

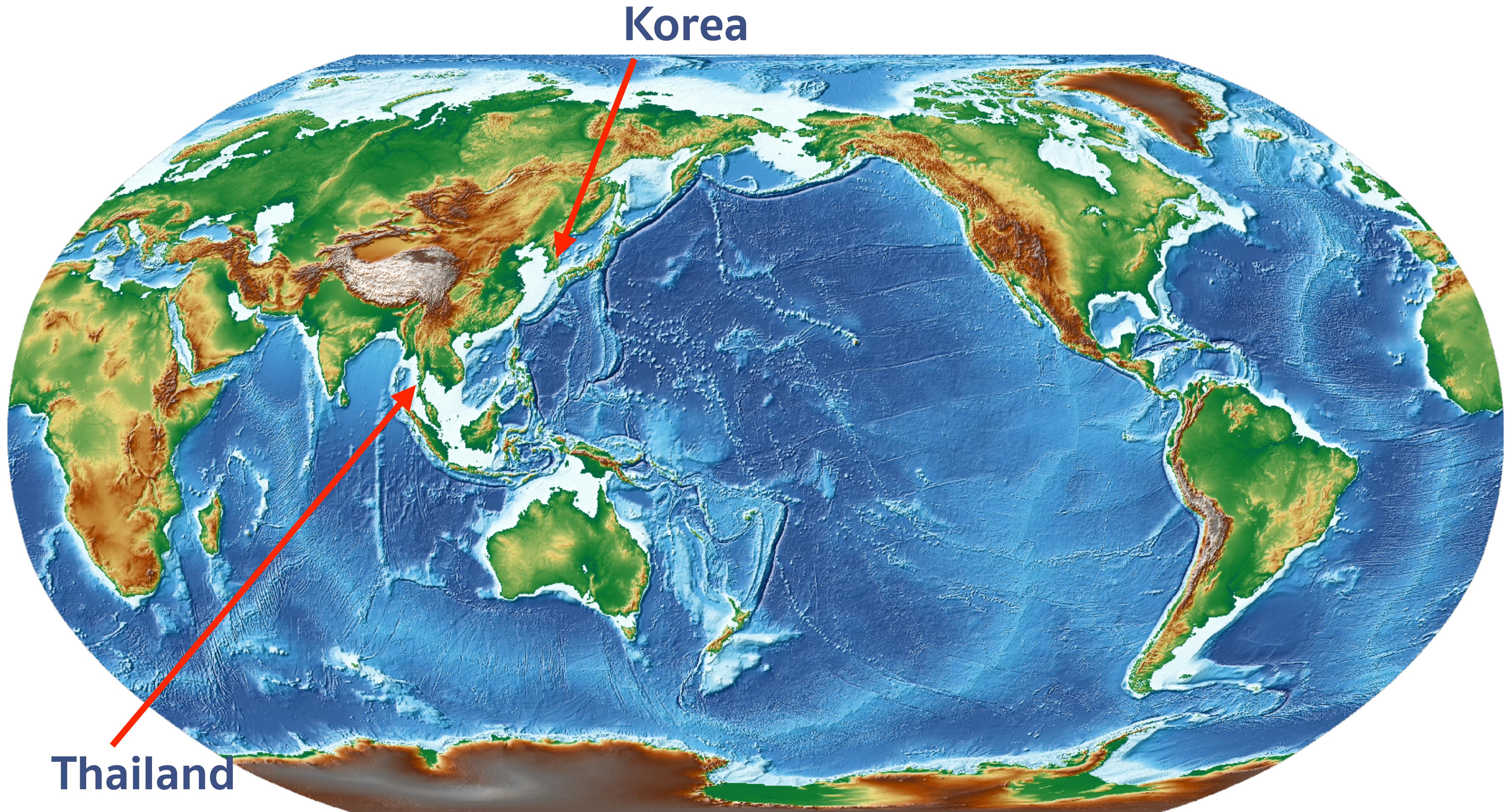


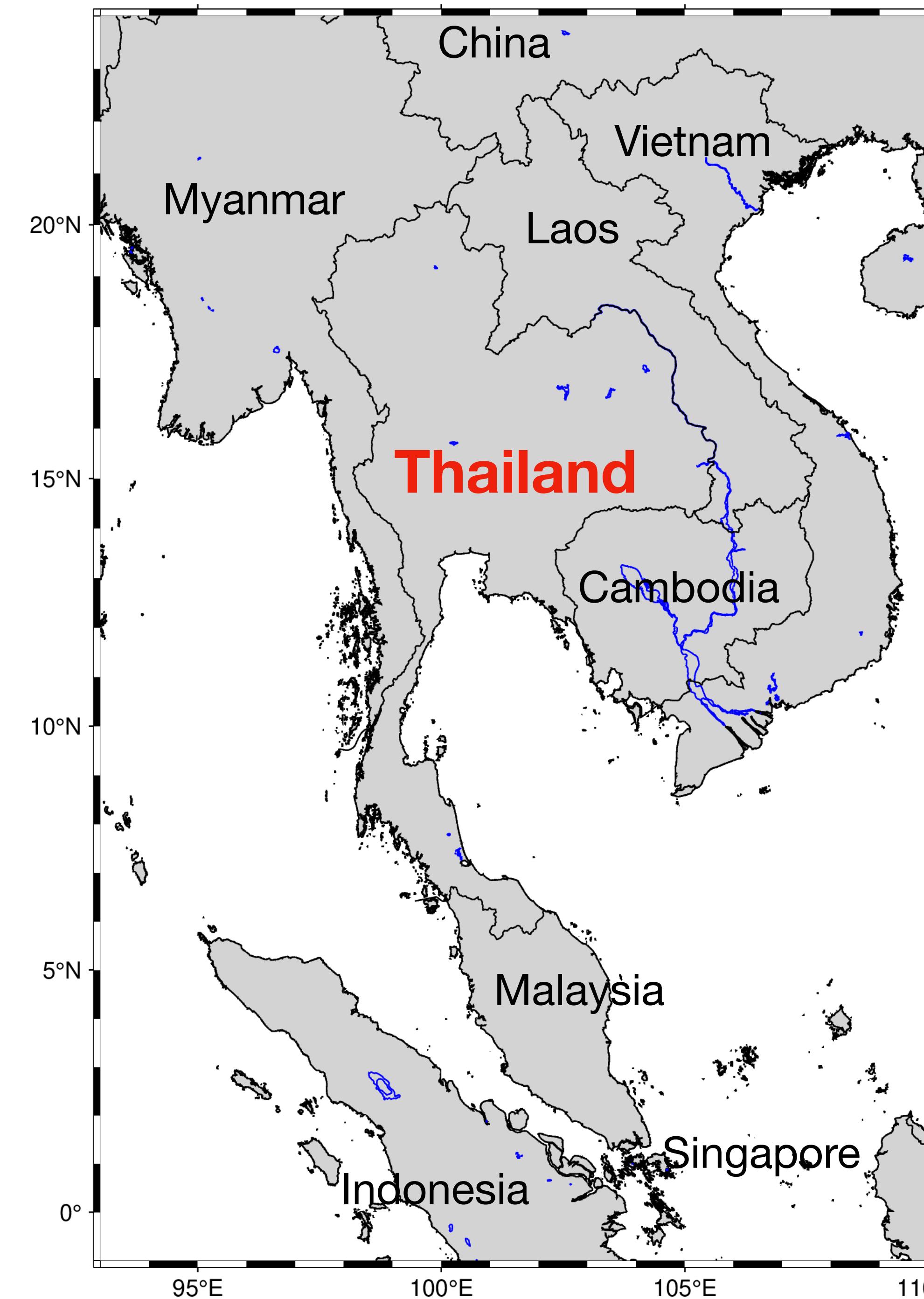
# An Overview of Thailand's Science & Technology Policy

Scientist Invitation Program to Korea 2025

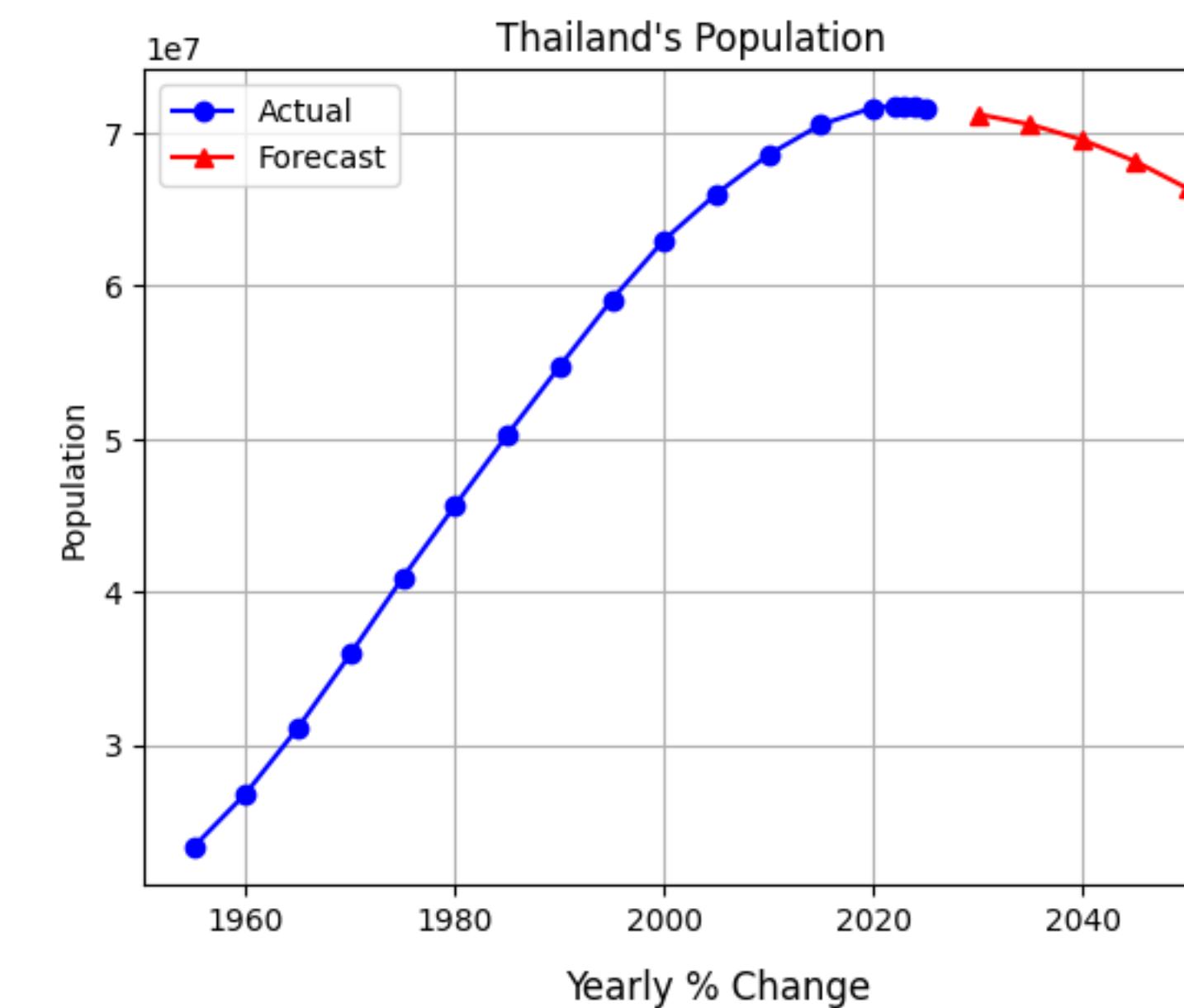
Songkhun Boonchaisuk

# 1. Overview

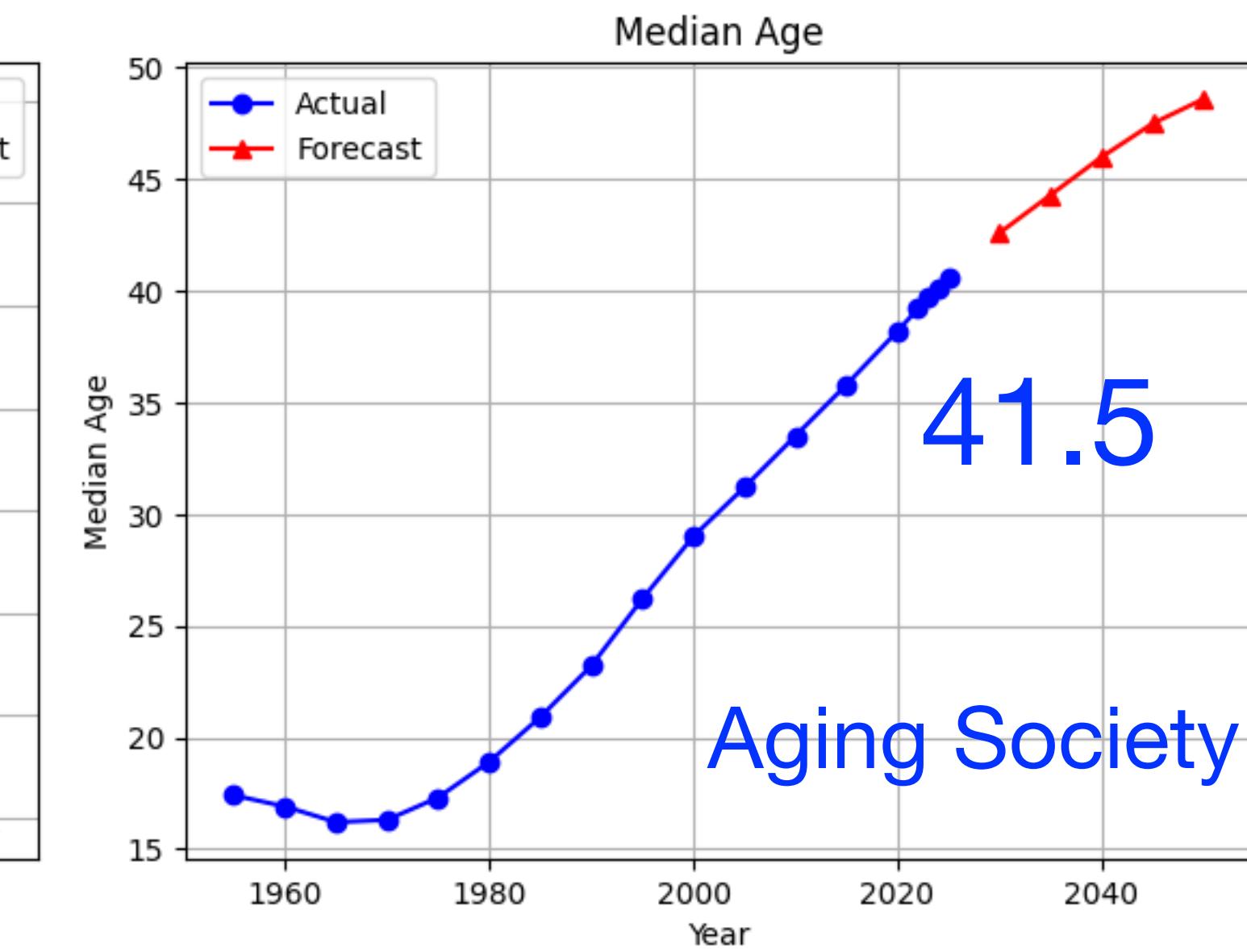
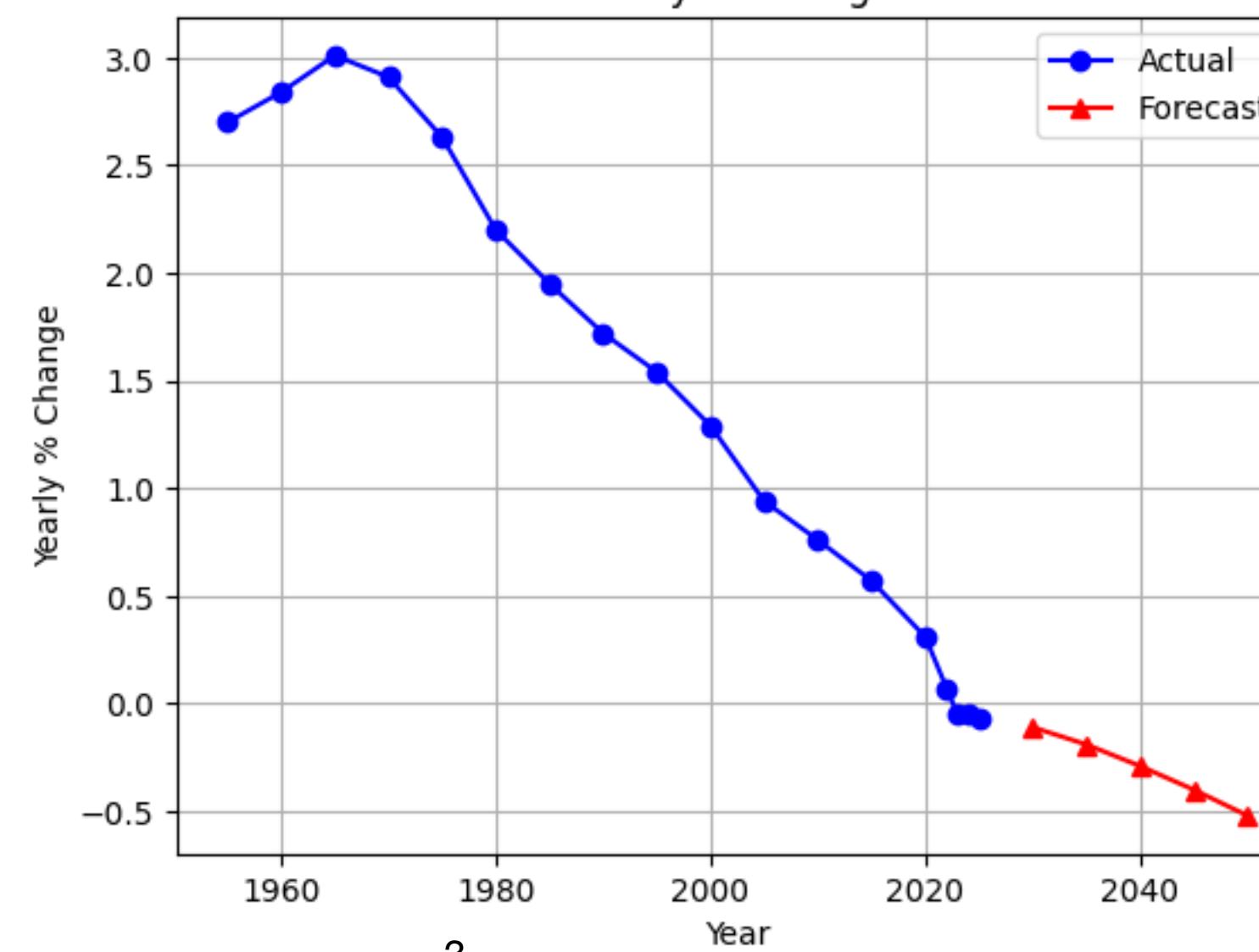




# Population

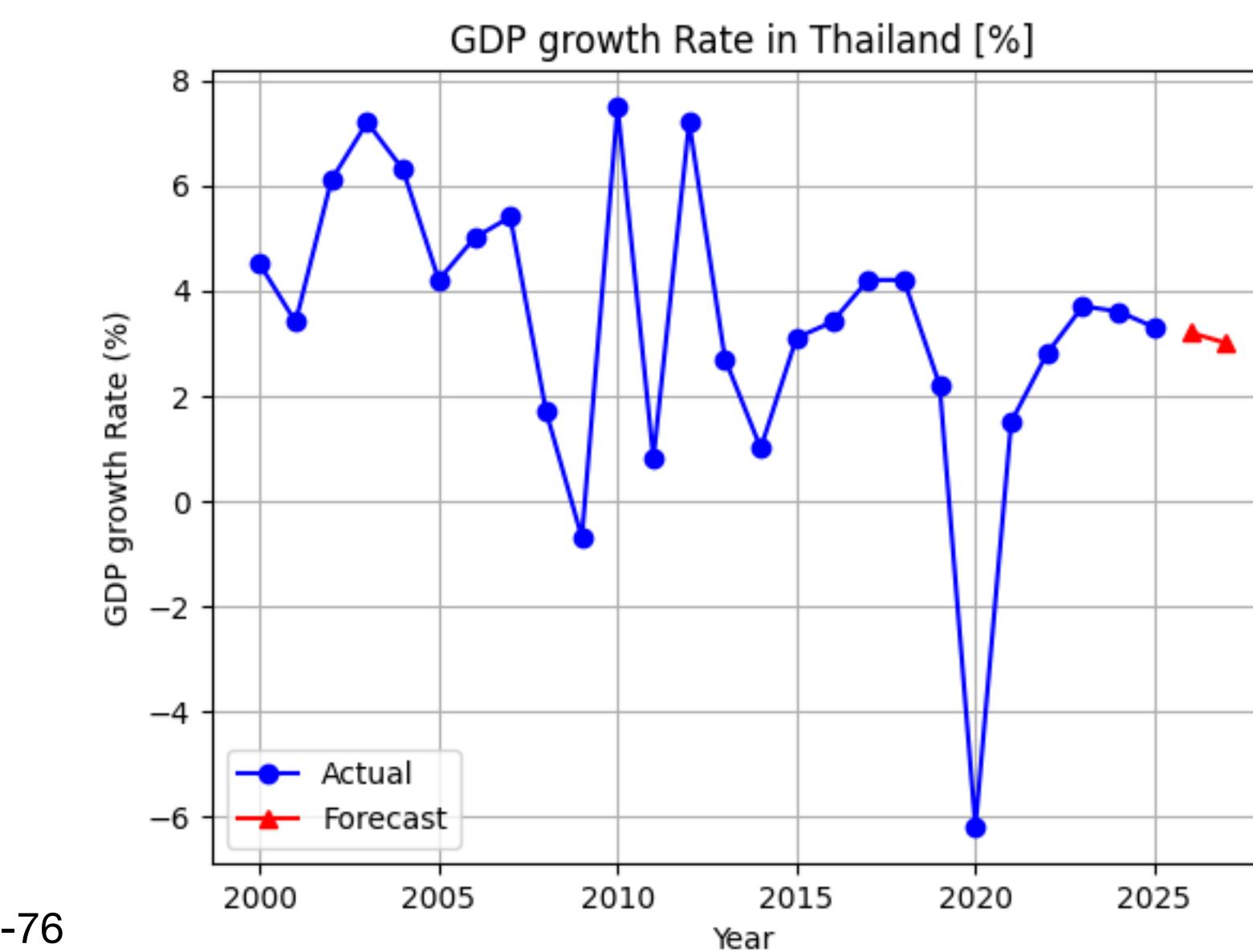
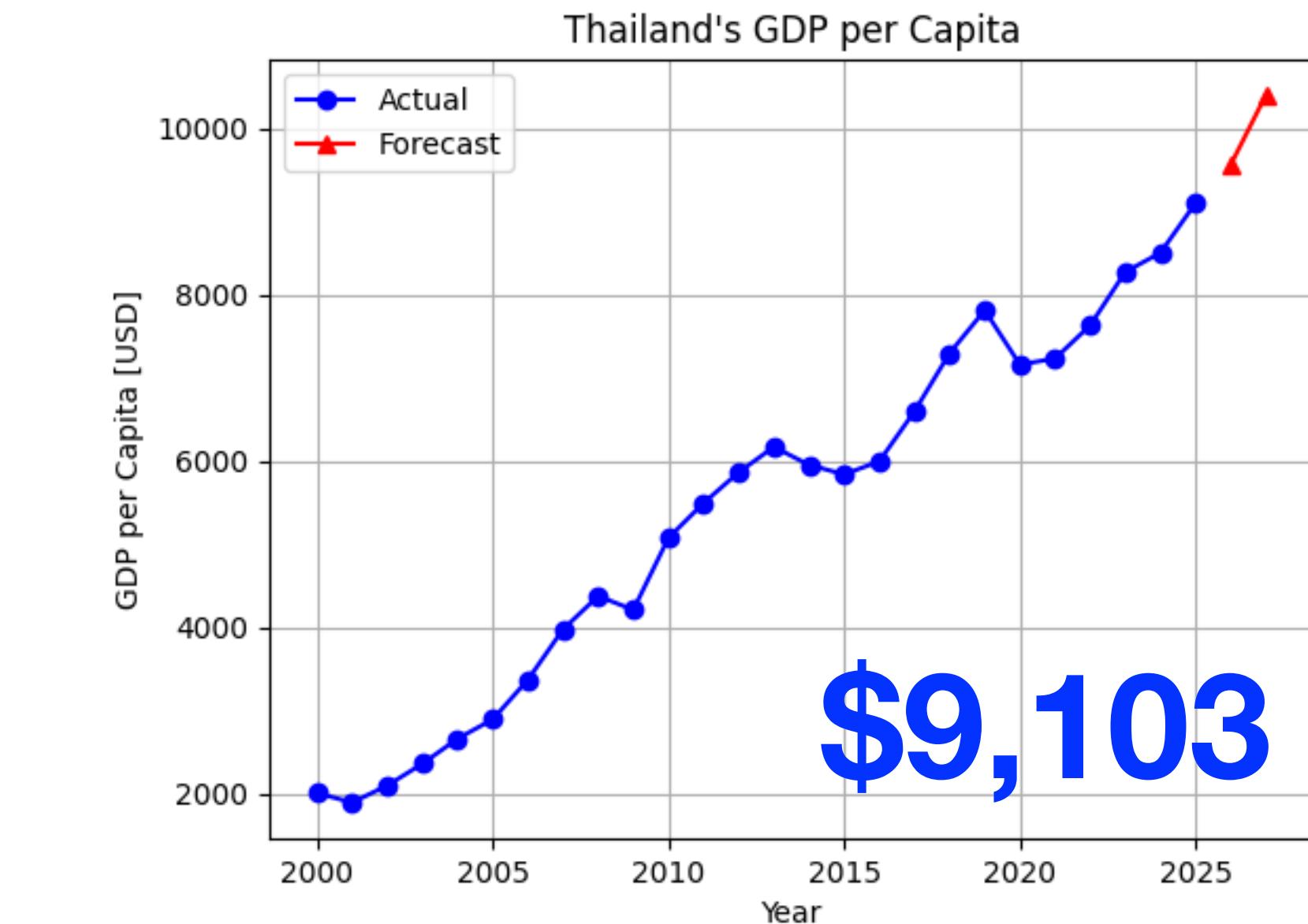
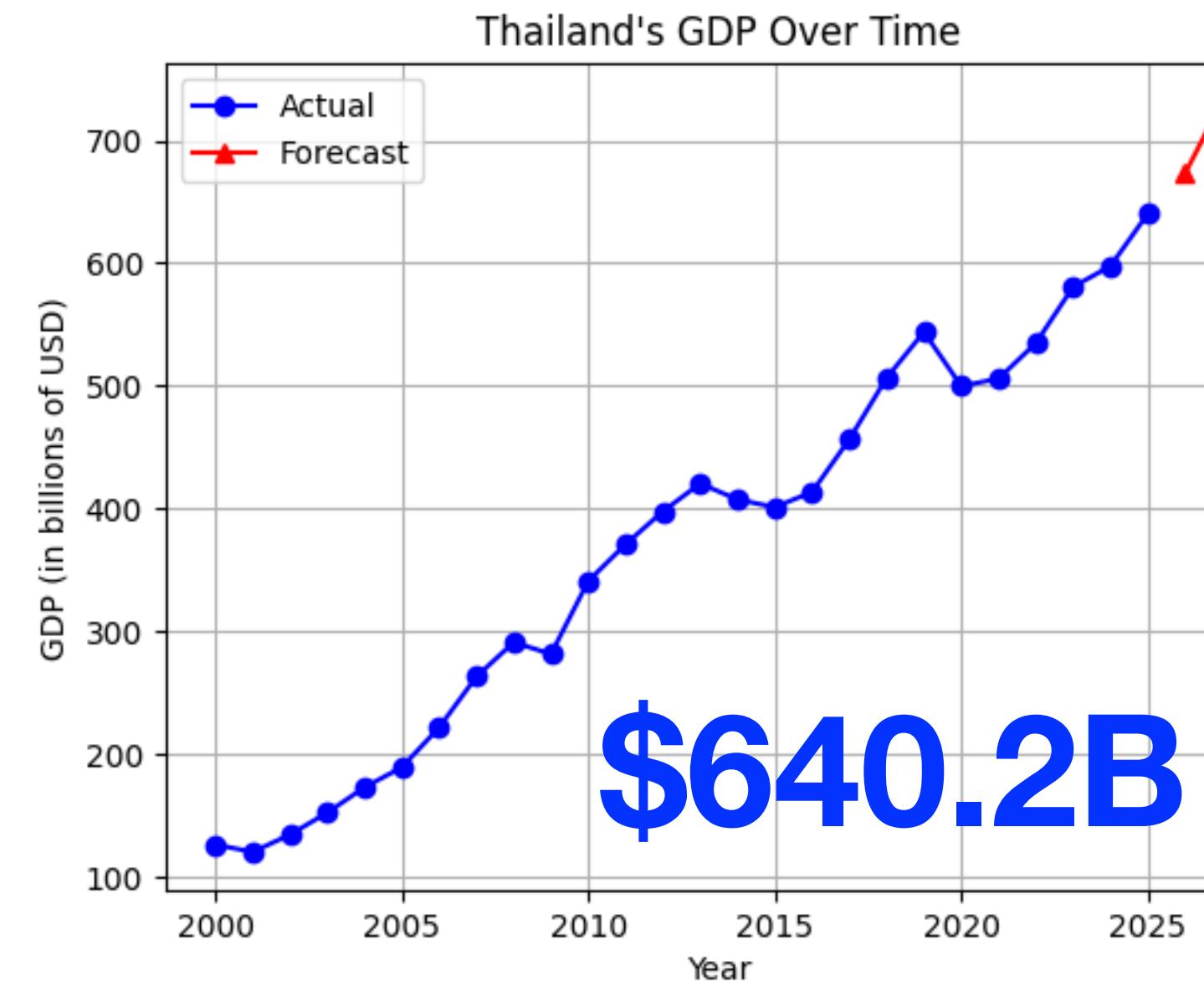


71.6M (2025)



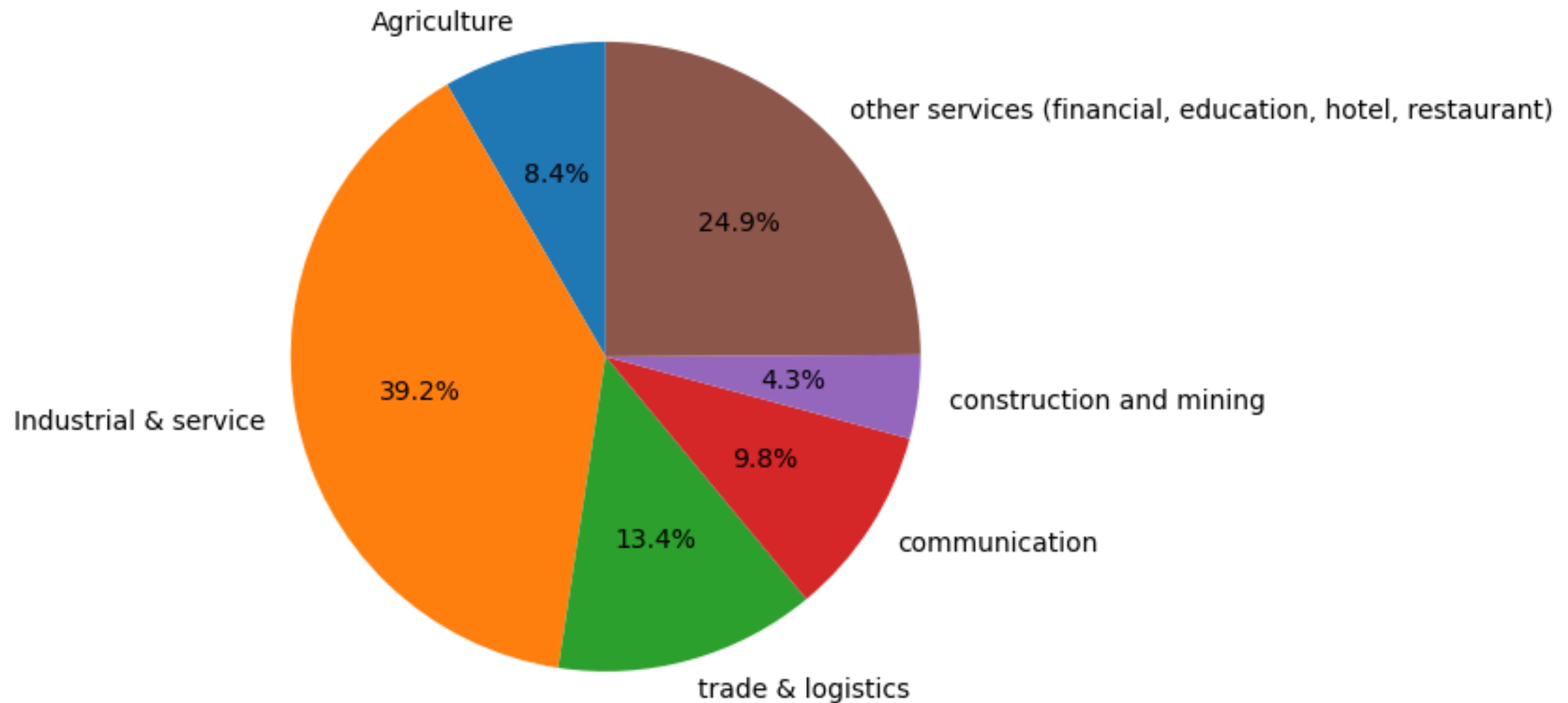
41.5  
Aging Society

# GDP:



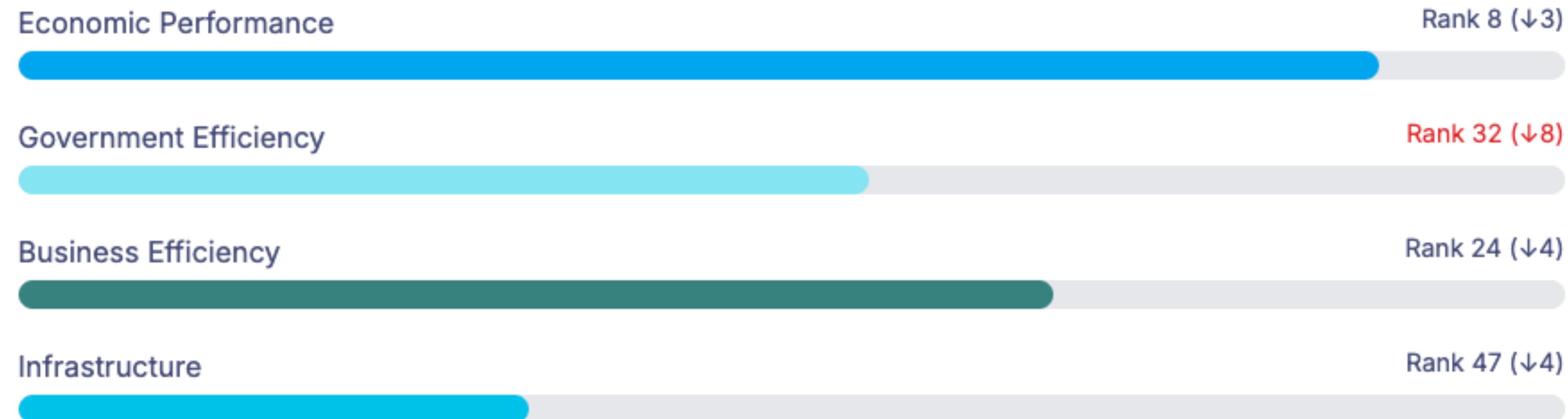
[https://en.wikipedia.org/wiki/Economy\\_of\\_Thailand#cite\\_note-76](https://en.wikipedia.org/wiki/Economy_of_Thailand#cite_note-76)

# Major Industry

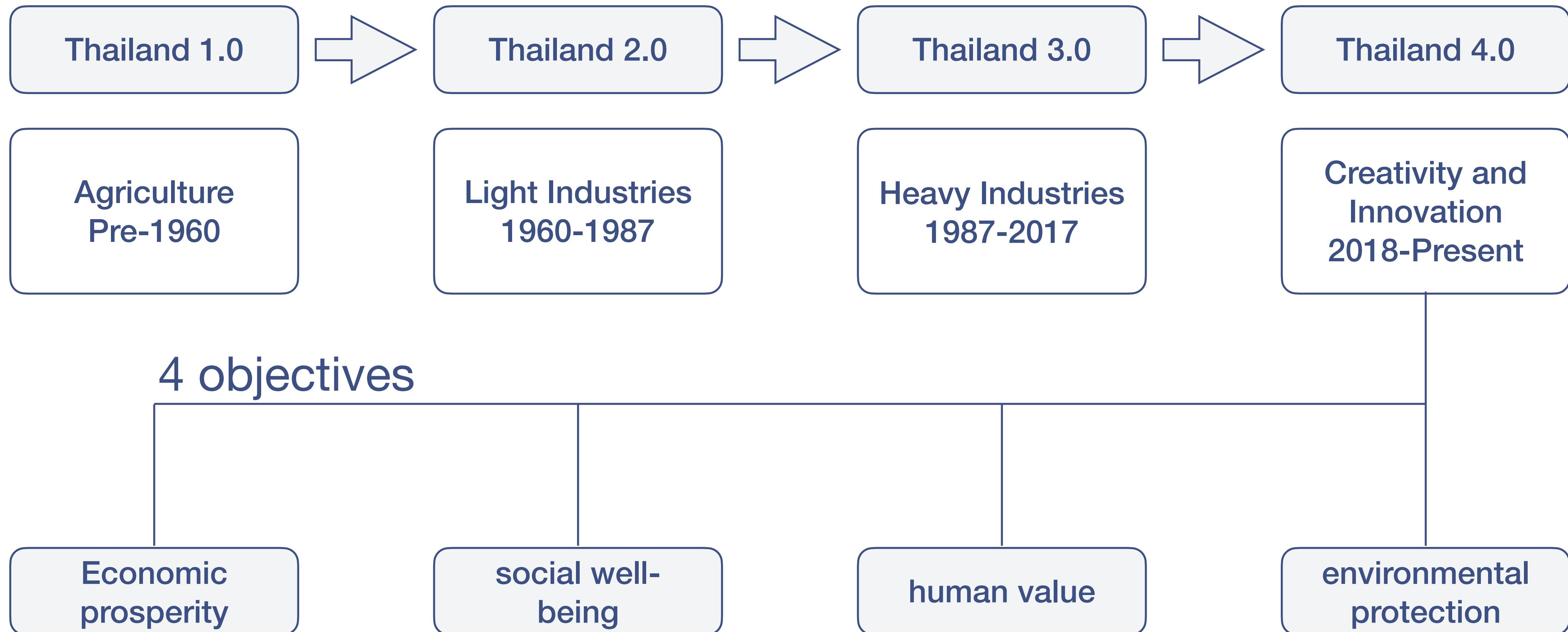


## IMD World Competitiveness Ranking (2025)

Thailand fell 5 spots to 30th globally in 2025. The most significant drop was in Government Efficiency, signaling a need for administrative reforms to support business and innovation. Declines were seen across all major pillars.



# Evolution of the Thai economy



# Thailand's National Strategy 2018-2037

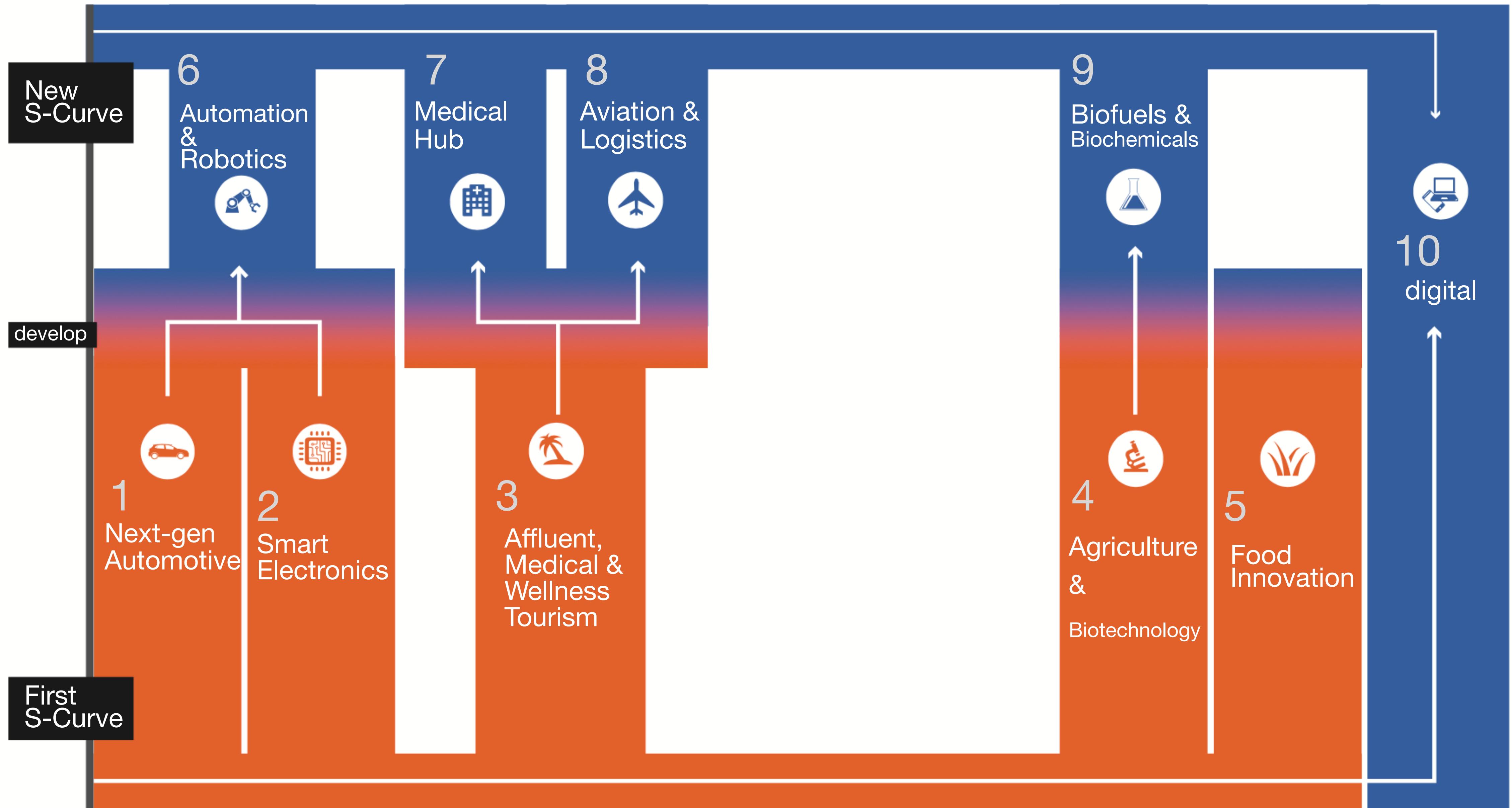
Vision

“a developed country with security, prosperity and sustainability in accordance with the Sufficiency Economy Philosophy.”

Goals

1. national security
2. Enhancing national competitiveness
3. developing and strengthening human capital
4. a cohesive and just society
5. eco-friendly development and growth
6. public sector rebalancing and development

# Thailand economic imperative



## 2. S&T Governance Structure



## 2. The national science and technology governance structure

[MHESRI]  
Ministry of Higher  
Education, Science,  
Research and  
Innovation (2019)

central ministry for STI

[MOST] Ministry of Science and Technology  
[OHEC] the Office of the Higher Education Commission  
[NRCT] the National Research Council of Thailand  
[TRF] Thailand Research Fund

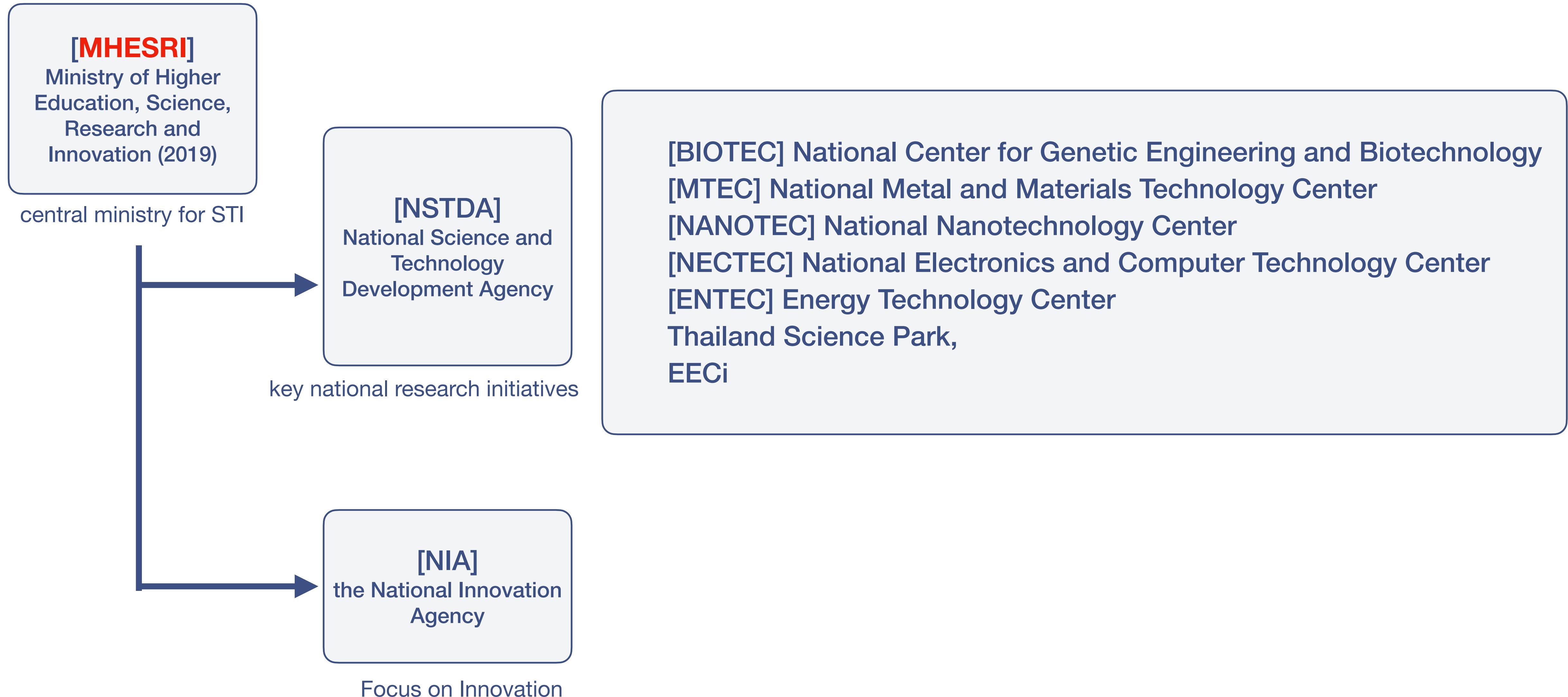
research initiatives

the Office of the Minister,  
Office of the Permanent Secretary,  
Office of Atoms for Peace, and  
the Department of Science Service (DSS)

the National Science and Technology Development Agency (**NSTDA**),  
the National Innovation Agency (**NIA**),  
the Thailand Institute of Nuclear Technology (TINT),  
the National Astronomical Research Institute of Thailand (NARIT),  
the National Institute of Metrology (NIM), and  
the Geo-Informatics and Space Technology Development Agency (GISTDA).  
Thailand Institute of Scientific and Technological Research (TISTR) and  
the National Science Museum.

key national research initiatives  
Focus on Innovation

## 2. S&T Governance Structure



## 2. S&T Governance Structure

[MDES]  
Ministry of Digital  
Economy and Society

[DEPA] Digital Economy Promotion Agency  
[NCSA] National Cyber Security Agency

promotes the digital economy

Promote, develop digital economy, society, and security;  
formulate digital policies, cybersecurity.

# 3. Core Policies & Strategies

focusing on 4 key strategies

1. Thai Economic Development through Value-Based and Creative Economy
2. Elevating Society and Environment for Sustainable Development
3. Advancing Frontier Science, Technology, Research, and Innovation
4. Developing Human Resources and Institutions in Science, Research, and Innovation



### 3.1 Thai Economic Development through Value-Based and Creative Economy

Objective:

including the **Bio-Circular-Green (BCG) Economy**, aiming for **global or regional leadership** in key sectors.

Key Flagship Program:

- Development and production of **COVID-19 vaccines** and establishing Thailand as an ASEAN vaccine hub
- Development and production **Advanced Therapy Medicinal Products (ATMPs)**, related biologics, and high-value medical devices
- Boosting production and **export** of functional ingredients, functional food, and novel food to become a world leader.
- Accelerating production and **export** of high-value Thai **food, fruits, and processed agricultural products**.
- **Enhancing tourism** through a value-based creative economy focusing on sustainability and increased national income.
- Expediting the development of the **electric vehicle industry** to make Thailand an ASEAN production hub.
- Developing and promoting large **Innovation Driven Enterprises (IDEs)**

## 3.2 Elevating Society and Environment for Sustainable Development

### Objective:

To foster a sustainable, ethical, and resilient Thai society, capable of addressing global challenges, with improved resource management and a low-carbon economy.

### Key Flagship Program:

- Developing the potential of rural and urban **elderly** to be self-reliant, valuable, and contribute to society.
- Eradicating poverty and **reducing inequality** by increasing access to career development, education, technology, and innovation.
- Strengthening **local economy** for self-reliance and increased income distribution.

### 3.3 Advancing Frontier Science, Technology, Research, and Innovation

**Objective:**

To enable Thailand to generate advanced knowledge, innovation, and frontier technologies, transitioning from a technology adopter to a "Front Runner" globally and regionally in future industries, supported by robust SRI infrastructure.

**Key Flagship Program:**

- Developing **advanced future technologies and Earth Space Technology**, including satellites, for geospatial applications and future space industry.

### 3.4 Developing Human Resources and Institutions in SRI

**Objective:**

To develop highly skilled human resources, universities, and research institutions in SRI to drive Thailand's economic and social development sustainably and at an accelerated pace, achieving international recognition.

**Key Flagship Program:**

- Developing **research personnel** and scientific human capital, including scientists and innovators, with ethics and high professional competence.
- Producing and developing **high-skilled** research and scientific personnel to meet national demands.
- Developing Thailand as an ASEAN "**Hub of Talent**" and "**Hub of Knowledge**," including in Oriental studies and cultural heritage.

# Regional S&T Policy Context

Country	Key S&T Policy Focus
 Thailand	BCG Model, Digital Transformation, Value-Based Innovation
 Malaysia	Digital Economy Blueprint, High-Tech Nation Goal
 Philippines	Inclusive Innovation Ecosystem, Startup Empowerment
 Indonesia	Digital Economy, Leveraging Natural Resources
 Peru	Emerging Digital Economy, Leveraging Biodiversity

# 4. Notable international cooperation efforts

## Thailand's Development Cooperation Agency (TDCA):

- A **pivotal institution** in international development, facilitating development assistance, capacity building, and sharing Thailand's development experiences with other nations, particularly in Southeast Asia.
- This involves **sharing resources, expertise, and best practices.**

## International Partnerships:

- Play a crucial role in expanding TDCA's impact, fostering cross-border learning, and enabling Thailand to share successes and learn from others' challenges and innovations.
- Japan, China, Germany, USA, UK, etc.

# 4. Notable international cooperation efforts

## Global Partnership Initiative:

- A **funding program** (2019-present) to increase Thailand's international engagement in R&D, mandating goals for selected Program Management Units (PMUs) under TSRI's funding.

## Technology Transfer and Collaboration:

- Evident in areas like **vaccine and biologics production**, where capabilities have been developed through local R&D and technology transfer and collaboration with foreign partners.

# 4. Notable international cooperation efforts

## Joint Research and Labs:

- **NSTDA partners with universities** for joint research, development, and promotion of services. The National Science Technology and Innovation Policy Office also facilitates academic, R&D collaboration within and outside Thailand.

## CTCN Technical Assistance (Hydrogen Technology):

- An international project (2022-present) focused on developing a master plan for **green hydrogen technology** to achieve net-zero targets.

# 5. Current challenges

- Structural Constraints to Innovation and Competitiveness
- Aging Population
- Regulatory Environment
- Talent Shortage
- Funding Constraints
- Cybersecurity Concerns
- Inequality in S&T Benefits

(<https://www.worldbank.org/en/country/thailand/overview>)

(<https://www.scb10x.com/en/blog/exploring-thailand-s-startup-ecosystem>)

(<https://www.nxpo.or.th/th/en/thailands-performances-in-the-world-competitiveness-rankings/>)

(<https://eosglobalexpansion.com/thailand-tech-industry-opportunities/>)

# 5. Future Outlook

- **Promising Trajectory for Tech Industry**
  - Driven by government support, a vibrant startup ecosystem, and increasing foreign investments.
- **Growth Opportunities**
  - e-commerce, fintech, smart cities, and health tech
- **Continued Focus on R&D and Innovation**
- **Strategic Priority Areas for S&T**
  - bioscience and biotechnology, materials science, electronics, and information science and technology
- **Importance of Policy and Impact Studies**
  - accurately assess the developmental benefits and costs of S&T initiatives



APEC 2025  
KOREA

**INITiNK**  
Initiative Thinking

# Thank you

for your attention