

資訊大廳

Key 卡通系統



Key 卡通系統，為串通展演服務與套裝旅遊行程的一種關鍵鏈結技術。透過智慧載具(如 RFID 卡、QR Code、NFC、ZigBee...等)作為溝通的媒介，藉由載具的內外碼在雲端間轉換的創新模式，呈現不同意義的特性，讓系統或展演過程，表現出多種特性與意涵效果。本技術目前可運用於有聚合效果的應用環境，如觀光電子旅遊套票、闖關遊戲等。
(推廣聯絡人: 工研院服科中心 羅國書，電話: 03-5913405，JonesLo@itri.org.tw)

Key e-Ticket Package Service Technology



“Key e-Ticket Package Service” technology uses RFID card, Near-Field Communication, ZigBee, and QR Code as interfaces to connect with cloud services. The solution can be used in applications such as tourism or alternate reality games.

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視覺導引機器人軟體模組



視覺導引機器人軟體模組，以智慧視覺為核心，整合視覺導引、色彩分析與多種瑕疵檢測功能，可於產線上進行動態物件偵測及品質檢測，達成線上產品品檢、整列、組裝或包裝等作業。本模組具有簡單、快速且精確之校正功能、通訊、運動控制以及圖形化操作介面與巨集式工序編程模式，使用者無需瞭解機器手臂程式語言便可輕鬆透過視覺導引控制多家知名廠牌之機器手臂，且可依生產需求快速變換及彈性調整工作排程，提昇生產系統之競爭力，為智慧自動生產需求提供快速解決方案。

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Vision Guided Robotics Software Module



Vision Guided Robotics Software Module is based on an intelligent vision to integrate the vision guided and color analysis with multi-inspection function. The proposed module can be used to inspect the defect in factory. This module is simple, fast, and configurable to provide calibration, motion, communication, and visualization interface for configurable macro function. User can evaluate the automation system easily without any programming skill. This module could improve the competitiveness of production system and provide total solution for the intelligent manufactory requirement.

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全軟體控制器應用於雙臂機器人



共有 15 軸的自由度，各軸皆採用泛用伺服馬達。架構上採取雙七軸機器人與一個腰部軸。每一組七軸機器人具備 7 個自由度高靈活運動特性；機體構型經過靈活度分析達到最佳配置，雙機械手臂與腰部軸僅使用一組控制器，並透過高速數位通訊(EtherCAT)介面實現 1ms 之同步運動控制。

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Dual-Arm Robot Control via PC Based Software Controller



This Dual-Arm Robot has total 15 axis degrees of freedom (DOF), and each axis is general servo motor. The Dual-Arm Robot includes two 7 axis robotic arms and one waist axis. Every 7 axis robotic arm has 7 DOF with a high flexible motion characteristic. The mechanic structure of robot will be designed to the best payload location by the reachability and flexibility analysis. The Dual-Arm Robot only needs one controller, and uses high speed communication interface (EtherCAT) to achieve synchronized motion control in 1ms.

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<p>智慧化屏幕資訊整合顯示系統</p>		<p>智慧化屏幕資訊整合顯示系統，結合多影像座標轉換技術、大畫面虛像顯示技術與車用光學薄膜技術，可使資訊顯示畫面與車外道路景物擬合，降低駕駛者眼睛重複對焦疲勞並提升舒適性。此系統具有顯示資訊豐富、整合性高等特點，是一種兼具安全與效能的高階車輛顯示系統。</p> <p>(推廣聯絡人: 車輛中心 張哲豪，電話: 04-781-1222 分機 2353，adrian@artc.org)</p>
<p>Intelligent Information Integration for Head-Up Display</p>		<p>Intelligent Information Integration for Head-Up Display combines Multiple-Image Coordinate Conversion Technology, Large Virtual Image Display Technology and Optical Thin Film Technology which reflects the images from vehicle information system on the coating film fixated on windshield and superposes the images on the scenery of road. The system can not only reduce parallax and eyestrain but also offer better visual comfort. With more safety information and greater integration, the advanced vehicle display system is both safer and more efficient.</p> <p>(Contact Person: ARTC Adrian，Tel:+886-4-781-1222 ext2353，adrian@artc.org)</p>
<p>In-Snergy 智慧能源管理系統</p>		<p>In-Snergy(Internet Smart Energy) 是一智慧綠能聯網共通平台，透過穩定的平台、通訊、軟體及硬體整合，提供綠能服務與完整的智慧綠能聯網解決方案，在此高彈性的技術架構下，In-Snergy 發展四大領域之連網應用，包含智慧家庭、企業能源管理、再生能源管理及智慧照明管理，以滿足產業之不同需求。</p> <p>(推廣聯絡人: 資策會 王莉諭，電話: 02-6607-3558 chloewang@iii.org.tw)</p>

Internet Smart Energy



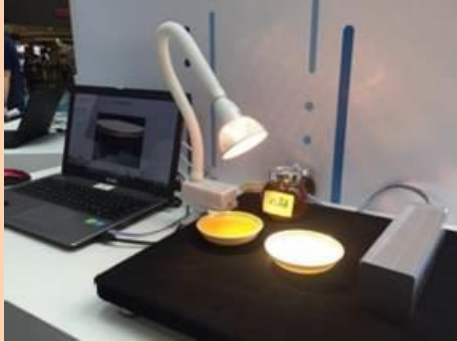


“In-Snergy” , short for “Internet Smart Energy” , is a common network platform of smart green energy. In-Snergy consolidates with stable platform, communication, hardware and software providing green IoT solutions. Based on the highly flexible structure, In-Snergy develops four applications for different requirements including smart home, enterprise energy management, renewable energy management and intelligent lighting management.

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能源實驗室

<p>Qwater 淨水模組技術</p>		<p>全球因天氣變化極端所造成重大災害之範圍及強度皆遠超過以往，災難發生時，妥善安置災民並提供乾淨之用水，避免後續環境污染和疫病的產生為當務之急。機動式緊急淨水設備，具備低能耗、高效率、高機動性及可處理多元化水源(河川水、湖泊水、泥水、海水)之功能，快速解決災民及災區無法正常用水的問題。 (推廣聯絡人: 工研院材化所 楊欣茹，電話: 03-5732035， ktyang@itri.org.tw)</p>
<p>Qwater</p>		<p>The extreme climate change brings worldwide natural disaster and causes huge casualties to social society. Once it happens, the primary urgency is to provide clean water for victims to restrain further epidemic disease and environmental pollution. Therefore, an efficient water purification technique for supplying the demand of public during emergency is highly required. “Qwater” is a system developed to provide high quality and large quantity of water under emergency. This system is characterized as high mobility, low energy consumption, and high efficiency. In addition, it is capable of purifying a variety of water resources. Including surface water(river, lake), underground water, spring, brackish water and sea water. (Contact Person: ITRI Hsin-Ju Yang，Tel:+886-3-5732035， ktyang@itri.org.tw)</p>
<p>光柔發熱衣紡織品技術</p>		<p>應用高效能低成本的淺色系高蓄熱材料於纖維中，蓄熱範圍涵蓋太陽光、照明光、火及人體紅外線等存在於日常生活中的熱源，隨時吸收來自不同環境(例如戶外、室內、白天或晚上)的熱源而進行保暖。本技術所增加的布料成本低於國外蓄熱布料的 1/6，且可以吸收近紅外線及中紅外線波段，優於國外產品僅能吸收近紅外線，蓄熱效率也比國外市售品優良。 (推廣聯絡人: 工研院材化所 郭怡君，電話: 03-03-5732710， kuoyc@itri.org.tw)</p>

<p>Heat-retaining textile</p>		<p>Infrared rays have a significant thermal impact when they are absorbed. To increase wearer comfort during cold winter days, we develop light-color, transparent, and cost-effective heat-retaining materials which can absorb infrared heat-rays with high efficiency. We then integrate these materials into fiber to make functional textiles, which is able to absorb infrared heat-rays and with high heat-retaining upon exposure to a variety of infrared sources such as camp fire, lamp light, human body radiation, solar light, and other IR sources.</p> <p>(Contact Person: ITRI Yi-Chun Kuo , Tel:+886-3-5732710 , kuoyc@itri.org.tw)</p>
<p>可攜式食物分析影像攝譜儀技術</p>		<p>本系統由物體表面散射的光，分析其在可見至近紅外波長的能量分布，而得知物體與各波長的反應，再與光譜資料庫比對，反推物體的成分。透過本系統可獲得周遭環境物質的更多化學、物理特性，光譜資料經由演算法與雲端的資料庫連結形成有意義的資訊，以米粉與炊粉為例，「純米製作」與「米與玉米粉混合」，兩者成分大大不同，所反射的光譜表現也不一樣。未來可與手機或隨身裝置結合，讓我們得知凡眼看不到的東西。</p> <p>(推廣聯絡人: 工研院量測中心 劉志祥，電話: 03-5732038 , ChihShangLiu@itri.org.tw)</p>
<p>Portable Spectrograph</p>		<p>This spectrograph collects and analyzes visible to near infrared light scattered from the surface of an object and compares the spectrum with existing cloud database using dedicated algorithms to obtain composition of the object, including both chemical and physical characteristics. As an example, rice noodles made with pure rice and rice/corn starch mixture have distinct reflected light spectra and this spectrograph can be used successfully to tell them apart.</p> <p>In the future the system can be combined with portable devices to monitor our surroundings anytime and anywhere.</p> <p>(Contact Person: ITRI Yan Rung Lin , Tel:+886-5732287 , linyr@itri.org.tw)</p>

能源擷取技術
Energy Harvesting



能源收集晶片含直流-直流升壓轉換器以及最大功率追蹤演算功能之技術，在常溫下利用人體皮膚溫度與環境溫度差，即可將 15mV 輸入電壓提升至一般應用系統晶片的 1.2V 以上電壓。核心技術採用輸出電壓偵測達到最大功率追蹤，極低的能量消耗、最大功率點快速追蹤、以及高效率轉換，使熱電能源轉換系統維持在最佳的操作點。適合生醫工業感測能源供應，及非常難以取得電源之自然發電能源供給與。
(推廣聯絡人: 工研院資通所 許呈任，電話: 03-5914771，kevin8@itri.org.tw)

Energy Harvesting
Technique



The energy harvesting power management contains a DC-DC step-up converter and a maximum power point tracking (MPPT) algorithm. It boosts voltage from 15mV to 1.2V or more by using the temperature difference between human skin and the surrounding environment. This technology monitors the output voltage to achieve MPPT and optimize operating condition, featuring extreme low power consuming, fast power point tracking, and high efficiency. The proposed suit aims to supply power for sensors used in biomedical industry or the environment lack of basic infrastructure.
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超薄 OLED 照明



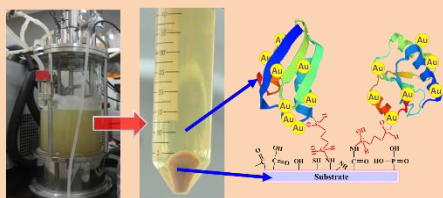
運用 OLED 輕薄可撓與類自然光的特性，有效地選擇材料與製程技術，開發 OLED 照明模組系統，且透過 OLCA (OLED Lighting Commercialization Alliance, OLED 照明產業化聯盟)，結合製程與供應等上中下游產業資源及跨領域整合技術，進行最佳性價比的 OLED 照明產品之開發。
(推廣聯絡人: 工研院電光所 鍾宜珊，電話: 03-5917128，ishan@itri.org.tw)

Ultra-thin OLED Lighting



Ultra-thin, light and flexible OLED lighting mimicking natural light are developed by effectively choosing materials and processing techniques. OLED Lighting Commercialization Alliance (OLCA) has been established to deliver the best cost performance for OLED lighting products through cross-disciplinary integration and streamlining OLED manufacturing and supply chains. (Contact Person: ITRI Sandy Chung , Tel:+886-3-5917128 , ishan@itri.org.tw)

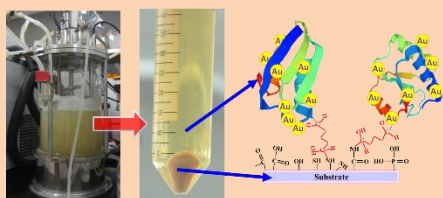
生物蛋白煉金術



創新應用高金吸附能力之**本土性新種嗜熱菌株蛋白**作為吸附劑，結合固定化技術，開發低材料成本的複合性生物材料。高密度蛋白基材對低濃度(< 5 ppm)金之吸附率可達95%，優於目前商業化技術及國際研究成果，可提升中/低金屬濃度廢液中有價金屬的回收率，使資源永續。

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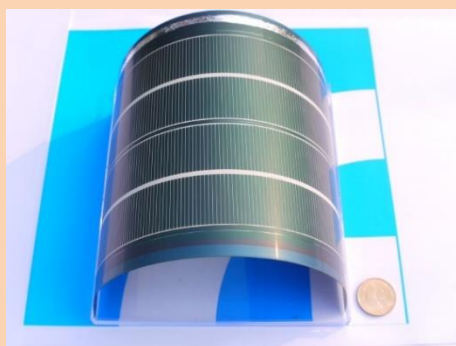
Bio-Protein Alchemic Technology



An innovative bio-technology for precious metal (Au) recovery using functional proteins as adsorbent is developed. The proteins are secreted from a novel slightly thermophilic bacterium isolated from hot springs and immobilized onto an aldehyde modified biomass to form a high density protein biosorbent. This low cost biosorbent can achieve 95% Au adsorption efficiency for aqueous solutions in low Au concentration (<5ppm). This result is better than currently available commercial technologies and research results.

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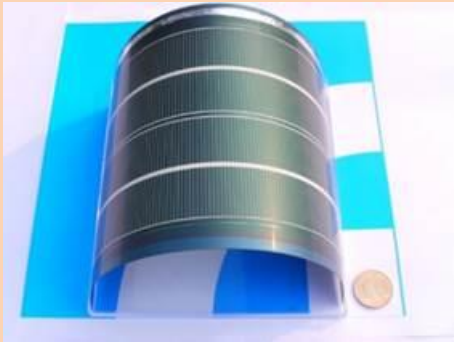
印刷式 CIGS 太陽電池技術



印刷式銅銦鎵硒(CIGS)薄膜太陽能電池具有高效率、低成本的潛力。利用奈米漿料印刷技術搭配不銹鋼箔基板，實現輕量化、高效率、可撓式 CIGS 太陽電池，現階段已分別獲得效率 14.6%及 14%可撓式 CIGS 太陽電池及次模組之技術。可創造未來電子產業新商機，如:超輕量充電電源、攜帶或穿戴裝置電源、物聯網自主電力、輕屋頂 PV 等應用。

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Printing CIGS Solar Cells



We have successfully demonstrated CIGS solar cells and sub-modules on flexible stainless steel foils with 14.6% and 14% efficiency respectively using ink-printing process. Ink printing is an attractive approach to mass produce future light weight electronic devices at low costs, such as rechargeable power supplies, wearable power sources, self-powered IoTs and rooftop photovoltaics.

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汰役電池再轉用技術



電動車動力鋰離子電池使用 5-7 年後，其電池容量衰退至電池新品的 70-80%，其功能性已無法滿足電動車的使用需求，這些電池的能量密度仍高出鉛酸電池新品許多，經過有效的電池檢測、分級、重組後的汰役電池新品，可應用於能量導向的電動載具、備用電源、與儲能系統，共創電動車、儲能、與汰役轉用等三大產業三贏局面。



(推廣聯絡人: 中科院 余若君, 電話: 03-471-2201 分機 352013 , june8527962@gmail.com)

The Battery Second-Use Technique




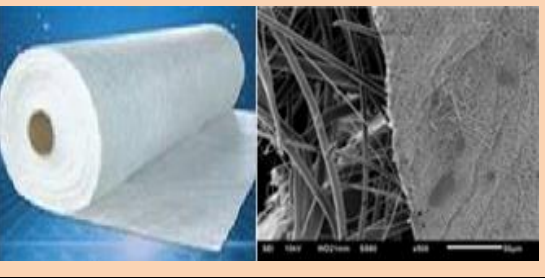
The electrical capacity of lithium-iron traction batteries used in EVs for 5-7 years will be degraded down to 70~80% comparing with a new one. The performance of such batteries doesn't satisfy the usage of EVs, but their capacity density are still much higher than the new Pb-acid batteries. These retired batteries, which can be inspected, tested, assorted, and reassembled into a new product can be applied to energy-oriented vehicles, backup power system, energy storage system, and etc. The eco-system can construct 3 industries, including EV, ESS, and B2U.

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<p>深層海水海療應用開發技術</p>		<p>利用深層海水潔淨、富含礦物鹽的特性，藉由波美度或離子配比調節，收集浸泡前中後的生理訊號及膚質狀態資料，作為建立深層海水舒壓安眠及肌膚調理的最佳參考依據。結合相關學理基礎發展更具競爭力的深層海水健康休閒體驗硬體（海療產品與設施）及軟體（體驗流程），並結合時下「預防保健和健康休閒」的概念訴求，導入 SPA 海療的休閒應用、設計具養生健康功效的休閒 SPA 海療行程，催生出具有海洋深層水特色的 SPA 海療館。</p> <p>(推廣聯絡人: 石資中心 許紘瑜，電話: 03-8423899，mollyhsu@srcd.org.tw)</p>
<p>Deep sea water therapy application development technology</p>		<p>By using the characteristics of deep sea water which are clean and rich in mineral salts, as well as adjusting the ratio of salts or ions, it is expected to collect physiological signals and skin before soaking in the state after the data, so as to establish the best reference for deep sleep, optimal diastolic pressure and seawater skin conditioning.</p> <p>Based on our research result foundation, it is to develop more competitive, industry-related, healthy leisure experience hardware (deep sea water therapy products and facilities) and software (experience process) for deep sea water. Combined with "preventive health care and health leisure" concept, it is the goal to introduce leisure application of deep sea water therapy and design deep sea water therapy tour with health benefit, so as to promote the health of mankind.</p> <p>(Contact Person: SRDC Molly Hsu，Tel:+886-3-8423899，mollyhsu@srcd.org.tw)</p>
<p>機能性微粒製備技術</p>	<p>▲各式無縫膠囊粒徑 ▲剖面圖</p> <p>▲舌下滴丸 ▲爆漿果汁球</p>	<p>機能性微粒製備泛指具保健、醫療功能或休閒食品之包覆技術</p> <ul style="list-style-type: none"> ● 無縫膠囊以銳孔法-同心雙套管原理，用明膠包覆高單價液態油脂，製成具有保健功效的健康食品，圓球型的外觀且無壓縫線，尺寸介於 2.5~10mm。 ● 爆漿果汁球以素食膠殼材包覆果汁泥，形成具有爆漿口感的圓球狀休閒食品，尺寸介於 8~10mm。 ● 舌下滴丸以 PEG 為賦形劑，用銳孔法造粒，製成 3~4mm 的實心丸劑，適合快速崩解舌下吸收。 <p>(推廣聯絡人: 金屬中心 楊勝仲，電話: 07-3513121 分機 2632，yangsj@mail.mirdc.org.tw)</p>

<p>Functional Granulation Technology</p>	<p>▲各式無縫膠囊粒徑 ▲剖面圖</p> <p>▲舌下滴丸 ◀爆漿果汁球</p>	<p>Functional Granulation means the encapsulation technology for health care 、medicine or snack foods.</p> <ul style="list-style-type: none"> ● Seamless Capsules : High valued oil encapsulated by gelatin to form the spherical seamless capsules, size in 2.5~10mm. ● Exploding Juice Balls : Concentrated fruit juice coated by herbal shell material, size in 8~10mm. ● Dropping Pills : Herbal extraction or functional ingredients with PEG excipients granulated by orifices and suitable for sublingual absorption. <p>(Contact Person: MIRDC Yang Sheng-Chung , Tel:+886-7-3513121 ext 2632 yangsj@mail.mirdc.org.tw)</p>
<p>抗菌材料於食品保鮮應用之技術</p>		<p>運用抗菌材料(膜、小包、或標籤)調控包裝內氣體組成，建立抗菌材料於模擬包裝食品系統之抑菌效能測試方法，測試抗菌材料抑制指標微生物有效量以及有效天數，藉此抑制食品中微生物之增長，以確效整合應用於食品包裝中之有效性。</p> <p>(推廣聯絡人: 食品所 羅瑞娟，電話: 03-5223191 分機 337，jcl@firdi.org.tw)</p>
<p>Validation of antimicrobial materials applied in food systems</p>		<p>This is a simulation test platform to evaluate the antimicrobial functions of the new packaging design, and a antimicrobial packaging for packaged food is also developed. The benefit of this test system includes the followings:</p> <ol style="list-style-type: none"> 1. The selection and minimum material used for antibacterial functions; 2. The estimated shelf life of food; 3. The overall functions when integrated with multiple antibacterial technologies. <p>(Contact Person: FIRDI Yu-Chi Cheng , Tel:+886-6-384-7355 , cyc20@firdi.org.tw)</p>

<p>保健機能飲品無菌加工製程研發服務平台技術應用</p>		<p>保健機能飲品無菌加工製程研發服務平台技術，協助食品業者將液體食品採用冷藏或是冷凍形式販售方法，調整製程與設備以達到無菌製程之要求，使其產品達到常溫流通販售之目的。可將台灣生產之樣品寄送到世界各國的代理經銷站，進行風味測試後，再針對各國口味差異進行微調，提升產品國際競爭性與客製化能力。 (推廣聯絡人: 食品所 羅瑞娟，電話: 03-5223191 分機 337，jcl@firdi.org.tw)</p>
<p>Aseptic processing process R & D service platform technology applications for health functional drink</p>		<p>Functional drink products often require low temperature shipment. This project established the aseptic processes platform technology, so these product packages can be shipped in room temperature. In addition, in this RD platform, ingredient or formulation samples can be tested by agents around the world to taste the flavor, and then can make flavor fine-tuned for each country difference. Therefore the final products would be ready for international market competition. (Contact Person: FIRDI Yu-Ming Chen，Tel:+886-5-291-8904，cym@firdi.org.tw)</p>
<p>複合氣流成網熔噴不織布技術(複合保溫不織布開發)</p>		<p>本技術係結合熔噴不織布技術及氣流成網匯入短纖技術，一步法成型複合多組份纖維不織布，熔噴超細纖維細度$<5\mu\text{m}$，天然纖維含量$>50\%$。壓縮彈性$\geq 85\%$、壓縮回復性$\geq 90\%$、膨鬆度$12\sim 30\text{ cm}^3/\text{g}$、單位元厚度保暖性能$\geq 1.8\text{ CLO}/\text{cm}$、保溫率$\geq 60\%$。 (推廣聯絡人: 紡織所 彭兆群，電話: 02-22670321 分機 3300，ccpeng.0875@ttri.org.tw)</p>
<p>Technology for Thermal Insulation of Composite Nonwoven</p>		<p>This method combines the technology of meltblown nonwoven fibers and the technology of air-laid implant staple-fibers and uses a one-step process to form the composite multi-component nonwoven fibers. The properties of the meltblown microfibers are as follow: fiber fineness $<5\mu\text{m}$, natural fiber content $>50\%$, compression elasticity $\geq 85\%$, compression recovery $\geq 90\%$, bulkiness $12\sim 30\text{ cm}^3/\text{g}$, warmth $\geq 1.8\text{ CLO}/\text{cm}$, and warmth preservation ratio $\geq 60\%$. (Contact Person: TTRI Chao chun Peng，Tel:+886-2-22670321~3300，ccpeng.0875@ttri.org.tw)</p>

<p>改質耐隆、改質耐隆纖維及其製備方法</p>		<p>利用含生質系(Bio-based)之低溫耐衝擊改質耐隆粒，配合芯鞘型(Sheath-core)紡絲調控加工技術(鞘:低溫高韌性改質耐隆；芯:常規耐隆)，以製備具低溫高韌性及耐磨耗之耐隆纖維，並應用於耐磨耗耐隆織物之開發，以增進織物之耐磨耗性。改質耐隆粒室溫耐衝擊性最佳可達 1080J/M，而低溫(-20℃)之最佳衝擊強度可達 342J/M。 (推廣聯絡人: 紡織所 陳偉銘，電話: 02-226703121 分機 2203， wmchen.1060@ttri.org.tw)</p>
<p>Modified Nylon, Modified Nylon Fibers and Preparation Thereo</p>		<p>This technology uses the bio-based modified Nylon pellets which have the characteristic of being resistant to the impact of low temperature and features the sheath-core spinning technology (sheath: modified nylon with high impact resistance to low temperature, core: general nylon) to develop the low-temperature toughness and abrasion resistant nylon fibers. Impact strength at room temperature of these modified Nylon pellets is up to 1080 J / M, and which of the pellets at low temperature (-20 °C) is up to 342 J / M. (Contact Person: TTRI Mr. Denny, Chen , Tel:+886-2-22670321 ext. 2203 , wmchen.1060@ttri.org.tw)</p>
<p>低壓損高容塵空氣濾材纖維膜技術</p>		<p>透過微奈米級纖維及濾材孔隙度控制，擴大至纖維表面接枝改質、帶電荷分佈控制及結構複合設計等，以應用於精密空氣吸附過濾材產品開發，奈米纖維型態維持且平均直徑≤ 200 nm，複合濾網通氣度(cc/cm²sec) ≥ 4.3，濾材壽命>12 個月(容塵量法)儲存安定性：於 80%相對溼度的環境下，存放 2 個星期後，濾效仍能維持 99%以上。 (推廣聯絡人: 紡織所 彭兆群，電話: 02-22670321 分機 3300， ccpeng.0875@ttri.org.tw)</p>
<p>Micro/Nano Fiber Composite HEPA Filter Technology</p>		<p>The precise air-absorbent filter has been successfully developed using micro/nano scale fiber and the control of filter porosity with surface graft modification of fiber characteristics, control of charge distribution, and composite structure design. The properties of nano-fiber are as follow: average diameter ≤ 200 nm, air permeability of the composite filter (cc/cm²sec) ≥ 4.3, lifetime of the filter >12 months (dust- holding capacity method). The filter remains efficient at more than 99% even stored two weeks at a 80% humidity rate. (Contact Person: TTRI Chao chun Peng , Tel:+886-2-22670321~3300 , ccpeng.0875@ttri.org.tw)</p>

<p>生理感測紡織品技術</p>		<p>1. 時尚智慧衣整合數位噴墨印花技術及彈性織物電極，採用彈性舒適的材質、修飾身型的設計線條，展現出運動時尚的外觀。</p> <p>2. 結合 Bluetooth Smart/ANT+心率傳輸模組，可與智慧型手環與手機連線，提供自主健康管理之最佳穿戴載體。</p> <p>(推廣聯絡人: 紡織綜合所 沈乾龍, 電話: 02-22670321 分機 3400, clshen.0865@ttri.org.tw)</p>
<p>Physiological Monitoring Textiles</p>		<p>1. The fashion smart cloth is made by integrating the digital textile printing technology and elastic textile electrodes. The cloth with elastic and comfortable property and slim design shows the sports fashion.</p> <p>2. Combining with the Bluetooth Smart/ANT and heart rate transmission module, the fashion smart cloth becomes the optimal wearable device to support the self-health management by connecting with cell phone and smart ring.</p> <p>(Contact Person: TTRI Mr. Chien-lung Shen , Tel:+886-2-22670321 ext.3400 clshen.0865@ttri.org.tw)</p>
<p>易塑材料技術運用與開發</p>		<p>讓不長耳朵的高分子材料乖乖聽話，進而正確地執行指令，形塑出每一個屬於自己的好創意。將特殊成分添加在塑膠裡，成為形狀記憶材料，看似普通卻能隨著外界溫度的變化，如擁有特異功能般地回應著。已針對不同物性強度或產品加工需求的開發一系列之形狀記憶材料，可廣泛運用於修補固定、舒適矯正、生活產品的塑膠黏土。</p> <p>(推廣聯絡人: 塑膠中心 蔡欣芳, 電話: 04-23595900 分機 238, sinfang1988@pidc.org.tw)</p> <p>(推廣聯絡人: 塑膠中心 張凱捷, 電話: 04-23595900 分機 507, Tony0711@pidc.org.tw)</p>

Application and development of Shape Memory Material Technology



The shape-memory technology is to make the plastic polymer material to form the shape that you want, for create your own idea. A special ingredient is added to the plastic, which makes the plastic shape-memorable. It looks simple but it can be different shape according to the temperature changes. PIDC has developed a series of shape-memory materials for plastic clay product, which can be easily used for DIY home repair.

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智慧化資源回收機



以 3R(Recycle-回收、Reduce-減量、Reuse-再利用)概念，整合與發展相關技術產出「資源回收設備」，架構並導入「Automatic Recycling Machine(ARM)」創新服務。已於高雄市建立示範性場域先行試營運，連結回收業者進行創新加值服務模式之服務驗證(POS，proof of service)，提供民眾便利性之回收設置點與獎勵回饋機制，改變與激勵人們的回收習性，減少容器被棄置之可能行為，達到資源循環、節約能源、環境綠化與低碳生活之目標。未來將擴散服務至其它示範性場域，例如：車站、捷運…等。

(推廣聯絡人: 精機中心 邱俊達，電話: 04-23595968 分機 621，e9638@mail.pmc.org.tw)


ARM (Automatic Recycling Machine)





For Taiwan government policy of carbon reduction and the trend of intelligent living, 3R (Recycle-Recycling, Reduce-Reduction, Reuse-reuse) cycle concept is used to construct 「Plastic Bottle & Metal Cans Recycle Bank」 through integration and its related technology in order to develop Taiwan domestic recycling equipment. The POS (Proof of Service) innovation and value-added service of Recycling industry is built to provide the public with the station of recycling convenience and reward mechanism. The main core values of this program are giving an incentive to people's recycling behavior and reducing improper disposal of any container.


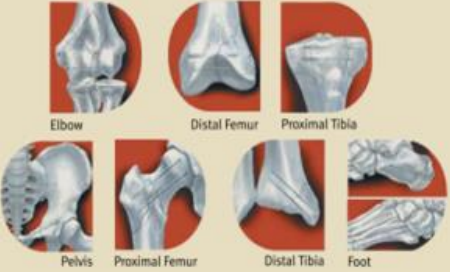

This innovative POS service program expects that Kaohsiung City is the first exemplary business running city toward a low-carbon, resource recycling, energy conservation, and environment protection life. In the future, the successful result of this program will be expanded to service field such as stations and MRT. Introducing this new service system creates a solution for the

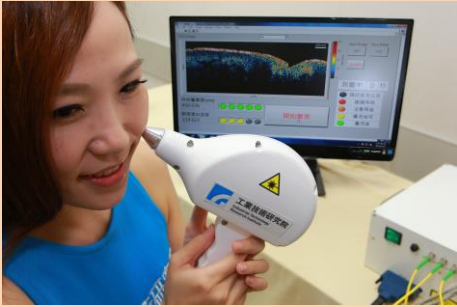
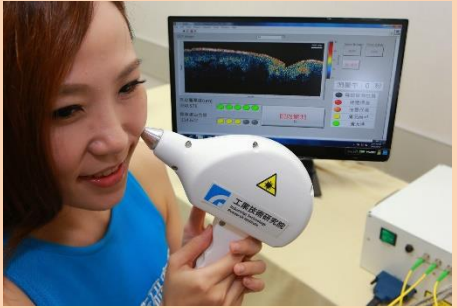
		<p>environment protection and to contribute global sustainable business. Automatic Recycling Machine(ARM) (Contact Person : PMC Chiou, Jiun-Da , Tel:+886-4-23595968 ext.621 , e9638@mail.pmc.org.tw)</p>
<p>輕量適足鞋墊</p>		<p>以國人足型資料與人因步態穩定需求為設計基礎，綜合輕量、成本、耐用性考量，開發可因應足弓曲面支撐穩定需求，並可即時進行充洩氣調整支撐性能之輕量適足鞋墊。 (推廣聯絡人: 鞋技中心 謝珮琪，電話 04-23590112 分機 302，0498@bestmotion.com)</p>
<p>Lightweight Adjustable Insole</p>		<p>Based on the domestic foot type information and human gait stability requirements, the FRT (Footwear & Recreation Technology Research Institute) has developed the Lightweight Adjustable Insole considering product weight, cost, durability, and foot arch support. The airbag structure of the insole enables air charging or discharging, resulting in changing of its thickness, thus it can adapt to different foot arch types promptly according to different foot arch supporting requirements. (Contact Person: FRT Peggy Hsieh , Tel:+886-4-23590112 #302 , 0498@bestmotion.com)</p>
<p>高輕量彈性體發泡材料開發技術</p>		<p>運用配方技術開發輕量化鞋材，應用此材料製作之紳士鞋底可能維持外觀質感，且與市售產品相較，重量降低 20%、濕式止滑提升 45%、乾式止滑提升 15%。 (推廣聯絡人: 鞋技中心 謝珮琪，電話 04-23590112 分機 302 , 0498@bestmotion.com)</p>

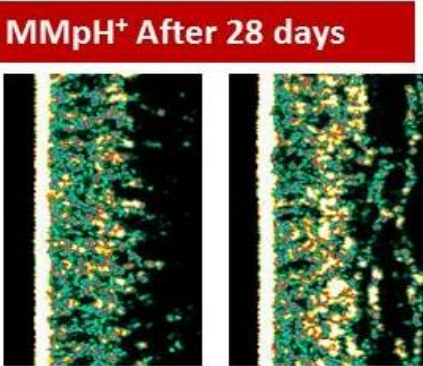
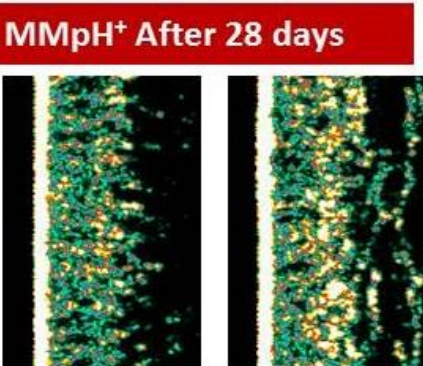
<p>Extra-lightweight Outsole</p>		<p>The FRT (Footwear & Recreation Technology Research Institute) has applied the unique formula, using elastomeric foaming material, to develop the extra-lightweight dress shoes outsole. The outsole is 20% lighter, 45% less slippery on wet ground, and 15% less slippery on dry ground while its exterior appearance remains good. (Contact Person: FRT Peggy Hsieh , Tel:+886-4-23590112 #302 , 0498@bestmotion.com)</p>
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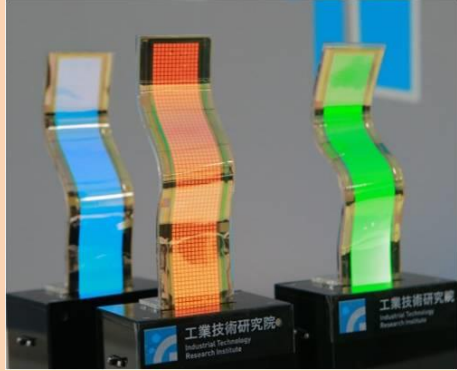

生物實驗室



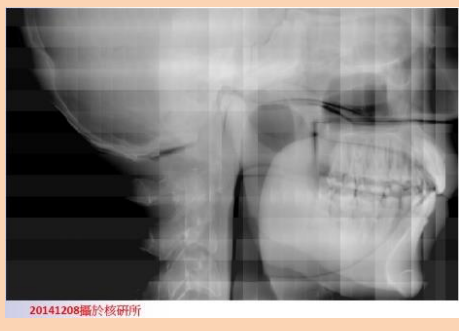
<p>高效增殖間質幹細胞 無血清培養技術</p>		<p>生技產品從研發、試量產、臨床測試到產品上市，培養基的使用約占總成本的 40%~60 %，但臺灣卻缺乏培養基研發能力與量產的經驗，為此，無血清培養基研發平台技術，開發出高效增殖人類間質幹細胞之無血清培養基以用於細胞治療領域，具有低細胞種植密度（0.5 - 1.0 x 10³/cm²）與高細胞增殖倍數的特性（例如脂肪來源之間質幹細胞，5 天約可增殖 80-120 倍），增殖倍數特優於含血清培養基，大幅降低培養使用成本並減少細胞繼代次數，維持幹細胞活性以提升細胞治療安全性與成功率。 (推廣聯絡人: 工研院生醫所 王英凱，電話: 03-5912815，ikwang@itri.org.tw)</p>
<p>High Potency MSC Serum Free Medium (SF1)</p>		<p>Biomedical products use a lot of culture medium during the manufacturing process. It is necessary from the early stage of RD to pilot production and clinical trials until final market release. Medium use makes about 40% to 60% of the total RD and incubation cost. As a matter of fact, bio industries in Taiwan have always been lacking behind internationally in the development and production of culture medium technology. In order to narrow the gap, ITRI developed the serum-free culture medium technology for high rate multiplication of human mesenchymal stem cells for cell therapy. The medium features low cell seeding density (0.5 - 1.0 x 10³/cm²) but high multiplication rate. For mesenchymal stem cells originating from fat, 80 to 120 times multiplication can be achieved within 5 days. It is a multiplication performance significantly better than serum-containing culture medium. High rate multiplication drastically reduces culturing costs, and more importantly it helps reducing the cell passage as well. This technology helps to better</p>

		<p>maintain stem cell stemness in order to enhance the safety and success rate of cell therapy. Future plans include working with local biomedicine industry and set up a GMP plant for pilot production of this culture medium. The aim is to build Taiwan's first R&D and production center for culture medium, so the domestic biotech pharmaceutical industry could establish its own value chain.</p> <p>(Contact Person: ITRI Ing-Kae Wang, Tel:+886-35912815, ikwang@itri.org.tw)</p>
<p>3D 列印中空骨釘</p>		<p>利用雷射積層製造技術設計並製作具三維相連通可控制多孔結構之骨釘，該產品可同時添加生醫陶瓷或骨誘導藥物，使骨細胞易於生長進入，加速骨整合。電腦模擬及力學測試結果皆證明藉由調控多孔結構可以調控產品機械強度，使其強度不遜於市售產品並可避免應力過大。因此相關產品可做為骨科、牙科與整型外科應用之新一代產品。</p> <p>(推廣聯絡人: 工研院生醫所 蔡佩宜, 電話: 03-5918799, peiyi@itri.org.tw)</p>
<p>3D Printing cannulated screws</p>		<p>This technology uses 3D printing (additive layer manufacturing) methods to design and manufacture the bio-active cannulated implants, such as bone screws and dental implants. The bio-active cannulated implants are high porosity and controllable components that can be combined with bioceramic or osteogenic materials to increase osteoinductive activity and osseointegration in bone regeneration. The properties of the bio-active implants were verified with the help of computer modeling and material testing system. The 3D printing-related products could lead to new applications in medical implants for orthopedic, dentistry, and plastic surgery.</p> <p>(Contact Person: ITRI Pei-Yi Tsai, Tel:+886-35918799, peiyi@itri.org.tw)</p>
<p>植入式全透明材料技術</p>		<p>當前生醫材料遠不能滿足各科之臨床的需要，尤其於眼科用於手術中之替代材料，如人工角膜材料，組織工程角膜重建支架材料等，仍是目前熱門的研發重點。植入式透明薄膜材料，俱高透明、高含水之生物可吸收材料，其特性相當適合做為敷傷材料之應用。材料本身以膠原蛋白基質為主，且為美國 FDA 許可適用於植入式之醫材，並通過細胞毒性測試俱優良生物相容性，又具備可縫之特性，因此應用於眼科及骨科之組織再生細胞生長所需的支架極具競爭力。</p> <p>(推廣聯絡人: 工研院生醫所 劉育秉, 電話: 03-5914945, YBLiou@itri.org.tw)</p>

<p>Implantable transparent biomaterials development</p>		<p>There is a great need for better biomaterial to satisfy diverse clinical requirements. The implantable transparent biomaterial, designed with high transparency and high degree of conformability to any surface, can benefit fields dealing with ocular surgery and bone tissue regeneration. The collagen-based material has gained FDA approval for transplants, and has shown to be biocompatible and suturable. Potential products include artificial cornea and tissue engineering scaffold. The wide variety of characteristics that this biomaterial possesses makes it a unique addition to the current product development pipeline.</p> <p>(Contact Person: ITRI Yu-Bing Liou , Tel:+ 886-3-5914945 , YBLiou@itri.org.tw)</p>
<p>手持式光學同調斷層掃描儀</p>		<p>光學同調斷層掃描(Optical Coherence Tomography; OCT)是一種非侵入式的光學診斷設備。利用寬頻光源，配合振鏡與消色差掃描鏡組，可以對樣品進行非破壞性的 3D 掃描，其解析度與光源波長、頻寬及光學系統有關，量測深度則與樣品對光源波長穿透率有關。傳統 OCT 都是桌上型系統，並且以眼科為主。受限於機體體積與重量，使用上較不方便，對行動不便或是臥床的病患乃至嬰幼兒都難以使用。手持式 OCT 整合微型振鏡與光學系統以縮小探頭體積，未來朝全域式(Full Field OCT)開發，可大幅降低系統體積與成本，臨床上使用更加方便，並在皮膚科及醫美領域的應用具有很高的市場價值。</p> <p>(推廣聯絡人: 工研院生醫所 鄭宗達，電話: 03-5918341 , ctcheng@itri.org.tw)</p>
<p>Handheld Optical Coherence Tomography</p>		<p>Optical Coherence Tomography (OCT) is a noninvasive optical diagnosis equipment. By using broadband light source, integrated with galvo scanner and achromatic lenses, the OCT can execute non-destructive 3D scan on the sample. The resolution of the OCT depends on the numerical aperture of objective lens, the central wavelength and bandwidth of the light source. The OCT scan depth depends on the transparency of the sample to the given light source. The conventional OCT is designed as a desktop system and is mostly used for ophthalmology. The bulky form prevents clinicians to use OCT as a diagnostic tool for patients who are disabled, confined to bed or infants. The newly designed handheld OCT addressed this challenge by utilizing micro-scanner and miniaturizing the probe size. Full field OCT is under development, and the reduced size and cost can potentially enable the dissemination of this technology to high market value fields such as dentistry and dermatology.</p> <p>(Contact Person: ITRI Chung-Ta Cheng , Tel:+886-359 18341 , CTcheng@itri.org.tw)</p>

<p>膠原蛋白再生照護活性成分技術</p>	 <p>MMpH+ After 28 days</p>	<p>MIT 活性物質(Active ingredient) 技術: 生質來源的改質小分子玻尿酸 (MMpH+) 配方以作為抗老活性成分, 抑制酵素活性, 作為膠原蛋白的守護者, 達到抗皺功效。體外及人體試驗均有優異效果, 增加膠原蛋白增生達 30%, 且具毛孔縮小及保濕效能。結合天然與科技元素, 為抗老化妝品產業帶來天然生質、降低肌齡的新商機。</p> <p>(推廣聯絡人: 工研院材化所 林慈郁, 電話: 03-5917528, yoko@itri.org.tw)</p>
<p>Hya-Heal+/MMpH+ Anti-Aging Active Ingredient</p>	 <p>MMpH+ After 28 days</p>	<p>People spend billions of money every year for anti-aging products to stay young. The key component is anti-aging active ingredients. It promises to diminish fine lines and wrinkles, abolish sun damage, and lift sagging part on the face. Hya-Heal+/MMpH+ can inhibit the activity of certain proteinase therefore reduce degradation of natural collagen.</p> <p>(Contact Person: ITRI Yuko Lin, Tel:+886-3-5917528, yoko@itri.org.tw)</p>
<p>3D 多測頭掃描機</p>		<p>採用工研院自行開發以虛擬相機為基礎的深度攝影技術, 藉由投射特定紅外線圖紋影像至被掃描物件, 即時計算紅外線相機取得的物件影像, 在移動掃描瞬間, 完成取像與即時疊合成單一筆的 3D 數據, 使被測物體經掃描後, 快速重建完整且細緻的 3D 資料, 搭配多組取像系統及資料疊合整合技術, 即時取得更廣、更完整之 3D 全彩模型。掃描速度可大於 10fps, 經過即時影像疊合處理後, 3D 精準度可達到 0.1mm。可廣泛應用在個人化 3D 模型製作與列印、個人化醫療、3D 影像檢測、文物保存、數位典藏。</p> <p>(推廣聯絡人: 工研院電光所 林均蔓, 電話: 03-5916705, jmlin@itri.org.tw)</p>

<p>High Precision Automated 3D Scanner</p>		<p>This multiple-head 3D scanner, a virtual camera based depth capturing device, projects predefined patterns of infrared onto target objects which are then picked up by a camera. The images are then matched and stitched together by volumetric registration method to obtain a complete and precise 3D color model of the object. The scanner's frame rate is greater than 10fps, and its accuracy can reach 0.1mm through real time image stitching process. Its applications include 3D modeling and printing for individuals, personalized healthcare, 3D image inspection, heritage preservation and digital archive.</p> <p>(Contact Person: ITRI Jenny Lin , Tel:+886-3-5916705 , jmlin@itri.org.tw)</p>
<p>可彎摺軟性 OLED 光源模組</p>		<p>工研院以自主開發的 FlexUPTM 軟性基板，結合既有成熟穩定，以玻璃為基板之 TFT 與 OLED 生產設備與製程技術，成功製作厚度小於 0.1mm 的超薄可彎摺軟性 OLED 光源。此軟性 OLED 光源具有輕、薄以及可撓曲之特性，未來可應用於腕戴行動裝置的資訊顯示、車用或航太指示顯示、新型室內照明樣態等。</p> <p>(推廣聯絡人：工研院顯示中心 吳仲文，電話: 03-5913714 , Emma_Wu@itri.org.tw)</p>
<p>Flexible OLED light source</p>		<p>Based on existing know-how and experience in the field of TFT and OLED manufacturing process, ITRI has successfully developed an ultrathin flexible OLED light source, with total thickness less than 0.1 mm, by integrating FlexUPTM flexible substrate. This kind of flexible OLED light source, very thin and flexible, can be applied to wearable devices, automobile or aviation dashboard display, novel indoor lighting and so on.</p> <p>(Contact Person: ITRI Emma Wu , Tel:+886-3-5913714 , Emma_Wu@itri.org.tw)</p>

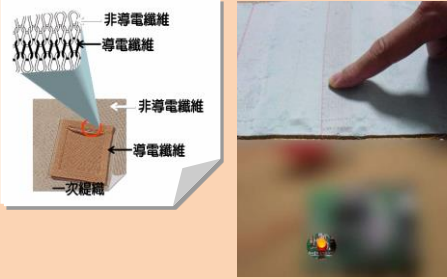



<p>光斑定位手指導覽系統</p>		<p>中科院開發雷射光斑絕對定位技術，利用雷射光束均勻照射物面，取得物面三維紋理之雷射光斑影像，此雷射光斑影像可以一對一對應於被照面之三維特徵面，由於三維物面紋理分佈都是唯一，因此每張光斑影像也都是唯一，可作為絕對識別標的。透過結合光斑手指導覽技術之互動式科技，突顯不同物體表面具備獨特的紋理特徵，這些獨特之特徵於光學繞射效應下，成像於感知系統，可作為導覽系統使用。 (推廣聯絡人: 中科院 陳信彰，電話: 03-4712201 分機 357074，hcchen0429@gmail.com)</p>
<p>speckle finger-guided system</p>		<p>The laser speckle absolute positioning technique developed by NCSIST is when laser beam is emitted uniformly on the surface of an object, it will provide a corresponding laser speckle. Since all the surface of any object is unique, the correlated laser speckle is also unique, which can act as an absolute positioning target. Via interactive technology of laser speckle finger-guided modules, any surface of an object can be clearly identified. To combine the modules with a sensor system, it can be used as a guiding system. (Contact Person: NCSIST Hsin-Chang Chen，Tel:+886-3-4712201 ext 357074 hcchen0429@gmail.com)</p>
<p>牙科數位 X 光感測模組</p>	 <p>20141208攝於核研所</p>	<p>針對國內 X 光電腦斷層掃描機系統業者之需求，開發目前仰賴國外之關鍵感測器，並聚焦於牙科 X 光電腦斷層掃描機(CT)系統之應用，開發(a)醫療 X 光影像材料製程(CsI)關鍵技術、(b)醫療 X 光影像感測陣列關鍵技術，協助國內醫療產業跨入牙科 X 光電腦斷層掃描醫療產業。 (推廣聯絡人: 中科院 陳宗麟，電話: 03-4712201 分機 357249，lukechen305@gmail.com)</p>


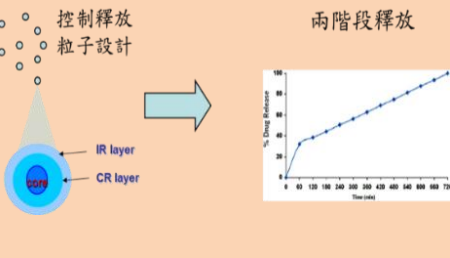
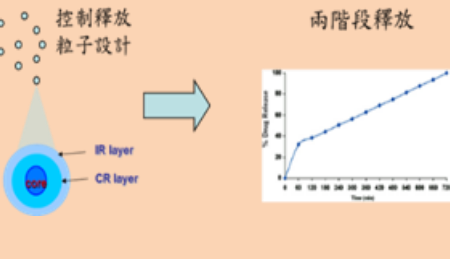
<p>Digital Dental X-ray System</p>		<p>Aiming at the demand of X-ray scanning machine system industry in Taiwan, this project is to develop the medical image apparatus and focus on the application of computed tomography (CT) system. Systematic applications plan to develop (a) CsI, which is the key material of scintillator for medical X-ray image technology, and (b) CMOS image sensor array the key technology of medical X-ray image. This project will assist our country's medical industry to stride into dentistry's X-ray industry.</p> <p>(Contact Person: NCSIST Tsung-Lin Chen , Tel:+886-3-4712201 ext 357249 , lukechen305@gmail.com)</p>
<p>抗第一型、第二型單純疱疹病毒治療性單株抗體開發</p>	 <p>電子顯微鏡下的 HSV-1 病毒顆粒</p>  <p>抗原(HSV-2 gD)與抗體(E317-Fab)的結合示意圖</p>	<p>感染性疾病是由外來病原體，包括細菌、病毒、真菌、原生動物和蠕蟲引起的疾病。感染方式具有寄主與病原菌的專一性，以炭疽桿菌為例，是利用孢子經呼吸及消化道傳播；其他，如人類免疫缺陷病毒，是藉由體液或組織交換而傳播。HSV-1 感染口腔和眼部上皮細胞；HSV-2 主要感染生殖道。然而，這兩種病毒已具有交叉感染能力。抗第一型、第二型單純疱疹病毒治療性單株抗體，具有結合病毒表面醣蛋白-gD，而達到抑制病毒感染的能力。目前市場上有 48 個抗體藥物，其中 14 個是人類抗體。且臨床試驗的案數在過去十年顯著增加，顯示人類抗體具有更好的藥理特性與低免疫原性。</p> <p>(推廣聯絡人: 生技中心 尤曉莉，電話: 02-2695-6933 分機 2441 , mito512@dcb.org.tw)</p>
<p>Therapeutic monoclonal antibody development for HSV-1/-2 infected diseases.</p>	 <p>A picture of the Herpes Simplex Virus-1 from a scanning electron microscope</p>  <p>Ribbon diagram of the HSV-2 gD - E317-Fab complex</p>	<p>Infectious diseases are disorders caused by foreign organisms, such as bacteria, viruses, fungi, protozoa, and helminths. The ways to cause infection mainly depends on the host and infectious agent. For example, anthrax, a disease caused by bacterial pathogen, can be transmitted by respiratory way and digestive tract. Others like human immunodeficiency virus (HIV) can be passed from person to person by exchange of body fluids or tissues: HSV-1 (Herpes simplex virus type 1) associated with oral and ocular disease, HSV-2 associated with genital disease. However, lesion location is not necessarily indicative of viral type. We have identified a therapeutic monoclonal antibody (mAb) which can recognize both HSV-1 and HSV-2 through interaction with the viral surface glycoprotein-gD and which has the ability to fight the infection. Currently, there are 48 mAb products in the market. Among them, 10 of them are human antibodies. The numbers of human mAb used in clinical experiments have increased significantly in the past decade and it</p>

		<p>indicates that human antibodies features better pharmacological properties and lower immunogenicity.</p> <p>(Contact Person: DCB Hsiao-Li Yu , Tel:+886-2-2695-6933 ext 2441/ 2447 , mito512@dcb.org.tw)</p>
<p>昭和草抗腫瘤植物新藥開發</p>	 <p>活性分離物在50及100 mpk 均有明顯抑制黑色素瘤的作用</p>	<p>昭和草抗腫瘤植物新藥之開發，為承接中研院研究成果，由生技中心進行後續製程改良及開發，現階段已完成昭和草原料藥材良好耕作系統(GAP)種植及原料藥材基原鑑定，商業化量產製程改良及活性萃取物初步動物實驗評估，其萃取物具有抑制腫瘤之明顯功效，目前已有美國及台灣專利。</p> <p>(推廣聯絡人: 生技中心 黃清瑋，電話: 02-26956933 分機 2333 , vivil@dcb.org.tw)</p>
<p>Botanical anticancer drug from Crassocephalum rabens extract</p>	 <p>活性分離物在50及100 mpk 均有明顯抑制黑色素瘤的作用</p>	<p>The development of the botanical drug from Crassocephalum extract originates from the research of Academia Sinica. Further improvement and development on the process of manufacturing, capability of good agriculture practice (GAP), identification of medicinal raw materials, batch production and assessment result of experiment on animal have been done recently. Extracts from Crassocephalum have the ability to inhibit tumor proliferation. This research result has applied and granted US and Taiwan patent.</p> <p>(Contact Person: DCB Tzung-Hsien Lai , Tel:+886-2-26956933 ext. 2427 , thlai@dcb.org.tw)</p>
<p>鎳鈦合金(記憶金屬)</p>		<p>有別於一般鋼鐵材料最大應變回復量通常不超過 1%，鎳鈦合金在特定溫度下擁有約 7~8%之形狀回復量。而鎳鈦合金除具有極佳之形狀回復特性外，亦具有超彈性特性，其彈性區間遠高於一般鋼鐵材料，已廣泛應用於齒科矯正線、骨科與心血管支架等醫療產品。</p> <p>(推廣聯絡人:金屬中心 吳旭富，電話: 07-3513121 分機 2576 , seafood@mail.mirdc.org.tw)</p>

<p>Nitinol (Shape memory alloy)</p>		<p>Nitinol was developed by William J. Buehler and Dr. Frederick E. Wang team in 1958 at United States Navy weapon laboratory. Unlike ordinary steel materials, with maximum strain recovery amount less than 1%, Nitinol's shape recovery amount is about 7 to 8% within a specific temperature. In addition to the excellent shape memory characteristics, Nitinol has a super-elastic property and its elastic range is much higher than the ordinary steel materials. Therefore it is widely used in orthodontic wire, nail orthopedics and cardiovascular stents medical products. (Contact Person: MIRDC seafood, TEL:+886-7-3513121 ext. 2576, seafood@mail.mirdc.org.tw)</p>
<p>藍光線雷射口掃系統</p>		<p>Triangulation Technique(三角測量技術)整合 Vector-Space Projection(向量空間投影)口內掃描建模技術，可依使用需求彈性擴大所需取像範圍；建構 405nm 藍光線雷射微投影式架構，短波長特性適合 CMOS 能量吸收並抑制口腔內唾液干擾造成的誤差；導入口內掃描暨數位牙體雲端作業系統進行數位牙體製作，可大幅減少生產成本與時間，由原先 2 星期療程簡化為 3~4 天。並可減少翻模造成的變形誤差與減少 50%以上過渡性耗材，是準確快速的綠色環保先進製程。 (推廣聯絡人:金屬中心 黃怡文，電話: 07-3513121, lisaiwh@mail.mirdc.org.tw)</p>
<p>blue laser line intraoral scanner</p>		<p>MIRDC introduces a high performance intra-oral scanner providing fast, precise, open solution for digital impression.</p> <ul style="list-style-type: none"> ● The wand is designed with a large image capturing area and is capable of acquiring 3-unit bridge at one time, ensuring high accuracy and efficiency of treatment. ● User-friendly software interface guides users to proceed the scanning process. ● Powder-free blue laser scanning technology enhances the visualization of details ● Large single view, high precision model realignment, ideal for single crown/inlay/onlay case, bridge treatment and orthodontic treatment tracking <p>Open system to output STL/PLY file for dental CAD/CAM software integration (Contact Person: MIRDC Solberg Hu, TEL:+886-7-3513121 ext. 3545, solberg@mail.mirdc.org.tw)</p>

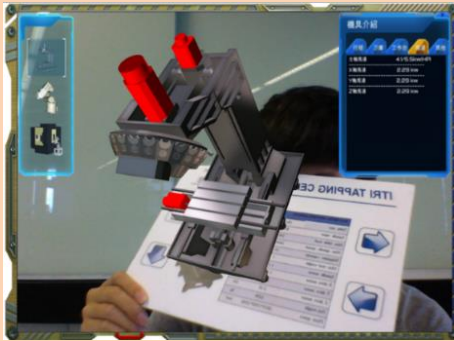
<p>微創植牙導引板</p>		<p>提供精準快速的植牙設計以達到減少植牙病患的醫療負擔。植牙手術通常造成缺牙患者很大的傷口及復原時間，增加治療風險。本技術可適用於不同缺牙類型的患者，利用植牙導引板緊密貼付於缺牙位置及電腦斷層手術規劃方案，可精準的定義植牙位置，並透過植牙導引孔洞引導牙醫師進行植牙手術，達到快速既安全手術目的。 (推廣聯絡人: 金屬中心 彭耀德，電話: 07-6955298 分機 256，lisaiwh@mail.mirdc.org.tw)</p>
<p>Minimally Invasive surgical guide</p>		<p>The minimally invasive dental implant technology guide plate provides fast and precise implant design to reduce patients' burden. Generally, implant surgery results in patients with wounds and long recovery time, and increase the risk of treatment. With the use of the implant guide plate bonded to the tooth-loss position, as well as computer tomography surgical planning, this technique can accurately define the position of the implant and guide the dentist through the implant guide hole to perform implant surgery, achieve rapid and safe surgical purposes, and could be applied to different types of edentulous patients. (Contact Person: MIRDC Yao-Te Peng，Tel:+886+7-6955298 ext. 256，yaute@mail.mirdc.org.tw)</p>
<p>織物開關</p>		<p>本技術係關於一種具開關功能的一次織造結構性織物，係以導電性/非導電性纖維以一次織造手段，可任意緹織各種軟性回路佈局。該紡織品具有特製導電纖維緹織區與非導電纖維緹織區，該導電纖維緹織區係利用一電連接手段與一外部的感測電路連接，當導電纖維緹織區為使用者接觸時將產生電位變化，而為連接的感測電路所檢知，並據以產生開啟/關閉動作;在前述設計中因採用織物作為開關裝置的主體，可充分運用其溫和柔軟的觸感及高撓/伸縮特性，提供一種空間型態截然不同的開關裝置，另由於係一次織造完成，故其變異因素低，開關特性穩定。 (推廣聯絡人: 紡織所 沈乾龍，電話: 02-22670321 分機 3413，clshen.0865@ttri.org.tw)</p>
<p>textile switch</p>		<p>The idea behind the technology is to develop a woven textile structure which features a switching function by weaving conductive fibers and non-conductive fibers alternatively. It then creates a variety of circuit patterns. The structure is divided into two areas, one is conductive and the other</p>

		<p>is not. When skin enters in contact with the conductive area, it will trigger the electrical phenomenon and activate the switch. It offers a distinct spatial patterns from the traditional switching device thanks to the flexible and highly stretchable characteristics. Moreover the textile switch can be woven in just one time, so that there is less chance of variability and higher stable switching characteristics.</p> <p>(Contact Person: TTRI Chien Lung Shen , TEL:+886-02-2267032 ext.3413 , clshen.0865@ttri.org.tw)</p>
<p>生質系綠聚酯之開發及應用</p>		<p>一種以植物油取代石油做為原料來源的生質聚酯材料，具有可快速重複塑形的特點，操作溫度為 60~70 °C，無皮膚刺激性與過敏性，是一種可應用於醫療輔具副木或特殊濾材的綠色安全材料。</p> <p>(推廣聯絡人:紡織所 陳威宏，電話: 02-22670321 分機 2706 , Whchen.1093@ttri.org.tw)</p>
<p>Bio-based thermal plastic polyester</p>		<p>This bio-based thermal plastic polyester is derived from plant oil. It features rapid reshaping, no skin allergy and irritation. The operating temperature is 60~70°C. This bio-based product could be applied on stable splint or special filter.</p> <p>(Contact Person: TTRI Wei Hung Chen , TEL:+886- 2-22670321 ext.2706 , Whchen.1093@ttri.org.tw)</p>
<p>定速控制釋放技術開發</p>		<p>定速控制釋放技術產品，可以穩定藥物在血中的濃度。利用間質造粒技術加上複合水性膜衣，可以達到藥物具有定速控制釋放的目的。</p> <p>(推廣聯絡人: 藥技中心 魏嘉伶，電話: 02-66251166 分機 5201 , wei@pitdc.org.tw)</p>

<p>Medical and Pharmaceutical Industry Technology and Development Center</p>		<p>The drug with a constant release rate can be applied in drug administration for a steady plasma concentration. In this technology, we combine matrix granulation and porous coating to modulate the release rate of drug from the tablets. (Contact Person: PITDC Jia-Ling Wei , TEL:+886-2-6625-1166 ext.5201 , wei@pitdc.org.tw)</p>
<p>兩階段藥物釋放技術</p>		<p>兩階段控制釋放之口服傳輸技術開發之劑型，乃指在產品中含有 2 個以上不同的控制釋放速率機制，治療慢性病時，需要保持血中藥物濃度的穩定，維持一段時間。現有產品以多重包覆圓粒或以 2 種以上之不同控制釋放粉體顆粒所組成，本技術以 1 種 2 層包覆之圓粒即可達到兩階段控制釋放之功能。 (推廣聯絡人: 藥技中心 魏嘉伶，電話: 02-66251166 分機 5201 , wei@pitdc.org.tw)</p>
<p>Medical and Pharmaceutical Industry Technology and Development Center</p>		<p>Biphasic oral controlled release technology is a drug product containing two different release rate mechanisms. In chronic disease therapy, to keep the drug concentration in plasma at steady state, the drug product must have immediate dose and enduring dose. Until now, two granules in one dosage form were applied in current products. Our technology combined the properties of drug and coating materials to achieve biphasic release. (Contact Person: PITDC Jia-Ling Wei , TEL:+886-2-6625-1166 ext.5201 , wei@pitdc.org.tw)</p>

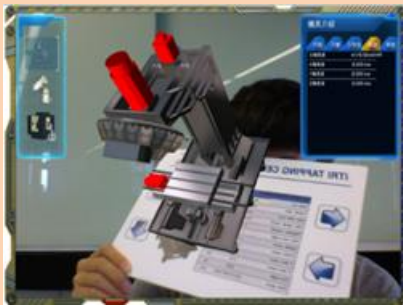
通訊實驗室

工具機 AR 虛擬實境
展示



本技術結合工具機與擴增實境技術，開發行動裝置工具機擴增實境展示系統(AR mobile device demonstration system for machinery)。使用者下載 APP 並印出追蹤標記，就可以操作虛擬工具機。全世界的客戶 24 小時均可實際操作與體會各工具機的特色與能力，工具機廠商的業務人員透過此方式可將工具機的所有特色與運作方式即時呈現給客戶，本系統將可提高台灣工具機產業的數位行銷實力。
(推廣聯絡人: 工研院工具機中心 廖建智，電話: 049-2345313，kenziliao@itri.org.tw)

Wearable device used
in intelligence factory
system


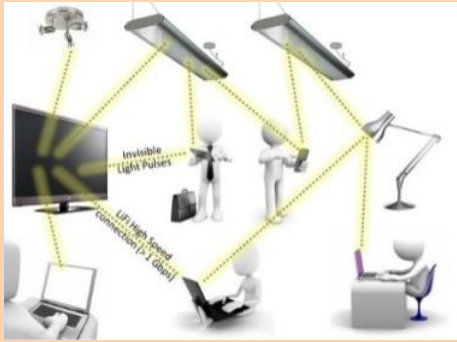
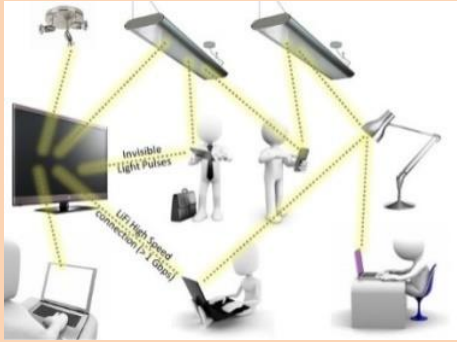


ITRI integrates the technologies of machine tools and augmented reality to develop the AR mobile device demonstration system for machinery (MAR system). Users simply download an app and print out tracking markers of MAR system. It will identify the marker on which virtual machine tools are displayed. Therefore, customers from all over the world can operate and experience the characteristics and capabilities of machine tools on line. Through this mode, salesmen of machine tools companies can instantly do a demonstration to their customers. It is expected that this system will improve Taiwan's machine tool industry's digital marketing strength.
(Contact Person: ITRI LIAO CHIEN CHIH, [TEL:+886-49-2345313](tel:+886-49-2345313), kenziliao@itri.org.tw)

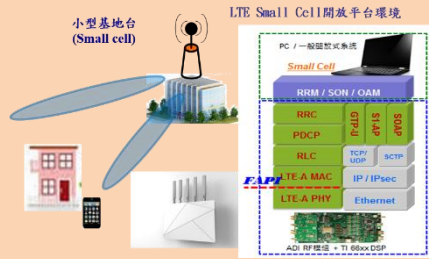
微機電技術



氣體感測元件的組成包含微型加熱板、嵌入式溫度感測器以及採用金屬氧化物作為氣體感測層材料。以電路操控毫秒等級快速壓控加熱器(Micro-hotplate)，高絕熱薄膜內建微型溫度計設計，配合薄膜感材達到微型超低功耗的氣體感測目標，晶片尺寸 0.9 mm x 0.9 mm x 0.4 mm。
(推廣聯絡人: 工研院微系統中心 黃豈苙，電話: 03-5914382，huang0606@itri.org.tw)

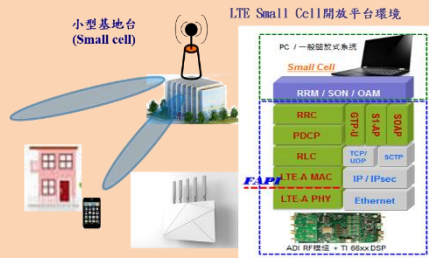
<p>MEMS technology</p>		<p>The gas sensor device consists of a micro-hotplate with an embedded temperature sensor and a metal-oxide semiconductor sensing material layer formed on the micro-hotplate. In order to achieve the target of ultra-low power micro gas sensing, the voltage control circuit of the device is designed to control the millisecond level rapid heater (Micro-hotplate), and also the high thermal isolated film is embedded a miniature thermometer. The gas sensor chip size has a size of 0.9mm x 0.9mm x 0.4mm.</p> <p>(Contact Person: ITRI Miss Kelly Huang , TEL:+886-3-5914382 , huang0606@itri.org.tw)</p>
<p>LED 可見光通訊</p>		<p>可見光通訊系統是一個新興無線通訊技術，主要操作在 380nm~700nm 可見光譜上，透過此頻譜傳輸資料訊息。可見光通訊具備以下特性：可見光譜對人體無害、不具電磁干擾、不需額外頻譜花費、資料具保密性、光源具指向特性。</p> <p>(推廣聯絡人: 工研院資通所 陳瑛芬，電話: 03-5917281 , almada@itri.org.tw)</p>
<p>Visible Light Communication</p>		<p>Visible light communication system is a new wireless communications technology. Data transmission is conducted via visible light in the wavelength range from 380nm to 700nm. Visible light communication has the following features: Health Safety, EMI Free, No Regulation, Security, and Light of sight .</p> <p>(Contact Person: ITRI Ying-Fen Chen , TEL:+886-3-5917281 , almada@itri.org.tw)</p>

LWA(LTE-A / Wi-Fi Aggregation)高階小型基地台技術



UDcell 符合 3GPP LTE eNodeB 規格，包含基頻、RF 電路及軟體 tasks。軟體部分包含實體層及 L2/L3 協定，已整合及與 Aeroflex TM500 UE emulator、市面上之 UE dongles、智慧型手機達成完整測試。
(推廣聯絡人: 工研院資通所 陳俊吉，電話: 03-5914465，sidchen@itri.org.tw)

LWA(LTE-A / Wi-Fi Aggregation)Advanced Small Cell System and IC Technique



ITRI-ICL UDcell provides a 3GPP compliant LTE eNodeB solution with following key functions: baseband, RF hardware platform and software tasks. The software includes PHY and L2/L3 protocol tasks, and has been fully integrated and end-to-end tested with Aeroflex TM500 UE emulator, commercial UE dongles and smart phones.
(Contact Person: ITRI Jiun-Jyi Chen，TEL:+886-3-5914465，sidchen@itri.org.tw)

D2D 近端卸載技術






利用 Device-to-Device 中繼技術開發創新的 D2D Relay Gateway 技術，在大賣場、演唱會或運動場館…等手機使用者密度場域，免佈網路線、快速且彈性地架設無線區域網路。結合已開發 Smart iShopping App，透過手持裝置展示互動式 Digital Signage、Push eCoupon service，以及 remote manager、content management、Network Assisted D2D offload 及 cellular call offloads VOIP call 等各項 D2D 應用與管理系統的展示，提供免費室內上網服務、網內電話互打、尋人，及成為廣告訊息的推播工具，消費者接近店面約 5 公尺範圍內，手機 App 自動顯示特價與廣告訊息，並在互動式電子看板上播放其喜好的產品介紹。
(推廣聯絡人: 工研院資通所 陳明慧，電話: 03-5913316，MeganMHChen@itri.org.tw)

Proximity-based (D2D) Communication Service Platform Technology






The advanced D2D Relay Gateway technology is developed based on the Device-to-Device technology. It can be applied in the areas with high population density of mobile users such as megastores, concerts, stadiums, and etc. With our Smart iShopping App on the smart device, we demonstrate various D2D-related applications and management systems, such as interactive Digital Signage, Push eCoupon service, remote manager, content management, Network Assisted D2D offload and cellular call offloads VoIP call. These D2D-based applications provides users free indoor Internet access, intranet mutual calls, paging service and commercial advertisement.

		<p>For the commercial advertisement, consumers will automatically receive the discount eCoupon on their mobile devices as they are within 5 meters around the stores. The interactive Digital Signage will also show the products that they might be interested in.</p> <p>(Contact Person: ITRI Ming-Hui Chen , TEL:+886-3-5913316 , MeganMHChen@itri.org.tw)</p>
<p>集視影音服務驗證平台</p>		<p>集視 G' s VIEW 為網路影音服務平台，連結影音內容服務供應鏈，建構數位影音產業共通開放平台，以全方位功能打造跨平台影音相關技術環境，高規格串流媒體技術，直播服務整合線上互動和串連社群網絡功能，也提供膾炙人口的影音內容、獨具風格的客製化專屬頻道、零距離的 Live 直播模式等服務功能，都可以跨平台觀看，並且同時支援 Android 與 iOS。</p> <p>(推廣聯絡人: 工研院資通所 林媛媛，電話: 03-591-5606 , gyuan@itri.org.tw)</p>
<p>G' s VIEW video streaming services</p>		<p>To facilitate the overall development of smart city, the Department of Industrial Technology(DoIT), Ministry of Economy Affairs(MOEA) collaborates with Industrial Technology Research Institute (ITRI) constructively to develop total solutions of innovative application services can be used in our daily lives, and constructs video streaming services (named as G' s VIEW). “G' s VIEW” not only provides exclusively customized channel, multimedia contents, live services on hot scenic spots and events, but integrates multimedia social networking services, and supports synchronized cross-media, cross-screen, cross-platform network viewing.</p> <p>(Contact Person: ITRI Yuanyuan Lin , TEL:+886-3-591-5606 , gyuan@itri.org.tw)</p>
<p>360 度虛擬實境直播系統</p>		<p>360 度虛擬實境直播系統是運用多台高畫質攝影機陣列同時攝影，取得整個空間的影像，並即時將各個攝影機取得畫面縫合成 360 度全景影片，經由導播機壓縮以 RTMP 協定透過雲端 CDN 把串流影音傳至遠端播放軟體解碼還原成 360 度全景影片，達成 360 度虛擬實境直播功能。</p> <p>(推廣聯絡人: 跨視代科技 鄭政欣，電話: 03-5820009 , jason@hyperimmersion.com)</p>

<p>VR360 Live Streaming System</p>		<p>This system uses multi-camera array to capture surrounding images and stitch them into 360 degree videos in real time. The 360° video will be compressed by a directed machine, which uses an RTMP protocol to connect a CDN server. The CDN server then stream the 360° video to various gadgets with the requested software, which decompresses the video for watching.</p> <p>(Contact Person: HIT Jason Cheng , TEL:+886- 3-5820009 , jason@hyperimmersion.com)</p>
<p>視覺型火災偵測技術</p>		<p>視覺型火災偵測系統(VFDS)可由 CCTV 攝影機或其他相容視訊裝置擷取影像，利用創新的演算流程與統計方法分析即時視訊影像，可同時偵測影像中是否有火焰或是煙霧的存在，並發出警報給相關人員。</p> <p>(推廣聯絡人: 工研院綠能所 趙浩廷，電話: 03-5918564 , HTZhao@itri.org.tw)</p>
<p>Video Fire Detection System</p>		<p>With images taken from CCTV cameras or other compatible video capturing devices, video fire detection system (VFDS) recognizes the existence of smoke or fire by using advanced image-processing and statistical analysis methods and alerts relevant personnel.</p> <p>(Contact Person: ITRI CHAO, HAO-TING , TEL:+886- 3-5918564 , HTZhao@itri.org.tw)</p>

<p>自行車保全警示系統</p>		<p>整合智慧行動與感測裝置，當自行車因外力而震動或移動時，自行車上感測裝置將將即時通報提醒車主，以簡訊通知或響鈴警示，提醒告知使用者注意與保全，並可進一步整合網路通訊與 GPS，進行遠距離監控與追蹤。 (推廣聯絡人: 自行車中心 蔡宜珊，電話: 04-2350-1100 分機 811，sandy@tbnet.org.tw)</p>
<p>BIKE security System</p>		<p>Combination of the Intelligence mobilization and sensors, Bike will immediately remind the biker by these sensors while facing the vibration and motion caused by external force. Through the notification of messages or the alarm, it may notice biker for their safety; further, the device can integrate the Internet and GPS to tracking and remote monitoring. Contact person: Cycling & Health Tech. Industry R&D Center (CHC) (Contact Person: CHC Sandy Tasi，TEL:+886- 4-2350-1100 ext. 811，sandy@tbnet.org.tw)</p>
<p>電動式手搖自行車技術</p>		<p>本計畫所開發之手搖自行車，是專屬於下肢障礙者使用之自行車，經由人因工程與生物力學模擬分析的輔助，產品設計符合身障者騎姿之人因尺寸與車架結構，並藉由電腦模擬進行人體運動與生物力學的分析，提高產品地形環境之適用範圍，提高身障車友騎乘時的舒適性與安全性。 (推廣聯絡人: 自行車中心 朱順源 電話: 04-2350-1100 分機 317，pig@tbnet.org.tw)</p>
<p>Electrical Hand-Bike technology</p>		<p>The design & development process of hand-bikes must integrate biomedical engineering, human factors Engineering, electronic and industry technological design. In the beginning, the VOC is the most important. We need to know users' needs and then transfer them to be engineering specifications (spec.) Human factors Engineering > Innovational design > Engineering analysis such as concurrent engineering, CAD (Computer Aided Design) and CAE(Computer Aided Engineering) > Prototype making > Standard testing and finally road testing. (Contact Person: CHC Alfred Huang，TEL:+886- 4-2350-1100 ext.311，pig@tbnet.org.tw)</p>

<p>倒車防撞系統</p>		<p>加值車輛中心開發之整合式電子駐煞車系統 (iEPB)，本系統結合超音波雷達與影像感知融合技術，分析出車輛後方物體可能發生的碰撞危險，當駕駛疏忽時，iEPB 主動介入將車輛煞停，避免意外的發生。</p> <p>超音波雷達提供後方障礙物之近距離精準偵測，廣角影像辨識模組提供較遠距離的動態物體偵測，透過兩種感知器融合技術，辨識後方較廣域且多類型目標物。</p> <p>(推廣聯絡人: 車輛中心曾柏凱，電話: 04-781-1222 分機 2303，adrian@artc.org)</p>
<p>Vehicle Parking Collision Avoidance System</p>		<p>This system combines ultrasonic and image sensing fusion technology with iEPB system (Integrated Electronic Parking Brake) to execute the brake assist for preventing collision when the driver is parking. The function of ultrasonic sensors notifies you as you get closer to an obstacle and the wide-side camera module detects moving objects from long range. With the ultrasonic and image sensing fusion technology, this system will be able to recognize multiple objects at a wide range in the rear view.</p> <p>(Contact Person: ARTC Tseng, Po-Kai，TEL:+886-4-7811222 ext.2303，pktseng@artc.org.tw)</p>
<p>前方安全警示晶片</p>		<p>本產品利用裝設於車輛上之攝影機及自行開發之車用影像處理晶片進行影像辨識，偵測前方道路標線與車輛，在駕駛可能遇到危險時，本產品會立即警示，以達到前方車道偏移警示(LDW)、前方車輛碰撞警示(FCW)之功能。</p> <p>(推廣聯絡人: 車輛中心 張哲豪，電話: 04-781-1222 分機 2353，adrian@artc.org)</p>
<p>Forward Safety Warning System on Chip</p>		<p>The chip combines both lane departure and forward collision warning functions, which can detect the lane markers and vehicles ahead. Meanwhile, it also displays early warnings in case for example of unintentional departure or possible rear-end collision with the front cars by using a CCD/CMOS camera mounted on the vehicle. Compared with the general products on the market, the chip is a low-cost and high-reliability solution.</p> <p>(Contact Person: ARTC Chang, Kuo-Ching，TEL:+886-4-7811222 ext.2323，kcchang@artc.org.tw)</p>

<p>238 呎鋁合金超級遊艇設計開發</p>		<p>為因應國內金屬殼豪華超級遊艇發展，本設計開發最大航速約 17.5 節，全長 70 公尺級以上全鋁合金豪華超級遊艇，增進我國在金屬殼超級遊艇發展之競爭優勢。在船型設計方面，應用流體動力學來進行線型擇優；經船模阻力試驗結果，可滿足船速 17.5 節的要求。在結構設計方面，為達輕量化及降低遊艇變形量，船殼與結構均採用鋁合金材質，結構寸法符合船級協會遊艇相關法規。在佈置規劃原則上，以安全法規為前提，有效規劃遊艇艙間配置與精緻內裝設計，運用功能集中及使用分開概念提昇整體空間效率。</p> <p>(推廣聯絡人: 船舶中心 劉建宏，電話: 02-28085899 分機 952，james@mail.soic.org.tw)</p>
<p>Super Yacht 238'</p>		<p>To adapt to the development of domestic super yacht trend, SOIC design a 17.5 knots, 70 meters all aluminum super yacht. the detailed functions:</p> <ol style="list-style-type: none"> 1. Shallow draft only 3.10 meters compared to steel hull 4.10 meters 2. Bow thruster and stabilizers with superior maneuverability and sea-keeping 3. Low-resistance bulbous bow and hull form by state-of-the-art CFD technique 4. Helicopter pad and facility for personnel transportation 5. Compliance with MCA intact and damaged stability 6. Robust hull as per DNV structural scantlings requirement <p>(Contact Person: SOIC James Liu，TEL:+886-2-28085899 ext.952，james@mail.soic.org.tw)</p>
<p>水下環境監控系統</p>		<p>採用水下連接器裝置，整合 ADCP、CTD 與噪音計等水下量測儀器，進行水下噪音、波浪、海流、海水溫鹽密度等量測，並使用水下鎧裝光纖複合電纜，將數據傳送至海氣象觀測塔，可提供安全、穩定、高效、長期的離岸風場之水下環境監控，並且符合「風力發電離岸系統示範獎勵辦法」海氣象觀測塔之水下測量規格要求。</p> <p>(推廣聯絡人: 船舶中心 劉建宏，電話: 02-28085899 分機 952，james@mail.soic.org.tw)</p>

<p>Underwater Environmental Monitoring System</p>		<p>The measurement instrument such as ADCP, CTD and sound meter are integrated with a connecting device for collecting underwater noise, wave, ocean current, temperature, and salinity density. The aforementioned digital signals are transmitted to the weather observation tower by an armored optical fiber composite power cable. Therefore a safe, stable, efficient and long term underwater environmental monitoring can be attained. This technology should help meeting the requirement of underwater measurement of sea weather observation tower which is requested by 「Offshore wind power generation system demonstration incentives」.</p> <p>(Contact Person: SOIC James Liu , TEL:+886-2-28085899 ext.952 , james@mail.soic.org.tw)</p>
<p>異質聯網閘道器技術</p>		<p>異質聯網閘道器技術可快速整合各種感測器，可應用到工業、農業、環境監測、能源管理、智慧城市等等應用，並提供開放與統一的資料存取介面，幫助連結感測器、感測資料、應用和服務。IoT Gateway 同時支援 Alljoyn 開放式物聯網平台，提供簡便的方式連結 Alljoyn 裝置與應用程式。</p> <p>(推廣聯絡人：資策會 陳彥廷，電話: 02-66073665 , yan@iii.org.tw)</p>
<p>Heterogeneous IoT Gateway</p>		<p>Heterogeneous IoT Gateway integrates all kinds of IoT sensors which could be applied to industry, agriculture, environment monitoring, energy management, smart city, and so on. This system provides an open and unified interface to connect to sensors, data, applications and services. IoT Gateway supports Alljoyn open source framework which offers an easy way to connect to and manage Alljoyn-enabled devices and applications.</p> <p>(Contact Person : III Chen Yan Ting , TEL:+886-2-66073665 , yan@iii.org.tw)</p>

CheckMe 導客入店及 Beacon 管理維運與資訊推播平台



Beacon 電量監控暨廣告推播管理平台：Beacon 電量監控與廣告推播，支援各類異質的 Beacon 硬體，場域業者可依不同專案需求及預算客製化達到最佳控管。此外，結合 Google Map 與 Indoor Map 部署硬體裝置，可提供即時監控電力狀態與警示提醒，使場域業者更簡便有效管理平台。也支援編輯推播訊息內容、選擇版型、指派訊息等統一資訊管理。

CheckMe 導客入店：台灣首款以 iBeacon 藍芽定位裝置為核心運用，搭配門市實境行銷的 APP。在合作通路中有 72%藍芽開啟率，結合紅利點數與零售通路合作，按導客需求給予客製化設計，提倡消費者走入店面開啟藍芽體驗，創造實質效益的門市宣傳及商品引導，進而重點式採購完成消費行為目的。

(推廣聯絡人: 資策會 張為詩，電話: 02-66072645，amandachang@iii.org.tw)

The Beacon Deployment & Management / CheckMe APP



The Beacon Deployment & Management is an easy-deployed and multi-system managing platform which allows user to control and monitor operating status of beacon any time, including distribution condition, deploying amounts, power signal and abnormal percentage. Additionally, 80% beacon devices from different brands on the market have already been integrated into the platform. Therefore, it is possible to purchase beacons from different vendors in consider of the budgets and specific requirements.

“CheckMe” is the first marketing APP in Taiwan using iBeacon indoor Bluetooth positioning technology in cooperation with physical retailers for customized marketing campaign. People are encouraged to visit stores and search for promoted products to collect bonus points for rewards. Moreover, CheckMe collects and analyzes purchasing behaviors of consumers which help sellers to optimize their services.

(Contact Person : III Joe Chiu , TEL:+886-2-6607-2514 , joe@iii.org.tw)

實驗室過道 / 製造實驗室

軟性壓力感測器技術



此技術乃 Uneo 利永環球科技股份有限公司技術轉移自工研院電光所執行經濟部科技專案之成果，已成功進入商品化階段，並榮獲美國華爾街日報 2010 全球科技創新獎、2015 Edison Award 金牌獎及 2015 R&D100 獎。

感測元件更擁有環保、高線性力量感測、和超薄的實體厚度等優勢。目前已量產全球領先之產品應用，如：平板電腦用超薄型靈敏度可調式鍵盤、主動式壓力筆元件、穿戴式醫療級壓力感測零組件，以破壞性的創新手法將生活帶入新領域。

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Thin film pressure sensor



Uneo™ sensor, or Micro-Deformable Piezoresistive Sensor, is a technology developed for force sensing applications requiring a slim and light form factor.

Incorporating various patented microstructure and surface engineering innovations, the device is more environment-friendly and achieves unprecedented versatility and reliability to satisfy customer expectations in performance and cost.

Originally developed at ITRI, the IP and development team were acquired by UCCTW and eventually a subsidiary Uneo Inc was established to commercialize the technology. Uneo's technology has received several international awards including 2010 Wall Street Journal Innovation Award, 2015 Edison Award Gold Medal, and 2015 R&D 100 Award. Through disruptive innovation, Uneo has worked with major players in various fields to bring unprecedented features to consumers.

(Contact Person: Uneo Eric Huang，[TEL:+886- 2-2225-2018](tel:+886-2-2225-2018)，uneo@uneotech.com)

無甲醛黏著劑



解決現今木材黏著劑釋放甲醛危害人體健康問題。無甲醛合板膠採纖維素衍生物生質原物料及硬化劑製作高強度木材黏著劑，無甲醛釋放問題，具黏著力佳及耐水力佳等特性，應用於合板或木心板之接著劑，適用於地板及室內裝潢等。
(推廣聯絡人: 工研院材化所 陳曼玲, 電話: 03-5913161, man_lin@itri.org.tw)

Formaldehyde-free
Wood Adhesive



Formaldehyde-free Wood Adhesive uses cellulose derivatives as raw materials, which presents better characteristics on adhesion and water resistance. It is capable of resolving the problems of formaldehyde emission and environmental pollution. Formaldehyde-free Wood Adhesive can be used for products such as plywood and lumber core plywood. The potential applications include flooring, cabinetry, and interior renovation among others.
(Contact Person: ITRI Man-Lin Chen, Tel:+886-3-5913161, man_lin@itri.org.tw)

粉末式 3D 列印彩色
提升技術



以 3D 列印技術為基礎，整合取像處理、色彩分析與再製、色彩資料庫、輸出製程與表面效果評價等技術領域之多元能量，針對"多色立體印刷"技術領域進行深入研究，進行色彩與製程技術的精進，創造具有金屬色澤表現之立體列印效果，並建立完整的立體印刷技術。
(推廣聯絡人: 印研中心 陳盈儒, 電話: 02-2999-0016 分機 209, kinny@ptri.org.tw)

The Technology of
Improving Color
Performance for
Powder 3D Printing



This technology, based on 3D printing technology, integrates various special features including image capturing process, color analysis and its reproduction as well as color database, output process and the evaluation of surface effect to engage advanced research of multi-color 3D printing. The goal is to improve the technologies of color and 3D printing manufacturing processes. The technology creates the metallic gloss effect of 3D products and makes 3D printing technology even better.

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kinny@ptri.org.tw)

科技美學

展品名稱 Exhibit name	技術名稱 Technical name	照片 photo	簡介 Brief Introduction
可撓式螢幕 AMOLED	可撓式螢幕 AMOLED		<p>隨著近幾年智慧手持裝置蓬勃發展，相關應用產品也朝輕、薄、耐衝擊、可摺疊方向發展，工研院所開發的軟性 AMOLED 面板製程技術，正符合這些創新應用趨勢的關鍵。Dechnology 協助 AMOLED 開發團隊設計硬體機構，更順暢的展現輕、薄、可摺疊的技術特性。</p> <p>(展品聯絡人:工研院產服中心 陳培琳 03-5914970， mia-chen@itri.org.tw)</p>
The Flexible Screen AMOLED	The Flexible Screen AMOLED		<p>Given that smart handheld device industry flourished in the recent years, related products are also being developed to achieve lighter, thinner, more resistant and more flexible properties. The flexible Touch AMOLED panel technology developed by ITRI is in line with these innovative trends. For this technology, Dechnology assisted the Flexible Touch AMOLED development team in designing the hardware mechanism in order for the product to feature better technical characteristics such as being lighter, thinner and easily foldable.</p> <p>(Contact Person : ITRI Pei-Lin Chen , Tel:+886-3-5914970 , mia-chen@itri.org.tw)</p>
救災型氣體偵測器	氣態紅外光譜自動定性定量技術		<p>有別於傳統藉由人力判讀耗時費力，本產品的自動定性定量技術能在 3 秒內判斷即時偵測到的氣體種類及濃度。當緊急災難發生時可以快速準確的得知有害氣體種類及濃度,現場指揮官可以正確的判斷處置方式,避免災害擴大。</p> <p>(展品聯絡人:工研院產服中心 張淑芬 03-5918476 , stella@itri.org.tw)</p>


<p>Emergency Response Infrared Multi-Gases analyzer</p>	<p>Gas infrared spectrum automatic qualitative and quantitative techniques</p>		<p>Unlike traditional human assessment which can take a long time, the automatic qualitative and quantitative assessment properties present in this product can detect the composition of a gas sample as well as the concentration of all detected gases within 3 seconds. When a chemical emergency or accident occurs, this device has the ability to quickly and accurately detect the composition and the concentration of the harmful gases. The engineers on site can use this information to act accordingly, thus immediately deal with the emergency and avoid possible further damage caused by the chemical spreading or even explosion. (Contact Person : ITRI Stella Chang , Tel:+886-3-5918476 , stella@itri.org.tw)</p>
<p>螢鳥智慧衣</p>	<p>織物電容技術</p>		<p>一種光動能之紡織產品，藉由光動能電池及模組作為發電系統，並結合軟性儲能系統(包含軟性鋰電池與可撓式超級電容)，光電紡織產品具光動能主動警示及機能性(具有吸濕、快乾與涼感)運動休閒外套，可應用於昏暗、視線不明或天候不佳的區域之人員活動的安全，亦可推廣到戶外休閒活動(慢跑及自行車運動)、登山野營及急難救助等之主動式警示、具穿著舒適及娛樂性等用途。 (展品聯絡人:紡織所 李仁雄 02-22670321 轉 3019 , jhLee.0545@ttri.org.tw)</p>

Ying-Niao Smart Clothes	Fabric capacitor Technology		<p>This is a textile product with light kinetic energy. The product runs two systems. The power generation system is constructed by the light kinetic energy battery module. The flexible energy storage system includes flexible lithium battery and flexible supercapacitor.</p> <p>Sports jackets with photoelectric textile have moisture absorption, quick-drying and cool sensation advantages and also have the active warming function. Therefore, it can be used in dark, dim, as well as bad weather areas. Clothes with photoelectric textile could also be extend its use to the outdoor recreational activities, such as jogging, cycling, mountain-climbing and camping because of its special characteristics.</p> <p>(Contact Person : TTRI Jen-Hsiung Lee , Tel:+886-2-22670321 ext.3019 , jhLee.0545@ttri.org.tw)</p>
拖鞋救難艇	快速擴充穩度提升技術		<p>本技術可快速增加水上摩托艇之穩度與救護性能，由於安裝方式係由工作人員將套件推入水中，再由水上摩托艇快速套入，如同穿拖鞋一般簡便，故稱之為拖鞋救難艇。</p> <p>(展品聯絡人:船舶中心 江載敏 02-28085899#310 , george@mail.soic.org.tw)</p>
Slippers Rescue Boat	Rapid Expansion and Enhanced Stability Technology		<p>This technology can increase the stability and the rescue capability of jet ski in a very short amount of time. The installation is done by placing the kits in the water and quickly mount the stern of the kits onto the jet ski. The installation process is as simple as wearing slippers, it is also known as slippers rescue boat.</p> <p>(Contact Person : SOIC George Chiang , Tel:+886-2-28085899 ext.310 , george@mail.soic.org.tw)</p>

超油器(超有趣)	超音波油脂萃取技術		<p>結合超音波萃取技術，以食用或保健油品為萃取介質所設計的小型家用器具，具備簡潔外觀，操作便利特性，消費者可依自己需求及喜好，自行親手做出健康(或保養)油品。 (展品聯絡人:食品所 賴進此 03-5223191ext517，jtl@firdi.org.tw) (展品聯絡人:食品所 邱紹盟 03-5223191ext267 smc@firdi.org.tw)</p>
Ultrasonic Oil Extractor	Technology of Ultrasonic Oil Extraction		<p>Combined with the technology of ultrasound extraction, this portable appliance is designed for the household use, particularly in the preparation of food oil or health oil products. This device can be handled easily by the consumers themselves for making healthy (or care) oil products. (Contact Person : FIRDI Jinn-Tsyy Lai , Tel:+886-3-5223191ext517 , jtl@firdi.org.tw)</p>
MEER Thermo Bottle 鈦金屬保溫瓶	液壓成形技術		<p>"MEER Thermo Bottle" 響應一次性產品減量使用，特別採用鈦金屬。重量輕，強度高，抗腐蝕的特殊性，不易溶出有害物質。利用液壓成形突破傳統造型限制，並透過容積最大化、海洋文化意象加值，打造出兼具生活美學與優異性能的創新設計產品。 (展品聯絡人:金屬中心 黃偉咸 07-3513121#2365，vincent@mail.mirdc.org.tw)</p>
MEER Thermo Bottle Titanium Thermo Bottle	Hydroforming Technology		<p>"MEER Thermo Bottle" Response to reducing use of disposable products, titanium is adopted with its merit of light weight, high strength, corrosion resistance, and not leaching toxic substances. The hydroforming technology is used to break the mold of traditional design, and create innovated products with aesthetics and outstanding performance through capacity maximization and value-added image of oceanic culture. (Contact Person : MIRDC Vincent Huang , Tel:+886-7-3513121 ext.2365 , vincent@mail.mirdc.org.tw)</p>

<p>Water 911 橡皮艇套件</p>	<p>隱藏式緊急救護氣囊技術</p>		<p>本技術將氣囊系統安裝於水上摩托艇兩側，輕量化技術影響艇身性能極微，使水上摩托艇依然足以快速到達水域意外現場，隨後觸發氣囊，增加艇身穩度，從而提高救護人員與落水者的安全性，氣囊充氣後可讓待救者口鼻離開水面，救護員進行必要急救措施可提高落水意外的獲救率，確保人民的生命安全。 (展品聯絡人:船舶中心 江載敏 02-28085899#310， george@mail.soic.org.tw)</p>
<p>Water 911 Personal Water Craft (PWC) emergency rescue appendages</p>	<p>Hidden Emergency Rescue Airbag Technology</p>		<p>The idea behind this technology is to install an airbag system on both sides of a jet ski. This lightweight technology has a very small influence on the mobility performance of the jet ski so it will not impair the high-speed rescue ability of the vehicle. The rescue crew can activate the inflate valve to quickly pump the air bags and stabilize the jet ski, thus enhancing the safety conditions when saving the drowning victim. These air bags also keep the victim's mouth and nose away from the water surface and allow the rescue crew to perform first-aid rescue techniques directly. (Contact Person : SOIC George Chiang , Tel:+886-2-28085899 ext.310 , george@mail.soic.org.tw)</p>
<p>LED 電光服飾</p>	<p>LED 紗線技術/動態織物感測技術</p>		<p>本智慧服飾系統是以智慧型手機或手錶為架構，透過 bluetooth 可以“動態接收”衣服內的心跳的資訊，同時可以動態控制來驅動衣服上光顯織品(Photonic textiles)。智慧型手機可以動態顯示運動者的心跳數率、與運動強度，並透過運動強度的等級，驅動服飾上光顯控制器驅動光顯織品，呈現不同的光彩效果。 (展品聯絡人:紡織所 李仁雄 02-22670321 轉 3019， jhLee.0545@ttri.org.tw)</p>

LED Electro-optical Clothing	LED Yarn Technology / Dynamic Fabric Sensing Technology		<p>The intelligent clothing system is used in pair with a smartwatch or a smartphone and receives dynamically the heartbeat information inside clothes through Bluetooth. At the same time, it can be controlled dynamically to drive the Photonic textiles on the vest. Smartphones can display dynamically the person's heart rate as well as the intensity of the work out. The Photonic textiles on the clothes, which are driven by photoelectric controller controlled through levels of exercise intensity, show different luster effects..</p> <p>(Contact Person : IITR Jen-Hsiung Lee , Tel:+886-2-22670321 ext.3019 , jhLee.0545@ttri.org.tw)</p>
鎳鈦合金護具	鎳鈦合金技術		<p>鎳鈦護膝的設計特點來自於鎳鈦金屬超彈性與溫度記憶特性的應用，利用可 3D 成型的鎳鈦金屬線，模擬控制膝蓋屈伸運動的肌腱與韌帶，在運動中，鎳鈦超彈性的特性提供屈伸的彈性力道，緊密貼合皮膚同時具有支撐效果；另外，隨著運動強度增強，體溫隨之升高後亦可驅使鎳鈦金屬產生形變，讓膝蓋髌骨的包覆性更佳，使整個運動過程中確實達到穩定關節、保護韌帶與強化肌腱的保護功效。</p> <p>(展品聯絡人:金屬中心 黃偉咸 07-3513121#2365 , vincent@mail.mirdc.org.tw)</p>
Nitinol Knee Guard for sports and medical use	Nitinol Technology		<p>The design of Nitinol knee guard is featured with super-elasticity and shape memory. The product uses 3D molded Nitinol wire to simulate knee tendon and ligament during flexion and extension. With super-elastic characteristics, nickel-titanium alloy provides an elastic force for flexion and extension and allows a wide range of knee motion in sports. It also effectively bolstering the knee thanks to its close contact with skin. The property of shape memory ensures optimal covering even in high-intensity sports, thereby helping to stabilize joints, protect ligaments and fully enhance the function of tendons.</p> <p>(Contact Person : MIRDC Vincent Huang , Tel:+886-7-3513121 ext.2365 , vincent@mail.mirdc.org.tw)</p>


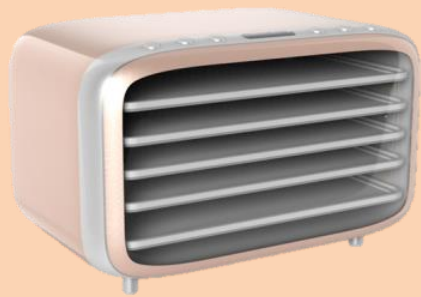
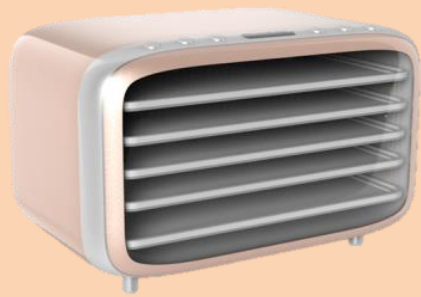
<p>水上綠洲(布花園)</p>	<p>3D 立體織物製造技術</p>		<p>利用浮體布花園結構物可於水(魚)池上種植蔬菜或花草，以模組化 3D 三層紡織結構(寶特瓶回收材)，並結合低密度之高分子材料使之漂浮於水面層，同時織層物可過濾水質，並可提供植物生長之養分，為最具綠化共生意義的新形態紡織品應用，本產品同時獲得德國 2016 IF 設計金獎。</p> <p>(展品聯絡人:紡織所 李仁雄 02-22670321 轉 3019，jhLee.0545@ttri.org.tw)</p>
<p>Floating Garden</p>	<p>3D Fabric Manufacturing Technology</p>		<p>The floating garden is a great way to grow plants, vegetables or flowers in water (fish) pool. The 3D three-layer textile structure (PET bottle recycling material) are modularized and combined with low density polymer material to make it float on the water. Meanwhile, the interwoven layers can filter water and provide nutrients for plant growth. This product embodies a new form of textile applications with the most green attributes. This product also received German 2016 IF Gold Design Award.</p> <p>(Contact Person : TTRI Jen-Hsiung Lee , Tel:+886-2-22670321 ext.3019 , jhLee.0545@ttri.org.tw)</p>
<p>複合羽絨保暖外套</p>	<p>數位噴墨技術/一體成型熔噴纖維技術</p>		<p>本產品結合超細高強力熔噴纖維與短纖、羽絨複合成不織布，具有高保溫效果、耐水洗功能、彈性回復及便於運輸、儲存，製造時可以切割且不易掉纖維，縫製方法與保溫性與傳統天然羽絨相同，是一種熔噴保溫棉複合製成高級保溫複合材料，同時應用數位噴墨技術，服裝設計師具有嶄新的發揮空間，創造光鮮亮麗的複合羽絨保暖外套</p> <p>(展品聯絡人:紡織所 李仁雄 02-22670321 轉 3019，jhLee.0545@ttri.org.tw)</p>

<p>Composite Down Warm Coat</p>	<p>Digital Printing Technology/One Process Melt-blown Technology</p>		<p>This product combines high-strength ultra-fine melt blown fibers spun into non-woven fabric. Functions range from high thermal insulation effect and high elasticity to convenient transport and storage. Sewing method and thermal insulation in the product are the same as traditional down coat. The material used in the product is an advanced thermal insulation composite material made out of melt blown insulation cotton. Since it combines special advanced materials with digital inkjet technology, fashion designers thus have a brand new entry to create a new kind glamorous composite down jacket. (Contact Person : TTRI Jen-Hsiung Lee , Tel:+886-2-22670321 ext.3019 , jhLee.0545@ttri.org.tw)</p>
<p>長效型熱敷面罩</p>	<p>導電織物技術</p>		<p>本產品為一種導電織物之應用，可具有下列特點: 1.微電流控制器及導電彈性織物之結合 2.均勻導入且不用手持,同時面膜可水洗 3.一種流行之微電流的美容儀器 4.約百萬分之一安培之電流,促進傷口癒合及組織修護,並 鬆弛肌肉緊張和減退水腫之功能衣面膜 (展品聯絡人:紡織所 李仁雄 02-22670321 轉 3019 , jhLee.0545@ttri.org.tw)</p>
<p>Long-Acting Hot Patch Mask</p>	<p>Conductive Fabric Technology</p>		<p>This product is an application of conductive fabric. It has the following characteristics: 1. Combination of the micro-current controller and the conductive elastic fabric 2. Uniform treatment and no need to be held by hand. In addition, the mask is washable. 3. A popular micro-current beauty apparatus 4. About one millionth of an Ampere current. Functions include wound healing and tissue repairing, relaxing muscle tension and reducing edema. (Contact Person : TTRI Jen-Hsiung Lee , Tel:+886-2-22670321 ext.3019 , jhLee.0545@ttri.org.tw)</p>



<p>Ezair 可攜式靜電集塵空氣清淨機</p>	<p>空氣清淨技術</p>		<p>可攜式靜電集塵空氣清淨機如書本般的大小易於攜帶，可在汽車、辦公室或咖啡廳使用。設計與充電後可使用 4~6 小時，可隨時提供個人化空氣濾淨服務，不怕干擾旁人。產品透過 Smart Phone APP 可結合雲端使用者反饋的微氣候資料，進行智慧監控空氣品質並提示使用者。本產品不需其他耗材，僅需擦拭空氣潔淨模組，即可保持本產品的工作效能，1 小時可過濾 1m³ 空氣中 99% 之 PM2.5 微粒。 (展品聯絡人:工研院 陳建志 03-5912314 , cc.chen@itri.org.tw) (展品聯絡人:產服中心 03-5919215 , maryannewei@itri.org.tw)</p>
<p>Ezair Portable Electrostatic Precipitating Air Cleaners</p>	<p>Air Cleaning Technology</p>		<p>The size of the portable electrostatic precipitating air cleaners is about the size of a book. It is easy to carry and applicable in a car, office or coffee shop. The product is designed to use for 4 to 6 hours after charging. It provides personalized air purifying service without disturbing others. Through a smartphone app, the product can integrate with micro-climate data from the feedback of cloud users to intelligently monitor air quality and remind users. The product does not require other supplies but the cleanness of air purifying modules to ensure its effectiveness which takes one hour to filter 99% of PM2.5 particles from air volume of one cubic meter. (Contact Person : ITRI Chien-Chih Chen , Tel:+886-3-5912314 , cc.chen@itri.org.tw)</p>
<p>Smart Footwear Platform, SaFePlay (智慧鞋墊+智慧護膝)</p>	<p>足部力學資訊分析與回饋技術</p>		<p>SaFePlay 提供一個持續、即時且輕便的日常膝關節健康監測方案。藉由藍牙傳輸，將足墊與護膝上的感測訊號與手機 APP 做連結，即時追縱、分析並記錄步態與活動歷程資料，適時提出修正建議。SaFePlay 適用於多種活動情境，利於使用者在膝關節問題加重前進行步態調整，預防未來可能衍生的膝關節炎問題。 (展品聯絡人: 資策會 魏士堯 02-6607-2329 , sywei@iii.org.tw)</p>

<p>Smart Footwear Platform, SaFePlay (Smart Insoles + Smart Knee Braces)</p>	<p>Foot Mechanics Analysis and Feedback Technology</p>		<p>SaFePlay provides a continuous, real-time and lightweight solution to monitor daily conditions of knee joints. Insoles and knee braces collect data from users and transmit to the smartphone app through Bluetooth connection. The app tracks the data instantly, records the analyzed data of gait and activity log from users, and proposes recommendations for correction. SaFePlay is suitable for all kinds of activities. It helps users to adjust their gait in order to prevent from damages on knee joints.</p> <p>(Contact Person : III Shih-Yo Wei , Tel:+886-2-6607-2329 , sywei@iii.org.tw)</p>
<p>車間通訊鯊魚鰭天線</p>	<p>車間通訊模組</p>		<p>車輛間的通訊是智慧交通重要的技術發展之一。本設計天線裝載有資通所所開發的通訊模組天線，目前用於與十字路口所架設的雷達通訊，實踐十字路口防碰撞的功能，未來將擴張整個智慧交通的各種應用。</p> <p>(展品聯絡人:工研院產服中心 陳培琳 03-5914970 , mia-chen@itri.org.tw)</p>
<p>Inter-vehicle Communication Shark Fin Antenna</p>	<p>Inter-vehicle Communication Module</p>		<p>Communication between vehicles is one of the most important technological developments in intelligent transportation. The design of the antenna (Shark Fin Solution) is loaded with communication modules developed by the Information and Communication Research Laboratories (ICL), and is currently used in the radar communication set up for intersection anti-collision function. It will also be extended to various applications of intelligent transportation in the future.</p> <p>(Contact Person : IRTI Pei-Lin Chen , Tel:+886-3-5914970 , mia-chen@itri.org.tw)</p>

UVCLLED 可殺菌餐具-隨身杯	UVCLLED 模組		<p>運用電光所的高效能紫外光 LED 燈模組，所開發的殺菌隨身水杯。LED 特殊光波具有快速殺菌效果，只需照射 80 到 90 秒，可殺死 99.9%的細菌。未來只要帶一個水杯形式的 LED 殺菌裝置，無論走到哪，都能喝到乾淨水。</p> <p>(展品聯絡人:工研院產服中心 陳培琳 03-5914970，mia-chen@itri.org.tw)</p>
Pure-Water UVCup	UVCLLED Module		<p>The sterilized portable cup is developed using high-performance UV LED light modules. The special light of LED has a rapid bactericidal effect.</p> <p>It can kill 99.9% of bacteria by simply irradiating 80-90 seconds. In the future, you only need to take a cup-formed LED disinfection device and then you can drink clean water no matter where you go.</p> <p>(Contact Person : ITRI Pei-Lin Chen , Tel:+886-3-5914970 , mia-chen@itri.org.tw)</p>
筷潔菌	UVCLLED 模組		<p>可攜式的” 筷潔菌” ，是全球第一款提供 90 秒快速殺菌功能之環保筷盒產品。10mW UVC -LED 類雷射拋物面反射技術，提供均勻無死角的 UVC 光，可常溫殺菌、無殘毒、無腐蝕性、無污染，對所有細菌、病毒均可有效殺滅，適用多數尺寸筷子。外形輕巧，僅 12.5X4.7X3.1cm，加上安全斷電的設計，可放入口袋攜帶。</p> <p>(展品聯絡人:工研院產服中心 陳培琳 03-5914970，mia-chen@itri.org.tw)</p>

<p>Pocket Chopstick Sanitizer</p>	<p>UVCLED Module</p>		<p>The portable "Pocket Chopstick Sanitizer" is the first environmentally friendly chopstick box in the world that can quickly sanitize chopsticks in 90 seconds. The 10mW UVC -LED laser-like reflective-projection module provides uniform UVC lights that can sterilize under normal temperatures, leaving no residues, is non-corrosive and non-polluting, and can effectively kill bacteria and viruses on chopsticks of various sizes. It comes in a lightweight size of only 12.5X4.7X3.1cm, with a safety power design, and can be carried conveniently in your pocket. (Contact Person : ITRI Pei-Lin Chen , Tel:+886-3-5914970 , mia-chen@itri.org.tw)</p>
<p>食物乾燥機</p>	<p>中空纖維吸附技術</p>		<p>「食物乾燥機」讓使用者享受在家 DIY 食品的安心與樂趣，以獨特的中空纖維低溫乾燥技術保留食品營養素與風味，又以較低耗能省下您的荷包。 (展品聯絡人:工研院產服中心 張淑芬 03-5918476 , stella@itri.org.tw)</p>
<p>Food Dryer</p>	<p>Adsorbent Hollow Fiber Technology</p>		<p>The Food Drier allows users to enjoy the peace of mind and the fun of DIY food at home. The device employs the unique adsorbent hollow fiber low temperature drying technology to maintain food' s nutrients and tastes. It is also low energy consumption and therefore saves your money. (Contact Person : ITRI Stella Chang , Tel:+886-3-5918476 , stella@itri.org.tw)</p>

<p>肌電回饋電刺激復健踩車</p>	<p>電容式肌電圖訊號感測技術、肌電肌力分析技術、電刺激復健踩車技術</p>		<p>ZMI FES CYCLING BIKE DESIGN CONCEPT</p> <p>誰說復健器材總是了無生氣？復健器材普遍都讓人覺得太過冰冷，無生氣。除了基本的尺寸與人因規範外，整體視覺感受欠缺考慮使用者的心情與觀感，以致於多數使用者對於復健器材始終存在距離感。此設計（ZMI FES CYCLING BIKE）採用重型機車骨架的視覺概念，讓復健踩車增添些許運動感。基本管材的流線線條搭配著跳動感受的底色、讓此踩車充滿著健康促進的感受；活潑朝氣的配色，讓使用者的身心能隨者不斷地踩踏而向上提升。</p> <p>(展品聯絡人:工研院 張正宏 06-3847169，CH_Chang@itri.org.tw)</p>
<p>ZMI FES CYCLING BIKE DESIGN CONCEPT</p>	<p>Capacitive Emg Monitoring Electrodes. EMG - Force Relationship Signal Process. Functional Electrical Stimulation (FES) Cycling System.</p>		<p>Who said rehabilitation equipment is always lifeless? Rehabilitation equipment has given people the general feeling of being too icy and lifeless. In addition to basic norms of dimensions and human factors, the overall visual perception has ignored the considerations on user's mood and impression, causing most users to always have a sense of distance on rehabilitation equipment. This design (ZMI FES CYCLING BIKE) has adopted the visual concept to incorporate with the skeleton of heavy motorcycle, giving the rehabilitation bike a value-added sporty touch. The basic pipe frame has been coordinated with a beating sense of primer, allowing this bike to fill with the spirit of health promotion. Meanwhile, the color-matching vivacious hues will urge the user's body and mind to step on it continuously to improve health.</p> <p>(Contact Person :ITRI ICL Cheng-Hung Chang , Tel:+886-6-3847169 , CH_Chang@itri.org.tw)</p>

<p>廚房空氣偵測器</p>	<p>居家安全智慧氣體監測器</p>		<p>「廚房空氣偵測器」結合偵測一氧化碳、瓦斯、溫度、濕度功能，手機可藉由物聯網技術與居家偵測器進行連線，可觀看目前偵測數值，當室內空氣數值超標時會發出警告聲音與閃光，並自動連繫緊急聯絡人，是居家空氣安全把關的好幫手。居家偵測器內有SIM卡，可連網或是自動撥打電話，手機可透過網路觀看目前偵測數值，也能設定空氣異常時緊急聯絡人名單，當偵測器偵測數值超標時，會自動連繫緊急聯絡人或通知警察單位。</p> <p>(展品聯絡人:工研院材化所 陳一誠 03-5918206， EugeneChen@itri.org.tw)</p>
<p>Kitchen alarm of gas monitor</p>	<p>Home safety smart device for gas monitoring</p>		<p>The “Kitchen alarm of gas monitor” is an integral unit to detect carbon monoxide, propane gas, temperature and humidity functions. Users can use the mobile phone to link with the home detector through Internet of Things (IoT) technology to monitor the current detection values. Whenever an indoor air value has exceeded the norm, the detector will emit a warning sound and flash, and automatically notify the emergency contact person. It is a good helper to keep a close watch on home air safety. Featuring built-in SIM card and auto-dialer function, the home detector can be connected with Network to help users to view the current detection values through the Internet, or preset with an air anomaly emergency contact list. Whenever the detector has detected an excessive value, it will automatically inform the emergency contact person or the police unit.</p> <p>(Contact Person :ITRI MCL I-Cherng Chen , Tel:+886-3-5918206 , EugeneChen@itri.org.tw)</p>