

# TU-RAC

Excellent Research Management  
and Service with Efficiency  
Technology



**ANNUAL REPORT  
2019**

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Abstract

# Message from the Rector

Recently, Thammasat University has gone through rapid external changes, including social, economic, political and technological changes. Therefore, in university administration, we should always be prepared to keep



up with the pace of changes. For greater efficiency in administration, it is crucial that our university be equipped with a division which has expertise in research management, giving consultancy, and providing trainings and seminars.

Thammasat University Research and Consultancy Institute (TU-RAC) is a division which has contributed to more efficient and effective performance of the university. TU-RAC has been acknowledged by domestic organizations in providing consultancy and solving problems in organizational administration and development. It has also provided help in research and evaluation, city development, and human resources development. TU-RAC has provided academic services for government sectors, state enterprises, private organizations, and international organizations and has been recognized in competence and expertise in academic services. TU-RAC has an increase in the value of academic service projects this year which is another year with satisfying achievement.

On the occasion of TU-RAC's anniversary, I would like to express my appreciation to the government sectors, state enterprises, private organizations, and international organizations for the confidence in TU-RAC services. Also, I would like to thank the board of committee of TU-RAC, instructors, researchers and TU-RAC staff for the firm support and continuing participation in TU-RAC achievement.

*G. Wit.*

Associate Professor Gasinee Witoonchart  
Rector of Thammasat University

## Message from the Director

To respond to the demands of service users, Thammasat University Research and Consultancy Institute (TU-RAC) has been continually focusing on improving its performance by using more efficient information technology. TU-RAC has been providing services, facilitating the service users to complete their projects, and satisfying the service users. We have also been taking part in supporting the university to accomplish its goal in creating leaders in international education and researches. We will still keep these missions as our main policy in the coming years.



Since TU-RAC has been giving priority to the demand of the service users, service convenience and service quality, we have been recognized and trusted in providing services to different domestic organizations. In 2019, TU-RAC has delivered a satisfying performance of 383 completed projects.

TU-RAC annual report has already been publicized to general public and on this occasion, I would like to thank all of Thammasat University personnel for the participation and support which brought about the succeed in our objectives. Also, I hope that TU-RAC will receive continuing support from Thammasat University personnel in the future.

A handwritten signature in blue ink, enclosed in a blue oval. The signature appears to be 'Prapat Wangskarn'.

Associate Professor Dr. Prapat Wangskarn

Director of TU-RAC

# Message from the Chairman



October 8<sup>th</sup>, 2019 was the 22<sup>nd</sup> anniversary of Thammasat University Research and Consultancy Institute (TU-RAC). I have seen the advance of TU-RAC performance both in terms of quantity and quality. TU-RAC has contributed to the public in many aspects. It has provided academic services, consultancy, researches, trainings, and academic knowledge in different fields to government and private sectors. Being able to maintain the standard in academic services and internal management also indicates that TU-RAC is a high quality institute.

However, TU-RAC might not be able to deliver the outstanding performance without the cooperation of all Thammasat University instructors and researchers. The instructors and researchers are considered the key factors who continually applied the knowledge from their studies and researches in providing quality consultancy, researches and trainings for government and private sectors through TU-RAC.

As the chairman of the board of committee of TU-RAC, I feel confident that TU-RAC will excellently and constantly maintain the development in providing services and play a key role in promoting researches and creating new knowledge as assigned by the university.

A handwritten signature in blue ink that reads "Somkit Lertpaithoon". The signature is written in a cursive, flowing style.

Professor Dr. Somkit Lertpaithoon  
Chairman  
Board of Directors of TU-RAC

## Board of Directors



**Professor**  
**Dr. Somkit Lertpaithoon**  
Chairman of the Board

### Education

- Doctorat en Droit, Paris II, France
- Diplome d'Etudes Approfondies, Droit Public, Paris II, France
- Barrister at Law, Institute of Legal Training of the Bar Association of Thailand
- Bachelor of Law, Thammasat University, Thailand



**Professor**  
**Dr. Narongrit Sombatsompop**  
Committee Member

### Education

- Ph.D. Polymer Science and Technology, Polymer Processing and Rheology, UMIST, England
- M.Sc. Polymer Science and Technology, UMIST, England
- B.Sc. Industrial Chemistry, King Mongkut's University of Technology North Bangkok

## Board of Directors



**Professor  
Dr. Praipol Koomsup**  
Committee Member

### Education

- Ph.D. in Economics, Yale University
- M.A. in Economics, Thammasat University
- B. Econ., Western Australia University



**Professor  
Dr. Siriwan Suebnukarn**  
Committee Member

### Education

- Doctor of Philosophy, Asian Institute of Technology, School of Engineering and Technology, Information Management
- Master of Science, Asian Institute of Technology, School of Engineering and Technology, Information Management
- Certificate in Clinical skill program, World Society for pd Health Care, Osaka, Japan
- Graduate Diploma in Clinical Science, Chulalongkorn University, Faculty of Dentistry, Endodontology
- Doctor of Dental Surgery, Prince of Songkla University, Faculty of Dentistry

## Board of Directors



**Professor**  
**Dr. Thanaruk Theeramunkong**  
Committee Member

### Education

- D. Eng. in Computer Science, Tokyo Institute of Technology, Japan
- M. Eng. in Computer Science, Tokyo Institute of Technology, Japan
- B. Eng. in Electrical & Electronics Engineering, Tokyo Institute of Technology, Japan



**Associate Professor**  
**Dr. Thira Jearsiripongkul**  
Committee Member

### Education

- Dr.-Ing. in Applied Mechanics (Dynamics), Technische Universitaet Darmstadt, Darmstadt, Germany
- M. Eng. in Mechatronics School of Advanced Technologies (Exchanged Program), Asian Institute of Technology, Bangkok, Thailand. Technical University Hamburg-Harburg, Hamburg, Germany
- B. Eng. in Mechanical Engineering, King Mongkut's University of Technology Thonburi, Thailand

## Board of Directors



**Associate Professor  
Dr. Dilok Piyayotai**  
Committee Member

### Education

- Fellowship in Interventional Cardiology, Concord General Hospital and Royal Prince Alfred Hospital, University of Sydney
- Cardiology Fellow, Division of Cardiology, Department of Medicine, King Chulalongkorn Memorial Hospital
- Internal Medicine Resident, Department of Medicine, King Chulalongkorn Memorial Hospital
- Medical Student, Faculty of Medicine, Chulalongkorn University



**Associate Professor  
Dr. Pipop Udorn**  
Committee Member

### Education

- Ph.D. (Marketing), Kenan-Flagler Business School, University of North Carolina at Chapel Hill, 1999
- M.B.A. (Marketing), School of Business and Public Administration, George Washington University, 1992
- B.Acc., Faculty of Commerce and Accountancy, Thammasat University, 1989

## Board of Directors



**Associate Professor  
Dr. Pawinee Iamtrakul**  
Committee Member

### Education

- Ph.D. (Urban and Transportation Planning) Saga University, Saga, Japan
- M. Eng (Infrastructure and Transportation Engineering), Asian Institute of Technology (AIT), Pathumthani, Thailand
- B. Eng (Civil Engineering), Sirindhorn International Institute of Technology (SIIT), Thammasat University, Pathumthani, Thailand



**Associate Professor  
Dr. Voraphat Luckanatinvong**  
Committee Member

### Education

- Ph.D. (Horticulture), Kasetsart University, Thailand
- M.Sc. (Agriculture), Kasetsart University, Thailand
- B.Sc. (Agriculture), Kasetsart University, Thailand

## Board of Directors



**Assistant Professor  
Dr. Supachai Srisuchart**  
Committee Member

### Education

- Ph.D.(Economics),  
University of Hawaii at Manoa
- Master of Economics (English Program)  
Thammasat University
- Bachelor of Commerce (Finance and  
Banking) First Class Honor,  
Thammasat University
- Economics (Business Economics),  
Sukhothai Thammathirat University



**Associate Professor  
Dr. Prapat Wangskarn**  
Committee Member and Secretary

### Education

- D.Eng. (Chemical Engineering),  
Cleveland State University, U.S.A.
- M.Eng. (Chemical Engineering),  
Oregon State University, U.S.A.
- B.Sc. (Food Technology),  
Chulalongkorn University, Thailand

## Deputy Director



### **Assistant Professor Dr. Monchai Prukvilailert**

Deputy Director

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#### **Education**

- Doctor of Engineering (Materials sciences),  
Nagaoka University of Technology Japan
  - Master of Engineering Program in Mechanical Engineering,  
Chulalongkorn University, Thailand
  - Bachelor of Engineering Program in Mechanical  
Engineering, Chulalongkorn University, Thailand
-

## TU-RAC Staff



**Manager**

Miss Somsunee Duangkae

### Project Management Division

**Head of Project Management Department**

Miss Wanna Keawpuang



Miss Namtip Meekanthong



Miss Sasinon Limpawat



Miss Suchittra Paochuad



Miss Sirinapa Permsakunsin



Miss Thippawan Tongdee



Miss Napaporn Sompakdee



Miss Peangnapa Suksompong



Miss Angkana Visatsing  
(During June 14, 2018  
to September 30, 2019)

# TU-RAC Staff

## Planning and System Development Division

### Head of Planning and System Development

Miss Kantima Pongsak



Miss Suwannee Tiwatansakul



Miss Hathaichanok Poomsalai



Miss Warittha Thaibure



Miss Pathomgant Bunnag



Miss Chonticha Chinsaard



Miss Yuphonrat Phongnairat



Miss Onnapa Thiansanguankull  
(During March 15, 2010  
to March 7, 2019)



Miss Siri Kittaveelarp  
(During October 1, 2016  
to August 30, 2019)

## Finance Division



Miss Jintayarn Apinantakul



Miss Morakot Buamrungsin



Miss Thipsuwan Jammuen



Mr. Titiporn Aumrueangsri



Miss Pornpun Sangketkarn



Miss Sansanee Kanchanapun  
(During September 21, 2009  
to April 20, 2019)



Miss Jutamas Prathed  
(During April 1, 2017  
to April 20, 2019)

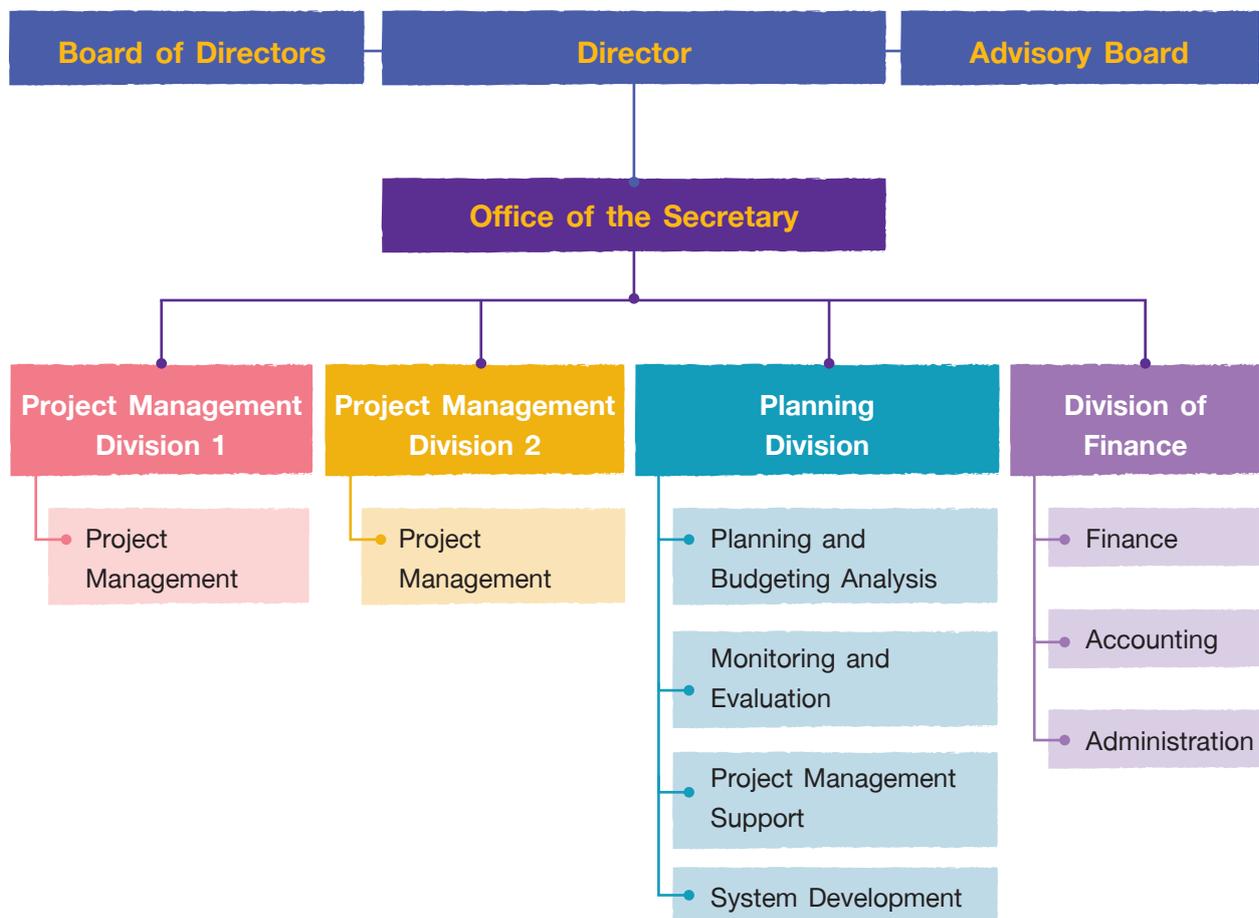


Miss Tippawan  
Thanadeecharoenchok  
(During September 1, 2014  
to April 1, 2019)

# Organization Structure

Thammasat University Research and Consultancy Institute (TU-RAC) operates under the management of the Board of Directors with the Rector as chairman. The Board of Directors is responsible for making the Institute’s policies and plans which comply with Thammasat University’s policy guidelines and the Institute’s establishment objectives. The executive director oversees and supervises the general management of the Institute and is the chief of all its staff. The deputy director assist the excutive director to management of the Institute. The manager is appointed by the Rector and is responsible for supervising the staff’s performance of their duties and assisting the director in overseeing the general management. The organizational structure of the Institute is as follows:

## Thammasat University Research and Consultancy Institute





## Organization Background

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## Organization Background

The twenty-first century is an age of information and technology. The strengths and weaknesses of any organizations depend on the information they acquire. That is, information is one crucial factor that enables government organizations, state enterprises, and private organizations to effectively adjust themselves to current rapid changes promptly. Therefore, rapid accessibility to reliable information can give organizations the edge over others, making them stronger and more likely to be successful. Research properly conducted according to research methodologies is an important tool for organizations to gain accurate, clear, and reliable information. Research also contributes to the accumulation of information and knowledge necessary for the development of the country.

Thammasat University realizes the significant role of research as a source of new knowledge essential to the progress of organizations. In addition, the university has a strong commitment to provide the academic services to society and various organizations. As a consequence, the university established the Research and Consultancy Institute or TU-RAC which aims at providing research services on the university's behalf. It is an autonomous Institute, making its operation flexible. TU-RAC is the university's only Institute that is allowed to provide services in conducting research, consultancy, and seminars and training programs to government organizations, state enterprises, and private organizations on behalf of Thammasat University.

The Institute's research projects are implemented by the university's highly experienced faculty members from various fields of study such as social science and science. These researchers integrate knowledge from different fields and establish new concepts which can be applied to real situations. They have been highly recognized as outstanding researchers in the academic world. This ensures the Institute's ability to provide services of the highest quality in conducting research, consultancy, and seminars and training programs.

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## MISSION

TU-RAC provides services related to research management and administers research works conducted under Thammasat University. TU-RAC is an independent agency with flexibility in its operation. The authority and duties of TU-RAC are stipulated by Thammasat University Regulations 2019 in regards to research and consultancy services as follows;

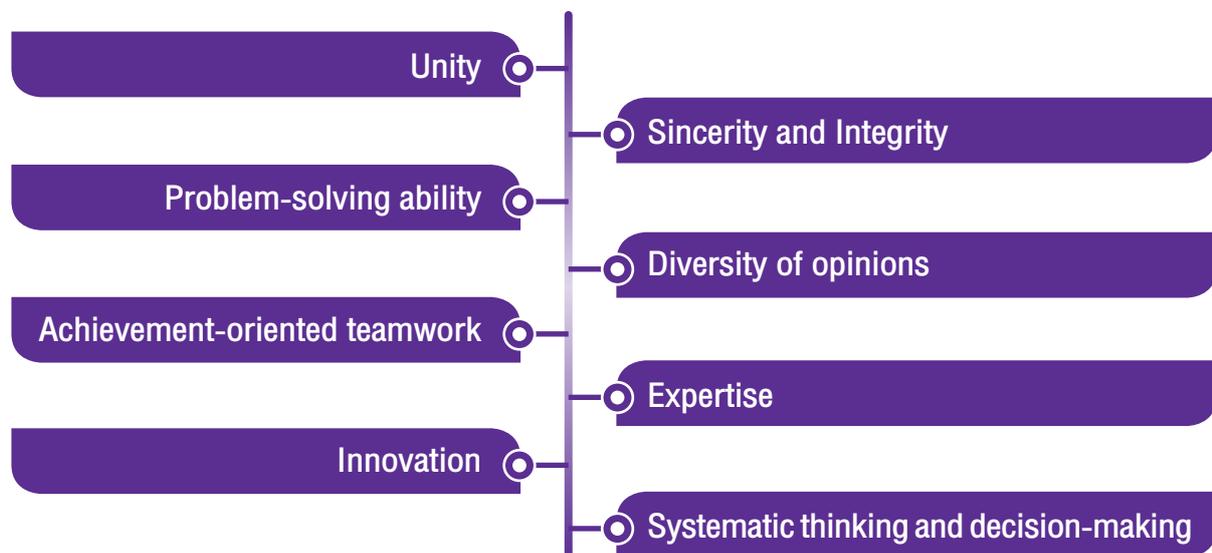
1. To perform research works and provide research consultancy as requested by government and private sectors, international organizations, legitimate agencies and individuals.
2. For research works consultancy for partner universities, TU-RAC have exclusive authority on behalf of Thammasat University.
3. Agreements made for research and consultancy services with Thammasat University is to be signed by Director of TU-RAC who is officially the representative of the Rector of Thammasat University.

## VISION

**TU-RAC : Excellent Research Management and Service with Efficiency Technology**

## Core Values

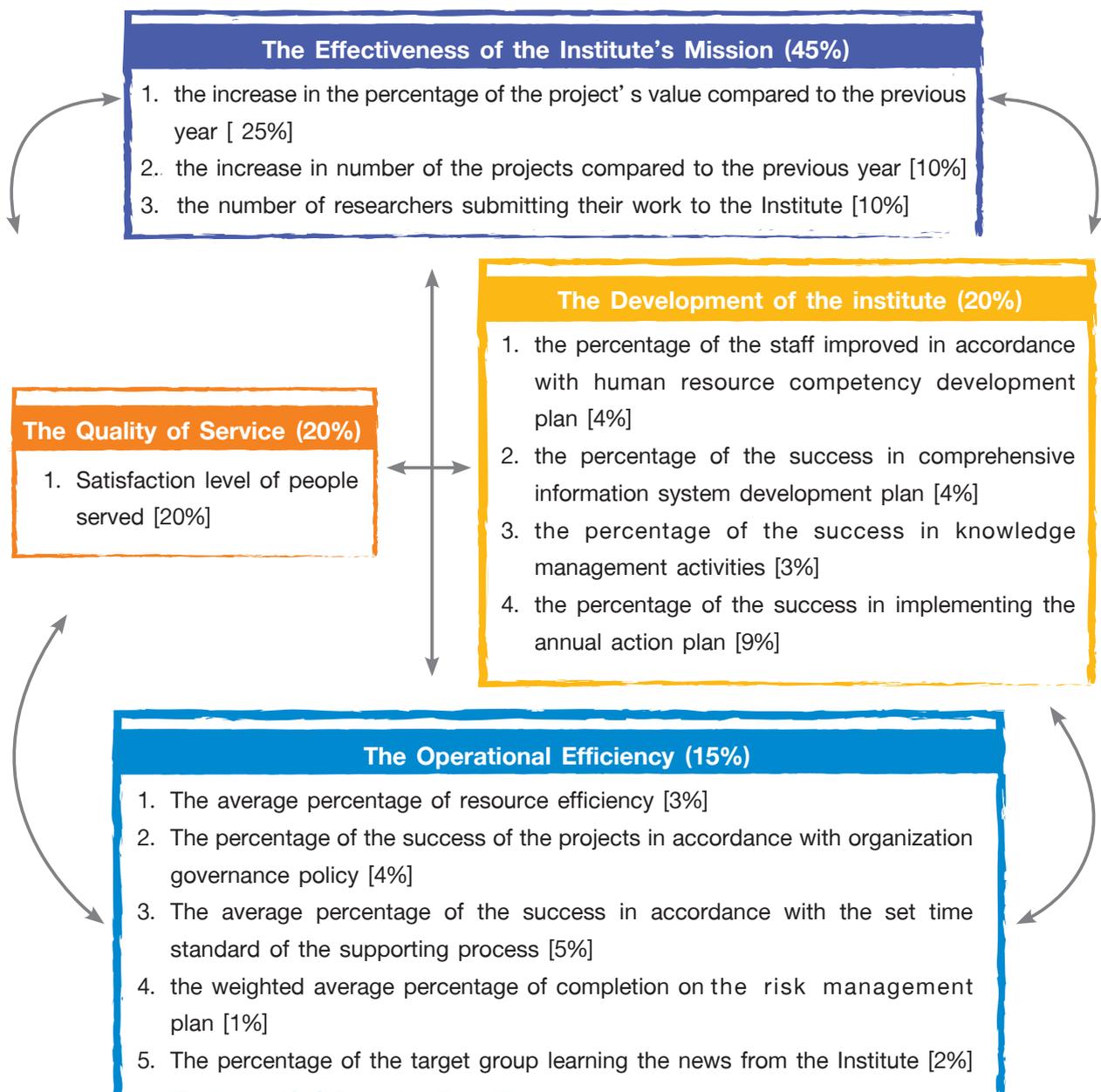
TU-RAC's performance is based on the following eight core values :



## Key Success Factors (KSFs) :

1. Improving a comprehensive information system
2. Promoting personnel's potential
3. Promoting operational effectiveness

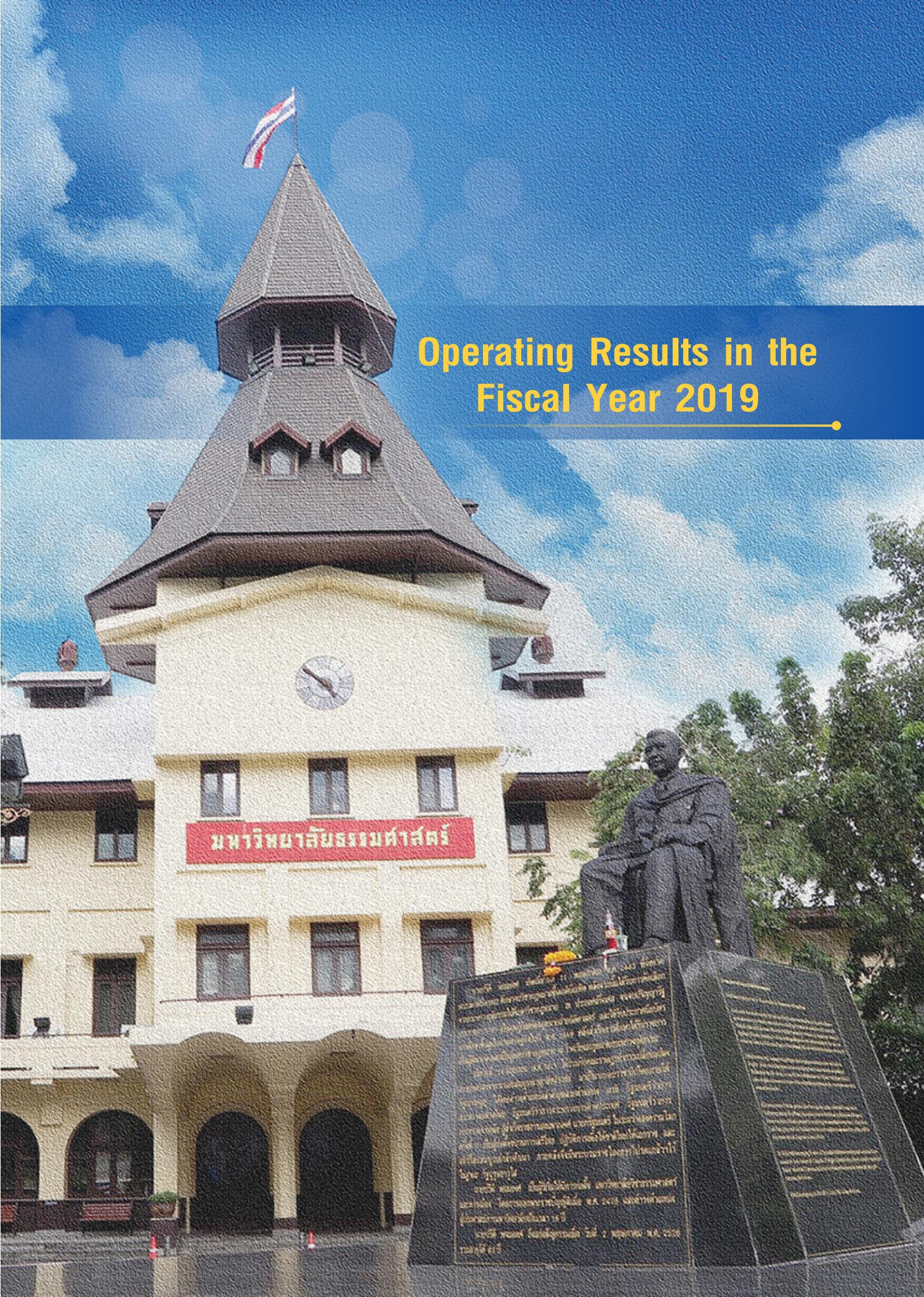
The Institute had set up an operation plan for the 2019 fiscal year in accordance with its strategic plan. Its operational evaluation will follow “the philosophy of the organization’s working improvement system (Ed PEx)” based on 4 aspects of the evaluation framework:



## The Consultancy Registration

TU-RAC registered to become a provider of consultancy services with the Thai Consultant Database Center, Ministry of Finance, on October 6, 2000, under the registration number 668. At present, TU-RAC is a registered consultant in 19 areas as follows:

- **Agriculture And Rural Development Sector**
- **Energy Sector**
- **Finance Sector**
- **Law Sector**
- **Tourism Sector**
- **Urban Development Sector**
- **Water Supply And Sanitation Sector**
- **Management and Institutional Development Sector**
- **Research and Evaluation Sector**
- **Miscellaneous Sector**
- **Education Sector**
- **Environment Sector**
- **Industry Sector**
- **Information and Communication Technology Sector**
- **Transportation Sector**
- **Public Relations Sector**
- **Health Sector**
- **Quality Standard Sector**
- **Population Sector**



## Operating Results in the Fiscal Year 2019

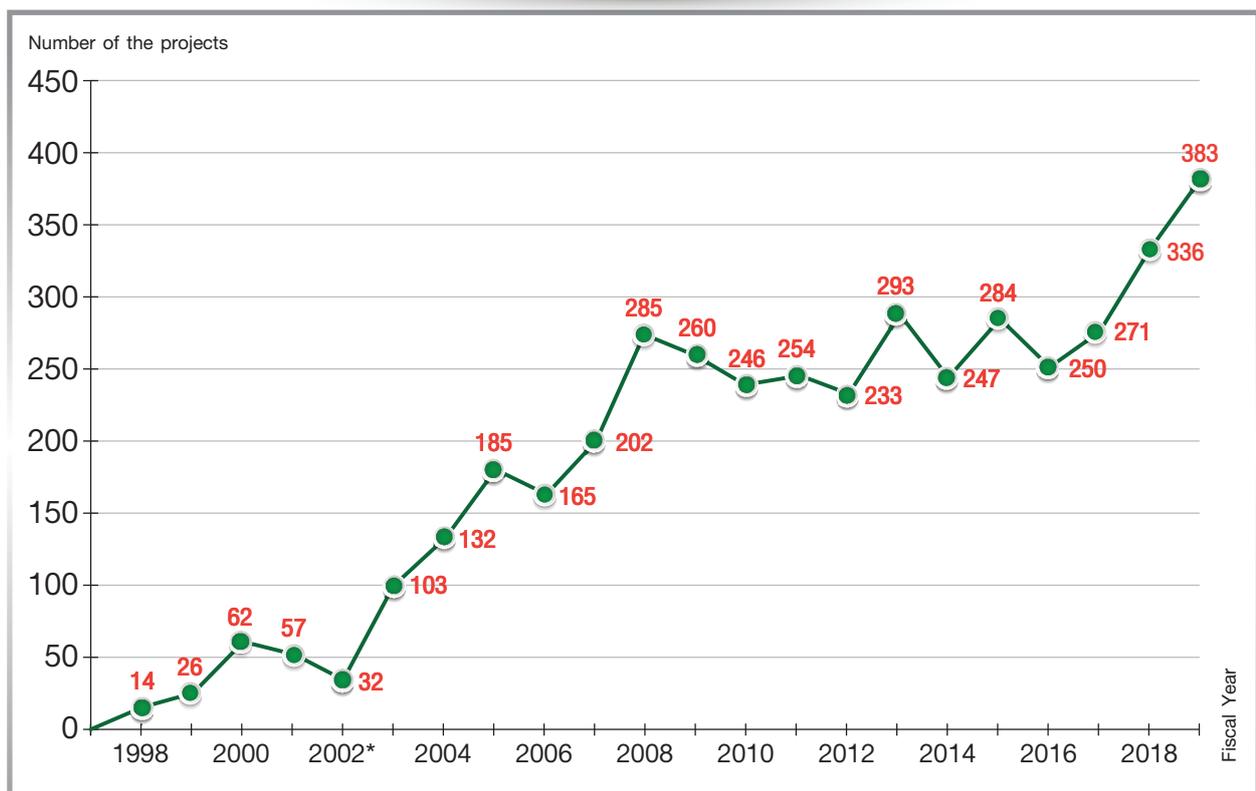
มหาวิทยาลัยราชภัฏนครราชสีมา

พระบาทสมเด็จพระปกเกล้าเจ้าอยู่หัว รัชกาลที่ ๗ ทรงมีพระกรุณาโปรดเกล้าฯ แต่งตั้งให้ศาสตราจารย์ ดร. วิจิตร บุณยเกียรติ เป็นอธิการบดีคนแรก เมื่อวันที่ ๑๕ ตุลาคม ๒๕๐๑ และทรงมีพระกรุณาโปรดเกล้าฯ แต่งตั้งให้ศาสตราจารย์ ดร. วิจิตร บุณยเกียรติ เป็นอธิการบดีคนแรก เมื่อวันที่ ๑๕ ตุลาคม ๒๕๐๑ และทรงมีพระกรุณาโปรดเกล้าฯ แต่งตั้งให้ศาสตราจารย์ ดร. วิจิตร บุณยเกียรติ เป็นอธิการบดีคนแรก เมื่อวันที่ ๑๕ ตุลาคม ๒๕๐๑

## Operating Results in the Fiscal Year 2019

In the fiscal year 2019, the public and the private organizations which consider TU-RAC a credible and trustworthy Institute commissioned the Institute to implement 383 projects.

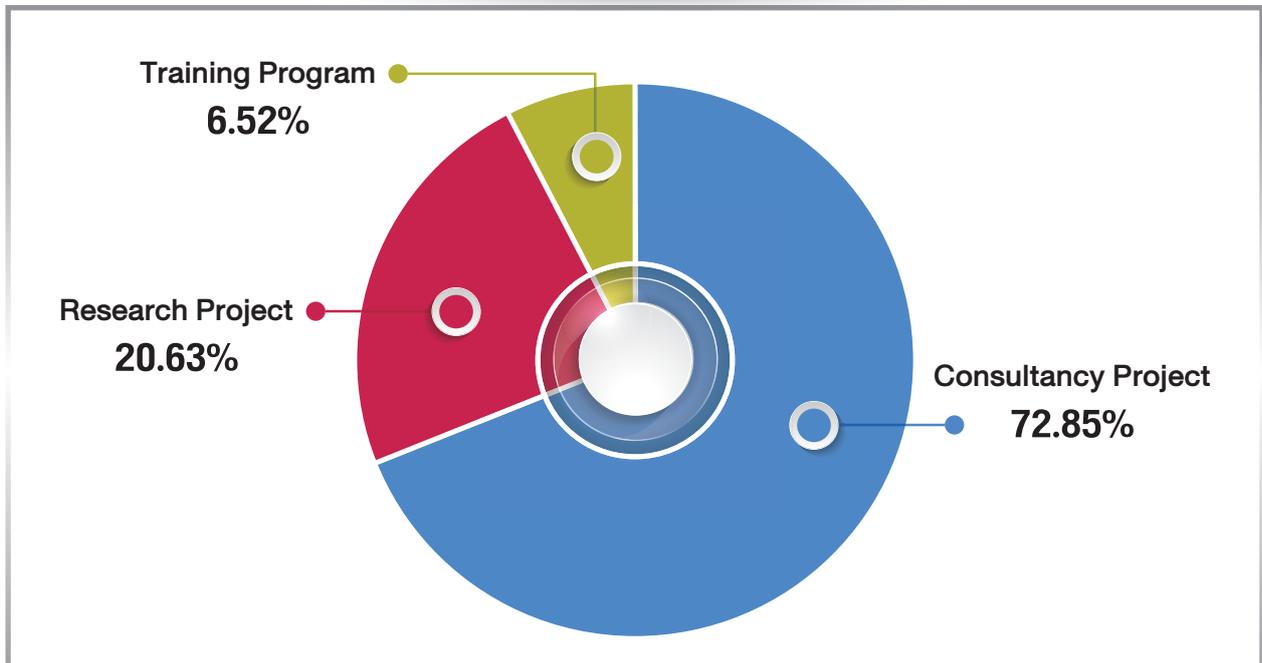
### The Number of Projects in the Fiscal Years 1998-2019



Note: \* The budget was allocated for 4 months (June 1-September 30, 2002) due to the budgeting system adjustment.

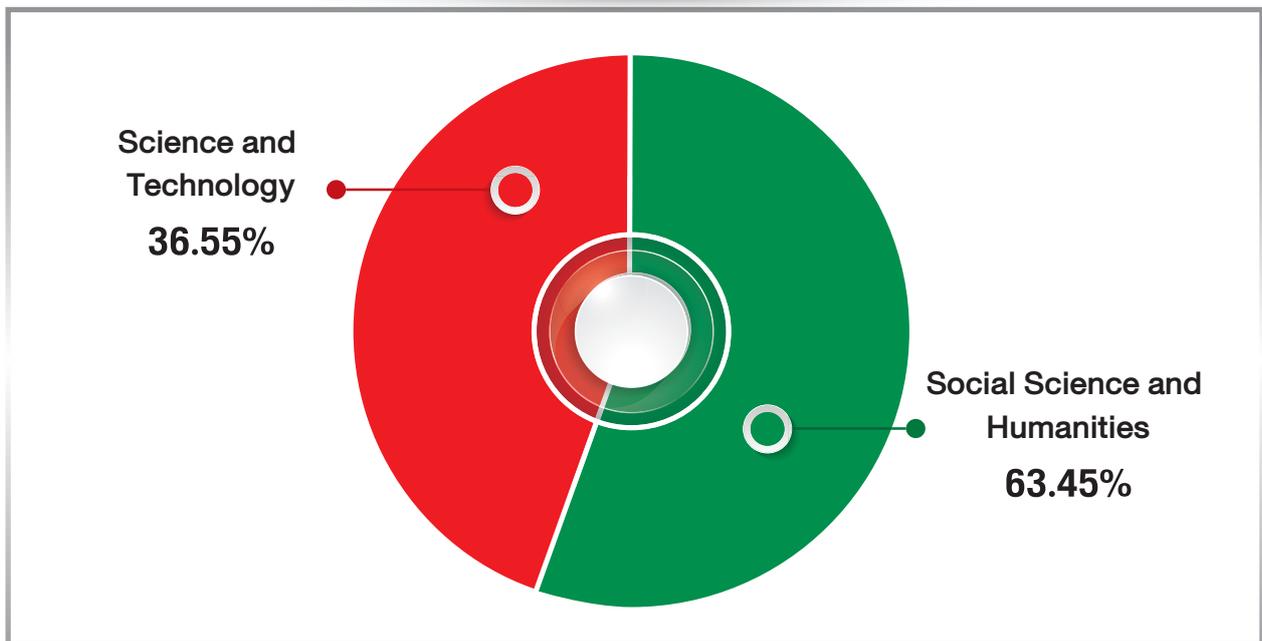
In the fiscal year 2019, the Institute's projects were divided into three main categories: 279 consultancy projects or 72.85% of total project; 25 training programs or 6.52% of total project; and 79 research projects or 20.63% of total project value.

### Percentage of Project in the Fiscal Year 2019 Classified according to Types of Projects



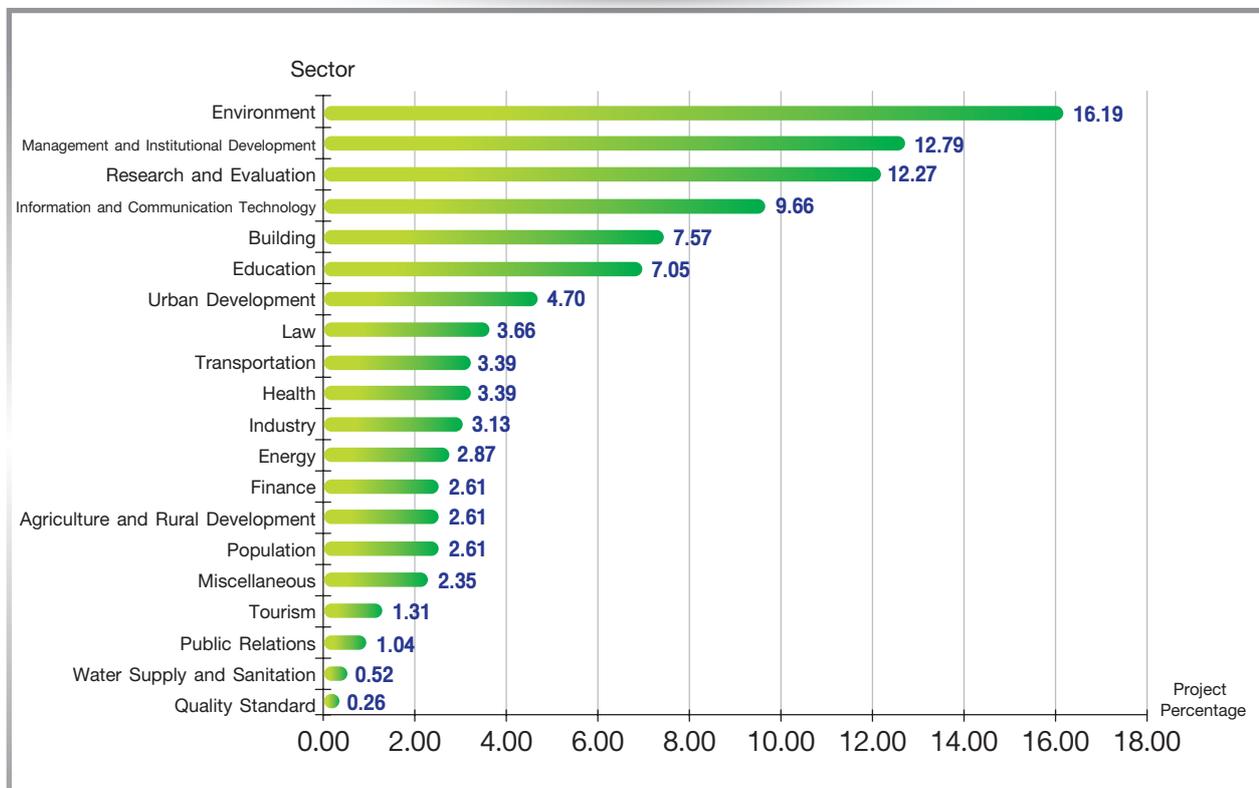
The fiscal year 2019 projects classified according to fields of study are as follows : 243 projects in social science or 63.45% of total project and 140 projects in science and technology or 36.55% of total project value.

### Percentage of Project in the Fiscal Year 2019 Classified according to fields of study



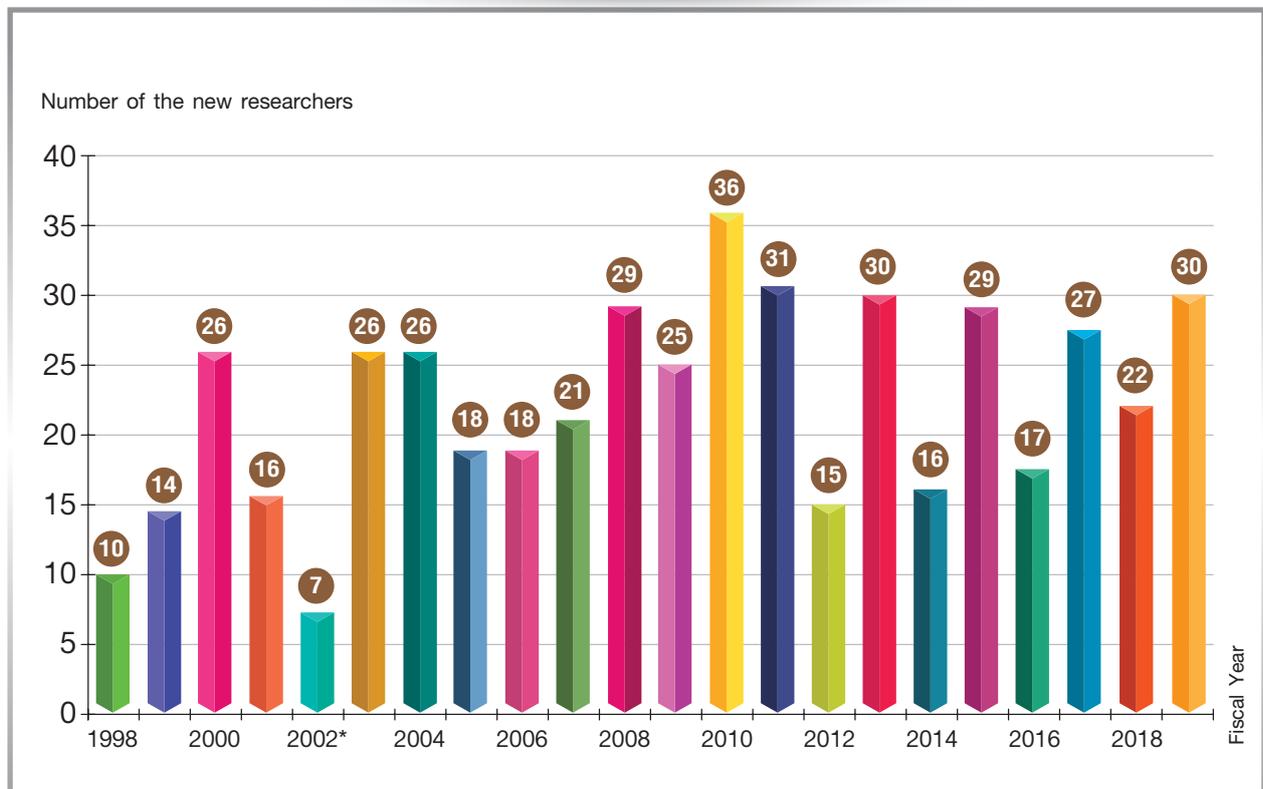
In the fiscal year 2019, the proportion of project values according to the areas in which TU-RAC registered as a consultancy service provider with the Thai Consultant Database Center, Ministry of Finance, is as follows: 16.19% in Environment Sector 12.79% in Management and Institutional Development Sector 12.27% in Research and Evaluation Sector 9.66% in Information and Communication Technology Sector 7.57% in Building Sector 7.05% in Education Sector 4.70% in Urban Development Sector 3.66% in Law Sector 3.39% in Transportation Sector 3.39% in Health Sector 3.13% in Industry Sector 2.87% in Energy Sector 2.61% in Finance Sector 2.61% in Agriculture And Rural Development Sector 2.61% in Population Sector 2.35% in Miscellaneous Sector 1.31% in Tourism Sector 1.04% in Public Relations Sector 0.52% in Water Supply And Sanitation Sector and 0.26% in Quality Standard Sector

### Percentage of Project in the Fiscal Year 2019 Classified according to the Sectors in which TU-RAC Registered as a Consultancy Service Provider



The Institute started operating on research projects in the fiscal year 1998. There were only 10 chief researchers. At present, there are a total of 381 chief researchers responsible for projects under TU-RAC coordination. Every fiscal year, the number of new researchers under TU-RAC coordination has increased. In the fiscal year 2019, there were 30 new researchers.

### The Number of New Researchers that Increases Each Year During the Fiscal Years 1998-2019



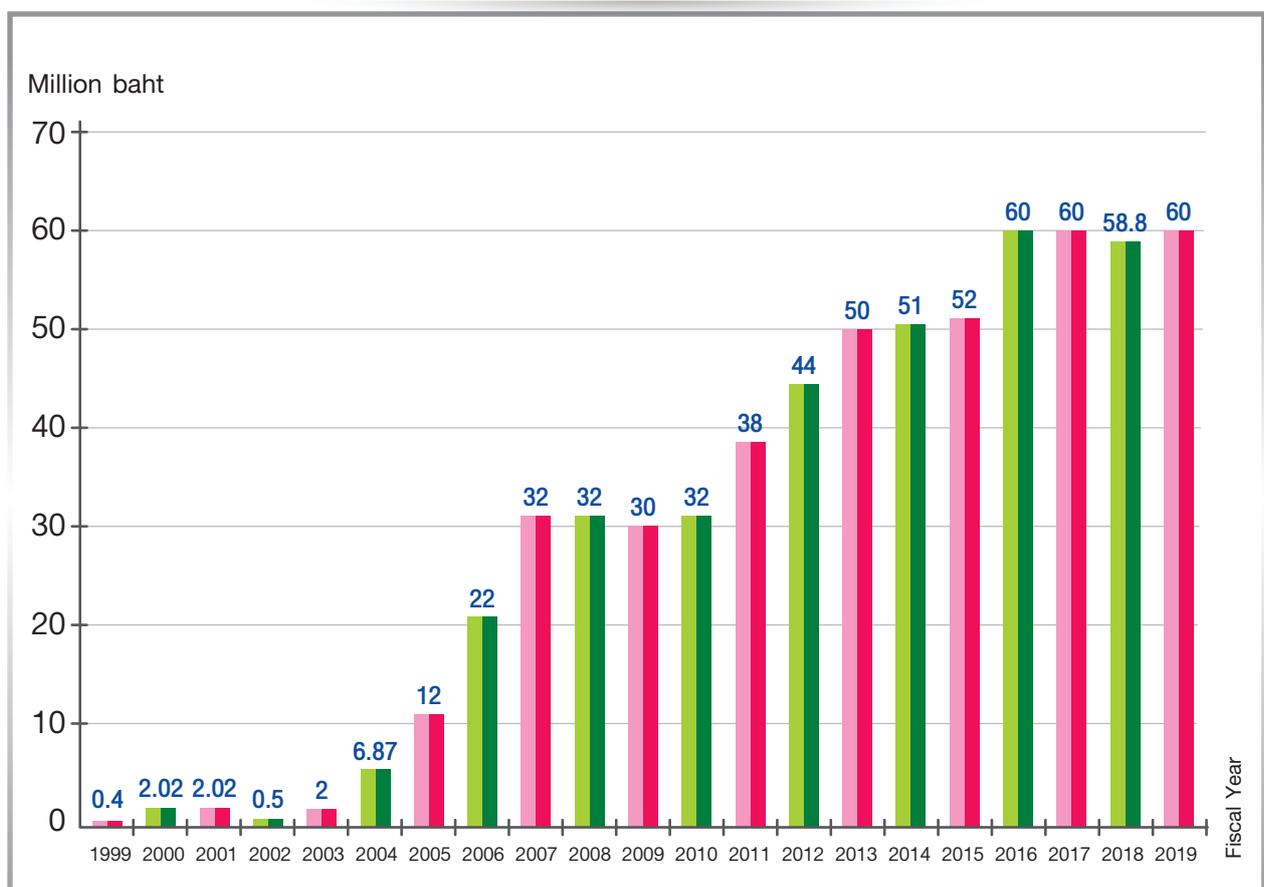
Note: \* The budget was allocated for 4 months (June 1-September 30, 2002) due to the budgeting system adjustment.



## Money remitted to Thammasat University

Thammasat University Research and Consultancy Institute has continuously remitted the residual income from the Institute’s operation to Thammasat University every year to support the university’s research development, the teaching and learning as well as various other activities. In the fiscal year 2019, the Institute allocated its residual income of 60 million baht to the university.

### Money remitted to Thammasat University





## Project Activities

## Training on “Digital Entrepreneurship Learning Media for Thai Small and Medium Business Enterprises on Department of Industrial Promotion Digital Platform (DIP e-learning for e-commerce)”



In order to broaden the knowledge and strengthen the competitive skills of the SMEs in digital era, the Department of Industrial Promotion, the Ministry of Industry together with TU-RAC, Thammasat University organized a training session entitled “Digital Entrepreneurship Learning Media for



Thai Small and Medium Business Enterprises on Department of Industrial Promotion Digital Platform” (DIP e-learning for e-commerce). Mr. Kobchai Sungsitthisawad, the Director-General of the Department of Industrial Promotion gave an opening speech on January 21<sup>st</sup>, 2019 at the Kantary Hills, Chiang Mai.



## Training on “State Property Management in the Digital Economy”



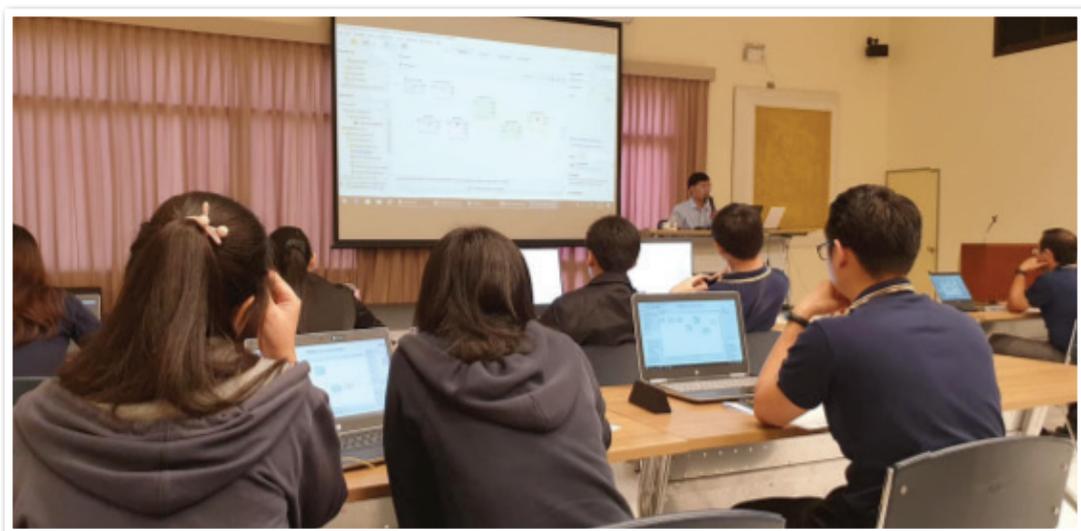
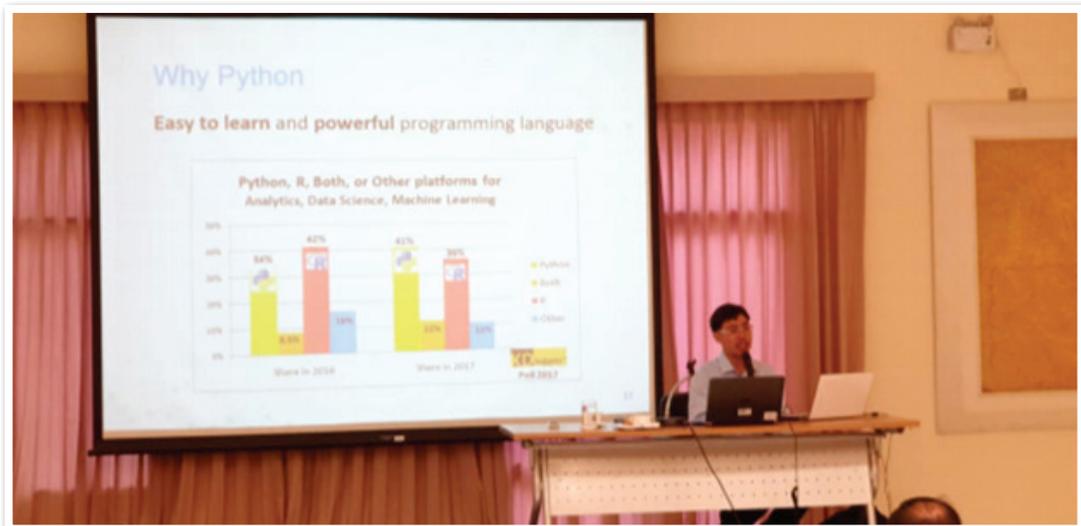
TU-RAC organized training sessions entitled “State Property Management in the Digital Economy” for 35 Treasury Department officers. The domestic training was from February 2<sup>nd</sup> to 13<sup>th</sup>, 2019. The observation visit to Chongqing-Oolong, China was from February 14<sup>th</sup> to 18<sup>th</sup>, 2019. The purposes of these training sessions were to encourage Ratchaphatsadu Land officers to generate new ideas for land-use, to provide them with basic knowledge in real estate businesses, development and management of real estate, related laws, including principles of marketing and finance, and asset management. This would help them handle their work efficiently and appropriately.





## Training on “Data Science”

Bangkok Expressway and Metro Public Company Limited allowed TU-RAC to organize a training session entitled “Data Science” for its IT officers. The training consisted of 2 sessions. The first session which is a 48-hour training is from March 21<sup>st</sup> to May 10<sup>th</sup>, 2019. The second session which is a 30-hour training is from May 16<sup>th</sup> to July 11<sup>th</sup>, 2019.





## Curator Le Banquet, Revelation 2019

The SUPPORT Arts and Crafts International Center of Thailand (SACICT) joined the Révélations 4<sup>th</sup> Edition, Banquet exhibiton, organized by Ateliers d'Art de France in Paris, France between 22-29 May, 2019. The bi-annual event was considered one of the most significant arts and crafts show in Europe. The qualitative assessment that combined observation and interviewing reveals that most

participants were pleased with the Thai exhibition that displayed both traditional and contemporary crafts that reflects Thainess and Thai spirits. Several art gallery representatives expressed their interest and desire to acquire some of the Thai art crafts on displayed. However, SACICT should prepare a committee to prepare the artworks for the next exhibition in the next two years in order to allow the Thai crafters to produce appropriate artworks or products that follow the internal trend of arts and crafts.







## Seminar on “Audit and Work Improvement Analysis”

TU-RAC organized a seminar entitled “Audit and Work Improvement Analysis” for 16 TU-RAC staff. The purposes of this seminar were to help the staff learn to apply the knowledge from the seminar in their working processes, decide how to solve problems, encourage work motivation, understand how to work efficiently, be able to develop project management team and achieve organizational objectives.



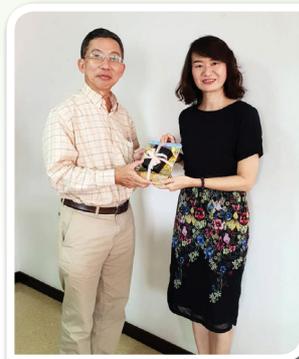
เป็นการนำเอาหลักการ 3 G มารวมเข้ากับหลักการทางทฤษฎี (Genri) และระเบียบกฎหมาย (Gensoku)  
หลักการ 5 G จึงเป็นการนำเอาหลักการ พื้นที่ยัง (Genba) ของโจจิ (Genbutsu) และสถานการณ์จริงในการปฏิบัติงาน (Genjitsu) มารวมกับหลักการทางทฤษฎีและระเบียบกฎหมาย  
เหตุผลที่ต้องใช้หลักการ 5 G เพราะ... ไม่ใช่แค่จากหลักการทางทฤษฎีและระเบียบกฎหมาย ทำให้ได้... เพราะมีความรวดเร็ว แต่การตัดสินใจเช่นนี้ อาจ...

เป็นการนำเอาหลักการ 3 G มารวมเข้ากับหลักการทางทฤษฎี (Genri) และระเบียบกฎหมาย (Gensoku)  
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เหตุผลที่ต้องใช้หลักการ 5 G เพราะมีการนำทฤษฎีและระเบียบกฎหมายมาใช้ให้สอดคล้องกับสถานการณ์จริงอย่างรวดเร็ว

## EdPex Site Visit, Academic Year 2018



The administrators of TU-RAC welcomed EdPEX Assessor Committee for the evaluation of academic year 2018 under the Educational Criteria for Performance Excellence (EdPEX) in TU-RAC meeting room on August 21<sup>st</sup>, 2019 from 9:00 am. to 12:00 pm. The committee consisted of 4 members: Air Vice Marshal Prof. Dr. Winai Chanpleng (Chairman); Asst. Prof. Amornat Thuppia (committee member); Asst. Prof. Pussadee Tobunluepop (committee member); Prof. Dr. Malinee Pongsavee (Assessor).



## Workshop for the Review of Strategic Plans, Fiscal Year 2017-2021 and Action Plan, Fiscal Year 2020



To promote efficiency at work and provide work guidelines, TU-RAC organized a workshop for the review of strategic plans, fiscal year 2017-2021 and action plan, fiscal year 2020 from August 3<sup>rd</sup> to 4<sup>th</sup>, 2019 at the IBIS Styles Bangkok Khaosan Viengtai Hotel.



## Meeting for the Representative from IDRC and Fund Receiver



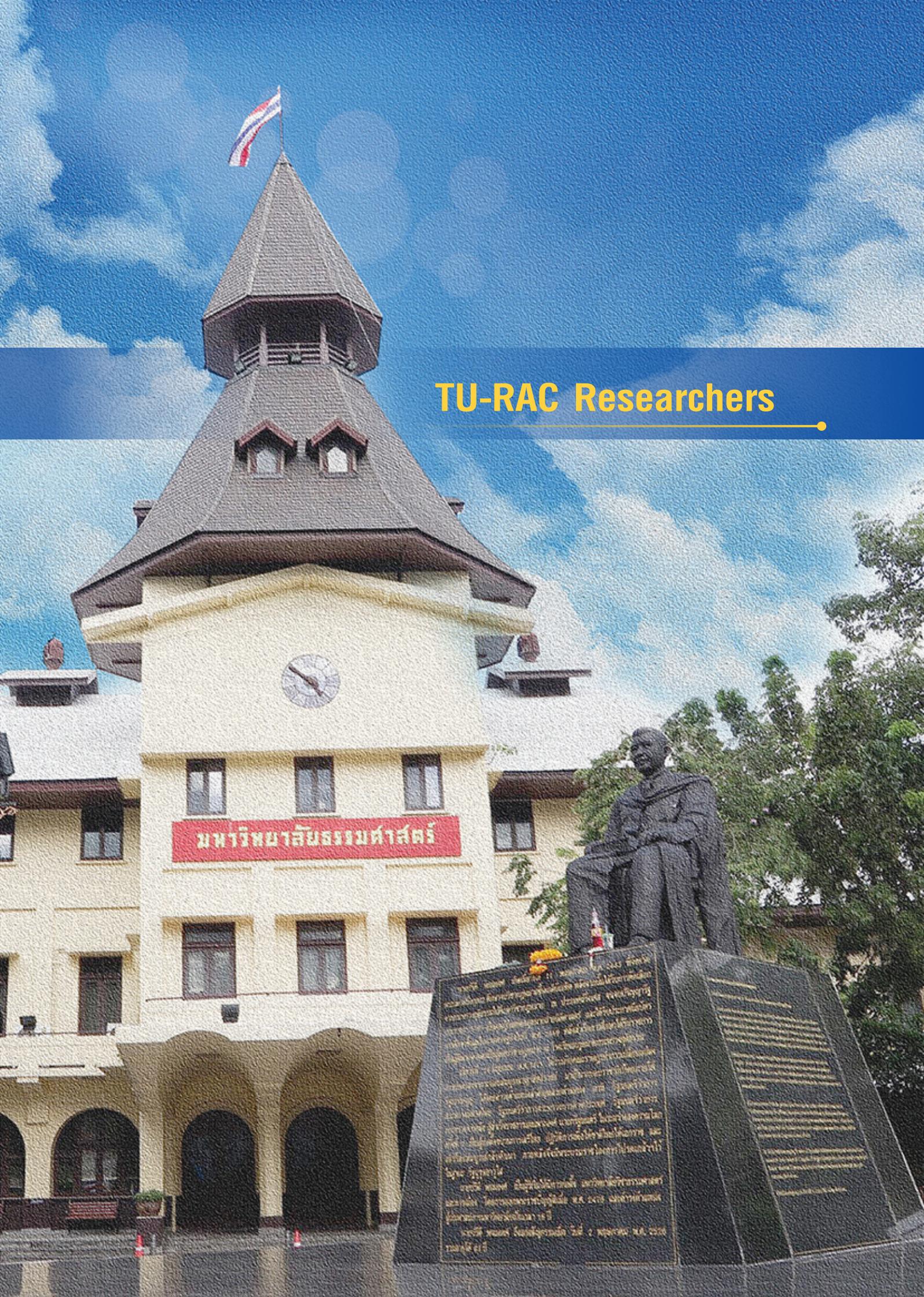
On Thursday, January 31<sup>st</sup>, 2019 at 9:00 am., TU-RAC arranged a meeting for the representative from the International Development Research Centre (IDRC), the research fund holder, and the fund receiver in the meeting room on the 9<sup>th</sup> floor of Faculty of Allied Health Sciences, Thammasat University, Rangsit Campus.

Mr. Justin Boudreau, CPA, CMA, who is the representative of IDRC discussed research conduct and fund granting process through TU-RAC with Asst. Prof. Dr. Potjane Srimanote, the head of the research project “Development of *Streptococcus suis* vaccine”.

## Congratulations on the appointment as the Permanent Secretary of the Ministry of Public Health

On January 7<sup>th</sup>, 2019, the Director of TU-RAC met Dr. Sukhum Karnchanapimai to congratulate him on the appointment as the Permanent Secretary of the Ministry of Public Health and offered a gift basket to Dr. Sukhum as a New Year’s present.





## TU-RAC Researchers

มหาวิทยาลัยราชภัฏรำไพพรรณี

พระครู ญาณสาร (จันทร์) ญาณวชิโรดม (จ. ๑๖๖) อดีต  
เจ้าอาวาสวัดสุทัศน์เทพวรารามราชวรมหาวิหาร กรุงเทพมหานคร  
และเจ้าอาวาสวัดสุทัศน์เทพวรารามราชวรมหาวิหาร กรุงเทพมหานคร  
ท่านได้มีคุณูปการอันยิ่งใหญ่แก่มหาวิทยาลัยราชภัฏรำไพพรรณี  
โดยได้บริจาคที่ดินและเงินจำนวนหนึ่งเพื่อใช้ในการก่อสร้าง  
อาคารเรียนและสิ่งอำนวยความสะดวกต่าง ๆ แก่มหาวิทยาลัย  
ท่านได้มีคุณูปการอันยิ่งใหญ่แก่มหาวิทยาลัยราชภัฏรำไพพรรณี  
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โดยได้บริจาคที่ดินและเงินจำนวนหนึ่งเพื่อใช้ในการก่อสร้าง  
อาคารเรียนและสิ่งอำนวยความสะดวกต่าง ๆ แก่มหาวิทยาลัย

## Faculty of Law

### Professor Dr. Surapon Nitikraipot

Oganization	Project
Songkhla Provincial Administrative Organization	Preparation of Study Report and Analysis of Songkhla Special Economic Zone Transportation Center According to the Private Investment in State Undertaking Act, B.E. 2556

### Professor Narong Jaiharn

Oganization	Project
Rights and Liberties Protection Department	Draft of Thailand Count Report on Implementation of the Convention Against Torture other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) (The Second Report) (phase 3)
Department of Water Resources	The Study of Preparing for Implementation on Section 78 and 81 of Water Act of B.E. 2561 and Drafting Regulations in Relation to Duty of Ministry of National Resource and Environment
Thailand Institute of Justice (Public Organization)	The International Classification of Crime for Statistical Purposes- ICCS version 1.0
	Classifying of Thai offenses for the purpose of International Classification of Crime for statistical Purposes (ICCS) Version 1.0 Phase 2”
Office of the National Water Resources	The Study of Preparing for Implementation on Section 78 and 81 of Water Act of B.E. 2561 and Drafting Regulations in Relation to Duty of Ministry of National Resource and Environment The Study of guildline on Preven and eurative of drought and flood program and the managment of spceiat comman center
	The Project on Drafting Regulatory law under the water act of the project on drafting regulations and rules under the water act of B.E. 2561 : urgent sections
Office of the Permanent Secretary, Ministry of Social Development and Human Security	The Monitoring and Evaluation in the Implementation of Anti-Human Trafficking Act B.E. 2551 with Amendments

**Associate Professor Dr. Somkiat Worapunyaanun**

Oganization	Project
Marine Department	A Project Study of Detailed Design, and Environmental Impact Analysis of Coastal Erosion Structure at Hua Hin Beach and Klong son Beach, Tambon Bo Hin, Sikao District, Trang Province

**Associate Professor Dr. Pokpong Srisanit**

Oganization	Project
Rights and Liberties Protection Department	The preparation of the third Thailand report pursuant to the ICCPR (Phase 1)

**Assistant Professor Dr. Matalak Oungrungrote**

Oganization	Project
Department of Women's Affairs and Family Department (DWF)	Review the laws related to the prevention and suppression of prostitution

**Assistant Professor Dr. Prinya Thaewanarumitkul**

Oganization	Project
Office of the Election Commission of Thailand (OECT)	The Research Project of the Evaluation of the Holding of the General Election of Members of the House of Representatives in Thailand 2019

**Assistant Professor Dr. Jantajira Iammayura**

Oganization	Project
The Civil Aviation Authority of Thailand (CAAT)	Project to draft the GMBM framework and law concerning aviation environment

### Assistant Professor Dr. Kamolvan Chiravisit

Oganization	Project
Office of Trade Competition Commission	Hiring consultants to study and develop regulatory guidelines for merger and acquisition (Fiscal year 2561 BE)

### Assistant Professor Kittipong Kamolthamwong

Oganization	Project
Khon Kaen Provincial Office of Tourism and Sports	Master plan of tourism development set up project within Northeast geology tourism development area
Samut Prakan Provincial Office of Tourism and Sports	Master plan of tourism development set up project within gulf of Thailand coast lifestyle tourism development area

## Faculty of Commerce and Accountancy

### Professor Witawat Rungruangphon

Organization	Project
Expressway Authority of Thailand (EXAT)	Hiring a consultant for working out a customer and marketing strategy within 3 years (2020-2022) and action plan in 2020
Thailand Knowledge Park	The study of learning behavior and Thailand Knowledge Park development to correspond to the changes of the 21 <sup>st</sup> century

### Associate Professor Dr. Kaewta Rohitratana

Organization	Project
The Board of Investment of Thailand	Investment Promotion : Thailand-China

### Associate Professor Dr. Pipop Udorn

Organization	Project
Office of the Energy Regulatory Commission (OERC)	Development program for new executives and preparing for career advancement

### Associate Professor Dr. Ruth Banomyong

Organization	Project
WICE Logistics Public Company Limited	International Conference on Logistics & Transport 2019
Sea Oil Public Company Limited	International Conference on Logistics & Transport 2019

### Associate Professor Pachara Pacharavanich

Oganization	Project
The Treasury Department	Property Valuation for Public Sector, Group 2
	Real Estate Management and Development
	Training Course State Property Management
	Feasibility
	Training Course “Return on Asset (ROA) and Rental Rate Set-up on State property” Batch 2/2562
	Property Valuation for Public Sector
	Stage Property Management in the Digital Economy
Songkhla Provincial Administrative Organization	Water Management in Songkhla Province
Iconsiam Co., Ltd.,	Economic Impact Analysis of Bangkok Sky Tower

### Associate Professor Supraanee Srichatrapimuk

Oganization	Project
Thonglor International Pet Hospital	Strategic Leader for Thonglor International Pet Hospital
	Leader Tower Excellence for Thonglor International Pet Hospital

### Associate Professor Supoj Chawawiwat

Oganization	Project
State Railway of Thailand	Hire a consultant to prepare And support the board’s mission under Section 35 of the Private Investment in State Enterprise Act 2013 in the selection process for private sector operators to receive a concession box operator (ICD) in Lat Krabang

**Assistant Professor Dr. Chaturong Napathorn**

Organization	Project
Electricity Generating Authority of Thailand (EGAT)	Power Retailer Business Model and Possibility Analysis Summary Report for Power Retailer
The Metropolitan Electricity Authority	Study on organization structure under disruption

**Assistant Professor Dr. Dichapong Pongpatrachai**

Organization	Project
Division of Health Economics and Health Security	Standard Cost Report
Excise Department	The study of liquor quality and production process to reduce the effects of liquor consumption

**Assistant Professor Dr. Thanawut Limpanitgul**

Organization	Project
PTT Global Chemical Public Company Limited	A Satisfaction Survey of Local Communities Regarding PTTGC's Corporate Social Responsibility Performance : Year 2019
PTT Group Rayong	Attitude and Satisfaction Surveys towards Corporate Social Responsibility Practices of PTT Group Rayong 2019

**Assistant Professor Dr. Nopporn Ruangwanit**

Organization	Project
Bank for Agriculture and Agricultural Co-operatives	Intensive Customer Journey Training
	Smart Supervisor
The Metropolitan Electricity Authority	MEA Service Touchpoint Quality Audit : Year 2019
	MEA Premium Ambassador Roadmap Development
Export-Import Bank of Thailand	EXIM : EXAC Academy

### Assistant Professor Dr. Somboon Kulvisaechana

Oganization	Project
Global Power Synergy Public Company Limited	People Agility for the Future
The Metropolitan Electricity Authority	Building a Chang Culture: Metropolitan Electricity Authority of Thailand (2019)
PTTEP Services Limited	People Power Pride

### Assistant Professor Jittaporn Sriboonjit

Oganization	Project
The Treasury Department	Selection criterinas for Bangpra Golf course Management Auction Bidder
	Advisory on Nakornpanom Provinces Special Economic Zones' Investor Selection Process
Port Authority of Thailand	Market and Fair Value on Lamchabang's Seaport Warehouse B2, B3 and B4
Thailand Post Co., Ltd.,	New Thailand Post Headquarter Building Design Project
Naval Medical Department	A Study Survey and Design for Naval Medical Deparment's Medical Hub
Thabo Crown Prince Hospital	Somdejjoapraya-Tabor Hospital PPP study
MCOT Public Company Limited	PPP Study on MCOT'S 70 Rai Land

## Faculty of Pharmacy

### Associate Professor Dr. Rathapon Asasutjarit

Organization	Project
Nova Health Co., Ltd.	Formulation Development of Film-Foaming Spray Containing Nox Oil

## Faculty of Political Science

### Associate Professor Dr. Supasawad Chardchawarn

Organization	Project
Institute of Developing Economies Japan External Trade Organization (JETRO) (IDE-JETRO)	Processing the Data on Elected Mayors/Tambon Presidents in the Thai Local Administration Organization Survey 2006/2013

### Associate Professor Dr. Attakrit Patchimnan

Organization	Project
Department of Older Persons	The Evaluation Project Procedures in Department of Older Persons focusing on Government Action Plans, Budget Spending Plans and Integrated Plans on Equality for Aging Society in 2019

### Assistant Professor Dr. Tavida Kamolvej

Oganization	Project
National Innovation Agency (Public Organization) (NIA)	The Study of Concept of Operation for Regional Innovation Eco-System in Thailand
	Pubic-Private Leaders Innovation Capacity Enhancement

### Assistant Professor Dr. Pharkphoom Rukhamate

Oganization	Project
Naresuan University	The Assessment and Policy Proposal for 7-day Road Safety Measures

### Assistant Professor Dr. Wasan Luangprapat

Oganization	Project
Office of the National Digital Economy and Society Commission	Project for Digital Economy Policy Unit Development
Office of the Public Sector Development Commission	Adopting Compact Model for Enhancing Collaborative Practices of the Thai Bureaucracy

### Assistant Professor Dr. Sunisa Chorkaew

Oganization	Project
Office of the Election Commission of Thailand (OECT)	Director Development Program, Office of the Election Commission of Thailand

### Assistant Professor Dr. Attasit Pankaew

Oganization	Project
Office of The National Broadcasting and Telecommunications Commission	Research in assessing a quality of social media content used in radio and televisions broadcasting.
	The research on the study of narrating news program's content analysis for digital terrestrial television

## Faculty of Journalism and Mass Communication

### Assistant Professor Prapaipit Muthitacharoen

Organization	Project
NI.COM CO., LTD.	Project to evaluate the number and reach of the viewers of television programme produced and distributed by N I .COM Co., Ltd. via Army 7HD (Phase 2)
	Project to evaluate the number and reach of the viewers of television programme produced and distributed by N I .COM Co., Ltd. via Army 7HD

### Associate Professor Ruj Komonbut

Organization	Project
The National Health Commission Office	Communication Program Evaluation of National Health Commission Office, 2019

### Assistant Professor Dr. Potchana Toopkaew

Organization	Project
Office of The National Broadcasting and Telecommunications Commission	The Effect of DTTB on the Broadcasting Services and the Development of Format and Content Guidelines in the Post-Transmission Period in Thailand

### Assistant Professor Dr. Pansa Rawd-ard

Organization	Project
Office of The National Broadcasting and Telecommunications Commission	A project to study the rules for encouraging and protection the rights of the disable and the under privileged to access/be aware of and utilize broadcasting services

### Assistant Professor Dr. Monaiphol Ronavej

Oganization	Project
Star Reachers Group Co., Ltd.	Perception Survey of Target Groups in the Advertisement Media Project for 50 Years of EGAT via Television and Online Media
The Government Public Relations Department	Evaluation of Publicity Program on Management of Migrant Workers for FY 2019

### Assistant Professor Dr. Adchara Panthauwong

Oganization	Project
The Government Lottery Office	The Government Lottery Office's 2019 Corporate Re-branding Strategiesa

### Assistant Professor Prapaipit Muthitacharoen

Oganization	Project
Office of The National Broadcasting and Telecommunications Commission	Survey of consumer behavior and trends on media consumption in Thailand

## Faculty of Science and Technology

### Associate Professor Dr. Jirada Singkhonrat

Organization	Project
Agricultural Research Development Agency (Public Organization)	Fabrication of smart composite films from nanocellulose

### Associate Professor Dr. Jearranai Lek-uthai

Organization	Project
National Research Council of Thailand (NRCT)	The Community Linkage of the Ecotourism Development for Community Lifestyle, Arts and Crafts and Good Agricultural Practice

### Associate Professor Dr. Napaporn Youngvises

Organization	Project
National Research Council of Thailand (NRCT)	Study on Producing of aviation fuel from agricultural and forestry wastes through pyrolysis coupled with sequential catalytic refinery

### Associate Professor Dr. Voraphat Luckanatinvong

Organization	Project
Thanyaham Rungreung Co., Ltd.	Developing Postharvest Technology for Fresh Mushroom to Trading in MAKRO

### Associate Professor Dr. Supet Jirakajohnkool

Organization	Project
National Research Council of Thailand (NRCT)	Transfer of knowledge and innovative information technology invention for land-use resource public service

### Assistant Professor Dr. Chiravoot Pechyen

Oganization	Project
Biodiversity-Based Economy Development office	Foam Production of Poly (lactic acid)/Poly (butylene succinate)/ Modified cellulose Fiber for Hot Cup and Lids application

### Assistant Professor Dr. Rachada Kongkachandra

Oganization	Project
Department of Industrial Works	Big Data System Development to Support Integrated Platform between Department of Alternative Energy Development and Efficiency and Department of Industrial Works
Energy Conservation and Promotion Fund Office	Prototype Developing of Intelligent IoT Platform for Battery Swapping Management

### Assistant Professor Dr. sangdao wongsai

Oganization	Project
National Research Council of Thailand	Development of a digital knowledge management map for research and innovation

### Dr. Pokpong Songmuang

Oganization	Project
Activity Village Co., Ltd.	Development of Application for child development at Baan Aun Rak
Planter Group Co., Ltd.	Design and develop inventory management system in the construction material store

### Dr. Pongsagon Vichitvejpaisal

Oganization	Project
Defence Technology Institute (Public Organization)	Research and development of driving tank simulator system of the trainer for Military vehicle simulator project

**Dr. Wasit Limprasert**

Organization	Project
The Fine Arts Department	Fine Arts Big Data
Bangkok Expressway and Metro Public Company Limited	Data Science
Defence Technology Institute (Public Organization)	Research and Development Video analytics System

**Dr. Suteera Vatthanakul**

Organization	Project
Siam Makro Public Company Limited	Implementation of a System to Improve Sensory Test Process Efficiency
Nb Distribution Company Limited	Product and Process Development of Salmon Cracker

**Dr. Suriyakit Yommee**

Organization	Project
National Science and Technology Development Agency	Development of Wastewater Treatment Efficiency by Fixed-bed biofilm Sequencing Batch Reactor (FBSBR) from Conventional Sequencing Batch Reactor (SBR)

**Dr. Akkawat Ruammaitree**

Organization	Project
Agricultural Research Development Agency (Public Organization)	The growth of graphene on metal sheet using palm oil as a carbon source
Biodiversity-Based Economy Development office	The growth of graphene on metal sheet by chemical vapor deposition using waste vegetable oil

## Faculty of Engineering

### Associate Professor Dr. Cattaleeya Pattamaprom

Organization	Project
IRPC Public Company Limited	Determination of molar mass and distribution of UHMWPE by rheological techniques

### Associate Professor Dr. Charturong Tantibundhit

Organization	Project
Sertis Co., Ltd.	Development of Automated Learning Disability Risk Assessment Tools Using Analysis of Speech, Language, and Mathematical Performance for Thai: Phase 2 Development of Computer Based Assessment Tools
	Skin Cancer Screening Using Dermoscopic Images Based on ABCD Rule on Mobile Phone Application
Udonthani Center Hospital	Deep Learning for Screening and Classification of Lung Cancer and Tuberculosis

### Associate Professor Dr. Thira Jearsiripongkul

Organization	Project
Metropolitan Waterworks Authority	An Accuracy Study of the Water Meter after Cleaning using an Ultrasonic Cleaner
Electricity Generating Authority of Thailand (EGAT)	The Development of Calibration System for Accelerometer using Pneumatic System
Tambon Hin Kong Municipality	The improvement tax map and property registration Phase 1 by the Sub-district administration organization Hinkong, Nongkhae, Saraburi province
Thapa Municipality	The improvement of geographic information system (GIS) of tax map and property registration work

**Associate Professor Dr. Thira Jearsiripongkul (Continued)**

Organization	Project
Phrapradaeng Municipality	The improvement tax map and property registration by the Phrapradaeng municipality, Phrapradaeng District, Samut Prakan Province
Image Solution Co., Ltd.	Assessment of Proactive Public Relations Project for Ministry of Industry
Playing cards Factory	Feasibility Analysis and Construction Assessment for Playingcard Factory (Excise Department)
Klongsi Subdistrict Administrative Organization	Develop tax map and property registration Year 2019 by the Klongsi Sub-district administration organization, Khlong Luang District, Pathum Thani Province
Aomkred Sub-district Administrative Organization	Develop tax map and property registration Phase 2 by the Sub-district administration organization Om-Kret, Pak Kret, Nonthaburi province
Uthai Subdistrict Administration Organization	The improvement tax map and property registration Phase 1 by the UTHAI Sub-district administration organization UTHAI District, Ayutthaya province

**Associate Professor Dr. Nakhorn Poovarodom**

Organization	Project
Expressway Authority of Thailand (EXAT)	Inspection of Tension in Tendons of Segmental Bridge Girder of the Pier number 15/13 of the Burabhavithi Expressway
Society of Exploration Geophysicists (SEG)	Seismic site effects study in Nepal

**Associate Professor Dr. Burachat Chatveera**

Organization	Project
Energy Conservation and Promotion Fund Office	Thermal Insulating Concrete Wall Using E-Waste Project

## Associate Professor Dr. Phairat Usubharatana

Oganization	Project
Thailand Tobacco Monopoly	Eco-efficiency evaluation of Liquor Distillery Organization ISO 14045
Green Style Co., Ltd.	Carbon Neutral Event mail FORUM 2019, COMMART JOY 2019
	Carbon Footprint of Service and Events 2019C asean Sustainable Development Forum & Transformation Asia Pacific and SET Sustainability Awards 2018 by Green Style Company Limited
	Carbon Footprint of Service and Events 2019 Toyota Motor Thailand Company Limited
	Carbon Footprint for Events Verification Green Life Printing House Co., Ltd.
Gulf JP TLC Company Limited	Carbon Footprint of Product Consultation Project
Gulf JP NK 2 Company Limited	Consulting Project for Carbon Footprint of Product
NNK Gulf JP Company Limited	Carbon Footprint for Organization Verification : gulf JP NNK
Gulf JP NS Co., Ltd.	Consulting Project for Carbon Footprint of Product
Gulf TS 1 Company Limited	Carbon Footprint for Organization verification : Gulf TS 1 Company Limited.
Gulf TS 2 Company Limited	Carbon Footprint for Organization Verification : gulf TS 2
Gulf TS 3 Company Limited	Carbon Footprint for Organization verification : Gulf TS 3 Company Limited
Gulf TS 4 Company Limited	Carbon Footprint of Product Consultation Project
Gulf Power Generation Co., Ltd.	Carbon Footprint of Product Project Gulf Power Generation Company Limited
Gulf Yala Green Co., Ltd.	Carbon Footprint of Product Consultation Gulf Yala Green
Gulf VTP Co., Ltd.	Carbon Footprint of Product Consultation Gulf VTP Company Limited

**Associate Professor Dr. Phairat Usubharatana (Continued)**

Organization	Project
Thai Aviation Refuelling Co., Ltd.	Carbon Footprint for Organization Verification : Thai Aviation Refueling Company Limited (TARCO)
Thai Plastic And Chemicals Public Company Limited	Carbon Footprint for Organization Verification
B Foods Product International Co., Ltd.	Carbon Footprint for Organization Verification Project 2019
BST Elastomer Co., Ltd.	Carbon Footprint for Organization Verification : BST Elastomer Co., Ltd.
Phrong Intertrade Co., Ltd.	Eco Factory Verification Project
Royal Paragon Enterprise Company Limited	Carbon Footprint for Organization Verification
Lime Master Co., Ltd.	Carbon Footprint for organization Verifioation : Lime Mater Company Limited
Samutprakarn Cogeneration Co., Ltd.	Carbon Footprint of Product Consultation Project
Sermsuk Public Company Limited	Carbon Footprint for Organization Verification Project 7 Companies (Pathumtani, Nakornratchasrima, Nakornsawan, Suratthani, Chonburi, Beverage and Ranger (2008))
Nong Khae Cogeneration Co., Ltd.	Carbon Footprint for Organization Verification : gulf nkcc
Better Foods Co., Ltd.	Carbon Footprint for Bangkok Aviation Fuel Services (BAFS)
Inoac Tokai (Thailand) Company Limited	Carbon Footprint for Organization Verification Project 2019
Inoue Rubber (Thailand) Public Company Limited	Carbon Footprint For Organization Verification
Inoue Rubber (Thailand) Public Company Limited	Carbon Footprint for Organization Verification Project 2019

### Associate Professor Dr. Phairat Usubharatana (Continued)

Oganization	Project
SCG ICO Polymers Co., Ltd.	Carbon Footprint for Organizaion for SCG ICO Polymers Co., Ltd.
Osotspa Public Company Limited	Verification of the organization's carbon footprint
	Verification of the organization's carbon footprint
IRPC Public Company Limited	Carbon Footprint for Organization Verification Project 2019

### Associate Professor Dr. Virote Boonyapinyo

Oganization	Project
Bouygues-Thai Co., Ltd.	Wind Load Study For The Exhibition, Plenary And Sky Light Buildings By Wind Tunnel Test
Country Group Development PCL.	Wind Load Study For Cgd Rama 3 Building Project By Wind Tunnel Test
Kaskal Co., Ltd.	Inspection And Evaluation Of Structural And Function Performance Of Facade System For The Line Sathorn And Others
Grand River Forest Company Limited	Wind Load Study For Hyde Riverbay Building Project By Wind Tunnel Test
Kaskal Co., Ltd.	Inspection And Evaluation Of Structural And Function Performance Of Facade System For The Esse Asoke And Others
WHA Corporation Public Company Limited	Wind Load Study For Wha Bangna Building Project By Wind Tunnel Test
The Worldmark Grand Hospitality Company Limited	Wind Load Study For Pattaya Worldmark Mixed-Use Project By Wind Tunnel Test
The Worldmark Company Limited	Wind Load Study For Pattaya Worldmark Mixed-Use Project By Wind Tunnel Test
	Wind Load Study For Park Origin Rama 4 Building Project By Wind Tunnel Test

**Associate Professor Dr. Virote Boonyapinyo (Continued)**

Oganization	Project
Mulberry Grove Sukhumvit Corporation Ltd.	Wind Load Study For Gen A Building Project By Wind Tunnel Test
Land and Houses Public Company Limited	Wind Load Study For The Room Samsen Building Project By Wind Tunnel Test
Vana Nava Co., Ltd.	Wind Study For Holiday Inn Vana Nava Phuket Project By Computational Fluid Dynamic
535 Engineering Consultant Co., Ltd.	Wind Load Study For Copacabana Pattaya Project By Wind Tunnel Test
Architects 49 Limited	Wind Load Study For Cu 33 Building Project By Wind Tunnel Test
Siam Metal Co., Ltd.	Inspection And Evaluation Of Structural And Function Performance Of Façade System For Data Center Of Pea
Siri Smart Two Co., Ltd.	Wind Load Study For Xt Phetchaburi Building Project By Wind Tunnel Test
Origin Park T1 Co., Ltd.	Wind Load Study For Park Thonglor Building Project By Wind Tunnel Test
MQDC Town Royal Place Limited	Wind Load Study For T3 Whizdom At The Foretias Project By Wind Tunnel Test
MQDC Town Royal Place Limited	Wind Load Study For T1 And T2 Whizdom At The Foretias Project By Wind Tunnel Test
AHJ Ekkamai Co., Ltd.	Wind Load Study For Impression Ekamai Building Project By Wind Tunnel Test
AMH Sukhumvit 59 Company Limited	Wind Load Study For Ascott Thonglor Building Project By Wind Tunnel Test

### Associate Professor Dr. Wiroj Limtrakarn

Oganization	Project
National Science and Technology Development Agency	Consultant of Design and Engineering Consulting Service Center

### Associate Professor Dr. Sanya Mitaim

Oganization	Project
Strategy and Evaluation Department	Design Consultant & Construction Supervision Consultant for Data System and Network System of BMA (ERP Systems)
Expressway Authority of Thailand (EXAT)	A project to write the scope of work for the electronic toll collection system's central processing system
The Transport Co., Ltd.	Project Management for TCL Projects
SAMART Communication Services Co., Ltd.	Check the technical specifications of the Main Controller Honeywell, Comfort Point (CP-IPC) and Door-Control Team-Voyager Multi-4, CCTV, Honeywell HBW2GR1V and PTZ Dome CCTV Cameras Honeywell HDZ302DE-B
Office of the National Digital Economy and Society Commission	Thailand Digital Inclusion
Thai Public Broadcasting Service	IT Continuity Plan

### Associate Professor Dr. Sayan Sirimontri

Oganization	Project
Banchakij Co., Ltd.	Measurement of prestressing tendon natural frequency and impact on tendon force
SST Professional Co., Ltd.	Effect of 25 ton truck load testing on the retaining wall
ALE Heavylift and Transport (Thailand) Co., Ltd.	Analysis of the bridge structure of the port of Kerry Siam Sea Port Company Limited, Sriracha District, Chonburi Province

### Associate Professor Dr. Harnpon Phungrassami

Organization	Project
Rubber Authority of Thailand	Eco Efficiency Assessment of Rubber Authority of Thailand
Gulf JP KP1 Company Limited	Carbon Footprint of Product Consulting Project
Gulf JP KP2 Company Limited	Carbon Footprint of Product Consultation
Gulf JP CRN Company Limited	Consulting Project for Carbon Footprint of Product
Gulf JP UT Co., Ltd.	Carbon Footprint : Gulf.jp.ut
Gulf Jp NII Company Limited	Carbon Footprint of Product Consultation
Bangkok Aviation Fuel Services Public Company Limited	Carbon Footprint for Bangkok Aviation Fuel Services (BAFS)
Fuengfuanant Co., Ltd.	Carbon Footprint for Organization Verification
Map Ta Phut Olefins Company Limited	Carbon Footprint for Organization verification
Chiang Mai University	Verification of the low carbon industry pilot plant
Banknote management group Bank of Thailand	Carbon Footprint for Organizaion
National Science and Technology Development Agency	Carbon Footprint for Organization Verification
Thailand Greenhouse Gas Management Organization (Public Organization)	Verification of Glass, Plastic and Food plot industries for Thailand Voluntary Emission Trading Scheme Pilot Implementation Project (By 2562)
The Liquor Distillery Organization	Carbon Footprint for Organizaion for Product
	Eco-efficiency evaluation of Liquor Distillery Organization

### Associate Professor Dr. Uruya Weesakul

Oganization	Project
Department of Highways	The analysis of highways network conditions to improve the efficiency of highways maintenance budgeting
Department of Rural Roads	A Research and Implementation of Mobile Mapping System for 3D Road Asset Inventory
Department of Alternative Energy Development and Efficiency Ministry of Energy	Developing the conservation of energy in government control building with information technology Project
Sport authority of Thailand	Review of Provincial sports association strategy
	National Sports Development Fund Strategics 2020-2023 and Action Plan 2020
Expressway Authority of Thailand (EXAT)	Central Clearing House : CCH
	The Study and Development of Expressway Authority of Thailand Maintenance Management System
Aeronautical Radio of Thailand Ltd.	A study of the internal and external communication assessment of Aeronautical Radio of Thailand Company Limited in 2019
National Institute of Metrology (Thailand)	Human Resources System Development Project

### Assistant Professor Dr. Kridayuth Chompooming

Oganization	Project
Department of Rural Roads	Structural Re Habilitation of Somdet Phrapinklao Bridge
PYS Construction Co., Ltd.	Damage Evaluation And Load Testing Of Repairing Bridges
Freyssinet (Thailand) Co., Ltd.	Structural Monitoring of 3 <sup>rd</sup> and 4 <sup>th</sup> Thai-Lao Friendship Bridge

**Assistant Professor Dr. Jakkra Chuanasa**

Organization	Project
Department of Industrial Promotion	A Project of encouraging the SMEs Productivities with Visualize System Under the Scheme to Increase the Potential of SMEs via Digital Technology 2019

**Assistant Professor Dr. Taweesak Kijkanjanarat**

Organization	Project
Department of Rural Roads	ICT Consultants for Department of Rural Road

**Assistant Professor Dr. Nopbhorn Leeprechanon**

Organization	Project
Department of Alternative Energy Development and Efficiency Ministry of Energy	Registration training and proficiency testing of Energy saving auditor
Department of Industrial Works	Accelerating machinery registration of small and medium enterprises (Under expense for promoting and adjusting machineries to increase their efficiency)

**Assistant Professor Dr. Pradya Prempraneerach**

Organization	Project
Electricity Generating Authority of Thailand (EGAT)	Research study for loss minimization in EGAT work-support processes using Robotic Process Automation : RPA

**Assistant Professor Dr. Piya Techateerawat**

Organization	Project
Prompt Technical Services Ltd.	TSO Database Infrastructure Enhancement and Development

### Assistant Professor Dr. Phisan Kaewprapha

Oganization	Project
Department of Empowerment of Persons with disabilities	Hiring consultants to assess risks and analyze guidelines for the development of techniques for information technology systems of the Fund

### Assistant Professor Dr. Woraratana Pattaraprakorn

Oganization	Project
Princess of Naradhiwas University	Support investment in equipment modification in public hospitals

### Assistant Professor Dr. Witawats Satasook

Oganization	Project
Department of Alternative Energy Development and Efficiency Ministry of Energy	Promotion and Support for Efficiency Enhancement in Dipangkornwittayapat Under the Royal Patronage School On Occasion The Royal Coronation Ceremony 2019
	Energy Legal Personnel Development Project
Department of Industrial Works	Factory Energy Monitoring Online
Sport authority of Thailand	Investigation and Analysis of the Leveraging Regional Sport Training Center to Serve as National Sport Training Center : NSTC
Energy Conservation and Promotion Fund Office	Project for managing and developing the operation system of the Office of Energy Conservation Promotion Fund

**Assistant Professor Dr. Winai Raksuntorn**

Organization	Project
Department of Highways	The study and hierarchy classification of Thai National Highway network to maximize the performance for planning, development and management of highways
Inter City Motorway Division, Department of Highways	Traffic Data Analysis and Data Collection on the Motorway Number 7 and 9
Central Institute of Forensic Science	An analysis of technology information system of the forensic science to enhance quality of services and verifications, Central Institute of Forensic Science (Fiscal year 2562 BE)
Bureau Of Standards And Evaluation (Bose)	An analysis of suitable selection process using big data

**Assistant Professor Naris Charoenporn**

Organization	Project
PTT Oil and Retail Business Co., Ltd.	The Plant Layout Design Project for Testing and Refurnishing the Cooking LPG Cylinders Used in the Central and East Regions
PTT Global Chemical Public Company Limited	Economics risk assessment and musculoskeletal disorder prevention programme in prolonged sitting computer users

**Assistant Professor Parichat Chuenwatanakul**

Organization	Project
Sakonkakhon Rajabhat University	The Monitoring and Evaluation of Operations in Northeastern Fabric Pattern Development with Indigo Dyeing and Natural Color for International Product Processing Project

**Dr. Pornrapeepat Bhasaputra**

Organization	Project
Department of Alternative Energy Development and Efficiency Ministry of Energy	Energy Conservation and Renewable Energy Development in the Court : Phase V

### Dr. Supakit Prueksaaron

Oganization	Project
The Bangkok Metropolitan Administration Budget Department	Design consultant & construction for data system : Budget

### Tustha Sriwalai

Oganization	Project
Department of Rural Roads	Survey and Data Collection for Rood Safety
	The Study and Establishment of the Department of Rural Roads Development Plan for the Year 2019 (Group 8)
	The Development of rural road network master plan to support the eastern economic corridor

### Watchara Amasiri

Oganization	Project
Pacocasa Co., Ltd.	The testing result of the parameter of the antenna TONGYU-TYDB-D172720DEI4-33FT2v2
	The testing result of the parameter of the antenna TONGYU-TDQ-172722DEI-33FT2v3
	Antenna test TONGYU TYMB-D182021DEI5-25FT3
FiberHome International (Thailand) Co., Ltd.	Fiberhome HXPM4XWW21065T2A Antnena Specification Analysis
Yong Thai Rubber Industrial Co., Ltd.	Ordnance Research and Development Project
UHM Co., Ltd.	Automatic pilot control Valves

## Faculty of Fine and Applied Arts

### Assistant Professor Dr. Songchai Thongpan

Organization	Project
Global Power Synergy Public Company Limited	Corporate Perception Survey and Satisfaction Assessment the Cooperate Social Responsibility Project Around the Business Area, Rayong Province
The Administrative Court	Survey the confidence of the people in the administration of justice of the Administrative court

### Associate Professor Danai Preechapermpasit

Organization	Project
Defence Technology Institute (Public Organization)	Perception, Attitude, and Image of Related Organizations and Satisfaction of Customers

### Dr. Wasinee Wannasiri

Organization	Project
Thailand Greenhouse Gas Management Organization (Public Organization)	Evaluating an amount of greenhouse gas from land use at provincial level with geospatial technology

## Faculty of Economics

### Professor Dr. Supawat Rungsuriyawiboon

Oganization	Project
PTT Public Company Limited	Economic impact of energy mix in transport sector to energy security, sustainability and optimal price for Thailand

### Associate Professor Dr. Kriengkrai Techakanont

Oganization	Project
Office of Small and Medium Enterprises Promotion	Strategic and action plan for SME in electric vericles, smart electronics and electrical appliance and digital industries

### Associate Professor Dr. Chanin Mephokee

Oganization	Project
Meteorological Department	Proactive public relations of the Meteorological Department
Thailand Convention & Exhibition Bureau (Public Organization)	The study on the potential development of International Exhibition on Aviation

### Associate Professor Dr. Chaiyuth Punyasavatsut

Oganization	Project
Equitable Education Fund (EEF)	Poverty Targetting and Formula Funding for Preschool and out-of-School Children in Thailand
	Thailand National Education Accounts 2008-2019
	Monitoring And Developments of CCT for poor students in OBEC and LG schools

**Associate Professor Dr. Niramom Sutummakid**

Organization	Project
Office of Natural Resources and Environmental Policy and Planning	Study the guidelines or the appropriate model in collecting fees Consider the EIA report According to the principle, the project owner is responsible for the cost (Cost Recovery Method)

**Associate Professor Dr. Peera Charoenporn**

Organization	Project
Department of Business Development	Smart Service Enterprise and Creative Marketing Development project ; High potential service business development project under Entrepreneurship ; local economy and SMEs development plan 2019

**Associate Professor Dr. Archanun Kohpaiboon**

Organization	Project
ITD-International Institute for Trade and Development	Development of Investment Policy Framework and Business Environment for Advancing the Digital Economy

**Assistant Professor Dr. Kaewkwan Tangtipongkul**

Organization	Project
ITD-International Institute for Trade and Development	Local Economic Development to Support Opportunities and Impacts from Special Economic Zones along the Southern Economic Corridor

**Assistant Professor Dr. Chaleampong Kongcharoen**

Organization	Project
Government Savings Bank	Evaluating and Maintaining GSB Macroeconomic Model 2019

### Assistant Professor Dr. Duangmanee Laovakul

Oganization	Project
King Prajadhipok's Institute	Research project for developing methods for evaluating the economic and social outcomes of local development projects

### Assistant Professor Dr. Pracha Koonathamdee

Oganization	Project
National Center for Genetic Engineering and Biotechnology (BIOTEC)	Study the guidelines for assessing the impact of research on feed development of the National Center for Genetic Engineering and Biotechnology
Hydro and Agro Informatics Institute	Impact Evaluation of Hydro and Agro Infomatics Institute projects

### Assistant Professor Dr. Pawin Siriprapanukul

Oganization	Project
King Prajadhipok's Institute	Budget Analysis And Recommendations For Budgetary Year 2020

### Assistant Professor Dr. Monthien Satimanon

Oganization	Project
National Science and Technology Development Agency	Evaluation for developing graduate and researcher's NSTDA Project

### Assistant Professor Dr. Wanwiphang Manachotphong

Oganization	Project
King Prajadhipok's Institute	Inequality reduction and Egerity promotion the case of the Thai Platform Economy

### Assistant Professor Dr. Supachai Srisuchart

Organization	Project
Department of Employment	Evaluating and Maintaining GSB Macroeconomic Model 2019
Tourism Authority of Thailand	The Evaluation of Tourism Authority Thailand (TAT) Internal Communication Efficiency (2019)
	The Evaluation of Tourism Authority Thailand (TAT) Internal Communication Efficiency (2019)
Airports of Thailand Public Co., Ltd.	The Evaluation of Communication Efficiency between Airport of Thailand (AOT) and Stakeholders (2019)
Office of the Permanent Secretary, Ministry of Social Development and Human Security	Social Situation Report at Year 2018
	Forecast Data and Scorecard for Social
Office of the Permanent Secretary	Ministry of Transportation (MOT) Public Relation Master Plan 2019-2022
Office of the Education Council	Review of Researches Related to Education : International Lessons

### Assistant Professor Dr. Anan Pawasutipaisit

Organization	Project
Provincial Waterworks Authority	Customer Satisfaction Survey of Provincial Waterworks Authority, Fiscal Year 2562
Electricity Generating Authority of Thailand (EGAT)	A Survey of Customer Needs and Business Practices of Automobile Firms in doing Modified Electric Vehicles Business
Thailand Institute of Scientific and Technological Research	Survey of Expectation, Satisfaction, Dissatisfaction, Needs and Loyalty of Customers with Technological Products, and Services of Thailand Institute of Scientific and Technology Research (TISTR) 2019

### Assistant Professor Dr. Anin Aroonruengsawat

Organization	Project
Thailand Greenhouse Gas Management Organization (Public Organization)	Curriculum development for Economics of Climate Change in Tourism Sector

### Dr. Kiatanantha Lounkaew

Organization	Project
Equitable Education Fund (EEF)	Career Assessment Instrument Study
Nakhon Nayok Provincial Office of Tourism and Sports	Dong Phrayayen-Khao Yai Forest Complex Tourism
Thailand Institute of Scientific and Technological Research	TISTR SROI for 10 Provinces
Office of the Permanent Secretary, Ministry of Justice	Lawyer Service Fee Study
Geo-Informatics and Space Technology Development Agency	Social Returns on Investment of Geo-Informatics and Space Technology Development Agency (GISTDA) for the Fiscal Year 2018
Office of the Education Council	Area-Based Labor Demand
National Health Security Office	Evaluation of Customer Satisfactions on Complaint Handling of the NHSO
	NHSO Poll 2019
Designated Areas for Sustainable Tourism Administration (Public Organization)	Sustainable Tourism Master Plan for Loei

### Chol Bunnag

Organization	Project
Office of Natural Resources and Environmental Policy and Planning	Developing a monitoring and evaluation system to promoting sustainable production and consumption in Thailand

## Faculty of Architecture and Planning

### Associate Professor Dr. Nipan Vichiennoi

Organization	Project
Expressway Authority of Thailand (EXAT)	Dispute on the Second Stage Expressway and Udon Rattaya Expressway
Office of Transport and Traffic Policy and Planning (OTP)	The Study of Reduced Energy from Tracking Doubling Development

### Associate Professor Dr. Pawinee lumtrakul

Organization	Project
Naresuan University	The Study on Policy Analysis to Promote Motorcycle Safety in Comparison with other Urban Modes
National Research Council of Thailand (NRCT)	Measurement of Safety Improvement for Motorcycle Rental Service of Foreign Tourists in Chiang Mai
National Science and Technology Development Agency	Pathumthani Smart City Roadmap

### Assistant Professor Dr. Choomket Sawangjaroen

Organization	Project
Department of Empowerment of Persons with disabilities	Creating the Innovation Center Project Facilities technology for people with disabilities Activity 1 : A set of innovative knowledge Assistive technology for people with disabilities
Rangsit City Municipality	Consulting and analytics Public health and recreation center, Rangsit
Designated Areas for Sustainable Tourism Administration (Public Organization)	Promoting and Creating Tourism Planning for All

### Assistant Professor Dr. Peeradorn Kaewlai

Oganization	Project
FireOneOne Company Limited	The Survey and Potential Analysis of Klongthom Center and Capital Plaza
Thailand Center of Excellence for Life Sciences (Public Organization)	The Feasibility of Medicopolis in Chiangmai
Thailand Convention & Exhibition Bureau (Public Organization)	The study & Market and readiness of Eastern Economic Corridor for Establishment of International Mice Venue
	The Feasibility study a convention and Exhibition center in lower North-Eastern Region 1
Creative Economy Agency (Public Organization)	The Database and Data Visualization of Creative district Business Data
	Data Preparation For The World Design Capital 2022 And The 2020 Unesco Creative Cities Network Application

### Assistant Professor Dr. Vuttapong Larpcharoen

Oganization	Project
Marine Department	International Maritime Organization, IMO

### Assistant Professor Fa Likitswat

Oganization	Project
Forest Industry Organization	Land Development Project of Forest Industry Organization : Feasibility Studies on Sri Raja, Chonburi
	Land Development Project of Forest Industry Organization : Feasibility Studies on Korhong, Hatyai
	Forest Industry Organizatio s Land Development : Feasibility Studies on Donmuang,Bangkok and Aranyik, Phitsanulok

## Faculty of Allied Health Sciences

### Assistant Professor Dr. Potjanee Srimanote

Organization	Project
The International Development Research Centre (IDRC)	Novel vaccine design as an alternative to antimicrobial use for preventing and controlling the swine and zoonotic agent <i>Streptococcus suis</i>

### Dr. Sawang Petvises

Organization	Project
National Science and Technology Development Agency	Proliferation and cytotoxicity of V $\gamma$ 9V $\delta$ 2 T lymphocytes under the influence of antimicrobial peptides against neuroblastoma cell lines

## Faculty of Sociology and Anthropology

### Associate Professor Dr. Teera Sindecharak

Organization	Project
Industrial Estate Authority of Thailand	The Survey of satisfaction and Engagement's IEAT officers in Fiscal year 2019
Thailand Center of Excellence for Life Sciences (Public Organization)	Project of Consultant Hiring for Performance Assessment of the Thailand Center of Excellence for Life Sciences by the Outsider under Section 38 of the Royal Decree Establishing Thailand Center of Excellence for Life Sciences (Public Organization ) 2011 BE by the Selection Method.
Office of Justice Affairs	To Study Problems Causes and Other Contexts Related Thailand Justice Process
Office of the Permanent Secretary, Ministry of Labour	The Study of Quality of Life Index and The Survey of Informal Workers

## Faculty of Social Administration

### Professor Rapeepan Kumhom

Oganization	Project
Department of Empowerment of Persons with disabilities	Development and Management within the Institution  The project to develop the mechanism to promote the rights of people with disabilities in accordance with the individual development plan (IDP) for the quality of life of the disabled.

### Associate Professor Chanon Komonmarn

Oganization	Project
Department of Children and Youth	Child and Youth Development Annual Report (2018)

### Associate Professor Sakchai Lertpanichpun

Oganization	Project
Office of the Permanent Secretary, Ministry of Justice	A study of Pre-release and After care Program

### Assistant Professor Dr. Puchong Senanuch

Oganization	Project
Department of Women's Affairs and Family Department (DWF)	Assessing and Evaluating the Standard of Performance for Women and Family of Learning Center for Women and Family Development, Department of Women's Affairs and Family Development

### Assistant Professor Dr. Auschala Chalayonnavin

Organization	Project
Directorate of Joint Civil Affairs, Royal Thai Armed Forces Headquarters	Public Trust over the Royal Thai Armed Forces Headquarters, a case study of development projects in remote areas
Sustainable Energy Foundation	Empower vulnerable and abused girls to change their destiny

### Dr. Prapaporn Tivayanond

Organization	Project
Office of the Election Commission of Thailand (OECT)	Research Assessment of the Senator Selection Process for 2018

### Ronnarong Jundai

Organization	Project
Department of Empowerment of Persons with disabilities	Project of creating guidelines and integrated approaches for the development of employment system and promoting the work of people with disabilities in Thailand
Department of Health	Project on the Synthesis of mechanisms and models of community labs for age society
King Prajadhipok's Institute	Local Government Organization Assessment Project for the King Prajadhipok's Institute Award 2019

## Faculty of Public Health

### Associate Professor Dr. Warawut Suadee

Organization	Project
Expressway Authority of Thailand (EXAT)	The Study on Environmental Monitoring Program of Expressways in Bangkok and Vicinity in Fiscal Year 2019

### Assistant Professor Dr. Pensri watchalayann

Organization	Project
Department of Health	Study of epidemiology medical waste management in hospitals of office of the permanent secretary of ministry of public health

### Assistant Professor Dr. Nantika Soonthornchaikul

Organization	Project
Department of Health	Evaluation and selection of the environmental health indicators and standards of physical living conditions appropriate for lifestyle of people

### Pol.Maj.Dr. Katiya Ivanovitch

Organization	Project
Aids TB and STIs Control Division	Prevalence of Tuberculosis and its related factors among Taxi Driver in Bangkok

## College of Innovation

### Assistant Professor Dr. Jirapon Sunkpho

Organization	Project
Inter City Motorway Division, Department of Highways	Seminar for Digital Operational Planning Development for Budget Year 2020-2022
	Thailand Motorway IT Systems Maintenance
Digital Economy Promotion Agency	Data Science Essential

### Assistant Professor Dr. Chaiwat Oottamakorn

Organization	Project
Department of trade negotiations	IT Consultant Project for DTN 61
Office of the National Digital Economy and Society Commission	Human Capital Development plan for digital society and economy
Thailand Greenhouse Gas Management Organization (Public Organization)	Development of GHG reduction Data Management System

### Assistant Professor Dr. Orpan Khongmalai

Organization	Project
Office of Small and Medium Enterprises Promotion	Boost up New Entrepreneurs

### Assistant Professor Dr. Anyanitha Distanont

Oganization	Project
Hydro and Agro Informatics Institute	Evaluating and Monitoring of development science and technology development project for water resource management The Royal Initiated project (Southern Thailand)
Office of Small and Medium Enterprises Promotion	Project of Promoting and Developing Electronic Commerce Market for SME year 2019

### Dr. Chayakrit Asvathitanont

Oganization	Project
The Comptreller General's Department	Comprehensive and Progressive Agreement for Trans-Pacific Parthership
State Railway of Thailand	The study ad preparation of Business Modelfind business plan for railway service for state railway of Thailand
Office of The National Broadcasting and Telecommunications Commission	The Study to evaluate Quality of Conteuts in radio and television broadcast

### Dr. Manit Satitsamitpong

Oganization	Project
Department of Industrial Promotion	Promoting SMEs into Global Value Chain by using T-GoodTech Platform under SMEs Capacity Building Using Digital Technology Project

### Dr. Sarawut Ramjan

Oganization	Project
Department of Industrial Promotion	The Project of Thai SMEs Marketing Enhancement by eCommerce
The Metropolitan Electricity Authority	The survey requirements and satisfaction of information teachnology and communication system's user MEA 2019

## Puey Ungphakorn School of Development Studies

### Associate Professor Dr. Samchaiy Sresunt

Organization	Project
Department of Environmental Quality Promotion	Monitoring and Evaluation Research Project : Activity Implementation for Strengthening of the Watch and Protection for Open Burning, Forest Fire and smog Reduction Network

### Assistant Professor Weeraboon Wisartsakul

Organization	Project
Department of Industrial Promotion	The Study on SME Model Development to Industrial 4.0
Expressway Authority of Thailand (EXAT)	The effect of CSF on brand image of Expressway Authority of Thailand
Bank for Agriculture and Agricultural Co-operatives	Research project for promoting organic germinate rice entrepreneurs (Banthalunglek Germinate Rice)
Office of the National Water Resources	Curriculum Development Project For Thai Water Resource Managers
	Survey Study of Regional River Basin Committees and Stakeholders' Perceptions and Attitudes towards Office of the National Water Resources's Roles and Responsibilities

### Dr. Sanit Noonin

Organization	Project
Dairy Farming Promotion Organization of Thailand	Project Driving Strategy To Action For Dpo's Cg & Csr

### Dr. Kanokwara Phuangprayong

Organization	Project
National Innovation Agency (Public Organization) (NIA)	Social Innovation Driving Unit Focus on 10 Poorest provinces, 1 Target Area

## Chulabhorn International Collage of Medicine

### Assistant Professor Dr. Parunkul Tungsukrutai

Oganization	Project
Department for Development of Thai Traditional And Alternative Medicine Ministry of Public Health	Safety monitoring on the use of herbal medicines by public hospital patients for the addition into the National list of Essential Medicines

## School of Global Studies

### Dr. Pannin Sumanasrethakul

Oganization	Project
Office of the National Security Council	Technical Assistance for the Strategic Foresight Study on Security in ASEAN

### Pisate Virangkabutra

Oganization	Project
Thailand Institute of Justice (TIJ)	Develop designers of justice under the curriculum development program to create people of justice and fairness

## College of Interdisciplinary Studies

### Associate Professor Dr. Decha Sungkawan

Organization	Project
Thai Health Promotion Foundation	Development of Model for Elderly Club, Family and Community Participation in Prevention and Protection on Violence Against Older Persons
Office of the Civil Service Commission (OCSC)	The Study or Mobilization of the Ethical Standards for the Government officers : Strategic Plan on Ethical Standards and Ethic Promotions in Public Sector

### Associate Professor Dr. Tatchalerm Sudhipongpracha

Organization	Project
Department of Local Administration	Local Performance Assessment : LPA

### Associate Professor Saifon Su-indramedhi

Organization	Project
College of Local Administration, King Prajadhipok's Institute	Beat Practices

### Dr. Nathaphon Sang-Arun

Organization	Project
Department of Disaster Prevention and Mitigation	Post-Disaster Needs Assessment for Post Disaster Recovery Framework
Thailand Institute of Justice (Public Organization)	Validation of a survey instrument for SDGs Indicator 16.1.3 proportion of population subjected to physical violence, psychological violence and sexual violence, Indicator 16.1.4 proportion of population that feel safe from crime, and Indicator 16.3.1 proportion of victims of violence who reported their victimization to competent authorities

### Thanyaporn Soontornthum

Organization	Project
Office of Justice Affairs	Crime Victimization Survey

### Pol.Maj. Dr. Chavanut Janekarn

Organization	Project
General Staff Division, Immigration Bureau	The Evaluation of Public Spending from the Immigration Fees
Office of The National Anti-Corruption Commission (ONACC)	The Study on the Pattern and Opportunity of Government Officials' Corruption in Human Trafficking and Illegal Immigration
Office of the Permanent Secretary, Ministry of Justice	The Implementation of The Coordination Centre for Conflict Resolution and Reconciliation

## Sirindhorn International Institute of Technology

### Professor Dr. Somnuk Tangtermsirikul

Organization	Project
Expressway Authority of Thailand (EXAT)	Inspection and study of deterioration mechanism of reinforced concrete structure of Chalem Maha Nakhon expressway

### Associate Professor Dr. Komwut Wipusitwarakun

Organization	Project
Office of The National Broadcasting and Telecommunications Commission	Study and research on the direction and trend of using Over The Top (OTT) technology that affects the band width of telecommunications in Thailand

### Associate Professor Dr. Bundit Limmeechokchai

Organization	Project
Office of Natural Resources and Environmental Policy and Planning	Thailand's Greenhouse Gas Emissions Inventory System (TGEIS)
Thailand Greenhouse Gas Management Organization (Public Organization)	Development of conceptual framework and elements for shared climate policy assumptions of Thailand (Phase I)

### Assistant Professor Dr. Teerayut Horanont

Oganization	Project
Geo-Informatics and Space Technology Development Agency	Geo-Informatics consultant project to manage combine harvesters Phase 2

### Assistant Professor Dr. Sasiporn Usanavasin

Oganization	Project
Office of the Royal Society	Research and Development of online thai language testing system for public users

## Thai Khadi Research Institute

### Dr. Anucha Thirakanont

Oganization	Project
The SUPPORT Arts and Crafts International Centre of Thailand	Curator Le Banquet, Revelation 2019
	The Promotion of Master Artisan's Value
	Info-service to Public

### Khunyarin Chaijan

Oganization	Project
The Treasury Department	Training Project on Efficiency Enhancement in the Museum Management of Bureau of Grand National Treasure



## Independent Auditor's Report TU-RAC

มหาวิทยาลัยธรรมศาสตร์

# Independent Auditor's Report

To the Board of Director of Thammasat University Research and Consultancy Institute

## Opinion

I have audited the accompanying financial statements of **Thammasat University Research and Consultancy Institute (TU-RAC)** which comprise the statement of financial position as at September 30, 2019 the related statement of revenues and expenditures and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

In my opinion, the aforementioned financial statements present fairly, in all material respects, the financial position of **Thammasat University Research and Consultancy Institute** as at September 30, 2019, and the revenues and expenditures for the year then ended in accordance with Financial Reporting Standards for Non-Publicly Accountable Entities.

## Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of TU-RAC in accordance with the Federation of Accounting Professions under the Royal Patronage of his Majesty the King's Code of Ethics for Professional Accountants together with the ethical requirements that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

## Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Thai Financial Reporting Standards for Non-Publicly Accountable Entities, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing TU-RAC's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the TU-RAC to cease operations, or has no realistic alternative but to do so.

## Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Standards on Auditing, I exercise professional judgment and maintain professional skepticism throughout the audit. I also :

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of TU-RAC's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on TU-RAC's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause TU-RAC to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

*Panarat Panmanee;*

(Mrs. Panarat Panmanee)

Certified Public Accountant (Thailand)

Registration No. 2870

17 Soi 7 Seri 8, Suan Luang, Bangkok.

October 18, 2019

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**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**STATEMENT OF FINANCIAL POSITION**  
**AS AT SEPTEMBER 30, 2019**

(Unit : Baht)

	Note	2019	2018
<b>ASSETS</b>			
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	3	203,602,980.07	189,460,911.11
Temporary investment	4	9,069,535.21	7,567,438.77
Advance researcher		3,287,855.00	7,634,400.00
Accrued research receivable		539,566,430.98	396,855,074.50
Accrued fee research receivable		46,040,520.87	38,455,485.38
Retention receivable		10,523,820.87	7,182,097.09
Contract guarantee		995,740.00	1,217,960.00
Other current assets		553,175.40	402,249.98
<b>TOTAL CURRENT ASSETS</b>		<b>813,640,058.40</b>	<b>648,775,616.83</b>
<b>NON-CURRENT ASSETS</b>			
Deposit Pledged by Guarantee Obligation	5	2,540,278.94	3,967,398.94
<b>TOTAL NON-CURRENT ASSETS</b>		<b>2,540,278.94</b>	<b>3,967,398.94</b>
<b>TOTAL ASSETS</b>		<b>816,180,337.34</b>	<b>652,743,015.77</b>

*The accompanying notes are an integral part of these financial statements.*

**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**STATEMENT OF FINANCIAL POSITION (Continued)**  
**AS AT SEPTEMBER 30, 2019**

(Unit : Baht)

	Note	2019	2018
<b>LIABILITIES AND FUNDS</b>			
<b>CURRENT LIABILITIES</b>			
Accrued research expenses		580,635,626.49	442,865,514.42
Accrued bonus		1,199,521.23	995,562.64
Other current liabilities	6	39,627,153.10	21,788,149.07
<b>TOTAL CURRENT LIABILITIES</b>		<b>621,462,300.82</b>	<b>465,649,226.13</b>
<b>TOTAL LIABILITIES</b>		<b>621,462,300.82</b>	<b>465,649,226.13</b>
<b>FUND</b>			
Capital fund	7	1,115,070.00	1,115,070.00
Accumulated revenues over expenses	8	193,602,966.52	185,978,719.64
<b>TOTAL FUND</b>		<b>194,718,036.52</b>	<b>187,093,789.64</b>
<b>TOTAL LIABILITIES AND FUND</b>		<b>816,180,337.34</b>	<b>652,743,015.77</b>

*The accompanying notes are an integral part of these financial statements.*

**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**STATEMENT OF REVENUES AND EXPENSES**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2019**

*(Unit : Baht)*

	Note	2019	2018
<b>REVENUES</b>			
Research income		1,457,071,924.84	1,272,023,650.35
Research fee income		115,162,097.38	107,461,898.44
Other income		719,571.23	640,926.12
<b>TOTAL REVENUES</b>		<b>1,572,953,593.45</b>	<b>1,380,126,474.91</b>
<b>EXPENSES</b>			
Research payment		1,457,071,924.84	1,272,023,650.35
Operating expenses	9	103,872,240.51	94,611,197.90
<b>TOTAL EXPENSES</b>		<b>1,560,944,165.35</b>	<b>1,366,634,848.25</b>
<b>NET REVENUES OVER EXPENSES</b>		<b>12,009,428.10</b>	<b>13,491,626.66</b>

*The accompanying notes are an integral part of these financial statements.*

**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**CASH FLOW STATEMENTS**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2019**

(Unit : Baht)

	2019	2018
<b>Cash Flows From Operating Activities</b>		
Net revenues over expenses	12,009,428.10	13,491,626.66
<b>Adjustment cash received (used) from operating activities</b>		
Decrease (Increase) advance researcher	4,346,545.00	(783,500.00)
Decrease (Increase) accrue research income	(142,711,356.48)	(88,713,879.30)
Decrease (Increase) accrued research fee income	(7,585,035.49)	(4,899,188.10)
Decrease (Increase) Retention receivable	(3,341,723.78)	1,761,633.62
Decrease (Increase) Contract guarantee	222,220.00	(940,900.00)
Decrease (Increase) current asset	(150,925.42)	(70,712.78)
Decrease (Increase) Non-current asset	(74,976.44)	(301,228.46)
Increase (Decrease) researcher payment	137,770,112.07	88,557,396.70
Increase (Decrease) accrued bonus	203,958.59	(22,335.40)
Increase (Decrease) other current liabilities	17,839,004.03	17,755,045.74
<b>Net Cash And Cash Equivalents Increase (Decrease)</b>	<b>18,527,250.18</b>	<b>25,833,958.68</b>
Adjustment accumulated revenues over expenses Increase (Decrease)	(4,385,181.22)	(5,246,102.99)
<b>Net Cash And Cash Equivalents Increase (Decrease)</b>	<b>14,142,068.96</b>	<b>20,587,855.69</b>
<b>Cash And Cash Equivalents At The Beginning Of The Period</b>	<b>189,460,911.11</b>	<b>168,873,055.42</b>
<b>Cash And Cash Equivalents At The Ending Of The Period</b>	<b>203,602,980.07</b>	<b>189,460,911.11</b>

*The accompanying notes are an integral part of these financial statements.*

## THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE

### NOTES TO FINANCIAL STATEMENTS

### FOR THE YEAR ENDED SEPTEMBER 30, 2019

#### 1 GENERAL INFORMATION

The TU-RAC capital funds consists of two sourced: TU-RAC sponsor and Research fund. The funds, include its interest, are generally used for all the institute's purposes in order to accomplish the TU-RAC'S mission.

#### 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

##### 2.1 The Basis of Financial Statement Preparation

- In order to prepare the financial statements to comply with generally accepted accounting standards, The TU-RAC Institute's management had to make some estimated and suppositions which may have an effect on the amount shown for revenues, expenses, assets and liabilities and also on the disclosures concerning assets and contingent liabilities, therefore the actual result may differ from the estimated amount.
- The financial statements have been prepared on a historical cost basis except where otherwise disclosed in the accounting policies.
- For the convenience of the user, an English translation of the financial statements has been prepared from the statutory financial statements that are issued in Thai.

##### 2.2 Revenue and Expenses

Revenues and expenses are recognized on accrual basis except interest income is recognized on cash basis.

##### 2.3 Cash and Cash equivalent items

Cash and cash equivalent items include bank deposit in type of saving, current and not exceeding three-month fixed deposit with no guarantee obligation.

##### 2.4 A provision of liabilities

The TU-RAC Institute recognized in the balance sheet when The TU-RAC Institute has a present legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. If the effect is material, provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and where appropriate, the risks specific to the liability

**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**NOTES TO FINANCIAL STATEMENTS (Continued)**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2019**

### 3 CASH AND CASH EQUIVALENTS

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
Petty cash	6,722.25	4,354.00
Bank Deposit		
Saving Account	203,596,257.82	189,456,557.11
<b>Total</b>	<b>203,602,980.07</b>	<b>189,460,911.11</b>

### 4 TEMPORARY INVESTMENT

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
Fix Deposit 12 month TMB bank	9,069,535.21	7,567,438.77
<b>Total</b>	<b>9,069,535.21</b>	<b>7,567,438.77</b>

### 5 DEPOSIT PLEDGED BY GUARANTEE OBLIGATION

As of September 30, 2019 and 2018 The TU-RAC Institute had Fix deposit amount 2,540,278.94 Baht and 3,967,398.94 Baht with in TMB bank public company limited. Past of these account be the pledges for bank guarantee which issued by the TMB bank related with normal normal business obligation as fallow :

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
5.1 L/G Department of Drainage and Sewerage	129,948.94	129,948.94
5.2 L/G Bureau of Community Industries Development	-	1,066,660.00
5.3 L/G Marine Department	1,128,530.00	695,990.00
5.4 L/G PTT Public Company Limited	-	793,000.00
5.5 L/G Metropolitan Rapid Transit Authority (MRTA)	1,281,800.00	1,281,800.00
<b>Total</b>	<b>2,540,278.94</b>	<b>3,967,398.94</b>

**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**NOTES TO FINANCIAL STATEMENTS (Continued)**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2019**

**6 OTHER CURRENT LIABILITIES**

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
6.1 Accrued facilities	-	356.31
6.2 Accrued Audit fee	88,000.00	80,000.00
6.3 Accrued transportation expenses	77,547.17	71,164.00
6.4 Unearned Revenue	1,585,000.00	-
6.5 Accrued fee payment	2,135,500.48	1,901,986.59
6.6 Accrued hire expenses	-	2,150.00
6.7 Accrued Staff seminar and training expenses	-	27,500.00
6.8 Accrued fee charge	1,175.00	2,190.00
6.9 Accrued research text	2,149,775.00	2,244,775.00
6.10 Accrued TU Subsidy	33,546,793.29	15,853,812.17
6.11 Other expenses	43,362.16	19,215.00
<b>Total</b>	<b>39,627,153.10</b>	<b>21,788,149.07</b>

**7 CAPITAL FUNDS**

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
7.1 Fund from sponsored by TU	100,000.00	100,000.00
7.2 Fund from research fund	1,015,070.00	1,015,070.00
<b>Total</b>	<b>1,115,070.00</b>	<b>1,115,070.00</b>

**8 ACCUMULATED REVENUES OVER EXPENSES**

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
Beginning accumulated revenues over expenses	185,978,719.64	177,733,195.97
<b>Add</b> Adjustment last year	(4,385,181.22)	(5,246,102.99)
	181,593,538.42	172,487,092.98
<b>Add</b> Net revenues over expenses	12,009,428.10	13,491,626.66
<b>Ending accumulated revenues over expenses</b>	<b>193,602,966.52</b>	<b>185,978,719.64</b>

**THAMMASAT UNIVERSITY RESEARCH AND CONSULTANCY INSTITUTE**  
**NOTES TO FINANCIAL STATEMENTS (Continued)**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2019**

**9 OPERATING EXPENSES**

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
9.1 Salary expenses	6,290,728.08	5,767,831.19
9.2 Administrative for director	600,000.00	600,000.00
9.3 Position allowance	266,000.00	230,800.00
9.4 Audit fee	88,000.00	80,000.00
9.5 Bonus for director	794,100.00	761,250.00
9.6 Pre-research proposal expenses	11,364.00	22,585.00
9.7 Other charge expenses	334,644.00	332,237.20
9.8 Staff seminar and training expenses	135,603.00	314,064.00
9.9 Welfares	369,461.51	373,282.20
9.10 TU Subsidy	77,692,981.12	73,308,746.55
9.11 Souvenir expenses	135,409.90	301,210.96
9.12 Meeting expenses	154,300.00	111,000.00
9.13 Hire expenses	798,616.67	376,001.35
9.14 TU-RAC seminar expenses	80,100.00	404,073.00
9.15 Annual report fee	415,950.00	256,800.00
9.16 Bonus expenses	2,177,309.50	2,236,480.50
9.17 ACF sponsor	5,593,465.11	2,628,788.24
9.18 Provident fund Susidy	4,872,429.37	2,824,521.01
9.19 Office supplies expenses	281,581.73	255,670.85
9.20 Utilities expenses	48,870.31	73,290.56
9.21 Transportation expenses	815,802.25	717,475.50
9.22 Business travelling oversea	1,149,293.43	685,865.45
9.23 Researcher's day expenses	181,300.00	146,244.00
9.24 Cleaning expenses	121,503.17	128,263.72
9.25 Project Subsidy	-	1,200,000.00
9.26 Other expenses	463,427.36	474,716.62
<b>Total</b>	<b>103,872,240.51</b>	<b>94,611,197.90</b>



# Independent Auditor's Report

To **the Board of Director of Asset Compensation Fund of Thammasat University Research and Consultancy Institute**

## Opinion

I have audited the accompanying financial statements of **Asset Compensation Fund of Thammasat University Research and Consultancy Institute (ASS-RAC Fund)** which comprise the statement of financial position as at September 30, 2019 the related statement of revenues and expenditures and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

In my opinion, the aforementioned financial statements present fairly, in all material respects, the financial position of **Asset Compensation Fund of Thammasat University Research and Consultancy Institute** as at September 30, 2019, and the revenues and expenditures for the year then ended in accordance with Financial Reporting Standards for Non-Publicly Accountable Entities.

## Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the ASS-RAC Fund in accordance with the Federation of Accounting Professions under the Royal Patronage of his Majesty the King's Code of Ethics for Professional Accountants together with the ethical requirements that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

## Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Thai Financial Reporting Standards for Non-Publicly Accountable Entities, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the ASS-RAC Fund's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the ASS-RAC Fund to cease operations, or has no realistic alternative but to do so.

## Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

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As part of an audit in accordance with Standards on Auditing, I exercise professional judgment and maintain professional skepticism throughout the audit. I also :

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the ASS-RAC Fund's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ASS-RAC Fund's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the ASS-RAC Fund to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

*Panarat Panmanee*

(Mrs. Panarat Panmanee)  
Certified Public Accountant (Thailand)  
Registration No. 2870

17 Soi 7 Seri 8, Suan Luang, Bangkok.  
October 18, 2019

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY  
RESEARCH AND CONSULTANCY INSTITUTE  
STATEMENT OF FINANCIAL POSITION  
AS AT SEPTEMBER 30, 2019**

(Unit : Baht)

	Note	2019	2018
<b>ASSETS</b>			
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	3	23,311,293.51	19,962,048.25
<b>Total Current Assets</b>		<b>23,311,293.51</b>	<b>19,962,048.25</b>
<b>NON-CURRENT ASSETS</b>			
Building improvement and equipment-net	4	5,956,278.78	5,807,849.48
<b>Total Non-Current Assets</b>		<b>5,956,278.78</b>	<b>5,807,849.48</b>
<b>TOTAL ASSETS</b>		<b>29,267,572.29</b>	<b>25,769,897.73</b>

*The accompanying notes are an integral part of these financial statements.*

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY**  
**RESEARCH AND CONSULTANCY INSTITUTE**  
**STATEMENT OF FINANCIAL POSITION (Continued)**  
**AS AT SEPTEMBER 30, 2019**

*(Unit : Baht)*

	Note	2019	2018
<b>LIABILITIES AND FUNDS</b>			
<b>CURRENT LIABILITIES</b>			
Accrued system development expenses		509,800.00	2,132,368.00
Accrued expenses	5	659,637.00	106,732.50
<b>Total Current Liabilities</b>		<b>1,169,437.00</b>	<b>2,239,100.50</b>
<b>TOTAL LIABILITIES</b>		<b>1,169,437.00</b>	<b>2,239,100.50</b>
<b>FUND</b>			
Capital fund		1,021,701.88	1,021,701.88
Donated fund		757,260.46	757,260.46
Accumulated revenues over expenses	6	26,319,172.95	21,751,834.89
<b>Total fund</b>		<b>28,098,135.29</b>	<b>23,530,797.23</b>
<b>TOTAL LIABILITIES AND FUND</b>		<b>29,267,572.29</b>	<b>25,769,897.73</b>

*The accompanying notes are an integral part of these financial statements.*

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY  
RESEARCH AND CONSULTANCY INSTITUTE  
STATEMENTS OF REVENUES AND EXPENSES  
FOR THE YEAR ENDED SEPTEMBER 30, 2019**

(Unit : Baht)

	Note	2019	2018
<b>REVENUES</b>			
TU-RAC Subsidy		5,593,465.11	2,628,788.24
Other income		27,301.96	26,024.49
<b>Total revenues</b>		<b>5,620,767.07</b>	<b>2,654,812.73</b>
<b>EXPENSES</b>			
Operating expenses	7	1,070,423.54	734,144.44
<b>Total expenses</b>		<b>1,070,423.54</b>	<b>734,144.44</b>
<b>NET REVENUES OVER EXPENSES</b>		<b>4,550,343.53</b>	<b>1,920,668.29</b>

*The accompanying notes are an integral part of these financial statements.*

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY  
RESEARCH AND CONSULTANCY INSTITUTE  
CASH FLOWS STATEMENTS  
FOR THE YEAR ENDED SEPTEMBER 30, 2019**

*(Unit : Baht)*

	2019	2018
<b>Cash Flows From Operating Activities</b>		
Net revenues over expenses	4,550,343.53	1,920,668.29
<b>Adjustment cash received (used) from operating activities</b>		
Depreciation - building	73,589.20	14,778.00
Depreciation - equipment	843,280.05	545,786.42
Depreciation - office equipment	9,422.79	13,365.24
Increase (Decrease) current liabilities	(1,069,663.50)	1,193,914.00
<b>Net cash from operating activities</b>	<b>4,406,972.07</b>	<b>3,688,511.95</b>
<b>Cash Flows From Investing Activities</b>		
Purchase office supplies	(546,342.00)	(1,910,289.00)
(Increase) Decrease work in process	(505,530.84)	(1,989,490.00)
Purchase office equipment	(5,853.97)	(16,582.00)
Building renovation	-	(74,525.50)
<b>Net cash used in investing activities</b>	<b>(1,057,726.81)</b>	<b>(3,990,886.50)</b>
<b>Net Cash and cash equivalents Increase (Decrease)</b>	<b>3,349,245.26</b>	<b>(302,374.55)</b>
<b>Cash and cash equivalents At The Beginning Of The Period</b>	<b>19,962,048.25</b>	<b>20,264,422.80</b>
<b>Cash and cash equivalents At The Ending Of The Period</b>	<b>23,311,293.51</b>	<b>19,962,048.25</b>

*The accompanying notes are an integral part of these financial statements.*

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY  
RESEARCH AND CONSULTANCY INSTITUTE  
NOTES TO FINANCIAL STATEMENTS  
FOR THE YEAR ENDED SEPTEMBER 30, 2018**

## 1 GENERAL INFORMATION

The ACF TU-RAC capital fund, have purpose to maintenance, renovate or repair the ACF TU-RAC's building and equipments. The funds, include its interest, are generally used for all the Fund's purposes in order to accomplish the The ACF TU-RAC'S mission.

## 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICES

### 2.1 The Basis of Financial Statement Preparation

- In order to prepare the financial statements to comply with generally accepted accounting standards, The ACF TU-RAC capital fund's management had to make some estimated and suppositions which may have an effect on the amount shown for revenues, expenses, assets and liabilities and also on the disclosures concerning assets and contingent liabilities, therefore the actual result may differ from the estimated amount.
- The financial statements have been prepared on a historical cost basis except where otherwise disclosed in the accounting policies.
- For the convenience of the user, an English translation of the financial statements has been prepared from the statutory financial statements that are issued in Thai.

### 2.2 Revenue and Expenses

Revenue and expenses are recogized on accrual basis.

### 2.3 Cash and Cash equivalent items

Cash and cash equivalent items include bank deposit in type of saving, current and not exceeding three-month fixed deposit with no guarantee obligation.

### 2.4 Building Improvement and Equipment and Depreciation

- Building Improvement, Equipments are record at cost on date the transaction occur after deducting accumulated depreciation. Deprecations are calculated on a straight line method based on their approximate useful life as follows :

Building Improvement	10	Year
Office Equipment	5	Year
Equipment	5	Year

- Gains and losses on disposals are determined by comparing proceeds with the carrying amount and are included in operating profit.
  - Expenditure incurred in addition, renewal or betterment, which results in a substantial increase in an asset's current replacement value, is capitalized. Repair and maintenance costs are recognized as an expense when incurred. Expenditure incurred in addition, renewal or betterment, which results in a substantial increase in an asset's current replacement value, is capitalized. Repair and maintenance costs are recognized as an expense when incurred.
-

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY  
RESEARCH AND CONSULTANCY INSTITUTE  
NOTES TO FINANCIAL STATEMENTS (Continued)  
FOR THE YEAR ENDED SEPTEMBER 30, 2018**

2.5 A provision of liabilities

The ACF TU-RAC capital fund recognized when The ACF TU-RAC capital fund have a present obligation as a result of a past event, it is probable that on outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

**3 CASH AND CASH EQUIVALENT ITEMS**

	<b>2019</b>	<b>2018</b>
		<i>(Unit : Baht)</i>
Bank Deposit		
Saving Account	23,311,293.51	19,962,048.25
<b>Total</b>	<b>23,311,293.51</b>	<b>19,962,048.25</b>

**4 BUILDING IMPROVEMENT AND EQUIPMENT - NET**

	<b>As at 1 Oct 2017</b>	<b>Additions/ Transfer in</b>	<b>Disposals/ Transfer Out</b>	<b>As at 30 Sep 2018</b>
<b>Cost</b>				
Building Improvement	1,226,879.06	538,370.00	-	1,765,249.06
Office Equipment	545,099.14	5,853.97	-	550,953.11
Equipment	6,262,331.13	4,146,342.00	530,880.00	9,877,793.13
Work in process	3,607,490.00	505,530.84	3,607,490.00	505,530.84
<b>Total</b>	<b>11,641,799.33</b>	<b>5,196,096.81</b>	<b>4,138,370.00</b>	<b>12,699,526.14</b>
<b>Accumulated Depreciation</b>				
Building Improvement	(1,124,253.38)	(365,497.59)	-	(1,489,750.97)
Office Equipment	(519,353.11)	(9,422.79)	-	(528,775.90)
Equipment	(4,190,343.36)	(534,377.13)	-	(4,724,720.49)
<b>Total</b>	<b>(5,833,949.85)</b>	<b>(909,297.51)</b>	-	<b>(6,743,247.36)</b>
<b>Net</b>	<b>5,807,849.48</b>			<b>5,956,278.78</b>

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY  
RESEARCH AND CONSULTANCY INSTITUTE  
NOTES TO FINANCIAL STATEMENTS (Continued)  
FOR THE YEAR ENDED SEPTEMBER 30, 2018**

Depreciation for the Year Ending 30 September

2019	909,297.51
2018	573,929.66

**5 ACCRUED EXPENSES**

	2019	2018
	<i>(Unit : Baht)</i>	
Accrued equipment	546,342.00	-
Accrued maintenance system expenses	78,645.00	86,509.50
Accrued maintenance office equipment	32,500.00	5,778.00
Accrued location improvement	-	14,445.00
Accrued Office Equipment	2,150.00	-
<b>Total</b>	<b>659,637.00</b>	<b>106,732.50</b>

**6 ACCUMULATED REVENUES OVER EXPENSES**

	2019	2018
	<i>(Unit : Baht)</i>	
Beginning accumulated revenues over expense	21,751,834.89	19,831,166.60
<b>Add</b> Adjustment last year	16,994.53	-
	21,768,829.42	19,831,166.60
<b>Add</b> Net revenues over expenses	4,550,343.53	1,920,668.29
<b>Ending accumulated revenues over expenses</b>	<b>26,319,172.95</b>	<b>21,751,834.89</b>

**ASSET COMPENSATION FUND OF THAMMASAT UNIVERSITY**  
**RESEARCH AND CONSULTANCY INSTITUTE**  
**NOTES TO FINANCIAL STATEMENTS (Continued)**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2018**

**7 OPERATING EXPENSES**

	<i>(Unit : Baht)</i>	
	<b>2019</b>	<b>2018</b>
7.1 Depreciation - building Improvement	73,589.20	14,778.00
7.2 Depreciation - office equipment	9,422.79	13,365.24
7.3 Depreciation - equipment	843,280.05	545,786.42
7.4 Equipment maintenance expenses	53,754.50	69,371.78
7.5 Maintenance System expenses	-	78,645.00
7.6 System development expenses	-	2,568.00
7.7 Location improvements expenses	9,630.00	9,630.00
7.8 Other expenses	2,150.00	-
<b>Total</b>	<b>1,070,423.54</b>	<b>734,144.44</b>



## Abstract

## Legal

### Rights and Liberties Protection Department

**Year** : 2018

**Title** : The Study of Interesting Court Discretion for Capital Sentences Offenses and Reducing Capital Sentences Offenses and Other Proper Measures

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Professor Narong Jaiham and Associate Professor Dr. Pokpong Srisanit

#### **Abstract :**

This research has two aims: firstly, to study how to increase opportunity of the judge to diverse death penalty in cases of the offences punishment only death and to find out how to reduction of offences with impose death penalty in Thai criminal laws meanwhile introduce proper measures for substitute death sentence if capital punishment has been abolished. Secondly, to find recommendations to amendment the laws for increase opportunity of the judge to diverse death penalty in Capital offences or decrease some of capital offences including the recommendation of proper measures for substitute on death penalty.

Methodology: the research has done in terms of qualitative research by (1) reviewing documentary as follows : textbooks, Thai supreme court decisions, conference reports and report of the National commissions, laws and court interpretation both Thai and Foreign laws. And collection all information to criticized and propose recommendation for reduce or abolish of capital punishment offences in Thai laws.

#### **The results of the research study :**

At present, Thailand has capital punishment 63 offences. 11 offences have fixed by law to death sentence. For recommendation to reduce the death penalty in Thai

criminal offence based on the International Covenant of Civil and Political Rights convention section 6 to allow death penalty only the most serious crimes eg. murder. The others which make result of death to the others person should be imposed only life imprisonment, And abolish of death penalty in the Code of Military and drug offences and propose only life imprisonment.

However, for protection of safety in the society, it should be proposed the period of safety before parole or imposing safety measures after release by providing electronic monitoring to restrict the defendant for a period as the court decision in the way of France and England experience. Moreover, this should be imposed legal measures to prevent the miscarriage of justice and raising public awareness of human rights in impact of capital punishment The research proposes the first step for reduce capital punishment in the way of aboved mentioned and the second step abolish all of death penalty out of Thai penal laws by abolishment of section 18 (1) in Penal Code.

**Keywords** : Death Penalty, Most Serious crime, Life imprisonment, abolishment of Death penalty

## Planning

### Department of Industrial Promotion

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**Year** : 2018

**Title** : Industrial Strategic Planning for Regional Development

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Kaewta Rohitratana

#### Abstract :

The project is a project that deals with urban and economic development strategies. According to the economic development plan No. 12 and the development of personnel in line with the role of the Department of Industrial Promotion. With purpose to develop a strategy and action plan for regional industrial development all sectors can be guided in the same direction. And to develop the personnel of the Ministry of Industry. In to prepare a strategic plan and action plan, and to set indicators for the success of the project. The target audience 1.) Executives and officials involved in the preparation and implementation of regional industrial development strategies and action plans of the Ministry of Industry. Both in the central and regional. 2.) Industrial development agencies. Both in the central and regional 6 sectors.

The conference presented the results of the study to synthesize and summarize the results into two parts: Part 1 Is the development strategy in the period of the National Economic and Social Development Plan No. 12, Part 2 It is a strategic information and industry development project that should be implemented in each region in 6 sectors.

The result of the project is 20 agencies involved in industrial development can take a strategy and action plan for regional industrial development throughout the proposed project it is used in planning the same project in the same direction. And the training personnel can be used Knowledge transfer to develop a regional industrial development plan can be linked.

## Office of the Permanent Secretary, Ministry of Justice

**Year** : 2018

**Title** : A Curriculum Development Project for Psychologists and Social Workers' Training in accordance with the Criminal Procedure Code (Examination of Child Witness)

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Professor Rapeepan Kumhom

### Abstract :

A Curriculum Development Project for Psychologists and Social Workers' Training in accordance with the Criminal Procedure Code (Examination of Child Witness) is a collaboration project between Ministry of Justice, Faculty of Social Administration, Thammasat University, Thailand Association of Social Workers (TASW) and Social Workers Professions Council (SWPC). The Process of the curriculum consists of participation of the multi-disciplinary team: Psychologists, Social Workers, Lawyers and many official participants in accordance with the Criminal Procedure Code (Examination of Child Witness). They worked together by several focus groups and interview method.

The objectives of the curriculum: 1. Enhancing knowledge and understanding of the Criminal Procedure Code (Examination of Child Witness) 2. Enhancing the important roles of Psychologists and Social Workers with the Criminal Procedure Code (Examination of Child Witness) 3. Enhancing the attitudes and skills of official participants in working with children in criminal justice 4. Enhancing networks and involvement between Psychologists and Social Workers in training, and officials.

Contents consist of 4 sections, 18 topics for 60 hours: Knowledge of Laws and the procedures, Psychology and Social Work Practice, Child Abuse and Neglect, and other related subject matter.

## King Prajadhipok's Institute

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**Year** : 2018

**Title** : Peace Index

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Dr. Kiatanantha Lounkaew

### Abstract :

The aim of this study is to design and collect data related to the achievement of Sustainable Development Goal 16, especially indicator 16.1.3 Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months; indicator 16.1.4 Proportion of population that feel safe walking alone around the area they live; and indicator 16.3.1 Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms.

Based in international review of literature on the topic from Germany, Canada, Japan, South Korea, Australia, Singapore, China, Malaysia, EU and countries in South Africa, it was found that data used to assess the progress of these indicators are collected via field survey. This is because of

the nature of the issue. Only those who are willing to report the incidence would go to public offices to do so. A great many of them did not make a report. Thus data from official sources tend to underestimate the true nature of the issue. In addition, different offices use different coding for the same data and data tend to be overlapped.

Another critical issue for Thailand is that, the country does not have a clear target value for these three indicators. Thus, the research team had to develop statistical models to calculate appropriate values of indicators, taking into account international differences in developmental status. Based on these models, it was found that Thailand has already achieved indicator 16.1.3 and 16.1.4; indicator 16.3.1, however, was far below the target.

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## Industrial Estate Authority of Thailand

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**Year** : 2018

**Title** : The Study of Job Satisfaction and Engagement of IEAT Officers in 2018

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Teera Sindaecharak

### **Abstract :**

This research project aims to survey job satisfaction and organizational commitment of employees of Industrial Estate Authority of Thailand (IEAT) in 2018 (since 2014). The advantages are to collect opinions of employees to develop and improve IEAT more effectively. This survey is conducted by online survey with Google Form (samples = 515 employees or 87.73% from 587 employees).

We founded that employees had much satisfaction of their job (especially, networking with average 4.40 score). Addition, they had much commitment with IEAT (especially, strive and stay IEAT with average 4.47 score). We had suggested 1) they need information both clear and coverage and 2) they need the activities to let them understand and clear in their career path.

## Monitoring and Evaluation

### Utokapat Foundation under Royal Patronage of H.M. the King

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**Year** : 2018

**Title** : Evaluating and Monitoring of community water resource management

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Dr. Anyanitha Distanont

#### Abstract :

The objective of this project is to monitor and evaluate the community water resource management of 7 communities in 4 provinces in the south of Thailand, including 1) ) Klong-yun, Suratthani Province 2) Lee-led, Suratthani Province, 3) Tungson, Nakhon Si Thammarat Province

4) Ban-Kuan, Yala Province, 5) Piyamith 3, Yala Province, 6) Tha-Dan Pattani Province, and 7) Pakaharung, Pattani Province. This project is a collaboration project between Hydro and Agro Informatics Institute and Thammasat University.

## Provincial Waterworks Authority

**Year** : 2018

**Title** : Survey of Satisfactions of Provincial Waterworks Authority Customers

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Dr. Anan Pawasutipaisit

### Abstract :

Customer Satisfaction Survey of Provincial Waterworks Authority (PWA) for the fiscal year 2018 is a project for listening to opinions, and building relationships with current customers and those who are expected to be PWA customers in the future. Survey issues are satisfaction, dissatisfaction, wants, expectations, customer loyalty, customer attitudes towards products, services, image and social responsibility of the PWA. The study found that the overall customer satisfaction score is 4.048 points (or 80.96%) where the factors that created the highest satisfaction for the customers were satisfaction with service payment and service process (4.283 points), and satisfaction of employees in the overall picture (4.209 points). In terms of want, customers want the PWA to respond to 1. water

quality (32.28%) 2. after-sales service (24.87%), and 3. water supply volume (15.51%). In terms of expectation, customers expect the PWA to provide clean water without sediment. As for the amount of water supply, it is expected that the water pressure will be increased, and water will flow continuously without the need for a water pump. In terms of the service of the staff, customers expected the staff to be cheerful, and speak politely. Customers expect PWA to improve the cleanliness of the buildings, and expect fast payment service from the PWA staff. For the after-sales service, customers expect the staff to have good interpersonal skill and service-minded, and expect accuracy and clarity of information.

## The Government Public Relations Department

**Year** : 2018

**Title** : Evaluation of 2018 public relation programs for alien labourers

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Monaiphol Ronavej

### Abstract :

The assessment of 2018 migrant worker publicity project is a survey research. Data are collected, using the questionnaire. The population consists of 1,114 samples, divided in two groups: main and subsidiary. The main target group consists of 187 business operators and 543 migrant workers (Myanmar, Lao, and Cambodian), while the other subsidiary group comprises 316 people aged between 26 and 50 years and 194 people older than 50 years. Data were collected during May and June 2018.

The effectiveness of the project is assessed in five areas. The finding reveals that it has met the criteria in four areas: 1) understanding of the information about migrant workers at 75.10%, 2) confidence in such information at 76.78%, 3) application of the information at 72.45%, and 4) participation in the introduction of foreign migrant workers to the regular employment system at 68.90%. The unsuccessful area is in the exposure to the information on migrant workers at 75.27%. Nevertheless, despite the result, the assessment shows a higher performance compared to the previous year.

With regard to the exposure to the information about migrant workers, it is found that the issue to which the target groups have the highest exposure is registration of migrant workers, followed by problems facing illegal migrant workers, impacts from problems relating to migrant workers and human trafficking, work undertaken by the public sector to solve problems about migrant workers and human trafficking respectively.

A consideration on the understanding about the information on migrant workers shows that the issue that the target groups have the most understanding about is that migrant worker registration can be made at Ministry of Labor's One Stop Service Center. This is followed by the publicity whereby migrant workers are encouraged to register and seek labor protection, an attempt by the public sector to solve problems relating to migrant workers and human trafficking. Other issues that follow respectively are: migrant workers in Thailand are allowed to do only certain kinds of jobs, migrant workers who change jobs without telling their employees or work outside the registration areas are considered illegal, migrant workers who take away jobs normally done by Thai workers and those who steal can be considered threats to national security, that if migrant workers lay down tools or go on strike such action may affect Thailand's overall economy, and there is a growing regional phenomenon of organized begging, prostitution, and child labor, a phenomenon viewed as part of human trafficking.

The finding on the confidence in the information about migrant workers yields that the target samples have the most confidence in the information from the public sector with regard to its accuracy, followed by speed and objectivity respectively.

As to the application of the information about migrant workers, it is found that the issue most useful to the target groups is how to notify the public sector when they encounter problems concerning migrant workers and

human trafficking. This is followed by attempts to promote migrant workers' quality of life and peaceful coexistence with others in society, promotion of good management practice/system regarding migrant workers, ability to advise others on general guidelines on migrant workers, monitoring of problems relating to migrant works and human trafficking, and ability to advise others about preliminary rules and regulations regarding migrant workers respectively.

A study on the participation in the introduction of migrant workers to the regular employment system reveals that the target groups show the highest participation in keeping up with the information about migrant workers through various media, followed by encouraging others to participate in migrant-worker-related activities organized by various agencies and participating in the events themselves respectively.

## The Metropolitan Electricity Authority

**Year** : 2018

**Title** : Metropolitan Electricity Authority ICT User Needs and Satisfaction Survey in 2018

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Jirapon Sunkpho

### Abstract :

In order to respond with user expectation from service of information technology and communication system, Metropolitan Electricity Authority, In 2018, this research survey from internal, and external user by quantitative data collection. Besides, research collected a qualitative data from regulatory policy administrator, Metropolitan Electricity Authority administrator, supplier and partnership who collaborate with Metropolitan Electricity Authority. Research founded that all key stakeholder is satisfied at 74.74% which is a high satisfaction level. External user is satisfied at 79.97% which is a high satisfaction level. Internal user is satisfied at 69.61 which is a medium satisfaction level. This research surveys the user's attitude for Metropolitan Electricity Authority's image which provided an information technology and communication system. Research founded that in 2018, external user has an attitude's level at 73.73% which reflect a high attitude level. On the other hand, internal user has an attitude's level at 72.12 which reflect a high attitude level.

In part of qualitative data analysis founded that regulatory policy administrator require that Metropolitan Electricity Authority should provide a data analysis which support a decision making, and data integration between organization. Metropolitan Electricity Authority administrator require that Metropolitan Electricity Authority should bring an information technology to use for integrate a work

procedure and data integration. Besides, Metropolitan Electricity Authority should bring new technology in order to respond with people's needs. Research got a direction from supplier and partnership that Metropolitan Electricity Authority should provide a digital channel in order to facilitate a collaboration between supplier, and partnership with Metropolitan Electricity Authority.

This research suggested that 1. Metropolitan Electricity Authority should increase a public relation efficiency in order to present an information technology and communication system which provided from Metropolitan Electricity Authority to people. 2. Metropolitan Electricity Authority should modify a website and enterprise resource planning. 3. Metropolitan Electricity Authority should modify a survey project of user expectation and satisfaction for information technology and communication system by design thinking. 4. Metropolitan Electricity Authority should bring the Metropolitan Electricity Authority application into application that people use in daily life in order to increase a using volume. 5. Metropolitan Electricity Authority should employ AI in order to quick respond with problem. 6. Metropolitan Electricity Authority should improve an image by bring new technology into organization. 7. Metropolitan Electricity Authority should enhance a business analytics employment.

## Survey

### Electricity Generating Authority of Thailand (EGAT)

**Year** : 2018

**Title** : GDPP Customer and Stakeholder Satisfaction Survey

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Supachai Srisuchart

#### Abstract :

The Deputy Governor in Policy and Planning Bureau Of The Electricity Generating Authority of Thailand (EGAT) or “DGPP” in cooperation with Thammasat University Research and Consultancy Institute or “TU-RAC” implemented the satisfaction survey project in 2018 that objective approached to listening the opinion and feedback from their internal customers, external customers and stakeholders.

This Project separated in 2 Parts. Part I was data collective and analytic program. Part II was benchmarking program with other agencies or institutes that implement the similar action. Finally, This valued Information applied in the service improvement plan to enhance the operation of DGPP to achieve goals under EGAT and DGPP strategic plan 2018-2026.

# Information Technology

## Thai Public Broadcasting Service

**Year** : 2018

**Title** : ICT Master plan development for office of the Technology Promotion Association (Thailand-Japan) : TPA

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Prapaipit Muthitacharoen

### Abstract :

The project of Master Plan Information Technology and Communication for the 3-year period (2018-2020) of the The Thai Public Broadcasting Service, or TPBS was prepared for the TPBS, has a framework for leveraging information technology to maximize efficiency in developing infrastructure, innovation, personnel information, and public service delivery to drive enterprise operations. To be consistent with the organization. And in the same direction, according to the Digital Economy Plan and the Digital Government Development Plan of Thailand (2016-2018) as well as strategies in service. The purpose is to integrate technology to improve quality. And create engagement in service. There must be an action plan. that covers all mission.

Information Technology and Communication Master Plan for the 3-year period (2018 - 2020) includes the analysis, vision, mission, strategy, plan, with the structure of the master plan as follows:

- Conceptual Framework and Principles and Analysis of Current Status in Information Technology and Communication include:

- (1) Analysis of national policies; and development plans with regards to the TPBS

- (2) A survey of the needs of all levels of TPBS and the results of internal and external factors. Inhouse environment, external strengths, weaknesses, threats and opportunities, based on the principles of market analysis, SWOT analysis and TOWS Analysis.

- Mission, objectives and strategies of the TPBS include:

Service News Quality and standard entertainment. To spread through all media according to The public benefit and value is important. The goal is to make the TPBS, a learning tool for change (by 2018) and a learning area for everyone (by 2021). The “difference on sustainability” has four key strategic issues that are (1) Access to recipients (2) Creating a learning society (3) To have a social partnership for sustainability and (4) to make TPBS a brand in the mind of the people.

- TPBS Strategic Information Technology and Communication has 6 tactics that are

- (1) To monitor and prepare the TPBS Digital Development Plan in accordance with the mission. IT & Business Alignment

- (2) Develop a database of TPBS CSR and media knowledge with the use of large data management and Big Data & Analytics to support proactive work.

- (3) Create innovations to utilize the channels of media presentation through a technology platform that users and the public are familiar with Omni-channel customer experience Platform

- (4) Use IT to make clear the monitoring of work and performance of the organization. (Organization Performance Visibility)

(5) Integrate IT Infrastructure to support the maintenance of the information system and support the relevant corporate policy. And

(6) The development of technological and digital potential and capabilities for the staff.

- Strategic Plan/Program/Activities The Department of Tourism consists of 19 programs, with a total of 88 projects.

- The Plan consists of 19 groups of project with a total of 88 projects for the next 4 years during 2018-2021 as follows:-

(1) 16 projects will be implemented in the year 2018

(2) 32 projects will be implemented in the year 2019

(3) 23 projects will be implemented in the year 2020

(4) 17 projects will be implemented in the year 2021

There are also suggestions to ensure the management monitoring and evaluation of Information Technology and Communications development in terms of outputs and outcomes for each plan. Including analysis of the problems involved in using the system and programs in which has prepared in the recommendations for further policy implementation.

**Keywords :** TPBS Master Plan, Vision, Mission, Strategy, Plan

# Management and Development Institutional

## National Innovation Agency (Public Organization) (NIA)

**Year** : 2018

**Title** : Designing Social Impact Assessment System for Social Innovation Project

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Lecturer Weeraboon Weeraboon

### Abstract :

The objectives of this study for National Innovation Agency (Public Organization) (NIA) are threefold: 1) To design an evaluation system of social impact assessment (SIA) system and indicators for innovation projects funded by NIA, 2) To disseminate knowledges and understandings of social impact assessment, and data collecting methods to identify indicators of social outcomes for social innovation projects supported by NIA, and 3) To provide social impact assessment concept to NIA staff and partners to apply in the process of funding, monitoring, improving, and reporting social impact from projects supported by NIA.

The research team conducted review of indicators in previous research studies, including the following international and national standards that pertain to 9 social issues that NIA is supporting: Sustainable Development Goals (SDGs), Impact Reporting & Investment Standards (IRIS) database, National Economic and Social Development Plan, as well as pertinent industry standards such as organic certified standards and Community-Based Tourism (CBT) criteria.

The research results from above sources have been selected and adapted to fit with project-level social impact assessment in 9 NIA-supported issues:

- 1) Environmental stewardship
- 2) Food, water, and energy nexus
- 3) Public service and education
- 4) Finance, employment, and social welfare
- 5) Sustainable agriculture
- 6) Urbanization
- 7) Health
- 8) Tourism & culture
- 9) Disaster preparedness

In addition to social impact indicators for the above issues, the research team also suggested a list of project management indicators for NIA to better monitor and evaluate grantee's performance, especially for projects from which social impact would naturally take a considerable time to emerge.

## Department of Business Development

**Year** : 2018

**Title** : ISO 9001 development for logistics business under upgrading thai logistics project fiscal year 2018

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Nopbhorn Leeprechanon

### Abstract :

Thammasat university Research and consultancy institute (TU-RAC) of Thammasat university has been assigned by the department of business development, ministry of commerce to implement “Developing logistics service provider business to achieve ISO 9001”, a project under upgrading quality of the business administration and creation of marketing opportunity for logistics service provider business 2018”.

The objectives of this project are to support Thai logistics service provider business to achieve ISO 9001 quality management systems standard; to increase credibility and acceptance from domestics and international customers of Thai logistics service provider business; and to increase international competitiveness of Thai logistics service provider business.

1. The project consists of the following activities: The project publicity and enrolment of logistics service provider businesses, which intend to develop their organization management systems using ISO 9001:2015.

2. Screening the logistics service provider businesses for participating in “Developing logistics service provider business to achieve ISO 9001:2015”. Selection criteria of the logistics service provider businesses were established by consultant. 120 logistics service provider businesses passed the selection criteria.

3. Upgrading logistics service provider business to achieve ISO 9001:2015 by arranging various activities as follow;

- 3.1 Seminar and workshop in ISO 9001 Quality Management System-Requirements (1 day), internal auditing (1 day), applying ISO 9001 by consulting and advising (3 days)
- 3.2 Conduct consulting and advising activities at each logistics service provider businesses
- 3.3 Conducting study trip at the best practice logistics service provider in order to providing good practices of management system standard for other logistic providers.

4. Provision of certification audit in each logistics service provider against ISO 9001 standard so that at least 105 logistics service providers successfully achieve ISO 9001 certificates.

5. Dissemination and publicity the event of the quality management system award to logistics provider businesses, which passed the selection criteria through various media such as Facebook, Line and project’s website.

Compiling problems, obstacles and suggestion while conducting the project in order to provide this information to participating logistics service provider businesses, which targeting to achieve ISO 9001:2015 quality management system standard.

## King Prajadhipok's Institute

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**Year** : 2018

**Title** : Budget Analysis And Recommendations For Budgetary Year 2019

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Pawin Siriprapanukul

### Abstract :

Budget voting by the Parliament is an important step in the annual budget preparation process to ensure the soundness of fiscal policy of the government. However, the information presented to the country's administrative power usually comes close to the date of budget voting, especially in the first reading. This report intends to support the parliament in this first reading of the budget voting process.

The analysis presented in this report considers the suitability of the budget to macroeconomic condition, the effect to fiscal sustainability, and the capability to achieve strategic objectives of the country. Two economic models are developed to analyze the 2019 fiscal budget and some recommendations are proposed. We found that the 2019 budget is relatively conservative, and the government might be able to increase some expenditures to help achieve some strategic objectives in the future. The expenditure increase will send limited effect to long-term fiscal sustainability.

## Industrial Estate Authority of Thailand

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**Year** : 2018

**Title** : The Study of Job Satisfaction and Engagement of IEAT Officers in 2018

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Teera Sindecharak

### **Abstract :**

This research project aims to survey job satisfaction and organizational commitment of employees of Industrial Estate Authority of Thailand (IEAT) in 2018 (since 2014). The advantages are to collect opinions of employees to develop and improve IEAT more effectively. This survey is conducted by online survey with Google Form (samples = 515 employees or 87.73% from 587 employees).

We founded that employees had much satisfaction of their job (especially, networking with average 4.40 score). Addition, they had much commitment with IEAT (especially, strive and stay IEAT withy average 4.47 score). We had suggested 1) they need information both clear and coverage and 2) they need the activities to let them understand and clear in their career path.

## Science, Energy, Environment

### Thailand Greenhouse Gas Management Organization (Public Organization)

**Year** : 2018

**Title** : The Use of Remote Sensing for Enhancing the Provincial Greenhouse Gases from Land Use Change

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Dr. Wasinee Wannasiri

#### Abstract :

The objectives of this research were to study and develop a system for tracking land use and land use change by using remote sensing technology. Including to estimate the greenhouse gas emissions from land use change and land use change in all eight provinces, with composed of Bangkok, Nonthaburi, Nan, Phuket, Songkhla, Samut Prakarn, Saraburi and Udon Thani, were assessed. The main types of land use are Forest, Agriculture, Grassland, Wetland, Settlement and Other land. There are 4 subgroups of rice, rubber, oil palm in agriculture land. The monitoring of 4 years Land use and Land use change assessed by LANDSAT 8 satellite imagery interpretation. The inventory of greenhouse gas emissions and reduction using the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) and 2006 IPCC Guidelines for National Greenhouse Gas Inventory (2006 IPCC) methodology. The results of the study are summarized as follows:

Nan Province is characterized by high mountainous terrain. The area is mostly forested resulting in a decrease

in greenhouse gas emissions of 1,792,385, 1,978,363 and 1,593,093 tCO<sub>2</sub> in 2015, 2016 and 2017 respectively. Samut Prakan has greenhouse gas emissions increase with 41,801, 57,786 and 66,898 tCO<sub>2</sub> emissions in 2015, 2016 and 2017, respectively. Saraburi, has continuously increased in residential and building. Most of the changes come from forest areas. As a result, Saraburi has greenhouse gas emissions of 1,493,025, 2,399,388 and 2,971,070 tCO<sub>2</sub> in 2015, 2016 and 2017, respectively. Udon Thani is a province with a large area. Most of them are agricultural areas. The province's overall net greenhouse gas emissions are 3,891,560 4,404,972 and 5,057,676 tCO<sub>2</sub> in 2015, 2016 and 2017, respectively. The 80% of Bangkok land is a residential area and buildings. There are green areas, such as parks and small agricultural areas. The net greenhouse gas emissions are 140,128, 261,282 and 97,577 tCO<sub>2</sub> in 2013, 2016 and 2017, respectively. Nonthaburi has a relatively high urban and building expansion due to the extension of the BTS and main roads. Most of the area is rice fields

and orchards. There is a high probability of greenhouse gas emissions by releasing 23,754, 94,697 and 142,069 tCO<sub>2</sub> in 2014, 2016 and 2017 respectively. The nature of Phuket is island and covered with forest. As a result, Phuket is the province where greenhouse gas reductions are kept at 31,788, 67,829 and 91,766 tCO<sub>2</sub> in 2014,

2016 and 2017, respectively. Songkhla has a large of rubber plantation area and rich of forest. Songkhla Province has high greenhouse gas reduction of 4,030,572, 3,679,593 and 3,269,215 tCO<sub>2</sub> in 2015, 2016 and 2017, respectively.

## Plastics Institute of Thailand

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**Year** : 2018

**Title** : Development of bacterial cellulose and poly hydro-gel composite for personal care material

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Sarute Ummartyotin

### Abstract :

Freeze-dried bacterial cellulose and polyvinyl alcohol were successfully prepared. The weight ratios of polyvinyl alcohol to bacterial cellulose were set at 3:1, 5:1 and 10:1. With bacterial cellulose present in the polyvinyl alcohol matrix, H-bonds formed along the cross-linked hydrogel network. The freeze-dried hydrogel presented good compatibility. The hydrogel was thermally stable up to 200°C. Scanning electron microscopy showed that the hydrogel presented an interconnected network containing

various pore sizes. Preliminary experiments on the swelling behavior of the hydrogel were done in DI water, an NaCl solution and a PBS solution. The hydrogel showed good swelling characteristics within 30 min. Importantly, the freeze-dried hydrogel is an excellent candidate for pharmaceutical and cosmetic materials.

**Keywords** : Bacterial cellulose, Freeze dried hydrogel, Poly vinyl alcohol

## Plastics Institute of Thailand

**Year** : 2018

**Title** : Portable Screening Bio-Sensor of Gouty Arthritis for Thai Public Health System

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Chiravoot Pechyen

### Abstract :

This research intent to prepare foamed hot cup and lids from biodegradable poly (lactic acid) (PLA) and poly (butylene succinate) (PBS) blend with cellulose fiber (CF) composites for improve strength and thermal resistance. The effects of adding cellulose on physical, chemical, thermal, and mechanical properties of PLA/PBS/CF were investigated. The foam composites were prepared by twin screw extruder. The results revealed that the viscosity decreased as cellulose fiber adding. The tensile strength, tensile modulus, and

percentage of elongation at break increased when cellulose fiber increased. The crytallinity of foam composites were analyzed by X-Ray Diffraction (XRD) showed higher crytallinity when adding cellulose fiber. The thermal degradation temperature of PLA/PBS/CF composites was measured by Thermal Gravimetric Analysis (TGA) showed higher than PLA. The conclusion of this research, adding cellulose fiber improved mechanical and thermal properties.

## Plastics Institute of Thailand

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**Year** : 2018

**Title** : Production of Solid Biofuel using Rubber Tree Bark for the Replacement of Coal: Implication for Utilization of Waste Natural Rubber for Sustainable Steelmaking Process

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Dr. Somyote Kongkarat

### Abstract :

Thailand is one of the developing countries in south-east Asia, which the main income of the population come from agricultural sectors, such as rice, palm oil, sugarcane and natural rubber. Agricultural wastes are one of a significant problem that come along with the high production rate, which is the challenge problem that need a suitable management method. Natural rubber is one of the major agricultural production in Thailand. It is harvested from the rubber tree in the form of latex, which is a sticky and milky fluid. The latex is collected by making incision on the bark of rubber tree and then the latex flow into the blow hanging below the incision. By making incision, small piece of rubber tree bark (represented by RTB) consisting of two parts: wood and rubber (elastomer), can be obtained. Due to large planting areas of rubber tree in Thailand, high quantities of RTB are generating as an agricultural waste. RTB is a carbon based material and has high potential to

be used as an alternative carbon resource in EAF steelmaking processes. Transformation of RTB into valuable resource could be one of the novels and cost-effective agricultural waste management techniques. This work aims to evaluate the potential for using the agricultural waste (rubber tree bark, RTB) as a carbon resource in steelmaking process by partially blending with coal (RTB/coal). By heat treatment, the residual chars of the blends could be produced, and expected to have different carbon dissolution behaviour compared to the parent coal. The addition of rubber tree bark into coal was found to enhance the dissolution of carbon, and the increasing in rubber tree bark contents in the blends was not found to retard the carbon dissolution behaviour.

**Keywords** : Rubber tree bark, EAF steelmaking, Carbon dissolution

## Plastics Institute of Thailand

**Year** : 2018

**Title** : Fly ash and Biomass ash based Geopolymers with Hempfiber reinforcement

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Benya Cherdhirunkorn

### Abstract :

Fly ash and biomass ash based geopolymers with hemp fiber reinforcement were produced using coal fly ash from Mae moh power plant, Lampang, bagasse ash from biomass power plant, Lopburi and hemp fiber from Tak, as raw materials. The most suitable compositions in this work with high strength was found to be the mixture of the alkali solution, NaOH and  $\text{Na}_2\text{SiO}_3$  with the volume ratio of 1:1 and the liquid/solid fraction was 0.4. The 0 to 100 wt%

bagasse ash was added to the coal flu ash in order to determine the appropriate bagasse ash content. 20 wt% of bagasse ash established the best properties with the highest compressive strength. In addition, the hemp fibers with the length of 1 and 3 mm were added to the mixture at the level of 1 and 2 wt%. The longer and higher content of hemp fiber gave rise to the high fractural strength of geopolymer samples.

## Yala Provincial Industry Office

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**Year** : 2018

**Title** : One Province One Agro-Industrial Product (OPOAI) in 20168 Fiscal year

**City** : Yala

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Parichat Chuenwatanakul

### Abstract :

Khayanprakit Partnership Limited produces the wooden pallets from the timberwood. The consultants have diagnosed the establishment, prepared a future business plan, and gave counsel to increase the production efficiency, according to the plan. These are consisted of 4 measures;

- 1) The measure of monitoring the quantity of raw materials and workloads.
- 2) The measure of measuring the wood index in its process.
- 3) The measure of monitoring the use of firewood, and controlling the stove's temperature.
- 4) Creating a manual of the production control and the plan of an information technology development.

### The results are as follows:

- 1) There is a monitoring of the raw materials and workloads by using the wood index.
  - 2) There are the use of the wood index in a process of sawing wood, to evaluate the efficiency of sawing in order to get more woods. The wood index can be increased by 49.1% and the revenue from wood are increased to 9.48 million baht per year.
  - 3) There is a temperature monitoring system for stoves, using an IoT innovation and IT systems to make the temperature of stoves reaching the standards. The drying efficiency is increased, from 400 pallets to 600 pallets. Pallet-drying time can be decreased, from 4-5 days to 3 days, and the use of firewood is also decreased.
  - 4) There is a manual of the production control and the information technology development plan.
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## Energy Thai Trading Hub Company Limited

**Year** : 2018

**Title** : Carbon Footprint for Organization verification Project Energy Thai Trading Hub Company Limited

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Phairat Usubharatana

### Abstract :

Nowadays, Climate change and Global Warming are regarded as problems which impact on the earth and environment drastically and more and more increasingly. Global Warming is primarily a problem of too much Greenhouse gas emissions from human activities in the atmosphere. Carbon Footprint for Organization is the concept for calculating the amount of Greenhouse gases produced from human activities for the purpose of measuring direct and indirect Greenhouse gases emission. Carbon Footprint for Organization is also a measurement method of Global Warming impacts caused by cooperate operations and gas emissions of your organization is measured in unit of CO<sub>2</sub> equivalent. Through this measurement, the organization could find out the release amount of Greenhouse gases.

THAILAND GREENHOUSE GAS MANAGEMENT ORGANIZATION (PUBLIC ORGANIZATION) is responsible for projects concerning Climate change and Global Warming in Thailand. The organization has developed Thailand CFO

Verification system to assure the consistency between CFO assessment of each organization and the 5 key principles; Relevance, Completeness, Consistency, Accuracy Transparency, including good Data quality management and be in accordance with Carbon Footprint for Organization assessment in Thailand.

### Conclusion

On 12<sup>th</sup> March 2018, Carbon Footprint for Organization assessment of Energy Thai Trading Hub Company Limited has been verified at level of Limited assurance. Moreover, operational Control is selected as an approach for assessment. In conclusion, the result of Carbon Footprint for Organization is **PASS** and accords with the 5 key principles. It also performs good data quality management and be in same line with the concept of Thailand Carbon Footprint for Organization assessment.

## Nawaplastic Industries Company Limited

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**Year** : 2018

**Title** : Verification of Carbon Footprint for Organization (CFO) 2518

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Harpon Phungrassami

### Abstract :

Nowadays, Climate change and Global Warming are regarded as problems which impact on the earth and environment drastically and more and more increasingly. Global Warming is primarily a problem of too much Greenhouse gas emissions from human activities in the atmosphere. Carbon Footprint for Organization is the concept for calculating the amount of Greenhouse gases produced from human activities for the purpose of measuring direct and indirect Greenhouse gases emission. Carbon Footprint for Organization is also a measurement method of Global Warming impacts caused by cooperate operations and gas emissions of your organization is measured in unit of CO<sub>2</sub> equivalent. Through this measurement, the organization could find out the release amount of Greenhouse gases.

THAILAND GREENHOUSE GAS MANAGEMENT ORGANIZATION (PUBLIC ORGANIZATION) is responsible for projects concerning Climate change and Global Warming in Thailand. The organization has developed Thailand CFO

Verification system to assure the consistency between CFO assessment of each organization and the 5 key principles; Relevance, Completeness, Consistency, Accuracy Transparency, including good Data quality management and be in accordance with Carbon Footprint for Organization assessment in Thailand.

### Conclusion

On 31<sup>th</sup> July 2017, Carbon Footprint for Organization assessment of Nawaplastic Industries (Saraburi) Company Limited has been verified at level of Limited assurance. Moreover, operational Control is selected as an approach for assessment. In conclusion, the result of Carbon Footprint for Organization is **PASS** and accords with the 5 key principles. It also performs good data quality management and be in same line with the concept of Thailand Carbon Footprint for Organization assessment.

## Industrial Promotion Center Region 10

**Year** : 2018

**Title** : SMEs Empowerment with IT Moving toward Industry 4.0

**City** : Surat Thani

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Suwan Juntiwarakij

### Abstract :

The Project is aimed to support and champion local SMEs under the supervision of the Industrial Promotion Center Region 10, Surat Thani, a subsidiary of the Department of Industrial Promotion (DIP). Initiated by the Ministry of Industry Thailand, the Project is among the programs and efforts towards modernizing and digitizing indigenous entrepreneurship, equipped with systematic, managerial business tools. Hence, the ultimate goal of the Project is reflected by transcending the participated SMEs toward and beyond the transformative paradigm "Industry 4.0." In this

regard, TU-RAC has successfully implemented the project. For example, 90 SMEs improved their efficiency with IT system, among those were consider to be accelerate IT-adoption among SMEs themselves, and 90 IT paraprofessionals were developed and fed into Thailand's industry. Moreover, the project proved to economically deliver the return of investment ratio (ROI) at 1:2.650 approximately. The achievement was possible thanks to stakeholders' cooperation upon an array of activities.

## Engineering

### Department of Highways

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<b>Year</b>	:	2018
<b>Title</b>	:	The Study of Performance Evaluations of Traffic Movements at a Signalized Intersection Phase 1
<b>City</b>	:	Bangkok
<b>Language</b>	:	Thai
<b>Publisher</b>	:	Thammasat University Research and Consultancy Institute
<b>Researcher</b>	:	Assistant Professor Dr. Winai Raksuntorn

#### Abstract :

This research was studied to provide guidance on how to increase the efficiency of traffic management on intersection network in an urban area in responsible of the Department of Highways. This study found that a Synchronized Vehicle Actuated Signal Control, at five intersections on Prasert-manukit Road, helped increasing the performance of traffic operations on the whole network. This signal control system cut the working hours of the traffic police down from 13 hours to 8 hours (37.7%) and

from 7 hours to 2 hours (71.4%) for weekday and Sunday respectively. The signal control system was also been able to reduce travel times by 1,942 vehicle-hour, 692 vehicle-hour, and 1,905 vehicle-hour for weekday, Saturday, and Sunday respectively. Furthermore, the study also suggested that the break-even point of the project was less than one month with the benefit cost ration of 6.83 and the internal rate of return of 179 percent per year.

## Department of Rural Roads

**Year** : 2018

**Title** : Development of Bridge Model and Structural Evaluation System : phase III

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Kridayuth Chompooming

### Abstract :

A number of large bridge structures under authority of the Department of Rural Roads are aging and have been service under increasing traffic volume and payload for a long period of time. In many circumstances, these bridges are vulnerable to structural deterioration and damages which have direct impacts on serviceability, strength and durability of the bridge structures as well as concerns on public safety and comfort. The Department of Rural Roads has therefore initiated an investigation project to develop the bridge structural model and health monitoring system for damage assessment and structural performance evaluation of the existing bridge structures in the metropolitan and vicinity area of Bangkok. The objectives of the present investigation are as follows.

(1) Investigate structural behaviors of the bridge structures under existing and current operating conditions and structural deficiencies due to damages and deterioration, (2) to develop a FE model for bridge structural analysis and load-carrying capacity evaluation, (3) to develop a bridge health monitoring system for structural evaluation of the existing bridge structures, and (4) to develop bridge maintenance program for the short-, middle- and long-term operation plan. The bridge structures considered in Phase III cover Memorial Bridge, Rama IV Bridge, Mahachedsadabodin Bridge, and Chiang Kang Overchange, Chiangmai. The bridges carried out in Phase II, consisting of Krungthon Bridge, Rama III Bridge, and Rama V Bridge, are also under follow-up monitoring. In the present investigation, a computer program is developed for structural health monitoring and evaluation of the bridge structures.

## Department of Rural Roads

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**Year** : 2018

**Title** : ICT Consultants for Department of Rural Roads (Fiscal Year 2018)

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Taweesak Kijkanjanarat

### Abstract :

Since today, Department of Rural Roads lack of people with knowledges. Expertise in information technology. Therefore, the development of the Hardware, Software, Applications and Databases may not be consistent with the proper standards and value. Consultancy services are essential and required to provide people with knowledges. Expertise to advice and consult in the field of information technology development in various areas including personnel training of the officer at Department of Rural Roads will provide the knowledge and ability to control. Administrative tasks according to the standards and can use it effectively. As well as supporting the creation of knowledge to practitioners of the Organization.

The management of enterprise information and communications technology is a key success factor in the development of information technology within the organization. The advisory board has made an approach to managing information and communications technology of the Organization. Guide the implementation of projects and activities. Information management policies and plans are prepared in both the short and long term. This could be established by a working group to draft policies and

practices, including control and monitoring to ensure compliance with the standards and specifications. The working group team will consist of executives who use design development and external experts who work together. Organizations that future growth can be applied to the management structure, technology and communications using the information technology as the nerves of the organization. However, the applications will affect the operations and personnel other than optimizing or reducing the working processes. The deal will involve information technology, ethics and collective responsibility as the flow of data over the scope of the organization and outside the organization. Follow-up and monitoring work. Corruption or fraud in the network. Terrorism or theft the management will have to track and understand the potential impact of technology on organizations and society. To create a consistent understanding and guaranteed performance to achieve those objectives. Organizations need to establish guidelines for the management of information provided with clear guidelines and monitoring and evaluation. Consultants have operations. The Department of Rural management information on compliance.

## Siam Metal Co.,Ltd.

**Year** : 2018

**Title** : Inspection And Evaluation Of Structural And Function Performance Of Facade System For Kraam And Meakt

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Virote Boonyapinyo

### Abstract :

The purpose of this Performance Test is to verify the design intent of main façade systems to be used in “Kraam” building project. Testing is at Siam Metal Co., Ltd.. The test facility is leased by YHS International Limited as the Façade Contractor. In order to ensure that tests are conducted in compliance to ASTM standards for testing, Thammasat University Research and Consultancy Institute (TU-RAC) is nominated to supervise and evaluate the tests as the Independent Testing Consultant.

The tests were conducted to evaluate water and air tightness and structural performance of the façade specimen in accordance with ASTM standard procedures for testing and also under the similar installation conditions of the actual building façade. The full scale test specimen was constructed in accordance with the approved shop drawings and was tested independently.

Air leakages of specimen overall wall area were less than the allowable values. Therefore, curtain wall passed the criteria of the air infiltration test.

No water leakage was found curtain wall during 900 second test of static and dynamic water penetration and repeat static water penetration. Therefore, the curtain wall passed the criteria of the water penetration test.

In addition, the structural performance test was subjected to pressure of +/-2.0 kPa for curtain wall. The results found that the defections of mullion, transom, and glass of all test specimens under design wind load were less than the allowable values. Therefore, curtain wall passed the criteria of the structural performance test.

Finally, structural safety confirmation test was performed and subjected to the maximum pressure of +/-1.5 times of their design loads corresponding to +/-3.0 kPa for curtain wall. After the test, no permanent damages to panels, fasteners and anchors for curtain wall were observed. Permanent deformations of framing members were not exceed 2% of its clear span. Therefore, the curtain wall passed the proof load test for +/-3.0 kPa.

## EMS Consultants Co., Ltd.

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**Year** : 2018

**Title** : Investigation of the structural design of column, shall walls and foundation of the administration building of Civil Aviation Training Center

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate professor Dr. Sayan Sirimontri

### Abstract :

EMS Consultants Co. Ltd., who designed the administration building of The Civil Aviation Institute, need to change the structural details of column, shear wall and foundation. The changed structural components must be able to resist the previous design load and does not affect the overall construction cost. The company has contacted Thammasat University Research and Consultancy Institute

to investigate the structural calculation of the changed structural component. The Director of the institute assigned Associate Professor Dr. Sayan Sirimontree, chartered civil engineer registration No. 1504 performs the investigation of the building. The results showed that the modified structure able to resist vertical gravity load and horizontal load due to wind and earthquake.

## Industrial Promotion Center Region 9

**Year** : 2018

**Title** : Analysis and development activities of intelligent technology for Machine Monitoring System and digital network in the enterprises, under the project of increasing efficiency and productivity with intelligent technology of Machine Monitoring System, fiscal year 2018

**City** : Chon Buri

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Thira Jearsiripongkul

### Abstract :

Thailand 4.0 is one of important policy of recent Thai government and the application of information technology has applied to increase the capability of manufacturing process. Ministry of Industry has defined ten groups of industry as new engine of growth for both First S-curve group and New S-curve group. Department of Industrial Promotion is the department to support and to develop small and medium enterprises and to drive department funds for SMEs. To achieve Thailand 4.0 “3 Stage Rocket Approach” is a tool used to develop digital technology for manufacturing process. Industrial Promotion Center Region 9 from Department of Industrial Promotion hires Thammasat University Research and Consultancy Institute to analyze and to develop technology and artificial invention to track & trace Machine Monitoring system and Craftsmanship Monitoring system in the establishments. The target groups of this study are small and medium enterprises with legal entity 100 businesses. Especially new engine growth is focused for both First S-curve and New S-curve in total 20 groups and all industrial groups related to provincial strategy. The target groups are in the area of central region being responsible by Industrial Promotion

Center Region 8 (10 provinces) and Industrial Promotion Center Region 9 (8 provinces). The period of inspection and investigation is between September 2561 to March 2562 in total 180 days. In this project there are 126 businesses interested and applied and 100 businesses are selected with the strong criteria including 80 businesses for visualize machine and 20 businesses for visualize craftsmanship. For the inspection and the investigation there are many sensors used in this project to serve the needs and the requirements of the businesses. The examples of those sensors are infrared counter sensor, current transformer sensor, video camera, closed-circuit television, heart-rate sensor, and push-button sensor. All collected data will be transferred to cloud system via Pocket WiFi and in parallel analyzed data will be shown through Web service as real time. The owner or corresponding person could check and assess all inspected activities in the process and could plan effectively to increase the products, to save overtime budget, and to reduce the losses. Finally the overview assessment of this project shows that all 100 business could save the budget around 36.77 million-baht per year based on the proposed activities from consultants.

## Economic, Financial, Industry

### Department of Industrial Promotion

<b>Year</b>	:	2018
<b>Title</b>	:	SME Support Rescue Center
<b>City</b>	:	Bangkok
<b>Language</b>	:	Thai
<b>Publisher</b>	:	Thammasat University Research and Consultancy Institute
<b>Researcher</b>	:	Assistant Professor Parichat Chuenwatanakul

#### Abstract :

The SME Rescue Center, run by the Ministry of Industry and the cooperation of 14 network organizations, was founded in order to provide information and consultant services, and to give the relevant network agencies in promoting and developing SMEs both the central and regional regions the service recipients. There are objectives as follows.

1. To help the SMEs that have business problems from various factors including financial to be able to revive the businesses.
2. To get the connection between SMEs services and the related network agencies in promoting and developing SMEs both central and regional regions. This connection can be able to provide all types of services, and forward the service recipients to the related agencies properly.
3. To get a database management team in order to analyze and propose the assistant measure to help and service SMEs appropriately and promptly.

Thammasat University Research and Consultancy Institute has run the SME Rescue Center by designing the structure of a consultative team, founding a management

center, and preparing procedures and forms involved the operation in order to provide information and consultation services, and link the service recipients to relevant promoting and developing SMEs network agencies in both the central and regional areas appropriately and systematically.

As the management result of the SMEs Rescue Center since January 25, 2017 to January 11, 2018 which has provided services to accept the needs and problems of SMEs that seeking services, the rescue center has analyzed and scrutinized before forwarding their problems to the appropriate service agencies. According to various consulting channels and providing the primary consultation, there were the people came to receive the services for 8,581 people, higher than the target that is more than 4,000 people. Those can be classified into the financial that are 8,581 cases (76.98%), the marketing are 972 cases (8.72%), the production 545 cases (4.89%), the management are 452 cases (4.05%), the lawsuit are 140 cases (1.26%), the standard are 120 cases (1.08%) and the other are 337 cases (3.02%) respectively.

There were 5,847 cases that are received the financial help including credit line for 10,356.57 Million baht.

## Designated Areas for Sustainable Tourism Administration (Public Organization)

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**Year** : 2018

**Title** : Twin Cities for Tourism: conditions and Examples

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Teera Sindecharak

### Abstract :

Twin Cities/Sister Cities is an equal level of relations between the provinces of Thailand and the provinces (or cities that are equivalent to Thailand, such as the State) in countries around the world. The aim is to foster a mutually beneficial and mutually beneficial relationship, such as health, tourism, industry, education.

A city that can be a twin cities, must be similarities in aspects such as geography, art, culture, traditions, and

lifestyle/well-being. Or specific characteristics such as the Old capital, the borderline city and the style was created to be associated with new discourse such as the city of the world heritage, etc. In this article, the proposed conditions for twin cities. And examples of twinning overseas. Including examples of Twin Cities in Thailand.

**Keywords** : Twin Cities, Sister Cities, Tourism

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## Thailand Convention & Exhibition Bureau (Public Organization)

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**Year** : 2018

**Title** : MICE Industry Report

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Associate Professor Dr. Chanin Mephokee

### Abstract :

The MICE Industry Reports aim for analyzing the potential and predictable trend of the targeted industries: Robotics, Medical Hub, and Aviation and Logistics of Thailand. The Reports provide the overview of the targeted industry, anticipated growth and competition at international level. Furthermore, the analysis of the link between MICE industry and three targeted industry that drives their growth also provided in the Reports. Ultimately, these Reports could provide information and strategies for the targeted industries and MICE industry.

MICE is the high-valued service industry according to the 12<sup>th</sup> National Economic and Social Development Plan. Thailand is the main destination for MICE travelers because of its well-developed infrastructure, variety of attractions and reasonable cost of living. Three targeted industries hold high potential for growth in Thailand since Thai government has launched attractive investment promotion in form of both

tax exemption and non-tax incentives. The domestic demand of Robotics in Thailand is relatively high, while Thailand has huge advantage in Medical Hub due to the biodiversity and variety of herbs. For the Aviation and Logistics, Thailand gains strategic advantage because of its location in the middle of Upper ASEAN region.

Potential growth of the targeted industry creates opportunities for MICE activities such as international conferences, exhibitions attracting exhibitors, buyers and visitors from the targeted industries. In achieving the goal, the cooperation among public, private sectors and academia is needed. MICE activities shall be held outside the capital city, in particular in the provinces around economic corridor such as Chiangmai. The manpower in the MICE industry shall be trained to reach the international standard, while the significance of MICE industry shall be disseminated to the public sectors.

## National Innovation Agency (Public Organization) (NIA)

**Year** : 2018

**Title** : Social Innovation Driving unit

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Lecturer Weeraboon Wisartsakul

### Abstract :

Social Innovation Driving Unit Project is funded by National Innovation Agency. The project duration was 7 months (February-September 2018). The project purpose is encouraging and incubating who has good intentions to solve social problems. Building on their ideas and innovations to social business via workshops and coach.

The project found that the best incubation process is suitable for social innovation sub-project should composed 1) there is enough time for new initiators to test idea and market before further expand to the real situation 2) adequate supporting budget, office spaces and coaching during initiating phase 3) the selection process for incubation

activities/workshops should classify the target groups by their business's development 4) besides incubation activities, social innovation driving unit should cooperate with other organizations to create "incubation system" and 5) social innovation driving unit should spread out and work closely with "business incubation unit" or center of regional universities and Thai chamber of commerce. They will reach out to the small and community enterprises.

In the long term, the incubation unit and system like this should be developed to a part of social innovation incubation system in Thai society.

## The Metropolitan Electricity Authority

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**Year** : 2018

**Title** : MEA Research on Residential Segment 2018

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Assistant Professor Dr. Nopporn Ruangwanit

### Abstract :

Research on residential is the project under Metropolitan Electricity Authority (MEA) with the objective to re-confirm the proportion of sub-segment which is the result from previous project, study on their behavior, needs, and expectation following their customer journey, study on the factors that relate to the MEA brand's royalty, service concept testing, and provide recommendation on marketing strategy and omnichannel and digital engagement.

For the study process, this project and be structured into 2 phase which includes an in-depth interview with 25 samples and questionnaire with 3,000 sample.

### The result includes

1. The most segment is Spiritual following by Homebody and Family Nester.
2. The most use media channel is Facebook following by Line, YouTube, and Instagram.
3. The customer has a high-affinity level with electricity usage but has mid-low affinity level with MEA.
4. The most activity for the customer journey is Requesting an electricity service phase following by Search for information and Paid for the electricity bill.
5. Customer interest in any service concept that can be doing with the online channel.

## Department of trade negotiations

**Year** : 2018

**Title** : Internationalisation of Thai dairy producers by utilising existing FTA agreements

**City** : Bangkok

**Language** : Thai

**Publisher** : Thammasat University Research and Consultancy Institute

**Researcher** : Dr. Suthikom Kingkaew

### Abstract :

“The Internationalization of Thai dairy producers by utilizing the existing FTA agreements project” was initiated by the Department of Trade Negotiations under the Ministry of Commerce of Thailand. By recognizing the impact of the abolition of dairy product trade measures from Australia in 2021 and New Zealand in 2025, the project aims to help Thai farmers and dairy product manufacturers adapt to high competition in the future. The Department of Trade Negotiations has gone through the process of selecting a group of potential stakeholders which include representatives of Thai dairy farmers, dairy co-operatives and dairy product manufacturers to take part in the project and improve quality, expand the market to foreign countries and eventually increase their efficiency and competitiveness in the long run.

To fully benefit from the existing trade agreements and create opportunities, Thai dairy farmers, co-operatives and entrepreneurs need to acknowledge and understand the effects of trade agreements. In response, the Department of International Trade Negotiations together with Thammasat University has implemented the project by researching the milk and dairy products market in the People’s Republic of China at the current time. The process is also comprised of analyzing the market, planning, setting the scope of work, developing an action plan, carrying out a workshop and conducting coaching sessions for the selected participants to improve and bring Thai dairy products out to the international market.



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