-stakeholder verification and audit trails. Furthermore, no Personal Identifiable Information (PII) including the vehicle owner's name and ID is stored on the MIDAS to protect the car owner's privacy. MIDAS adds greater security and efficiency in motor insurance, and its launch represents a major milestone in the digitisation efforts of the insurance industry in Hong Kong.

MIDAS 是CryptoBLK 和香港保險業聯會（HKFI）聯合推出的亞洲首個供保險業界使用的區塊鏈車保認證系統「車保e-Check」（英文名稱MIDAS），協助公眾驗證汽車保單的真偽。

全新推出的「車保e-Check」使用區塊鏈（又名分佈式帳簿技術，DLT），支持多方持份者即時驗證車保文件，並提供審計追蹤；更重要的是，車主的個人資料（包括身份證、姓名等個人識別身份資料，PII）並不會存儲在「車保e-Check」系統上，保障車主的個人私隱。「車保e-Check」令投保汽車保險更安全和有效，其推出更標誌著香港保險業邁向數碼化的一個重要里程碑。





MIDAS has the following features which enable authentication, and at the same time, ensure data security and privacy:

#### **Blockchain Technology / Distributed Ledger Technology (DLT)**

MIDAS has an audit trail for every single record created, and these records are stored on the underlying DLT in an immutable fashion, to provide a single source of authentication;

#### **Privacy Protection**

Only the minimum information required for authenticating a motor insurance document is recorded, and no Personal Identifiable Information is stored on the DLT system;

#### **Data Security**

MIDAS follows the industry standards on secure deployment and operations. An annual security audit is conducted for ensuring cyber-security practice up-to-date;

#### **Ease of use**

QR codes generated by the MIDAS platform provide easy access for car owners and Transport Department to authenticate insurance documents instantly.

系統提供即時驗證，同時更可確保數據安全，並保障用戶私隱：

#### **區塊鏈技術 / DLT**

將每一份車保文件資料以不可篡改的方式儲存在 DLT 系統，確保資料的真確性，並提供審計追蹤；

#### **保障私隱**

只有驗證車保時所需的最基本資料才會記錄在系統上，更不會儲存任何可識別個人身份的資料；

#### **數據安全**

遵循業界標準進行部署及運行系統。每年進行一次安全審計，以確保系統符合最新的網絡安全標準；

#### **易於使用**

車主和運輸署皆可透過掃描保單上的「車保 e-Check」二維碼，輕易驗證保險文件真偽。



## GREEN BREEZE LIMITED 真毅環境科技有限公司



AWARD

The PPP Air Purifier has solely developed by the IAQ specialists and the medical professionals of the Green Breeze Limited in Hong Kong. It is the R&D result from the combination of the fundamental research & the practical experience in air purification field, after all these years.

真毅環境科技有限公司的PPP 空氣淨化機，是一個百分百香港研製、從基礎科學、結合香港空氣專家及醫生團隊多年來實踐及應用經驗的科研成果。



The outperformed PPP Air Purifiers employed the award-winning technology, PMmagnet, AIRA and +HEPA technologies. PPP空氣淨化機採用了是次的得獎技術，AIRA, PMmagnet 及 +HEPA, 效能卓越。

Dr Teresa Law, who has specialised in materials and nanotechnology, and owns a number of invention patents on air purification, is the main inventor of the award-winning technology. Her almost-20-year engagement in the air purification industry and research makes her believe that the technology itself is extremely important. Nevertheless, the objective and original intention of R&D is the most essential element - it is the soul that makes the technology become truly "commoditized" and "popularized."

The objective of the Green Breeze was initiated by another founder, Dr Paul Ko, who is a pediatrician as well as a SARS-fighting doctor. He has committed to "clean air" specifically for he hopes that every child can breathe clean air. It is confirmed that the air pollution is impeding our children's brain development - the harm may start as early as when the foetus is in the mother's womb.

羅瑞真博士從事空氣淨化二十年，擁有多項空氣淨化技術發明專利、專業範疇為材料及納米技術。羅博士為本得獎技術的主要開發者，她認為一個技術能否成功應用，技術本身固然重要，然而，技術開發的理念及初衷，才是使技術能否真正「商品化」及「普及化」的靈魂。

真毅的理念，來自另一為始創人 - 高耀森醫生。他是一位兒科醫生，也曾是沙土的抗疫醫生，對「潔淨的空氣」擁有一份執著，他希望每一位小朋友，都能呼吸到潔淨的空氣，因為空氣中的污染物，會傷兒童害腦部發展，這種傷害，甚至始於胎兒在母親的胎盤中時產生。

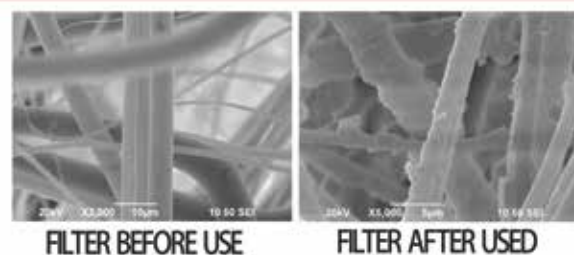
If a low-efficiency air purifier is in used, at one end, the user perhaps improves the air around him slightly; however, on the other end, though the clean air is produced, such an overpowered consuming air purifier will definitely generate more pollution to the environment than not using it. What would be the sense of it after all?

PPP air purifiers apply the PMmagnet nanotechnology onto the filter media, which will transform the filter into a "magnet". The filter thus produces a special affinity towards the fine particulates (PM2.5) and the ultra-fine particulates - even most particulates with the size as small as 0.003 microns can be caught through it! This nano-magnetic technology is a breakthrough in air purification and the traditional "sieving" by the HEPA would not be the mechanism anymore. The PMmagnet technology has solved the problem of the high airflow resistance & energy consuming by the conventional high dense filters. It has increased the Clean Air Delivery Rate (CADR) and the effectiveness by more than 250% times as well.

Ultimately, the goal of our company - "Intergenerational equality for clean air" - is achieved!



The technology enables very an effective air purification. As a result, the small size air purifier performs effectively to the reduce pollutants. 此技術有效提升了空氣淨化的效能，而PPP空氣淨化機的外型，比傳統的細小，效果卻更加優勝。



Under the Scanning Electronic Miscopy, the PMmagnet technology showing particulates with the size as small as 0.003 microns can be caught through the filter.

電子顯微鏡顯示，甚至細小至0.003 微米的超細微粒污染物，可有效被去除。

如果用了一台高耗能、低效率的空氣淨化機，雖然能稍稍改善身旁的空氣，但由於他使用了高耗低效的方式去淨化空氣，他還是在製造環境污染，這如何說得通呢？

PPP 空氣淨化機裡採用了 PMmagnet 技術，把納米技術應用在濾材上，使濾芯變成「磁石」，對微細的污染物有一種特殊的親和力，有效去除PM2.5，甚至細小至0.003微米的超細微粒污染物。這個納米磁石吸附的技術是一項突破，過濾微粒狀污染物，再不是以一般的「篩走」機理進行，這解決了傳統濾芯的密度及風阻問題，並大幅提升潔淨空氣量 (CADR) 及效能至少250%。真正達到真毅的自始從一理念—「潔淨空氣的代際衡平」。



Dr. Teresa Law always emphasizes that public education is important for the public to understand that why an effective air purifier have to be used. Seminar by Dr. Teresa on the "Air Pollution and the Health Impact".

羅瑞真博士強調教育，使大眾了解使用有效率的空氣淨化是十分重要的。





## ROBORN DYNAMICS LIMITED 路邦動力有限公司



AWARD



First 5G Motion Control Humanoid Robot in China  
全國第一部5G動感控制仿生機械人

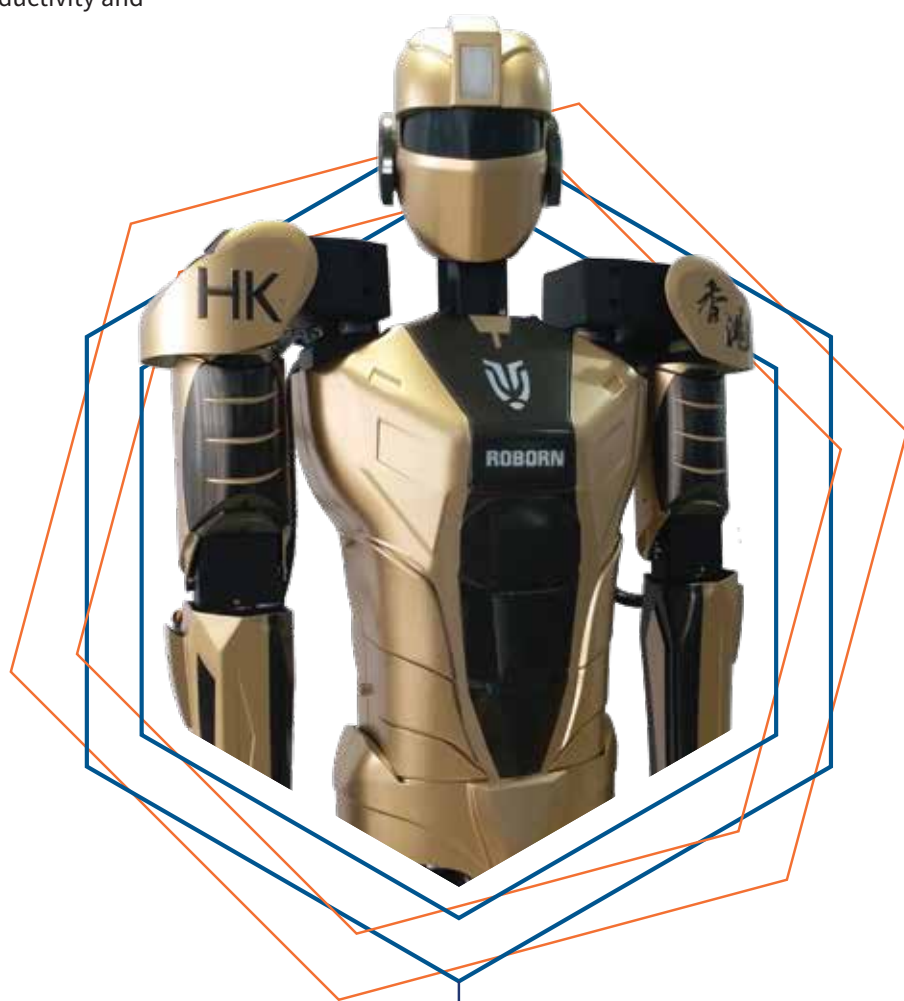
Roborn is leading in 5G robotic technology. With the renowned and advanced motion control system in the region as its core technology, together with 5G, AI, IoT and Cloud elements, it offers comprehensive robotic products and solutions. The robot is independently developed by Roborn's R&D team with PhD degree, and has acquired many patents. It can quickly recognize human motions and mimic them in an instant. The high-performance robotic arm, hand and fingers are controlled by humans with precision from a distance allowing it to be operated in areas that are dangerous or difficult for humans to reach.

路邦以領先的動作傳感控制系統為核心技術，配合5G、人工智能、物聯網和雲端技術，推動及發展全面化的機械人產品及解決方案。由路邦旗下的博士科研團隊自主研發的5G動感控制仿生機械人項目，已獲多項專利；憑藉其先進的控制技術，可讓機械人快速識別人體運動並立即模仿，透過這個系統和算法，控制員可以準確地遙控機械人的手臂、手和手指，在危險或難以到達的區域內工作。



Roborn advocates Technization which is about integrating modern technology into ecologies, realizing human-machine cooperation and virtual interaction to improve the ecologies' productivity and efficiency and make human being better.

路邦提倡Technization，實現科技融入生態，讓人機協作，虛實互動，使整個生態生產力和效率提升，讓人類活得更好。



Homegrown 5G Motion  
Control Humanoid Robot  
本港自主研发5G  
动感控制仿生机械人



## TELEFIELD MEDICAL IMAGING LIMITED

### 中慧醫學成像有限公司

Telefield

AWARD



Operation procedure  
操作過程

Telefield Medical Imaging Limited is a technological innovation company in Hong Kong. It is established in 2012, focusing on three-dimensional medical ultrasound imaging equipment development, manufacturing, distribution and service.

中慧醫學成像有限公司是一家香港本地創新企業。公司於2012年成立，主要業務為三維超聲成像醫療設備產品研發、生產、銷售並提供服務。



Scolioscan® Air

Scolioscan®

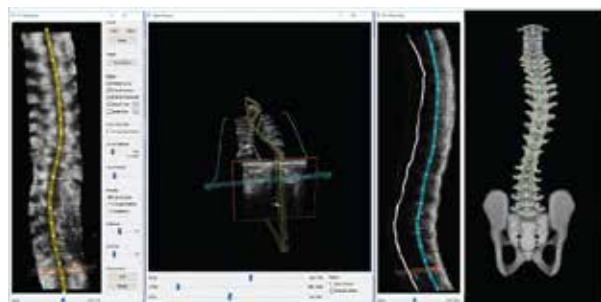
Scolioscan® is a professional medical imaging equipment developed specifically for scoliosis assessment by the Company. It breaks the restriction of traditional X-ray assessment and embraces the advantages of advanced 3D ultrasound imaging technology. Scolioscan® can provide radiation-free assessment of scoliosis for mass screening, frequent monitoring, timely feedback of treatment outcome, and optimization of conventional treatment methods. With a scan of around 30 seconds on the subject's back, Scolioscan® is able to obtain a set of 3D ultrasound image for scoliosis assessment.

Scolioscan® is the first and the only medical ultrasound equipment for scoliosis assessment in the world, protected by 24 international patents. Since 2013, Scolioscan® has been clinically tested and used in hospitals and clinics in Europe, Australia, China, Hong Kong, etc. It has been proved as a reliable and accurate assessment tool, as reported in multiple papers published in different international journals and conferences.

The Company has obtained CE Certificate and ARTG Certificate for Scolioscan®. Thus, it can be distributed and used as a medical device in most European countries, Australia, etc. Scolioscan® has been recognized for its innovation, design and significance and received more than 10 awards from international innovation competitions over the past few years.

Further development of Scolioscan® will be focused on the improvement of its performance and image quality, advanced analysis as well as providing cloud service. In the meantime, a portable version of 3D ultrasound assessment device has been developed and is planning to be launched soon, to provide service conveniently anytime and anywhere.

Telefield Medical Imaging Limited aims to provide accurate, radiation-free and affordable imaging tool and service for scoliosis patients all over the world, and to develop its technology and business based on this goal.



Advanced 3D analysis software: ScolioStudio®  
先進三維分析軟件：ScolioStudio®

Scolioscan®是一台獨特的專業醫學超聲成像儀器，針對脊柱側彎的評估與測量。Scolioscan®打破傳統X光檢查的限制，採用了先進的無輻射三維超聲成像技術，實現安全可靠的脊柱側彎篩選、密切的監測、即時的治療評估、以及對非手術治療方法的優化。只需要30秒的掃描，就能為醫護人員與患者提供脊柱的三維信息。

Scolioscan®是全球第一也是唯一的超聲脊柱側彎檢查儀器，並擁有24項國際專利。自2013年起，Scolioscan®已於歐洲、澳洲、中國及香港等地區的醫院、診所進行臨床測試及使用，並發表超過10多篇國際醫學論文證實其可靠性及準確度。

公司已為Scolioscan®三維超聲成像儀器取得CE證書與ARTG證書，可於大部分歐洲國家及澳洲等地銷售並使用。此儀器從不同國際創新比賽中取得多個獎項，獲得海內外的認可。

公司積極提高產品的效能、改善影像質素及結果分析，並提供雲端服務。同時，便攜式的版本已成功研發並會於短時間內推出，使得Scolioscan®隨時隨地可以為脊柱側彎患者提供服務。

中慧醫學成像有限公司的目標是為全球脊柱側彎患者與家庭提供準確、安全無輻射、高性價比的檢查與服務，並以此拓展研發及市場。





## TFI DIGITAL MEDIA LIMITED 天開數碼媒體有限公司



AWARD

TFI Digital Media Ltd (TFI) is a leading video technology company headquartered in Hong Kong, with a vision to “Bring Content, Culture and People Together”. Since its inception in 2010, TFI focuses on the R&D in Video related Technologies, AI, Machine Learning, Big Data Analytics and the latest Blockchain technology to disrupt and transform the markets and bring the latest technology applications to everywhere across the world.

天開數碼媒體有限公司紮根香港，是一所領先的視頻科技公司，致力利用科技「將內容、文化和人連在一起」。自2010年成立以來，天開一直專注於研究和開發視頻相關科技、人工智能、機器學習、大數據分析和先進的區塊鏈技術，引領業界走到最前，將創新的技術應用帶到世界每一個角落。



HERMES Live Encoder E - patented SDR to HDR real-time conversion technology  
「開眼界直播編碼器E」—實時轉碼專利技術SDR（標準動態範圍）轉換至HDR（高動態範圍）

Our key video products and services include: HERMES Live Encoders and one-stop Live Streaming Service, which are broadly used in different types of business. We apply our video technologies in live streaming events to provide stable, scalable and end-to-end live streaming service for event organizers and strategic partners. Our experienced team handled over 140 live events on corporate and financial seminars and workshops; world-class entertainment events including concerts, sports competition and ceremonies, etc., empowering business partners and clients to reach new business growth.

我們的視頻產品及服務包括：「開眼界視頻編碼器」及直播服務。我們將自家研發的視頻科技應用於直播活動，為活動策劃者及合作伙伴提供穩定、可擴展的全方位直播服務。天開團隊已為超過140個不同類型及場地的活動進行直播，包括：財經論壇及業務發佈會、商務研討會及工作坊、世界級娛樂盛事、演唱會、體育比賽、頒獎典禮等；為合作伙伴及客戶增強業務發展。



In coping with the market needs of high quality video standard, our “HERMES Live Encoder E” as enterprise-graded standard for video broadcasters, with patent granted technology to convert SDR (Short Dynamic Range) video signals into HDR (High Dynamic Range). It demonstrates superior video quality with extraordinary brightness and contrast, as well as provides detailed environment highlights and shadows. Together with WCG (Wide Color Gamut) technology, we double the color range to present a realistic visual ambience. Moreover, our leading and reliable DRM (Digital Rights Management) technology provides content protection to secure the rights of content providers.

As a pioneer in video technology, TFI strives to empower its clients to take up business transformation journey, creates remarkable business value to drive business growth.

為了配合市場需要，天開團隊以應用科技為業界解決問題，我們的「開眼界直播編碼器E」- 企業版，為視頻平台廣泛使用。天開以實時轉碼專利技術SDR（標準動態範圍）轉換至HDR（高動態範圍），將影片由SDR視頻訊號即時轉換成高動態範圍HDR，令觀眾感受到視頻的鮮明亮麗，把影像的亮度和陰影等細節一覽無遺地展現出來，使層次感更為豐富，再配合廣色域WCG，令影像逼真地呈現。此外，我們領先而可靠的DRM（數碼版權管理）技術可按內容供應商需求而彈性設定，保障他們的權益。

作為視頻科技的先驅及領導者，天開協助企業實現轉型之旅程，創造卓越的商業價值以達致業務增長。



Developed the first 24x7 HDR (High Dynamic Range) News Video in Hong Kong and enhanced contrast levels to show realistic images on displays  
建立了香港首個24 x 7 全高清新聞平台，並提升畫面的光暗對比，在屏幕上展示更真實畫面



Used WCG (Wide Color Gamut) technology to present more lifelike and vivid colors on displays  
利用廣色域WCG技術呈現更逼真和鮮明的色彩，令畫面細節更豐富細膩



Provided DRM (Digital Rights Management) technology to securely protect highly sensitive information or copyrighted content from screen capture and screen recording  
靈活地提供數碼版權管理DRM技術，保障內容供應商的權益，避免未經授權的發佈



## ACOUSTIC METAMATERIALS GROUP LIMITED

### 靜音科技集團



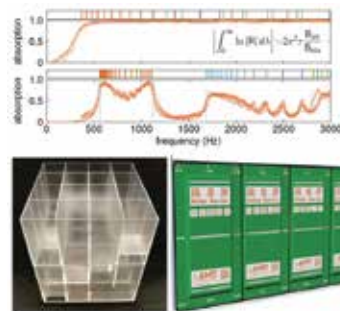
#### CERTIFICATE OF MERIT

AMG developed the world's most efficient sound-absorbing technology based on a breakthrough in physics.

AMG's proprietary metamaterials structural design technology enables us to customize structure based on a particular sound spectrum, resulting in a superior absorption performance to conventional acoustic materials.

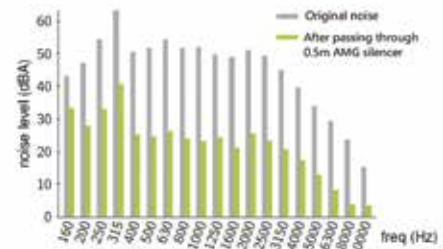
靜音科技集團的成立始於物理學研究的突破，並以此為基礎在研發全球領先的降噪技術過程中不斷成長。

靜音科技獨特的超材料結構設計技術讓我們可以針對特定的聲譜進行定制化降噪。這不僅更能貼近客戶的需求，更在降噪能力上遙遙領先傳統聲學材料技術。



AMG metamaterial noise absorbing panel with broadband and customizable absorption spectrums

AMG超材料吸音板，具有寬頻可定制吸收頻譜



AMG metamaterial silencer with enhanced low frequency noise absorption based on spectrum customization technology, achieving optimal noise-control performance for different ventilation systems, e.g., HVAC, VRV, HRV, etc.

AMG超材料消音器，基於頻譜定制技術實現增強型低頻噪音吸收性能，為各種通風系統（如HVAC、VRV、HRV等）提供最優化噪音控制解決方案

#### Metamaterials for noise control:

- ⬡ Highly customized to maximize the absorption in a given space on specifically targeted frequencies and adverse conditions like high temperature, high-pressure environments which ordinary sound-absorbing materials cannot achieve.
- ⬡ By shaping ordinary materials such as recycled plastics and metals into new forms, metamaterials give the highest sound-absorbing quality.
- ⬡ Replacement of sponge and rock wool as sound absorber brings the benefit of better acoustics performance and less health risk.

#### 超材料的噪音控制：

- ⬡ 得益於高度定制化的特點，我們可以最優化產品的吸音能力，從而為客戶克服各式各樣的噪音問題。尤其在傳統聲學材料使用受限的低頻噪音和狹小空間內，使用超材料有著顯著優勢。
- ⬡ 透過簡單改變如循環再用的塑膠、金屬等普通物料的形狀，「超材料」技術能賦予其極佳吸音能力，從而在各種嚴苛條件下實現降噪吸聲功能。
- ⬡ 傳統聲學材料，如海綿、岩綿等，會向周遭環境釋出致敏、致癌纖維。而由堅固結構組成的超材料不但擁有更好的強度和更長的使用壽命，更杜絕了使用中的潛在健康風險。

## ALPHA POWER SOLUTIONS LIMITED 創能動力科技有限公司



CERTIFICATE  
OF MERIT



Alpha Power Solutions (APS) is a semiconductor technology company headquartered in Hong Kong and with offices in Shenzhen and Shanghai. Our major investors include Huada Semiconductor Company Limited which is fully owned by China Electronic Corp (CEC) and Vitelic Technology Co., Ltd.

Our mission is to develop and commercialize power electronic device products with the emerging Wide Band Gap Silicon Carbide materials. Our discrete and power modules products, built with patented designs and advanced processing manufacture technologies, are used in electrical power conversion and saving solutions. APS's fully integrated cost-effective fabless technology is enabling new and wider range of smart power products for green energy applications in Electrical Vehicles, Railways, Photo Voltic and PFC power supplies.

創能動力科技有限公司是創新驅動的半導體技術公司，總部位於香港，在深圳和上海設有子公司。創能動力主要投資者包括華大半導體有限公司和華智科技有限公司，其中華大半導體有限公司隸屬於中國電子信息產業集團有限公司。

創能動力的目標是研發寬帶隙碳化矽材料的電力電子設備產品，並使其產業化。公司自主研發的分離器件和電源模塊產品採用專利設計和先進的加工工藝，並在電力轉化和節能方面得到廣泛應用。創能動力採用低成本的代工技術，為電動汽車、鐵路、光伏和PFC電源等綠色能源提供有競爭力的全新和更多種類的智能能源產品。



## BLUE INNOWATER COMPANY LIMITED 蔚藍環保有限公司



### CERTIFICATE OF MERIT



Blue Innowater Company Limited is an environmental technology company incubated by HKUST and HKSTP. We provide consultancy and total solution to clients for applying the HK local invented cutting-edge SANI® technology in wastewater treatment projects.

The winning technology namely Sulfate reduction, Autotrophic denitrification and Nitrification Integrated process (SANI® process) is an innovative biological wastewater treatment process invented by our chairman, Prof. GH Chen, in HKUST to reduce sludge production during the treatment of wastewater. SANI® process is a breakthrough for biological wastewater treatment process in the past century. A full scale 1,000 m<sup>3</sup>/d SANI® demonstration plant at Sha Tin Sewage Treatment Works from 2013 to 2017 confirmed the advantages of SANI® process, including reduction of 60-70% sludge production, 20-30% energy consumption and 30-40% space as compared to conventional wastewater treatment process. SANI® process won a lot of local and international awards and is commercialized in recent few years. SANI® process have 5 patents from China, Hong Kong, US, Japan.

蔚藍環保有限公司是一家由香港科技大學和香港科學園孵化的環保科技公司。我們為客戶提供香港本地研發的污水處理創新技術殺泥工藝® 的諮詢服務和全套解決方案。

此次獲獎的硫酸鹽還原，自養反硝化，硝化一體化工藝（殺泥工藝®）是由蔚藍環保的主席陳光浩教授於香港科技大學研發的一種創新型污泥減量污水處理工藝。殺泥工藝®的誕生是污水處理在過去100年發展史上一項突破性的進展。座落於沙田污水處理廠內的日處理量為1000立方米的殺泥工藝®大型示範廠證明了此技術相較傳統污水處理工藝的優勢，包括60-70%污泥減量，節能20-30%，減少30-40%的佔地面積等。殺泥工藝®已榮獲多個國內外科技創新及環保大獎，並已推向市場。殺泥工藝®已獲得5項來自中國、香港、美國和日本的專利。



## POLYDIGI LIMITED 寶利數碼有限公司



### CERTIFICATE OF MERIT

PolyDigi Ltd., founded in 2012, is a Fintech company specializes in cyber security.

We provide a patented innovative authentication service (SimKeyGo) that demonstrates the optimal use of combining telecommunication and mobile internet to replace the existing authentication method. This technology can accurately complete the authentication process by transmitting data directly to merchant server without complex authentication steps. It is simple, user-friendly, and cross-platforms. PolyDigi Ltd. was awarded with 8 different prizes in various contests, and our solution has been widely recognized in different countries. We were recently offered a position in the Royal Bank of Scotland accelerator program in Edinburgh, the FinTech hub in Europe. Our authentication technology will lay an excellent and reliable infrastructure for the financial world and speed up the formation of smart cities.

寶利數碼有限公司成立於2012年，是一家金融科技公司。

本公司專利手機號碼認證方案(SimKeyGo)使用新的電訊技術以取代古老的短訊認證方法，提供更簡單，方便和更安全的身份認證方法給新世代的在線服務應用，特別在區塊鏈，金融服務和網絡身份識別等等。SimKeyGo的半碼技術，提供跨平台使用，免輸入一次性動態密碼，還能將資料精確地傳訊到商家伺服器，從而達到最便利和安全的認證要求。本方案在2018年中銀香港極客大賽，獲得中國銀行（香港）認可。同年11月獲得英國DIT在香港舉辦的中港金融科技比賽中獲得金獎。在今年內，已獲得8個獎項，得到廣泛的認同。並在9月份收到邀請加入英國蘇格蘭皇家銀行(Royal Bank of Scotland)的加速器計畫。本認證方法面世，將為金融世界和智慧城市建立良好的基礎，促進智慧城市成形。



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Watch this video to explore the technologies from Science Park

**HKSTP**  
香港科技園





