

Human capacity-building: STI and entrepreneurship promoting policies and practices

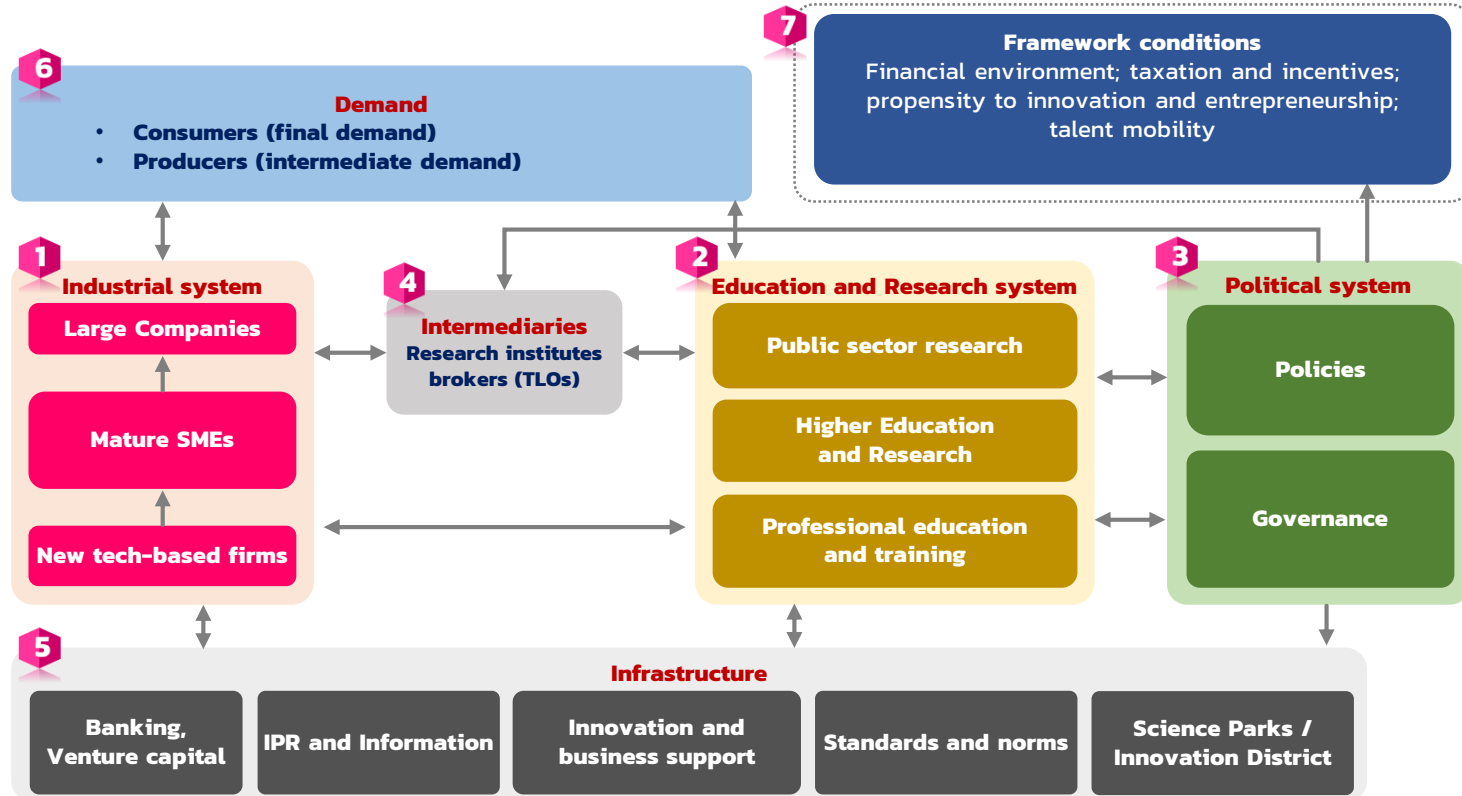
Case of Thailand

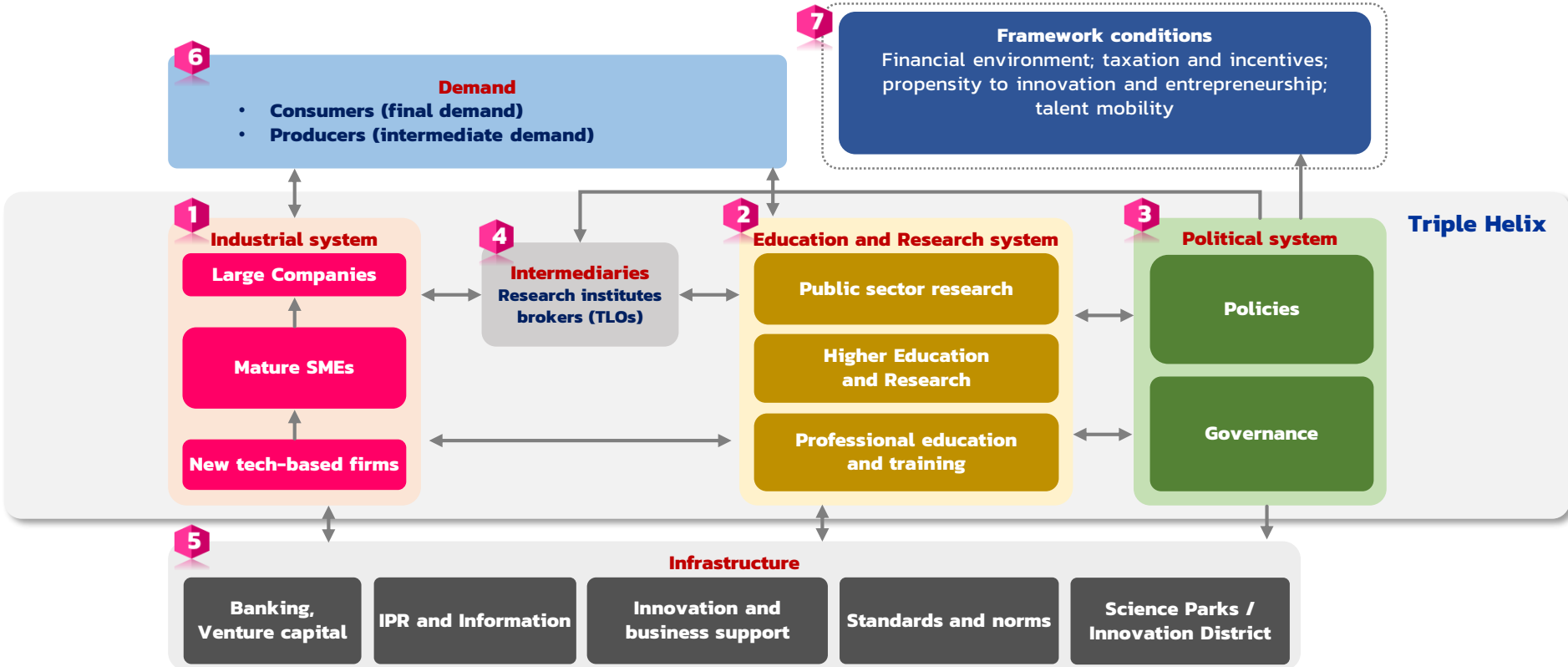
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NATIONAL INNOVATION AGENCY (NIA)

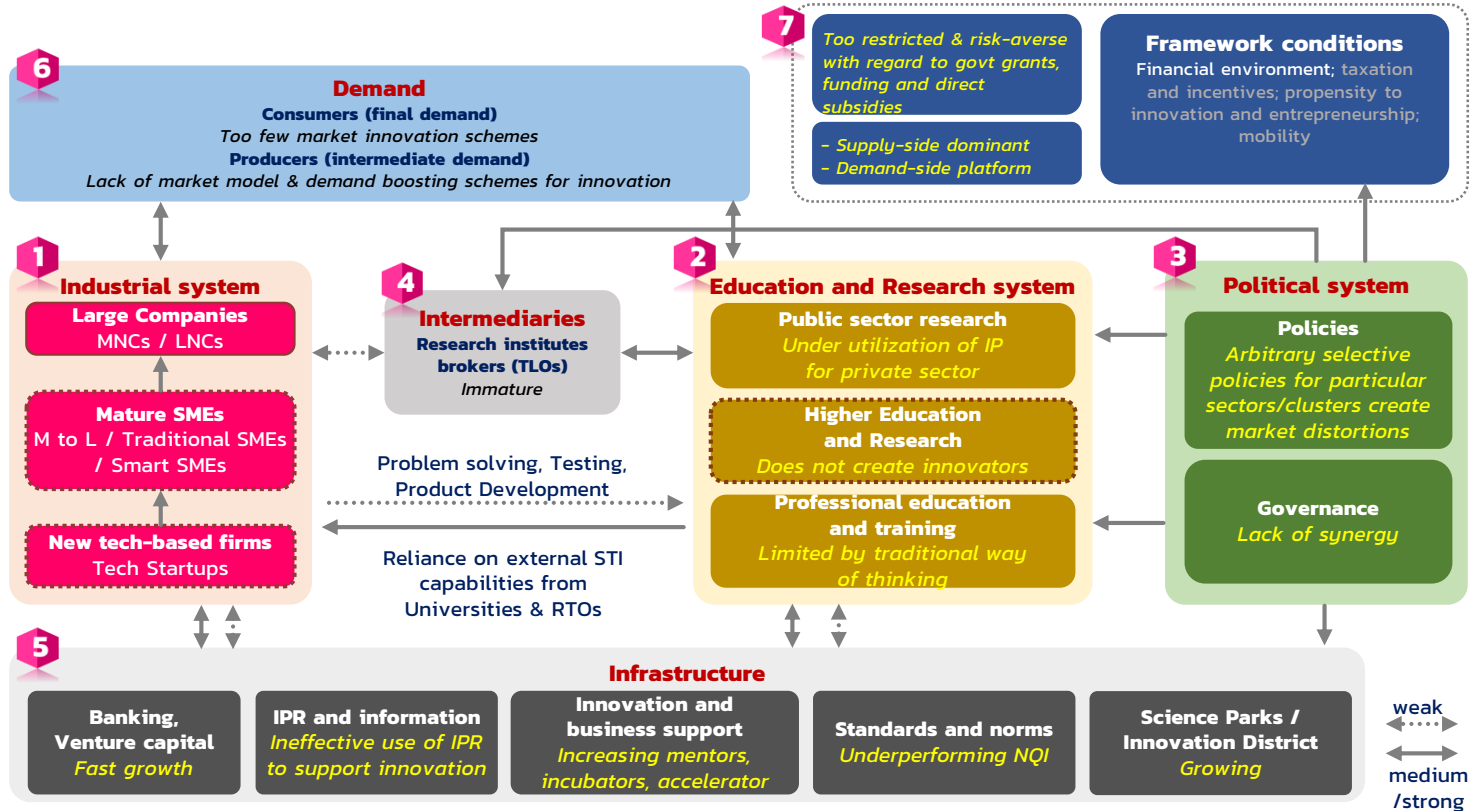
MINISTRY OF HIGHER EDUCATION, SCIENCE, RESEARCH AND INNOVATION, THAILAND

10TH ANNIVERSARY
NATIONAL INNOVATION
AGENCY





National Innovation System



Challenges Awaiting for Transformation

Challenges	Previously	Presently
Post-industrialization	National-production value chain	Global-service value chain
City as new innovation factory	Linear model of innovation (RDI)	Unconventional and place-based innovation
A shift from manufacturing to service domination	Manufacturing-dominated sectors	Service-orientated sectors
Size doesn't matter	Corporate concept	Startup concept
Towards Open Era	Corporate in-house innovation	Open innovation / Knowledge free-flow / Demand-side value chain
Monopoly is not the only way to win	Platform economy / Trade collectivism	Data economy / Trade individualism
Requiring alternative ways to support	Traditional mechanisms (financial support / technical support)	Different factor conditions (regulatory sandbox, instructional agility, new corporate culture, etc.)

Ministry of Higher Education, Science, Research and Innovation (MHESI)

(Established on May 2, 2019)

**National Higher Education,
Science, Research and
Innovation Policy Council**

**Commission of
Higher Education**

**Commission of
Higher Education Standards**

**Commission of Science, Research
and Innovation Promotion**

High Level

Office of the Permanent Secretary

- Administration of the Ministry of Higher Education, Science, Research and Innovation (MHESI)
- Enhance higher education and formulate policy
- Secretariat to the Commission of Higher Education and Commission of Higher Education Standards

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

- Integrate policy on higher education, science, research and innovation
- Secretariat to National Higher Education, Science, Research and Innovation Policy Council

Governance Level

National Research Council of Thailand (NRCT)

- Main funding agency for research and innovation in all fields
- Manage national databases and indicators on science, research and innovation
- Formulate and manage national research standards and ethical conducts
- Disseminate and transfer research knowledge to relevant stakeholders for commercial, social, and economical benefits

Thailand Science, Research and Innovation (TSRI)

- Secretariat to Science, Research and Innovation Promotion Commission
- Formulate policy and allocate budget for science, research and innovation

Operation Level

1
86 Public Universities and
Institutions of Higher Education

2
Specialized Regulators





3
Research Institutes and
Laboratory Services

4
Specialized STI Promoting Units

Roles of MHESI in promoting STI



กระทรวงการอุดมศึกษา วิทยาศาสตร์ วิจัยและนวัตกรรม
Ministry of Higher Education, Science, Research and Innovation

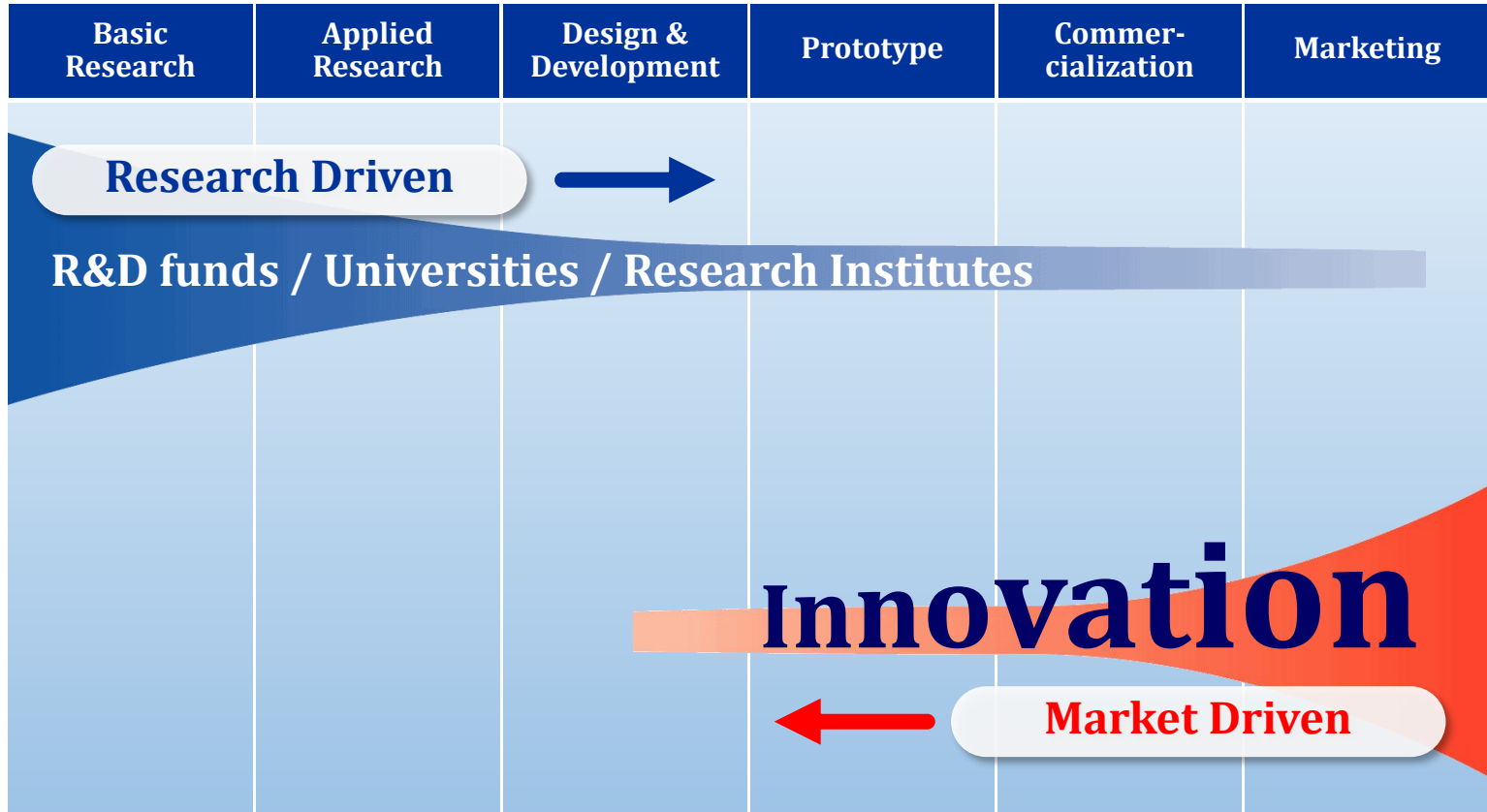
-  • **Inspiring new generation** – to inspire and encourage young generation to S&T
[e.g. Public Universities, National Science Museum, STEM Workforce, Startup Thailand]
-  • **Embracing diversity** – to diffuse S&T to various target groups
[e.g. Regional Science Parks (SPA), STI Coupon for OTOP Upgrade (TISTR)]
-  • **Leveraging advancement** – to upgrade technological capabilities in private sectors
[e.g. DSS, NIMT, TISTR, TINT, GISTDA]
-  • **Directing new frontiers** – to identify and be excellent in future areas of research and development
[e.g. Public Universities, NSTDA, TISTR, TCEL, SLRI (Synchrotron), GISTDA, NARIT]

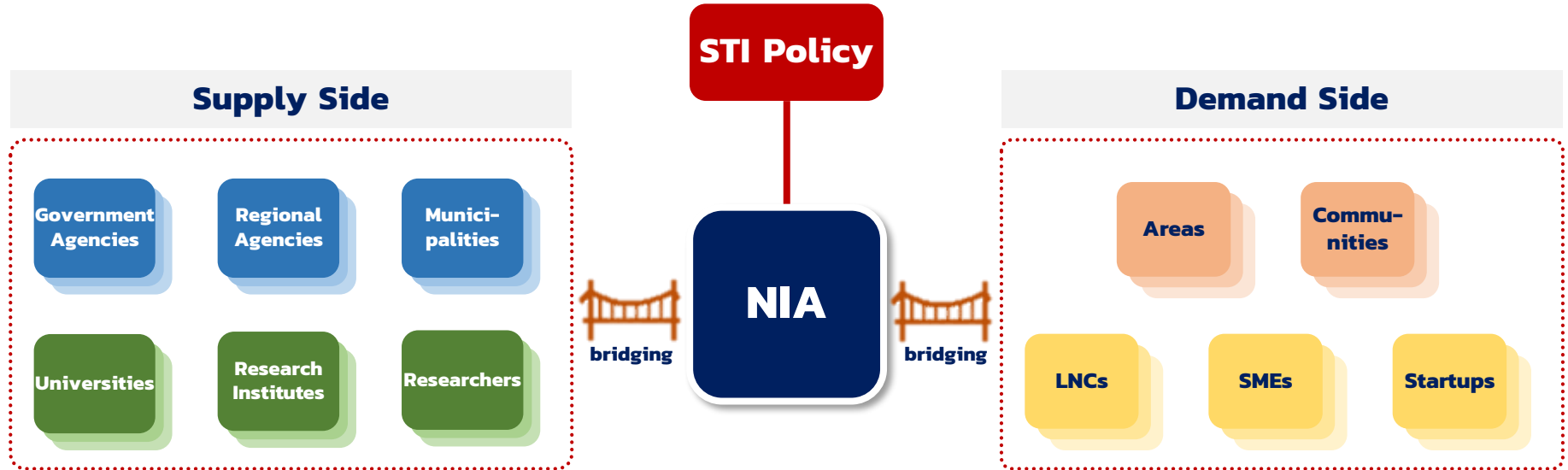


กระทรวงการอุดมศึกษา วิทยาศาสตร์ วิจัยและนวัตกรรม
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- **Increasing Inputs to innovation** – e.g. R&D tax credits, grants for R&D, public support for VC
- **Increasing Innovation Capabilities** – e.g. technical support services, mobility schemes
- **Enhancing connections and complementarities** – e.g. cluster policy, collaborative R&D programs, support for intermediaries
- **Enhancing demand of innovation** – e.g. public procurement policies, standards, regulation
- **Improving framework condition** – e.g. support for the business environment
- **Improving discourse and preparedness** – e.g. information services, technology roadmapping exercises

Roles of National Innovation Agency (NIA)





Support and Mechanisms



Financial Support



Capability Development



Knowledge Support

- Labor market shifts and the rise of automation
- Economic shifts and moves toward emerging markets
- Growing disconnect between employer demands and college experience
- The growth in urbanization and a shift toward cities
- Lack of supply but growth in demand
- The rise in non-traditional students

Key Challenges in Human Capacity Building

Focus on academic program development / Teacher-centric (Supply Side)



Focus on career development / Student-centric (Demand Side)

Focus on completing academic program / Education based on program requirement (Mass Education)



Focus on fulfilling necessary knowledge and skills / Education based on individual requirement (Personalized Education)

Cognitive-based learning



Experience-based learning

Learning in a classroom / school / system



Learning outside a classroom / school /system

Focus on only Age Group 5-22



Lifelong learning (especially reskilling, upskilling, multiskilling current workforce and recycling retired workforce)

Focus on diploma / degree program



Focus on non-diploma / non-degree program

Innovation Capability Development Program

New Entrepreneurs



Enterprises and Corporates



YOUTH



Innovation Capability Development Program

Innovative Organization Program (IOP)



Startup Thailand Leagues



Founder Apprentice



Breeding new generation of Tech Entrepreneurs



Breeding new generation of Tech Entrepreneurs

< INCENTIVES FOR ECOSYSTEM BUILDING >

☐ Tax Incentives for Investors

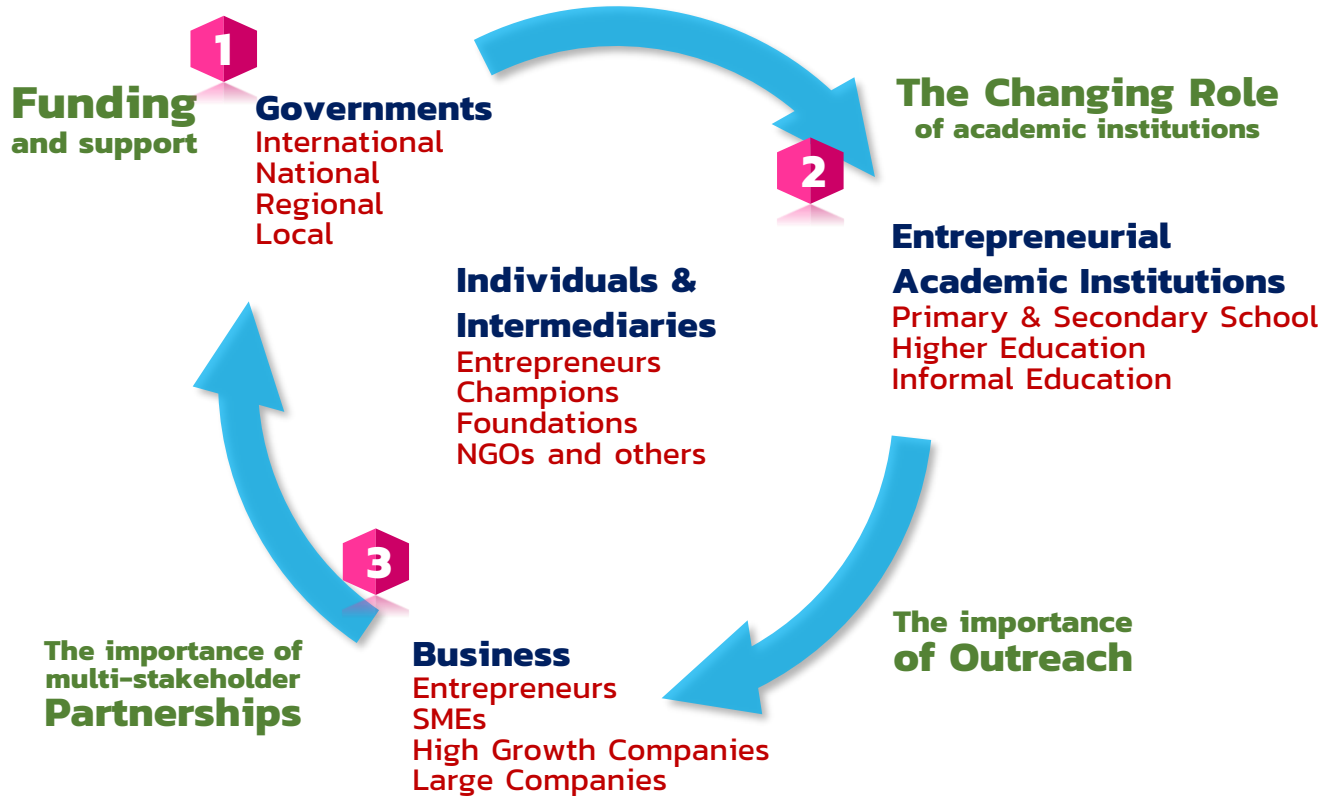
- **Angel investor** that has invested in a start-up company or juristic partnership at either the incorporation or capital increase stage will receive a tax exemption on personal income tax, capped at THB100,000 for each applicable tax year.
- **Venture Capital (VC)** and **Private Equity Trust (PE Trust)** can receive the tax incentives for the income tax on dividends and revenue from the transfer of shares of target companies for 10 years.

☐ SMART Visa Initiative for foreign investors and entrepreneurs

- Up to 4 years visa granted
- Launched as a public-private collaboration with the Board of Investment (BOI)
- 5 types
- Modelled from French Tech Visa

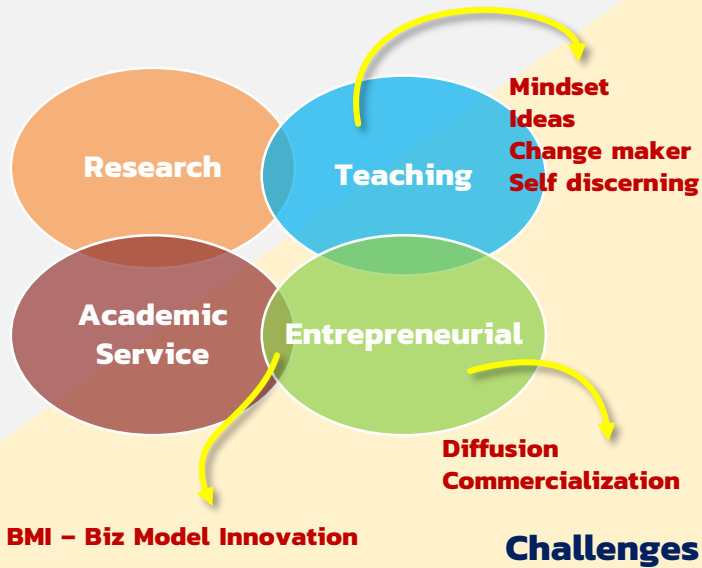


Entrepreneurial Ecosystem

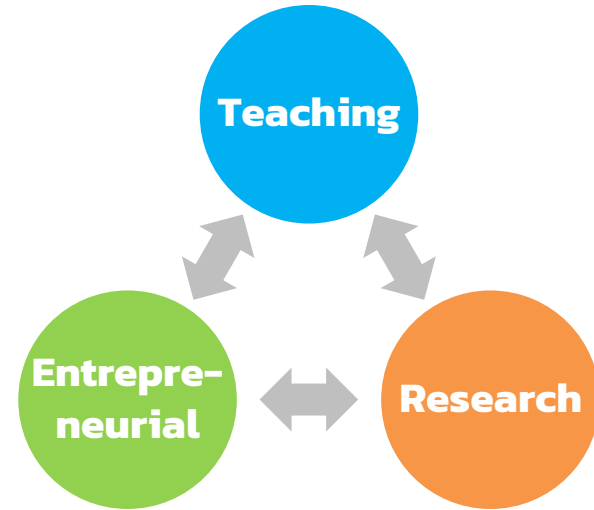


Role of Universities in Innovation Development

Major tasks

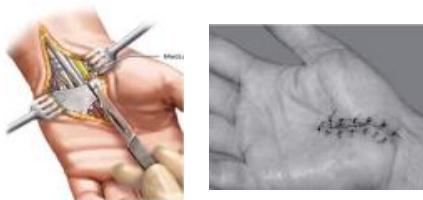


- # Higher Education Excellence
- # HRD Linkages to Industries



- # Application Excellence
- # Research-to-Biz Spin-off
- # Academic Excellence
- # Translational Research

1) Creativity



Financing + Market

2) Co-creation



Co-creation + Business Matching

3) Collaboration



Goal



Reach the Global Market

Role of Infrastructure in Innovation Development



MSTQ - Metrology + Standardization + Testing + Quality Assurance



National Innovation Agency (Public Organization) | www.nia.or.th

