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中小企業創新研究獎
The 22nd Taiwan SMEs Innovation Award

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部長序文



中小企業是臺灣經濟發展最重要的支柱，為鼓勵中小企業自主投入創新研發、提升技術與服務水準，強化市場競爭力，經濟部特辦理「中小企業創新研究獎」以茲獎勵。「中小企業創新研究獎」辦理迄今已邁入第22屆，共有3,704件標的提出申請，歷屆已選出770件中小企業創新標的。今年共甄選出28件標的獲獎，獲獎標的之企業於創新性、實用性、國內外競爭力、研發構想與營運等方面皆有優異表現，展現出臺灣中小企業持續且有系統性的擴充創新研發能量。

根據《2015年中小企業白皮書》資料顯示，臺灣中小企業研發經費投入方面，2013年企業研發經費較2012年成長5.47%，其中企業部門投入為主要來源，占全國75.5%，顯見中小企業的競爭力來自源源不絕的創新能力，如能發揮小而巧、富彈性的經營特性，將有助於帶動經濟成長。

為因應國際經濟環境變化，政府積極推動產業升級轉型與協助中小企業創新創業，包括成立「產業升級轉型服務團」，協助傳統產業升級及育成新興產業；以精實創業、育成加速為主軸，深化創業育成合作及推動國際化；推動「社會企業行動方案」，協助營造有利社會企業創新、創業、成長與發展的生態環境；並持續辦理「小型企業創新研發計畫（SBIR）」，以實際協助國內中小企業積極投入創新研發，使中小企業得以永續經營、成長茁壯。

「創新」是促進經濟成長的基礎，「研發」則是產業轉型升級的加速器，兩者為中小企業發展潛力之重要指標，面對瞬息萬變的國際經濟局勢，經濟發展型態以出口導向之臺灣中小企業，創新與研發更顯重要性，因此提升自我競爭力與國際市場接合，將是永續發展之重要關鍵。恭喜今年度獲獎之企業，期許得獎企業能進一步提升整體企業競爭力並帶動人才發展，為臺灣經濟環境注入新的活力泉源，增添臺灣經濟成長新動能。

經濟部 部長 

中華民國 104 年 11 月 18 日

Foreword

While small and medium enterprises (SMEs) are vital to Taiwan's economic development, to encourage SMEs to voluntarily engage in innovation, research, and development; improve technology and service standards; and strengthen market competitiveness, the Ministry of Economic Affairs (MOEA) has specifically organized the "Taiwan SMEs Innovation Award" to reward their efforts. This year is the 22nd round of the Taiwan SMEs Innovation Award, with 3,704 entries running for the award. In fact, a total of 770 works have been awarded since the establishment of the Award. This year, a total of 28 works have been selected. These award-winning works have demonstrated excellent performance in innovation, practicality, global competitiveness, R&D excellence and operational excellence. Most importantly, they all reveal the continuous and systematic expansion of innovation and R&D energy in Taiwan's SMEs.

According to the statistics in the White Paper on SMEs in Taiwan 2015, SMEs in Taiwan have increased in 2013, their R&D investments by 5.47% when compared to that of 2012, with major R&D sources commanding 75.5% of the total from the private sector. These figures suggest that SME competitiveness comes from incessant innovations. If they can demonstrate their compact and flexible operational characteristics, SMEs can always boost Taiwan's economic growth.

To cope with the changes in the global economic environment, the government has been aggressively promoting industry upgrade and transformation and in assisting SMEs in making innovation and realizing entrepreneurship. The efforts included establishment of the "Industrial Upgrade and Transformation Service Group" to assist traditional industries in upgrading and incubating the emerging industries; promoting lean entrepreneurship and accelerating incubation to deepen entrepreneurship, incubation, and cooperation and promote internationalization; promoting "The Project for Social Enterprises ActionPlan" to help build a social environment favoring the innovation, entrepreneurship, growth, and development of social enterprises; and continuing the "Small Business Innovation Research, SBIR" project to provide SMEs with substantive assistance in innovation and R&D. All these efforts are implemented to ensure the sustainable operations and strengthening of SMEs.

"Innovation" nurtures economic growth and "R&D" accelerates industrial transformation and upgrade, and both are the major indicators of SME developmental potential. Facing the rapidly changing international economic situation, innovation and R&D become exceptionally critical to export-oriented SMEs in Taiwan. Therefore, raising self-competitiveness and the ability to establish global market connections are the key to sustainable development for SMEs. Congratulations to all award-winning SMEs this year. I wish this Award can help you improve overall corporate competitiveness and promote talent cultivation to inject new energy for Taiwan's economic development and add new growth momentum for Taiwan's economic growth.

John C. C. Deng

Minister
Ministry of Economic Affairs
NOV. 18, 2015



第22屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



TD1400 TFTP胎壓偵測系統
TD1400 TFTP Tire Pressure
Mointer System

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JOSN

JOSN Electronic Co., Ltd.

九晟電子股份有限公司

簡介

平常嫌檢查胎壓麻煩，但又希望能夠時時掌握愛車輪胎及電瓶狀況，為自己荷包與安全把關的車主現在有了不錯的選擇，「TD1400 TFTP 胎壓偵測系統」感測器可直接取代氣嘴蓋旋進輪胎氣嘴或內置型皆可，另外也可選配加裝備胎感測器。

- 彩色 TFT 圖形化介面：精確顯示四個輪胎壓力的圖形化介面，可方便駕駛者了解車胎的狀態。
- 高精度度：使用電子式的壓力偵測方式，其輪胎壓力精確度可以達到 ± 1 PSI。
- 徹底無線式之系統架構：無須另外安裝其他電源線，當汽車啟動時，感測器會自動地傳輸輪胎壓力值與溫度值到彩色 TFT 螢幕上，且 DIY 外置型可迅速完成安裝，安裝不須輪胎店作輪胎拆卸和平衡校正的動作。

評語

- 本標的在功能上提供多項創新，如可同時偵測電瓶電壓、可測量備胎胎壓、可即時提供胎壓異常警示、彩色主機等，且其外掛式偵測器體積比一般產品更小，重量更輕，更方便使用者安裝，極具競爭力。
- 本標的之所有軟、硬體均為該企業自行研發，其電池採用瑞士軍用規格品，且偵測器之防水性佳，產品整體品質相當高，並有專利佈局保護，技術實力高，已為其贏得許多品牌 ODM 之機會，已有亮眼的銷售實績。

Introduction

TYREDOG TD1400 Color TFT TPMS works for all passenger cars for up to 60 psi tyre pressure. Also spare tyre sensor can be added to the device for extra protection on the road emergency, ensure safety driving condition.

- Reduce time taken to inspect tyre pressure.
- Minimize chance of tyre blow out.
- D.I.Y. install without any technical knowledge (straight bolt on).
- Extend tyre mileage life.
- Reduce running costs of abnormal tire wear and excessive fuel costs.
- Color TFT graphical user interface for ease of understanding and read.
- Audible alarm beeps when there's sudden change in pressure or temperature over the set limit giving driver a peace of mind.

Commentary

- This innovation provides a large number of innovative functions including detection of battery voltage, measurement of spare tire pressure, real-time alerts of abnormal tire pressure, and colored main units. In addition, the externally mounted detector is smaller, lighter, and easier to install than that of generic products. This product is therefore highly competitive.
- All hard- and software components of this innovation have been developed independently by said enterprise. The battery employs Swiss army specifications and the detector is characterized by high water resistance. The overall quality and technical specifications of the product are very high and it is patent protected. The company has earned many ODM opportunities and the sales figures are rosy.



TakaoBooks Co., Ltd.

三餘文化股份有限公司

書籍販售的加值服務 Value Added Service of Book Selling

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簡介

三餘文化透過「書籍販售的加值服務」，試圖回歸閱讀的本質，以高雄在地文化為核心，包括農業、環保、文學、文史、藝術等面向，以團隊及群聚資源，深入的介紹相關書籍以及辦理講座與讀書會（讀詩會），與讀者互動，分享地方文化所累積的城市深度，以閱讀的姿態，去體會生活中各種面向的趣味與意義。如此，書店也不只是販售出版品的零售通路而已，透過閱讀推廣，聚集了城市的各種人才，蒐集了城市的人情故事，透過社群的分享，也形成了文化公民群體，共同透過感性的文學媒介，關懷社會上的公共議題與種種生活環境，因此三餘書店被認為是目前全臺「活動力」最旺盛的獨立書店。

評語

- 本標的跳脫一般書店的經營內涵與範疇，幫助讀者將閱讀與生活結合，並帶動在地文化的發展。強調閱讀可以是書本以外的各種型態，包括演講、表演、展覽、電影，甚至利用當地食材的烹調。因每年有數百場小型活動，幫助社會大眾了解文化，至今已有超過 2 萬人的忠實讀者，深具文化價值。
- 該書店的進書條件良好，一年來已有多家獨立書店透過其平臺訂購書籍，具有類似連鎖書店的採購優勢。

Introduction

TaKaoBooks is a vibrant independent book store that sells books and provides insights to inspire readers to discover and explore beyond pages.

Located in Central Kaohsiung, TaKaoBooks serves as a cultural hub that shares news and information about the city, to help local or international visitors from all walks of life to get to know Kaohsiung inside and out. The book store is also the go to place for event planning/hosting, books for specialized topics such as agriculture, environmental issues, literature, history and art.

The book store is widely known by artists across genres, businesses, educators and communities as a refined venue to experience personal reading space, vintage dining experience and selected events of interest.

TaKaoBooks is in the forefront of being a new breed of indie by helping a new generation of Civil Culture Group to grow organically, sharing and caring what they love about Kaohsiung, Taiwan and life.

Commentary

- This innovation revolutionizes the contents and scope of bookstore operations, helps readers achieve a synthesis of reading and their daily lives, and stimulates the development of local culture. Reading can take various forms apart from books including speeches, performances, exhibitions, movies or even cooking which utilizes local ingredients. Hundreds of small-scale activities are organized every year to give the general public a better understanding of culture. The number of loyal readers currently exceeds 20,000 and this project has a high cultural value.
- This bookstore has excellent book acquisition conditions and a large number of independent bookstores have ordered books via this platform over the past year. It has a competitive edge in the field of procurement similar to a bookstore chain.



FucoHiQ 褐抑定(小分子褐藻醣膠)藻寡醣加強配方
FucoHiQ Oligo Fucoidan Capsule

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Hi-Q Marine Biotech International Ltd.

中華海洋生技股份有限公司

簡介

「FucoHiQ 褐抑定(小分子褐藻醣膠)藻寡醣加強配方」是中華海洋生技與行政院農委會水產試驗所合作，以獨特的小分子水解技術，萃取海洋中優質天然珍貴的褐藻而得，不僅確保純淨、活性無虞，同時也還能解決一般褐藻醣膠易出現重金屬殘留、藻腥味等問題。

除優化生產製程研究外，中華海洋生技亦與國衛院、高雄醫學院、萬芳醫院等教學醫院合作，進行臺灣小分子褐藻醣膠(Oligo Fucoidan)之癌幹細胞、Micro RNA、大腸癌癌末等多項人體臨床實驗，研究成果斐然，已陸續在國際醫學期刊上發表，未來將朝腫瘤輔助食品 / 營養品邁進。

評語

- 本標的「小分子褐藻糖膠」是一種從褐藻中所萃取的多醣體，本標的經與陽明大學等學術單位合作，結果顯示具有抑制肺癌細胞生長、轉移，可作為輔助腫瘤治療。
- 本標的與國內相關化療輔助產品相較，具價格競爭優勢。
- 該企業在中長期研發構想上，與國內學術界合作，如研發乳癌、大腸癌等之預防、復發等功能均值得肯定。

Introduction

Hi-Q Marine Biotech has been in technology cooperation with the Taiwan's Fishery Research Institute(FRI) under the Council of Agriculture(COA), Executive Yuan; and establishes strong relationship and successful joint cooperation in health science projects across the health science industry, the government, and the research institutes on the cornerstone of scientific based and empirical research. These great efforts of such roles by Hi-Q is to develop a high purity, high concentration of "Taiwan's oligo Fucoidan" by using advanced biotechnology to extract the essence of low molecular weight Fucoidan from natural brown seaweed. Positive scientific results eventually come out to create a superstar health product named as "FucoHiQ Oligo Fucoidan (the essence of low molecular weight fucoidan)". Hi-Q joins the technology cooperation with the experts at the FRI since 2008, After the experiments of cell and animals studies in selected species, there is innovation in the development of extraction to create the finest, natural quality and efficacy of Taiwan's oligo via biotechnology.

Commentary

- "Oligo Fucoidan" is a Polysaccharide extracted from brown algae. This innovative product which has been developed in cooperation with academic units including National Yang-Ming University inhibits cancer cell growth and metastasis and may serve as supplementary treatment of tumors.
- Fucoidan has a price advantage compared to other chemotherapy-supporting products available in Taiwan.
- The praiseworthy mid- and long-term R&D strategy of said company is based on cooperation with domestic academic circles and focuses on breast and colon cancer prevention and recurrence.



光聚合單面UV固化成型設備
UV Embossing Machine

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A-Lumen Machine Co., Ltd.

佑順發機械股份有限公司

簡介

ALM-FIXOO 系列以環保低耗能之「UV 光固化滾塗壓印微線路設備」並配套有：微線路滾軸模仁成型技術、奈米金屬導電材塗佈技術與後製程封裝技術，共同整合而成。已於客戶端成功大量產出高品質之 Metal Mesh 觸控膜產品，成功替代傳統 ITO 觸控線路製程的黃光微影化學蝕刻製程技術 Photolithography，符合整體市場產品發展趨勢，可使用於手機產品、平板電腦產品、可撓式與穿戴式產品、大型觸控白版或互動式顯示器產品的導電觸控膜等。

評語

本標的使用可生產大型面積之「捲對捲滾塗製備技術」結合「UV 光固化技術」以及「奈米金屬導電材塗佈技術」進行觸控線路產品生產，且因本創新技術結合可撓式的材料與製造架構，所生產之產品也可應用於可撓式穿戴產品上，實現大面積、低阻抗與可撓式的優勢。

Introduction

“Roll-to-Roll Microstructure UV Embossing Machine” ALM-FIXOO series is centered on environmental protection and low energy consumption design concept. It integrate Microelectronic Circuit Patterning Technology Nanoimprint Lithography and it's backend Fabrication process. Our clients have successful mass production high quality Metal Mesh touch sensor film. It's being substituted for the traditional “Photolithography” process Indium Tin Oxide film product. In fact, the series is in line with the overall market trend. It can use with touch film like smartphone, tablet PC, flexible and wearable products, large touch screen whiteboard and Interactive displays.

Commentary

This innovation employs “a reel-to-reel roll coating technology” which can generate large surfaces combined with “UV curing” and “Nano metal conducting material coating technologies” to manufacture touch circuit products. Due to the fact that this innovative technology employs flexible materials and production architectures, the manufactured products may also be used for flexible wearable articles. It provides competitive advantages in the fields of large surface generation, low resistance, and flexibility.



第 22 屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



開口快速油管板手 Open End Ratcheting & Flare Nut Wrench

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E-Make Tools Co., Ltd.

宜瑪工具股份有限公司

簡 介

「開口快速油管板手」之性能及優點：

- 增加工作之效率（無須退出螺絲或螺帽）。
- 開口之倒角及預留空間，允許板手易於進出。
- 止脫防滑設計之倒鎖設計，防止人員受傷及增加咬合、提升扭力。
- 輕微之反向（回轉）背壓：可使螺絲或螺帽鬆至人力可扭轉程度。
- 扭力最少 ANSI 的 1.3 倍（130% Up）。
- 壽命試驗達最少 30,000 次（扭力設定於 33% ANSI STD）。
- 不傷螺絲或螺帽之對角設計。
- 簡易之圓弧溝槽設計，易清洗保養。

評 語

- 本標的應用「擒縱爪」特殊設計，具有允許板手易於進出，無須退出即可連續鬆緊旋轉，易於清洗保養、不傷螺絲或螺帽...等創新特色。另在止脫防滑之倒鎖設計上，亦可減低人員受傷，並增加咬合度及操作扭力。以上可大幅提升工作效率及使用安全性。
- 以自有品牌 Z-WRENCH 行銷，其包裝及 POP 設計具有精實、價值感。

Introduction

The wrenches are manufactured from a higher hardness, high alloy steel which reduces tip spread and wear on the open & flare nut end, ratcheting open end combine flare nut end design create special feature below:

- Increase work efficiency at least 50%.
- Wider Jaw configuration allows easy fit on fastener.
- Anti-slip design function under high strength & increasing user safety reduce Injure.
- Light reverse stroke allows work on Loose Fasteners.
- High strength up to 30% more ANSI.
- Life test (cycle) over 30000 Times.
- Unique engaging surface design will not round Fasteners.
- Special Jaw design for easy to maintain and clean.

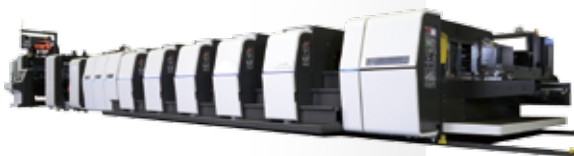
Commentary

- This innovation employs a unique "escapement claw" design which allows easy access by wrenches and continuous loosening and fastening without the necessity to remove the wrench. The product is also easy to clean and maintain and does not damage screws or nuts. The incidence of injuries can be reduced through a reverse lock design that prevents slipping. It also increases the level of fit and the torsion force and leads to greatly enhanced work efficiency and usage safety.
- The packaging and POP design of the self-owned brand Z-Wrench is simple and stylish.



Sunrise Pacific Co., Ltd.

長聲工業股份有限公司



高產能固定式印刷機 High Production Fixed Type Printing Machine

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簡介

「高產能固定式印刷機」以非技術者角度作為創新主軸，突破效能革命、操作簡化、環保、耗能與材料、生產品質與簡易維護，將此六大主軸做跨世代性能提升。效能革命重定運轉與更換訂單速度的新標準，創造最具競爭力的生產效益。簡易的操作方式降低人力技術依賴，縮短三倍學習週期。引領未來紙張輕磅潮流，創新的設計避免破壞材料強度並減少紙箱基重。開發節墨系統領先全球的殘墨量標準，生產品質技術革新，機器智能取代傳統人力技藝，使效率與品質同時達成，創造最大生產價值。機械結構設計，具快速、簡易、零技術的設備維護流程，並減少拆卸零件造成之損壞，成為新世代之革命型機種。

評語

面對次世代瓦楞紙箱生產需要靈活應變，少量多樣之高效能生產與多變基材適性要求，本標的將複雜的製作工序，統整成簡易之 One touch 概念，運用創新之全圖像化操作介面，除操作簡便外，大幅減少調整時間，全伺服系統使套色相位精準，不需反覆調整，並具一鏈式自動化油墨管理系統，減低殘墨量等創新設計與系統整合。

Introduction

The High Production Fixed Type Printing Machine is a state of the art masterpiece. It is developed and designed around a hexagon of precepts, viz., efficiency, operation process, energy usage, the environment, quality of production, and maintenance. The efficiency of the machine is focused on increasing the processing speed as well as the speed of changing the various order type. The simple operation process can reduce the training time for workers greatly. The creative design reduces the risk of destroying the carton board, leading the global trend of using the lightweight paper. Also, the data indicates our ink-saving system is one of the best among our global competitors. The design of the machinery also reduces the risk of damaging parts during the maintenance process. This is the revolutionary machine for the new generation of flexo.

Commentary

In the face of rapidly changing demands in the field of corrugated carton production and requirements of small-volume and highly efficient production of a large variety of products and utilization of various base materials, this innovation integrates complicated production processes into a simple One touch concept. Innovative design and system integration are achieved through innovative graphic operating interfaces that ensure simplified operation and greatly reduce adjustment times, an all-servo system which guarantees accurate chromatography phases and does not require repeated adjustment, and an automated linked ink management system that greatly reduces the amount of leftover ink.



第 22 屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



Verticil Electronics Corporation

威力暘電子股份有限公司

超高效能 T8 LED 節能燈管
Ultra-High Efficiency
Power-Saving T8 LED
Tube

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簡 介

在節能減碳蔚為全球積極追尋的浪潮下，威力暘欲以「超高效能照明用之 T8 LED 燈管」，取代傳統螢光燈管，可節省 70% 以上耗電量，達到節能、環保、減碳、抗暖化等效益。創新特色如下：

- T8 燈管光電效率可達到 160 lm/W (12.5W, 2000lm) 量產規模，執臺灣牛耳。開發與量產當時，全球僅日本 ENDO Lighting 與 Iris Ohyama 宣稱達到此規格。
- 產品規格漣波電流 (Current Ripple) < 10%，真正能做到無閃頻，於日本競爭對手規格僅達 < 30%。
- 產品內置式電源 AC/DC Converter 效率達到 95%，真正做到世界第一。
- 160 lm/W 超高光效搭配機構設計，出光角度達 260 度，遠遠勝過日本競爭對手的出光角度 150~180 度，更接近於傳統螢光燈管發光角度。

評 語

本標的乃將高效率之電源轉換器應用於 T8 LED 節能燈管，光電效率可達到 160 lm/w (12.5w, 2000lm)。專利機構設計使得出光角度高達 260 度，遠超過日本對手規格之 150~180 度。漣波電流比例小於 10%，也遠較日本對手規格之 30% 佳。在相同架構下，可產出 25w/3800lm 之超高效 T8 四呎燈管，一支可抵二支用，大幅降低裝置成本，已有科技大廠廠房導入應用。申請企業之自主研發、創新專利技術，有助於突破目前高階 LED 燈管技術由日本壟斷之局面。

Introduction

In order to saving energy and reducing carbon pursue a global wave, VTC were trying to use Ultra-High Lighting efficacy of T8 LED Tube, to replace the Traditional Fluorescent tube, VTC can save more than 70% power consumption. Innovative Features:

- T8 Tube Photoelectric Efficiency can reach 160 lm/W (12.5W, 2000lm), this is Mass Production real data, NOT just Test data in LAB, In that meantime, there are only Japanese Endo Lighting & Iris Ohyama can achieve this Specification.
- Product Specifications: Current Ripple <10%, really can achieve "NO Flash Frequency", our Japanese competitor's Specification just can <30%.
- This product built-in power AC / DC Driver efficiency is 95%, really WW #1.
- Combine Mechanical Design with 160 lm/W High Luminous Efficiency, the Lighting Beam Angle is 260°, far better than Japan competitor's 150~180°.

Commentary

This innovation adopts a highly efficient power inverter for an energy-conserving T8 LED light tube to achieve a photoelectric efficiency of 160 lm/w (12.5w, 2000lm). The patented structural design generates a light emitting angle of up to 260° and a ripple current ratio of less than 10%, which greatly exceeds the specifications (150~180° and 30%, respectively) of the Japanese competitors. This allows the manufacture of a four-feet, ultra-efficient 25w/3800lm T8 light tube which can replace two traditional tubes by maintaining the same architecture. This innovation greatly reduces device costs and has already been adopted by large technology manufacturers. This patented innovative technology has been independently developed by the applying enterprise and has the potential to break the monopoly of Japanese manufacturers in the field of high-end LED lighting tubes.



具有指紋辨識功能之儲存裝置
Storage Device Capable
of Fingerprint Identification

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Image Match Design Inc.

映智科技股份有限公司

簡 介

映智科技 (iMD) 是一家專業的電容式指紋辨識 IC 設計公司，自 2011 年創立以來憑藉其專業團隊迅速在生物辨識市場上嶄露頭角。「具有指紋辨識功能之儲存裝置」即為映智科技所開發的先端指紋辨識儲存裝置。產品採用時下廣泛應用於手機上的電容式（面壓式）指紋辨識技術與整合過後的隨身碟介面，利用指紋特徵的唯一性加強了資料存取上的安全性，並以具有自動學習功能的演算法提升整體辨識率，更結合認證機制防止硬體破解，最後配合人性化介面讓使用者易於管理或指紋登錄，提供使用者最安心且最生活化的儲存裝置空間。

評 語

- 本標的透過自行開發之獨立辨識及安全認證機制，大幅提升資料存取之安全性，是一種可以增進隨身碟產品價值的創新產品，亦為電容式指紋辨識之創新應用。
- 可跨不同作業系統使用，且允許採取任意角度按壓指紋，使用上十分方便，已有專利佈局。
- 該企業所開發之指紋辨識模組具備延伸應用價值，如門鎖、雲端加密等方面之應用。

Introduction

Image Match Design Inc. (iMD) is a professional capacitive type fingerprint IC design company. Since founding in 2011, relies on their professional team quickly being a rising start in the biometric market. The "Storage device capable of fingerprint identification" is one their innovative product. It carrying capacitive (area) type fingerprint technology tech what wide adopted in mobile filed already, and integrated a USB interface into device. The tech. using fingerprint uniqueness characteristic, auto-learning algorithms, system authentication effectively strengthening the security on data access. Finally, provide a friendly interface allow users to easily manage or login fingerprint. Expecting through these features provide users the most secure and most convenient experience for using.

Commentary

- This innovation greatly enhances the security of data retrieval through an independently developed identification and security authentication mechanism. It is an innovative product which enhances the value of USB flash drives and represents an ingenious application of capacitive fingerprint identification.
- It is compatible with different operating systems and allows fingerprint pressing from any angle guaranteeing high user-friendliness. The product is also patent protected.
- The fingerprint identification module developed by said company can be used for a wide range of applications including door-lock systems and cloud encryption.



VoiceTube看影片學英語
網站
VoiceTube English
Learning Website

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REDIdea Co., Ltd.

紅點子科技股份有限公司

簡介

紅點子科技希望營造一個美好的英文學習環境，於是發揮研究團隊的技術能力，開發了「VoiceTube 看影片學英語網站」，把搭配有學習功能的英語相關影片放到網路平臺上，透過這些影片能夠學到道地的生活化語言，並且能將所學應用在生活中。為了達到 VoiceTube 的願景，我們追求以下的目標：

- 1.VoiceTube 注重使用者經驗，持續不斷開發實用的語言學習功能。
- 2.VoiceTube 與多元化的語言服務異業結盟，提供大家全方位的學習方法。
- 3.VoiceTube 提供開放的數位教材，注重偏鄉教育，提升弱勢族群的學習機會。

評語

- 透過嵌入技術使用 YouTube 上的多數影片，提供多樣性的英文學習選擇，可增進學習者的學習知趣性。透過不同偏好的影片類別，能滿足不同英語學習者的需求。
- 提供了詞句分析、學習記錄、評測等服務功能，短時間內即達到 70 萬會員人數，使用者不僅是學習英文的個人，還包括各級學校的師生，甚至是企業教育訓練。
- 主要的學習功能和社群經營都有優於競爭者的表現，並已建立衍生獲利模式的良好基礎。

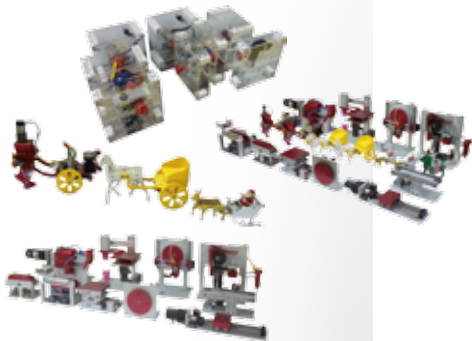
Introduction

To become the most resourceful global language learning community, with the advanced web and software technology developed by our research team, we seek to ally with other language service providers to offer our learners best language learning experience possible. To realize our vision, we pursue the following goals:

1. With the cutting-edge web and software technology, we provide user with engaging dynamic language learning experience.
2. By allying with various language service providers, become the total digital solution for global language learners.
3. Ensure that part of our content service is always free and open to facilitate the learning chances of the underprivileged.

Commentary

- A large number of clips on YouTube provide diversified English learning options through embedding technologies and increase the motivation and interest of learners. Video clip categories for different preferences satisfy the needs of different English learners.
- The clips provide phrase analysis, study records, and evaluation services. Membership has reached 700,000 within a short period of time and users not include individual learners but also faculty and students of schools at all levels and corporate educational training providers.
- The main learning functions and community management are superior to those of the company's competitors and a solid foundation for derivative profit models has been established.



自動化教學設備及教材
The Teaching Materials
and Equipment of
Education in Automation

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Feton Automation Industrial Co., Ltd.

飛統自動化實業有限公司

簡 介

「自動化教學設備及教材」之創意機構係由「旋轉轉換」為旋轉、直線、搖擺、曲線、分度或由「直線轉換」為直線、旋轉、搖擺、曲線、分度或由「搖擺轉換」為搖擺、旋轉、分度等構成，已達 130 組。每一模組，皆為機構最基本之機械傳動原理，將這些模組之原理再延伸與應用，便構成應用機構或創意商品，因此，透過熟悉這些機構傳動原理及設計、加工、組立等技巧，就能快速建立創意設計能力及自動化設備設計能力。

評 語

企業長年經營自動化教學器材，其產品與時俱進，而本標的共提出如 PLC 基礎實習模組及教材等共 15 項創新教材產品，其中如感測與轉換實習模組及教材等共 10 項教材產品尚無其他廠牌，其創新之模組與教材對國內技職教育發展助益甚大。

Introduction

There are three components in originality mechanisms. First, it converts rotation into rotation, line, swing, curve, and division. Secondly, it converts line into line, rotation, swing, curve, and division. Finally, it converts swing into swing, rotation, and so on. Till now, the modules of these components are more than 130 sets in our company. Meanwhile, the theory of each module is basic mechanical transmission in mechanism, we also can apply them in practice. Certainly, they will become merchandises. Furthermore, if you are familiar with these mechanisms, you can increase your design ability of creative and automation quickly.

Commentary

This enterprise has been specializing in automation related teaching materials over many years and its products are in sync with the latest trends. 15 innovative teaching materials including PLC basic practice modules are provided. 10 of these materials such as sensor and conversion practice modules are not available from other manufacturers. The innovative modules and teaching materials of this manufacturer are greatly beneficial to the development of technical and vocational education in Taiwan.



第22屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



CGM

Cherng Jin Technology Co., Ltd.

晟進科技股份有限公司

新型精密加工治具的聯接裝置氣壓夾頭 Coupling Device of Jig

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簡介

任何物件加工都需要夾具來固定它，以 CNC 車床來說，夾頭是最常使用的夾具，在早期，高速車床是以手動夾頭為主，傳統氣壓式夾頭利用氣壓分道環充氣直接推動夾爪夾持物件，夾頭夾持力較油壓式小，雖可避免夾傷加工物件表面，但夾持力會隨著轉速增加而遞減。為防止夾傷物件及改善高轉速夾持力，本標的利用彈簧力來擔任夾持機構任務，運用氣壓力來進行放鬆加工物件，並搭配本公司定位塊機構，使加工物件夾持更加穩定，讓工作事半功倍。「新型精密加工治具的聯接裝置氣壓夾頭」具備以下的功能：

1. 於轉速 5,000rpm 時，夾持力保持不變。
2. 氣壓式夾頭，夾持力約 2,500kgs。
3. 重複定位精度 0.002mm。
4. 更換一個加工的物件只需 2 秒鐘。
5. 精簡構造取代複雜結構而降低成本。

評語

精密機械加工除機具及工具剛性與精度外，工作物的夾持剛性及精度也同樣重要，本標的主要的創新設計，係運用附鎖定防後退的雙活塞式附鎖的氣壓夾頭，以防止高速旋轉時降低夾持力並降低成本，提高重複定位精度，節省裝換工件時間。

Introduction

Any object processing needs Fixture to fix it. Such as CNC lathe. Chuck is the most commonly used Jig. Long time ago, manual chucks are mainly used in high-speed lathe. Traditional pneumatic chucks uses the inflatable pneumatic lane ring directly promote the jaws clamp the object. Chuck clamping force smaller than the hydraulic, and avoid damaging the surface of the processing object. But there are some flaws, that clamping force will increase with decreasing speed. In order to prevent entrapment objects and improve the high speed clamping force. This invention is the use of a spring force on the clamping mechanism. Use air pressure to relax the object. And with the Company's positioning block quick replacement. More stable on the clamping force. Multiplier at work. "Coupling Device Of Jig" with the following features:

1. Rotating at high speed 5,000rpm, without reducing the holding force.
2. Pneumatic chuck, the clamping force of about 2,500kgs.
3. Repeatability 0.002mm.
4. Replacing a processing object takes only 2 seconds.
5. Streamlined structure instead of a complicated structure, and reduce costs.

Commentary

In the field of high-precision mechanical processing, the clamping rigidity and accuracy of work materials is at least as important as the rigidity and precision of machine and work tools. This innovative design employs air chucks with a dual piston-type lock system which fixes pieces and prevents them from moving backwards. This innovation ensures stable clamping forces at high rotation speeds at reduced costs, enhances the accuracy of repeated positioning, and reduces the time required for workpiece change.



多功能健康資訊機
Multifunction Health Kiosk

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Netown Co., Ltd.

真茂科技股份有限公司

簡介

「多功能健康資訊機」具自動升降功能的健康照護產品，適合所有民眾不論高矮都可舒適使用，裝置於公共場所，民眾可到定點進行自我健康管理，量測後之生理資訊，系統將提供生理資訊提醒並通知民眾本人及其親屬子女，達到保健預防，健康促進之目的。本產品之創新內容特色重點：

1. 自動感應量測身高，依據身高自動調整機身高度符合使用者自動量測傳輸十餘種生理參數與查詢健康生活多項資訊。
2. 依據量測結果及標準值判別異常程度，達到預防醫學之效果。
3. 運用大數據分析推薦適合 O2O 的產品與服務。

評語

- 本標的之創新特點在於，可自動感測身高並調整機身高度，以增進使用者量測、查詢各項生理資訊之操作方便性；同時，又可依據其量測結果及標準值判別異常程度，達到提醒、警示作用，以及記錄並建議相關保健資訊。
- 本標的之裝置與系統分別擁有多項專利，且可藉由模組單元，便於客製化設計與製造，有利結合相關機構，共同招展商機。

Introduction

“Multifunction Health Kiosk” is a healthcare device which with the function of automatic lifting, suitable for all people regardless of height can be comfortable to use, installation in a public place, encouraging people to point for self-health management, collecting vital sign information automatically by the system to remind and inform relatives and call center. The health promotion and disease prevention will be easy fulfilling through this device. Innovation character:

1. Automatic sensing ones height, users using this height automatically adjust the devices for user comfortable measurement more than 10 kinds of vital parameters and query information on healthy living;
2. Based on the results and the standard value distinguishing abnormal extent, reach the effect of preventive disease;
3. Applied bigdata analysis recommended for O2O products and services.

Commentary

- The most innovative feature of this product is its ability to automatically detect body height and adjust the height of the device based on this information. This greatly increases the convenience of measurement and queries of various physiological data. At the same time, the degree of abnormality can be identified based on measurement results and standard values as reminders and alerts. Relevant health care data are also registered and recommended.
- The device and system is protected by many patents and allows customized design and manufacture through module units facilitating cooperation by related organizations in the joint development of business opportunities.



第 22 屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award

纖立絲®
— Sensilate —

Multi-Function Silk Co., Ltd.

神葉花真絲有限公司

纖立絲®智慧型絮片 Sensilate Smart Wadding

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簡介

• 「智慧型機能絮片」整合專家 — 纖立絲

以天然、環保、智慧、節能為概念，開創獨步全球專利技術，產出具備保溫、調溫、吸濕、排汗、防蟎等功能，可維持人體能量平衡舒適，並可反覆水洗之複合機能絮片，可降低耗能，打造永續綠色環境。

• 環境溫差 10°C 翻轉即刻溫感調節

纖立絲雙溫感機能被，採三明治複合層，可依環境溫差 10°C 以上進行反轉使用，達到「一被翻轉、四季通用」，保持攝氏 33 度與濕度 50% 的最佳睡眠微氣候環境裡，質輕不變形、可烘可水洗，表布即被套，纖維機能更貼近皮膚，提升產品設計價值，降低耗能與污染，善盡對環境的友善與保護。

評語

• 本標的為模組化之智慧絮片，利用絮片不同機能與特性組合而成，可達到一被翻轉，四季通用的兩種溫感。

• 除各層絮片配方與比例有其獨特性外，並以模組化的設計，達到上層高溫親水層，中層為疏水性聚酯纖維做隔絕與導引，下層中保溫親水層之組合功效，整件棉被可下水清洗、烘脫，顛覆傳統棉被之功能與保養方式。

Introduction

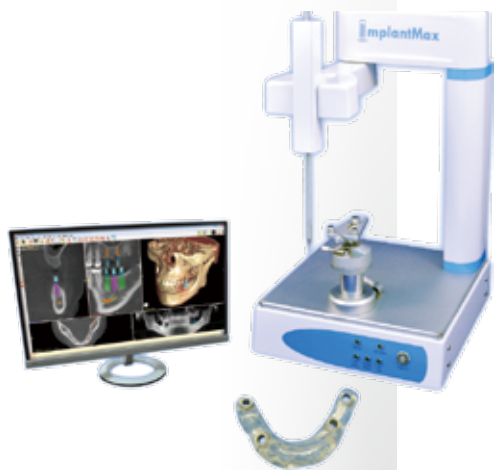
Sensilate waddings are developed to provide a solution for irregular climate pattern. The fibers selected as an ingredient of wadding production are based the following considerations: natural, eco-friendly, smart and energy saving. The waddings fulfills the following functions: keeping warmth, temperature regulating, moisture absorbing, sweat giving-off and anti mites. Besides they are water washable and easily maintained.

Sensilate Duo-temp Smart Duvet adopts a three-layered design, suitable for hot and cold seasons. It provides a best climate of 33 C and 50% humidity for sleep. It is light weight and not easily deformed. The duvet with this wadding and a fabric cover will not need an additional cover fabric. Therefore it is more economical in sense of cost and energy.

Commentary

• This innovation consists of modular smart floccules and combines the different functions and properties of floccules to create a reversible quilt that generates two temperature sensations for all seasons.

• In addition to the unique combination and proportion of floccules in every layer and modular design creates a high-temperature hydrophilic top layer, a middle layer consisting of hydrophobic polyester fiber for isolation and guidance, and a heat-preserving hydrophilic bottom layer. The whole quilt can be washed in water and tumble dried which represents a complete departure from the functions and care methods of traditional quilts.



ImplantMax微創導引植牙
手術器械
ImplantMax for Guided
Implantology

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Saturn Imaging Inc.

神農資訊股份有限公司

簡介

ImplantMax 產品是一套數位導引植牙器械，能夠協助牙醫師將過去採取徒手植牙的手術方法變成為尖端科技導引植牙。主要關鍵在於此產品整合了軟硬體，提供全方位導引植牙功能，包括診斷、治療規劃、手術模板製作、驗證等多項功能。

目前導引植牙手術的運作採用手術模板服務的方式，醫師先使用規劃軟體制定治療計畫，再將計畫送至手術模板服務商製作。這當中有許多來來回回的溝通流程，相當耗時且無效率，ImplantMax 提供全方位系統整合了所有關鍵流程，在診所內醫師就能夠全程掌控導引植牙，ImplantMax 讓導引植牙的運作變得簡單容易，為病患帶來數位植牙的好處。

評語

- 本標的結合 3D 影像、軟體、電腦斷層，All-in-One 整合現代數位植牙功能需求，協助醫師進行 3D 術前診斷規劃，執行導引植牙手術。
- 協助植牙醫師從單純的模板訂購採用，轉化成可讓牙醫師以類似 DIY 的方式自行於診所製作模板，因有 3D 影像、軟體、電腦斷層之輔助，可增加植牙之準確性並減輕患者之疼痛。

Introduction

ImplantMax is transforming the daily dental implantation from freehand procedure to highly accurate and state-of-the-art guidance procedure. The key component is our all-in-one solution for guided implantology that provides diagnosis, treatment planning, fabrication and verification of in-house surgical guide.

The current guided implantology offers surgical guide service. The dentists use the planning software to prescribe the treatment plan, and then send it to the service bureau to fabricate the surgical guide. The back-and-forth communication between the dentist and the bureau is time consuming and ineffective. ImplantMax offers an all-in-one system to integrate all key processes under direct control in clinic. ImplantMax streamlines guided implantation within one integral system to maximize digital implantology for patient's benefit.

Commentary

- This innovation features an "ImplantMax" chairside apparatus for minimally invasive guided dental implant surgery that utilizes 3D imaging, software, and computer tomography. The All-in-one integrated and modern digital dental implant functions assist dentists in pre-surgery diagnosis and planning and execution of guided dental implant surgery.
- Dentists no longer have to rely on purchased implant templates and gain the ability to create their own templates through DIY-like methods. The accuracy of dental implants is increased and the pain of patients is reduced with the aid of 3D imaging, software, and computer tomography.



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The 22nd Taiwan SMEs Innovation Award



超高剛性XXY精密對位平臺
Ultra-Rigidity Electric
Precision XXY Alignment
Stage

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GMT GLOBAL INC.

高明鐵企業股份有限公司

簡介

隨著高科技時代的來臨，眾多精密產品於製程中有更高、更嚴苛的精度要求，其剛性穩固精密定位技術成為必備條件。「超高剛性 XXY 精密對位平臺」藉由本體結構產生磁吸定位或流體增壓迫緊定位方式定位，消除結構件組合之間係，定位狀態分別透過磁吸結構將活動平臺、磁吸結構、基座緊密貼合，如同一體型結構件；或者採用流體增壓迫緊定位方式，有如碟盤液壓煞車原理來進行迫緊定位，進而提升精密 XXY 對位平臺於精密定位後，零組件能有效支撐對抗活動平臺之正向壓力與側向推力。

評語

傳統導螺桿傳動裝置之 XY 定位平臺，仍有定位機構之背隙與摩擦問題及平臺受壓時產生抖振、偏移的現象。本標的整合運用氣壓 / 磁吸式緊迫定位技術，平臺防磨機制，潤滑系統及 X、Y、 θ 軸滑臺模組等創新設計，達到一體之結構，進而提升結構承受負荷與剛性之效果。

Introduction

With many precision products in manufacturing process requiring higher and stricter precision requirements as well as nanotechnologies being introduced in manufacturing process, the rigid steady precision positioning technology becomes necessary to meet the requirements for high precision process equipment. The product uses its body structure to create tightening and positioning from pressurized fluid and eliminate the assembly relationship among structural components. Through the magnetic structure, the positioning state will tightly stick the activity stage, magnetic structure and base together and into an integrated one; or, it applies the fluid pressurized packing positioning method to perform packing positioning effect, which integrates the activity stage. It thus can effectively promote the effect of supporting the precise XXY positioning stage parts against the direct pressing force and side thrust force right after being positioned precisely.

Commentary

The XY positioning platform of traditional lead screw transmission devices is still characterized by problems such as backlash and friction as well as buffeting and offset during production when the platform is under pressure. The integrated pneumatic/magnetic stress positioning technology, the anti-friction mechanism, the lubricating system, and X, Y, θ -axis slide table module achieve an integrated structure and enhance the load tolerance and rigidity of the structure.



乾杯酒袋
Cheers Wine Totes

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iSmart®

Wen Ben Industrial Co., Ltd.

偉本企業股份有限公司

簡介

乾杯系列讓您提著酒袋也具有時尚感的外型！酒袋能在旅遊中保護您喜愛的紅酒瓶並保溫在完美的溫度，讓您在餐廳、野餐或探親訪友時能享受與分享您最喜愛的紅酒。「乾杯酒袋」可重覆使用，採用高級 Neoprene(氯平橡膠) 潛水衣布縫製，便於折疊存放，酒袋包括黑色織帶提把，方便提取。酒袋使用方式非常簡單，只需 4 個步驟：1. 把黑色織帶拉下來。2. 打開酒袋的底部。3. 把酒瓶滑動放進酒袋裏。4. 把黑色織帶往上拉，固定酒瓶到位。

評語

- 本標的為潛水布製作之酒袋，可適用於 750ml 為主之多種造型酒瓶，兼具通用性、少材料、環保、保溫等特性。
- 本標的操作簡單，以車縫加工為主，省材積，降低國際運費，並以 iSmart 為品牌，百分之百臺灣製造。
- 因飲酒文化差異，以外銷為主，目前國內擬結合臺灣文化特性進行促銷，前景可期。

Introduction

Bring your own wine, and do it with piece of mind (and style) with one of our wine totes. These wine totes and cooler bags ensure that your wine is protected during travel, keep your wine chilled to the perfect temperature, allowing you to enjoy your favorite bottle at a restaurant, picnic or when visiting friends. Reusable wine tote is made from durable neoprene (the same material used in wet suits), folds flat for easy storage, and the black strap easy for transport. A clever twist on cheers wine totes, just 4 simple steps: 1. Pull the black strap down. 2. Open the bottom of the bag. 3. Slide the wine bottle up into the bag. 4. Pull the black strap up, securing the wine bottle into place.

Commentary

- This innovation consists of a wine bag made of neoprene which is suitable for 750ml wine bottles of various shapes. Its properties include universality, material conservation, eco-friendliness, and heat preservation.
- The machine-sewn product is easy to use and has a relatively small volume thereby reducing shipping charges. The wine bag with the brand name iSmart is fully made in Taiwan.
- Due to differences in drinking cultures the product is currently mainly exported. Sales promotion in Taiwan will rely on a synthesis with the unique characteristics of local Taiwanese culture. This product has a bright future.



第 22 屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



創新染髮劑：糖果染 Candy Dye

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Advanced Healthtech Biopeptide Laboratories Co., Ltd.

富比積生物科技股份有限公司

簡 介

全球市占率高達 99% 的化學染髮劑是唯一具有劇毒性、致敏性、致癌性卻仍使用於人體上的商品，「糖果染」的創新理念是使用最安全的食用色素為染髮原料，以創新的理論及關鍵技術突破大分子色素於室溫下穿越毛鱗片層而進入毛皮質層之瓶頸，並建構系統化之專業市場及開架市場商品，成為唯一能與化學染競爭之染髮劑，糖果染具備與化學染相同的功能性、簡便性與系統性，是全球唯一可以真正取代化學染並具最高安全性的染髮劑，在未來無需再擔心染髮所帶來的安全隱憂，糖果染將改變染髮劑的使用歷史。

評 語

- 本標的利用食用色素取代化學染及植物染之染劑，並運用膨脹開鱗技術及橋合技術，開發新型染髮劑「糖果染」，並申請多國發明專利。
- 本案同時開發消費型及專業型染劑系統，可以提供消費者於通路商購買使用，以及美髮沙龍店的專業使用。

Introduction

Global market share up to 99% of chemical dyes are the only highly toxic, allergic, carcinogenic merchandise that still be used on the body. The innovative ideas of Candy Dye systems is the use of the safest food pigment as the hair dyeing material and develops the innovative theories and key technologies to breakthroughs the bottleneck of large pigment molecules through the cuticle layer into the cortex layer at room temperature. Candy Dye is been constructed as the professional and open-shelf market systematic goods and becomes the only one competitive system of chemical dye in the world. Candy dyes possess the same functionality, simplicity and systematization like as chemical dye and are the only one alternative to chemical dyes in this world but having the highest safety in human. In the future, people do not need to worry about the safety concerns caused by dyeing hair because Candy Dye will change hair dye history forever.

Commentary

- This innovation employs food colorants as a substitute for chemical and plant-based dyeing agent. Volume increasing and scale opening technologies and bridging technologies have been adopted to develop a new type of hair dyeing agent called "candy dye" which is protected by a large number of international patents.
- The simultaneous development of home-use and professional dyeing systems allows the provision of dyeing products for consumers sold in retail stores and for professional use by hair salons.



帕基艾兒攜帶型噴霧器 Pocket Air Portable Nebulizer

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μBase

MicroBase Technology Corporation

微邦科技股份有限公司

簡介

「帕基艾兒攜帶型噴霧器」為治療呼吸道疾病的產品，可霧化呼吸道液體藥物，主要用於氣喘與慢性阻塞性肺病的病人。經醫學研究證實直徑小於 $5\mu\text{m}$ 的霧化粒子，才能沉積於下呼吸道，而帕基艾兒攜帶型噴霧器將液體經孔徑約 $3\sim 4\mu\text{m}$ 的微孔，利用壓電片震動將液體切斷成 $2\sim 5\mu\text{m}$ 的霧化粒子。微邦的呼吸治療器使用的微噴孔片為世界首創的 Polyimide (PI) 高分子材料，利用準分子雷射製程，於高分子材料上切割出多達 3,600 個直徑只有 $3\mu\text{m}$ 的微孔，且 PI 具耐酸鹼、抗腐蝕特性，讓微邦的產品有更好的可靠度。不同於市面上的氣動式霧化器，帕基艾兒體積小、運作時安靜，霧化穩定性高、效率高，能提供病患更好的治療體驗。

評語

- 本標的為極小化攜帶型霧化器，可霧化呼吸道液體藥物，主要用於氣喘與慢性阻塞性肺病的病人，具有方便、輕巧、安全、霧化速度穩定、藥液溫度變化低、無噪音等優點。
- 在霧化技術、價格，與國內外醫療器材比較，均有競爭優勢，且未來應用範圍廣，具有廣大市場潛力。

Introduction

Pocket Air is a portable nebulizer that converts drug solutions into aerosol droplets and delivers it into the airway for asthma and COPD patients. Pocket Air is capable to produce particles between 2 to $5\mu\text{m}$ in diameter by using a vibrating mesh with apertures between 3 to $4\mu\text{m}$.

The featured vibrating mesh from Microbase is made from a highly advanced polymer called polyimide. By utilizing the excimer laser technology, Microbase is able to precisely create 3000 $3\mu\text{m}$ diameter holes on the polyimide mesh. The anti-corrosion and anti-clogging property of polyimide made Pocket Air a reliable and outstanding product.

Unlike conventional jet nebulizers, Pocket Air is small, quiet, and efficient. It is capable to provide the best airway treatment for patients.

Commentary

- This innovation consists of a miniaturized portable nebulizer which can nebulize liquid medication for the respiratory tract. It is suitable for patients suffering from asthma and chronic obstructive pulmonary disease. This product provides the following benefits: convenience, handiness, safety, stable nebulizing speeds, stable liquid temperatures, and noiselessness.
- This product has a competitive edge in the fields of nebulizing technology and price over domestic and international medical equipment manufacturers and is characterized by a wide application range and expanded market potential.



精密五軸CNC雕刻加工技術
開發創新解剖型骨板
The Innovational Anatomical
Locking Plate were
developed by 5-axis CNC
milling technology

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A PLUS BIOTECHNOLOGY
APlus Biotechnology Co., Ltd.

愛派司生技股份有限公司

簡介

愛派司「精密五軸 CNC 雕刻加工技術開發創新亞洲解剖型骨板」，以人體骨骼曲率及透過與醫院單位合作，進行人體試驗取得解剖參數，經由病人的 CT 掃描透過軟體將剖面圖 3D 化得到骨頭參數的數據，由研發人員參考參數作為亞洲人種合適的骨板設計，最後骨板 3D 幾何模型導入精密五軸 CNC 加工，除了體現完美解剖曲率、保持骨板本身剛性，更能透過工序的減少，來降低製造成本和製造生產時間。

評語

- 本標的為針對亞洲人骨骼特殊曲率設計解剖型骨板，於研發期間，建立亞洲骨骼解剖曲率參數資料庫，並結合五軸 CNC 雕刻加工技術，開發復位固定選擇方案，具創新性且在產品市場上具區隔性，成本與價格亦極具競爭力。
- 該企業投入創傷醫療材料等方面，針對國人需要研發適於國人之骨科材料鈦合金產品，值得肯定。

Introduction

APLUS BIOTECHNOLOGY hand to "The Innovational Anatomical Locking Plate were developed by 5-axis CNC milling technology" processing to develop innovative Asian anatomical bone plate. We gain the curvature of the human skeleton and the anatomical parameters via collaboration with hospital and acquired anatomical parameters human data. We use the patient's CT scan data via 3D sectional drawing to get bone parameters. The researchers as the Asian ethnic reference parameters to design suitable bone plate for the Asian people. Finally, the models of bone plate 3D into sophisticated five-axis CNC machining, in addition to reflecting a perfect anatomical curvature of the bone plate itself and keep rigidity. This way will be reduce manufacturing costs and manufacturing time.

Commentary

- This innovation consists of an anatomical plate specially designed for the unique curvature of Asian skeletal structures. A database of the anatomical curvature of Asian skeletal structures was established during the R&D stage. A fixation solution was developed through the utilization of five-axis CNC engraving process technology. This innovative product takes advantage of market segmentation with highly competitive costs and prices.
- Said enterprise is engaged in the field of trauma treatment and has developed this praiseworthy titanium alloy orthopedic material which meets the demands of local patients.



LEDSignS Inc.

新晟光電股份有限公司



光學透鏡應用於逆光標誌 Backlight Refraction Lens S-type (BRL-S)

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簡介

「光學透鏡應用於逆光標誌」是為了改善用路人在逆光行車時，因交通牌面反黑無法辨識而造成的安全顧慮。逆光透鏡可取代傳統 LED 光源，利用日光即可創造等同 LED 效果，不需任何電源，且也不需複雜的電路電線安裝，輕巧、安裝簡便，並選用抗紫外光損壞材質製成，具有良好的防水設計，維修率低。逆光透鏡對於環境光亦有極佳的收光及傳導效果，如白天的環境光線，室內照明光線，夜間路燈等，再加上透鏡摻入各色環保染料，可利用色彩與位置調整，變換各式形象組合，非常適合店家廣告櫥窗，鄰近路燈的夜間廣告招牌等運用，是實用又創新的產品。

評語

- 本標的乃開發一系列光學透鏡，置於交通標誌上，採集原本是問題的太陽逆光而發亮，可有效化解太陽逆光下看不清楚交通標誌之困擾。
- 本標的透鏡之發散角度廣、發光效率高，逆光環境下 100 公尺外也能清楚辨識牌面資訊。即使在非逆光環境下，仍可運用周遭雜散光源，發光效果卓越。安裝簡易，免用電、免佈線、免維修，省電環保。
- 本標的之概念應用範圍廣，成本低，具有發展潛力。

Introduction

"Backlight Refraction Lens S-type (BRL-S)" is design to improve driver's safety under the backlighting condition. Due to the high contrast brightness of light intensity, leading the drivers unable to identify the information showed on the traffic sign. It will cause the drivers unable to be prepared to deal with the critical and dangerous traffic conditions in advance. LEDSigns Inc. developed a no electro-Optical Studs that could replace the traditional LED light source, through the sunlight to create equally effective as LED but no power supply and complicated circuit wiring installation. The features are lightweight, easy to install, use anti-UV materials with good climatic tolerance and maintenance-free equivalent. Optical Studs also excellent for other sources such as ambient light, indoor lighting source, street light and so on. Colored studs incorporated environmentally friendly dyes, can be used to adjust the color and position, to provide different levels of performance. This practical and innovative product is Ideal for store advertising windows, near lights at night advertising signs and other use.

Commentary

- This innovation consists of a series of optical lenses which can be mounted on traffic signs and rely on the troublesome sun backlight as their lighting source. These lenses effectively solve the problem of sun backlight which makes it difficult to recognize traffic signals.
- Due to the fact that these lenses have a wide divergence angle and a high luminous efficiency, traffic signal information can be clearly identified at distances of over 100 m against the sun. Excellent luminous effects can be achieved even in a non-backlight environment through reliance on scattered light sources in the surrounding environment. Installation is simple and the power-saving and eco-friendly product does not require power sources, cables, or maintenance.
- This product concept has a wide application range and great development potential at a low cost.



第22屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



雲端行動商務系統 S & J Cloud Marketing Platform

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S&J Corporation

聖僑資訊事業股份有限公司

簡介

聖僑提供臺灣工具機產業，專業且眾多的雲端型錄及影音服務，以創新與優越的雲端服務，提供全球經銷商及國際採購者無國界的商務服務。「雲端行動商務系統」結合雲端型錄(e-Catalog)、雲視頻(Video)、雲端網站(Website)、QR型錄(Products)、APP應用程式服務(APP Store, Google Pay)，五位一體，對於工具機產業的網路行銷運作具有實際的助力，並彙集整合各種作業系統版本以及整合虛實通路，運用此一網路雲端服務平臺，發展數位經濟、全球服務，以流暢、安全、高生產力的營運，期望提高機械產業投入具有更高價值的製造業服務化的領域，快速打造企業雲端競爭力，提供一個創新的互動模式。

評語

- 本標的運用雲端技術，針對特定市場或產品線結合 APP、型錄、影片，打造 24 小時不打烊，而且容易隨時更新之線上展場。此創新之主要價值在幫助廠商於國際參展後更積極與國外買家進行無縫的資訊分享與互動，廠商亦可利用該平臺為買家打造更完整的銷售服務，兼具創新性與實用性。
- 目前以國內高單價製造商為主要目標市場。該企業所提供之支援服務具有相當高價值，並已得到國內外參展廠商之正面回饋，以及外貿協會肯定與推薦。

Introduction

S & J is a full-service B2B marketing firm focused on using integrated media to provide marketing solutions to customers worldwide, working with hundreds of machine tools manufacturers for over 20 years. Our team of industry experts brings together data, technology, strategy and creativity to drive success for our B2B clients. And we give buyers the accurate information they require to make the most informed purchasing decisions.

S & J Cloud Marketing Platform works seamlessly across mobile and desktop platform delivering key information to your potential clients. Always have your latest products marketing materials with you, ready for more impressive sales presentations anytime, anywhere. Apps, videos, images, specifications and whatever else you need online and offline. We are proud to be part of the top marketing firm here in Taiwan often leading the way with new innovative sales tools and marketing solutions.

Commentary

- This innovation adopts cloud technology to create a 24/7 business model for designated markets or product lines in form of an online exhibition space which is easy to update through the utilization of APPs, catalogs, and video clips. The main value of this innovation lies in the fact that it facilitates seamless information sharing and interactions of local manufacturers with international buyers after participation in international shows and fairs. Businesses may also utilize this platform to create more comprehensive, innovative, and practical sales services for buyers.
- This innovation focuses on the target market of domestic manufacturers with high unit prices. The supporting services provided by said enterprise have a high value and have been positively received by domestic and international exhibitors. The platform is also lauded and recommended by the Taiwan External Trade Development Council (TAITRA).



SST容積式電動注油機
SST Piston Automatic
Lubricator

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Ishan Precision Ind. Co., Ltd.

裕祥精機工業股份有限公司

簡 介

「SST 容積式電動注油機」具有以下特點：

1. 電子箱內部設計簡潔，易於使用者配線。
2. 整機具良好防水、防塵設計，可協助客戶提升機台之整體防水與防塵性。
3. 採浸油式油錶，可減少指針故障機會。
4. 鋁製金屬上部結構可提升產品強度減少損壞機會。
5. 專利泵架設計大幅縮短聚壓時間，提升潤滑效率並減少故障之發生。
6. 簡易之安裝設計，便於新客戶之導入。

評 語

本標的主要針對集中潤滑系統之既有產品加以改良，在氣油壓驅動源及油管的防漏上具創新設計，且裝有特殊設計「雙安全脫壓裝置」，提升供油的穩定性，搭配油路之定量分配器，可避免出油量過多，達到節省能源，並具有「故障檢知系統」以偵測出油量。

Introduction

“SST Piston Automatic Lubricator” with the following features:

1. Enlarged robust aluminum cover to help heat dissipation.
2. Embossed function button helps easier operation and discharge lubrication with flexibility.
3. Stainless oil charged pressure gauge with upgrade reliability.
4. Upper structure by using aluminum metal, improve the strength of the product.
5. Patented pump design offers higher machine efficiency.
6. Easy-fixing design to help set up on different machines.

Commentary

This innovation focuses on the improvement of existing centralized lubricating systems. Innovative designs are provided for the pneumatic hydraulic drive source and the anti-leak properties of oil pipes. The uniquely designed double-safety pressure-relief device ensures a more stable oil supply, while the quantitative oil-passage distributor prevents excessive oil output. The energy-saving innovation also features a “fault detection system” which allows monitoring of oil output.



第 22 屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



DCT-511/DCR-511數位2.4G
專業型雙向無線導覽系統
DCT-511/DCR-511 2.4G
Digital Two-Way Tour Guide
System

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CHIAYO

CHIAYO Electronics Co., Ltd.

嘉友電子股份有限公司

簡 介

「DCT-511/DCR-511 數位 2.4G 專業型雙向無線導覽系統」之環保與多功能特點包括：

1. 將「對講機」功能結合導覽系統，讓團員可隨時與導覽員對話與提問。
2. 導覽員在解說時，可將手機或平板的音樂透過發射器播放分享。
3. 團員若距離導覽員或導遊太遠，隨身的迷你接收器也會發出警示聲音及燈號提醒警告。
4. 創新的數位化電子電路設計，使產品整體尺寸與重量都只有傳統導覽系統的一半，因此更適合長時間隨身攜帶，包裝上也更節省空間。
5. 低耗電量的電路設計，採用薄片型鋰電池取代傳統兩顆 3 號電池，真正達到節能環保的創新設計。
6. 使用鮮豔色彩且可快速拆換的矽膠色環做為群組識別，可快速區分不同的導覽群組，亦可方便調整各個群組的使用數量。

評 語

- 本標的相較於市面上之導覽系統，具有多項創新特色：獨特的互動式對講功能；有音源輸入插孔，讓導覽同時也能播放其它音樂或解說；可自動跳頻避免干擾；接收器具有訊號範圍警示聲音及燈號；內建可充式鋰電池，隨時充電；外型簡潔輕巧，尺寸與重量都只有傳統導覽系統的一半，透過共用機構設計，降低成本與售價。
- 本標的亦可延伸應用於聽障人士聽力輔助設備、攝影器材收音設備...等，極具競爭力。

Introduction

The environmental and multifunctional designs of DCT-511/DCR-511 include:

1. Innovative interactive function enables the group member to raise questions anytime without approaching the tour guide.
2. The guide can share his/her music with members by connecting the smartphone or tablet to the DCT-511 transmitter.
3. Warning LED informs operator of signal interruption when they go too far from the guide.
4. Innovative digitalized circuit makes the unit only half size and weight of other products, more ideal for long carrying and compacter package.
5. Built-in Lithium rechargeable battery replaces two AA batteries, less current consuming and more operating hours.
6. Replaceable color silicon for quick group-identification as well as easy adjusting for member quantities.

Commentary

- Compared to other tour guide systems on the market this system has many innovative features such as a unique interactive intercom function. A sound input jack allows the playback of external music or comments during presentation. Automatic frequency hopping prevents interferences. The receiver's signal LED and beeping can remind operator to keep within the guide's range. An built-in rechargeable lithium battery can be charged at any time. The device looks simple, light, and handy and is only half as big and heavy as traditional tour guide systems. The shared structural design allows the reduction of costs and prices.
- The application range of this innovation may be expanded to hearing aids for the hearing impaired and the audio recording of camera. The product is therefore highly competitive.



OME Technology Co., Ltd.

精浚科技股份有限公司

STAF滾柱型線性滑軌
(SG系列)
STAF Linear Guide-Roller
Type (SG series)

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簡 介

因應再工業化浪潮，機械加工設備需有承受重負荷外力、振動及衝擊的能力。故精浚科技創新研發「STAF 滾柱型線性滑軌 (SG 系列)」，具以下特色：

1. 創新運用 MCM 技術於防塵密封片，有效簡化製程程序與組裝步驟。
2. 零件回轉機構之精簡、優化：
 - 透過防塵蓋軟硬件設計，減少回轉機構上之零配件。
 - 油路與端防塵結合，使用軟件設計加強油封效果。
3. 減少資源耗費：
 - 減少零組件數量的結構設計
 - 壽命高於滾珠型線軌，可降低汰換率。
4. 高剛性、高負荷。

評 語

本標的透過循環模組的隔片設計，使滾柱能在循環系統中達最佳導引，同時在方向的轉換上也有較佳的表現，為達到防塵效果，巧妙運用循環固定元件與端蓋的密封接合，潤滑系統的密封設計提供穩定的潤滑效果，且使用材料皆符合友善環境與環保之概念。

Introduction

In response to the demand from reindustrialization, the ability to afford external heavy load, shaking, and thrust force is necessary for machining equipments. Therefore, OME technology innovatively develops STAF Linear Guide – Roller type (SG series). The features are following:

1. MCM technology is used innovatively in dust-proof seals to simplify the process of manufacturing and the assembly procedure.
2. Simplifying and optimizing the rotational structure:
 - The new design of seal cap including soft part (end seal) and hard part (end cap) reduces the components of rotational structure.
 - Combining the oil channel, the end seal is more effective due to the soft material.
3. Reduce resource-wasting:
 - Fewer components are used in the newly designed structure.
 - Higher operation life can reduce the replacement rate.
4. With high rigidity and heavy-load resistance.

Commentary

This innovation ensures optimal guidance of rollers in the circulatory system through the spacer design of the circulating module and optimized performance in the field of direction change to achieve dust prevention effects and an ingenious use of fixed circulatory components with tightly joined covers. The sealing design of the lubricating system ensures stable lubrication and the utilized materials conform to eco-friendly and environmental protection concepts.



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中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



含有價金屬之酸液新穎處理
製程(含再生料產品)
The Novel Treating Process
for Valuable Metal Acid
Liquor (Including: Reclaimed
Materials)

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Shian hong Metal Materials Corp.

銜鴻金屬實業股份有限公司

簡介

「含有價金屬之酸液新穎處理製程(含再生料產品)」為銜鴻金屬創辦人呂芳賢先生於 101 年所開發之技術「錫化合物有機 / 無機精煉製程」，進而改良成功開發之化學產品。藉由此特殊的綠色節能技術，得以將目前面板產業所生產之酸蝕刻液進行有效地處理，並將其所存在之金屬成份提煉而出，並製成再生產品，如：氧化亞錫、氧化錫等。這些錫衍生物皆可重新作為面板產業所需求的原料及催化劑。期望透過本專業技術及友善環境的製程下所生產的原料，提高產業連結度並為地球盡一己之力。

評語

- 本標的所提出之酸液回收提煉高價值金屬之製程技術，具高環保、高效率回收之優點，尤其將性質相近的金屬元素分離，具創新與突破性，在環保上具重要意義。
- 本標的技術主要用於面板代工產業之含金屬離子之酸蝕刻廢液之處理，該公司持有關鍵性技術，且能有效降低產業供應鏈之原物料成本。
- 該產品未來市場佔有率在靶材廠客戶端有極大開發空間。

Introduction

Using the specific green technique: tin derivatives organic/inorganic refinery manufacture, developed by Shian Hong Metal Materials Corp. funder " Fang-Hsien, Lu" in Nov. 2012, the industry waste water and acid liquid can be successfully treated. The valuable metal contents existing in the industry waste water and acid liquid are almost recycled and reprocessed for high purity tin oxide and tin dioxide powders. These tin derivatives regarded as raw materials of panel industry can be reused. Our corporation expects that the industry connecting can be advanced through using these materials, reprocessed by professional and friendly environment process.

Commentary

- This innovation consists of a process technology for the acidic recycling and refinement of high value metals. This technology is very eco-friendly and ensures highly efficient recycling allowing the separation of metal elements which have similar properties. This innovative and revolutionary technology represents a significant breakthrough in the field of environmental protection.
- This technology is mainly utilized for the processing of acidic etching waste liquids of the panel OEM industry containing metal ions. The company possesses key technologies that help reduce feedstock costs of the industry supply chain.
- This product has great potential as far as the future share of the target manufacturer and client market is concerned.



Pigmodel® Animal Technology Co., Ltd.

豬博士動物科技股份有限公司



豬模式臨床前動物實驗研究 服務平台 Pig Model for Biomedical Research Service

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簡介

豬博士研究團隊為具有專業知識與技術能力且高效率的服務團隊，建立以豬隻做為臨床前試驗及生物醫學研究之試驗動物，發展出各式豬模式動物試驗平臺，成為生技醫學產業研發之不可或缺的夥伴，為豬模式動物試驗研究技術的先驅。本服務平臺具有臨床醫療設備與儀器之手術試驗照護設施，提供符合臨床前動物試驗要求之專業知識與技術能力，配合生物醫療產業、研究單位、研發中心、醫學中心及學術單位，進行臨床前大型動物試驗，不僅提升生物醫學研究產業之研究品質、增加研發成效，更降低生醫產業之動物試驗軟硬體設備之投資成本；以客製化大型動物試驗模式，建立與生醫產業合作研發關係，亦適時提供動物試驗研究設計諮詢服務。

評語

- 本標的主要以迷你豬為實驗動物，建立國內臨床前動物實驗研究服務平臺，並發展出各式豬模式動物試驗平臺，包括肝、心血管、脾、肺、膀胱、神經、骨骼及消化系統等動物模式。
- 目前亦將此豬模式動物試驗平臺，擴大至藥物篩選、藥物動力學及代謝物的研究，以及幹細胞的修補動物模式，此平臺對於國內生技醫藥的發展，有其服務支撐的潛力。

Introduction

Pig Model for Biomedical Research Service

Mission:

- Using pigs as animal model for pre-clinical trials and bio-medical research
- Contract partner of bio-technology industry

Professional knowledge and technique:

- Pioneer of pig-model research
- Establish professional image in bio-medical research/industry
- Provide highly effective service team to accomplish clients' requests, experimental design consulting, achieve research goal, and partnership
- A complete animal trial facility equipped with professional staff and various apparatus

Business strategy:

- Promote high research quality, lower developing expense, maintain cost-effective of the client
- Develop different modes of experiment, establish long-term partnership with the client
- Provide pre-clinical pig-model experiment design and consulting services for the client

Commentary

- This innovation consists of a domestic service platform for pre-clinical animal experiments and research with mini pigs as the main research objects. An animal testing platform for different porcine models including liver, cardiovascular system, spleen, lung, bladder, nervous system, skeletal system, and digestive system models has been developed.
- This porcine-model animal testing platform is currently being expanded to animal models for drug screening, pharmacokinetics, and metabolite research as well as stem cell repair. This platform may aid and support the development of biomedicine in Taiwan.



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中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award



CHROMOINK®

Rainbow Pigment Co., Ltd.

豐彩化工股份有限公司



LED-UV環保光固化數位墨水

LED-UV Curing Inkjet Ink

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公司傳真：06-3841825
E-mail：info@chromoink.com
Website：www.chromoink.com

Yeh, Pao-Hung / Assistant General Manager
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簡介

面對市場上環保訴求、低成本及高值化的需求及為解決現有傳統印刷與溶劑存在的問題，故開發不含 VOCs，對環境污染小、固化速度快、節省能源、固化後產品物性優異之環保光固化墨水—「LED-UV 環保光固化數位墨水」。本產品不僅保有原特點，更解決了上述問題，且適用於多種材質如玻璃、手機殼、壓克力板、PVC、金屬、皮革、瓷器、3D 列印...等，同時具有其表面具凹凸立體感、低味道、無毒不含重金屬具環保性、色域廣、戶外耐候3年以上之性能。

評語

- 本標的為解決傳統印刷高耗損、高揮發性溶劑等問題而開發，不僅可取代以往高功率 UV 固化墨水以達節能之效，且產品之視覺及觸感皆較傳統印刷具層次感且多變化，且可適用於各種耗材，如玻璃、木製品、壓克力板、PVC、金屬、皮革、瓷器等。
- 本標的為該企業自行開發並掌握關鍵的原料和技術，成本、價格及品質皆具競爭力。

Introduction

In response to the pursuit of environmental protection, low cost, demand of high value in the market, and to solve the existing problem of traditional printing with solvent content, thus successfully developed the "LED-UV Curing Inkjet Ink" with no VOCs, less pollution to the environment, fast curing, energy saving and with excellent physical properties performance after curing, suitable for a variety of materials such as glass, mobile phone case, acrylic, PVC, metal, leather, porcelain, 3D printing, etc. This product not only maintains the original advantages, but also solves the problems mentioned above. This product shows good performance of embossing effect on the surface with low odor, wide color gamut, outdoor light fastness above 3 years, and it is eco-friendly, non-toxic and non-heavy metal contained.

Commentary

- This innovation has been developed to address the problem of high wastage and high volatile solvent concentrations of traditional printing technologies. It can serve as an energy-saving substitute for high-power UV-curable ink and provides a more layered and varied appearance and texture than traditional printing technologies. It is suitable for a wide range of materials including glass, woodwork, acrylic sheets, PVC, metal, leather, and ceramics.
- This innovation was independently developed by said enterprise through a firm grasp of key raw materials and technologies and is highly competitive in the fields of cost, price, and quality.



雙冠

Sun Kuan Biotech Co., Ltd.

雙冠生技股份有限公司



飲料販賣桶/飲料運送桶/攜帶
型飲料桶
Beverage Refrigerator /
Beverage Transport Barrels

負責人：陳冠穎 / 董事長
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40758臺中市西屯區大墩路942號2樓
公司電話：04-23270708
公司傳真：04-23266127
E-mail: fangtzu.chen@msa.hinet.net

Chen, Kuan-Ying / Chairman
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簡介

飲料販賣桶改良生啤酒冰藏方法，方便店家長時間冰冷生啤酒及飲料銷售，不易變質敗壞，讓消費者喝到真正的鮮啤酒。飲料販賣桶擁有國內及多國核准專利，具有可長期冰冷儲存之特性，提高生啤酒的保鮮、美味，提供消費者食安的保障，也免去店家冷飲隔夜停止販賣後變質及衛生之風險。飲料運送桶則為可拆卸式配送桶，在運送儲存及瞬間冰冷有絕對的效果，改良了市面通用配送桶體積大、笨重、不能冰存於一般冰箱之礙，為店家提供方便且成功解決儲存問題。

評語

- 本標的以飲料販賣桶具備冰冷生啤酒及便利長時間維持冰冷之冷藏效益為訴求。飲料運送桶具有創新之可拆式內桶 (使用 316L)，可儲放於一般冰箱，便於店家冷藏。
- 除具上述特點外，並能便利攜帶與運送，兼具方便、美觀等之實用價值及國內外之競爭優勢。

Introduction

The Beverage refrigerator improved method of keep cold draft beer, facilitate proprietor sale the beer, and make sure that is prolonged cold and not be metamorphism, so that consumers can drink the fresh draft beer. The Beverage refrigerator has a function of long-term cold storage features, improve draft beer fresh, delicious, protect consumers food safety, and reduce the risk of metamorphism and health leave the draft beer in refrigerator overnight.

The Beverage transport barrel is a removable storage, it can be refrigerated in transit, which improved the generic distribution barrel in the market which is bulky, heavy, and cannot be in refrigerator, its supply the facilitate and successful resolution for storage problem.

Commentary

- This innovation aims to maintain the cooling effects of beverage vending barrels containing ice cold beer over long periods of time. The beverage barrels are equipped with an innovative detachable internal barrel (used 316L), which can be stored in generic refrigerators for the convenience of store owners.
- In addition to the aforementioned characteristics, the barrels are also easy to carry and transport and have practical value due to their convenience and appealing appearance. They are highly competitive both on domestic and international markets.

永續創新
邁向高峰



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評審委員會

Members of the Review Committees

決審委員名單

決審委員召集人：葉雲龍委員 經濟部中小企業處處長

伏和中	財團法人金屬工業研究發展中心執行長
江文若	經濟部商業司司長
余日新	財團法人中衛發展中心董事長
吳明機	經濟部工業局局長
谷家恆	中國科技大學校長
周景揚	中央大學校長
林慧瑛	社團法人中華民國全國中小企業總會理事長
張俊福	中小企業信用保證基金董事長
張寶誠	財團法人中國生產力中心總經理
黃文谷	經濟部加工出口區管理處處長
黃文榮	中華民國對外貿易發展協會秘書長
楊珍妮	經濟部國貿局局長

(上述名單除召集人外，依姓氏筆畫排列)

初審委員名單

初審委員總召集人：蔡新源委員 創智智權管理顧問股份有限公司董事長

類別	姓名	服務單位 / 職稱
資訊 與 電子類	徐永珍 (分組召集人)	清華大學電機工程學系暨電子工程研究所教授
	王永和	成功大學電機工程學系教授
	詹文男	財團法人資訊工業策進會產業情報研究所所長
	譚旦旭	臺北科技大學電機工程系教授
機械 與 自動化類	蔡新源 (分組召集人)	創智智權管理顧問股份有限公司董事長
	呂宗熙	交通大學機械工程學系教授
	張所鉅	財團法人工業技術研究院副院長
	黃緒哲	臺灣科技大學機械工程系教授
材料 與 生技類	廖啟成 (分組召集人)	財團法人食品工業發展研究所所長
	丁志明	成功大學材料科學及工程學系教授兼系主任
	李勝偉	中央大學材料科學與工程研究所教授暨研發處研究推動組組長
	游若筓	臺灣大學食品科技研究所教授兼所長
服務類	方至民 (分組召集人)	中山大學企業管理學系教授
	黃文仙	中興大學行銷學系副教授
	廖文志	臺灣科技大學企業管理系副教授
	嚴秀茹	清華大學服務科學研究所教授暨服務科技與管理研究中心主任
綜合類	官政能 (分組召集人)	實踐大學臺北校區副校長
	巴白山	臺北教育大學數位科技設計學系教授
	吳志富	大同大學工業設計學系教授兼設計學院院長
	張文智	臺灣科技大學工商業設計系教授

(上述名單除召集人外，依姓氏筆畫排列)

永續創新
邁向高峰



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申請須知

Application Guide



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中小企業創新研究獎

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Application Guide

申請須知

一、目的

為鼓勵中小企業從事創新研究發展、提升技術與服務水準、增強競爭力，經濟部依據「中小企業發展基金獎助中小企業創新研究要點」針對持續以有組織、有系統之方法，自行從事創新研究而有具體成效之中小企業，甄選傑出者予以適當之獎勵，以期技術生根，進而達到產業升級與健全發展之目的。

二、申請資格

(一) 獎勵對象

合於行政院核定「中小企業認定標準」且目前仍在營運中之中小企業，其民國 103 年之研發費用佔營業淨額比例不得低於 2.0%。(研發經費請參考申請書表 1 註 2)

(二) 獎勵範圍

自行研發之創新性產品、技術、製程、流程、服務(包含技術服務、知識服務、商業服務)等項，於民國 103 年完成，並已商業化運用或量產者。

註：申請獎勵之標的如已(曾)獲得政府機關補助款(如主導性新產品開發輔導計畫、協助傳統產業技術開發計畫、服務業創新研發計畫、中小企業即時技術輔導計畫、數位內容產業發展補助計畫、小型企業創新研發計畫、地方產業創新研發推動計畫、A⁺企業創新研發淬鍊計畫(原業界開發產業技術計畫)、創新科技應用與服務計畫、研發精進產學合作計畫、高科技設備前瞻技術發展計畫、農業生物技術研發成果產業化輔導計畫…等)不得申請，但其獲得補助並執行完畢後，再自行創新及研發程度高者，不在此限。

三、獎勵方式

- (一) 申請標的未曾獲政府機關其他獎項獎金且該企業前一屆未曾獲本獎項獎助金，經評審通過者獲頒證書及獎助金新台幣 15 萬元正，以 30 名為限。其中以員工數認定之中小企業得獎名額以不超過 15 名為原則，確實得獎名額視申請審查情況核定(獎助金須依稅法相關規定辦理扣繳)。
- (二) 申請標的已(曾)獲政府機關其他獎項獎金者(如科學工業園區-創新產品獎、國家發明創作獎…等)或前一屆已獲本獎項獎助金之得獎企業，經評審通過者獲頒證書，以不超過 10 名為原則。
- (三) 同一企業當年度同時有兩項(含)以上之標的獲獎，僅頒發獎助金新台幣 15 萬元正，不得累加獲獎金額。

申請須知

四、申請手續

(一) 申請方式

1. 檢附申請資料紙本、電子檔各一份。申請書請以電腦繕打，以 A4 規格裝訂整齊，另以電子檔形式儲存於光碟 (含附件掃描) 交寄，申請資料概不退件，送審前請自行影印留存。
2. 網路報名後通訊寄件，請將申請資料掛號郵寄至：
「106 臺北市大安區羅斯福路二段 95 號 6 樓 創新研究獎工作小組收」
3. 網路報名及下載申請書請至經濟部中小企業處 (www.moeasmea.gov.tw)、中華民國全國中小企業總會 (www.nasme.org.tw) 及創新研究獎專屬網站 (<http://tsia.moeasmea.gov.tw>)。
4. 洽詢電話：(02)2366-0812 分機 122 創新研究獎工作小組 洪小姐。

(二) 送審資料

1. 申請書
2. 公司登記資料影本
(可逕行至全國商工行政服務入口網 <http://gcis.nat.gov.tw> 查詢列印)
3. 工廠登記證明文件影本
註：廠房面積未達 50 平方公尺且電力容量、熱能 (馬力與電熱之合計) 未達 2.25 千瓦之石油及煤製品製造業、化學材料製造業及化學製品製造業等業者；或廠房面積未達 150 平方公尺且電力容量、熱能 (馬力與電熱之合計) 未達 75 千瓦之小型製造業者免附，惟需檢附切結書。
4. 申請獎勵標的之商業化或量產之相關證明文件影本 (於 103 年 1 月 1 日至 104 年 5 月 29 日前銷售之發票、合約書、訂單等，若為醫療或食品需檢附相關主管機關核可之證明文件)
5. 其他申請獎勵標的之相關證明文件影本。(如：專利、獲獎記錄、標準、認證、著作權、相片及型錄等〔請參選企業儘量提供〕)
6. 以員工人數認定之中小企業，請附 103 年 1~12 月勞保局核發之「勞工保險局保險費繳款單及明細表」影本。
註：以資本額或營業額認定之中小企業免附。
7. 103 年度營利事業所得稅結算申報書影本。(包含資產負債表及損益表；此項資料最遲應於 104 年 6 月 10 日前掛號寄達)

(三) 申請期間

即日起至 104 年 5 月 29 日 17：30 止 (通訊寄件以掛號郵戳日期為憑)。

申請須知

五、評審

(一) 評審方式

分為資格審、初審與決審 3 階段：

1. 資格審：由創新研究獎工作小組進行基本資料審查，缺件者應於期限內完成補件。
2. 初 審：由初審委員會進行書面審查，並視實際狀況需要，派員實地查核。
3. 決 審：由決審委員會進行書面審查，並決定得獎名單。

(二) 評審標準

基本評審項目及權重：

- | | |
|-----------------------------|------|
| 1. 申請獎勵標的之創新性 | 35 % |
| 2. 申請獎勵標的之實用性 | 35 % |
| 3. 申請獎勵標的之國內外競爭力 | 20 % |
| 4. 申請企業之目前及中長期研發構想及營運 | 10 % |

100 %

(三) 評選原則

當申請標的之評審積分相若時，以未曾獲本創新研究獎之企業優先考慮，惟仍由評審委員會議決之。

六、得獎企業之義務

得獎企業有配合蒐編專輯、提供相關資訊及參加頒獎典禮、成果展示會與中小企業創新研究獎聯誼會等相關活動之義務，並有建立與傳承本獎項之精神與樹立學習典範之責任，得獎企業若經查證有違反本須知規定、不實陳述或違反環保與工安衛、智慧財產權等相關法規情節重大者，或其他爭議事件致影響社會大眾及本獎項形象者，主辦單位得撤銷得獎資格，其獎狀及獎助金應繳回，並自負法律責任。

七、其他

得獎名單預計於 104 年 11 月公佈，並以專函通知所有申請企業。

申請須知

附錄 1：行政院核定之中小企業認定標準相關規定

- ◆ 中小企業係指依法辦理公司或商業登記，並合於下列標準之認定：
 - 一、製造業、營造業、礦業及土石採取業實收資本額在新臺幣八千萬元以下者。
 - 二、除前款規定外之其他行業前一年營業額在新臺幣一億元以下者。
- ◆ 另就經常僱用員工數為中小企業認定標準，則不受前項規定之限制：
 - 一、製造業、營造業、礦業及土石採取業經常僱用員工數未滿二百人者。
 - 二、除前款規定外之其他行業經常僱用員工數未滿一百人者。
- ◆ 具有下列情形之一者，視同中小企業：
 - 一、中小企業經輔導擴充後，其規模超過第二條所定基準者，自擴充之日起，二年內視同中小企業。
 - 二、中小企業經輔導合併後，其規模超過第二條所定基準者，自合併之日起，三年內視同中小企業。
 - 三、輔導機關、輔導體系或相關機構辦理中小企業行業集中輔導，其中部分企業超過第二條所定基準者，輔導機關、輔導體系或相關機構認為有併同輔導之必要時，在集中輔導期間內，視同中小企業。

附錄 2：申請標的分類定義標準

類 別	定 義
資訊與電子類	含通訊設備、電腦通信、資訊軟體、資訊硬體、消費性電子、半導體製造、電子機械器材製造修配、視訊產品、視聽電子製造、電子零組件製造、光電器材、積體電路設計、其他電子資訊製造等資訊與電子相關之標的。
機械與自動化類	含機械設備製造、運輸工具製造，模組開發製造、航太製造、自動化機械、物流 / 倉儲設備、動力傳動 / 制動設備及零組件等機械與自動化相關之標的。
材料與生技類	含生物化學、纖維材料、工程塑膠材料、金屬材料合金、鑄造材料、化學品製成、生化技術、藥品製造、食品加工製造、醫療器材等材料結構製造及生化科技等材料與製程相關之標的。
服務類	含知識服務、技術服務與商業服務模式等，其成功經營模式、服務方式或行銷方法具有前瞻性、示範性及可提昇工作效率之標的（例如：環保服務類、能源服務類、檢測服務類等）。
綜合類	含一般民生用品、消費性產品、創意設計及非前述類別之申請標的物皆納入綜合類之範圍。

註：請企業先依上列分類定義填寫申請之標的所屬類別，審議過程中評審委員會得依標的內容與性質確認或更動申請類別。

永續創新
邁向高峰



第 22 屆

中小企業創新研究獎

The 22nd Taiwan SMEs Innovation Award

得獎專輯

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