

SDG REPORT

WALAILAK UNIVERSITY 2022 – 2023



INDUSTRY INNOVATION
AND INFRASTRUCTURE

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Walailak University's Patents and Petty Patents Citing Research

Walailak University, through its Science and Technology Park, has consistently supported start-up and innovative business entrepreneurs, particularly the Deeptech Group, in gaining access to patent processes and legal knowledge through various activities, projects, funding and cooperation networks with the Department of Intellectual Property.

In 2022, Walailak University obtained a total of 24 patents citing university research to society and industry, comprising 13 regular patents and 11 petty patents, spanning various fields:

- ◆ The food group: food processing and food innovation
- ◆ The pharmaceutical group: cosmeceuticals and herbs
- ◆ The science group: medical science and biotechnology
- ◆ The architecture group: design
- ◆ The agriculture group: agricultural technology and fishery



The 13 regular patents were granted to the School of Architecture and Design and the School of Languages and General Education. They cover a range of items such as chairs, bracelets, pendants, rings, earrings, lamps, packaging label patterns, cup holders, tissue paper holders, box folding patterns and mirrors. Additionally, the 11 petty patents were awarded to the School of Science, the School of Engineering and Technology, the School of Allied Health Sciences and the School of Pharmacy for Ship Tracking Device with IoT Technology to Send and Receive Data and a Machine



Learning Platform System, Honeycomb Composite Wall, Device to Alert Against Touching Your Face, Process for Producing Orange Juice Powder from (Nipa Palm Vinegar), Odorless and Colorless Natural Rubber Production Formula and Process, Method for extracting Chlorophyll from Gotu Kola and Tiger Curry and Extracts using Vegetable Oil, Foldable Walking Aid, Selective Media for Culturing Dermatophyte Fungi Trichopyton Type, Bacterial Culture Formula for the Isolation of Burkholderia Pseudomallei, Clear Concrete Sample Formwork, and Technique for Drying Treated Wood by Controlling the Stress Value in the Wood.

Notably, one of the patents granted to Assoc. Prof. Dr. Nirardon Matan from the School of Engineering and Technology, titled "Technique for Drying Treated Wood by Controlling the Stress Value in the Wood," is a commercially viable technology. Its key advantages include system stability, durability, ease of use, low maintenance requirements, and the system also helps the factory dry the wood faster, lessen wood waste and reduce energy use from drying.





WU Spin-offs: The Creation of Business Based on University's Knowledge



Walailak University actively supports the establishment of spin off companies to generate income and to apply the research findings for community benefits and as solutions to social problems. In 2022, two spin-off companies, Walaibiocontrol Co., Ltd. and Mangosto Co., Ltd., operated under the auspices of the Walailak Business Incubation Center, Science and Technology Park. These companies, originally incubated within the university, are still active and have been established for over 3 years. Moreover, it has made significant strides:

◆ **Walaibiocontrol Co., Ltd.** : This company specializes in producing and distributing agricultural biological products to benefit farmers. In 2022, it achieved a substantial revenue of 4,893,553 Baht.

◆ **Mangosto Co., Ltd.** : Mangosto is engaged in the production and preservation of fruits and vegetables using innovative methods. Their operations contribute to the local economy and offer unique services.

These two spin-off companies exemplify the successful application of research-driven technologies to generate income and foster commercial impact. The integration of research and business adds the economic value of local products, extends business opportunities and promotes environmentally friendly sustainable development based on university research innovations, which go in line with the economic development of the BCG Model.

The Agricultural and Biological Products by Walaibiocontrol Co., Ltd.



The Remarkable Achievements in Research and Innovation Income Generation

Walailak University, distinguished as a Frontier Research University, has demonstrated a commitment to producing high-quality research outcomes, leading to exponential growth in their research portfolio. In the fiscal year 2022, the university achieved substantial income by applying research innovations in the industrial sector, totaling 8,988,422.53 Baht across two mission groups:

◆ **Collaboration with Private Companies** : Walailak University collaborated with 13 private companies that utilized WU's innovative research in various domains, including food supplements innovation, medicines, beauty products, pet products, and bio innovation derived from highly efficient fungi. This collaboration yielded a significant income of 8,111,422.53 Baht, further categorized into research income generated by STEM (3,006,407.06 Baht) and research income generated by medicine (5,105,015.47 Baht). This collaborative effort involved 614 academic staff, including lecturers and researchers.

◆ **Student-Driven Spin-Off Companies** : The university's dedication to nurturing talent and innovation is evident in the establishment of two spin-off companies, Walaibiocontrol and Manggusto, driven by student who utilized research innovations. Moreover, there was an extension of bringing ideas to the contest and back with awards from 22 innovations, totaling prize money of 877,000 Baht.

To highlight, the example is the Outstanding Innovation, Innovation of the Year Trichoderma Five Plus (international standard biological products) from winning the international championship of Technology Transfer award "AABI torch Entrepreneur Awards for TECHNOLOGY TRANSFER model" from the Asian Business Incubation Association, Shanghai, China. The award "scheme" was organized to promote business acceleration and recognize outstanding entrepreneurs from more than 18 Asian countries, and the entrepreneur (Walaibiocontrol) from Walailak University was one of the proud recipients of the award.

