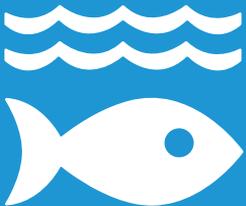




SDG REPORT 2024-2025

SUSTAINABLE DEVELOPMENT GOALS



SDG 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



1 THE NUMBER OF PATENTS CITING RESEARCH

2 THE SPIN-OFF COMPANIES LEVERAGING INTELLECTUAL PROPERTY

3 WALAILAK UNIVERSITY'S RESEARCH INCOME DRIVING INNOVATION



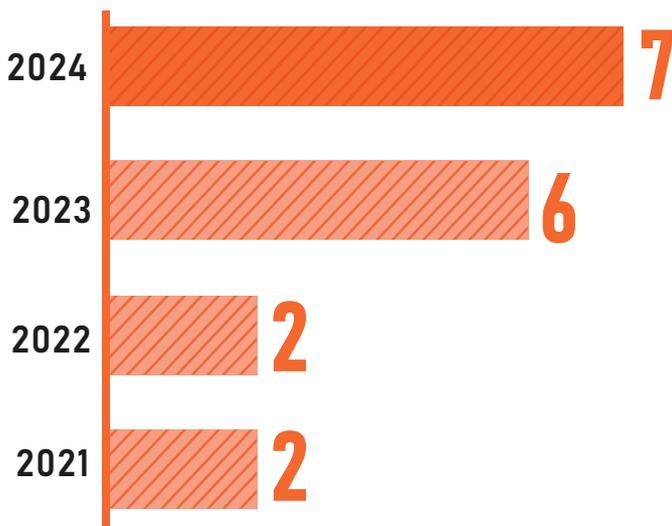
BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

WU PATENT CITING RESEARCH



60 PATENTS AND PETTY PATENTS FROM 2021-2024

SPIN-OFF COMPANIES OVERVIEW



NEW WU SPIN-OFF IN 2024

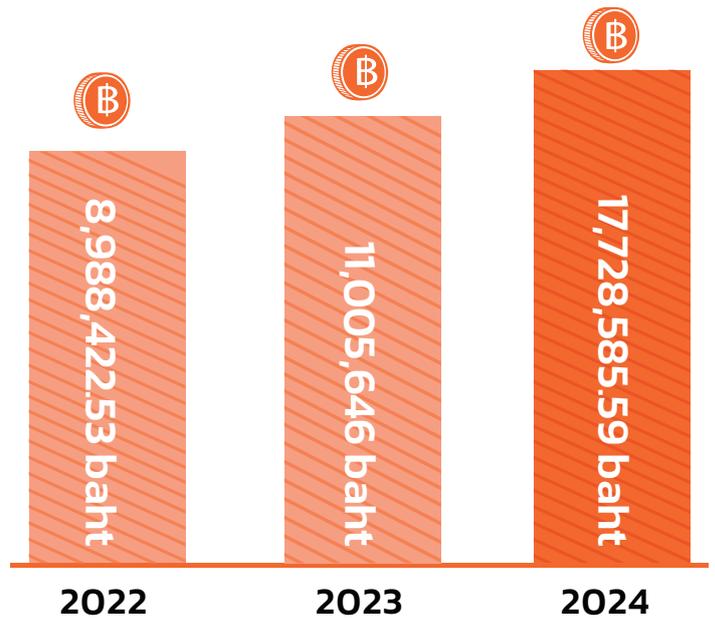
2021-2023



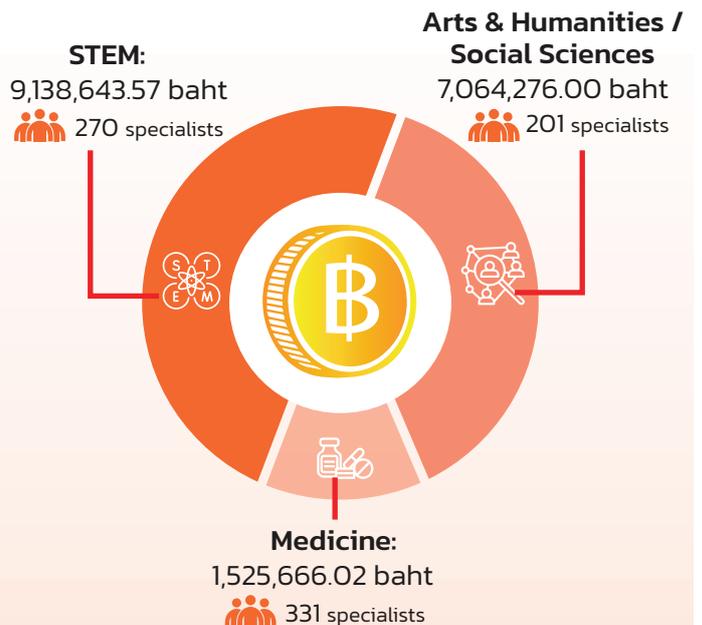
2024



INCOME GROWTH FROM RESEARCH COLLABORATIONS



INCOME BREAKDOWN BY FIELD IN 2024





THE NUMBER OF PATENTS CITING RESEARCH

Patents are vital indicator of how university research benefits society and industry. WU has demonstrated significant success in linking its research to practical applications, evidenced by the numerous patent and petty patents cited research conducted by the university. These achievements highlight WU’s commitment to fostering sustainable innovation and promoting real-world impact.

fields such as food innovation, biotechnology, medical sciences, agriculture, architecture, and fisheries, showcasing contributions from 16 academic schools within the university.

Examples of Notable Patents

Assoc. Prof. Dr. Nirundorn Matan
Lecturer at School of Engineering and Technology
Head of the Center of Excellence in Wood and Biomaterials

Mr. Taweasin Wongprot
Scientist at Center for Scientific and Technological Equipment

The Research on Improving the Durability of Rubberwood by Boiling in Hot Water Under Pressure Has Been Granted a Patent

Promoting Research and Patents



Through its Science and Technology Park, WU supports research commercialization and innovation, particularly in advanced technology sectors like Deep Tech. The university provides guidance on patent registration, legal knowledge, funding, and partnerships with the Department of Intellectual Property.

Between 2021 and 2024, WU staff registered 60 intellectual property works, including 9 patents and petty patents in 2024. These cover diverse

Two notable patents highlight innovative contributions in sustainable development and practical “Rubberwood Durability by Boiling Under Pressure” (Patent No. 96063, October 2, 2024) presents a sustainable solution to improve rubberwood durability, offering both environmental and economic benefits. Meanwhile, the Petty Patent titled “Microwaveable Packaging for Spinach Grain” (Patent No. 24014, July 1, 2024) showcases innovation in food packaging, for convenience and sustainability.



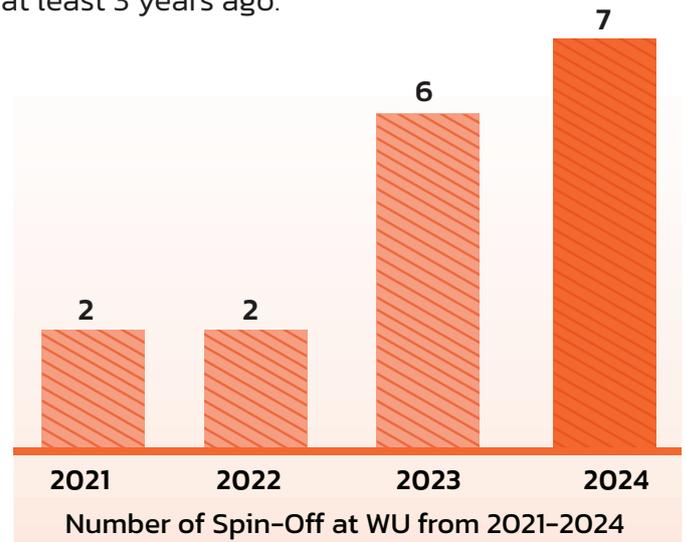
WU's success in generating patents reflects the dedication to integrating research into industry, driving innovation that addresses societal needs. By encouraging patent development and ensuring tangible applications for research, WU supports economic growth and sustainability.



THE SPIN-OFF COMPANIES LEVERAGING INTELLECTUAL PROPERTY

WU, through the Business Incubation Center under the Science and Technology Park, actively fosters the creation of spin-off companies that leverage university-developed technologies to address societal challenges and generate income. By fiscal year 2024, WU had established seven such spin-off companies, including notable ventures like Walai Biocontrol Co., Ltd., which secured significant funding from the National Innovation Agency for its bioproduct services. These initiatives not only contribute to sustainable economic growth but also reinforce WU's role as an innovation hub, bridging the gap between academia and industry.

were established: Walai Biocontrol Co., Ltd. and Mangusto Co., Ltd. These are defined as registered companies, set-up to exploit intellectual property that has originated from within the institution. Also, they still be active and have been established at least 3 years ago.



Spin-Off Companies Overview

By fiscal year, WU has established a total of seven active spin-off companies, with one new addition being Walai Trichoplus Co., Ltd. launched in the most recent year. In 2023, four companies were additionally founded: Plankton WU Co., Ltd., Lakwalai Biotic Co., Ltd., Oxakin Innotech Co., Ltd., and Chanchao Herb and Beauty Limited Partnership. Meanwhile, in 2022, two companies

Notable Spin-Off: Walai Biocontrol Co., Ltd.

A standout example is Walai Biocontrol Co., Ltd., a venture from the School of Agricultural Technology and Food Industry, led by Assoc. Prof. Dr. Warin Intana. Since its establishment in 2020, the company has produced and distributed agricultural bioproducts, earning the prestigious AABI Torch Entrepreneur Award for Technology Transfer in 2022 from the Asian Association of Business Incubation.

In 2024, Walaibiocontrol co., ltd. secured 1,460,000 baht from the National Agency under the Market Expansion Project in the Southern Economic Corridor. This funding supports the



project Bioproduct Services for Pest Control 'Walai Tricho-009' in Safe Agriculture Systems, driving innovative business growth.



Driving Economic and Sustainable Development

By transforming research-derived technologies into commercial venture, WU not only generates income but also fosters sustainable development. These spin-offs effectively leverage intellectual property, enhancing the university's economic value while addressing societal needs and creating lasting benefits for the higher education ecosystem.

WALAILAK UNIVERSITY'S RESEARCH INCOME DRIVING INNOVATION

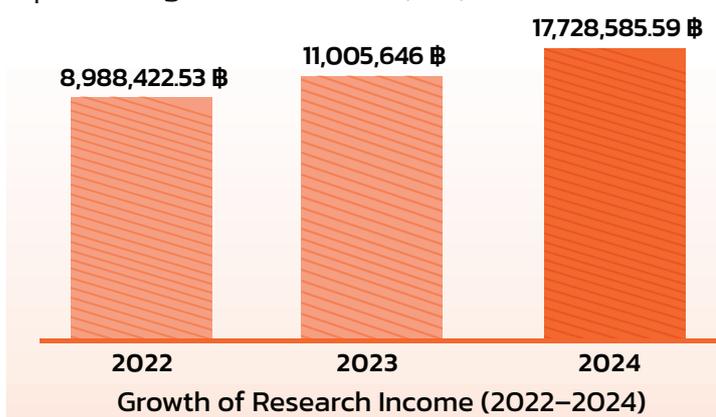
WU, a globally recognized Frontier Research University, has become a key player in advancing innovation and economic growth through impactful industry collaborations. WU's Science and Technology Park serves as a hub connecting researchers and entrepreneurs, fostering innovation to address industrial challenges and drive sustainable development.

teaching schools contribute by undertaking diverse research projects, reflecting WU's commitment to advancing knowledge and addressing both local and global challenges.

- **STEM:** 9,138,643.57 baht
- **Medicine:** 1,525,666.02 baht
- **Arts & Humanities / Social Sciences:** 7,064,276.00 baht

Income Growth from Research Collaborations

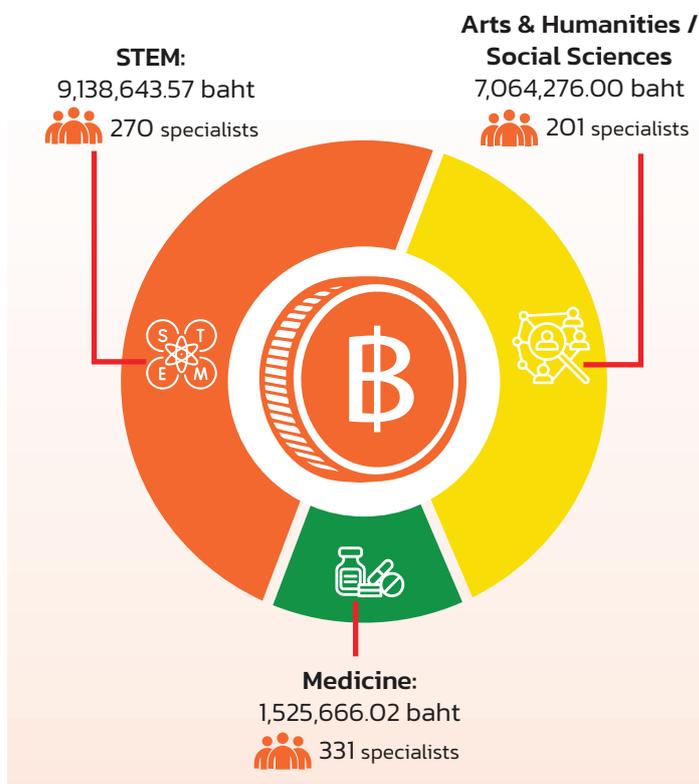
WU's research income across all disciplines demonstrated continuous growth from 2022 to 2024. In 2024, it achieved a growth rate of 61.08%, representing an increase of 6,722,939.59 baht.



All income in 2024 came from private-sector collaborations, leveraging university-driven innovations to address industrial needs.

Income Breakdown by Field in 2024

Research income at WU is categorized into four main fields: STEM, Arts and Humanities, Social Sciences, and Medicine. Within each field, various



This success was supported by 802 faculty members specializing in diverse disciplines including 270 people in STEM, 331 people in Medicine, and 201 people in Arts & Humanities / Social Sciences.



Highlighted Innovation of 2024

WALAILAK RESEARCH CONVENTION

"Structural Strengthening System for Concrete Columns Using Prestressed Metal Strapping Innovation"

Assoc. Prof. Dr. Thanongsak Imjai

Director of the Innovation and Research Institute (IRI) and structural engineer specializing in construction innovation



A standout success is the Structural Strengthening System for Concrete Columns Using Prestressed Metal Strapping innovation, developed by Assoc. Prof. Dr. Thanongsak Imjai. This innovation, used in building repairs without demolition, saved industries over 9 million baht and illustrates practical applications of university research.



The "Structural Strengthening System for Concrete Columns Using Prestressed Metal Strapping Innovation" has significant impacts in several areas:



1. Enhancing Structural Strength and Durability:

Utilizing prestressed metal straps to encircle concrete columns increases their compressive strength and ductility, making structures more robust and durable, especially in earthquake-prone or harsh environmental regions.

2. Time and Cost Efficiency:

This method eliminates the need for demolishing or reconstructing existing structures, thereby reducing repair and reinforcement time and costs compared to traditional strengthening techniques.

3. Versatile Applications:

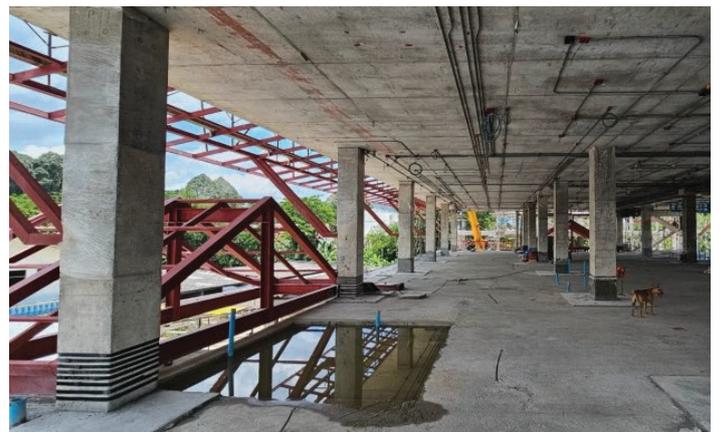
The technique can be applied to various concrete structures, such as columns, beams, and other building components, offering flexibility in upgrading and reinforcing existing structures.

4. Promoting Domestic Research and Development

Developed by Thai researchers, this innovation fosters local technological research and development, enhancing international competitiveness.

5. Environmental Impact Reduction:

Strengthening structures without dismantling the original framework reduces construction waste and conserves natural resources, supporting and enhancing sustainable building development.



WU's commitment to integrating academic research with industrial needs has cemented the campus position as a leader in innovation. By fostering partnerships and driving sustainable development, WU continues to transform research into real-world solutions, contributing to economic growth and societal advancement.