



**PMU**  
สร้างคน  
ข้ามพรมแดน

# Global Partnership in Asia from the Perspective of PMU-B

**Nano-enable sustainable material for green-economy**  
**18<sup>th</sup> NSTDA Annual Conference - NAC2023**  
**31 March 2023**

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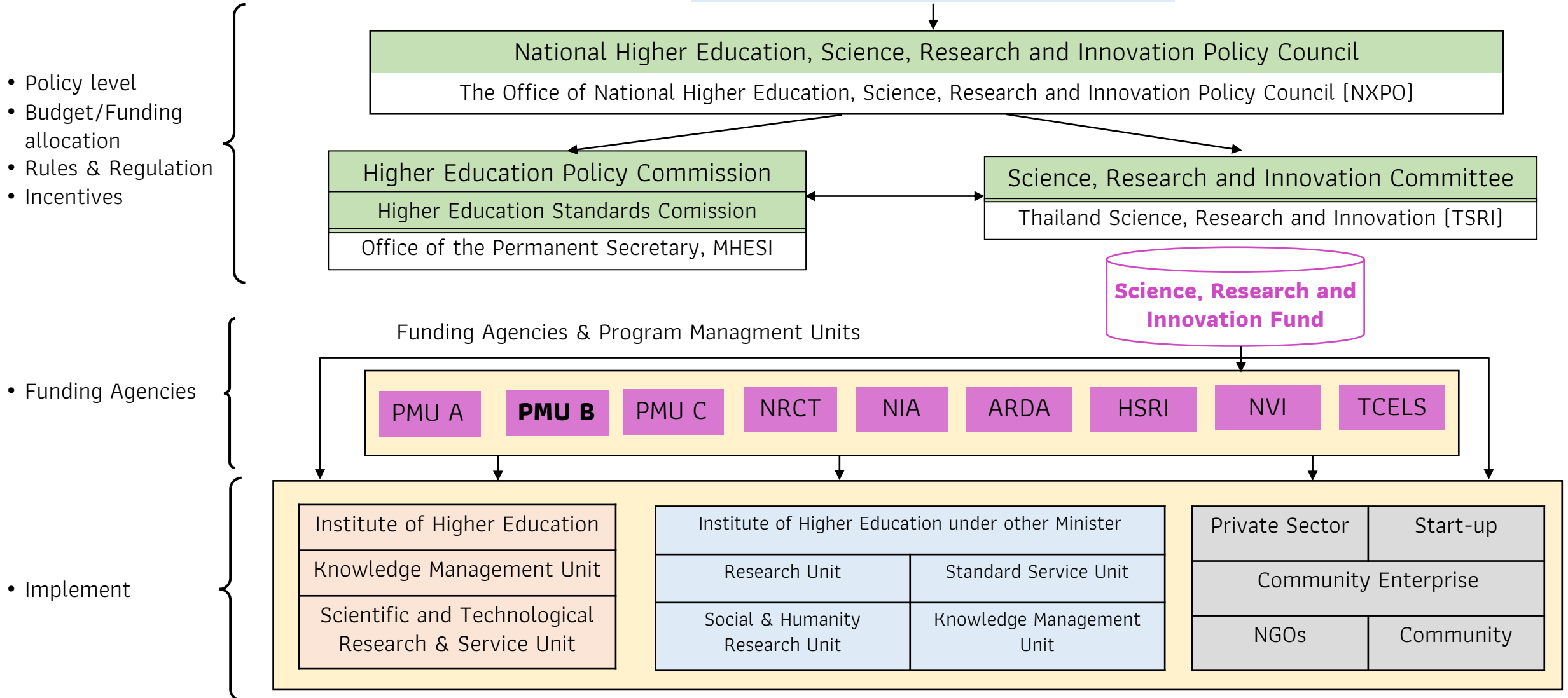
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PMU-B - NXPO



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1

**Funding allocation for brain power and manpower** in essential areas to foster national development according to the Higher Education, Science, Research and Innovation Policy and Strategy as well as supporting research and educational grants for research professionals, post-doctoral and graduates.

2

**Funding allocation for frontier research** to enhance research capacity and national competitiveness

3

**Funding allocation for science and technology infrastructure** as foundation for national facility



Funding Agency & Program Management Unit

## STI 3<sup>rd</sup> Strategy (2023-2027)

## Science, Technology, and Innovation Frontier Development for national future opportunity and readiness

The action plan to drive Frontier Research to create knowledge in Science, Social sciences, Humanities, Arts, and Technologies as well as its applications

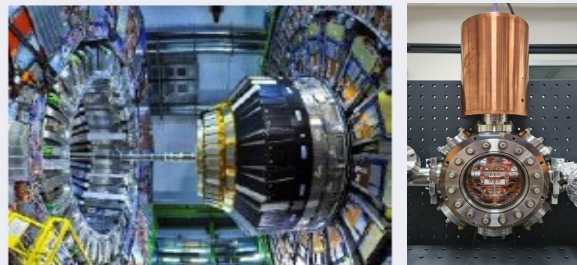
### BCG Economies

- Medicinal Science
- Personalized medicine
- Treatment Prevention
- Future food : Culture Meat, Plant based Protein
- Climate change: Net Zero



### High Energy Physics, Plasma, Quantum, Earth, Space

- Pride of Thailand Mission to the moon
- CERN, DESY, Quantum

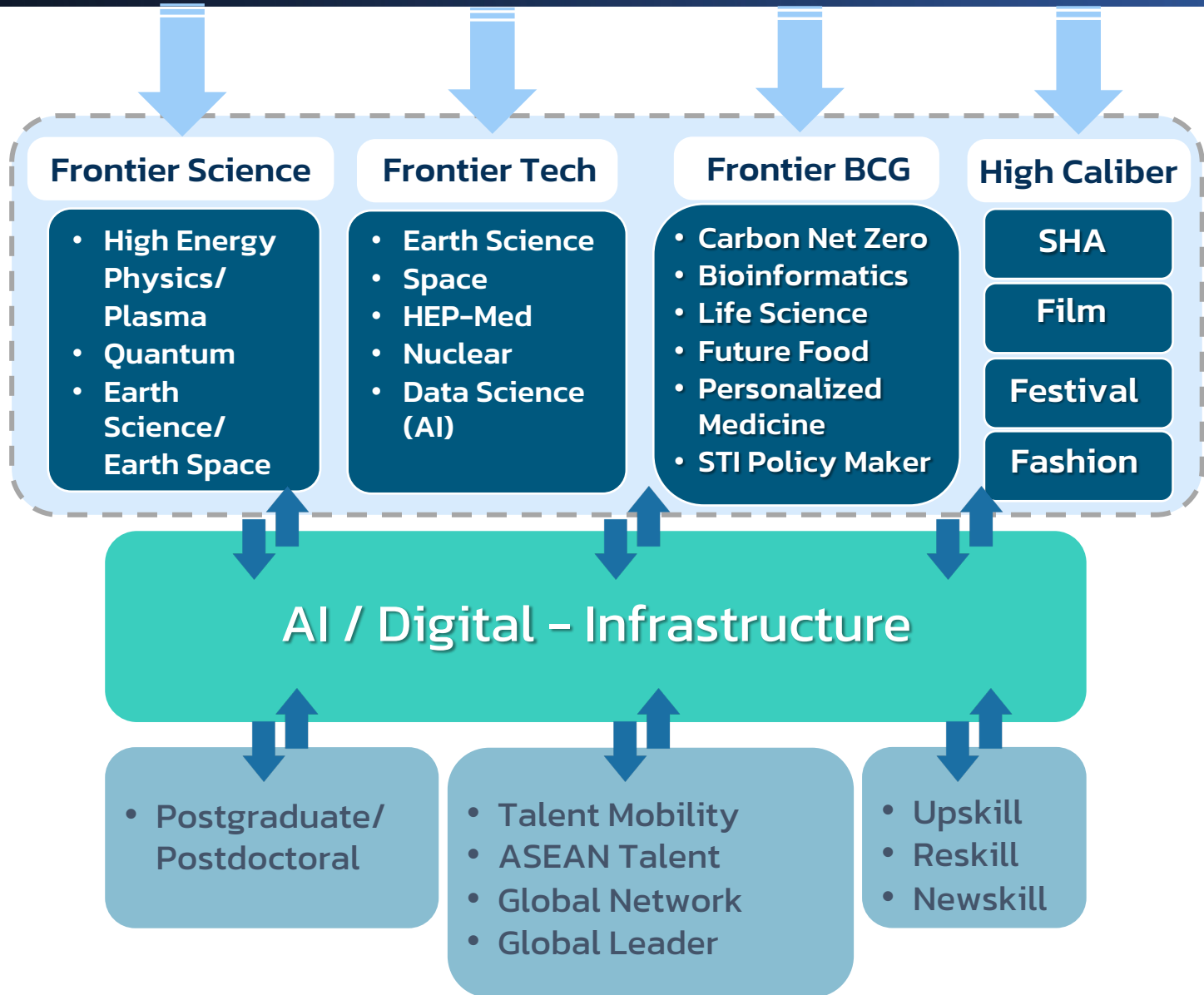
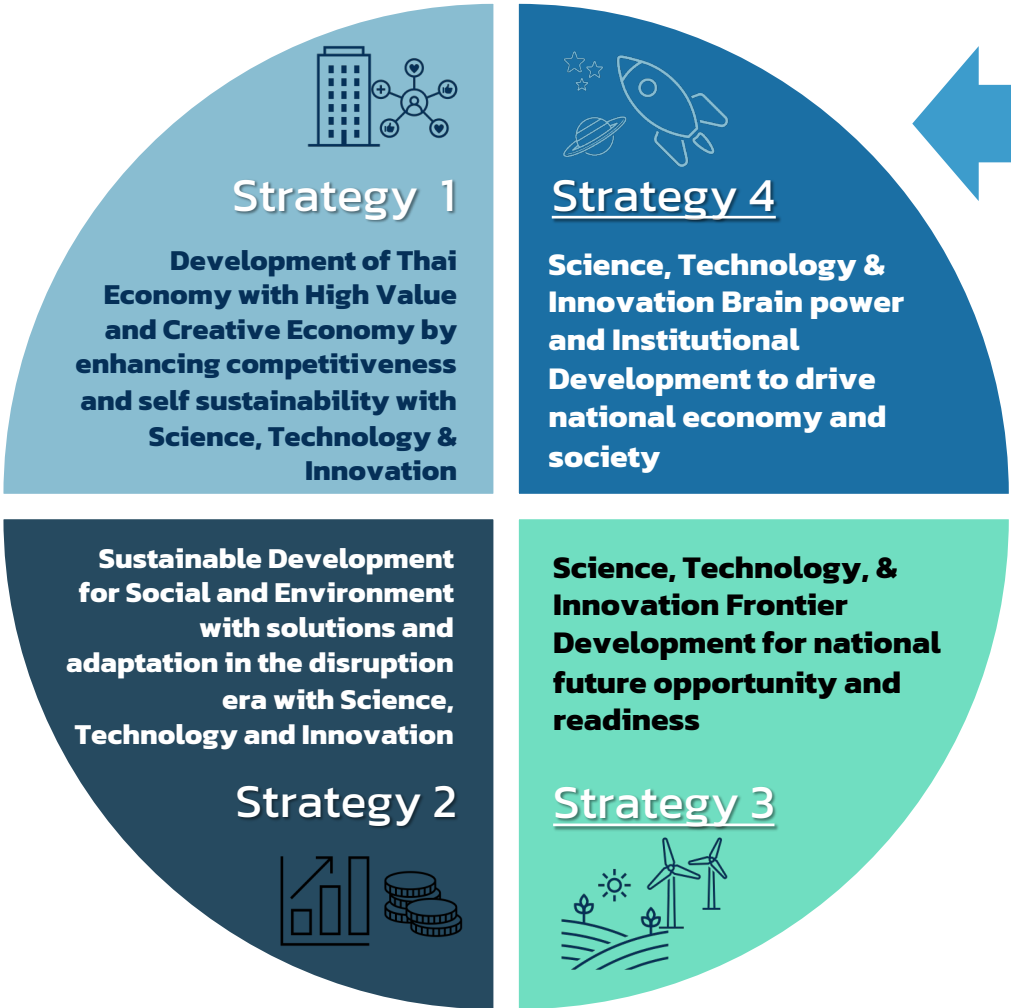


### Support Future Disruptions in Society

- SHA knowledge toward creative economy.



**SHA : Social Humanity and Arts  
Film/ Thai Fashion / Festival**



# Program of 2566 - 2570

**S3 Frontier Research**

**S4 Brain Power**

- National Postgraduate/ Postdoctoral System of Thailand
- Coding/STEM

**S4 Global Partners**

- ASEAN Talent Mobility
- Multidisciplinary Consortium
- Creative Economy

**BCG Frontier**

**Frontier / Future Technology**

**SHA Frontier**

**Personalized Medicine**

**Future Food**

**Climate Change**

**HEP & Plasma**

**Film**

**Fashion**

**Festival**

Bioinformatic

Cultured Meat

Net Zero

Quantum

Content

Fragrance/ Fabric

Cultural

Precision Medicine

Plant Based Protein

Decarbonization CCUS

Earth Space/ Earth Science

**Digital Creative Content Hub**

Personal Health AI

Chemical Compounds/ Value added

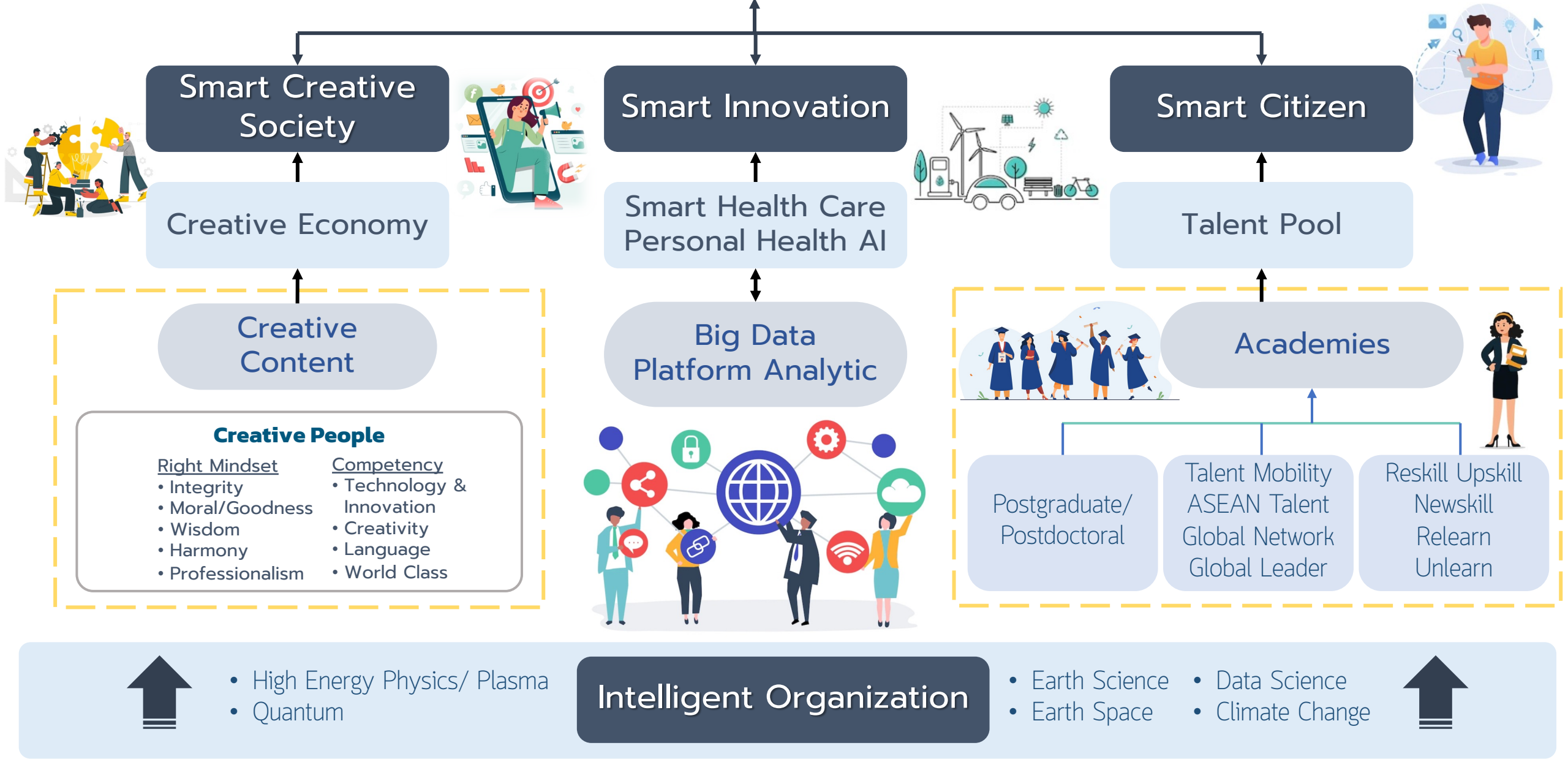
**Net Zero Technology Hub**

**Asia BCG Research & Innovation Center**

**Personalized Health Hub**

**Future Food Hub**

# Human Resource Development Toward Smart Nation



Smart Creative Society



Smart Innovation



Smart Citizen



Creative Economy

Smart Health Care  
Personal Health AI

Talent Pool

Creative Content

Big Data Platform Analytic



Academies



- Creative People**
- |                      |                           |
|----------------------|---------------------------|
| <u>Right Mindset</u> | <u>Competency</u>         |
| • Integrity          | • Technology & Innovation |
| • Moral/Goodness     | • Creativity              |
| • Wisdom             | • Language                |
| • Harmony            | • World Class             |
| • Professionalism    |                           |



Postgraduate/  
Postdoctoral

Talent Mobility  
ASEAN Talent  
Global Network  
Global Leader

Reskill Upskill  
Newskill  
Relearn  
Unlearn

↑  
• High Energy Physics/ Plasma  
• Quantum

**Intelligent Organization**

↑  
• Earth Science  
• Earth Space  
• Data Science  
• Climate Change



Co-Research in Thailand

## Researcher

- Postdoctoral
- Postgraduate

Graduated abroad and have the skills & experience according to Thailand need

## Targeted - Postdocs, Post-grad



**Thai** graduated and currently abroad



**Non-Thai** graduated and currently abroad

## Target

- Nobel Prize
- Leading Institutions
- ASEAN

- Stipend ~ 65,000 ฿/mo./p. (780,000 ฿/mo./p.)
- Others (travel, accommodation) 220,000 ฿
- total 1,000,000 ฿/mo./p.



## Mentor

- Academic/Lab
- Government



## Student

- PhD
- Master

## Researcher

- Postdoctoral
- Postgraduate

## Research Topic with Industry

### New S-curve Industry

- Digital Industry
- Biotechnology Industry
- Future Food Industry
- Medical Industry
- Robotics Industry

### Future Industry

- Earth space
- Quantum
- High energy physics
- AI metaverse
- BCG (Medical, Agriculture, Food, Energy, Material, Tourism)

## Output

- ❑ **Researcher Development System** - Postdoctoral/Postgraduate to support targeted industry and future industry
- ❑ **Technology grooming development** with national and global industry
- ❑ **Network of research** for Postdoc/ Postgrad/ Master, PhD Students from academia and industry<sup>8</sup>

## Model 1 Student

Master/PhD Student who received or did not receive Thai government scholarship

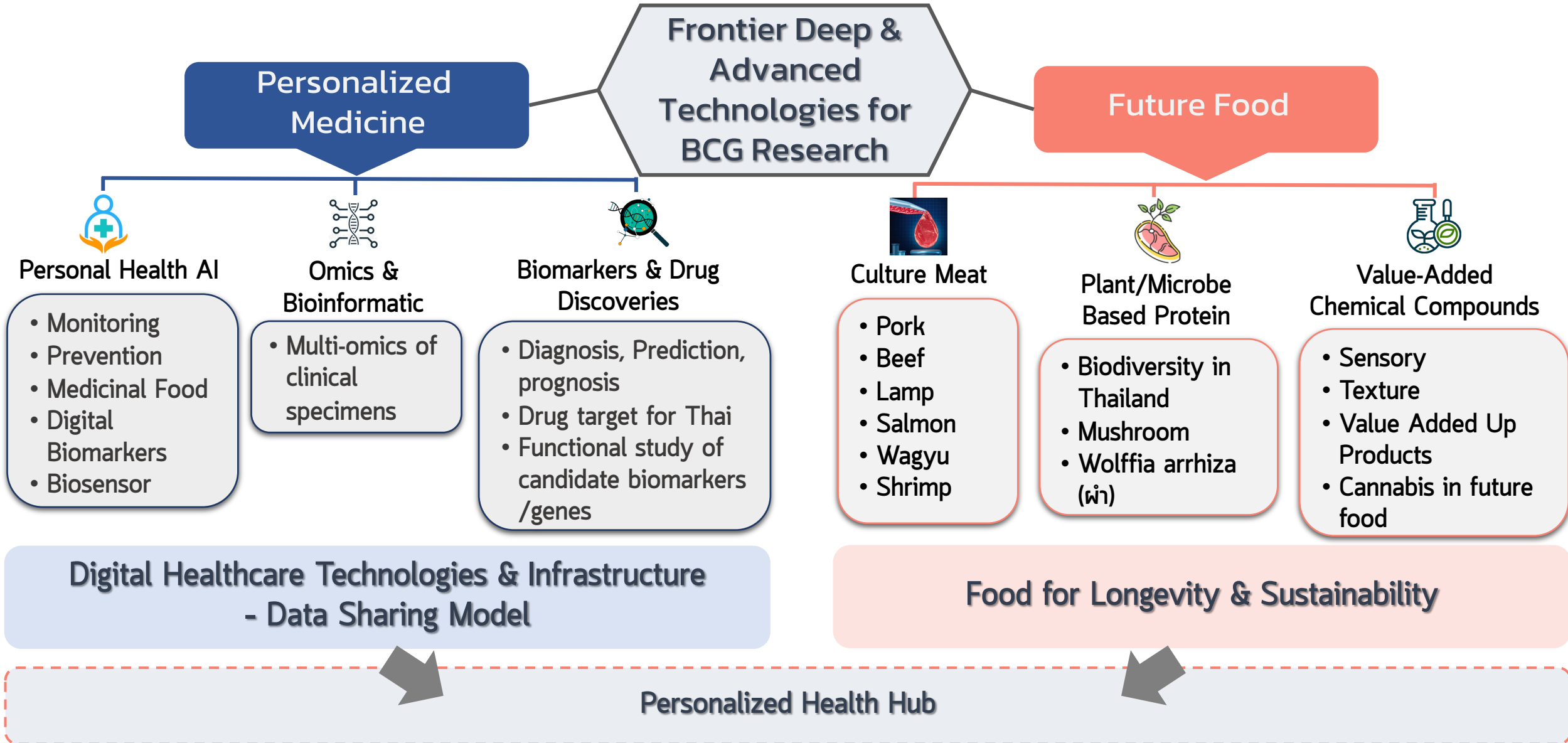
- Incentive for research project 200,000 ฿

## Model 2 Researcher

Postdocs/ Post-grad who received or did not receive Thai government scholarship

- Stipend ~ 50,000 ฿/mo./p. (600,000 ฿/mo./p.)
- Others (travel, accommodation) 90,000 ฿
- total 690,000 ฿/mo./p.





# PMU-B Net Zero Program

## Cut Across Program

- F13 กำลิ่งคน
- N36 Frontier BCG
- N40 Future Technology
- N48 Global Partnership

## Driving Mechanism

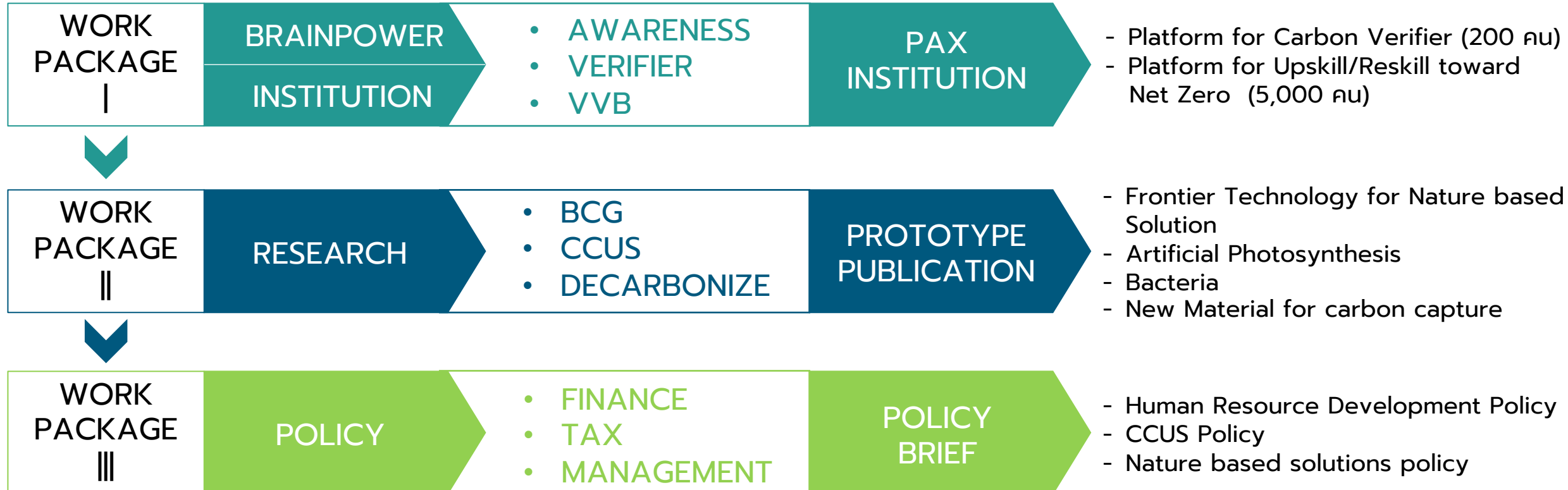
- Strategic Co-Creation
- Consortium
- Demand-Driven

## Net Zero Emissions

- Industrial
- Nature Based Solutions
  - Blue Carbon – ocean, coastal
  - Green Carbon – forest
  - Teal Carbon – fresh water, wetland

## Goal

- Platform for Carbon Verifier/ Upskill/ Reskill
- Net Zero Technology Hub



# Global Partnership Direction 2023-2027



- **Transform National Excellence to Global Research Excellence**
- **Achieve National Direction with Mutual Interest between bi/trilateral partners: Researcher & Funding Agencies**



## Research Direction

### Global Frontier Research

- **AI, Quantum, Earth & Space, High Energy Physics**
- **Frontier BCG** (Future Food, Personalized Medicine, Net Zero)
- **Frontier SHA** (Creative Economy: Film, Fashion, Festival)

### Joint Funding Schemes



Existing Network Institutional Co-Funding



## Network Direction

### Global Partnership

- Enhance research collaboration & excellence
  - **Research** Capacity Building Network
- Support & Groom Highly Skilled Researcher
  - **Researcher** Capacity Building Network
- Develop technology/ institutional innovation/ research institute with global partners
  - **Research Facility** Capacity Building Network

Talent Pool

Joint Research Program

ASEAN Talent Mobility PLUS

Capacity Building Scheme

Research Facility Network & Exchanges

Innovation → CLMV

Bi-Lat Res. Japan, Korea China

Exchanges Mobility

Infra EU/ASEAN

# PMU-B Global Partnership

Health  
Alternative Energy



Health/Climate change



Health/Climate change



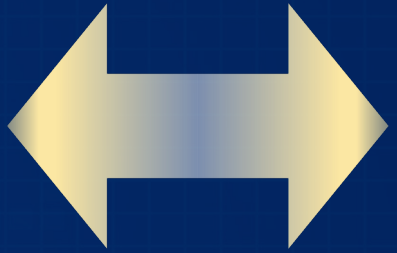
Integrated Research



Frontier Science, Earth Space



- Research Excellence
- Future Industry Competitiveness
- Link to Interdisciplinary
- Link to Societal Impact



Exchange  
Friendship  
Coordination  
Collaboration  
Partnership  
Mutual Benefit



- Researcher Excellence
- Internationalization – Researcher
- Global Network
- Global Leader



Franco – Thai  
Young Talent  
Research Fellowship



ERC – PMU-B  
Researcher Mobility  
Frontier Science



ASEAN Talent Mobility PLUS  
Frontier BCG, AI,  
Synchrotron

**Objective: ASEAN Talent Mobility PLUS** is a platform for the development of ASEAN Talents to be able to enhance their skills to drive the ASEAN Grand Challenges.

## 2565

Scouting ASEAN Talent 5,000

ASEAN Talent Pool Database

Capacity Building Frontier BCG Researchers (Bottom up)

## 2566

ASEAN Talent Interactive Web-based

ASEAN Talent Analytics

ASEAN Research Leadership Mobility/ Capacity Building (Top Down)

## 2567

Form Team & Mobilize ASEAN+ Frontier BCG

Adopted to ASEAN Platform for Researcher

ASEAN Talent Mobility Academy (Regional Proj development)

## 2568

ASEAN Think Tank

Platform Linkage to ASEAN Industry

ASEAN Talent Mobility Academy (High level international funding)

## 2569

- ASEAN+ Researcher Team
- Tackle ASEAN Grand Challenge
- International Funding Source
- Share Facilities/ Resources

## 2570

## Regional Partners



ASEAN Secretariat  
COSTI  
ASEAN Foundation  
ASEAN YSN



## National Partners



Permanent Sec Dept  
NXPO  
TSRI  
Universities

## Co-funding Agencies



European Research Council



Deutsche Forschungsgemeinschaft



## ASEAN Talent Mobility PLUS

### Target:

- High Potential (CLMVT)
- Research Excellence (Frontier)
- Eco-system: Supporting team & Intermediary

- **Scouting Activity**
- **Database Platform**
- **Capacity building/ Grooming Activity**
- Networking & Alignment Activity (between International Agency, ASEAN Agency)
- Mobility Activity
- PMU-B Seed fund for research initiative
- ASEAN Researcher Award / Visibility for Researchers
- PMU-B Co-Funding with International Agencies
- Sole funding from International Agencies
- Researcher → Global League/Global Stage (members, steering committee, leader) – Science Diplomat/ Country Rep/ Minister

## International Activities for Linkage



Human Capital Development: Establishing regional STI pool of talent for inclusive and sustainable growth (CLVT)



KYOTO UNIVERSITY  
ASEAN CENTER

ASEAN-Japan STI Coordinator  
JASTIP

## PMU-B Lead Ongoing Program

### Academies

- Post doctoral Platform
- Coding/Robotics
- Frontier/SHA Academies
- Global Leagues

### Research

- Global partnership PIF, NSF, OBF
- Frontier Research funding (Sole)
- Co-Fundings scheme (7)

### Infrastructure

- Landscape for Lab/Equipment platform/sharing
- Reinventing STI Agencies

# Opportunity for Collaboration & Partnership

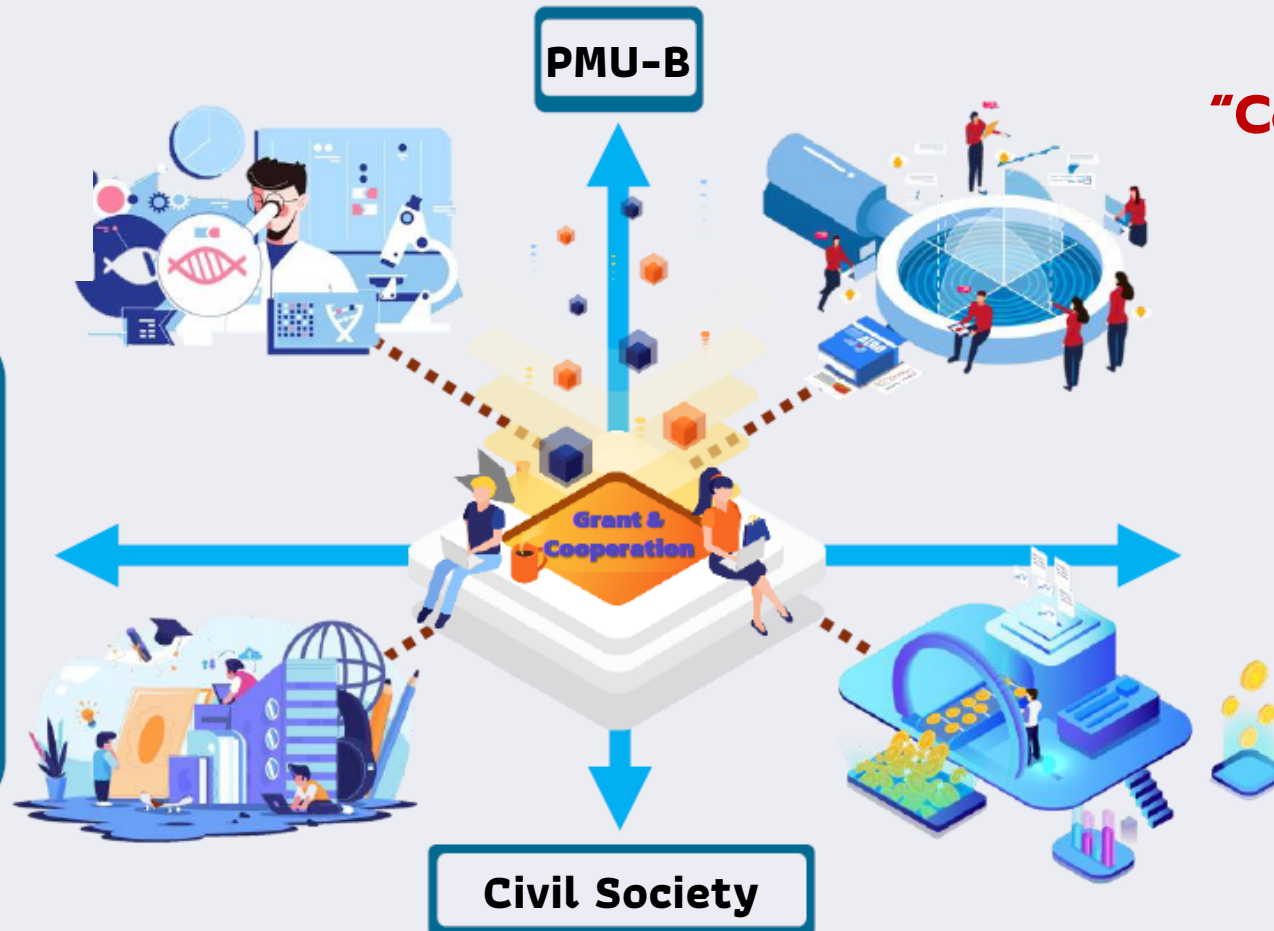
Reinventing funding allocation process utilizing consortium **“Quadruple helix model”**, enhancing networks of public, private, and civil society sectors.

## Strategic Partner “Co-Creation”

- Researcher Development Platform
- Frontier Research

### Public Sector

- Ministry of Higher Education, Science, Research and Innovation
- Institution
- University
- Vocational education
- School



## “Consortium Driven”

### Private Sector

- Company
- Public Organization
- State enterprise
- Start-up



**Program Management Unit for Human Resources & Institutional Development,  
Research and Innovation (PMU-B)**

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