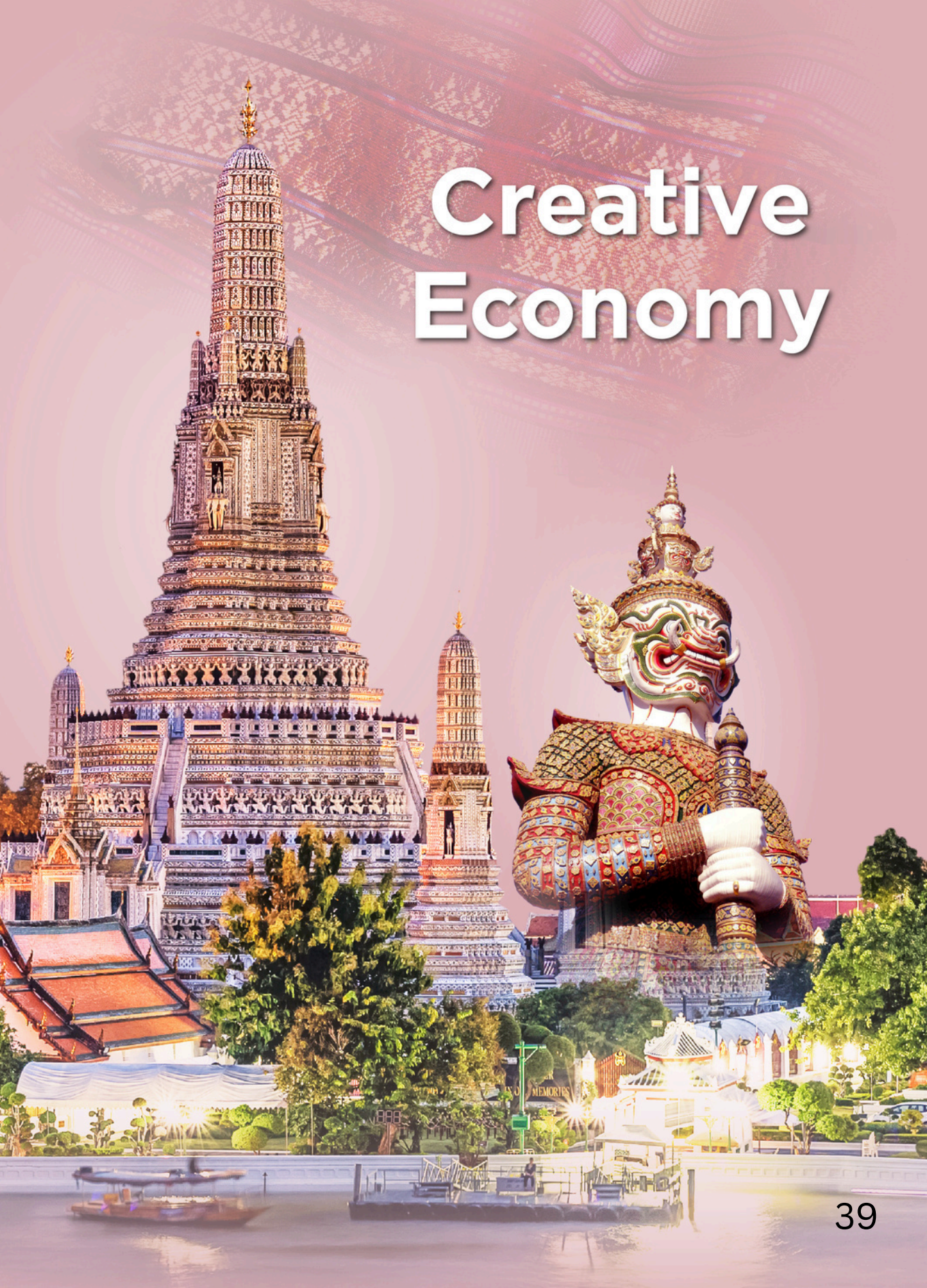
VENTURE RISE THAILAND 2025

INNOVATION CATALOG

CREATIVE ECONOMY


Creative
Economy

AI Step Sense

SMART FOOTFALL ANALYSIS FOR ATHLETE PERFORMANCE

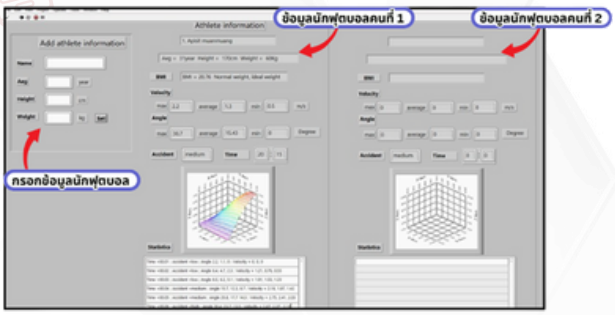
Asst. Prof. Dr. Manusak Janthong
Faculty of Engineering
Rajamangala University of Technology Thanyaburi

CRE-001

Highlight

Key features and Strengths

AI Step Sense is an innovative smart insole designed to enhance training and performance analysis for professional football players. It integrates Internet of Things (IoT) technology with AI analytics to accurately assess foot strike patterns, weight distribution, and movement posture throughout every play. The insole features 24 pressure sensors placed across the entire foot, combined with a 6-axis IMU and a GPS module to track speed, direction, and quick direction changes in real time. All data is processed through a high-performance microcontroller and transmitted via Bluetooth Low Energy (BLE) to the AI Step Sense App. Coaches and athletes can easily view their performance through intuitive 3D pressure maps and heatmap visualizations. This system enables coaches and players to analyze foot techniques, improve balance and posture, and reduce injury risk using scientific, evidence-based insights. The product is lightweight and made from flexible polymer materials that resist pressure and moisture with an IP54 rating. With a manufacturing cost of only 20,000–30,000 THB per pair—over 80% cheaper than imported equipment—it delivers exceptional value and cost-effectiveness. Proudly developed in Thailand, AI Step Sense supports the needs of professional football and offers scalable opportunities for physical rehabilitation, elderly care, and the growing smart health market. It is a future-ready solution that promotes sustainable innovation and performance-driven results.



Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

Phumcha

THE ART OF ALTERNATIVE MATCHA

Ms. Kanitha Sukkird and Asst. Prof. Dr. Lalita Siriwattananon

Faculty of Agricultural Technology

Rajamangala University of Technology Thanyaburi

CRE-002

Highlight

Key features and Strengths

This innovation develops a nutritious beverage powder made from “Pham”, a tiny aquatic plant found in Thailand. By adapting the pure matcha production process, the powder delivers a complete nutritional profile with high protein, powerful antioxidants, phenolic compounds, and chlorophyll. It is also rich in essential vitamins, minerals, and all nine essential amino acids that help regulate blood sugar levels.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

Nung Yai Leather Patterns

FROM HERITAGE TO MODERN HANDBAGS

Tammarat Boonsuk

Faculty of Fine and Applied Arts

Rajamangala University of Technology Thanyaburi

CRE-005

Highlight

Key features and Strengths

This innovation features the design of Ladies' Leather Bags inspired by traditional Nang Yai shadow puppet art. The concept applies cultural heritage to create products that are both visually striking and highly functional. The key design patterns draw from iconic characters in the Ramakien performance—Rama, Sita, Hanuman, and Tosakan—translating their unique identities into decorative motifs. The patterns are composed using layered forms and textured surfaces to create depth, dimension, and a distinctive aesthetic. The design offers beauty, cultural value, and commercial appeal.The bag silhouettes are based on popular modern styles, including clutches, U-shaped handbags, and large tote designs with handles and shoulder straps. Each piece is crafted from high-quality, durable materials and carefully hand-stitched for premium finish. A unique highlight is the integration of a mini spotlight, which casts light through the carved patterns to mimic the dramatic shadow effects of traditional Nang Yai performances. This enhances visual depth and adds artistic flair. These contemporary leather bags successfully blend classic Nang Yai artistic elements with modern fashion design. Beautiful, functional, and market-ready, they promote the preservation of Thai art through commercial products.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

Instant Herbal Stream Kit

SEMI-PREPARED AROMA INCENSE

Asst. Prof. Yupa Kongprik and Team

Faculty of Integrative Medicine

Rajamangala University of Technology Thanyaburi

CRE-004

Highlight

Key features and Strengths

The “Instant Herbal Stream Set” is an innovative herbal product that modernizes traditional Thai wisdom. It combines Thai traditional medicine with advanced production technology to support simple, safe, and effective self-care. It is ideal for relieving minor ailments such as muscle pain, colds, nasal congestion, and stress through natural therapy. Inspired by the traditional practice of herbal steam fumigation, this treatment helps open the respiratory system, relax muscles, and promote a sense of calm. The product is designed for effortless use and contains a blend of authentic Thai herbs—including lemongrass, ginger, galangal, kaffir lime, shallot, and holy basil. These ingredients are preserved through a freeze-drying process to maintain their aroma and active compounds as closely as possible to fresh herbs. All herbal components are packaged in self-heating packaging, allowing users to enjoy herbal fumigation anytime, anywhere—without the need for boiling pots or open flames. Following the concept of “easy fumigation for every lifestyle,” this product answers the needs of today’s wellness and spa markets, which value convenience, safety, and natural relaxation. The Convenient Fumigation Set not only preserves Thai herbal heritage but also presents strong commercial potential as a high-value health souvenir and a premium wellness spa product for both domestic and international markets.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Inca Peanut Butter

ADDING VALUE FROM NATURE

Dr.Pakorn Suwannasopon
Faculty of Science and Technology
Rajamangala University of Technology Thanyaburi

CRE-005

Highlight

Key features and Strengths

Happy Spread is an innovative health-focused nut butter made from a value-added blend of Sacha Inchi, peanuts, and red beans in carefully balanced ratios. This combination creates a smooth, delicious flavor profile while delivering impressive nutritional benefits. The spread is rich in plant-based protein, healthy fats, essential amino acids, and antioxidants from anthocyanin or carotenoid extracts, which help support brain function and skin health. It also incorporates Sacha Inchi oil, naturally high in omega-3, 6, and 9 fatty acids that promote heart and brain wellness, making the product stand out for both taste and functionality. To preserve nutrients and natural aroma, Microwave-Assisted Processing is used during production. This advanced technology improves nutrient extraction, maintains flavor quality, and extends shelf life without preservatives. The texture is smooth and creamy, with a pleasant roasted nut aroma—ideal for health-conscious consumers, office workers, athletes, or anyone seeking a clean energy boost for breakfast. A key highlight is the use of Thai-sourced agricultural ingredients, generating income for local farmers and reducing production waste. This product reflects the concept of “Naturally Delicious, Socially Sustainable,” offering a nutritious, flavorful, and eco-friendly choice for today’s lifestyle.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Mat Sang: Globalizing the Legacy of Muay Thai

MUAYTHAI: POWER & SPIRIT

Prof. Dr.Sunet Chutintharanon

Center for Multicultural Studies, Institute of Asian Studies,

Chulalongkorn University

CRE-006

Highlight

Key features and Strengths

This project transforms academic research on Muay Thai into a creative documentary film, highlighting its multifaceted value through historical evolution, cultural wisdom, and the spiritual essence embedded within the art of Thai boxing. The documentary, titled MUAYTHAI: Power & Spirit, has been produced in two versions: a single-episode version (45 minutes), and a four-episode series (15 minutes per episode). The film showcases the strength, artistry, and spirit of Muay Thai, emphasizing its deep cultural and historical roots. To support international dissemination, subtitles have been prepared in seven languages — English, Chinese, Korean, Japanese, Spanish, Russian, and Arabic — enabling global accessibility and cultural exchange. This initiative not only promotes Thailand's soft power but also creates opportunities and potential economic value for the nation. In addition to online distribution platforms, the project is designed for broad international outreach through institutional collaborations. 1.2 The project is a multisectoral collaboration involving key stakeholders from academia, government, the private sector, and international sports organizations. Academic and Research Partners: Chulalongkorn University — including the Center for Multicultural Studies and Social Innovation and the Institute of Asian Studies, the Center for Asian Regional Research Promotion, affiliated with the Korea Foundation for Advanced Studies (KFAS). Government Partners: the Ministry of Foreign Affairs, and the Ministry of Culture.Private Sector Partners: Banchamek Company Limited, and TV Burabha Company Limited. International Partner: mthe International Federation of Muaythai Associations (IFMA), which governs both amateur and professional Muay Thai and has over 140 member countries worldwide. These partners have jointly driven the project from the research phase through to creative production and international dissemination. In particular, the Ministry of Foreign Affairs (Department of Information) has facilitated the documentary's screening and distribution through Thai embassies and consulates in countries such as Australia, Nepal, Oman, Sri Lanka, China, France, and others. The IFMA has also supported global outreach through its extensive international network of member organizations, further promoting the heritage and contemporary relevance of Muay Thai worldwide.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).
Dissemination to the Public at the National and International Levels

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Prototype developed but not yet tested in the market.

Nakhon Sawan Aroma Sake

PREMIUM CRAFT FROM THE HEART OF THE COMMUNITY

Asst. Prof. Dr. Nantawut Niyomwong

Faculty of Science and Technology

Nakhon Sawan Rajabhat University

CRE-007

Highlight

Key features and Strengths

This innovation showcases the transformation of local distilleries in Nakhon Sawan Province through the application of Double Strain Yeast technology combined with a two-step Copper Pot Still distillation process. The result is a premium craft spirit with a unique identity, developed under the concept of “High-Value Local Spirits – Community Soft Power.” The initiative began with the establishment of Zem Brewery, a model micro-distillery located in Saladaeng Subdistrict, Khrok Phra District. The facility serves both as a small-scale production site and a learning center for fermentation and distillation technology, empowering local producers with practical knowledge. Using locally sourced agricultural ingredients — such as rice, fruits, and herbs — the brewery develops diverse spirit formulas that emphasize quality, safety, and cultural authenticity. The Double Strain Yeast technology combines Saccharomyces cerevisiae var. burgundy, known for its high alcohol yield, with the local strain Hanseniaspora thailandica Zal1, which enhances the creation of natural aromatic compounds like esters and higher alcohols. This synergy produces a spirit that is fragrant, smooth, and well-balanced, unlike conventional single-strain fermentation. When paired with two-step copper pot distillation, the process delivers a crystal-clear spirit with reduced unwanted residues while preserving the drink’s natural aroma and rich character. This project exemplifies the integration of microbiological science and traditional community wisdom to create a distinctive, culturally inspired product. It not only demonstrates the potential of local innovation in the commercial market but also serves as a sustainable model for regional creative economy development that empowers communities and elevates Thai craftsmanship to the global stage.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under an exclusive license, granting full commercialization rights to a single partner o enterprise.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).
Excise Department’s quality and regulatory standards

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Commercially available in the domestic market

Retail Price

230 Baht/bottle

Fermented Mulberry Beverage

A HEALTHY DRINK FROM NATURE

Dr. Peerapong Ngamnikom and Dr. Sirilak Surin

Faculty of Agricultural Technology

Rajamangala University of Technology Thanyaburi

CRE-008

Highlight

Key features and Strengths

This fermented mulberry residue beverage is a health-focused food innovation that enhances both nutritional value and economic potential of agricultural by-products. It utilizes mulberry residue—naturally rich in antioxidants and dietary fiber—and ferments it with lactic acid bacteria to produce beneficial postbiotics, which support gut health and stimulate the immune system. The beverage offers a smooth, distinctive flavor that sets it apart from regular mulberry drinks and contains twice the antioxidant levels found in fresh mulberry residue. Sweetened with sugar substitutes instead of refined sugar, it is well-suited for health-conscious consumers. In addition to promoting digestive balance, the beverage nourishes the skin, strengthens immunity, and provides anti-aging benefits. Its high-acid formulation (pH < 4.6) combined with a controlled pasteurization process allows storage at room temperature for up to one year, extending shelf life significantly longer than similar products such as kombucha. As Thailand's first fermented drink developed from mulberry residue, this product has achieved Technology Readiness Level (TRL) 7, demonstrating effective performance in real-world environments. With low-cost raw materials and safe, standardized production methods, this innovation delivers a sustainable, value-added beverage with strong commercial potential.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Currently under FDA registration process.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Watercolor Brush Innovation

ERGONOMIC DESIGN FOR THE ARTIST

Asst. Prof.Suraphan Chantanasut
Faculty of Fine and Applied Arts
Rajamangala University of Technology Thanyaburi

CRE-009

Highlight

Key features and Strengths

This innovation presents a high-performance watercolor brush designed using fundamental principles of physics. The handle is crafted for a comfortable grip, compact form, and balanced weight distribution, enabling precise control suitable for professional artists. The brush has undergone continuous testing, refinement, and advanced development to ensure exceptional quality in both production and commercial applications. The research behind this product has been successfully patented, published, and internationally peer-reviewed, further validating its performance and scientific credibility. In addition, it has been rigorously tested by renowned national and international artists, guaranteeing a premium watercolor brush that meets the demands of professional creative work.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Commercially available in the domestic market

Thung Luang Rangsit

DESIGNING CULTURAL PRODUCTS FROM CANAL-SIDE LIFESTYLES

Asst. Prof. Dr.Rath Chombhuphan

Faculty of Home Economics Technology

Rajamangala University of Technology Thanyaburi

CRE-010

Highlight

Key features and Strengths

The “Living Identity of Values: Cultural Products of Thung Luang Rangsit” project integrates knowledge from home economics, technology, and contemporary design to create innovative community-based products. Key offerings include standardized recipes for boat noodles and Khanom Tuay (Thai coconut custard) using local ingredients such as riceberry rice, Khao Kor Khao, butterfly pea, and pandan leaves. In addition, symbolic souvenirs have been developed, including fabric prints, stamped emblems, Line stickers, and signature graphic designs featuring the visual identity of “Thung Luang Rangsit.” All products are developed through a Cultural Design Process, emphasizing community participation to enhance economic value while expressing the local lifestyle along the canal. Guided by the concept “From Canal to Culture”, this initiative elevates local traditions into community-driven Soft Power. The project delivers tangible outcomes—generating income, creating new occupations, and expanding sustainable creative market opportunities for the community.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Retail Price

1. Rangsit Boat Noodle Line Stickers — Retail price: 35 THB
2. Thung Luang Rangsit Identity Stickers — Retail price: 25 THB
3. Thung Luang Rangsit Khanom Tuay with Premium Packaging — Retail price: 250 THB per box

ShrimpMai

HIGH-PROTEIN SURIMI FROM THAI FARMERS

Asst. Prof. Dr. Atthaphon Issara, Ms. Khwansiri Namkhen, Ms. Sopha Inprom, Ms. Napassorn Wirulputthawong, Ms. Juthathip Maneenet, Ms. Pannita Jantiw, and Ms. Pornnatcha Makmoo

Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi

CRE-011

Highlight

Key features and Strengths

Today, Thai consumers continue to rely heavily on animal-based meat as a primary source of high-quality protein due to its availability and affordability. However, excessive meat consumption may increase the risk of colorectal cancer. According to the National Cancer Institute, colorectal cancer ranks third in prevalence among Thai men and second among women, with cases continuing to rise each year. Most patients are diagnosed at an advanced stage, leading to higher mortality rates. Contributing risk factors include lifestyle, genetics, and dietary habits. ShrimpMai is a plant-based surimi product developed as a healthier meat alternative. It contains up to 50% plant-derived ingredients, offering great taste while helping reduce dietary risks associated with colorectal cancer caused by excessive meat intake. This high-protein, 100% plant-based innovation is suitable for vegetarians, vegans, and general consumers. The product is created using food science and biotechnology enzymes, which improve texture and structure, making it similar to traditional meat-based surimi with flavors that meet consumer expectations. Made from king oyster mushrooms and tofu, ShrimpMai delivers a shrimp-like texture, high protein content, and a satisfying mouthfeel—without any animal ingredients. In addition to supporting healthy eating, this innovation helps local farmers, promotes sustainable food production, and aligns with SDG goals on health, responsible consumption, and environmental impact reduction.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

Granted IP protection or approved Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Lotus Leaf Printed Fabric

BRIDGING TRADITIONAL WISDOM WITH MODERN TECHNOLOGY

Asst. Prof. Koranut Suksawat, Asst. Prof. Uraiwan Khamsingha, Ms. Waraporn Nakasiri, and Mr. Natthawat Chatupatwarodom
Faculty of Home Economics Technology, Rajamangala University of Technology Thanyaburi

CRE-012

Highlight

Key features and Strengths

The project “Development of Natural-Dyed Lotus Leaf Printed Silk Products to Create Identity and Add Value for Local Communities in Pathum Thani Province” advances traditional Thai textile craftsmanship through contemporary design and production technology. It merges artistic design principles with local wisdom in natural dyeing and botanical printing using lotus leaves—an iconic plant and cultural symbol of Pathum Thani, valued as both a natural resource and heritage asset. This innovation applies a natural color layering technique, using pigments extracted from various plant parts such as petals, leaves, bark, and roots. The process produces soft, eco-friendly shades and unique organic patterns formed by lotus leaf textures. The resulting textiles beautifully reflect the abundance, serenity, and cultural identity of Pathum Thani, positioning the work as a blend of art, crafted textile, and green innovation. Beyond elevating the value of local handwoven fabrics, the project focuses on knowledge transfer to the community, creating new career opportunities, increasing household income, and promoting long-term self-reliance. It also supports commercial development in contemporary craft, lifestyle, and fashion markets. This work stands as a model for meaningful local resource utilization within the circular economy and BCG model, harmonizing art, culture, and environmental stewardship. It strengthens community pride while establishing a distinctive textile identity for Pathum Thani Province.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Product currently undergoing market testing.

Senyai Haeng Sainam

INNOVATIVE DESIGN FROM WATER HYACINTH

Assoc.Thonthep Sirisoda
Faculty of Architecture
Rajamangala University of Technology Thanyaburi

CRE-013

Highlight

Key features and Strengths

This innovation was developed to address the declining popularity of traditional water hyacinth handicrafts, a result of market saturation with outdated designs. The project introduces a new creative approach to developing water hyacinth products that are modern, distinctive, and market-responsive, combining local craftsmanship with contemporary design knowledge and advanced production techniques. The development process begins with selecting and preparing water hyacinth as the primary raw material, followed by designing new product forms that express local identity while maintaining modern aesthetics and functionality. Production methods were also improved to enhance strength, durability, and visual appeal, ensuring that the products meet current consumer and market demands. In addition, the project emphasizes knowledge transfer and community participation, enabling local artisans to apply design and production innovations to generate sustainable income and livelihoods. The collaboration between designers and communities has resulted in a creative product development model that can be expanded into commercial applications. Ultimately, this innovation not only revitalizes the cultural and economic value of water hyacinth, a once-overlooked local material, but also serves as a bridge between art, traditional wisdom, and the creative economy, elevating community-based products to sustainable modern markets.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

Granted IP protection or approved Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

UltraLite Green Blocks

THE FUTURE OF LIGHTWEIGHT ECO-FRIENDLY BRICKS

Asst. Prof. Dr.Prachum Kamphut

Faculty of Engineering

Rajamangala University of Technology Thanyaburi

CRE-014

Highlight

Key features and Strengths

The Ultra-Light Green Block is an innovative lightweight and eco-friendly building material developed under the concept of Upcycling Construction Materials — maximizing the use of industrial waste for environmental benefit. The product utilizes non-recyclable Ethylene Vinyl Acetate (EVA) plastic waste from manufacturing industries combined with rice husk ash as a partial replacement for cement. This composition helps reduce natural resource consumption and minimize carbon emissions generated during the production process. Engineered with low-cost lightweight aggregate technology, the Ultra-Light Green Block offers a sustainable alternative to traditional aerated lightweight concrete, which is often more expensive. Despite its reduced weight, the block maintains excellent strength and durability, comparable to standard lightweight bricks. It also exhibits high flexibility, resisting breakage even when dropped from a height of over three meters. The material can be sawn, cut, drilled, and nailed using standard construction tools, making it highly practical and user-friendly. In addition to its superior mechanical properties, the Ultra-Light Green Block is fire-resistant, providing effective thermal and sound insulation. It is also free from heavy metal contamination and radon gas, ensuring a safe, energy-efficient, and environmentally responsible construction solution. Made almost entirely from recycled and alternative materials, the Ultra-Light Green Block represents a new generation of sustainable construction innovation — combining technology, safety, and environmental stewardship to advance the vision of a green and resilient building industry.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).
Tested according to Thai Industrial Standards (TIS) and currently under review for Green Label Certification to confirm its eco-friendly credentials.

Intellectual Property (IP) Rights

Granted IP protection or approved Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Mani Ethnic Group

WAY OF LIFE, BELIEFS, AND WISDOM

Asst. Prof. Dr.Siriporn Sombunburana

School of Political Science and Public Administration

Walailak University

CRE-015

Highlight

Key features and Strengths

This project integrates multidisciplinary knowledge from anthropology, art and culture, sociology, design, and museology to create a comprehensive understanding of the Mani ethnic group. It explores their history, lifestyle, beliefs, and indigenous wisdom under the framework of the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG) — continuing Her Royal Highness's vision of sustainable conservation of natural and cultural resources. The research employed a community-based participatory approach, conducting fieldwork in Phatthalung, Satun, Trang, and Songkhla provinces through in-depth interviews and participant observation. The collected data covers key aspects such as daily life, forest relationships, traditional medicine, and social systems. These insights were developed into a knowledge database and public learning materials, with plans to expand into digital media and academic archives in the future. The Mani Ethnological Museum at Walailak University was designed as a "Living Museum" — an interactive learning space that authentically reflects the voices and perspectives of the Mani people themselves. A key highlight of this work is its creative presentation of ethnographic knowledge through art and contemporary media, using Storytelling Design and Cognitive Learning concepts to create immersive, hands-on learning experiences. These approaches make the story of the Mani community vivid, accessible, and engaging for all audiences. Furthermore, the project extends Mani local wisdom into the creative economy by designing handicrafts and souvenirs that reflect the group's unique cultural identity. This initiative positions the museum as a national model for sustainable ethnocultural preservation and knowledge dissemination, blending heritage, creativity, and innovation to inspire future development.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Prototype developed but not yet tested in the market.

Lanna Clay Craft

MUANG-KUNG POTTERY HANDICRAFT

Dr.Pasinee Siriprapa

Faculty of Fine and Applied Arts and Architecture,
Payap Chiang Mai Campus,
Rajamangala University of Technology Lanna

CRE-016

Highlight

Key features and Strengths

1. Transform cultural capital into creative economy value by utilizing local resources—clay, craftsmanship, and traditional pottery wisdom—to develop modern, high-value products that meet new market demands in tableware, craft collections, and cultural experiences.

2. Design a comprehensive development process covering the entire chain—from production and branding to real-market testing—to create a sustainable and competitive business ecosystem.

3. Empower Local Artisans as Creative Entrepreneurs
Provide knowledge transfer in business management, cost control, design, and marketing to help pottery artisans achieve self-reliance and sustainable market expansion in the creative industry.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Commercially available in the domestic market

Retail Price

300 – 5,000 THB per piece

Sakonnakhon Weavers

A CREATIVE CULTURAL LEGACY OF INDIGO DYEING

Asst. Prof. Dr. Uthumporn Lordko

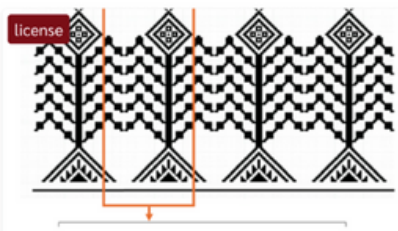
Community Development Department, Faculty of Humanities and Social Sciences, Sakon Nakhon Rajabhat University

CRE-017

Highlight

Key features and Strengths

The development of standards for indigo-dyed fabric in Sakon Nakhon involves designing tie-dye patterns of indigo fabric in the communities of Ban Nabu, Nong Waeng Tai Subdistrict, Wan Ron Niwat District, Sakon Nakhon Province, and Ban Ba Wa, Ba Wa Subdistrict, Akat Amnuai District, Sakon Nakhon Province. Both communities apply various forms of community capital: social capital is reflected in the predominant labor force of elderly producers; natural resource capital is present in the raw materials used in production (cotton and indigo); and cultural capital is evident through the use of local craftsmanship wisdom essential to tie-dyeing(IKAT), indigo dyeing, and weaving. This collective knowledge leads to shared ideation, collaboration, and co-design in developing distinctive tie-dye indigo fabric patterns. These emphasize traditional production methods and culturally representative motifs reflecting the community's identity, way of life, and culture. For example, Ban Nabu village designed two tie-dye patterns: "Uthumphon" and "Stella Nabua, the Star of Nabua," while Ban Ba Wa village designed two patterns: "Cho Dok Wa" and "Ton Dok Khao."



ลายผามัดหมี่ "ต้นดอกข้าว"

ลายผามัดหมี่ "อุทุมพร"

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

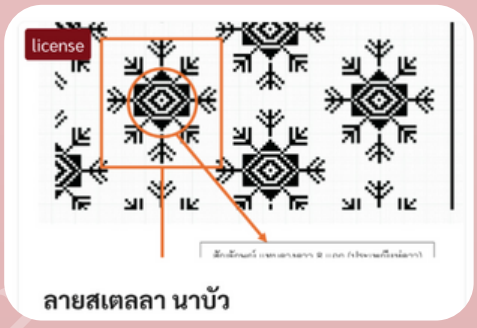
Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

Granted IP protection or approved Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.



ลายสเตลลา นาบัว

Sakon Nakhon Indigo

REVIVING CRAFTSMANSHIP WITH MODERN INNOVATION

Asst. Prof. Dr. Saensuree Chuewangkham

Research and Development Institute

Sakon Nakhon Rajabhat University

CRE-018

Highlight

Key features and Strengths

1. Moisture reduction removes water from materials to extend shelf life, prevent microbial growth, reduce weight and volume for easier transport, and enable new product development. Drying methods include sun drying, hot air, solar, vacuum, freeze, spray, and roller drying. Solar drying is cost-effective and energy efficient. In this study, a pyramid dome solar drying oven made of steel and polycarbonate panels was used to dry 30 kg of wet indigo from 98% to 10% moisture in 5 days at 57 ^{o}C, reducing production costs and improving quality and hygiene.

2. Particle size reduction decreases material size for processing efficiency. A ball mill, built from steel and reused gas cylinders, ground 15 kg of dry indigo in 3 hours to 200–700 μm particles. Smaller particles have higher surface area-to-volume ratios, enhancing reactions and uniform mixing. The process relies on compression, impact, shear, and friction forces, while minimizing heat to preserve pigment quality.

3. Reaction time reduction improves dyeing convenience using powdered indigo. This involves: (1) developing suitable reducing agents—reducing sugars like those in tamarind, sugarcane, and banana, effective under strong alkaline conditions (pH > 11); and (2) adding mordants such as alum, tamarind acid, lye ash, or lime water, which form metal–dye complexes that bond firmly to fibers. These prevent color loss during washing, resulting in durable and vibrant indigo dye.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Phra Leuan Mat Mi

THE INNOVATIVE PATTERNS OF MAT MI SILK

Assoc. Prof. Sombat Prajonsan

Faculty of Industrial Technology, Buriram Rajabhat University

CRE-019

Highlight

Key features and Strengths

The design and production of Mai Mudmee Lai Phra Luean (Blurred Motifs Ikat Silk) are inspired by the conceptual meanings of the word “Phra Luean” (blurred) as used across various disciplines. These interpretations are translated into six creative design techniques: dispersed blur, ambiguous blur, deconstructed blur, overlapped blur, repetitive blur, and intervened blur. Each technique represents a departure from the traditional linear framework of Thai Ikat silk production, encouraging innovation beyond convention. The development process involves experimental approaches in multiple stages — from pattern design, yarn threading, resist tying, weaving, dyeing, color washing, and layered pattern overlaying to repeated color dyeing. These methods produce contemporary Mudmee silk textiles that retain the essence of Thai craftsmanship while expressing a fresh, artistic interpretation suitable for modern creative industries.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

3D Handwoven Textiles

ADVANCING WASTE MATERIALS THROUGH DESIGN INNOVATION

Asst. Prof.Koranut Suksawat

Faculty of Home Economics Technology

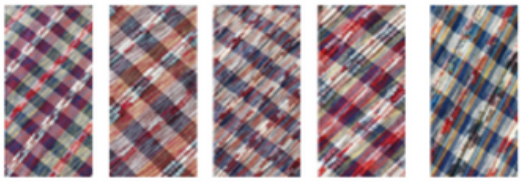
Rajamangala University of Technology Thanyaburi

CRE-020

Highlight

Key features and Strengths

This innovative project reimagines traditional handwoven textiles through a creative three-dimensional weaving technique. It combines leftover fabric scraps and T-shirt collars from the textile industry with natural fibers, using eco-friendly dyeing processes derived from local plants such as yanang leaves, marigold flowers, and sappanwood. The result is a distinctive, durable, and textured fabric that blends artistry with innovation. Inspired by the wisdom of the Ban Wang Yao Handwoven Textile Group in Khlong Hin Phon Subdistrict, Wang Nam Yen District, Sa Kaeo Province—an OTOP 5-star certified community—this work integrates local craftsmanship with modern science and technology. It aims to elevate traditional handwoven fabrics to meet commercial standards and create new opportunities for community-based innovation. Key Highlights Eco-Innovation: Reduces industrial textile waste, aligning with the BCG (Bio-Circular-Green) economic model and the principles of sustainable development. High Value-Added Design: Enhances product value by up to three times through unique 3D patterns that stand out in today's competitive market. Versatile Applications: Ideal for interior decoration, sustainable fashion, bags, apparel, and premium souvenirs.



Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Prototype developed but not yet tested in the market.

Lampang Fabric

CREATIVE PRODUCTS AND CULTURAL DISTRICT DEVELOPMENT

Dr. Khwannapha Sukkara

Lampang Education Center, Suan Dusit University

CRE-021

Highlight

Key features and Strengths

The "Lampang Lac Dyed Fabric" is a cultural innovation that harmoniously blends local wisdom with modern standards, reflecting the province's unique identity as the "City of Lac Dyed Fabric." It embodies the stories of traditional craftsmanship, the meticulous artistry of local weavers, and a way of life deeply connected to nature. The distinctiveness of this fabric lies in the use of lac, a natural dye derived from lac insects cultivated on over 6,800 rai of land across all 13 districts of Lampang. The province is recognized as Thailand's largest producer and processor of lac, with the second-highest export value in the world. The outcome of this initiative goes beyond elevating local textile products—it also serves as a strategic city branding tool under the concept of "Lampang: The City of Lac Dyed Fabric and the Metropolis of Lac." It connects the upstream, midstream, and downstream sectors of the creative economy, generating employment, increasing community income, and enhancing Lampang's image as a model city of textile design and innovation for a sustainable future.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Commercially available in the domestic market

Retail Price

300–1,000 baht

Pribpri Pattern Fabric

THE SYMBOL OF IDENTITY

Assoc. Prof. Dr.Kanchana Boomsong

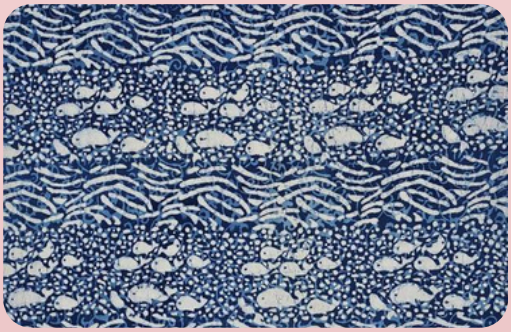
Faculty of Education, Phetchaburi Rajabhat University

CRE-022

Highlight

Key features and Strengths

The project “Signature Fabric: Threads of the Land” stands out for its integration of historical research, local wisdom, and cultural artistry to create new social and economic value for communities along the Thai–Myanmar border. Conducted through a Creative-Based Research approach since 2014, the project explores key cultural regions including Phetchaburi, Prachuap Khiri Khan, Singkhon, Tanintharyi, and Myeik, reviving shared histories and transforming them into creative innovations with economic potential. Its highlight is the development of 12 distinctive fabric patterns that decode stories and local identities, such as Tung Na Pa Tan (Palm Field), Whale Family, Dvaravati, Pla Too (Mackerel), Phet Rajabhat, Suwannawat, Fish and Rice, Phlai Ram Singkhon, Phet Ratchawat, and Royal Flower Coin of Phra Ruang, along with a Map Scarf depicting archaeological sites and Thai border villages. What makes this work remarkable is its foundation in academic research combined with art, textile design, and community wisdom—resulting in an innovative cultural fabric with historical, economic, and educational value. The project exemplifies creative transformation of heritage into high-value textile innovation, offering strong potential for creative product development and positioning local fabrics at both provincial and international levels. It serves as a true model of research-driven preservation and sustainable development of local cultural heritage.



Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).
Copyright Registration for Fabric Patterns

Intellectual Property (IP) Rights

Granted IP protection or approved Invention Disclosure.

Market Readiness

Product currently undergoing market testing.

Retail Price

- Tung Na Pa Tan (Palm Field Pattern) – 350 THB per yard
- Whale Family Pattern – 350 THB per yard
- Dvaravati Pattern – 350 THB per yard
- Pla Too (Mackerel Pattern) – 350 THB per yard,
- Phet Rajabhat Pattern – 1,200 THB per piece,
- Suwannawat Pattern – Handwoven fabric; price varies depending on cotton and silk material costs
- Fish and Rice Pattern – 350 THB per yard
- Phlai Ram Singkhon Pattern – 350 THB per yard
- Phet Ratchawat Pattern – Royal brocade-style fabric, 2,500 THB per piece
- Royal Flower Coin of Phra Ruang Pattern – 350 THB per yard
- Archaeological Map Scarf (Dvaravati–Mueang Phribphri) – 559 THB per piece
- Thai Border Village Map Scarf – 599 THB per piece

Koh Kaew Suttharam Textiles

THE INNOVATION OF CREATIVE CULTURE

Asst. Prof.Sanprasert Panniem

Faculty of Humanities and Social Sciences

Phetchaburi Rajabhat University

CRE-023

Highlight

Key features and Strengths

The research project “Developing a Management Mechanism for the Old Quarter of Phetchaburi toward a Creative Cultural Heritage District”, led by Phetchaburi Rajabhat University in collaboration with the Arsom Silp Institute of the Arts and Chulalongkorn University, aimed to transform Phetchaburi’s historic area into a hub of cultural innovation. Through the activity “Inspired Voices, Inspired Patterns: Art in the Old Quarter of Phetchaburi,” local artists and entrepreneurs explored traditional murals to create contemporary designs rooted in local heritage. Among them, Mr. Thanit Phumsawai, founder of Phusa Phalaiyang, drew inspiration from the late Ayutthaya murals at Wat Ko Kaew Suttharam, developing the “Ko Kaew Suttharam Pattern” into creative heritage products such as sarongs, shirts, hand fans, umbrellas, and shoulder bags—demonstrating how art, culture, and community innovation can drive sustainable creative economies.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under an exclusive license, granting full commercialization rights to a single partner or enterprise.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).
Copyright Registration for Fabric Patterns

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Commercially available in the domestic market

Retail Price

- The collection includes sarongs priced at 8,000 THB per piece
- Shirt fabric at 900 THB per yard
- Hand fans at 960 THB each
- Umbrellas at 1,500 THB each
- Shoulder bags at 1,500 THB each
- Hair ribbons at 90 THB each
- Pants at 1,300 THB per pair

Botanical Eco-Print Fabric

A SUSTAINABLE DINING EXPERIENCE

Asst. Prof.Arena Esama

Program in Fashion and Textile Design

Rajamangala University of Technology Srivijaya

CRE-024

Highlight

Key features and Strengths

The fabric used in the product design is plant-printed fabric (Eco-Print), featuring water-repellent properties to prevent wetting from droplets or splashes. It helps the fabric dry quickly, is easy to clean, resists stains and dirt, and effectively extends the fabric's lifespan. The design of the dining table linen set made from this plant-printed fabric (consisting of a tablecloth, placemats, and coasters) is based primarily on the needs of resort businesses and working-age tourists. It draws inspiration from nature and marine life, conveyed through the patterns and shapes of the products.

The tablecloth is inspired by the sea, with patterns and shapes designed from sea fish located in the center of the fabric, connecting the woven fabric and the Eco-Print fabric. The edges are embellished with fluttering tassels resembling coral. The placemats and coasters continue the concept of fish and underwater life to reflect the harmonious unity between the natural beauty of the fabric and the charm of the sea.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Product currently undergoing market testing.

Retail Price

1,400 THB

Premium Sake of Phrae

YAM YEN – 3 JOK – WANG CHIN

Asst. Prof.Dr.Amares thepma

Faculty of Architecture and Fine Arts, University of Phayao

CRE-025

Highlight

Key features and Strengths

The Wangchin brand marks the development of a community liquor product with the packaging design that commemorates Thailand and China's 50-year relationship. The design incorporates Chinese symbols alongside Phrae province, Thailand, featuring a dragon and a tiger. The tiger symbolizes the stupa for those who were born in the year of tiger, located at Wat Phra That Cho Hae in Phrae Province. The tiger clutching a jewel signifies the prosperity of Phrae as a resource hub along the Yom River basin, known for naturally occurring gemstones such as Blue Sapphire and Red Ruby, which are famous in Phrae.

The product's design emphasizes the geographical characteristic of being situated along the Yom River, specifically from the Mae Sin branch, which inspired the packaging concept. The Wangchin brand employs red and blue colors to symbolize different product lines: blue representing the Blue Sapphire, which signifies the mellow taste of the evening liquor, and red representing the Red Ruby, emblematic of the "Sam Jok" brand, known for its spicy herbal flavor. These two brands collaboratively established the Wangchin brand.

The term "Wang Chin" or "Wang Jin" is a homophone in Chinese, meaning "the pure spirit of the ruler." The bottle design draws inspiration from the "Feng Shui" concept of the "gourd" fruit, considered a symbol of abundance. The bottle's neck is designed with facets resembling a cut gemstone, emphasizing the theme of purity and value.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Commercially available in the domestic market

Retail Price

1,500 THB

Kroh

HANDICRAFT PATTERNS FROM CHAMPHADA

Asst. Prof. Dr.Jansamon Phonboon

Faculty of Fine and Applied Arts, Songkhla Rajabhat University

CRE-026

Highlight

Key features and Strengths

Kroh is a traditional handwoven craft created by local villagers using simple, natural materials available in their community. It was originally used to wrap Champada fruits (Artocarpus integer) to protect them from insects. The weaving process involves interlacing two strips of coconut leaves into a cone-shaped cover, reflecting the ingenuity of rural craftsmanship. The design analysis focuses on three key elements: the texture of the coconut leaf, the weaving technique, and the thorny texture of the Champada fruit. Based on these characteristics, the designer developed a creative concept titled “Contemporary Vernacular”, resulting in five original pattern designs inspired by the Kora. These patterns were further applied to three product categories: Apparel – including men’s and women’s shirts and shawls; Home textiles – such as curtain sets, furniture upholstery, and bedding; Handmade crafts – including decorative pillows, phone cases, and bags. This innovation transforms local craft heritage into modern textile design, blending art, culture, and functionality to create products that embody both Thai identity and contemporary lifestyle appeal

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Community Product Standard (CPS)

Intellectual Property (IP) Rights

Granted IP protection or approved Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

Plasma Hemp Fabrics

REVOLUTIONIZING TEXTILES WITH SUSTAINABLE TECHNOLOGY

Dr.Sureeporn Sarapirom

Applied Physics Faculty of Science, Maejo University

CRE-027

Highlight

Key features and Strengths

The multi-channel gliding arc (MCGA) plasma reactor system developed in this project is designed to enhance the surface properties of hemp fabric, improving its water absorption and natural dye affinity. The system operates by generating low-temperature plasma via air arcing, which produces reactive oxygen and nitrogen species (RONS). These reactive species interact with the fiber surface, inducing both chemical and physical modifications—such as the introduction of hydroxyl (-OH) and carboxyl (-COOH) groups—that increase hydrophilicity and strengthen dye–fiber bonding efficiency.

The prototype has 96 reactors arranged in a multi-channel setup, capable of treating a wide fabric (1 m wide) on both sides at the same time, with a processing speed of 1 meter per minute. This setup greatly cuts down treatment time and guarantees even surface modification. The system allows adjustment of key operating parameters, including plasma exposure time and gas type, to accommodate different materials. It's designed for continuous operation with precise temperature control, making it suitable for both laboratory research and small-scale industrial use.

This innovation features low energy use and removes the need for chemical reagents, making it an environmentally friendly green technology. It can be applied to other natural and bio-based materials like cotton, jute, silk, cellulose-based fibers, and natural biopolymers. The technology aims to enhance the value of Thailand's natural textile and biomaterial industries while supporting the Bio-Circular-Green (BCG) Economy Model.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Not yet submitted for FDA registration

Intellectual Property (IP) Rights

No IP protection filed and no Invention Disclosure submitted.

Market Readiness

Prototype developed but not yet tested in the market.

Eco-Friendly Textile Innovation

NATURAL DYEING WITH DRIED BETEL NUT

Asst. Prof. Dr. Supanicha Sriworadechpaisan and
Mr. Phawanphat Kaenkaew
Faculty of Home Economics Technology
Rajamangala University of Technology Thanyaburi

CRE-028

Highlight

Key features and Strengths

The project develops natural-dyed fabrics from dried betel nuts that meet AATCC and ASTM textile standards. The resulting colors are durable, vibrant, and environmentally friendly, offering warm natural tones such as golden brown, reddish-brown, and dark brown, which beautifully reflect Thailand's natural identity. The fabrics have been tested for colorfastness to light and washing according to international textile standards, making them suitable for fashion design, interior decoration, and lifestyle products that embrace both sustainability and cultural aesthetics.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Standards and Certification Status

Not yet submitted for FDA registration.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

'Thup Ruesee' Flower Fibers

NATURAL TEXTILE INNOVATION

Assoc. Prof. Dr. Sakorn Cholasakorn, Asst. Prof. Dr. Supanicha Sriworadechpaisarn, and Ms. Pornnapa Boonyapan

Faculty of Home Economics Technology

Rajamangala University of Technology Thanyaburi

CRE-029

Highlight

Key features and Strengths

The project develops natural-dyed fabrics from dried betel nuts that meet AATCC and ASTM textile standards. The resulting colors are durable, vibrant, and environmentally friendly, offering warm natural tones such as golden brown, reddish-brown, and dark brown, which beautifully reflect Thailand's natural identity. The fabrics have been tested for colorfastness to light and washing according to international textile standards, making them suitable for fashion design, interior decoration, and lifestyle products that embrace both sustainability and cultural aesthetics.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

Mae Ing Shibori

NATURAL DYEING INNOVATION TO PREMIUM COMMUNITY PRODUCTS

Dr. Warach Madhyamapurush and
Asst. Prof. Dr.Kanlaya Jumpatong

Innovation and Technology Transfer Institute
University of Phayao

CRE-030

Highlight

Key features and Strengths

Process Innovation Integrating Science, Local Wisdom, and Shibori Art This ready-to-use Process Innovation focuses on the integration of scientific knowledge, local wisdom, and the Japanese art of Shibori dyeing to develop high-value, eco-friendly woven fabric products with unique identity and artistic value. The innovation consists of three key components as follows

1.Standardized Dyeing Process Technology Developed by the research team from the Faculty of Science, led by Asst. Prof. Dr. Kalaya Champathong, this process addresses the common issues of uneven coloration and poor colorfastness in traditional dyeing methods. The standardized system covers all stages from upstream to downstream — including fiber preparation, natural color extraction, mordanting, and hot dyeing — resulting in improved color quality, consistency, and durability.

2. Shibori Patterning Art

Mr. Ekarin Lattasaksiri, a community innovator, has adapted traditional Japanese Shibori resist-dyeing techniques — such as binding, folding, clamping, and stitching — to create distinctive, artistic patterns that are difficult to replicate. These designs express a blend of creativity, craftsmanship, and local aesthetic values, giving each piece a unique artistic character.

1. Knowledge Transfer Framework

Designed and implemented by Dr. Warach Madhyamapurush, this framework serves as a mechanism for scaling up the innovation through the integration of Knowledge Management and Design Thinking approaches. It involves capturing lessons and tacit knowledge from researchers and prototype innovators and transferring them to target communities through hands-on workshops. This enables local communities to learn, experiment, and adapt the technologies sustainably according to their specific contexts and local materials.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Technology transferred under a non-exclusive license, allowing multiple partners to adopt and apply the innovation freely.

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Commercially available in international markets

Retail Price

250 – 3,000 baht

"Chulapat" The Identity of Ayutthaya

REVIVING AND INNOVATING TIMELESS SIAMESE PATTERN

Dr. Surin Srisangngam
Ayutthaya Studies Institute
Phranakhon Si Ayutthaya Rajabhat University

CRE-031

Highlight

Key features and Strengths

"Chulaphat" is a community textile product developed from the traditional "Lai Yang" patterned fabric, which was originally used for wrapping scriptures and preserving them in temple scripture cabinets in Wat Yan Angthong (Chulalok), Phak Hai District, Phra Nakhon Si Ayutthaya Province. This ancient craft has been passed down through generations. The product was developed by the Ayutthaya Studies Institute, Phranakhon Si Ayutthaya Rajabhat University, which has systematically transferred this knowledge to the local community. This collaboration led to the formation of the Wat Yan Angthong (Chulalok) Community Enterprise Group, strengthening local participation and ensuring the continuation of traditional wisdom through creative innovation. The name "Chulaphat" combines two words: "Chula", from the temple's former name, Wat Chulalok, and "Phatra", meaning fabric. Together, they signify "The Fabric of Wat Chulalok", representing a textile heritage that preserves the craftsmanship and cultural identity of Ayutthaya while creating new local value in a sustainable way.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

The group is officially registered as the "Wat Yan Angthong (Chulalok) Community Enterprise Group" and has been certified with the Community Product Standard (CPS) for fabric-based handicraft products, registration number CPS 412/2015. It is also register

Market Readiness

Granted IP protection or approved Invention Disclosure.

Retail Price

50 - 3,500 baht

5 Chiang Patterns

THE LEGENDARY WEAVES OF TAI ANCESTORS

Ratchanikorn Kusalanon

Faculty of Industrial Technology, Chiang Rai Rajabhat University

CRE-032

Highlight

Key features and Strengths

Fashion Product Design Project to Enhance the Creative Tourism Economy from the Cultural Heritage of the Contemporary “Five Chiang” (Chiang Rai, Chiang Mai, Kengtung, Jinghong, and Luang Prabang) This project aims to promote creative tourism through fashion design inspired by the rich cultural heritage of the Five Chiang region. The study explores the art, culture, craftsmanship, and lifestyle of the Tai ethnic groups

Tai Yuan, Tai KhÜn, and Tai Lue — who share a deep connection through textile traditions influenced by royal courts, migration, and interlinked histories. The research focuses on royal textiles that reflect refined craftsmanship and social hierarchy, transforming these inspirations into five contemporary design directions:

Chiang Rai – “Free as a Swan”: Modern reinterpretation of the Black Swan of Chiang Saen motif using signature local colors (red, yellow, orange, green, navy, indigo) to create easy-to-wear resort and street-style fashion. Chiang Mai – “Old Patterns, New Stories”: Reviving traditional motifs (orchid vines, zigzags, twin birds, floral and temple designs) with vibrant colors and clear graphic forms suitable for modern fabric printing.

Kengtung – “The Light of Flower”: Inspired by Tai KhÜn royal silk patterns with lotus motifs, blending embroidery and digital printing to express timeless elegance.

Jinghong – “Rainbow Threads”: Drawing from traditional Tai Lue horizontal weaves with bright, playful colors to symbolize cultural continuity.

Luang Prabang – “Golden Threads”: Reimagining gold-thread embroidery featuring auspicious animals (Qilin, fish, butterfly, bat, peacock) using digital print and modern techniques. This fashion innovation transforms cultural identity into contemporary design, enhancing local value creation, production capability, and sustainable economic growth through creative tourism.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Standards and Certification Status

Certified or accredited under other recognized standards (please specify).

Intellectual Property (IP) Rights

In the process of filing for IP protection or preparing an Invention Disclosure.

Market Readiness

Prototype developed but not yet tested in the market.

Retail Price

Scarf (70 x 70 cm) – Price: 300 THB and Scarf (90 x 90 cm) – Price: 400 THB (Prices set by the Research and Development Institute, Chiang Rai Rajabhat University)

Phaya Naga

THE EMERALD POWER OF DEVOTION

Asst. Prof. Dr.Worrajak Muangjai

Institute Institute of Community Technology Transfer

CRE-033

Highlight

Key features and Strengths

The Emerald Green Naga King sculpture is inspired by Buddhist belief and symbolism. In Buddhist tradition, the Naga is a mythological serpent being closely associated with the history of Buddhism. According to legend, the Naga possessed deep faith in Buddhism and wished to be ordained as a monk and live under the saffron robes. However, monastic rules prohibit non-human beings from entering the monkhood, and thus the Naga was denied ordination. The Naga then appealed to the Buddha, requesting that humans preparing for ordination be referred to as “Nak” (Naga) during the pre-ordination stage. This tradition—known as Buat Nak—appears throughout Buddhist chronicles and continues to be practiced today.

The moral of this account suggests that even a non-human being with supernatural power, such as the Naga, held profound reverence for Buddhism. Humans, who have the rare opportunity to encounter and practice religion, should therefore appreciate and safeguard this privilege. The artist who created the Emerald Green Naga King is likewise a devoted Buddhist and has studied these beliefs extensively. Like many believers, the artist honors the virtues of the Naga, which is traditionally regarded as a guardian and protector of Buddhism, as seen in Naga sculptures commonly placed at temple entrances, ordination halls, and sacred architecture.

In 2024, which corresponds to the Year of the Dragon or Great Serpent in the zodiac cycle—symbolically linked to the Naga—the artist created this sculpture as a commemorative token for individuals who have made meaningful contributions to Rajamangala University of Technology Lanna. The ceramic sculpture combines cultural inspiration with expertise in three-dimensional ceramic art. The Naga is formed using a semi-industrial molding process with stoneware clay and finished with an emerald-green glaze. It is fired at 1,240°C in an oxidation atmosphere and decorated with 12K gold luster. The final form emphasizes elegance, dignity, and protective power, symbolizing authority, prosperity, and continued good fortune.

Status and Potential of Research and Innovation

Current Status of Innovation Utilization

Not yet commercialized or transferred for use.

Intellectual Property (IP) Rights

No IP protection filed, and no Invention Disclosure submitted.

Market Readiness

Prototype developed but not yet tested in the market.

VENTURE RISE THAILAND 2025