



# Creating Research Cooperation

Global Conference on educating the next generation of workforce:  
ASEAN perspectives on innovation, integration and English  
24-25 June 2013, Bangkok, Thailand



Prof. Dr. Amaret Bhumiratana  
Director, RGJ-PhD Program  
The Thailand Research Fund

# Primary Driver of Economic Growth



Previously



**Land**



**Labor**

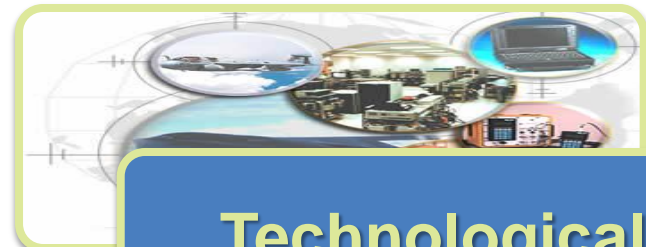


**Natural Resource**

Recently



**Human Capital**



**Technological Knowledge**



# Innovation is

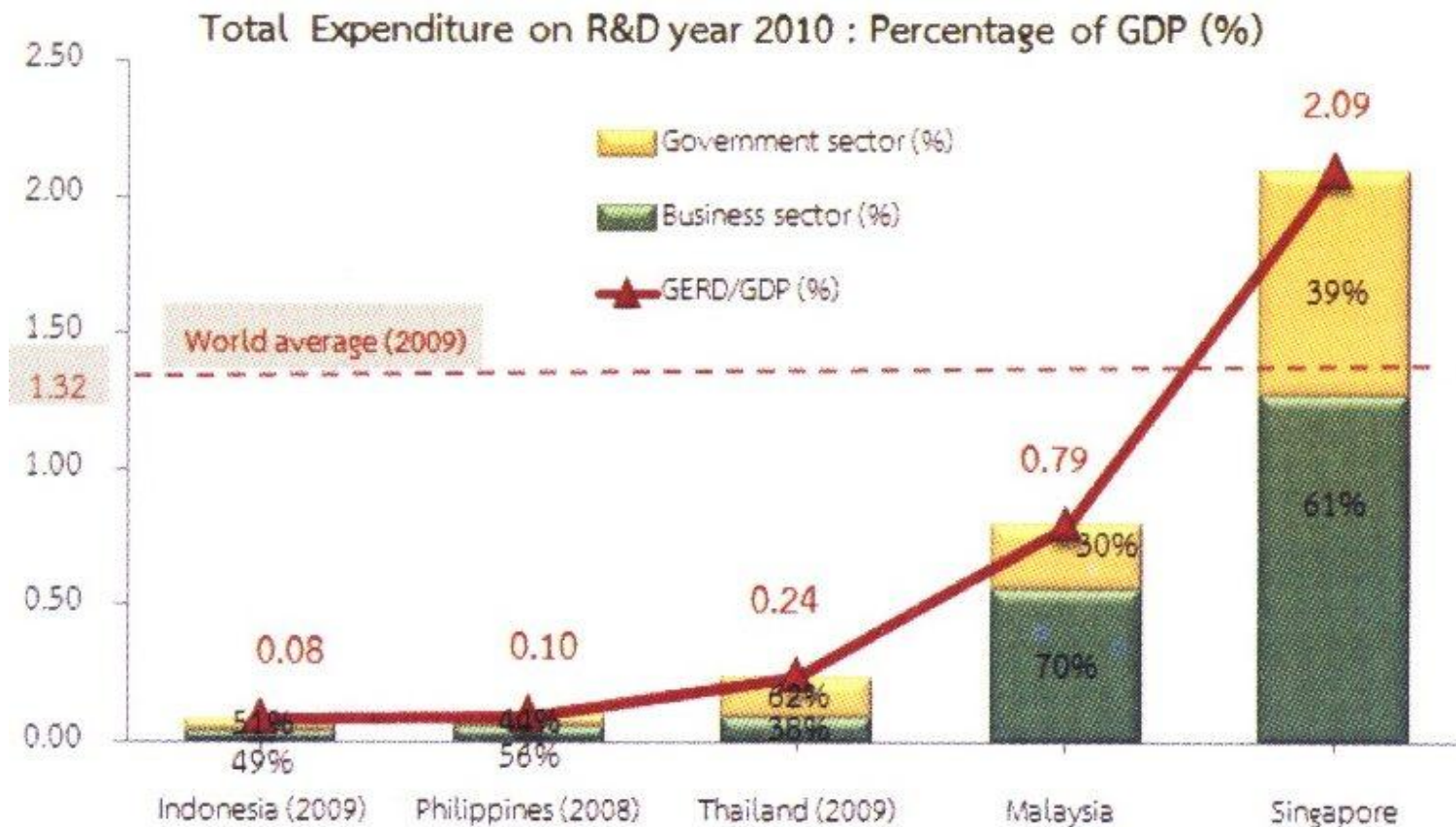
**the act of developing a new process or product and introducing it to the market.**

**\* Persuasive atmosphere**

**\* Inductive stimulant**

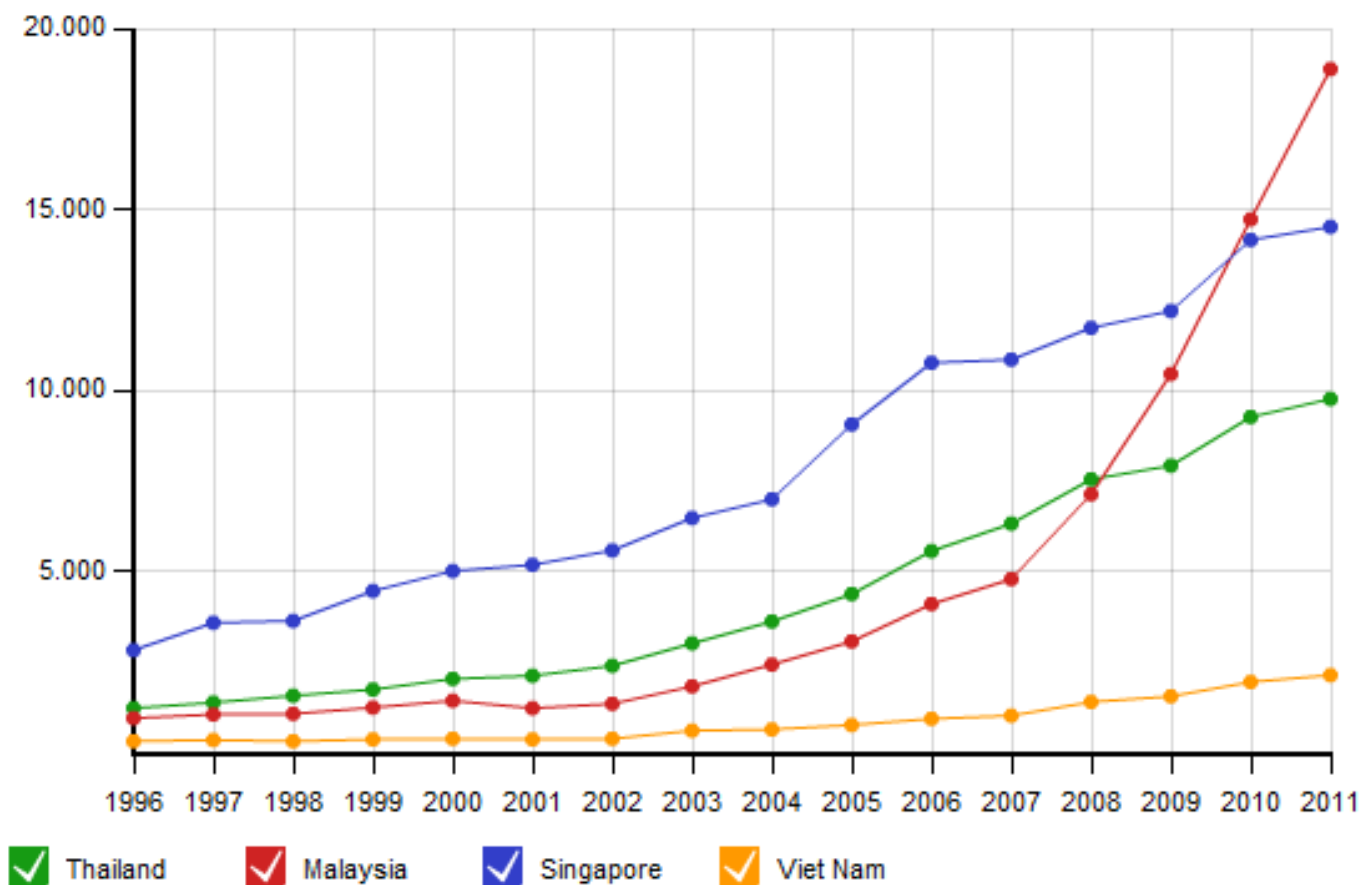


# R&D investment per GDP for the five ASEAN co-countries



**Note: Average from 59 countries**





(c) SCImago Research Group

Data Source: 1. Scopus®  
2. ruchareka.wit@mahidol.ac.th , June 16, 2012



	Thailand	Malaysia	Singapore	Viet Nam
1996	1,201	937	2,814	287
1997	1,371	1,036	3,578	322
1998	1,562	1,050	3,616	291
1999	1,719	1,230	4,452	352
2000	2,013	1,417	5,003	359
2001	2,098	1,216	5,179	354
2002	2,380	1,322	5,565	360
2003	2,997	1,810	6,470	582
2004	3,604	2,411	6,977	623
2005	4,364	3,053	9,051	750
2006	5,558	4,087	10,752	921
2007	6,311	4,783	10,842	1,007
2008	7,529	7,122	11,719	1,375
2009	7,908	10,454	12,191	1,528
2010	9,262	14,727	14,161	1,931
2011	9,760	18,875	14,511	2,130

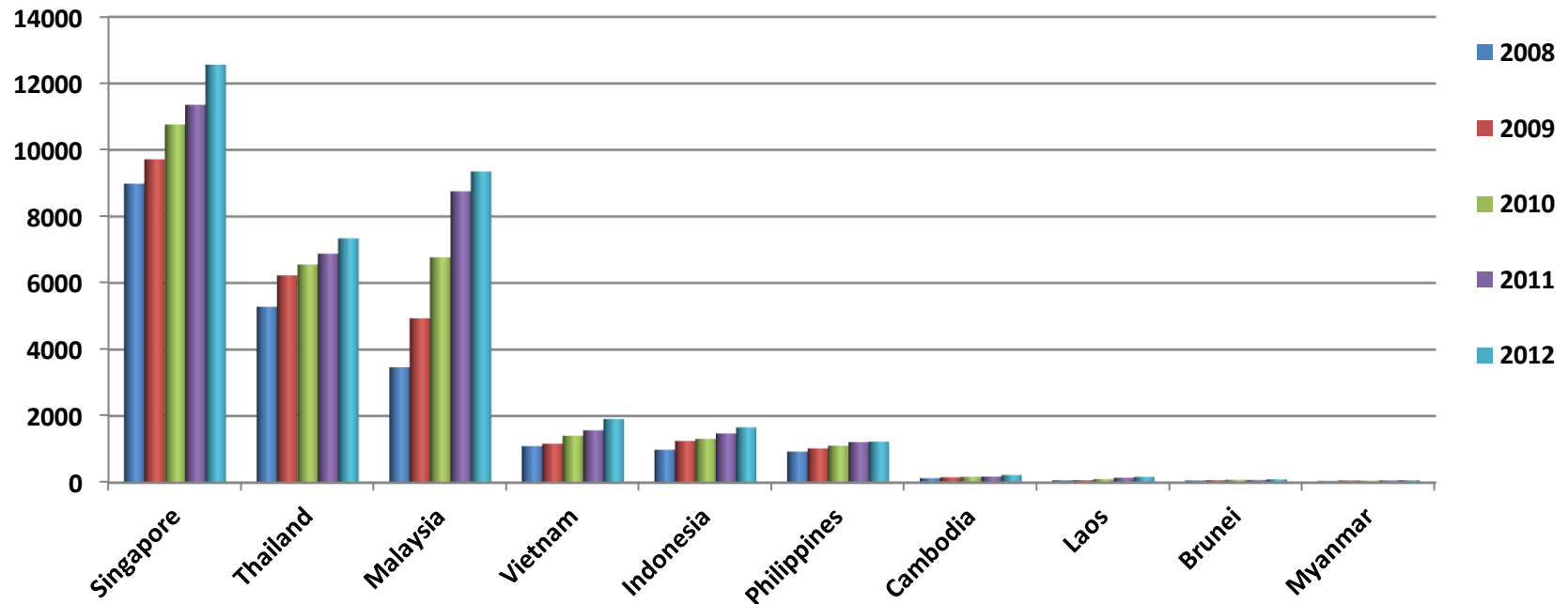
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# Publications in Asean 2001-2013



	Singapore	Thailand	Malaysia	Vietnam	Indonesia	Philippines	Cambodia	Laos	Brunei	Myanmar
2008	8988	5287	3467	1098	986	933	130	74	67	48
2009	9721	6233	4943	1174	1254	1029	160	72	74	63
2010	10763	6553	6776	1408	1314	1109	171	106	87	59
2011	11355	6879	8753	1571	1478	1216	177	143	75	66
2012	12562	7344	9351	1910	1662	1233	227	173	95	69





# Overall & Factors Benchmarking - ASEAN



## HOW ASEAN FARES

The Global Competitiveness Index 2012-13 rankings and 2011-12 comparisons

	Country	Rank/144	Score (1-7)	2011-12 rank
	Singapore	2	5.67	2
	Malaysia	25	5.06	21
	Brunei	28	4.87	28
	Thailand	38	4.52	39
	Indonesia	50	4.4	46
	Philippines	65	4.23	75
	Vietnam	75	4.11	65
	Cambodia	85	4.01	97
	Laos	N/A	N/A	N/A
	Myanmar	N/A	N/A	N/A

## TOP 10 WINNERS

The Global Competitiveness Index 2012-13 rankings and 2011-12 comparisons

Country	Rank/ 144	Score (1-7)	2011- 12 rank
Switzerland	1	5.72	1
Singapore	2	5.67	2
Finland	3	5.55	4
Sweden	4	5.53	3
Netherlands	5	5.50	7
Germany	6	5.48	6
United State	7	5.47	5
United Kingdom	8	5.45	10
Hong Kong	9	5.41	11
Japan	10	5.40	9

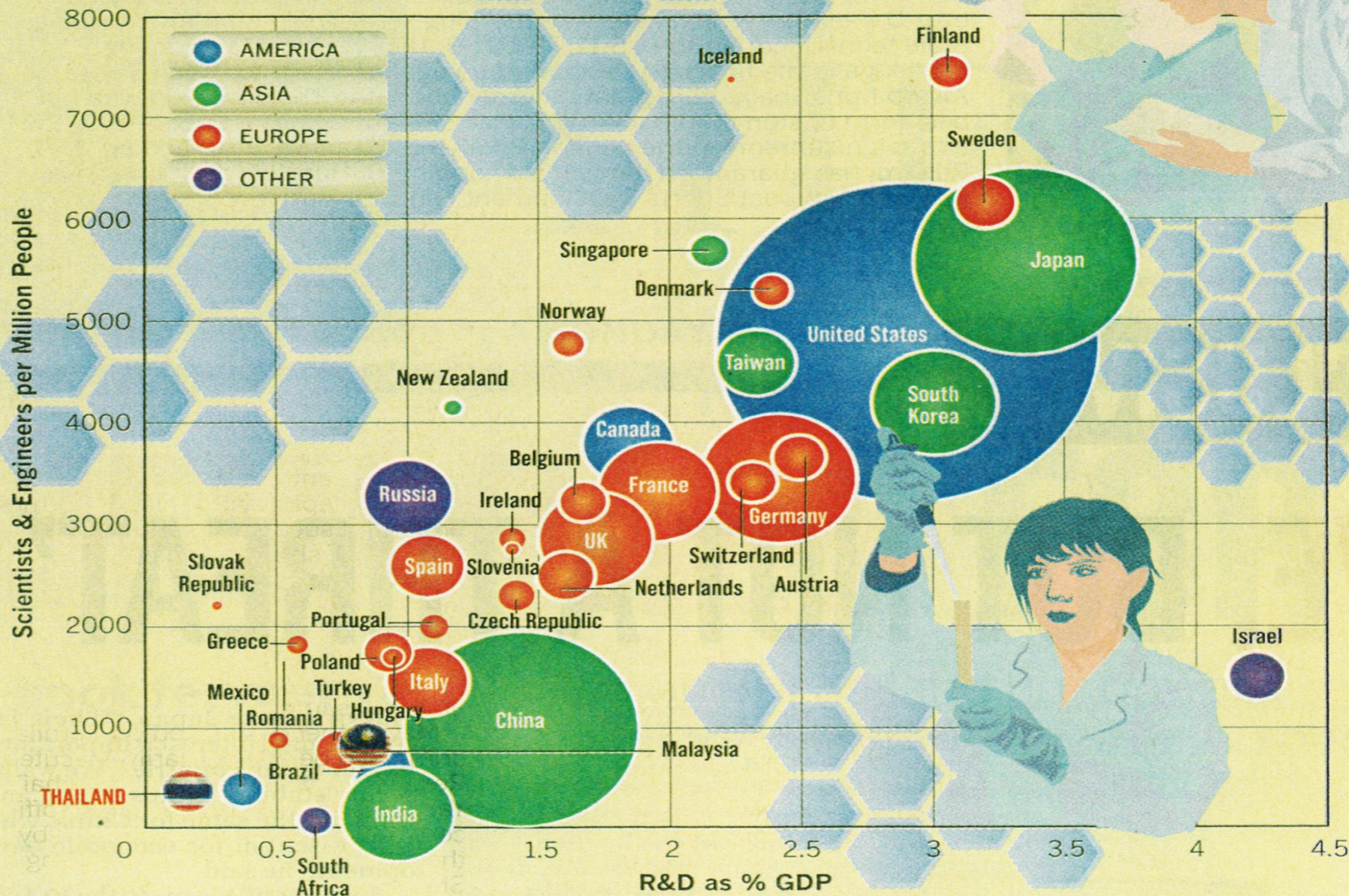
Source : World Economic Forum POSTgraphics





# WORLD OF R&D 2010

Size of circle reflects the relative amount of annual R&D spending by the country noted.



Source: Battelle, R&D Magazine, OECD, IMF, CIA

NATION GRAPHICS

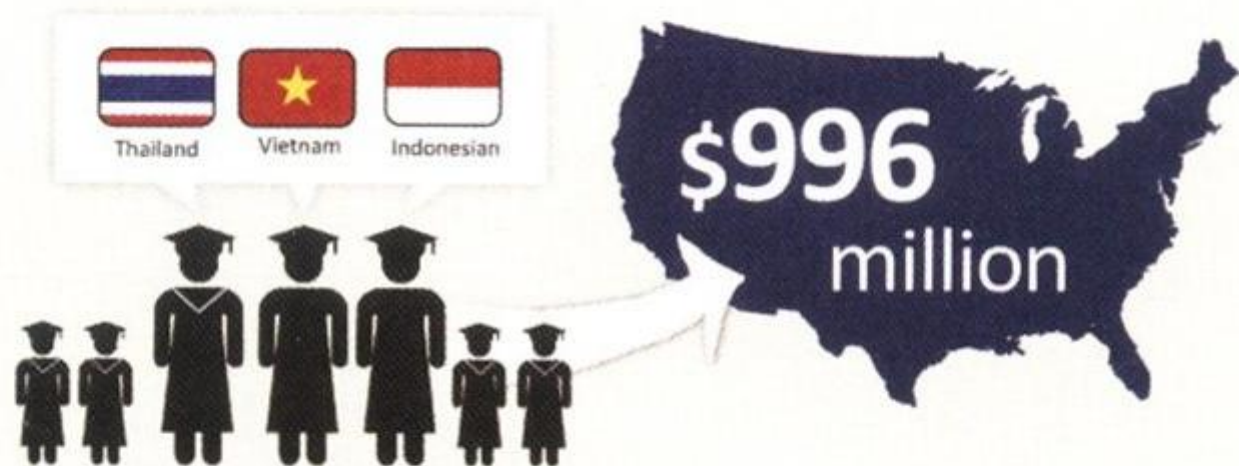


# Comparison of UK, Malaysia and Thailand



Topics	UK	Malaysia	Thailand
1. Population (2010)	62.3 m	27.2 m	63 m
2. Researcher (2010)	256 k	14 k	43 k
3. Researcher per 10,000 population	40	5.1	6.8
4. Publication	124 k	13 k	9.5 k
5. Publication per 10,000 population	19.9	0.47	0.15
6. Publication per research	0.48	0.92	0.22
7. R & D Budget per GDP	1.82%	0.61%	0.22%

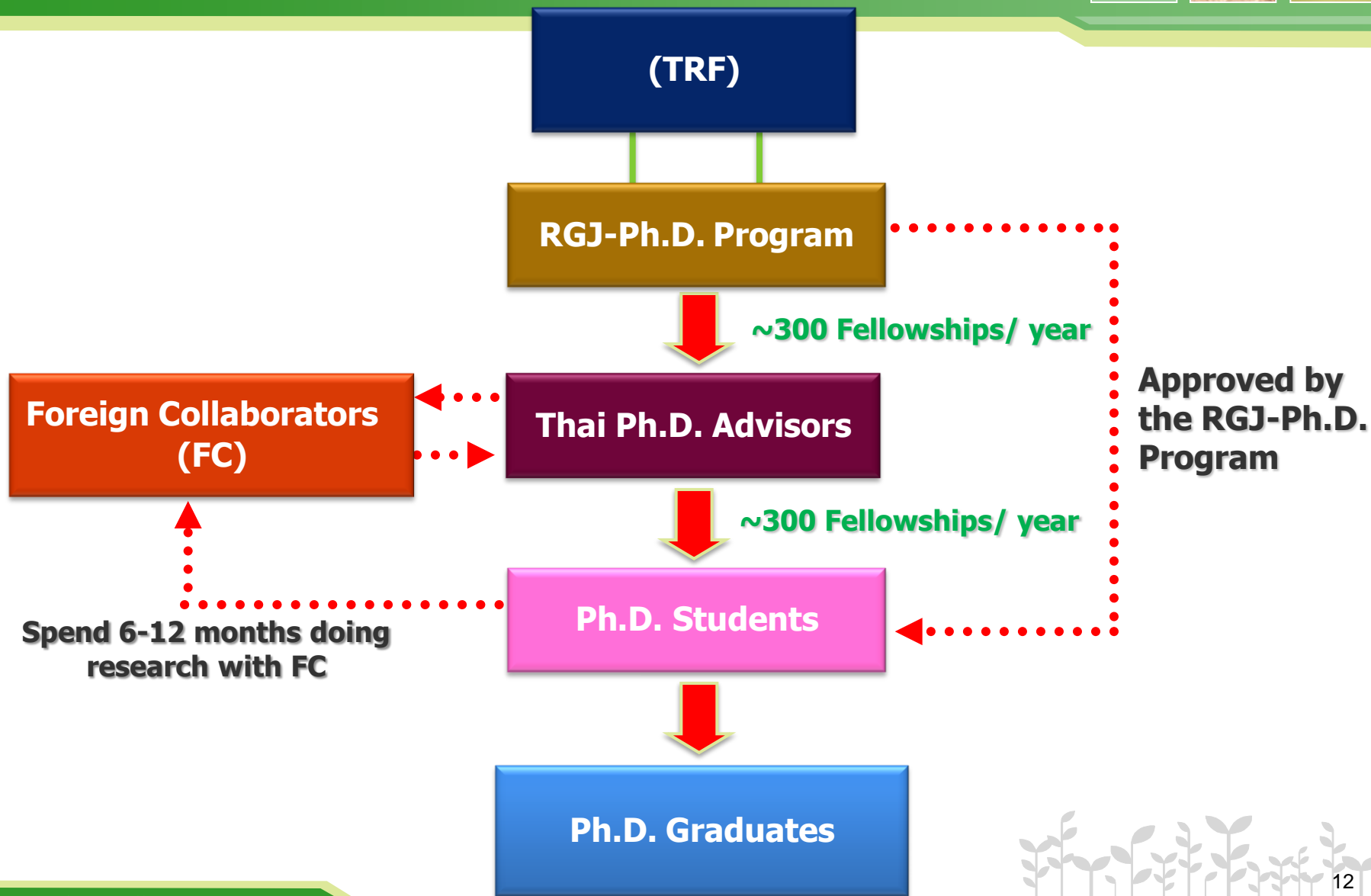




ASEAN students contributed 996 mil USD to the U.S. economy in 2008

Thailand, Vietnam, and Indonesia ranked in the top 20 leading countries of origin

# Operation of the RGJ-Ph.D. Program



# RGJ-Ph.D. management system



**Quality Measures :**

- (1) Highly qualified Ph.D. advisors
- (2) High quality Ph.D. students
- (3) Requirement to produce international publications

More than 1,400 Thai advisors  
from 24 leading universities

Financial support from  
government

Financial support from  
international organizations

Financial support from  
OHEC, University

More than 2,378 Foreign advisors  
from 900 institutions in 43 countries

Management and inputs from the  
program's staff (16 persons)

RGJ-Ph.D. Program  
3,545 students

## Outputs:

- Ph.D. graduates
- International publications, Patents
- Strengthened graduate programs and research units
- International research interactions and collaborations

## Quality enhancing activities

(Organized by RGJ-Ph.D.  
Network Coordinators):

- RGJ-Ph.D. Congress
- RGJ-Ph.D. Seminar Series
- RGJ-Ph.D. Electronic Network
- RGJ-Ph.D. Newsletters
- Site Visits

## Impact:

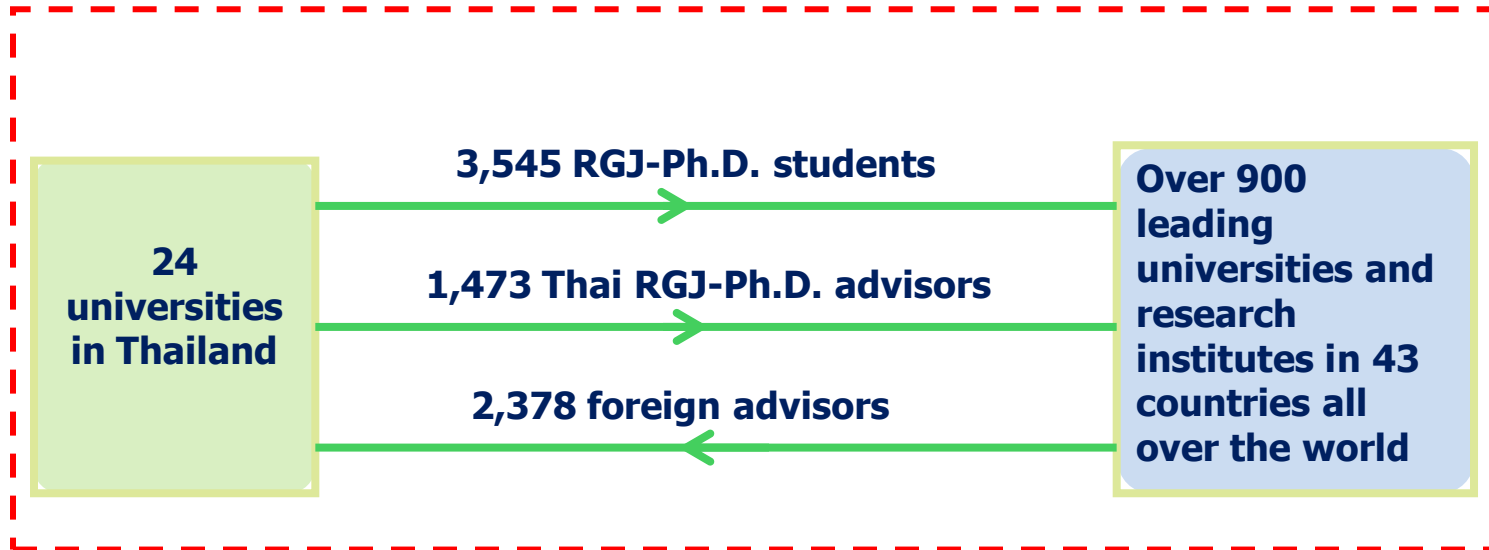
Strengthening of research  
capability and improvement in  
competitiveness



# International Cooperation



## Magnitude of International Activities



**Thousands of fruitful research interactions between Thai advisors and foreign collaborators abroad**





# Research interactions with overseas institutions



No.	Countries	No. of collaborating projects
1	USA	956
2	Japan	438
3	UK	287
4	Australia	273
5	Germany	174
6	France	145
7	Canada	135
8	Sweden	58
9	The Netherlands	44
10	Austria	38
11	New Zealand	36
12	Denmark	35
13	China	34
14	Singapore	29
15	Korea	25
16	Belgium	21
17	Switzerland	21
18	Taiwan	20
19	Spain	16
20	Italy	13
21	Portugal	10
22	Finland	9
23	Ireland	9

No.	Countries	No. of collaborating projects
24	Norway	7
25	Poland	6
26	Czech Republic	5
27	South Africa	5
28	Greece	4
29	Russia	4
30	India	3
31	Israel	3
32	Slovak Republic	3
33	Hong Kong	2
34	Hungry	2
35	Malaysia	2
36	Mexico	2
37	Slovenia	2
38	Argentina	1
39	Croatia	1
40	Iceland	1
41	Myanmar	1
42	Philippines	1
43	Vietnam	1
Total of collaborating projects		2,882
No. of foreign collaborators		2,378





**It has been well documented that  
successful research programs usually have  
to be multidisciplinary in nature and  
require extensive collaboration among  
researchers.**





**The multidisciplinary and collaborative  
research programs can be achieved  
through effective operation of research  
networks.**



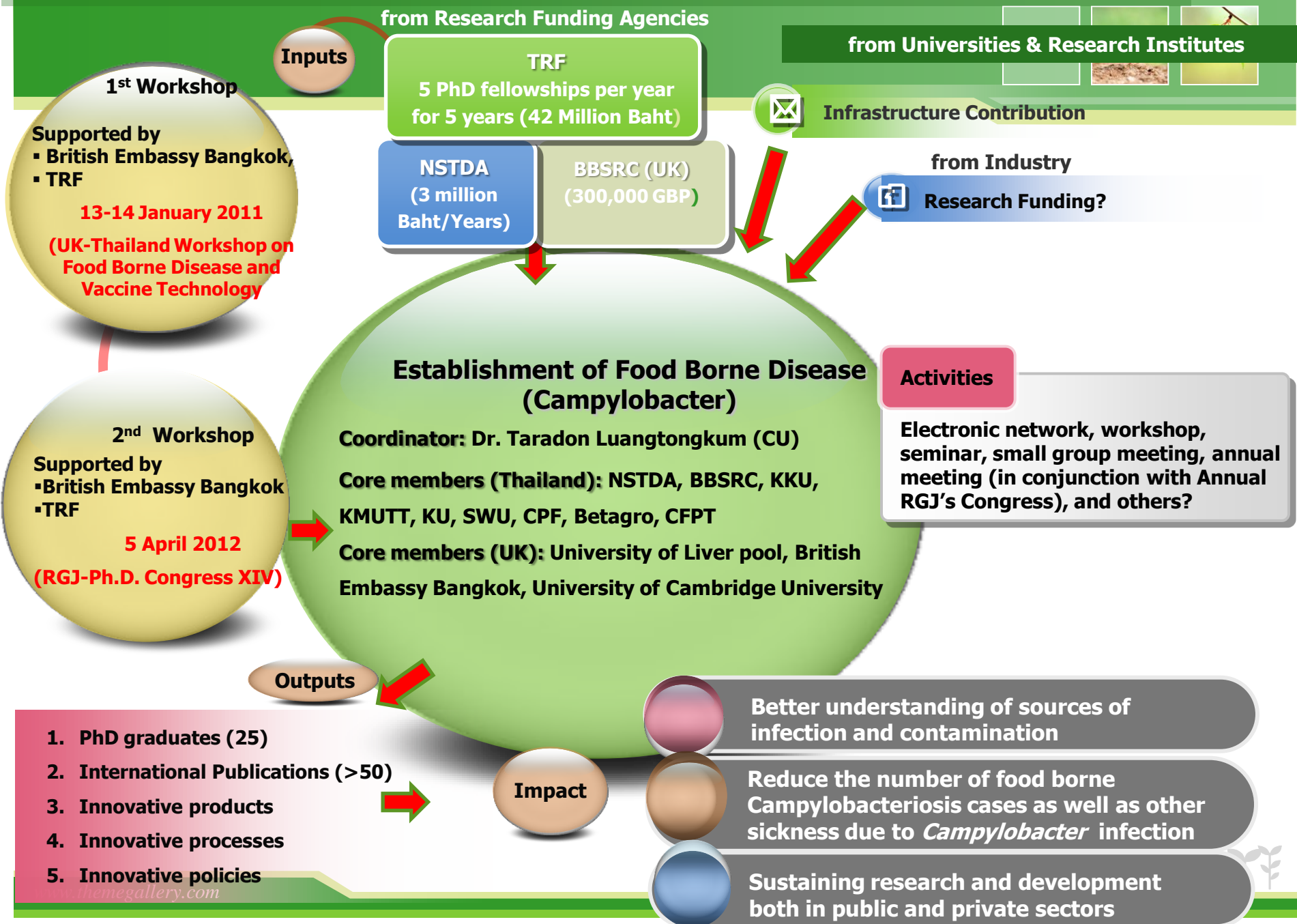


***From...  
RGJ's International Cooperation***

**... to International Research Network (IRN)**



# IRN--Food Borne Disease (*Campylobacter*)



# Status for establishment of TRF's international research networks program (TRF-IRN)



## Advanced Stage of Development

- (1) TRF-IRN==Food Borne Disease (*Campylobacter*)
- (2) TRF-IRN==Food Matrix Microstructure and Gut Health
- (3) TRF-IRN==Clean Combustion and Biofuels

## In the Process for Development

- (1) TRF-IRN==Pavement Technology
- (2) TRF-IRN==Mathematics Education
- (3) TRF-IRN==Natural Product
- (4) TRF-IRN==Thalassemia
- (5) TRF-IRN==Viral Infectious Diseases and Immunology



# Cooperation between the Thailand international development cooperation agency (TICA) and The Thailand research fund (TRF)

## RGJ

- Research Expenses
- Education Fees
- Travelling Expenses for Thai Advisor



## TICA

- Accommodation
- Monthly Allowance



Other Donor Countries



# TICA-French Embassy-TRF



- Since 2008, TICA, French Embassy in Thailand and TRF have jointly offered 4 grants each year to students from Cambodia, Laos, Myanmar, and Vietnam.
- Presently there are 6 students from Myanmar, one from Laos, and one from Vietnam under this program.

	Cambodia	Laos	Myanmar	Vietnam
Kasetsart U.	-	-	4	-
Chulalongkorn U.	-	-	-	1
Mahidol U.	-	-	1	-
Khon Kaen U.	-	1	-	-
KMUTT	-	-	1	-
Total	0	1	6	1

Meeting on  
**TICA-French Embassy-TRF Tripartite Cooperation**  
and  
**Congratulation Ceremony**  
**The First Group of CLMV Doctoral Graduates**  
**30 May 2012**



**Dr. Khin Myo Myint [Myanmar]**  
**Ph.D. (Tropical Agriculture)**  
**Kasetsart University**  
**Assoc. Prof. Apichart Vanavichit**  
**Dr. Jean Christophe Glaszmann**  
**French Agricultural Research**  
**Centre for International**  
**Development**

**Dr. Win Win Mar [Myanmar]**  
**Ph.D., (Inorganic Chemistry)**  
**Mahidol University**  
**Asst. Prof. Dr. Ekasith Somsook**  
**Dr. Francois Fajula**  
**University of Montpellier**

**Dr. Nguyen Le Hai, M.D. [Vietnam]**  
**Ph.D. (Biomedical Sciences),**  
**Chulalongkorn University**  
**Prof. Kiat Ruxrungham**  
**Dr. Constance Delaugerre, Hospital**  
**Saint-Louis**





## **Mobility Fund**

**Students & researchers  
exchange programs**

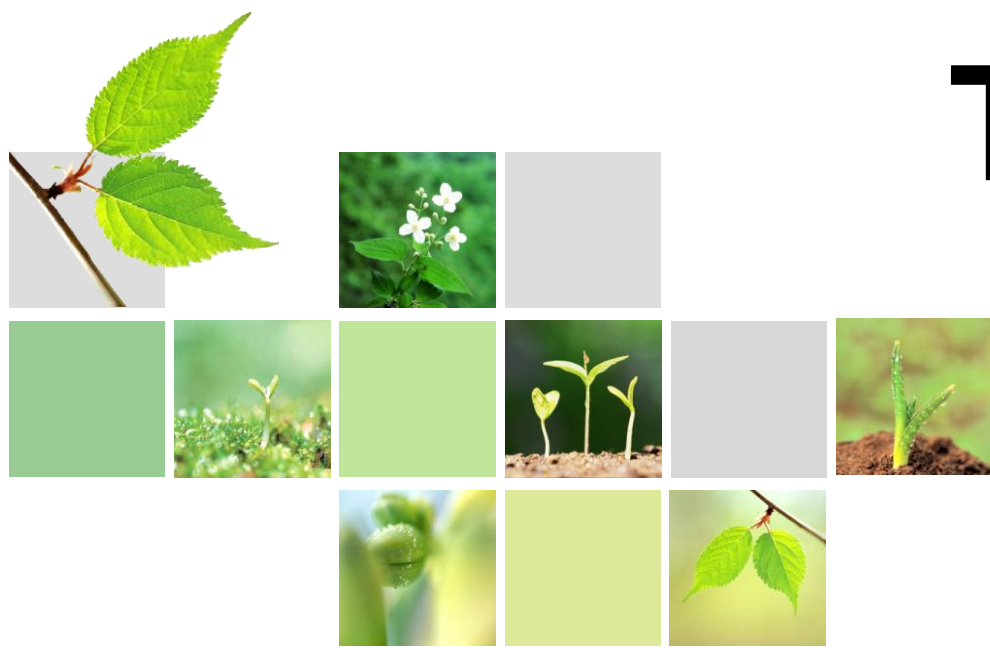
## **Joint Research Fund**

**Co-research projects  
(supporting research fund)**

## **Joint Research Center**

**Create joint research  
organization**





# Thank You!