

高值創新LED產業推動計畫

執行單位

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計畫主持人

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因應全球節能與綠色製程需求，推動LED照明光電節能科技服務發展，擴大綠色產品創新應用，提高我國LED光電產業附加價值。策略上以光電半導體產業能量，加速創新高值利基市場擴展，並創造多元光電半導體元件應用，提升於節能環保及工業上使用，促進台灣早日成為全球LED照明光電產業主要輸出國，實現優質台灣LED光電技術核心競爭。

綠能跨域 應用推廣

培植LED先進技術，發展智慧節能、綠色科技創新產品應用，推動多元綠能產業發展

產業標準 專利布建

結合LED綠能科技優勢技術能量，建構主動式網狀布局專利模式，增強產業智權能量

國際綠能 商機對接

鏈結跨國綠能新興國家，促進同業整合、異業結盟，擴大國際綠能市場

- 帶動LED新興綠能發展投資72.9億元
- 推動綠能創新應用發展
- 成立綠色產品新事業部
- 研擬產業發展需求標準
- 關鍵技術專利策略布局
- 促成節能照明優質系統整合
- 跨國綠能產業組織交流合作
- LED照明產品拓銷南向市場

綠能跨域應用推廣

- 推動9件LED節能跨領域整合應用：LED智慧人因照明、智慧化光容器、超小間距LED顯示屏、車用小型LED霧燈、UV光醫療、UVC除菌保溫杯等
- 促成1家企業成立LED綠能先進光電產品事業處
- 推動智慧節能照明應用場域示範5案：大里杙文化館、豐原漆藝館、魚池茶葉評鑑室、逢甲遊客中心品茶區、公場地會議室
- 帶動企業在臺投資72.9億元，投入LED智慧照明、UV LED等新興綠能應用發展

產業標準專利布建

- 達成LED產業規範協商：UV LED元件/模組檢測方法、室內停車場智慧照明系統燈具標準、LED術語、智慧照明分級
- 制定國際首份「UV LED 元件/模組檢測方法」產業標準
- 完成LED高值專利布建分析：UV LED磊晶技術專利重點廠商、智慧照明與物聯網專利和產品分析比對、UV LED中國專利申請狀態、中國近年專利申請動態、可見光通訊與睡眠光照護技術專利趨勢

國際綠能商機對接

- 促成綠能跨國產業合作2件：台美LED智慧健康照明燈具、台日UV LED研發
- 橋搭南向新興綠能產業組織2件：台越建置LED路燈與LED智慧路燈標準制定；台印LED智慧節能控制系統發展
- 促進3家國內LED節能燈具廠通過SAA Approvals、TUV、UL驗證，進軍澳洲、印尼、越南市場
- 成立「LED照明藍海艦隊」，企業成功跨入中東、歐洲及東南亞等智慧節能照明市場



LED智慧人因照明示範



LED照明藍海艦隊



越南LED道路照明合作

Program of High-Value LED Industrial Innovation Promotion

Executor

Industrial Technology
Research Institute

Program Host

Chu Mu-Tao

In response to the demand of global energy-saving and green production process, the added-value of the LED lighting industry can be enhanced by promoting the technological development of LED lighting energy-saving services and expanding innovative application of green products. The strategy is directed to the production capacity of lighting semiconductors and accelerating the expansion of a high-value innovative market to create the application of diverse lighting semiconductors to the promotion of the energy-saving and environmental protection industry. As a result, Taiwan will become the major country for exporting LED lighting in the world and the presence of competitive techniques on quality LED lighting that Taiwan has will become real.

Cross-field
green energy
Promotion for
application

Cultivate advanced LED technology, develop intelligent energy-saving, apply innovative products to green technology and promote diverse development of green industry

Industrial
standards
Patent
deployment

Integrate LED green technology with the advantage of technological power, construct a progressive patent deployment network model and intensify industrial intelligent power

International
green energy
Business
opportunity
relation

Link cross-country green energy and developing countries, boost the integration of corporations in the same industry and cross-industry alliance, and expand the international green energy market

- Drive the investment up to 7.29 billion to develop innovative LED green power
- Promote the development of innovative green power application
- Establish the new business department of green products
- Plan the requirements of industrial development
- Overall strategical patent deployment on crucial skills
- Facilitate the integration of energy-saving lighting and quality system
- The communication and collaboration with cross-country organizations of the green energy industry
- Launch LED lighting products in the south-bound markets

Promoting the cross-field application of green energy

- Promote the 9 programs on the integration of LED lighting and cross-field application: human-centric Intelligent LED lighting, intellectualized light-container, ultra-narrow bezel LED screen, small car fog light, UV light treatment, UVC antibacterial thermos bottle, etc.
- Contribute to one corporation establishing business office for advanced LED lighting and green energy products
- Five demonstrative locations promoting the application of intelligent lighting: Daliyi Cultural Center, Fengyuan Lacquer Art Museum, Yuchi Tea Evaluation Room, Fengjia Tourist Center Tea House, Public Conference Room
- Drive corporations to invest 7.29 billion in Taiwan to develop intelligent LED lighting, innovative UV LED lighting and green energy application

Industrial standards Patent deployment

- Achieve the coordination of LED industrial requirements: UV LED elements/model inspection method, indoor parking lot intelligent lighting system requirements, LED technical terms, intelligent lighting grading standard
- Set up the world's first industrial standard for the "UV LED element/model inspection method"
- Complete the analysis of high-value LED patent deployment: major corporations having the patent of UV LED Epitaxy technology, patent of intelligent lighting and IoT (Internet of Things) and product analysis comparison, the status of applying the patent of UV LED in China, recent updates on China's patent application, the trend of the patent of visible light communication (VLC) technology and sleeping healthcare lighting technology

International green energy business opportunity relation

- Contribute to 2 projects on the collaboration of green energy and cross-country industry: Taiwan-USA intelligent LED healthcare lighting device, Taiwan-Japan Research and development of UV LED
- Contribute to 2 projects on the collaboration of the south-bound innovative industry and green energy organization: Taiwan-Vietnam installation of LED street light and the setup of intelligent LED street light requirements; Indonesia development of intelligent LED energy-saving control system
- Contribute to 3 domestic corporations on obtaining LED energy-saving lighting device certification of SAA Approvals, TUV, UL and the product launches to the Australian, Indonesian and Vietnamese markets.
- Establish the "LED lighting Blue Ocean Fleet" and successfully assist corporations in launching intelligent lighting products to The Middle East, European and Southeast Asian markets.



Demonstration of human-centric Intelligent LED lighting



LED lighting Blue Ocean Fleet



Collaborate with Vietnam LED road lighting (project)