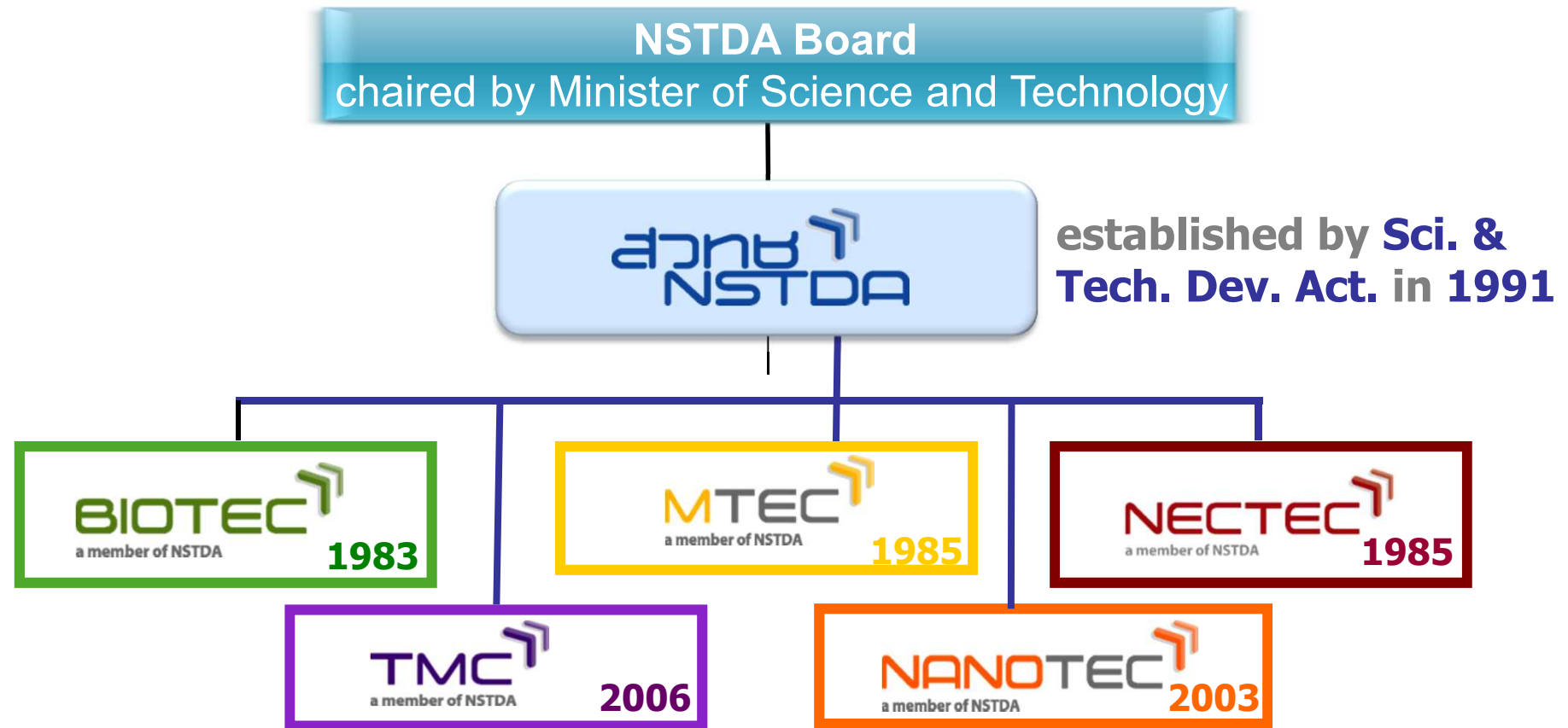


# NSTDA Organization



## Mission

- RDDE; in-house research, granting (extra and intramural)
- Technology Transfer
- S&T HRD
- S&T Infrastructure

R&D Focus area	Agriculture and Food	Energy and Environment	Health	Natural Resources Management and Rural Development	Industry and Services
	Smart Materials and Processing (films, fiber)				
	Digital engineering (Design, engineering and automation)				
	Sensor and intelligent system				
	ICT as a service (logistics, softwares)				
โปรแกรม Cross-cutting Technology					
Platforms	<u>Biotechnology</u> <ul style="list-style-type: none"> <li>- genome technology (DNA microarray, proteomics, systems biology, micro RNA)</li> <li>- synthetic biology; synthetic microbes (bio-based chemical, bio-based energy)</li> <li>- pre-commercial pilot plant; cGMP</li> </ul>	<u>Materials Technology</u> <ul style="list-style-type: none"> <li>• Computer-Aided Tech. (CAD/CAM/CAE)</li> <li>• Materials Synthesis and Fabrications</li> <li>• Materials Characterization</li> </ul>	<u>Electronics &amp; Software</u> <ul style="list-style-type: none"> <li>• Digital Media and Human Interface</li> <li>• Industrial Electronics &amp; Automation</li> <li>• Security</li> <li>• Informatics &amp; Network</li> <li>• Smart Devices &amp; System</li> </ul>	<u>Nanotechnology</u> <ul style="list-style-type: none"> <li>• Functional nanomolecules, structures and devices</li> <li>• Nanoencapsulation, targeting and delivery system</li> <li>• Nanoscale analysis, computation and characterization</li> <li>• Nanosafety and risk assessment</li> </ul>	

## Research program under cluster

R&D  
program

### **Agriculture and food**

1. rice
  2. cassava
  3. rubber
  4. Seed tech.
  5. Animal production and health care
  6. Food innovation
- Sustainable agriculture  
Mitigation  
Adaptation  
Biotic and abiotic stresses  
Food safety,  
risk management (food  
Diseases; histamine)

### **Energy and Environment**

1. Energy conservation
  2. Renewable energy; biomass
  3. Resources use efficiency LCA
- Low carbon  
society, carbon,  
water footprint

### **Health**

1. Emerging and re-emerging diseases  
**Dengue, malaria and TB**

โปรแกรม

Cross-  
cutting

Technology

**Digital engineering (Design, engineering and automation)**

**Sensor and intelligent system**

## **Natural resources Management**

- Biodiversity and utilization
- Ecology conservation
- Biological control

## Foster collaboration through MOU establishment

Organization	Detail
Graduate School of Agriculture, Meiji University, Japan	To develop collaboration on agriculture and biosciences.
Institute of Microbiology and Biotechnology, Vietnam National University Hanoi, Vietnam	To collaborate on bioresource research, utilization and management.
Graduate School/School of Engineering, Osaka University, Japan	To promote collaboration on microbial biotechnology.
National Institute of Technology and Evaluation (NITE), Japan	To promote collaboration on the conservation and sustainable use of biological resources.
Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava, Slovakia	To foster collaboration on fermentation technology and bio-processing.
Queen's University of Belfast, Northern Ireland	To foster collaboration on food and agricultural biotechnology.
Atma Jaya Catholic University of Indonesia	To support the placement of undergraduate and graduate students from Atma Jaya Catholic University in BIOTEC laboratories.



## Institute of Tropical Biology, Vietnam



Joint research & HRD on insect fungi,  
2006-2007



Visit to National Parks in Vietnam,  
Nov 2005

## Vinh University



**MOU Signing, Oct 2006**



**Joint research & HRD on insect  
fungi, July 2007-2009**





## Community of Practice on MAS Rice Breeding Programs for Mekong Region



**National Agriculture and Forestry Research Institute, LaoPDR**

## Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM)

- Three task forces:
  - An integrated microbial strain database which consist of CGMCC (China General Microbiological Culture Collection Center, China), NBRC (NITE Biological Resource Center, Japan), KCTC (Korean Collection for Type Cultures, Korea ) and BCC (BIOTEC Culture Collection, Thailand ).
  - Human resource development program among Asian countries
  - Development of international standards for biological material transfer and benefit-sharing Improvement and share of standardized techniques, led by **Thailand** and **Japan**

BIOTEC hosted the 9<sup>th</sup> Annual Meeting of ACM, with a public seminar on on “Value Added Culture Collection” and ACM task force meetings on 25-27 October 2013 in Chiang Mai, Thailand





## HRD for researchers, academia, public and private sectors

Target group	number of events	Number of participants	man*day
Researchers and academics from public and private sectors	27	2,373	5,921



International Training Course on Drug Development and Neglected Tropical Infectious Diseases, with instructors from Belgium and the US, travel grants provided by A-IMBN.



Curation and Management of Microbial Resources Course, with instructors from Thailand, Japan and China.