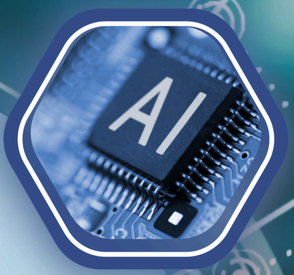
Program Management Unit for Competitiveness (PMUC)







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Structure of Thailand's Science, Research, and Innovation (SRI) System

Policy

National Higher Education, Science, Research and Innovation Policy Council

Office of National Higher Education, Science, Research and Innovation Policy Council

Policy execution & budget allocation

The Committee for the Promotion of Science, Research and Innovation (COSCI)
National Science, Research and Innovation Fund (NSRF)

Thailand Science Research and Innovation (TSRI)

Manage and administer funds

Funding Agencies & Program Management Units (PMUs)

Operation

Higher Education Institution

Agencies/Organizations in the Science, Research, and Innovation (SRI) System under the Ministry of Higher Education, Science, Research and Innovation (MHESI)

Beneficiaries

Thai citizens

Thai Private Sectors

The Policy and Government Sectors

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Strategies of the Higher Education, Science, Research, and Innovation (HESRI) Plan, 2023 - 2027

S1

Developing the Thai economy with a value-creating and creative economy to be competitive and sustainably self-reliant, ready for the future, by using science, research, and innovation.

S2

To elevate society and the environment for sustainable development, capable of solving challenges and adapting to dynamic global changes through the use of science, research, and innovation.

Strategy 1

Strategy 2

The National Strategic Framework for SRI

Strategy 3

Strategy 4

S3

The development of cutting-edge and advanced frontier science, technology, research, and innovation to create new opportunities and ensure the nation's future readiness.

S4

Developing human resources and institutions in science, research, and innovation to serve as a driving base for the nation's rapid (leapfrogging) and sustainable economic and social development, through the use of research and innovation strategies.

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Program Management Unit for Competitiveness (PMUC)

Research and Innovation Acceleration Agency for Competitiveness and Area Development (RCAD)

Referenced from the Royal Decree Establishing Research and Innovation Acceleration Agency for Competitiveness and Area Development B.E. 2025

1. Strategic Funding and Co-investment



2. Accelerating Technology and Innovation Development, including the Advancement of Arts, Aesthetics, and Soft Power for Commercialization



3. Partnership Development and Open Innovation Adaptation



4. Developing Industrial Workforce, New Entrepreneurs, and Research & Innovation Infrastructure



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From Now on

Research to Market Gap :
Research projects below TRL4 are not ready for use.

Demand Mismatch :
Innovation does not meet market demands.

Ecosystem Fragmentation :
Fragmented innovation ecosystem with a lack of linkage.

Lack of standardization and credibility :
Laboratories do not comply with international standards.

In the Future

TRL 4+ :
Research projects at TRL4+ are ready for use.

Commercial Impact :
High-value innovation that is marketable and scalable.

Innovation Ecosystem :
Strong ecosystem.

NQI :
Laboratories are internationally certified.

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The TRL range eligible for PMUC

TECHNOLOGY READINESS LEVEL (TRL)

TRL 1

Transforming concepts into research frameworks.



TRL 2

Studying and analyzing products for development.



TRL 3

Initial Laboratory-Scale Testing



TRL 4

Develop prototype and validate specs for statistical and commercial viability.



TRL 5

Implementing small-scale laboratory testing under simulated environments to ensure performance meets expected outcomes.



TRL 6

Scaling up testing with increased variables in a simulated operational environment, while monitoring and controlling key success and failure factors.



TRL 7

Conducting real-world testing with actual end-users in an uncontrolled market environment to identify flaws and iterate based on user feedback.



TRL 8

Moving to industrial-scale production and full-scale operational testing to achieve user confidence and quality assurance.



TRL 9

Post-launch monitoring and continuous product deployment to ensure long-term reliability, with a feedback loop for final refinements and optimization.

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Research

PROOF OF CONCEPT | **PROTOTYPE DEVELOPMENT** | **CORPORATE / EQUITY INVESTMENT**

1 2 3 4 5 6 7 8 9

NRCT PMU-B — **FUNDAMENTAL FUND**

สวก. ARDA | Program Management Unit PMUA On Area Based Development | สวทช. | PMUC | NIA สำนักงานนวัตกรรมแห่งชาติ — **bank / VC** — THAILAND BOARD OF INVESTMENT

IDEA SCREEN		SECOND SCREEN		GO TO DEVELOPMENT		GO TO TESTING		GO TO LAUNCH	
STAGE 1	STAGE 1	STAGE 2	STAGE 2	STAGE 3	STAGE 3	STAGE 4	STAGE 4	STAGE 5	STAGE 5
	SCOPING	BUILD BUSINESS CASE		DEVELOPMENT		TESTING AND VALIDATION		LAUNCH	
BASIC RESEARCH	RESEARCH TO FEASIBILITY	TECHNOLOGY DEVELLOPMENT		TECHNOLOGY DEMONSTRATION		SYSTEM / SUBSYSTEM DEVELOPMENT		SYSTEM TEST. LAUNCH AND OPERATIONS	

Industrial

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FUNDING AREAS 2569

Primary Programs

- Tourism and Creative Economy
- Health and medicine
- Functional Ingredient and High Valued Agricultural Products and Health Foods
- Circular Economy
- Bioenergy, Biochemicals and Biomaterials
- Digital and Semiconductors
- Future mobility Logistic and railway
- Logistics

Enabling Programs

- National Quality Infrastructure (NQI)
- Innovation Driven Enterprise (IDE)
- Global Partnership

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Research Funding Framework for Enhancing Industrial Competitiveness



Tourism and Creative Economy

Increasing the sales value of creative economy goods and services through the application of research, knowledge, technology, and innovation
(Target: 1,000 million THB between 2023 - 2027)



Health and Medicine

- Increasing the sales value of Advanced Therapy Medicinal Products (ATMPs) and biopharmaceuticals developed and produced in Thailand to meet international standards, driven by research, technology, and innovation (Target: 2,000 million THB, 2023-2027).
- Boosting the sales value of Thai-developed and produced medicines and herbal extracts through the application of research, knowledge, and innovation (Target: 500 million THB, 2023-2027).



Functional Ingredient and High Valued Agricultural Products and Health Foods

Increasing the sales and export value of Functional Ingredients, Functional Food, and Novel Food derived from domestic agricultural raw materials, through the application of research, knowledge, technology, and innovation (Target: 2,500 million THB, 2023-2027).

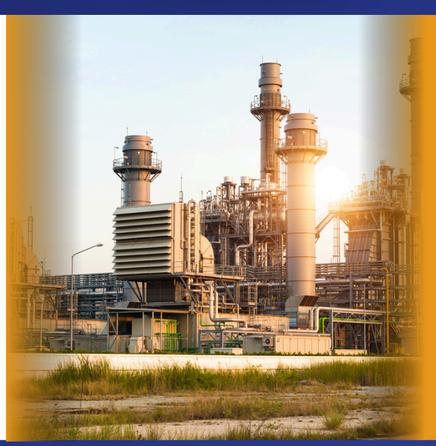


Circular Economy

Driving Thailand toward an innovation-based economy by scaling TRL 4-9 research into commercial success across key sectors, targeting over 6,350 Million THB in total economic impact by 2027.

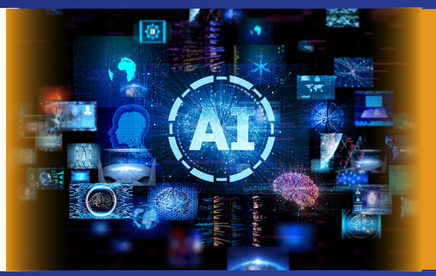
Bioenergy, Biochemicals and Biomaterials

- Bio-based Products Increasing the sales value of bio-based products derived from domestic agricultural raw materials or production/consumption waste, while reducing greenhouse gas emissions through the application of research, knowledge, technology, and innovation. (Target: 420 Million THB, 2023–2027)
- Clean and Renewable Energy Increasing the production value of clean, renewable, and bio-energy by domestic operators, while reducing greenhouse gas emissions through the application of research, knowledge, technology, and innovation. (Target: 400 Million THB, 2023–2027)



Digital and Semiconductors

Increasing the sales value of digital technology products and services, including Artificial Intelligence (AI), Smart Electronics, Robotics, and Automation—developed or enhanced domestically—through the application of research, knowledge, technology, and innovation.
(Target: 1,000 Million THB, 2023–2027)



Future Mobility and Rail Systems

- Electric Vehicles (EV) & Battery Technology Increasing the sales value of batteries, key components, and related electric vehicle technologies through the application of research, knowledge, technology, and innovation. (Target: 2,750 Million THB, 2023–2027)
- Rail Industry Increasing the sales value of domestically produced rail system components through the application of research, knowledge, technology, and innovation. (Target: 4,000 Million THB, 2023–2027)



Logistic

Reducing the logistics costs of domestic operators through the application of research, knowledge, technology, and innovation.
(Target: 1,000 Million THB cost reduction, 2023–2027)



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Enabling Programs

Innovation Driven Enterprise (IDEs)

- Large-Scale IDE Development Increasing the number of large-scale Innovation-Driven Enterprises (IDEs) with annual revenues of at least 1,000 million THB, through the application of research, knowledge, technology, and innovation. (Target: 12 Enterprises, 2023–2027)
- SME Transformation into IDEs Generating revenue from SMEs that have been developed into Innovation-Driven Enterprises (IDEs) through the application of research, knowledge, technology, and innovation. (Target: 47,500 Million THB, 2023–2027)



Global partnership

- The number of collaborative networks involving higher education institutes, research centers, government agencies, and the private sector or civil society that are members of international Science, Research, and Innovation (SRI) networks and have active joint projects with those networks. (Target: 180 Networks, 2023–2027)



National Quality Infrastructure (NQI)

- The number of newly established, acquired, or upgraded National Quality Infrastructure (NQI) systems.
- The significant economic value generated from the utilization of these infrastructures. This includes services in metrology, standardization, testing, and quality certification (TIC). (Target: 1,000 Million THB, 2023–2027)



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IMPACT PATHWAY

Project : Name of research project.....

Outcome or Result: An Outcome is the result of the target audience (User) utilizing the research output, leading to a change in behavior, acceptance, knowledge, attitude, and skills.

Input

- **Factors that drive the research to successful completion.**
  - Research budget
  - Team
  - Existing knowledge from previous research projects that is built upon / Ownership of the work.

TRL 4+

Output

- **The first and most obvious results from the research project, answering the stated research objectives, such as:**
  - Product, Innovation
  - Technology
  - Policy recommendations
  - IP
  - Capacity building

TRL 6+

Outcome (from utilization)

- **Users or beneficiaries of the research output at multiple levels.**
  - 1st User
  - 2nd User
  - Final User
- **The level of change from utilizing the output, categorized by each user type.**
  - User is able to generate income.
  - Can reduce logistics costs

Impact

- **Impact is the large-scale change resulting from the outcome. There are 3 main types.**
  - Economic impact
  - Social impact and
  - Environmental impact
- **Can be considered in terms of direct and indirect impacts, both positive and negative.**

20xx — 20xx — 20xx — 20xx — 20xx

Define the research timeframe from its beginning to the expected impact period (Ex-ante) or to the actual impact assessment period after the project ends (ex-post).

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