

Welcome the ASEAN-India S&T Digital Library Project Delegation



## Overview :

# The National Science and Technology Development Agency (NSTDA)

### **Dr. Noppawan Tanpipat**

Vice President, International Relations & Organization Communications

National Science and Technology Development Agency (NSTDA)

Ministry of Science and Technology

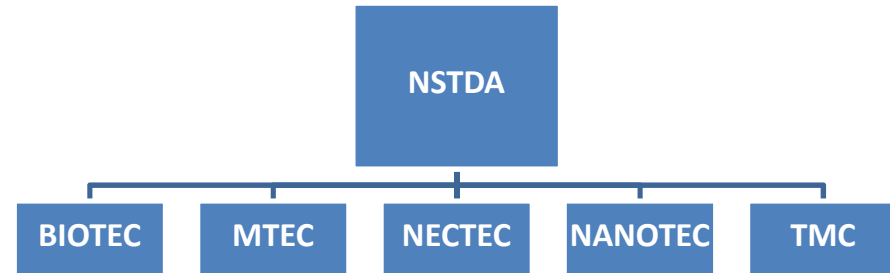
Thailand

February 5, 2013

# Thailand at a glance

- An upper middle income and 2<sup>nd</sup> largest economy in ASEAN after Indonesia
- Total population of 69.5 million in 2012
- Competitiveness
  - 18<sup>th</sup> (from 185) in Ease of Doing Business 2013
  - 38<sup>th</sup> (from 144) in Global Competitiveness Report 2012 - 2013 by World Economic Forum
  - 30<sup>th</sup> (from 59) in IMD World Competitiveness Rankings 2012
- 2011 GDP: US\$ 345.65 billion
  - 8% Agriculture
  - 47% Services
  - 45% Manufacturing
- Top 3 **rice** exporter and 2<sup>nd</sup> largest **sugar** exporter
- World's largest natural **rubber** producer and exporter
- World's 2<sup>nd</sup> largest **hard-disk drive** exporter after China
- **Auto manufacturing** hub in Southeast Asia
- World's top **chicken** meat exporter

# NSTDA at a glance



**Established:** December 1991

by the National Science and Technology Development Act, 1991

**Governance:** A quasi-government agency with  
Minister of Science and Technology as chairman of the board

**Location:** Thailand Science Park (30 kilometers north of Bangkok)

**Vision:** Key S&T partner towards knowledge based society/economy

**Missions:** R&D, Technology Transfer, HRD, and Infrastructure

**Org chart :** **Four national R&D centers** (total 98 laboratories):

**BIOTEC**      **National Center for Genetic Engineering and Biotechnology**

**MTEC**        **National Metal and Materials Technology Center**

**NECTEC**     **National Electronics and Computer Technology Center**

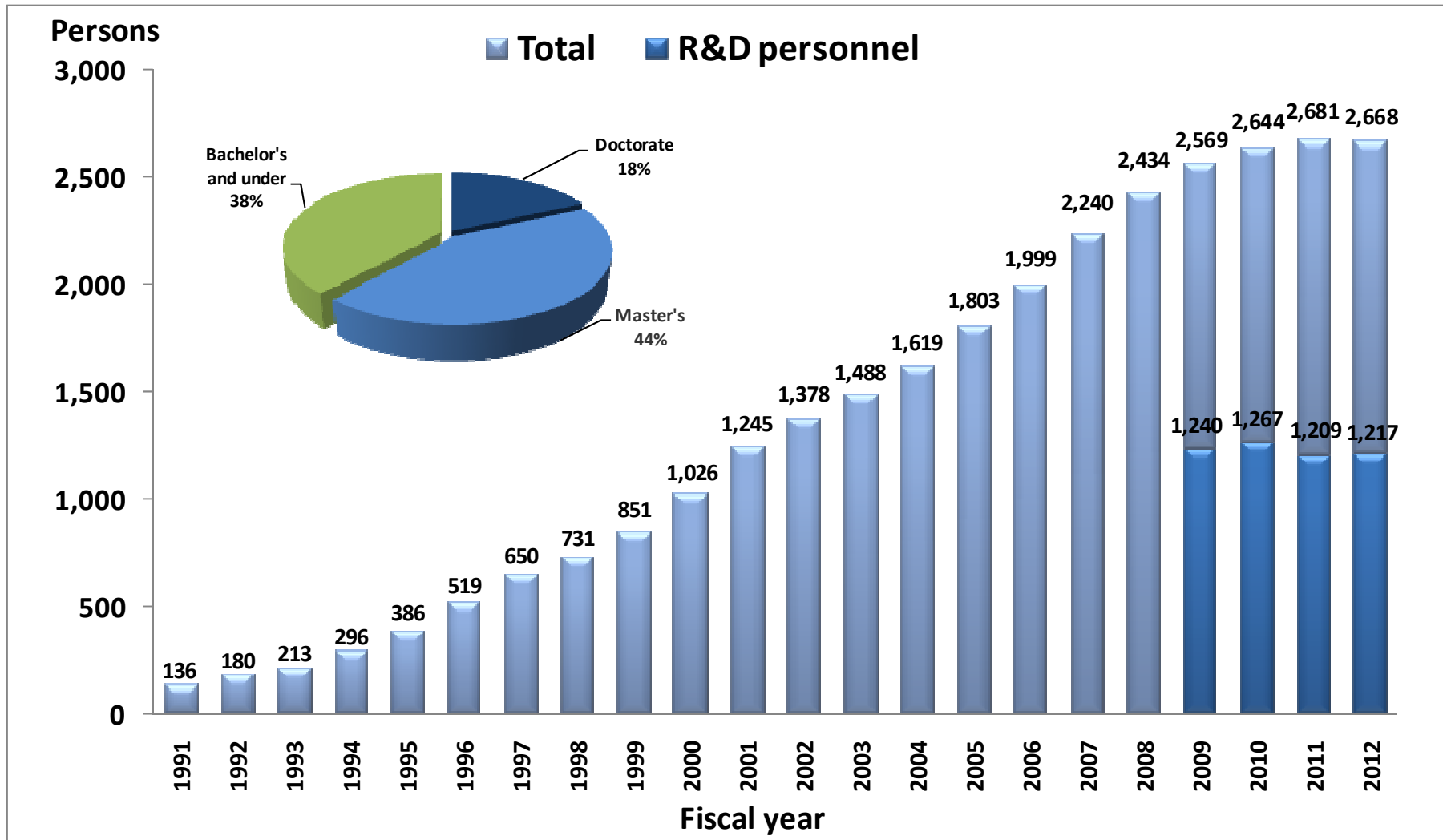
**NANOTECH**   **National Nanotechnology Center**

**One technology management center**

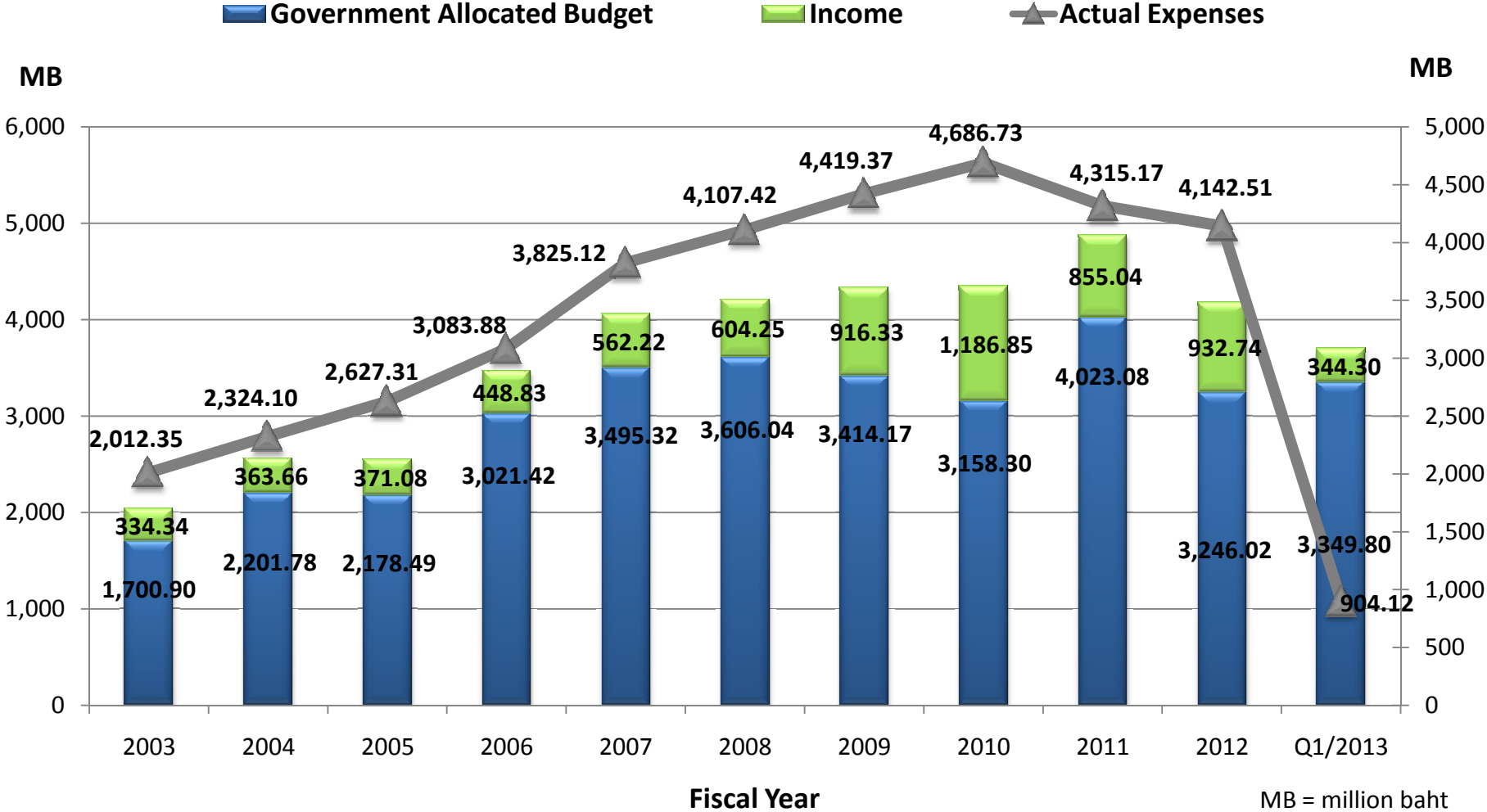
**TMC**         **Technology Management Center**

**Focal point:** NSTDA is national focal point for EU's Framework Program

# Personnel Distribution



# Budget, Income and Expenses

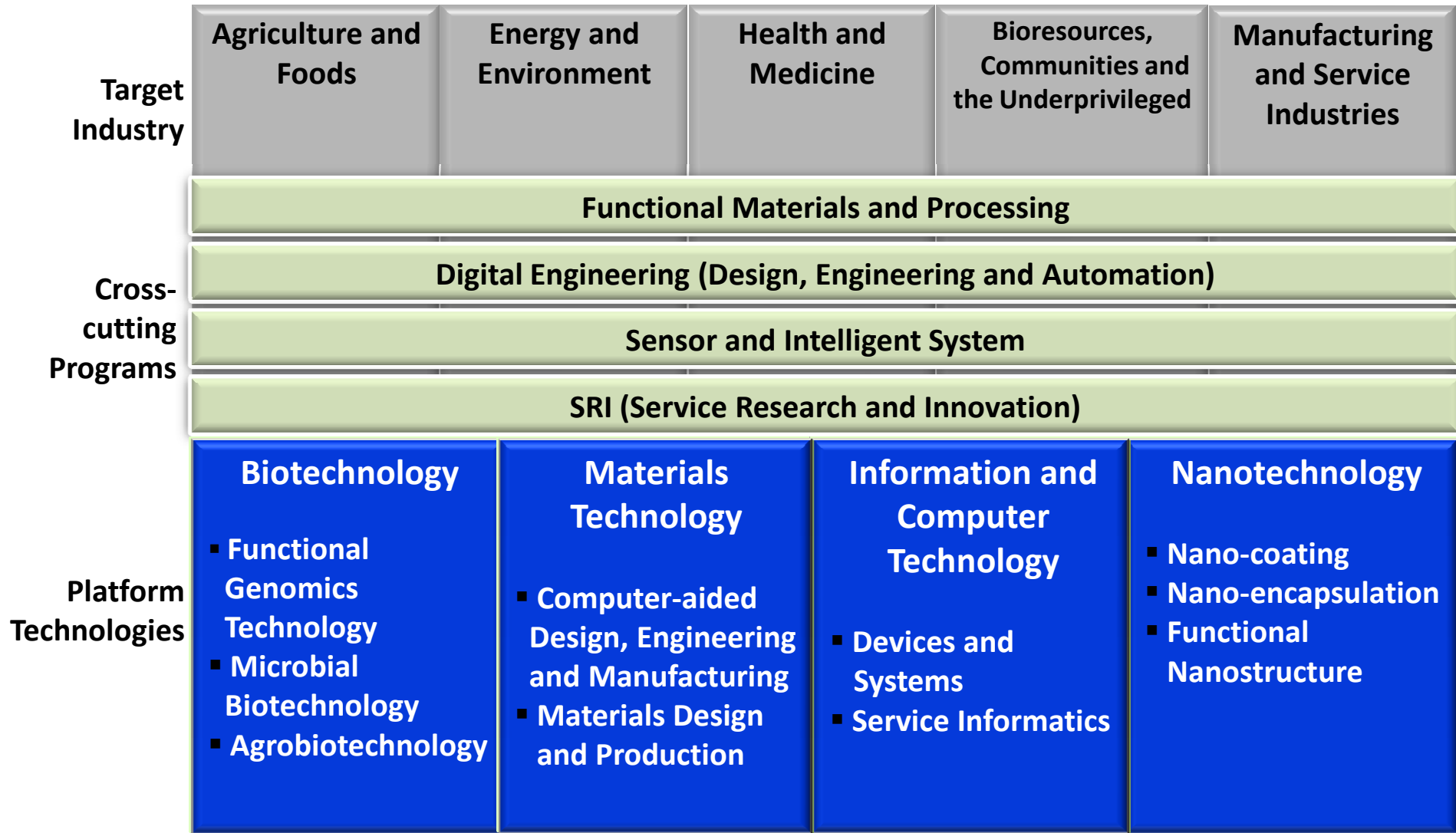




# Research Strategy and Research Highlights



# R&D Strategy (2011-2016)



Software Park Building



# S&T Infrastructure of NSTDA



Science Camp



Convention Center



National Centers



Pilot Plants



# Innovation Cluster I and II (or INC I and INC II) @ Thailand Science Park



To be completed by 2013

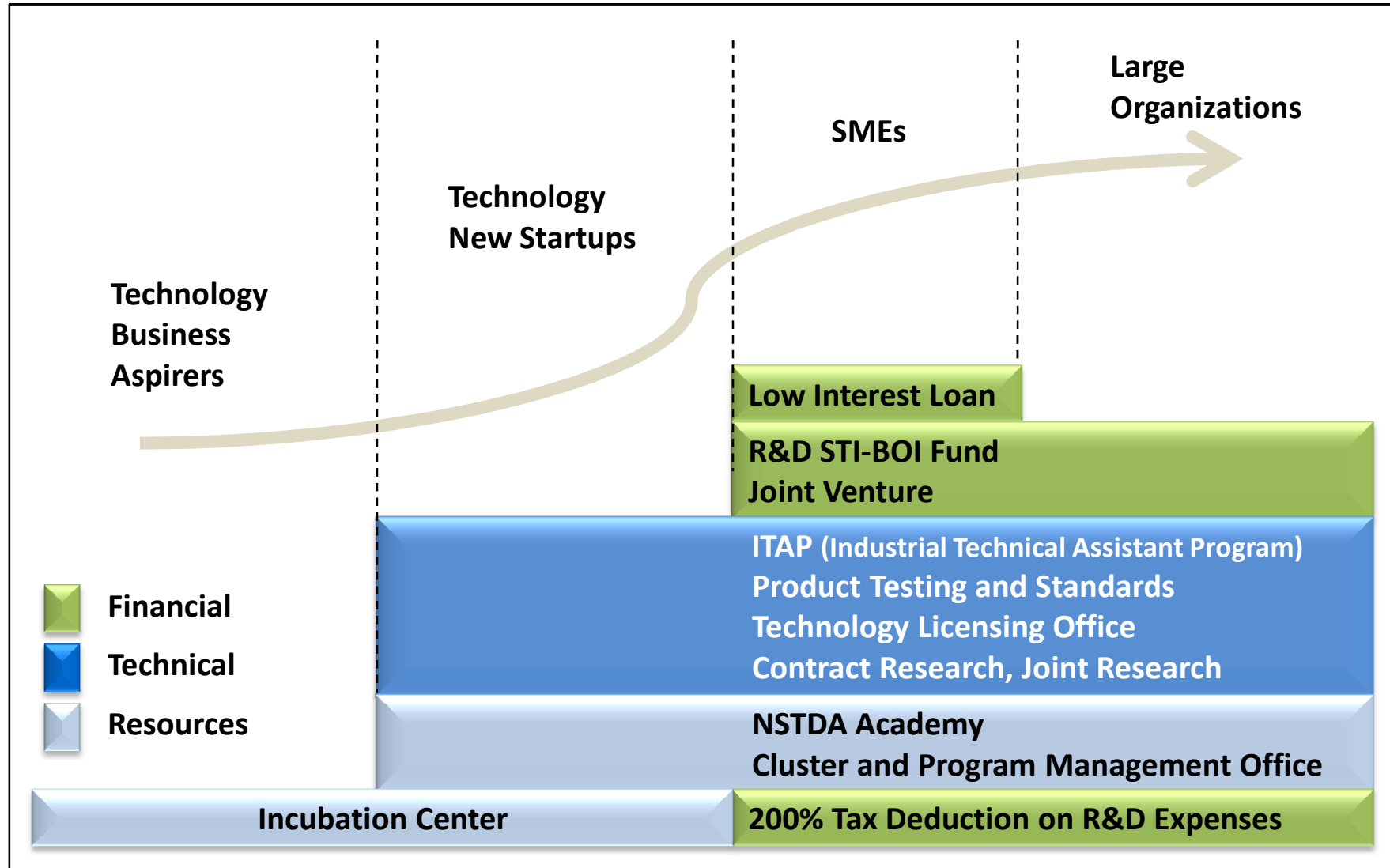


- Innovation Cluster I**
- ❑ 60 Tenant Companies , 12 Incubatees
  - ❑ 70% Thai : 30% Foreign
  - ❑ ~500 Staffs with over 300 researchers

- Innovation Cluster II**
- 4 integrated Towers
  - Gross area of 124,000 sqm.
  - World class R&D infrastructure
  - Sensitive lab, heavy equipment area
  - Superb ICT infrastructure & business services
  - Additional 150 Companies
  - To be open in 2013



# Promoting S&T in the Private Sector



# NSTDA International Collaboration

**Europe:** EU-FP7, UK-Thailand Partners in Science, Thai-German Mobility Scheme Fraunhofer-Gesellschaft, Imperial College London, University of Zurich, CNRS, CIRAD, Institut National Polytechnique de Toulouse (INPT), DESY, Lindau, CERN, K.U. Leuven, IMEC, etc.

**China:** CAS, CAAS, GUCAS, SAAS, KIB, SSRC, Sino -Thai Scientific and Technical Cooperation, Sichuan Academy of Agricultural Science (SAAS)

**India:** India Institute of Science (IISc)

**Japan:** AIST, RIKEN, JICA, JST, e-ASIA, JAXA, JETRO, METI, MEXT, NUT, NIMS, NISTEP, NEDO, Tokyo Tech, Hiroshima U., Toyota, Shiseido, Shimadzu, Ube, Denso, ATPIJ, YU, Yamagata Univ., etc.

**Korea:** KRIBB, KRISS, STEPI, Korea Science Foundation

**Taiwan:** ITRI



**U.S.A.:** NSF, IBM, Carnegie Mellon U., MIT, REI Int'l, PSU, UWM, GEC, TMS, U of Wisconsin-Madison, North Dakota State University, New Jersey Institute of Technology

**Latin America:** Brazil, Argentina

**Middle-East:** Israel

**ASEAN:** ASEAN COST, SIRIM, MIGHT, LIRE, VAST, NISTPASS, A\*STAR, Singapore Polytechnic, Cebu Technological University

**Australia:** QUT, U. of Queensland, Australasian Corrosion Association

# NSTDA-India Collaboration

## Indian Institute of Science – MTEC MOU (May 2008 – April 2011)

- Research collaboration on “Mechanical Characterization via Experimental and Computational Nano-Indentation”
- Coauthored two papers in International Journal of Modern Physics:
  - Three-Dimensional Simulation of Deformation Fields Underneath Vickers Indenter: Effects of Power-Law Plasticity, Vol. 24, Nos. 1&2, pp. 238-246
  - Effects of Plastic Anisotropy and Hardening on Indentation Modulus of Thin Films, Vol. 24, Nos. 1&2, pp. 247-255
- Co-presented two research findings at International Conference on Materials for Advanced Technologies 2009 (in Singapore during July 1-3, 2009) on:
  - Simulation of Deformation Fields underneath Vickers Indenter Effects of Power-LAW Plasticity
  - Observations of Anisotropic Plastic Behavior in Thin Films via Indentation Modulus Measurement

# Thank you

A Driving Force for National  
Science and Technology Capability



## National Science and Technology Development Agency

111 Thailand Science Park  
Phahonyothin Road,  
Klong 1, Klong Luang  
Pathumthani 12120  
Thailand

<http://www.nstda.or.th/eng/>

International Cooperation Office:

Tel. +66(0)2-564-7000 ext. 71530 thru 6

Fax. +66(0)2-564-7004

Email: [ic@nstda.or.th](mailto:ic@nstda.or.th)