



Genetic Engineering and Biotechnology

Metal and Materials

**Electronics and Computer Technology** 

Nanotechnology

# R&D Management in Thailand Perspective

## NATIONAL SCIENCE AND TECHNOLOGY DEVELOPMENT AGENCY

Dr. Narong Sirilertworakul, President



## THAILAND 4.0

Prosperity, Security, Sustainability



Innovative/Value-based Industry High Income Country



Heavy Industry

Middle Income Trap Inequality & Imbalance



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### **New Engine of Growth**

S-CURVE

**Next-Generation Automotive Smart Electronics** Affluent, Medical and Wellness Tourism Agriculture and Biotechnology Food for the Future



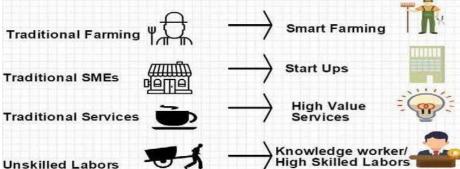
**Buy Technologies** 







### Transformative Shift







Make Technologies



**NEW S-CURVE** 

Robotics Aviation and Logistics **Biofuels and Biochemicals** Medical Hub Digital











### Clusters for **Innovation & Start Ups**

Food Agriculture & Bio-Tech Health, Wellness & Bio-med Smart Devices, Robotics & Mechatronics Digital, IoT & Embedded Technology Creative, Culture & High Value Services





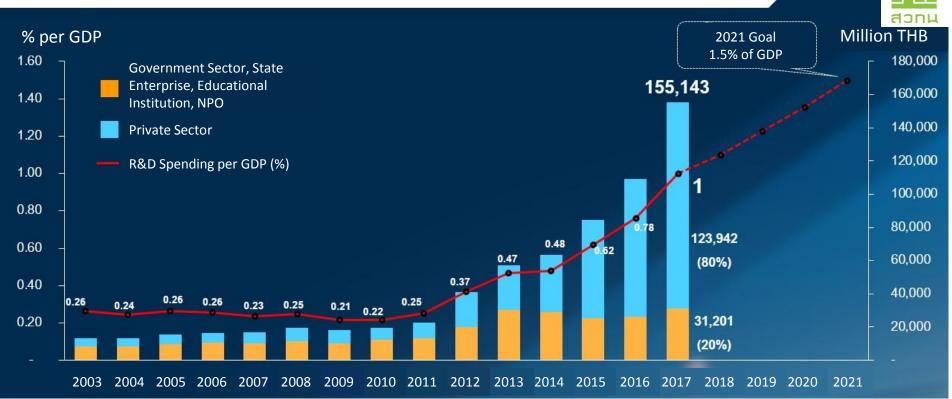


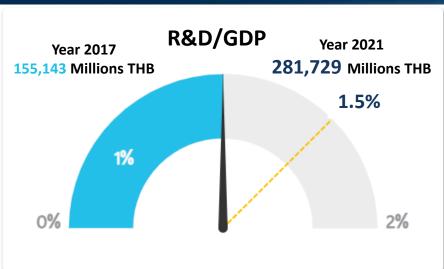


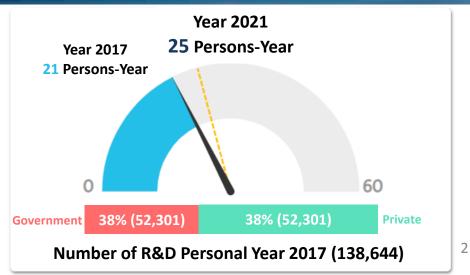


Division of Economic Information Department of International Economic Affairs Ministry of Foreign Affairs, Thailand.

### **Gross Expenditures on R&D of Thailand**







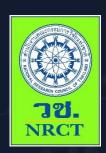
## New Ministry: Science Technology and Higher Education Ministry (STEM)



Ministry of Science and Technology



Office of the Higher Education Commission



National
Research Council
of Thailand



Thailand Research Fund

## 2 Key Missions:

- Prepare Thai People for the 21<sup>st</sup> Century
- Country Development with Knowledge and Innovation



#### **4 National Research Centers**



#### 5 National S&T Infrastructure (NEW)

National Biobank of Thailand **National Omics Center** 

**NSTDA Supercomputer Center** 

**Technology and Informatics Institute for Sustainability** 

Center for Cyber-Physical Systems

### 2 Focus Centers (NEW)

**Assistive Technology and Medical Devices Center** 

> National Security and Dual-**Use Technology Center**



S&I Human Resources Development				
Professional Researchers		Pro	Professional Education	New Entrepreneur Education
	Re	searchers	Entering Research Careers	POSTDOCTORAL FELLOWSHIPS PROGRAM
Higher Education		nelor - Ph.D. Degrees	Graduate Capacity Building	TAIST NUI-RC
Basic Education	Hig	gh School	Inspiring Kids to join Science Programs	WALSON SIGNAL
		Primary ducation	Science Learning	น้างใ



### 6 Research Pillars/ 6 Frontier Research/ 10 Technology Development Groups

Circular Economy Green Economy Silver Economy Intelligent Economy Sharing Economy Bioeconomy **Precision medicine** Precision agriculture Biopharmaceutical Food & feed **Electronics Bioscience & Biotech** & IT **Medical devices** 6 **Material &** Agenda & implants **Economies** Manufacturing based **Bio-chemicals Nanoscience** Energy & Nanotech Dual-use defense **Frontier** Cosmeceutical **National S&T** infra. **Mobility Energy** NQI

& logistics