

Thailand Toward Acheiving Sustainable Development

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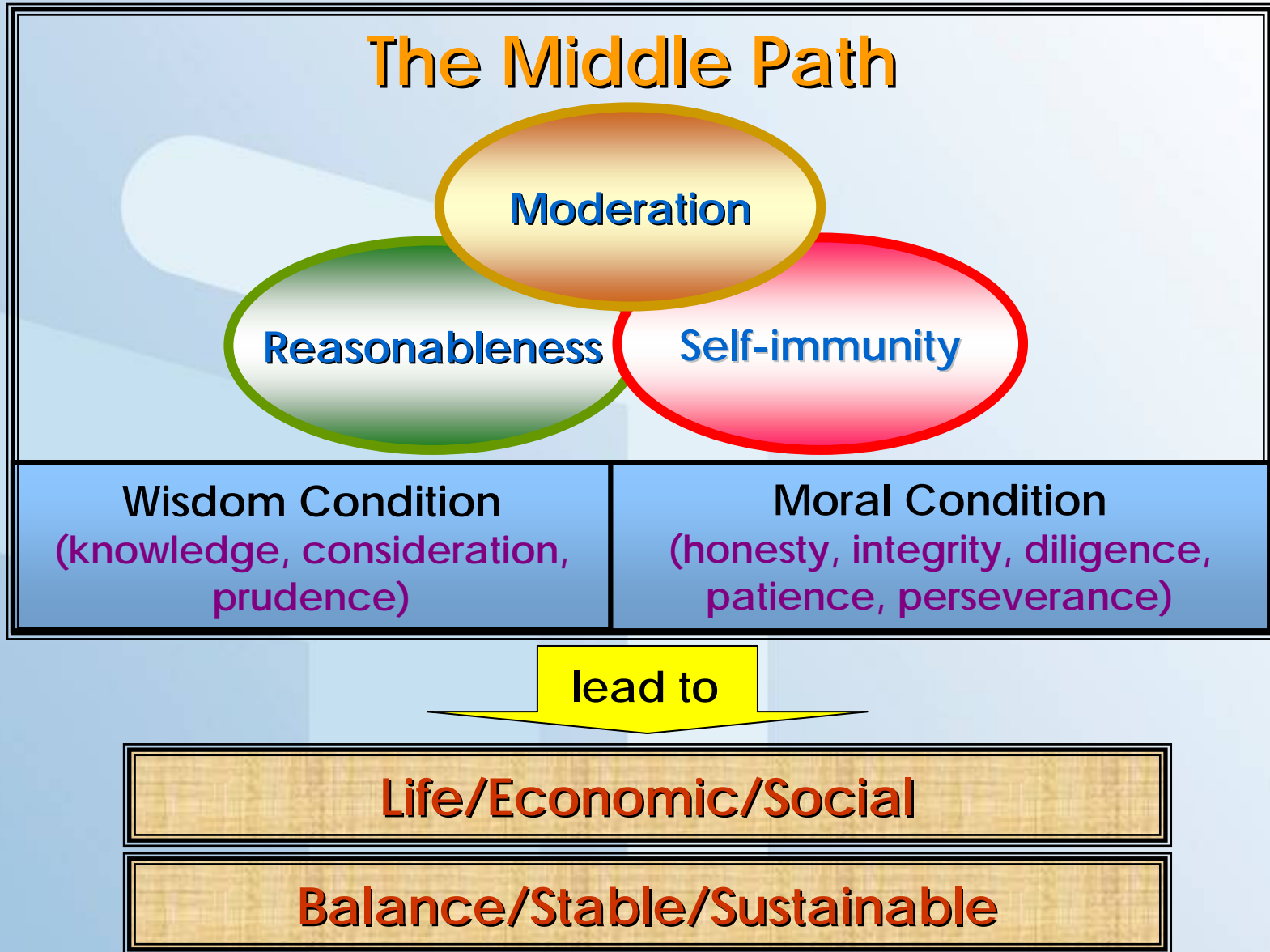
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Agenda

- **Sufficiency Economy**
- **The 10th National Economic and Social Development Plan**
- **National S&T Strategic Plan**
- **The Way Forward**

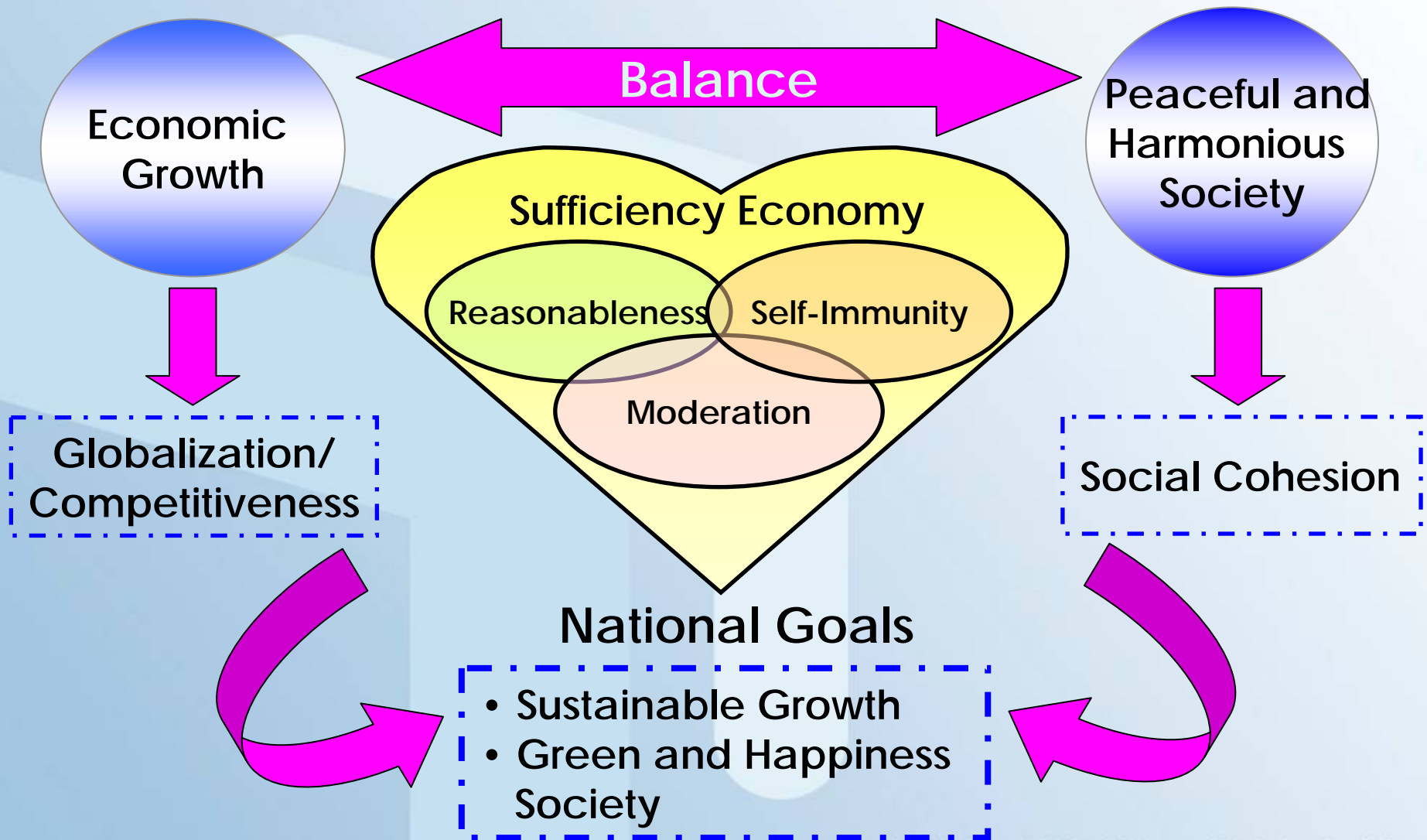
Sufficiency Economy

The Philosophy of "Sufficiency Economy"



Socio-Economic Metaphor & National Goals

(Sufficient Living Style/Middle of the Path)



Thailand's Economic and Social Development Plan

The 10th National Economic and Social Development Plan

Principle

The Philosophy of Sufficiency Economy as a guidance

Objectives

- People-Centered Development
- Balancing between the 3 capitals: economic, social, natural resources and environment
- Leading to “Green and Happiness Society”



Knowledge-based Economy

Globalization

Economic and social integration
(Free Trades, Capital Flow, Regulation)

Technology development
(Innovation, Indigenous Knowledge, IPR)

Social changes
(Aging Society, Consumer Behaviors)

Human capital mobility
(Free flow of people)

Environment and natural resource
(Energy, Water, Climate, Natural Disasters,
NTMs)

Paradigm
shifts



*Source: Office of National
Economic and Social
Development Board (NESDB)*

Thailand's S&T Strategic Plan

National Science and Technology Strategic Framework (2005-2013)

Vision: Strong economy with knowledge society and better social well-being

Sustainable competitiveness

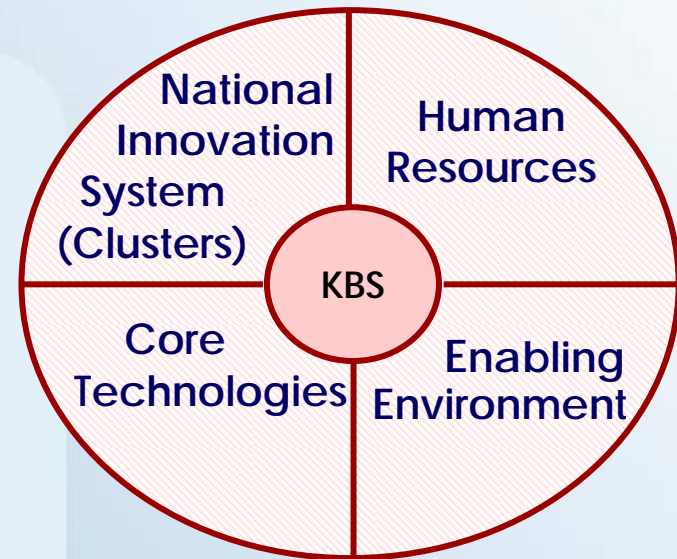
Community economy

Learning society

Q of life/ Environment

Core technologies:

- 1) ICT
- 2) Biotechnology
- 3) Material Technology
- 4) Nanotechnology



Goals

- Number of enterprises having innovation increases to 35% and value of knowledge-intensive products/services reaches the average range of OECD.
- Higher income, stronger community economy and better quality of life.
- S&T ranking of Thailand above the median of IMD ranking.

National S&T Strategic Plan

Policy Prioritization and Strategies

Economy

Society

1 *Develop Clusters and Strengthen Community Economy and Quality of life*



OTOP

Environment

Youth

The Underprivileged

Core Technologies

Bio technology

ICT

Materials technology

Nano technology

Scientific Knowledge

life science, physics, math, computer, material science

2 *Develop S&T human resource*

3 *Develop S&T infrastructure and institutions*

4 *Enhance S&T Public awareness*

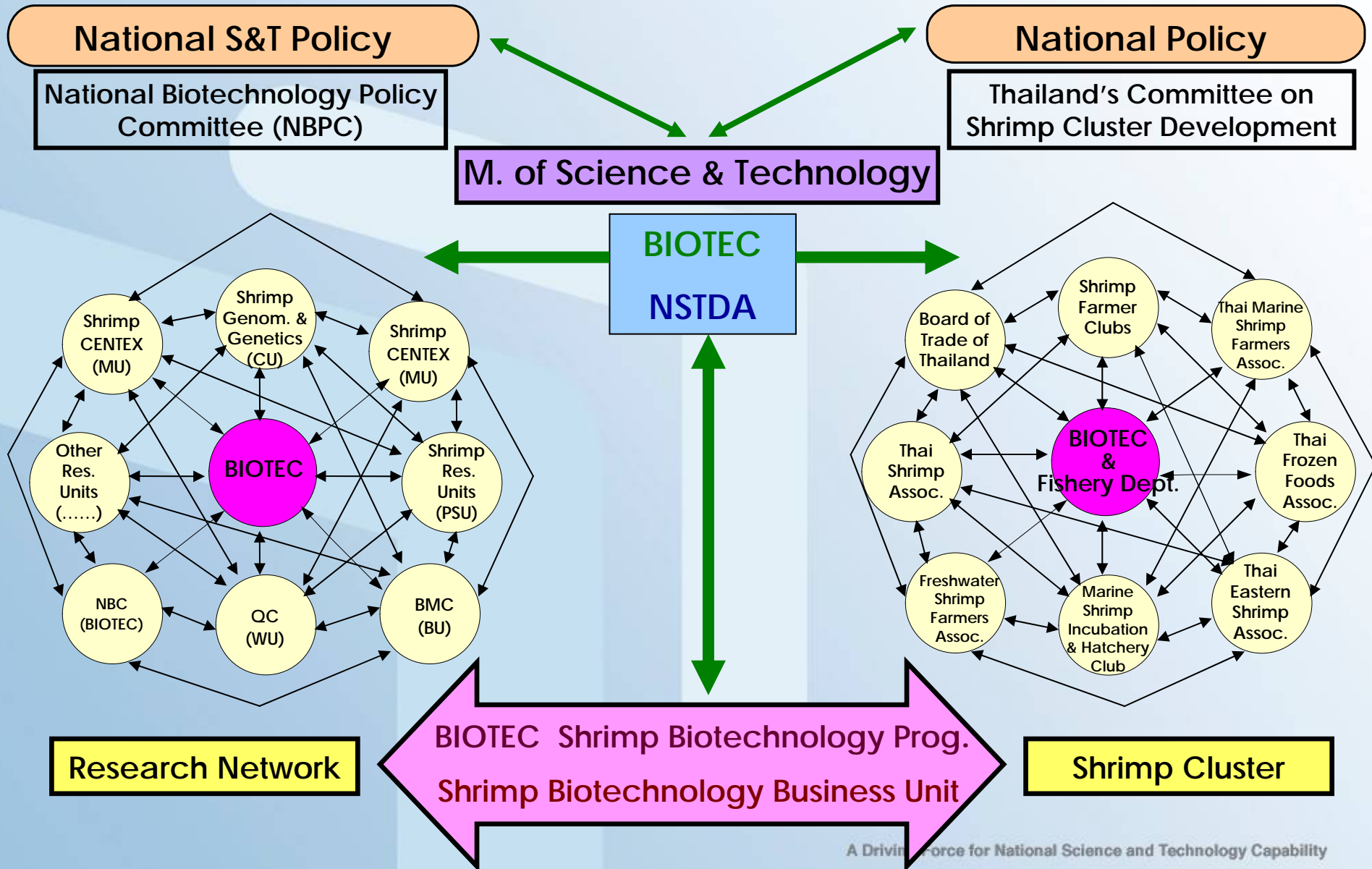
5 *Improve S&T management system*

Source: National Science and Technology Strategic Plan (2004-2013)

A Driving Force for National Science and Technology Capability

Clustering Approach

Example of Cluster in Action: Shrimp Cluster



S&T Manpower

S&T Manpower Roadmap 2006 - 2013

Program 1: Development of gifted and talented students

Program 2: Expansion of S&T education base

Program 3: Development of teachers and faculty competency

Program 4: Development of skilled S&T manpower for industrial and service sectors

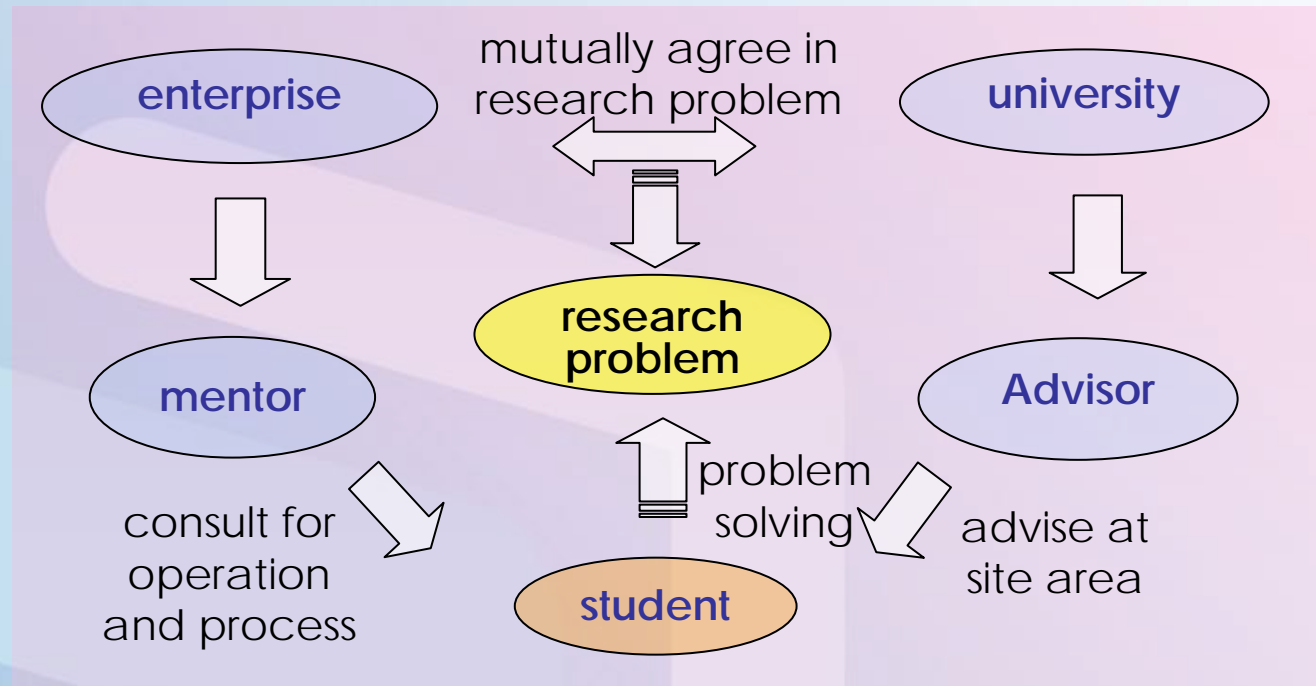
Program 5: Development of Thailand to be regional S&T education center in potential fields

Program 6: Establishment of permanent national policy body for S&T manpower development

Program 7: Improvement of demand-side conditions conducive to S&T manpower development

Practice School

University-Industry Partnership



Example of PS programs currently carried out:

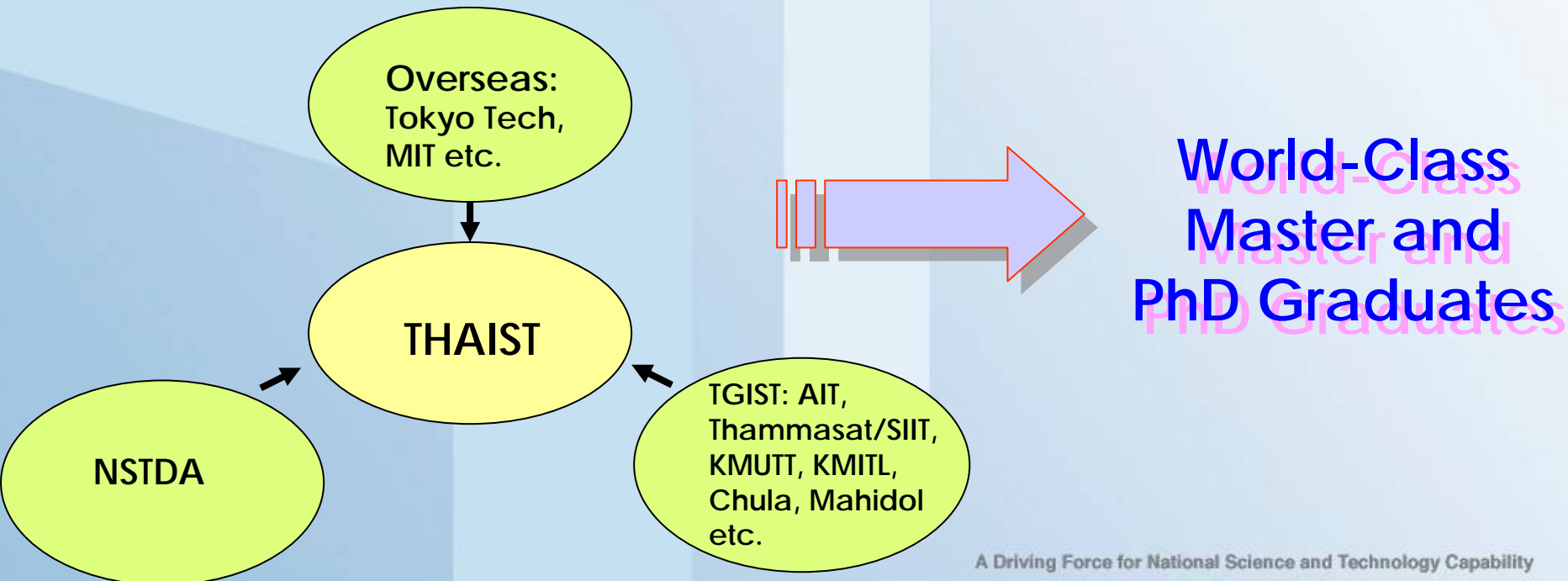
- ChEPS
- FEPS
- C-Cheps

• Policy toward the future:

- Scale expansion
- Scope expansion
 - PhD level
 - other fields

World class University of S&T

There is an effort to set up a consortium-type research university namely “**Thailand Advanced Institute of Science and Technology**” (THAIST). THAIST creates synergetic collaboration among universities and research institutes both domestic and overseas to produce research graduates in scientific, technological and related management fields (e.g. management of intellectual property).



Infrastructure & Institution Development

Development of New Science Parks - 4 more science parks or technology-business incubators in regional areas

Promotion Scheme for Center of Excellence - Plan to promote high-potential in universities. 10 distinct research labs will be promoted each year with the lump-sum budget of USD 375k

Intellectual Property System Development - Appropriate IPS are developed to create supportive environment for knowledge creation, diffusion and utilization

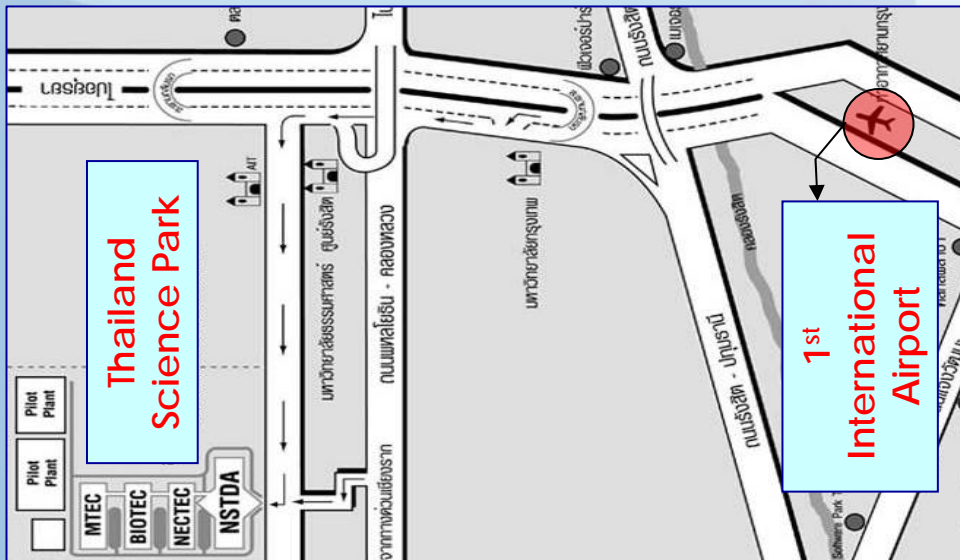
Development of Software Park

Development and Improvement of Laws and Regulations - Some laws and regulations are developed and improved for benefits of ICT fully utilization

Improvement of Metrology, Standardization, Testing and Quality Assurance System (MSTQ) - MSTQ system is improved for its integration, efficiency and industrial demand-responsive capability

Thailand Science Park (TSP)

- Firstly operated **in 2002** as a fully integrated hub for R&D in Science and Technology with **the total investment budget of USD 175 million**
- Its missions are **to promote innovation and R&D activities** in the private sector and **to develop a critical mass of R&D human resource** for Thailand
- Accommodated with four national research centers: NECTEC, BIOTEC, MTEC, NANOTEC, including the Technology Management Center.



S&T Public Awareness

Key Projects

Science Media Development – including the development of science media center, science feature article broadcasting on TV, science and technology knowledge publication, developing science communicators

Development of Science and Technology Educational Activities – such as creating mobile S&T educational units, technology road show, S&T public debate forum

S&T Competition – including mathematics, physics, chemistry, biology competition as well as competition related to technology innovation and applied science

Administration and Management System

STI Basic Law

**Sustainable Economic and Social
Development**
(Sufficiency Economy)

Target

Science, Technology
and Innovation
Capability

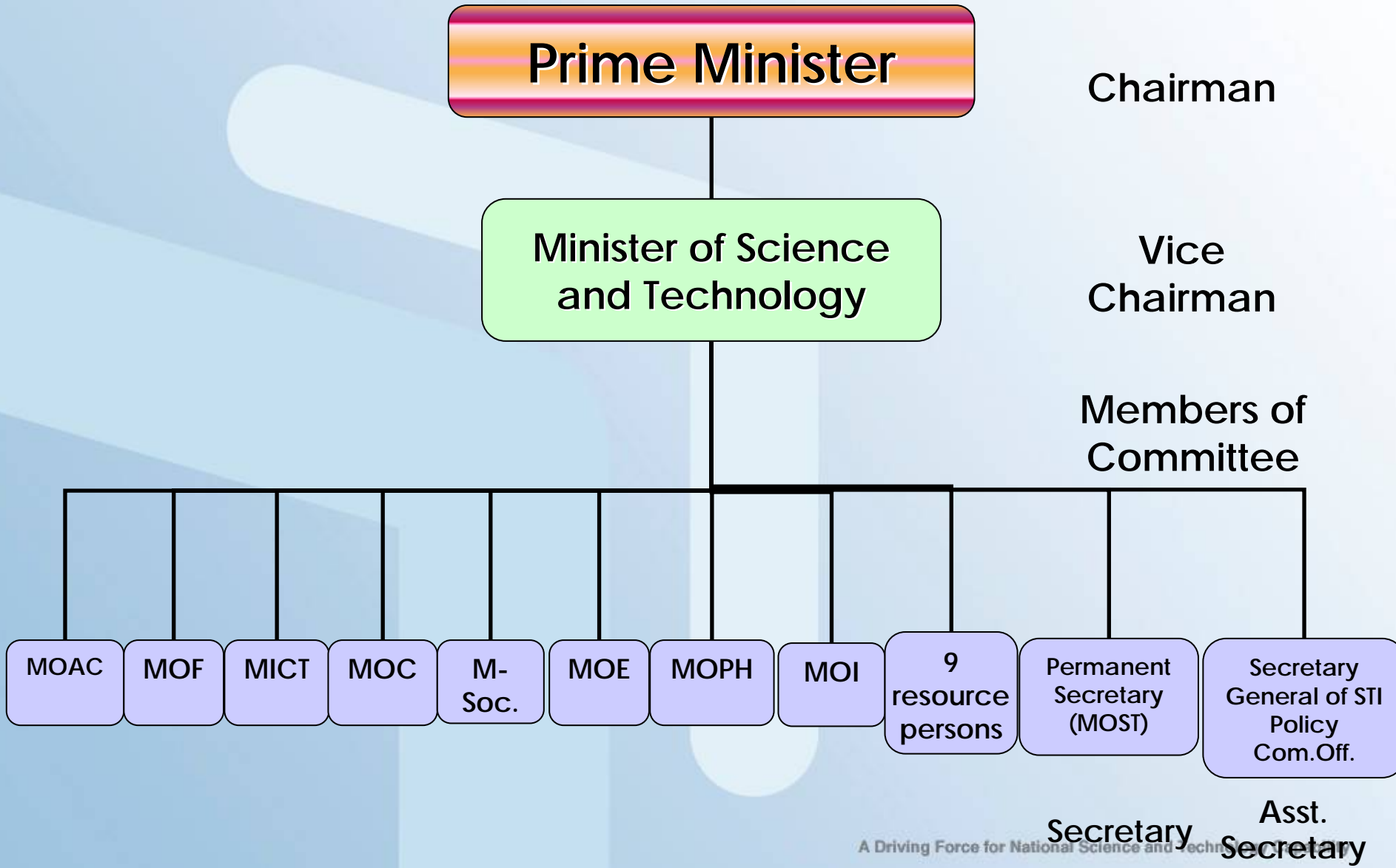
Driving Force

Science, Technology
and Innovation Basic
Law

Direction

- National STI Policy Committee
- Consistent STI Policy and National Plan
- Collaborating Mechanisms between Public and Private Sector
- A critical part of Intellectual Infrastructure

National STI Policy Committee



The Way Forward

**Strengthening and Utilizing
Intellectual Infrastructure**

Intellectual Infrastructure

Toward Knowledge-based Society and Economy

"Knowledge-based Society Life Cycle" Operated by "Institutions"

Knowledge Production



Knowledge Diffusion

Knowledge Utilization (Value Creation)

feedback

Technology (ICT etc.)

Human Resource

Legal System/ Incentives

Culture/ Ethics

Intellectual Infrastructure

National Innovation System

Intellectual Infrastructure

Master Plan

Target 1

The proportion of innovating firms increases to 35 percent

Target 2

The collaboration among private sector, academia, and research units

Target 3

Competitiveness index of R&D personnel and number of patents is above the mid point of the IMD's competitiveness league tables

Intellectual Infrastructure

Strategy and Key Plan

Upgrade technological capability of manufacturing sector

- Plan 1:** Establish collaboration channels to support private sector (solution house)
- Plan 2:** Develop S&T infrastructure and institution including regulations and incentive system
- Plan 3:** Develop the quality system
- Plan 4:** Build understanding of STI intellectual property

Strengthen source of knowledge creation

- Plan 1:** Strengthen Centers of Excellence (COEs) to better serve industrial needs
- Plan 2:** Promote mechanism for high-level knowledge transfer among academia and manufacturing sector
- Plan 3:** Develop HR to serve needs of manufacturing and service sectors as well as promote inventor-minded learners

Establish linkages among sources of knowledge, users and education system

- Plan 1:** Establish mechanism to drive the master plan of Intellectual infrastructure
- Plan 2:** Develop Sub-sectoral Innovation Network (SSIN)

Thank You Very Much For Your Attention