



# ANNUAL REPORT 2018





**KMITL**

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**ANNUAL REPORT  
2018**



## Honorary Degree Citation

**Dr. Charoondet Chencharatsakun**  
**On the Occasion of the Conferment of**  
**the Honorary Doctoral Degree**  
**in Industrial Business Administration**  
**(International Program)**  
**King Mongkut's Institute of Technology Ladkrabang**  
**Academic Year 2017**

At Meeting No. 8/2561 held on 30 August 2018, the Council of King Mongkut's Institute of Technology Ladkrabang unanimously resolved to confer upon Dr. Charoondet Chencharatsakun the Honorary Doctoral Degree in Industrial Business Administration (International Program). Dr. Chencharatsakun has made numerous contributions to the industry of Thailand, especially in the field of industrial business administration, and rendered outstanding service to many universities and institutions. He has demonstrated exceptional knowledge and ability and should be honored as an exemplary role model for others.

Dr. Charoondet Chencharatsakun received his Bachelor of Engineering Degree in Industrial Engineering from Chulalongkorn University and Master's Degree in Industrial Engineering from the University of New Haven, Connecticut, USA. His achievements in the fields of industry and industrial business administration are widely recognized nationally and internationally. Dr. Chencharatsakun has served as a ministerial advisor to the Office of the Prime Minister and many ministries, which is a testament to his expertise and true dedication to the common good, and also reflects his path of self-cultivation to become a successful leader. Moreover, Dr. Chencharatsakun has demonstrated his ability to coordinate efforts within government agencies, state enterprises, private organizations, and educational institutions to produce a desired result. Successful coordination requires the skills to apply psychological methods and techniques appropriately to different types of personnel and operations within organizations to move them in the same direction in unison.

In addition, Dr. Chencharatsakun has conducted himself professionally in the field of industrial business. As an organizational resource, Dr. Chencharatsakun has utilized his knowledge and skills to plan, manage, direct, supervise, and carry out activities to achieve maximum return. As a corporate driver, he is decisive in doing anything within his power and responsibility to achieve organizational goals, whether it is to ask for cooperation from the higher-ups or his subordinates. He has always implemented strategies wisely and carefully to ensure efficient and smooth operation in order to drive the organization towards its goals. As an expert within an organization, Dr. Chencharatsakun has managed with an open-door policy to use his knowledge and expertise to help personnel in the organization see and understand the real problems and encourage them to find solutions to the problems on their own. As a developer and visionary leader, Dr. Chencharatsakun has attempted to build a positive environment to foster workplace relationships and collaboration that are essential to the advancement of the organization and provided each personnel the opportunity to develop his potential.

Thus, it can be seen that while Dr. Chencharatsakun has been contributing to the success of organizations and employees, he never stops improving his knowledge and skills to become a better leader.

In recognition of his outstanding achievements in industrial business administration at both national and international levels and for being an exemplary role model, it is unanimously resolved that the Council of King Mongkut's Institute of Technology Ladkrabang confers upon Dr. Charoondet Chencharatsakun the Honorary Doctoral Degree in Industrial Business Administration (International Program).



## Honorary Degree Citation

**Prof. Dr. Hyoun Kim**  
**On the Occasion of the Conferment of**  
**the Honorary Doctoral Degree**  
**in Electrical Engineering**  
**King Mongkut's Institute of Technology Ladkrabang**  
**Academic Year 2017**

Prof. Dr. Hyoun Kim received his Bachelor of Engineering Degree in Electrical Engineering from McGill University and his Master of Science and Doctorate of Engineering Degrees in Electrical Engineering from the University of Toronto. He has been at Carnegie Mellon University since 1990 where he is currently the Drew D. Perkins Professor of Electrical and Computer Engineering. His primary research areas are advanced switching architectures, fault-tolerant, reliable, and secure network architectures, and network security systems. His Tera ATM switch architecture has been licensed for commercialization to the telecommunications sector.

Dr. Kim worked for Northern Telecom in 1992 as a research consultant addressing issues in high-speed network architectures. In 1995, he founded Scalable Networks, a Gigabit-Ethernet switching startup. Scalable Networks was later acquired by FORE Systems in 1996. He was at FORE Systems working on the company's technology roadmap until 1998. In 2000, Dr. Kim founded AcceLight Networks, where he worked until 2002. His engineering research has always been applicable for commercialization.

Dr. Kim is an author of over 70 published papers and holds over 10 patents in networking technologies. He was an editor for IEEE/ACM Networking from 1995–2000 and received the NSF Young Investigator Award in 1995. He developed two new courses for Carnegie Mellon University, including a graduate course in networking and an undergraduate course in telecommunications, and created a networking thrust within the Department of Electrical and Computer Engineering.

Dr. Kim is an expert in engineering, who is able to produce works for commercialization, and a pioneer of research that has gained wide recognition. He has played a major role in establishing CMKL University, which is a collaboration between Carnegie Mellon University, a US-based university globally renowned for its computer engineering program, and King Mongkut's Institute of Technology Ladkrabang. CMKL University focuses on how to apply research to tackle industrial challenges that will drive economic development in Thailand. It will facilitate the collaboration of professors and faculties from Carnegie Mellon University and King Mongkut's Institute of Technology Ladkrabang to produce graduates who meet the country's needs and are capable of solving problems faced by the industrial sector.

In recognition of his outstanding achievements in engineering and contribution to the development of a modern approach to education in Thailand, Prof. Dr. Hyoun Kim should be honored as an exemplary role model for applying engineering knowledge in higher education development.

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## Message from The President

In the age of rapid and unceasing technological changes characterized by speed, transborder, interdependence, and disappearing space and time constraints. Our educational system, economy, and society inevitably need to adapt. King Mongkut's Institute of Technology Ladkrabang (KMITL) has improved to keep up with the changes brought about by disruptive technologies. We have built the foundation to achieve our missions in the following areas.

With regard to learning and teaching, KMITL has designed several curriculums that respond to technological changes. We intend to develop our students to be disruptors with necessary hard and soft skills that can keep up with the fast-moving world. Our instructors not only teach, but also serve as learning facilitators. With these aforementioned efforts, our students are trained to have creative and teamwork mind set. In addition to undergraduate and graduate degree programs, KMITL offers a variety of non-degree programs that meet the demands of students of all ages. Non-degree program students will receive a certificate and will be able to apply the knowledge for their careers.

In the area of research, in response to "Thailand 4.0" aimed to unlock the country from a middle-income trap through an innovation-driven economy, KMITL has partnered with Carnegie Mellon University (CMU), USA, to produce world-class researchers and enhance the country's economic competitiveness. We also aim to develop King Mongkut's Institute of Technology Ladkrabang Prince of Chumphon Campus to be one of the top educational institutions in the southern region. Our Chumphon Campus emphasizes on technological, agricultural, food, eco-tourism and energy researches prepared for smart and sustainable city development in the future. All in all, KMITL are determined to support Thailand's mission in terms of research and innovation development to promote the S-curve and new-S-curve industries.

In terms of academic service, KMITL has established the Smart City Innovative Research Academy (SCiRA) to support all efforts necessary for turning Bangkok to become a smart city. This academy is responsible for collecting knowledge and disseminating information to government agencies, private sector, and the general public. Our faculties and researchers have also consistently provided academic services in broad areas for both government and industrial sectors.

Throughout the years, I believe that the success can be achieved through collaborative efforts of all executives, staff members, and students of the institute. Together, we will grow strong and sustainably. So, on behalf of the institution, I thank all of you for your contribution and support.

A handwritten signature in blue ink, appearing to read 'Suchatvee Suwannasawat'. The signature is fluid and cursive.

( Prof. Dr. Suchatvee Suwannasawat )

President

# Awards and Recognition



1. Professor Dr. Suchatvee Suwansawat, President of KMITL received the "Intharachak" Award for Person of the Year 2018 as a role model who had outstanding service to the society and country from the Institute of Young Entrepreneur Development at Central Plaza Chaeng Watthana, Bangkok.



2. Professor Dr. Aphinan Thanachayanon was appointed as Professor of Electronic Engineering, Faculty of Engineering, on 2 December 2016.



3. Professor Watcharee Sawamiwat was appointed as Professor of Architecture, Faculty of Architecture, on 15 May 2018.



4. Assistant Professor Dr. Saowaphak Theerasong and Assistant Professor Dr. Natthawut Choengchan from the Department of Chemistry, Faculty of Science, received Patent No. 52458 for "Automatic Chemical Extractor with Instant Measurement" from the Department of Intellectual Property.

5. Assistant Professor Bunchana Poorahong from the Department of Computer Engineering, Faculty of Engineering, and Associate Professor Songchom Chunlasai from the Department of Interior Architecture, Faculty of Architecture, were awarded Outstanding Civil Servant 2017.

6. Assistant Professor Dr. Chinnawat Suratsawadi from the Department of Telecommunications Engineering, Faculty of Engineering, was selected as the AAET Fellow at the Annual General and Council Meeting of the ASEAN Academy of Engineering and Technology (AAET) on 30 June 2018 in Malaysia.

7. Assistant Professor Dr. Sineenat Ponyorat from the Department of Animal Production Technology, Faculty of Agricultural Technology, was awarded the Moral and Ethical Role Model Plaque in the educator category from Rajamangala University of Technology Rattanakosin Klai Kangwon Campus.

## • Faculty Research and Innovation Awards

### Distinguished Thesis Award



1. Dr. Wathit Pakpisut, Faculty of Engineering, won the distinguished thesis award in information technology and communication arts for his thesis "Design and Analysis of q-ary LDPC Codes and the Decoding Algorithms."

2. Dr. Prapan Leekul, graduate from King Mongkut's Institute of Technology Ladkrabang, won the distinguished thesis award in information technology and communication arts for his thesis, "Microwave Sensor Using Transmission and Reflection Coefficients for Fruit Classification."

The award was presented by the National Research Council of Thailand (NRCT) at Inventor Day 2018, held on 2 February 2018 at BITEC Bang Na.



## Gold Award from International Association for Universal Design 2017

Assistant Professor Dr. Unthika Sawatsri, Dean of the Faculty of Architecture, won the gold award for the design and master plan for the "Chao Phraya for All" project from the International Association for Universal Design 2017 on 9 March 2018 in Munich, Germany. The design incorporates public participation and facilities to enable the disabled and elderly to access the public space.

### • Paper Awards

1. Assistant Professor Dr. Kittiwat Sirikasemsuk, Faculty of Engineering, won the "Best Paper Award" at the Operations Research Network of Thailand 2018 (OR-NET 2018): Operations Research for Thailand 4.0, organized by the Department of Industrial Engineering, Kasetsart University, between 23-24 April 2018 at The Zign Resort, Pattaya, Chonburi, and the "Outstanding Paper Award" at the Rajamangala Manufacturing & Management Technology Conference 2018 (RMTC 2018) 2018, held between 29-31 May 2018 at Deevana Plaza Krabi Aonang.





2. Assistant Professor Dr. Somsri Bunditwilai and Assistant Professor Sirilak Anansathitsin, Faculty of Science, won the "Best Paper Award" for the paper titled, "Comparative Study of Three Time Series Methods in Forecasting Dengue Hemorrhagic Fever Incidence in Thailand" at the ISES International Academic Conference, organized by ISES International Institute of Social and Economic Sciences between 15-20 May 2018.

3. Mr. Samak Rakmae, a lecturer of the Faculty of Engineering, won the "TRF Outstanding Research Award 2017" for his commercial research "Salt Washer for Pickled Jellyfish." The award was presented by Air Chief Marshal Dr. Prajin Juntong, Deputy Prime Minister, on 23 May 2018 at the Swissotel Le Concorde Hotel, Bangkok.



4. Associate Professor Dr. Narathip Vittayakorn, Faculty of Science, and research team won the Best Oral Presentation Award for the paper titled, "Microstructural, Dielectric and Optical Properties of  $[\text{KNbO}_3]_{0.9} - [\text{BaNi}_0.5\text{Nb}_0.5\text{O}_3]_{0.1}$  Perovskite Ceramics," authored by S. Sriphan, N. Vittayakorn, S. Kiravittaya, and T. Bongkarn and presented by Dr. Saichon Sriphan, a postdoctoral researcher in Advanced Materials Research Unit, Faculty of Science, at the Siam Physics Congress 2018 (SPC 2018), held between 21-23 May 2018 at Topland Hotel and Convention Center, Phitsanulok.

5. Dr. Wannaporn Sanprasert, Department of Mathematics, Faculty of Science, won the "Outstanding Poster Award" for the poster titled "Estimation of Yearly and Quarterly Loss Reserve for Voluntary Car Insurance in Thailand Using a Chain Ladder" at the 2nd National and International Conference on Education and Technology 2018 (ICETII: Critical Innovation) organized by Roi Et Rajabhat University on 26 July 2018.



6. Associate Professor Dr. Pantani Pongsamphan, Faculty of Science, won the Best Poster Award for the poster titled "Transmission Model of HIV with and without Antiretroviral Drugs" at the 13th PATTAYA International Conference on Advances in Science, Engineering, and Technology (ASET-18) organized by Eminent Association of Research in Engineering & Technology on 7 August 2018.

7. Assistant Professor Dr. Kris Samorhitak, Faculty of Engineering, and Mr. Wiradej Pinthong, a master's student in automation engineering, Department of Instrumentation Engineering, Faculty of Engineering, won the "Best Paper Award" for the paper titled, "Real-Time Remote Monitoring and Alerting System Using Low-Cost IoT Platform for Odor Control Scrubbers" at the ICICIC 2018 (13th International Conference on Innovative Computing, Information and Control), held between 20-23 August 2018 in Lianyungang, People's Republic of China.



## Excellent Huawei ICT Academy Instructor Award



Asst. Prof. Dr. Napat Sra-ium HCIE / HCAI  
King Mongkut's Institute of Technology Ladkrabang

Assistant Professor Dr. Napat Sraiam, Faculty of Engineering, won the Excellent Huawei ICT Academy Instructor Award from Huawei Authorized Information and Network Academy (HAINA), a partnership between Huawei and leading education institutions around the world, on 15-16 May 2018 in Shenzhen, China.

## First Runner-Up Award



Dr. Kunchai Kuntawanit and Dr. Rattama Rattanawongsa won the first runner-up in the general public over 26 years old category in the PR media contest, "Red Cross Emblem: A Symbol of Protection and Hope," organized by the Thai Red Cross Society at Chumbhot Rooms 1-2, National Blood Center. The contest aimed to provide knowledge and understanding about the use of the Red Cross emblem through PR media that is appropriate and understandable for the general public.

## Student Achievement

1. Ms. Parina Nooket, a fourth-year student, Faculty of Engineering, received the Royal Medal for Outstanding GPA 3.98 from the Engineering Education and Research Fund under Crown Prince Vajiralongkorn Patronage on 28 December 2017.



2. Students from the Department of Agricultural Communication, Faculty of Agricultural Technology, won the Princess Maha Chakri Sirindhorn Award in the infographic and video clip competition "Power Brand for New Blood 2016-2017" organized by National Blood Service Center, Thai Red Cross Society and Brand's Suntory (Thailand) at Dusidalai Hall, Chitralada Royal Villa, Dusit Palace, on 2 August 2018.

- Ms. Thiprada Pinkaew and Ms. Vasinee Siripridajit won the winning award for the infographic, "The More You Give, the Healthier You Get."

- Mr. Sivakorn Namthong, Mr. Akkaraphong Duangphibun, and Ms. Arisara Phuphan won the award for the blood donation campaign video clip.



3. Mr. Pathompong Prasomsing, a graduate student from the Faculty of Science, won first prize and received a trophy from HRH Princess Maha Chakri Sirindhorn and scholarships for the poster presentation titled "Passwire: A Password Manager Using Graphical Master Password" at the Innovation for Defence Technology Contest 2017 (IDT2017), organized by the Artificial Intelligence Association of Thailand, Defence Technology Association, and Mahidol University, on 15 November 2017 at Mahidol University, Bangkok.

4. Ms. Rawinan Yimkaew, a student from the Faculty of Agricultural Technology, won the first runner-up award in the "Cyber Security: Protect Information from Cyber Attacks" competition organized by Siam Commercial Bank on 6 December 2017.



5. TERMINAL VI, a student team from the Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang Prince of Chumphon Campus, Chumphon Province, won the first runner-up in Thailand Drag Race 3.93 and 5th place in Thailand Overall Score in the TSAE Auto Challenge 2017-2018 (Formula Student), held between 19-21 January 2018 at Pathum Thani Speedway, Pathum Thani. The team consisted of Mr. Pongsathon Phoemphun, Mr. Anuwat Suphatkaew, Mr. Nitchakamon Karakorn, Mr. Chanon Potchanapha, Mr. Pornphon Sakonwut, Mr. Kriangkrai Chansangsa, Mr. Sakkayaphap Dendee, Mr. Manop Kaewdang, Mr. Panuphong Noisiyu, Ms. Chulalak Suetrong, Mr. Suphachok Rungchewin, Mr. Nopakhun Manoim, Mr. Phumphat Pleechomphu, Mr. Tharin Chullert, Mr. Pongsakorn Bunsirikorn, Mr. Sakawat Phasuk, Mr. Pongphiwat Bunsirikorn, Mr. Wanachat Butdi, Mr. Chutipong Chuchuyay, and Mr. Peerawat Charoensuk.

6. Mr. Phichan Ditthachot, a third-year student from the Faculty of Engineering, was selected as the Talented Youth Class 8/2017. The award recipients were selected from young people with good behavior and good grades aged between 15-22 years from every province, one recipient from each province and three recipients from Bangkok, totaling 80 recipients. They received a pin and certificate from HRH Princess Maha Chakri Sirindhorn on 23 February 2018 at Chaipattana Building in Dusit Palace.



7. Four students from the Faculty of Engineering, Ms. Kanjana Chairit, Ms. Manatsamon Thilertpanich, Ms. Saowapa Chantararat, and Ms. Yaowara Phanhiran, received the Certificate of Good Conduct 2018 from the Buddhist Association of Thailand under Royal Patronage. The certificate was presented by Professor Atniti Ditamnat, Privy Councilor, at Monk Training Hall, Wat Samphraya Worawihan, Bangkok.

8. A student team "Hookworms" from the Faculty of Engineering, consisting of Mr. Peerawat Pipatanakunchai, Mr. Patcharapon Chanthana, Mr. Thanatcha Sangpetch, Mr. Siridej Panathanet, and Mr. Issara Naranirattisai, won the following awards:

1. First prize
2. Top Score on server programming
3. Friendship award
4. Top score on system engineering on the topic "Smart National Park 4.0" at the "TESA Top Gun Rally 2018" held between 7-13 January 2018 at the Khao Yai National Park. The competition was organized by King Mongkut's University of Technology North Bangkok, Department of National Parks, Wildlife, and Plant Conservation, and CAT Telecom Public Company Limited.





9. Ms. Suthathip Thongrod, a master's student from the Applied Chemistry Program, Faculty of Science, won the Best Poster Presentation Award for the research "A 'contact stamping' microfluidic paper-based analytical device for determination of creatinine using camera phone and standard addition approach" at the "Pure and Applied Chemistry International Conference (PACCON 2018)" organized by the Department of Chemistry, Faculty of Science, Prince of Songkla University between 7-9 February 2018. The award was presented by Prof. Sir J. Fraser Stoddart, a Nobel Prize winner in chemistry in 2016.



10. Three fourth year students from the Faculty of Science, including Ms. Issaya Wongnaret, Ms. Sureeporn Sukchuay, and Ms. Orrampha Worakhan, participated in the Project-Based Learning (PBL), organized by KMITL and Kochi University Technology, Japan, between 7-10 March 2018 at Suvarnabhumi Suite Hotel Bangkok. Ms. Issaya Wongnaret received the winning award for the presentation, "Suicide".

11. A student team from the Faculty of Engineering won the first prize and popular vote for the Smart Chicken Farm Project in the Plant for the Future 2018 competition, held at Schneider Electric Rama 9 on 23 March 2018. The team consisted of Mr. Chin Thamaphipol, Ms. Natthinan Ratanon, Ms. Thutiyaporn Sumongkol, and Ms. Nisakorn Kokongprasert.

12. Two student teams from the Faculty of Engineering won the first runner-up and second runner-up in the Krungsri Uni Startup KMITL Hackathon, held between 30 March - 1 April 2018 at the Faculty of Science Convention Hall, KMITL.

- First runner-up: Mr. Natthasit Bunsai, Mr. Waritthorn Samphanthakit, Mr. Sethakan Kladkansang, Mr. Amorndet Bunthanimit, Mr. Ratthasat Sitthimongkol, and Mr. Panuwat Aniwatkunchai.

- Second runner-up: Mr. Wichanon Boonthep, Mr. Sippakorn Suphapinyo, Mr. Thanapat Thawirat, Mr. Prichaphong Khanmachan, and Mr. Panuwat Aimampaiwong.

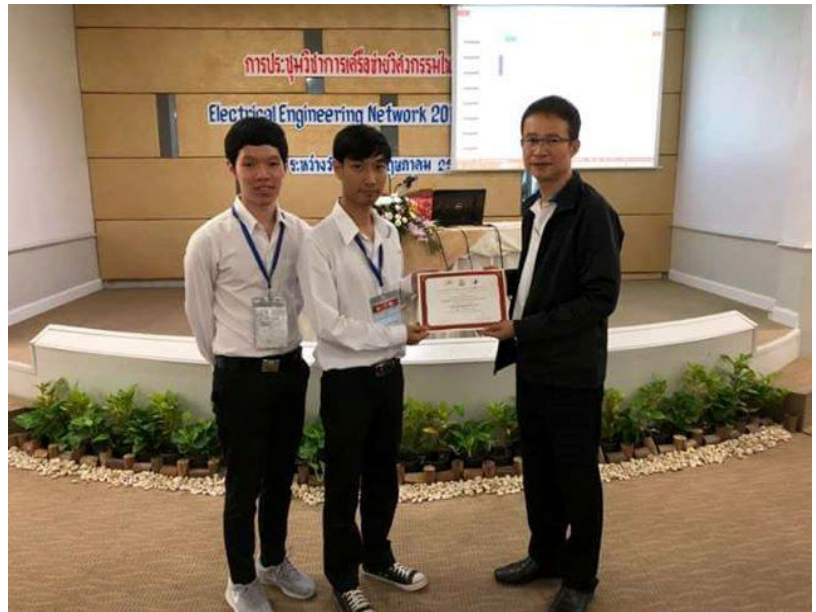


14. Ms. Kochawan Limsakun, Ms. Cattharin Phrommin, and Ms. Chutikan Jitmit, fourth year students from the Faculty of Science, won the second prize for the poster "A Comparison Performance of Option Pricing Models" in Statistics I Group at the 7th Undergraduate Student Conference for Applied Mathematics on 28 April 2018 at the Faculty of Science, Silpakorn University Sanam Chan Palace Campus, Nakhon Pathom.

13. A student team "Auttagon Go!!" from the Faculty of Science, won the first prize at the first Hackathon Krungsri - KMITL Uni Startup held at the Faculty of Science, KMITL, on 1 April 2018. The team members included Mr. Chaiwat Samrit, Mr. Chawin Niwiriya Wong, Ms. Kanchana Boriwanpitak, Mr. Suracha Chaokhunthot, and Mr. Atthaphon Karnuphai.



15. Mr. Pawan Panitcharoen and Mr. Songsit Wongkiraprat, fourth year students from the Faculty of Science, won the Outstanding Computer and Information Technology Paper Award for the article titled "A Smartphone Application for Assessing Smoke Levels" at the 10th Electrical Engineering Network 2018, held on 2 May 2018 at Pathumwan Institute of Technology.



16. Ms. Piyarak Wanna, a student from the Faculty of Science, won the "outstanding achievement in project presentation of cooperative & work integrated education program" for the research titled, "The Study and Development of MATLAB Script for Lapping Scratch/Surface Damage Inspection" at the Co-op Western Digital Conference organized by Western Digital on 7 May 2018 in Ayutthaya.

17. Ms. Suphatcha Khemmalai, a master's degree student from the Faculty of Engineering, won the second runner-up for her research presentation at the 9th National Conference of Industrial Operations Development 2018 (CIOD 2018) organized by the Faculty of Business Administration, Mahanakorn University of Technology, in collaboration with Thammasat University, King Mongkut's University of Technology Thonburi, King Mongkut's University of Technology North Bangkok, King Mongkut's Institute of Technology Ladkrabang, Siam University, and Srinakharinwirot University, at Jasmine City Hotel on 11 May 2018.

18. Faculty members and students from the Faculty of Engineering won three awards at the Huawei ICT Competition 2018, held between 15–16 May 2018.

- HAINA Center, Department of Telecommunications Engineering, won the Huawei Excellent ICT Academy Award.
- Assistant Professor Dr. Naphat Sraiam won the Huawei Excellent ICT Academy Instructor Award.
- Mr. Thirawat Suprapakorn, Mr. Phabot Kraikrittayakul, and Mr. Phanuphong Ruamchit won the Outstanding Performance Award.



19. An engineering student team won the 1st prize for "2018 Best National Startup" (FinTech and Blockchain) at the Startup Thailand Hackathon 2018 held between 19 – 20 May 2018 at the Queen Sirikit National Convention Center. The award included financial support of 100,000 baht and Android Figure or Google Cardboard. The team consisted of Ms. Natthicha Ratprasit, Ms. Saruta Thasantia, Mr. Naripanat Kritsil, Mr. Wisuthipong Thakaew, Mr. Wutthinan Chaisiriwren, and Mr. Phitsan Khankhang.

20. Ms. Watcharaya Matjaeng, a fourth year student from the Faculty of Science, won the "Best Poster Award" for the poster on "Production of Plasmolipin Recombinant Protein from Tiger Prawn Using Escherichia Coli" at the 3rd National Conference on Information, Agriculture, Management, Business Administration, Engineering, Science, and Technology, organized by King Mongkut's Institute of Technology Ladkrabang Prince of Chumphon Campus, Chumphon Province, held between 24 – 25 May 2018.





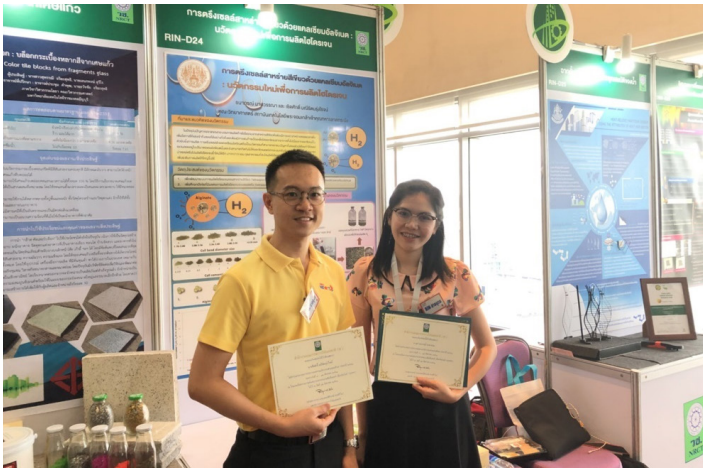
21. A student team, "Nited Kaset Film," from the Faculty of Agricultural Technology won the award in the higher education category for the film titled "Be I Lift" at the Short Science Film Competition, organized by the Ministry of Social Development and Human Security, Thai Health Promotion Foundation, Children and Youth Council of Thailand, and Stop Gambling Foundation on 10 June 2018 at SF World Cinema, Central World, Bangkok.

The team members consisted of Mr. Sathapanik Wattaraek, Mr. Nawachon Saithong, Mr. Nalik Suksawang, Mr. Seriphap Sornpho, and Ms. Petcharat Phu pradab.

22. Mr. Sophonphakon Sutthikhao and Ms. Patsara Chanchotisathian, second year students from the Faculty of Engineering (International Program) won the first runner-up at the TURTLE BOT Competition, held between 5-6 July 2018 in the Thailand Digital Transformation Exhibition ITC-CSCC 2018 at Phra Kaew Pavilion, Chulalongkorn University.



23. Mr. Peerasil Charoenyinyao, a graduate student from the Faculty of Science, won the Best Poster Award for the poster on "Effect of Annealing on Surface Morphology and Wettability of NC-FeSi<sub>2</sub> Films Produced via Facing - Target Direct - Current Sputtering" at the 7th International Conference on Microelectronics and Plasma Technology (ICMAP 2018), the 14th Asia - Pacific Conference on Plasma Science and Technology (APCST 2018), and the 8th International Symposium on Plasma Bioscience by the Korean Vacuum Society.



24. Ms. Thanaporn Maswanna, a graduate student from the Faculty of Science, won a silver medal (Innovation Competition in Higher Education 2018) for the research on "Immobilization of Green ALGA Tetraspora sp. CU2551 in Alginate for Hydrogen Production" at the Thailand Research Expo 2018 organized by the National Research Council of Thailand at the Centara Grand Hotel and Bangkok Convention Center, Central World, Bangkok, on 12 August 2018.

25. Ms. Apichaya Mingkhwan, a third-year student from the Department of Telecommunications Engineering, received the 13th Outstanding Bangkok Youth Certificate and Trophy (Prakaipetch) for the second consecutive year. The award was presented by Mr. Thaweesak Lertprapan, Deputy Governor of Bangkok, at the Bangkok Youth Award Ceremony, organized by the Bangkok Youth Center (Thai-Japan), Culture, Sports, and Tourism Department on 18 August 2018 at Sports Building 2, Bangkok Youth Center (Thai Japan).



26. Ms. Worawee Sa-E, a graduate student from the Faculty of Science, won the "Research Excellence Award" for the paper titled "Preparation, Characterization, and Supercapacitive Properties of CoO-NiO Microflowers Incorporated with Graphene Oxide and Reduced Graphene Oxide Hybrid Materials" at the SPIE Optics and Photonics 2018 SPIE, organized by the International Society for Optics and Photonics between 19-24 August 2018 at San Diego Conventional Center, San Diego, California, USA.



27. Mr. Nalik Suksawang, Mr. Natee Sukmanop, Mr. Nawachon Saithong, and Ms. Petcharat Poo pradub, students from the Faculty of Agricultural Technology, won the honorable mention award for the video clip "No More Plastic" under the topic "Save the World, Stop Plastic" at the Be'Glad Creative Media Awards 2018 on 19 September 2018 at Aree Samphan Hall, Department of Environmental Quality Promotion.

28. A student team "My Sufficient Life" from the Faculty of Agricultural Technology won the 1st prize for the "Sufficiency Agriculture Project in the Flooded Area" model in the King's philosophy model competition. The team consisted of Mr. Kiatisak Pinthong, Mr. Sarawut Sueanoi, Mr. Supanya Mariket, Mr. Thanawat Juathong, Mr. Chakkrit Thetim, and Mr. Suthipong Somjaiwang.



29. Mr. Thammanat Wanset, a student from the Faculty of Agro-Industry, won the first prize in the main dish for the project, "Using Thai Rice to Create Seafood Risotto Menu" and Mr. Thibet Sikularb, a student from the Faculty of Agro-Industry, won the first runner-up in snack or dessert for the project, "Using Thai Rice to Create All Rice Menu," at the Rice Plus Award 2018 organized by the Department of Foreign Trade, Ministry of Commerce.



30. Students from the Faculty of Engineering won awards at the 24th National Agricultural Engineering Project Conference 2018, "Agricultural Engineering Skills Competition: Agricultural Harvesting Robotics" held at the Student Service Building. The competition was organized by the Faculty of Engineering, Maharakam University and 27 teams from 15 institutions participated. KMITL students' teams won the following awards:



1. A student team "JAEGER" won the 1st prize in Agricultural Engineering Skills Competition. The team consisted of Mr. Worapong Saeteuw, Ms. Monticha Suttasorn, Mr. Komkrit Yamkratok, Mr. Prajak Tookamtee, and Mr. Sirawit Nikom.

2. A student team "Get Out to Run" won the first runner-up in Agricultural Engineering Skills Competition. The team consisted of Mr. Chanvit Srijam, Ms. Juthapich Wongcharee, Mr. Teerapat Changpoopangangam, Mr. Chaiyasit Sirivichai, and Mr. Siripop Rotruen.

3. A fourth year student team won the Outstanding Creative Award, Outstanding Honor Award, first runner-up, popular vote, and silver medal for the poster "Water Hyacinth Sound Absorber." The team consisted of Mr. Patcharapreuk Phapo, Mr. Putthipong Wongbundit, and Mr. Watchara Noimala.

4. A fourth year student team won the second Runner-up Outstanding Honor Award for the presentation "Integrated Hydroponics and Fish Farming in Automated Wireless Greenhouse." The team consisted of Mr. Kittipong Raksatham, Mr. Chakkrapong Saenkot, Mr. Jintapat Siriyotha, and Mr. Setthawut Yindeetrakul.

5. A fourth year student team won a silver medal for the poster "Coffee Color Sorter." The team consisted of Mr. Chakkrapong Ngamrotjanawanit, Ms. Thitiworada Onsuwan, and Ms. Natthanan Klinhom.



31. Students from the Faculty of Information Technology won the following awards.

- Mr. Thitithorn Seniwong Na Ayutthaya, a master's student, won 3rd prize in the Human Detection Contest.
- Mr. Thanawat Lotkaew and Mr. Nat Chukampang, undergraduate students, won 3rd prize in the Artificial Intelligence Application Contest.
- Ms. Amita Mongkolpridachai and Mr. Traisak Traiseni, undergraduate students, won 3rd prize in the Science and Technology Development Program Contest in the student category.



32. A student team, "Orange Room," consisting of Mr. Sivakon Namthong, Mr. Akaraphong Duangphibun, and Ms. Arisara Bhuphan, from the Agricultural Communication Program, Faculty of Agricultural Technology, won 1st prize in the motion graphic contest in the higher education category and a team, "Save As Production," won 1st prize in the general contestant category.



33. Students from the Faculty of Agricultural Technology won the following awards:

- Eight gold medals from the plant propagation competition, hoeing a garden competition, setting insect competition, pig castration competition, baby fish packing competition, agricultural promotion speech competition, agricultural information competition, and agricultural project competition.
- Three silver medals from the tray gardening competition, soil texture evaluation and soil pH measuring competition, and poultry retail cutting competition.

measuring competition, and poultry retail cutting competition.

- Four bronze medals from the herbicide dose calculation and spraying competition, plant disease diagnosis competition, animal feed analysis, and agricultural quiz competition.

KMITL won a total of 15 medals, making it the fourth place among the 12 participating institutions. In addition, the KMITL cheering team also won the Spirit Cheer Trophy.

34. Mr. Sivakon Namthong, Mr. Akaraphong Duangphibun, Ms. Arisara Bhuphan, and Mr. Bhubas Somthong, students from the Faculty of Agricultural Technology, won the first runner-up in the students under 25 years old category in the PR media contest, "Red Cross Emblem: A Symbol of Protection and Hope," organized by the Thai Red Cross Society at Chumbhot Rooms 1-2, National Blood Center. The contest aimed to provide knowledge and understanding about the use of the Red Cross emblem through PR media that is appropriate and understandable for the general public.





รางวัลชนะเลิศอันดับ 1



36. A student team from the Faculty of Engineering won the first runner-up in the Woman Hackathon for Culture of Peace. The team consisted of Ms. Natthicha Rajaprasit, Ms. Thanyachira Phachai, Ms. Naphatsakorn Boonchu, and Ms. Saruta Tasanthiya.



37. Mr. Thanakorn Sampaonthong, Mr. Pawarisorn Mayanon, and Mr. Rujaravee Komolsai, students from the Faculty of Science, won a silver medal (Innovation Competition Award 2018 in Higher Education Category) for the Smart Surveillance System at the Thailand Research Expo 2018.

38. A student team, "555 Plus," from the Faculty of Engineering won the first runner-up for the project titled "Cyber Security" at the KPMG Cyber Security Challenge 2017 at the CCEC Center in Kuala Lumpur, Malaysia. The team members consisted of Mr. Methasit Rinthorn, Mr. Kamonnop Arunrat, and Mr. Thatsorn Seangsomrueang.



## Institutional Emblem

The emblem consists of a double circle, which inside is the Great Crown on top of the Thai numeral for the number four, surrounded by curvy designs. A radiance is emitted from top of the crown. The crown is flanked by five-tiered umbrellas. Below the crown is the words, "King Mongkut's Institute of Technology Ladkrabang."

The emblem or logo for the King Mongkut's Institute of Technology Ladkrabang represents the King Mongkut's Institute of Technology Ladkrabang's excellence in the field of science and technology.

The Great Crown represents the grace of His Majesty the King to grant the insignia of King Rama IV to be used as a component of the King Mongkut's Institute of Technology Ladkrabang's emblem.

The number four represents King Rama IV, Father of Thai Science.

The radiance above the Great Crown represents the renowned prestige of the King.

The five-tiered umbrella represents the happiness of the Thai people.

## Vision

"To become a top-ten higher education institution for science and technology in ASEAN region by 2020." (Strategic Plan 2012-2020)

<b>Date of Establishment</b>	24 August
<b>Institution Flower</b>	African tulip
<b>Institution Color</b>	Red-orange, the color of King Rama IV's birthday.
<b>Sacred Statue</b>	Nirantarai Buddha Statue
<b>History of KMITL</b>	

King Mongkut's Institute of Technology Ladkrabang was established under the King Mongkut's Institute of Technology Ladkrabang, King Mongkut's University of Technology Thonburi, and King Mongkut's Institute of Technology North Bangkok Act B.E. 2528. The institution was a juristic entity that acted as a department under the Ministry of University Affairs to provide education, conduct research, promote and offer services related to technology, science, and industrial education, as well as support national arts and culture. On 8 March 2008, King Mongkut's Institute of Technology Ladkrabang became a state university.

The name King Mongkut's Institute of Technology Ladkrabang or King Mongkut's Institute of Technology Chao Khun Tahan Ladkrabang is derived from the name of King Rama IV, "King Mongkut" (Phra Chom Klao), and His Majesty the King has graciously granted the institute permission to use the insignia of King Mongkut, the Great Crown, as the institute's emblem. The term "Chao Khun Tahan" has been used in honor of Chao Phraya Surawong Waiyawat (Won Boonnak) as his 12th daughter, Liam Protpitayapayat, donated 1,041 rai (22,400 sqm.) of land to establish the institute.

# Institute's Timeline

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A brief timeline of the development of King Mongkut's Institute of Technology Ladkrabang is as follows:

- 24 August 1960** Signed a Memorandum of Understanding to receive technical assistance from the Japanese government to establish the Nonthaburi Telecommunications Training Center under the Ministry of Education.
- May 1964** Nonthaburi Telecommunications Training Center became Nonthaburi Institute of Telecommunications.
- 24 April 1971** Merged North Bangkok Technical College, Nonthaburi Institute of Telecommunications, and Thonburi Technical College to establish King Mongkut's Institute of Technology.
- 24 August 1972** Nonthaburi Institute of Telecommunications became Faculty of Engineering, King Mongkut's Institute of Technology Nonthaburi Center.
- 15 November 1972** Bang Phlat Technical College was incorporated into King Mongkut's Institute of Technology Nonthaburi Center and became the Faculty of Architecture.
- 29 June 1974** King Mongkut's Institute of Technology was transferred from the Ministry of Education to the Ministry of University Affairs and Nonthaburi Center was changed to Nonthaburi Ladkrabang Campus.
- 10 November 1977** The Faculty of Industrial Education and Science was established.
- 22 April 1979** Chao Khun Tahan Agriculture College was transferred from the Ministry of Education to King Mongkut's Institute of Technology Nonthaburi Ladkrabang Campus and the campus was renamed Chao Khun Tahan Ladkrabang Campus.
- 9 May 1981** Chao Khun Tahan Agriculture College became the Faculty of Agricultural Technology. The Computer Research and Service Center was founded.
- 20 February 1986** King Mongkut's Institute of Technology Chao Khun Tahan Ladkrabang Campus was renamed King Mongkut's Institute of Technology Ladkrabang.
- 22 May 1986** The Graduate School was established.
- 9 December 1988** The Faculty of Industrial Education and Science was separated into two faculties: Faculty of Industrial Education and Faculty of Science.
- 29 May 1991** The Central Library was established.
- 20 June 1996** The Chumphon Campus was established.
- 27 February 1996** The Faculty of Information Technology was established.
- 29 August 1996** The Office of the Registrar was established.
- 8 March 2008** King Mongkut's Institute of Technology Ladkrabang became a state university as per the announcement published in the Government Gazette, Volume 125, Section 45 Kor, dated 7 March 2008.

- 
- 15 July 2008** Established the following units within King Mongkut's Institute of Technology Ladkrabang as per the announcement published in the Government Gazette, Volume 125, Special Section 117 Ngor, dated 14 July 2008.
- KMITL Council
  - Office of the President
  - Academic Division: Faculty of Engineering, Faculty of Architecture, Faculty of Industrial Education, Faculty of Science, Faculty of Agricultural Technology, Department of Information Technology, Faculty of Agro-Industry, Chumphon Campus, International College, College of Nanotechnology, and I/UCRC in Data Storage Technology and Applications.
  - Central Library, Office of Academic Administration, Computer Service Center, Office of the Registrar, and KMITL Academic Promotion and Services.
- 1 April 2010** Established the Administration and Management College within King Mongkut's Institute of Technology Ladkrabang as per the announcement published in the Government Gazette, Volume 127, Special Section 16 Ngor, Page 69, dated 1 February 2010.
- 20 July 2010** As per the announcement published in the Government Gazette, Volume 127, Special Section 123 Ngor, Page 36, dated 30 August 2010,
- Renamed the I/UCRC in Data Storage Technology and Applications to the College of Data Storage Innovation.
  - Dissolved the Office of Academic Administration.
- 27 June 2013** As per the announcement published in the Government Gazette, Volume 130, Special Section 96 Ngor, Page 37, dated 7 August 2013,
- Renamed the Chumphon Campus to the Prince of Chumphon Campus.
- 3 December 2014** As per the announcement published in the Government Gazette, Volume 131, Special Section 262 Ngor, Page 12, dated 23 December 2014,
- Established the Office of General Education.
- 22 December 2015** As per the announcement published in the Government Gazette, Volume 133, Special Section 11 Ngor, Page 17, dated 14 January 2016,
- Renamed the Administration and Management College to the Faculty of Administration and Management.
  - Renamed the KMITL Academic Promotion and Services to the KMITL Research and Innovation Services.

- 
- 10 March 2016** As per the announcement published in the Government Gazette, Volume 133, Special Section 81 Ngor, Page 18, dated 7 April 2016,
- Renamed the College of Data Storage Innovation to the College of Advanced Manufacturing Innovation.
- 4 May 2016** Established the following units within King Mongkut's Institute of Technology Ladkrabang as per the announcement published in the Government Gazette, Volume 33, Special Section 135 Ngor, Page 20, dated 14 June 2016:
- International Medical College
  - International Academy of Aviation Industry
  - College of Educational Innovation Research
- 5 July 2016** As per the announcement published in the Government Gazette, Volume 133, Special Section 177 Ngor, Page 41, dated 11 August 2016,
- Established the Faculty of Liberal Arts.
- 6 February 2017** As per the announcement published in the Government Gazette, Volume 134, Special Section 77 Ngor, Page 16, dated 13 March 2017,
- Renamed the Faculty of Industrial Education to the Faculty of Industrial Education and Technology.
- 18 July 2017** As per the announcement published in the Government Gazette, Volume 134, Special Section 216 Ngor, Page 39, dated 1 September 2017,
- Renamed the International Medical College to the Faculty of Medicine.
- 3 January 2018** As per the announcement published in the Government Gazette, Volume 135, Special Section 31 Ngor, Page 69, dated 9 February 2018,
- Established the Institute of Music Science and Engineering.

# Institution Council Committee

President of the Institute Council



H.E. Gen. Surayud Chulanont

Vice President, Council



Lady Dr. Kasama Worawan Na Ayudhya

## Committee of the Expert Institute Council



Mr. Sarawut Benjakul



Professor Emeritus  
Dr. Piumsak Menasawet



Professor Emeritus  
Dr. Sakchai Limthongkul



Mr. Yuthana Thapcharoen



Ms. Manthana Piyamada



Mr. Siva Saengmanee



Mr. Wanat Taepaisitphong



Mr. Blown Trivisvavet



Mr. Anon Sirisaengtaksin



Mr. Apichai Boontherawara



Professor Emeritus  
Dr. Somwang Phithiyanuwat

## Board of Directors by position



Prof. Dr.  
Suchatvee Suwansawat  
Committee of the University Council  
By position of President



Assoc. Prof.  
Praphat Phrai Suwana  
President of the Alumni Association



Mr. Sura Gaintasilp  
Board of Directors  
By the position of Chair  
of the Institute of Business Promotion



Assoc. Prof. Dr.  
Chaiwut Chatchatai  
Member of the Institution Council,  
chair of the Faculty Council

## Board of Directors Which is the representative of the institute staff



Assoc. Prof. Dr. Thaweephon Saharit  
Board of Directors Which is the  
representative of the institute staff



Assoc. Prof. Dr. Komsan Maleesee  
Committee of the Institute Council,  
selected from department heads

## Secretary of the Institute Council



Mr. Phongthip Inkaew



# Board of Directors of King Mongkut's Institute of Technology Ladkrabang



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President



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Senior Executive Vice President for  
Academic Affairs (Provost)



Assoc. Prof. Dr. Laemthong Laokhongthavorn  
Senior Executive Vice President for  
University Resources and Services



Asst. Prof. Dr. Aranya Walairacht  
Executive Vice President for Academic  
Affairs and International Affairs



Prof. Anan Srikiatkachorn  
Executive Vice President for Research  
and Innovations



Assoc. Prof. Dr.  
Somyot Kaitwanidvilai  
Executive Vice President for Research  
and Innovation



Asst. Prof. Dr.  
Wattanachai Pongnak  
Executive Vice President for  
Students' Development  
and Alumni Relations



Assoc. Prof. Dr.  
Surin Khomfoi  
Executive Vice President  
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Resource and Environment



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Executive Vice President for  
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Executive Vice President for Finance and  
Accounting



Assoc. Prof. Dr. Siriwat Bodhivejkul  
Executive Vice President for Chumphon  
Campus Khet Udomsak



Mr. Phongthip Inkaew  
Executive Vice President for Physical  
Resource and Environment

# Board of Directors of King Mongkut's Institute of Technology Ladkrabang



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Dean, Faculty of Engineering



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Antika Sawadsri  
Dean, Faculty of Architecture



Assoc. Prof. Dr.  
Kitipong Mano  
Dean, Faculty of Industry Education  
and Technology



Assoc. Prof. Dr.  
Chaiwut Chatchatai  
Dean, Faculty of Science



Asst. Prof. Dr.  
Monthon Kaenmanee  
Dean, Faculty of Agricultural Technology



Assoc. Prof. Dr.  
Nopporn Chotikakamthorn  
Dean, Faculty of Information  
Technology



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Wittayaphirak  
Dean, Faculty of Liberal Arts



Associate Professor Dr.  
Amnuai Saengnoee  
Dean, Faculty of Administration and  
Management



Prof.  
Anan Srikiatkhachorn  
Dean, Faculty of Medicine



Assoc. Prof. Dr.  
Anuwat Jangwanitlert  
Dean, International College (Acting)  
(28 Nov 2018 - 26 May 2018)



Dr. Natthapong  
Jungteerapanich  
Dean, International College (Acting)  
(27 May 2018 - 23 Nov 2018)



Asst. Prof. Dr.  
Anuchit Jaruwanawat  
Dean, College of  
Nanotechnology



Assoc. Prof. Dr.  
Siridech Boonsang  
Dean, College of Advanced  
Manufacturing Innovation



Asst. Prof. Dr.  
Soemsak Yooyen  
Dean, International Academy  
of Aviation Industry



Asst. Prof. Dr.  
Smart Deebhijarn  
Dean, College Educational  
Innovation Research



Asst. Prof. Dr.  
Pitak Thumwarin  
Dean, Institute of music  
Science

# Board of Directors of King Mongkut's Institute of Technology Ladkrabang

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Director, Bureau of Registration and processing



Mr. Supat Phong Phongchomporn  
Director, Central Library



Asst. Prof. Akarin Khun Kitti  
Director, Computer Service Center



Asst. Prof. Dr. Rutchanee Gullayanon  
Director, KMITL Research and Innovation Services (KRIS)



Asst. Prof. Dr. Ampapan Tuntinakhongul  
Director, office of General Education

## Vice President



Dr. Theerawet Thitsaisang  
Vice President for Academic Affairs and Quality Assurance  
(13 Nov 2017–15 June 2018)



Asst. Prof. Dr. Chaiwat Nuthong  
Vice President for Academic Affairs and Quality Assurance  
(1 August 2018)



Dr. Natthapong Jungteerapanich  
Vice President for Academic Affairs



Asst. Prof. Dr. Chaiyan Jettanasen  
Vice President for International Affairs



Dr. Chinnapat Ruttanasirawit  
Vice President for Research



Asst. Prof. Dr. Natthawut Deewa  
Vice President for Students Development

# Board of Directors of King Mongkut's Institute of Technology Ladkrabang

## Vice Presidents



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Vice President for Buildings and Environment / Vice President for Information and Public



Asst. Prof. Dr. Tanawan Pinnarat, Ph.D.  
Vice President for Students Development



Asst. Prof. Dr. Pitak Thumwarin  
Vice President for System Assessment and Compensation Department



Asst. Prof. Dr. Antika Sawadsri  
Vice President for Human Resource Development and Training  
(13 Nov 2017 - 27 Nov 2017)



Asst. Prof. Dr. Sutheera Puntheeranurak  
Vice President for Human Resource Development and Training



Dr. Songsiri Bandhuseve, Ph.D.  
Vice President for Institute Council Affairs and Special Affairs



Asst. Prof. Dr. Chalita Srinuan  
Vice President for Finance and Accounting  
(14 Nov 2017 - 30 Jan 2018)



Assoc. Prof. Dr. Paitoon Pimdee  
Vice President for Procurement



Asst. Prof. Akkradach Watcharapupong  
Vice President for Information Technology



Assoc. Prof. Dr. Sira Saisorn  
Vice President for Chumphon Campus # 1



Asst. Prof. Dr. Kasemsuk Sepsirisuk  
Vice President for Chumphon Campus # 2



Assoc. Prof. Thiamphop Kanloug  
Vice President for Chumphon Campus # 3  
(13 Nov 2017 - 1 Apr 2018)

## Management Team of the Office of the Institute Council



Mrs. Wandee Bunying  
Head of Office of the Institute Council



Ms. Warongphon Boonyamai  
Director of General Administration  
(27 Sep 2017 - 3 Jul 2018)

## Management Team of the Office of the President

### Office Director



Ms. Charoensri Wutthithakun  
Office of Academic Administration and  
Education Quality  
(1 Oct 2017 - 7 May 2018)



Mrs. Jirawadee Muangmiphon  
Office of Academic Administration and  
Education Quality  
(8 May 2018)



Mrs. Lalita Visitanupong  
Office of International Affairs



Mr. Sorawit Mans Samak  
Office of Student Affairs and Alumni  
Relations



Mrs. Nuthapane Sairattanain  
Office of Strategic Management



Ms. Worawan Suwanagoot  
Office of Legal Affairs

## Management team of the Office of the President



Mr. Komon Vadkean  
Office of General Administration and  
Corporate Communication Division



Mrs. Pattama Sangwai  
Office of Human Resource Management



Mrs. Krongkhan Sawat Wiraphan  
Finance office

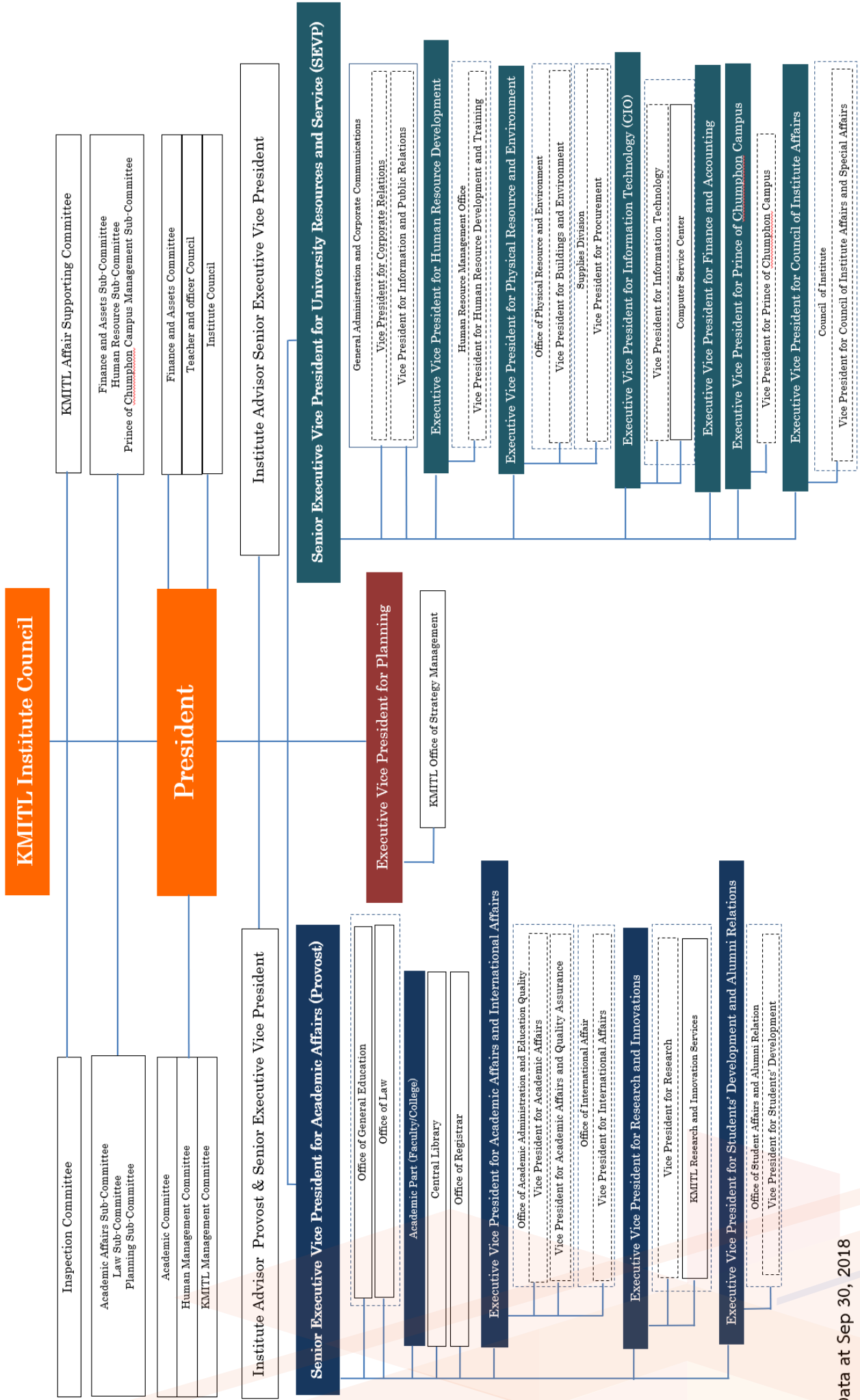


Mrs. Sudapan Munkhemthong  
Office of Physical Resource and  
Environmental Management



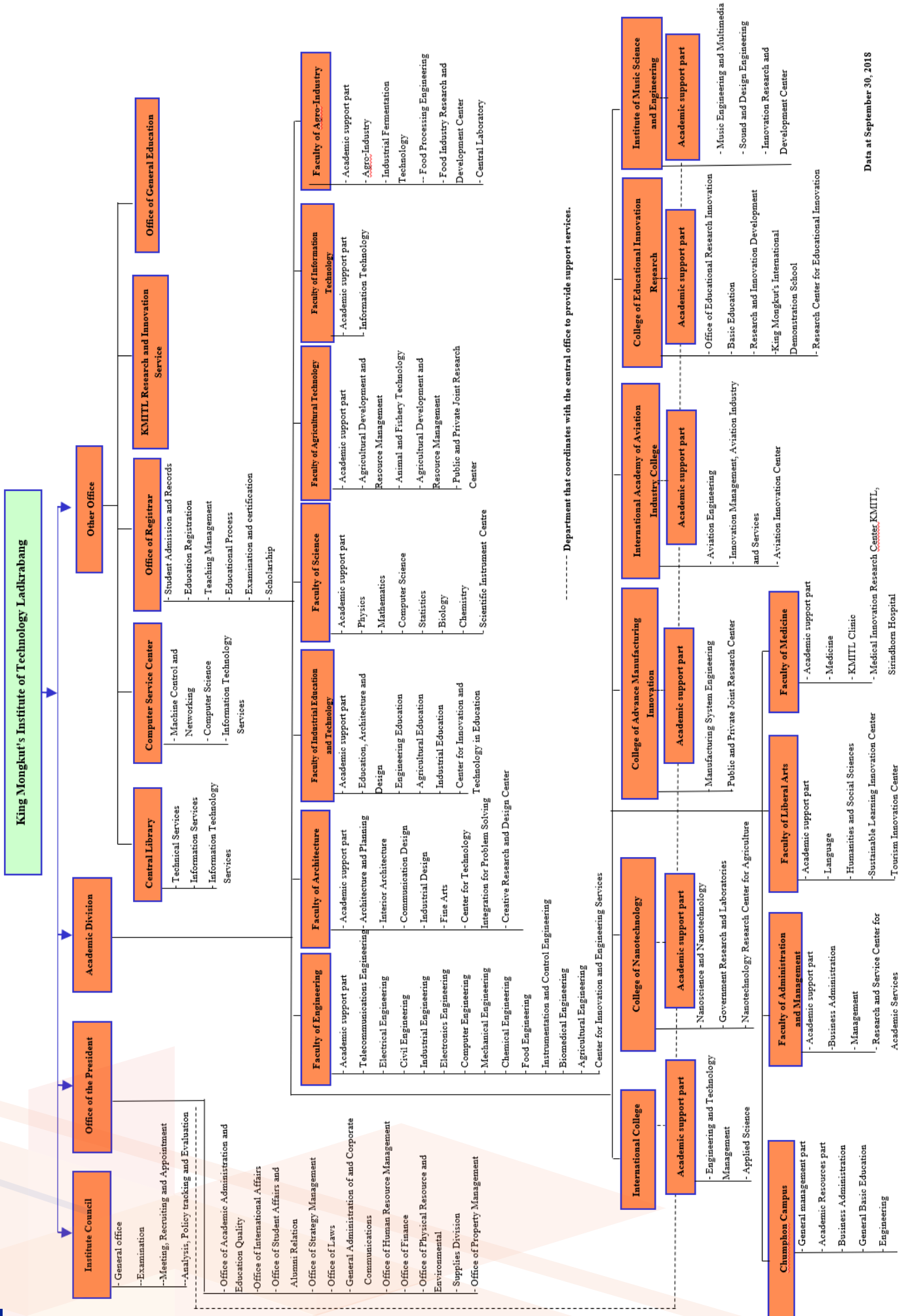
Ms. Charoensook Suksasilapa  
Supplies Division

# Executive Management Structure



Data at Sep 30, 2018

# Organization Structure







# **GRADUATE PRODUCTION**

# Graduate Production

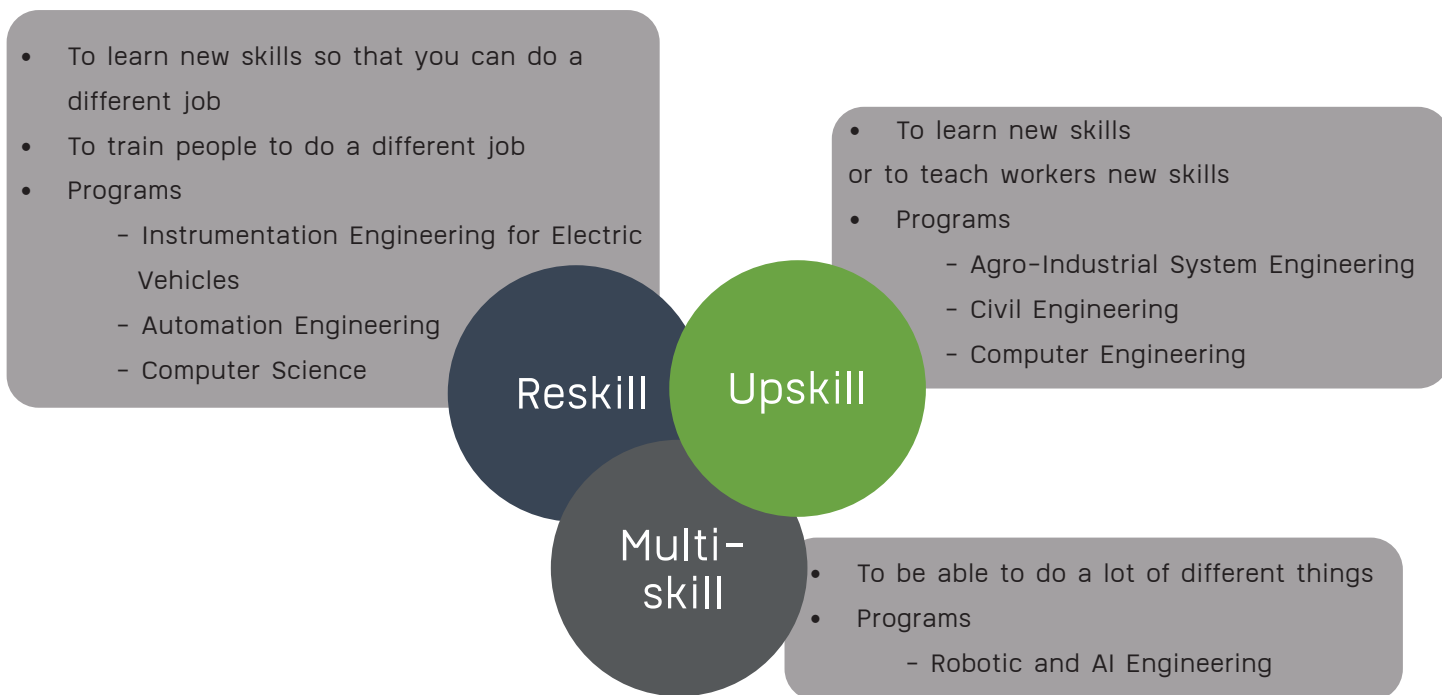
King Mongkut's Institute of Technology Ladkrabang is a public university established to provide education, conduct research, promote and offer services related to technology, science, and industrial education, and support national arts and culture. Recognizing society and the country's demands for education in science and technology, KMITL has adopted the strategy of producing quality graduates in line with national demands, and who are capable of competing at the international level. The institution's direction and plan for graduate production are consistent with important policies, such as the national economic and social development plan, higher education development plan, higher education reform policy, and national strategic plan. Furthermore, the institution produces graduates with knowledge and skills appropriate for the current job market and are able to keep pace with social changes.

KMITL is determined to become a world-class educational and research institution. In 2015, it defined its core values as, "LOVE," consisting of L = Loyalty, O = Optimism, V = Vision, and E = Excellence and initiated the campaign "I LOVE KMITL" to promote the core values of the institution. KMITL has been ranked in the QS World University Rankings and Times Higher Education World University Rankings. Amidst uncertainties and challenges, as a result of both internal and external factors, KMITL must adapt to keep up with changes. It has, therefore, initiated KMITL NEXT campaigns, including KMITL NEXT GEN, KMITL NEXT IDEA, and KMITL NEXT ACTION, to promote collaboration to come up with ways to improve the university and cater to the needs of the fast-changing world.

## Education

### • Academic Intensity

1. The Production of a New Breed of Graduates and Skilled Manpower to Meet the Needs of the Manufacturing Sector in Accordance with the Thai Higher Education Reform Policy Project aims to develop specific capacity and specialized skills needed by the industrial sector. Project participants will receive a certificate of competency and can use learning outcomes or results to accumulate credits to apply for a degree diploma when all the qualifications required by the program have been met. Besides, KMITL offers an opportunity for students in regular education programs to cooperate with business establishments to further develop the skills for the New S-Curve industry. Students can choose either the four-year program or an extended program after completing the third or fourth year, which focuses on learning a variety of skills that allow students to develop further as figure shown.



2. The KOSEN-KMITL Project (five-year program) was established in response to government policy to meet the needs of the industrial sector. It consists of five programs, including mechanics, electronic, electrical, mechatronic, and automotive. Each program is offered to 25 students.

3. King Mongkut's National Academy of Science and Technology (KNAST) was established to produce diploma graduates in engineering and technology. The academy focuses on problem-based learning, project-based learning, research-based learning, and STEM education to enable students to learn and integrate scientific and technological knowledge with engineering and mathematic processes to solve real-world problems. Students are able to train in an industrial workplace to gain hands-on experience. The curriculum is designed based on Japan's KOSEN, France's IUT, and Germany's dual system, which are effective curriculums for producing vocational manpower able to meet the needs of the Thai industrial sector.

4. The Institute of Music Science and Engineering was established to promote and develop the music industry of Thailand, which has grown at the yearly rate of not less than 10 percent over the past 10 years. This includes music in the record industry; film industry; advertisement, gaming industry, and animation; radio and television stations; musical instrument manufacturing industry; audio engineering and audiovisual medical equipment; automotive industry; consumer electronics for music production and concerts; and construction projects requiring the sound knowledge in construction design.

In addition, KMITL has improved its 180 programs, in a proportion of undergraduate: graduate programs of 48.33: 51.67, to comply with the TQF standards set by the Office of the Higher Education Commission, Ministry of Education.

## • Collaborative Programs

1. Short Course Executive Education is a collaboration between three institutions, including King Mongkut's Institute of Technology Ladkrabang, Chulalongkorn University, and CMKL University. The curriculum was developed by education experts to be aligned with the Eastern Economic Corridor (EEC) and Thailand 4.0 policies. It includes in-depth training in various fields and is sponsored by public and private sectors such as Thai Beverage Public Company Limited. KMITL will negotiate with the Office of the Civil Service Commission (OCSC) on a cooperative agreement to allow OCSC scholarship students to further their study at CMKL University.

The curriculum includes two programs:

- A cross-institutional double degree in robotic engineering. Graduates from this program will receive a degree from both King Mongkut's Institute of Technology Ladkrabang and Chulalongkorn University.
- Electrical & Computer Engineering degree (ECE). Graduates from this program will receive a degree from three universities.

2. The Faculty of Medicine was established in collaboration between King Mongkut's Institute of Technology Ladkrabang and Sirindhorn Hospital, Medical Service Department. The faculty offers courses that combine medical and health science and aims to become a medical school with international standards to enhance the quality of life of Thai people and the competitiveness of the country.

## • Language Supports

1. The KMITL Language Center is a collaboration between KMITL, Institute of International Education (IIE/Southeast Asia), and Center for Professional Assessment (CPA) (Thailand).

2. Projects that promote the use of the English language among students such as English Cafe and English Day projects.

3. Develop 23 international programs in the Faculty of Engineering, Faculty of Science, Faculty of Agro-Industry, Faculty of Information Technology, Faculty of Administration and Management, College of Educational Innovation Research, International College, Faculty of Medicine, and International Academy of Aviation Industry.

### • Collaborations

- King Mongkut's Institute of Technology Ladkrabang hosted the MOU signing ceremony for the Community of Practice in Arts and Culture to exchange knowledge, develop a community of practice, and cooperate in research, academic service, faculty and student activities, and arts and culture support, as follows: -

1. MOU with 14 educational institutions
2. MOU with Sukhothai and Kamphaeng Phet province
3. MOU with Princess Maha Chakri Sirindhorn Anthropology Center (Public Organization)

In Fiscal Year 2018, KMITL offered a total of 184 programs, including 91 undergraduate programs and 93 graduate programs (of these, 27 were international programs, including 18 undergraduate programs and 9 graduate programs), in accordance with the Thailand Qualifications Framework (TQF).

**Numbers of Programs Offered under TQF**  
**King Mongkut's Institute of Technology Ladkrabang Academic Year 2018**

No.	Academic Division	Number of Programs	Program offered under TQF		
			Bachelor's	Master's	Doctoral
1	Faculty of Engineering	63	33	21	9
2	Faculty of Architecture	18	11	6	1
3	Faculty of Industrial Education and Technology	21	7	8	6
4	Faculty of Agricultural Technology	10	4	5	1
5	Faculty of Science	22	9	8	5
6	Faculty of Information Technology	6	3	1	2
7	Faculty of Agro-Industry	7	3	3	1
8	Faculty of Administration and Management	7	3	3	1
9	Faculty of Liberal Arts	4	3	1	-
10	Faculty of Medicine	1	1	-	-
11	Prince of Chumphon Campus	15	9	6	-
12	International College	6	2	3	1
13	College of Nanotechnology	3	1	1	1
14	College of Advanced Manufacturing Innovation	3	1	1	1
15	College of Educational Innovation Research	1	-	-	1
16	International Academy of Aviation Industry	2	2	-	-
17	Institute of Music Science and Engineering	1	1	-	1
<b>Total</b>		<b>184</b>	<b>91</b>	<b>64</b>	<b>29</b>

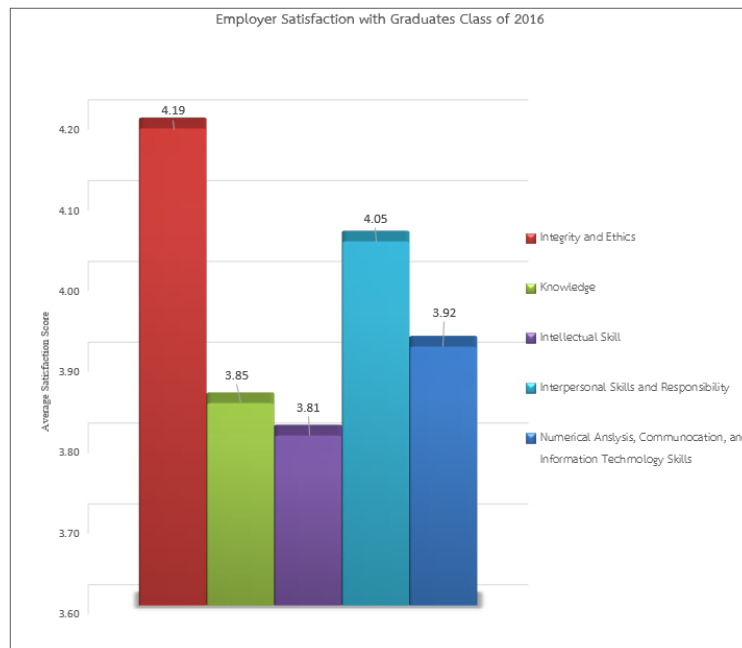
*Source: Office of Academic Administration and Education Quality*

## Graduate Quality

**1) Graduate Employment** Based on the KMITL graduate employment survey, among the 4,876 bachelor's degree students who graduated in 2016, 4,701 graduates or 96.41 percent returned the survey questionnaire. The results are as follows:

Status	Number	%
Bachelor's degree		
Employed	3,235	68.82
Self-employed/Business owner	270	
Public servant/Government official	143	
Company/private sector employee	2,656	
State enterprise	36	
Foreign/international organization employee	28	
Others	72	
Not specified	27	
Further education	392	8.34
Unemployed	1,052	22.38
Do not wish to work	478	
Awaiting response	262	
Cannot find a job	65	
Ordain	37	
Enlist for military service	83	
Others	96	
Not Specified	31	

**2) Graduate Quality** The employer satisfaction survey was conducted to evaluate the satisfaction levels of employers/entrepreneurs/graduate users who employed KMITL graduates from the Class of 2016. A sample of 3,517 employers was selected from the employment data submitted by the graduates and only



The survey of employer satisfaction with KMITL graduates of the Class of 2016 evaluated five characteristics of graduates that were desired by employers. It was found that the employer satisfaction score was higher than 3.51 in every characteristic.

## Educational Quality Development

In addition to academic development, KMITL places importance on encouraging students to participate in activities to promote and develop skills in their field of interest. Students can organize and participate in activities with the institute's staff in five areas, including:

1. Sports and health
2. Arts and culture
3. Academic activities that promote desired traits of graduates
4. Community service and environmental protection
5. Ethics and morality



**1) Sports and Health** Sports and health activities aim to provide students with professional sports knowledge and skills, cultivate sportsmanship and teamwork, improve physical fitness and mental health, spend free time productively, and keep students away from drugs. As sports can help enhance KMITL's long-standing reputation, they may include sports club activities, sports competitions between faculties and universities, and freshman sporting events.

The goals of the sports activities, organized by the Office of Student Affairs and Alumni Relations, are to:

- 1.1 Promote sports knowledge and skills for students.
- 1.2 Cultivate sportsmanship.
- 1.3 Cultivate a positive attitude towards sports and promote fitness.
- 1.4 Build unity among students, professors, and staff.
- 1.5 Relieve stress and promote positive mood and mind.
- 1.6 Publicize and spread the institute's reputation.



**2) Arts and Culture** Arts and culture activities have been designed to preserve and promote the elegance and uniqueness of Thai arts, culture, and traditions, while instilling pride and appreciation of Thai arts and culture in students. The activities have encouraged students to take part in preserving arts, culture, and local wisdom, varying in religious activities, exhibitions, traditional Thai dance shows, Thai and international music performances, folk games, and customary celebrations. The above mentioned activities, hosted by the Office of Student Affairs and Alumni Relations, are scheduled to be held on special occasions such as Teacher's Day, Songkran Festival, Loy Krathong Festival, and Buddhist Lent Day. The objectives of these activities are to:



- 2.1 Preserve and promote the elegance and uniqueness of Thai arts, culture, and traditions.
- 2.2 Instill pride and appreciation of Thai arts and culture in students and the general public, where arts and culture activities include traditional Thai dance show, Thai and international music performance, folk games, and customary celebrations.





**3) Academic Activities** aim to promote academic operations of the institute. They may include training sessions and seminars to provide information on how to develop student activities to the institute's staff and relevant students, as well as procedures and guidelines for organizing and planning activities to build a good relationship and understanding among students.



**4) Community Service and Environmental Protection** aims to promote integrity and positive mindset for students, teach students to help the underprivileged people, work together as a team to gain hands-on experience, make sacrifices for the common good, use knowledge and skills to develop community and society, and develop leadership and followership. The goals of the activities organized by Student Affairs are to:



- 4.1 Encourage students to use their free time to benefit the public and communities and volunteer for rural development and environmental preservation.
- 4.2 Provide students with direct experiences that enable them to gain a true understanding of how society works and promote awareness of social responsibility, especially towards rural communities.
- 4.3 Build unity, responsibility, and a sense of self-sacrifice for the common good among students.
- 4.4 Train students to be good leaders and followers, work together as a team, learn to compromise, and listen to others.
- 4.5 Promote understanding and relationships between students, the public, and civil servants.
- 4.6 Encourage rural communities to recognize the importance of development and bring prosperity to their localities and make sacrifices for the common good.
- 4.7 Spread the name and reputation of the institute. Activities may include volunteer projects for community development, natural resource, and environmental preservation, and proper use of natural resources, whether in a survey stage or implementation stage.



4.8 NEXT Action Volunteer Project to Develop "Ladkrabang Model" for the Hua Ta Khe Community. The project applied the "King's Model" of His Majesty The King Bhumibol Adulyadej to develop a holistic approach to the Hua Ta Khe community development. It attempts to build a good relationship between KMITL and the community and use the institute's resources to sustainably develop the community in five dimensions, including economic, environmental, health, educational, and social dimensions to create the "Ladkrabang Model" under the principles of "Understanding, Inclusiveness, and Development" and the Holistic Area Base to enhance the quality of life.

#### 5) Ethics and morality aims to:

- 5.1 Develop traits of ethical and moral leaders for students.
- 5.2 Promote desirable values in society and the ability to adapt to and live happily in a changing society.
- 5.3 Build consciousness and sense of responsibility toward society and the nation among students. Activities may include meetings, training, and seminars to provide understanding, change attitudes and behavior, and develop leadership, morality, and ethics.





# **ACADEMIC COOPERATIONS**

# Academic Cooperation

In Fiscal Year 2018, KMITL initiated a cooperation with organizations and educational institutions from both Thailand and abroad as follows:

## - Academic cooperation projects with foreign organizations

### Australia

1. The University of Sydney
2. James Cook, University of Science and Technology
3. University of Queensland, Australia
4. Curtin University of Technology Perth, Western Australia

### Austria

1. Montanuniversitaet Leoben
2. ASEA UNINET
3. Universitat fur Bodenkultur Wien

### Belgium

1. The Kattholieke Univeriteit Leuven
2. Thomas More Kempen

### Brazil

1. Universidade Federal de Minas Gerais (UFMG)
2. The Federal University of Sao Carlos

### Cambodia

1. Royal University of Phnom Penh
2. Institute of Technology of Cambodia
3. Kampong Chheuteal Institute of Technology

### Canada

1. Saint Mary's University
2. English Language Center, University of Victoria

### Egypt

1. Alexandria University

### China

1. Guangxi Normal University
2. Shanghai University of Sport
3. Harbin Institute of Technology
4. Nanchang University
5. UESTC
6. Yunnan Academy of Applied Technology
7. China Railway Engineering design Institute Co., Ltd
8. Hikvision Digital Technology Co.,Ltd
9. South China Normal University
10. College of Ocean and Earth Sciences, Xiamen University
11. Shandong Academy of Medical Sciences
12. Beijing University
13. South China Agricultural University
14. Wuhan University
15. ANHUI AGRICULTURAL UNIVERSITY (AAU)
16. Hainan College of Foreign Studies
17. Southwest Jiaotong University,China
18. Tongji University,Shanghai
19. Alibaba Group
20. China Three Gorges University
21. Guizhou Minzu University
22. CAS innovation cooperation center (Bangkok)
23. The Institute of Computing Technology, CAS
24. Guizhou Education University
25. Jiaxing University
26. Nanjing Tech University
27. GuoKai Education Group
28. Beijing University of Chemical Technology
29. GuiZhou Chinese-Thai Cultural Exchanges Institute

## France

1. The University of Angers
2. Universite Joseph Fourier Grenoble 1
3. Ecole des Mines d'Albi-Carmaux
4. Universit de Bourgogne
5. Universit de Franche-Comt (UFC)
6. Institut National des Sciences Appliquees de Toulouse
7. Universite de Grenoble
8. Agrocampus Ouest
9. Institut National des Sciences Appliquees de Strasbourg
10. ECOLE CENTRALE DE NANTES
11. IRSTEA
12. Bordeaux Sciences Agro

## Hong Kong S.A.R., China

1. The Swire Institute of Marine Science ,The University of Hong Kong
2. The Hong Kong Polytechnic University

## India

1. Lady Doak College
2. BK Birla Institute of Engineering and Technology
3. Banasthali University
4. Gujarat Forensic Sciences University
5. Institute of Aeronautical Engineering

## Italy

1. Politencnico di Torino
2. The University of Modena and Reggio Emilia (UNIMORE)

## Germany

1. Fachhochschule Frankfurt Am Main
2. Anhalt University of Applied Science
3. University of Stuttgart
4. Consulectra Unternehmensberatung
5. Ostwestfalen-Lippe University of Applied Science / TU
6. Rosenheim University of Applied Sciences (RoUAS)
7. Flensburg University of Applied Sciences, Flensburg
8. University of Flensburg
9. European Hygienic Engineering & Design Group (EHEDG)
10. Universitat Munchender Bundeswehr Munchen
11. Technische Universitat Dresden
12. Frankfurt University of Applied Sciences
13. Hochschule der Medien
14. Fraunhofer Research Institute for Casting, Composite and Processing (IGCV)
15. Karlsruhe Institute of Technology
16. University of Applied Sciences Wurzburg-Schweinfurt

## Indonesia

1. Gadjah Mada University
2. STIE YKPN Yogyakarta
3. Universitas Indonesia
4. Institut Teknologi Sepuluh Nopember (ITS)
5. Bogor Agricultural University
6. State Islamic University Syarif Hidayatullah Jakarta (UIN)
7. Universitas Pgri Madiun

## Japan

1. Tokai University
2. Telecommunications Advancement Organization of Japan
3. The University of Electro communications
4. Tokyo Institute of Technology
5. Kyushu Tokai University
6. YRP R&D Promotion Committee
7. Communication Research Laboratory of Japan (CRL)
8. National Institute of Information and Communications Technology (NICT)
9. National College of Technology, Maizuru College
10. National College of Technology, Sendai College
11. Meiji University
12. JICA (AUN/SEED-Net)
13. Osaka University
14. Hokkaido University
15. Saga University
16. Fukuoka Institute of Technology
17. University of the Ryukyus
18. Tokyo Metropolitan University
19. Japan International Research Center for Agricultural Sciences (JIRCAS)
20. Mie University
21. Kyoto University
22. Japan Advanced Institute of Science and Technology (JAIST)
23. Yamagata University
24. INCT (KOSEN)
25. TIT /TU/KMUTT/NSTDA/SIIT/KU
26. The Tokyo University of Agriculture and Technology
27. Muroran Institute of Technology
28. Kochi University of Technology
29. National College of Technology, Kushiro College
30. National College of Technology, Toyama College
31. Doshisha University
32. Chubu University
33. Kumamoto University
34. Nagoya University of Arts
35. The Erasmus University
36. National Institute of Technology, Kitakyushu College
37. Tohoku University
38. Iwate Prefectural University
39. Institute of Industrial Science, The University of Tokyo
40. Sumitomo Electric Industries Group
41. Hitachi, Ltd., Rail Systems Company
42. Ministry of Posts and Telecommunications (Japan)
43. Japan Atomic Energy Research Institute
44. National Institute of Multimedia Education
45. National Institute for Environmental Studies, Japan
46. Waseda University
47. National Institute of Technology, Kisarazu College
48. National Institute of Technology, Numazu College
49. National Institute of Technology, Tsuruoka College
50. National Institute of Technology, Hachinohe College
51. National Institute of Technology, Kurume College
52. National Institute of Technology, Anan College
53. Shinshu University
54. Meidensha Corporation
55. Nagoya University
56. Shizuoka University
57. Don Quijote Co.,Ltd.
58. University of East Asia
59. Mitsubishi Electric Corporation Information Technology R&D Center
60. Kagoshima University
61. Yamaguchi University
62. Kyushu Institute of Technology
63. Iwate University
64. Fujita Kanko Inc.
65. National Institute of Technology (Kumamoto College)
66. Nagoya Institute of Technology
67. Tokyo University of Science

## Laos

1. National University of Laos
2. JICA Laos Office
3. National University of Laos (NUOL)
4. Souphanouvong University

## Malaysia

1. Universiti Teknologi Mara
2. University of Malaya
3. Universiti Teknologi Malaysia
4. UCSI University
5. Universiti Tenaga Nasional
6. UMCH technology sdn bhd

## Netherlands

1. Philips Electronics Nederland B.V.

## New Zealand

1. The University of Waikato
2. Auckland UniService Ltd.  
(University of Auckland)

## Norway

1. Buskerud & Vestfold University College

## Philippines

1. De La Salle University
2. Eastern Visayas State University
3. Central Luzon State University
4. Central Bicol State University
5. Seameo Regional Center for Graduate Study  
and Research in Agriculture  
(SEARCA)
6. The University

## Spain

1. University of Granada

## Poland

1. Warsaw University of Life Sciences WULS  
- SGGW
2. Poznan University of economics and Business
3. Warsaw Agricultural University
4. Polish - Japanese Academy of Information  
Technology

## Russia

1. North - Ossetian K.L. Khetagurov State  
University

## Saudi Arabia

1. Academy for Global Business Advancement  
MIDAS Communication Company Ltd.

## Singapore

1. Microsoft Operations Pte.Limited
2. Infineon Technologies Asia Pacific Pte Ltd
3. Temasek Polytechnic
4. Singapore Polytechnic
5. Nanyang Technological University

## Slovenia

1. Sonda Foundation (GT22)

## South Korea

1. Mokpo National University
2. Kongju National University
3. Far East University
4. Gyeongsang National University
5. Chung Ang University
6. Inha University
7. Seoul National University of Science and  
Technology
8. DAEATI Co., Ltd.
9. EVTECH Co.Ltd.
10. Chungnam National University
11. Hanyang University
12. Chonbuk National University

## Switzerland

1. Hotel & Tourism Management Institute (HTMI)
2. Business and Hotel Management School (B.H.M.S.)
3. MDPI

## Taiwan

1. National Pingtung University of Science and Technology
2. Mingdao University
3. Yuanpei University
4. National Formosa University
5. Ling Tung University
6. National Taipei University of Technology (Taipei Tech)
7. Tatung University, Taiwan
8. Shih Chien University
9. Ta Hwa University of Science and Technology
10. Tunghai University
11. National Chiao Tung University
12. National Chung Cheng University (CCU)
13. Chinese Culture University
14. Central Taiwan University of Science and Technology
15. National Kaohsiung Marine University
16. National Tsing Hua University, Taiwan
17. University of Taipei, Taiwan
18. National Taichung University of Education
19. National Dong Hwa University
20. Ming Chi University of Technology
21. China University of Science and Technology
22. Minghsin University of Science and Technology
23. K&H MFG.CO., LTD
24. National Sun Yat-sen University

25. TAMKANG University
26. School of Medicine: National Yang-Ming University
27. National Taiwan Normal University
28. University of Taipei
29. Feng Chia University
30. National Cheng Kung University
31. National Taipei University
32. National Yunlin University of Science and Technology

## Thailand

1. AUN/SEED-Net
2. Asian Institute of Technology



## United Kingdom of Great Britain and Northern Ireland

1. University of Plymouth
2. Imperial College London
3. University of Glasgow
4. University of Nottingham
5. University of Strathclyde, Glasgow Scotland
6. University of Northumbria at Newcastle
7. South Eastern Regional College, Northern Ireland
8. University of Warwick
9. Language Testing & Assessment Services Ltd. (LTAS)
10. University of Reading
11. Middlesex University London

## United States

1. Iowa State University of Science and Technology
2. Oklahoma State University
3. The University of Georgia
4. Fieldbus Foundation
5. The Board of Regents of the University System of Georgia, The University of Georgia
6. Utah State University
7. Ball State University
8. The University of South Florida, USA
9. Portland State University
10. University of Colorado Colorado Springs
11. University of California, Davis
12. Carnegie Mellon University
13. University of Maryland, USA
14. University of North Dakota
15. University of North Texas
16. DynEd International, Inc.

## Vietnam

1. Thai Nguyen University of Technology
2. Hue University of Agriculture and Forestry
3. Agricultural Genetics Institute Vietnam Academy of Agricultural Science, Hanoi
4. VNU University of Science
5. Can Tho University
6. College of Aquaculture and Fisheries Can Tho University
7. Hung Vuong University
8. College of Agriculture and Applied Biology Can Tho University
9. University of Da Nang (Danang)
10. Hanoi University of Science and Technology
11. Ho Chi Minh City University of technology (HCMUT)

# Teaching and Learning Support System



## Library Service

The Central Library provides services and resources that are in accordance with higher education library standards and meet the needs of library users. It focuses on developing electronic media resources to become an electronic library as stipulated in the KMITL Strategic Plan Focus and strives to use modern and effective technologies to provide reliable, convenient, and fast services. Furthermore, it has cooperated with libraries in other higher education institutions and organizations to share resources to meet the growing needs of library users. It is equipped with technologies to support uninterrupted services and management, including an adequate database system and modern computer and communication equipment. In addition, the Central Library recognized the importance of energy and environmental conservation and adopted the Green Office Policy on 26 March 2018 following the Green Office Standards Handbook published by the Department of Environmental Quality Promotion. This policy aims to improve the quality of the Central Library in line with the five-stage policy and the fourth strategy in the KMITL Strategic Plan to support the development of KMITL excellence, promote environmental well-being, and create a green university.

**There are many services available as follow:**

- Educational, such as repairing school buildings, developing schools, sports fields, and educational equipment, and providing assistance with organizing libraries and using computer programs.
- Public utilities, such as building multipurpose halls, rainwater tanks, and ponds, and improving villages and other public utilities.
- Transportation, such as building and repairing bridges, roads, and public drains.
- Landscaping, such as public space beautification and service and advice on landscaping.
- Environmental preservation, such as reforestation, park development, providing knowledge on environmental preservation, and KMITL volunteer projects to improve and restore the environment in Ladkrabang.
- Public health, such as improving the well-being and hygiene of people in Ladkrabang, providing basic care by mobile medical units, visiting bedridden patients, general health check-up service, and providing health education knowledge with the KMITL volunteer project.

## Information System Development

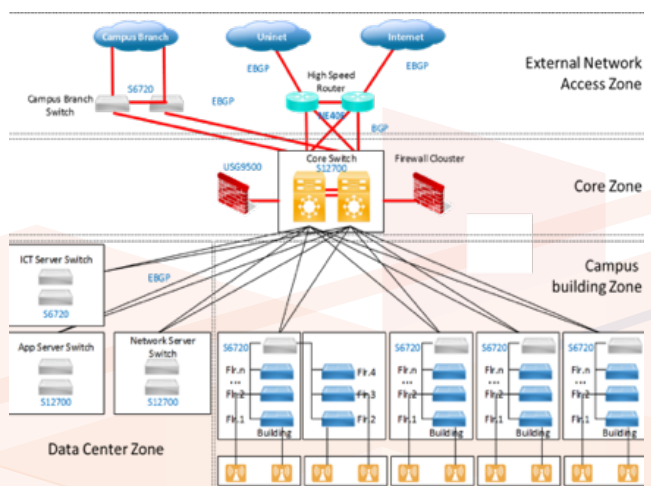
The Computer Service Center is in charge of the maintenance of computers and computer operating systems. It provides computer, internet, computer network, data communication, and basic computer troubleshooting and repair services to departments and units within the institute. In addition, it provides consultations and plans, designs, and develops computer information programs used in the institution's management.

**• Information Technology Management**

In Fiscal Year 2018, the Computer Service Center started installing Wi-Fi hotspots with speed of up to 100 Gb/sec at 3,000 locations throughout the institute. The installation will be completed in 2019. Moreover, the center will connect communication cables to the electronic equipment and computers in the network (topology final), which is divided into four zones, including:

1. External network access, including core routers and branch access switches, to connect to uninet and campus.
2. Core zone, which includes core switches and a firewall cluster to transmit data between zones.
3. Building zone, which includes switches on every floor of buildings and wired and wireless connections for clients and servers.
4. Data center zone is a part of a server for cloud computing, service servers, and management/monitoring systems.

Phase 1	Phase 2	Phase 3.1	Phase 3.2
16 fiber-optic cable routes to main buildings	29 fiber-optic cable routes to main buildings	13 fiber-optic cable routes to main buildings	12 fiber-optic cable routes to main buildings
76 fiber-optic cable routes to building floors or secondary buildings	148 fiber-optic cable routes to building floors or secondary buildings	61 fiber-optic cable routes to building floors or secondary buildings	81 fiber-optic cable routes to building floors or secondary buildings
16 switches in main buildings	29 switches in main buildings	13 switches in main buildings	12 switches in main buildings
76 switches on building floors or in secondary buildings	148 switches on building floors or in secondary buildings	61 switches on building floors or in secondary buildings	81 switches on building floors or in secondary buildings
807 APs (Wi-Fi)	1137 APs (Wi-Fi)	456 APs (Wi-Fi)	656 APs (Wi-Fi)
33 buildings equipped with network and Wi-Fi	65 buildings equipped with network and Wi-Fi	24 buildings equipped with network and Wi-Fi	36 buildings equipped with network and Wi-Fi
Warranty Phase 1	Warranty Phases 1 and 2	Warranty Phases 1, 2, and 3.1	Warranty Phases 1, 2, 3.1, and 3.2



# Learning Environment Development

## • Landscape and Environmental Improvement

KMITL has built a pleasant, clean, beautiful, and safe landscape and environment to promote and maintain the wellbeing of students and staff, including the Rama IV Park, the institute's sign, Princess Maha Chakri Sirindhorn Building, Student Union, train station, road crosswalk, and footpath



## • Green Building

KMITL is currently constructing two new buildings, Faculty of Education Building and Hitech Building, which have been awarded in the Energy Efficiency Building 2018. They are designed according to the Thai's Rating of Energy and Environmental Sustainability (TREES) standard certified by the Thai Green Building Institute (TGBI). The honorable award will be presented to energy-efficient and environmentally friendly buildings according to the green building standard.



## • Transportation

Because KMITL allows the public to use roads within the institute, it has improved entrance and exit roads, reorganized transportation, and set up campaigns to reduce traffic congestion and ensure the road safety of students, staff, and the general public, as follows:

1. Improve traffic within the institute by requiring vehicles make a U-turn in front of the President's Office Building to head to Ladkrabang Industrial Estate to make a U-turn under the bridge, closing the entrance road to the Student Union, and allowing the public to use the roads within the institute during rush hours between 07.00 - 09.30 in the morning and 16.00 - 17.30 in the evening.
2. Improve directional signs within the institute at 35 locations, including 15 urgent traffic signs and 20 traffic signs.
3. Hold a meeting to discuss connecting a U-turn bridge on the motorway around KM 14 with the Department of Highways.
4. Develop and reorganize a public transportation system to service staff, students, and the general public. Set up three bus stops on Chalong Krung Road in front of the institute and a shuttle service between the institute and Airport Rail Link Station.



# **RESEARCH SERVICES**

# Research

## Citation Boost

KMITL's management plan for 2017 to 2027 focuses on "sustainable development of research and innovation" with important strategies as follows:

- Increase the number of publications in international journals of full-time professors and researchers.
- Increase the number of citations of research papers published in national and international journals.
- Increase the number of innovations that can be applicable or commercialized.
- Increase external financial support for research, innovation, and invention for full-time professors.

Boosting citations cannot be achieved by simply increasing the number of published papers. The institute must also strive to produce quality research that meets the needs and be acceptable to the society. In 2018, KMITL improved its research management to produce research that meets the needs of the country and set up nine research clusters, including ICT robotics and automation, agriculture and food, biomedical, ICT smart city and Internet of Things (IoT), battery and EV, renewable energy, creative economy, materials, and logistics.

These research clusters intend to promote collaboration of interdisciplinary researchers who share similar interests and research that meets the demand and can be commercialized. For example, the Model Community of Innovative Protein Producer in the Eastern Region for Animal Feed Industry project in the agriculture and food research cluster receives 28,166,500 baht of research funding from the integrated research and innovation program. The project is directed by Dr. Norathat Prachum, Faculty of Agricultural Technology.

In addition, KMITL improved the quality standard of published papers by setting a KPI for research projects to publish papers in the Web of Science (WoS) database. To be consistent with this requirement, KMITL also revised the announcement on publication reward to give prizes to only research papers published in the Web of Science (WoS) database and the prices vary according to quartile. In 2018, 197 papers received the reward totaling 4,941,953 baht.



# Rankings

King Mongkut's Institute of Technology Ladkrabang is ranked in the following world university rankings.

- KMITL is ranked in the 201-300 in the Times Higher Education World Ranking
- Ranked 2nd place of the country in the Time Higher Education University Impact Rankings 2019. It

has the highest scores in four areas, including:

SDG 13: Climate action: 88th in the world and 1st in the country.

SDG 17: Partnerships for the goals: 101-200th in the world and 2nd in the country.

SDG 3: Good health and well-being: 201-300th in the world and 3rd in the country.

SDG 8: Decent work and economic growth: 101-200th in the world and 1st in the country.

- Ranked in the 251-260 in Asia, 44th in ASEAN, and 9th in the country in the QS Asia University

## Thailand

### King Mongkut's Institute of Technology Ladkrabang

1001+

World  
University  
Rankings  
2020

201-  
300<sup>th</sup>

University  
Impact  
Ranking  
2019

251-  
300<sup>th</sup>

Asia  
University  
Rankings  
2019



# Collaborations

KMITL strives to conduct researches that genuinely meet the needs of the people, while remaining determined to solve problems for the society. We have continued to build research collaboration with public and private organizations as well as the industrial sector. In 2018, the institute received 347,132,017.46 baht of research funding, which came from two major sources: the annual government budget and public and private funding. A total of 84 projects valued 156,744,100 baht were funded by the government. These projects included 57 basic research projects, 11 collaborative projects with the industrial sector, and 16 projects on social impacts. Also, from other Public and private funding are amounted to 190,387,917.46 baht.

Not only disseminating basic knowledge, KMITL has also recognized the importance of commercialization of knowledge and research results. In 2018, there were 21 research and innovation projects that could be commercialized. Furthermore, the institute had successfully conducted research projects on national development and The sustainable society and community. In 2018, KMITL collaborated with foreign organizations in various research projects, including:

## Smart Wheelchair Based on Eye Tracking

As Thailand is stepping into the aging society, wheelchairs have become essential for the everyday life of the elderly, as well as people with disabilities. Normally, wheelchairs are controlled by a joystick. However, a research team from the Faculty of Engineering, KMITL, consisting of Associate Professor Dr. Chuchat Pintawirut, Dr. Wiboon Piyawattanametha, and students from the biomedical engineering program, Mr. Aniwat Chuhong and Mr. Supakorn Suwan, has developed a smart wheelchair that can be controlled using eye tracking technology. The user can just look at the direction they want to go to move the wheelchair toward that direction. This wheelchair is light weight and easy to use. It can also enable patients to communicate with caregivers via smartphones to request assistance or in case of an emergency. The wheelchair won the Silver Award at the international innovation competition in Beijing, China.



## Taxi for People with Disabilities

To improve the quality of life for people with disabilities, the Ministry of Social Development and Human Security and King Mongkut's Institute of Technology Ladkrabang, with financial support from the Empowerment of Persons with Disabilities Fund, initiated the "Design and Manufacture of Meter Taxi for People with Disabilities Phase 2." The project will be developed by Assistant Professor Dr. Don Isarakorn, project director, Assistant Professor Dr. Noppadon Maneerat and Mr. Supakorn Suwan to design and produce a taxi for people with mobility impairments. The taxi will be fitted with a wheelchair ramp to make it accessible to people in wheelchairs.



## Salt Washer for Pickled Jellyfish

Mr. Samak Rakmae, a lecturer of the Faculty of Engineering, won the TRF Outstanding Research Award 2017 for his commercial research to design and built a prototype machine to wash salt in jellyfish, which can be used by the industrial sector. This machine is easy to use and maintain and can be set to operate in an automatic mode. It can thoroughly clean the jellyfish using rotating water flow, control water temperature, spin to rinse the jellyfish, and drain water out after washing.

## Low-Sugar Rice

Assistant Professor Dr. Naphatsaraphi Luangsakul, Associate Dean of the Faculty of Agro-Industry, has conducted research to modify the chemical structure of rice to produce low glycemic index rice using a temperature control process without chemicals. The research results are currently being tested and used for treatment of diabetic patients. It is expected that the low-sugar rice will be used widely and can be used to further develop alternative commercial products, such as healthy rice flour for cooking and baking and low-sugar instant rice, which can reduce the risk of diabetes.



## Water Hyacinth for Acoustic Board

In the classroom made of plywood walls, wood paneling is highly reflective, so sounds are bounced around the classroom, resulting in poor sound quality, a negative effect on learning, and miscommunication. This problem led Mr. Watchara Noimala, Mr. Patcharapruk Phapo, and Mr. Putthiphong Wongbundit, students from the Department of Agricultural Engineering, Faculty of Engineering, with Assistant Professor Dr. Prasan Chumjaiharn as project advisor, to develop an affordable sound absorber made of water hyacinth. Because it is readily available in rivers, grows very fast, and obstructs water transportation, water hyacinth is most suitable to be used to develop products of economic value. Acoustic board from water hyacinth has four benefits, including:

1. Help absorb sounds in residential buildings, office buildings, music rehearsal rooms, recording rooms, and large conference rooms.
2. Create useful products and economic value.
3. Save the cost in sound absorber production.
4. Reduce aquatic weeds in rivers and improve the environment.

# Publication

*In Fiscal Year 2018, KMITL published 1,193 papers in international journals as follows*

Acedmic Division	Paper
Faculty of Engineering	406
Faculty of Architecture	34
Faculty of Industrial Education and Technology	49
Faculty of Science	173
Faculty of Agricultural Technology	116
Faculty of Information Technology	57
Faculty of Agro-Industry	16
Faculty of Administration and Management	21
Faculty of Liberal Arts	6
Faculty of Medicine	11
Prince of Chumphon Campus	40
International College	46
College of Data Storage Innovation	22
College of Nanotechnology	52
International Academy of Aviation Industry	7
College of Educational Innovation Research	1
<b>Total</b>	<b>1,193</b>

## Patent Registration

*KMITL Research and Innovation Service is in charge of overseeing and protecting the interests of the institution related to research commercialization, promoting the development of intellectual property, and managing patent registration and intellectual property.*

*The research results applied for intellectual property registration (patents/petty patents) in Fiscal Year 2018 are as follows*

No.	Application No.	Product/Invention	Type of Protection	Inventor	Academic Division
1	1703002081	Method for producing calcium sulfate from clam shells and/or egg shells and products obtained from such method	Petty patent	Assist. Prof. Dr. Banjong Bunchom	Faculty of Science
2	1703002176	iBox	Petty patent	Assoc. Prof. Dr. Peerawut Suwanjan	Faculty of Industrial Education and Technology
3	360440	ALL	Copyright	Mr. Komdech Wongchaichana	
4	1701006685	Portable fluorescence-based E. coli Detector	Invention patent	Dr. Wiboon Piyawattanametha	Faculty of Engineering
5	1703002278	Wheelchair ramp	Petty patent	Assist. Prof. Dr. Don Isarakorn	Faculty of Engineering
6	1703002278	Pancreatic cancer cells in blood diagnosis test using DNA methylation at cg16941656 of FRY	Invention patent	Dr. Ratthakorn Srisutthi	Faculty of Medicine
7	1703002370	High-performance current source for use with adjustable voltage regulator IC	Petty patent	Dr. Lertsak Lekawat	College of Advanced Manufacturing Innovation
8	1703002371	High PSRR, low Zout, and low noise voltage regulator with adjustable voltage regulator IC	Petty patent	Dr. Lertsak Lekawat	College of Advanced Manufacturing Innovation
9	261032	Student home visit database management system for school administration	Copyright	Mr. Sarawut Wongju	Faculty of Industrial Education and Technology
10	1801000813	Method for increasing photosynthetic pigments in rice plants using nano-zinc oxide	Invention patent	Dr. Sutee Chutiphaichit	College of Nanotechnology

No.	Application No.	Product/Invention	Type of Protection	Inventor	Academic Division
11	1803000661	Recipe and production process for sugar-boiled banana puree with pineapple and roselle juice	Petty patent	Assoc. Prof. Dr. Pinmanee Kwanmuang	Faculty of Industrial Education and Technology
12	1801002669	Method for producing calcium citrate from clam shells and/or egg shells and products obtained from such method	Invention patent	Assist. Prof. Dr. Banjong Bunchom	Faculty of Science
13	365615	Virtual reality game for improving memory	Copyright	Dr. Chompunut Jinjakham	Faculty of Engineering
14	1803001351	Piezoelectric properties testing equipment using continuous oscillation	Petty patent	Assist. Prof. Dr. Don Isarakorn	Faculty of Engineering
15	1802002361	Bag	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
16	1802002362	Tissue holder	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
17	1802002363	Grinding and clay pellet machine	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
18	1802002364	Table	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
19	1802002365	Chair	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
20	1802002366	Chair	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
21	1802002367	Bookshelf	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
22	1802002368	Chair	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
23	1802002369	Tool stand	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology

No.	Application No.	Product/Invention	Type of Protection	Inventor	Academic Division
24	367572	Ladkrabang Chumphon Meat Goat Farm (LCMG) Management Program	Copyright	Suteerawat Panmalai	Prince of Chumphon Campus
25	1801004240	Continuous Blood Pressure Measurement	Invention patent	Assist. Prof. Kitipon Chitsakun	Faculty of Engineering
26	1803001953	Production process for sugar-boiled banana strawberry puree with soybean protein	Petty patent	Assoc. Prof. Dr. Pinmanee Kwanmuang	Faculty of Industrial Education and Technology
27	1802003678	Pattern on origami box	Invention patent	Assoc. Prof. Dr. Pinmanee Kwanmuang	Faculty of Industrial Education and Technology
28	1802003679	Pattern on origami box	Invention patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
29	1802003680	Pattern on origami box	Invention patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
30	182003681	Pattern on origami box	Invention patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
31	182003682	Pattern on origami box	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
32	1802003826	Pot	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
33	1802003827	Pot	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
34	1802003828	Bag	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
35	369421	"Subduing Mara" mural painting at Wat Phon Khai, Mueang District, Loei Province	Copyright	M.L. Ophascharas Nandawan	Faculty of Architecture
36	369422	"The Birth and Ordination" mural painting at Wat Phon Khai, Mueang District, Loei Province	Copyright	M.L. Ophascharas Nandawan	Faculty of Architecture
37	369423	"First Sermon" mural painting at Wat Phon Khai, Mueang District, Loei Province	Copyright	M.L. Ophascharas Nandawan	Faculty of Architecture

No.	Application No.	Product/Invention	Type of Protection	Inventor	Academic Division
38	369424	"Nirvana" mural painting at Wat Phon Khai, Mueang District, Loei Province	Copyright	M.L. Ophascharas Nandawan	Faculty of Architecture
39	369425	Food Scanner Application for iOS	Copyright	Dr. Suphawan Thatsaprasert	Faculty of Information Technology
40	369426	Audicise - The new generation of interactive music games	Copyright	Mr. Peerapon Kulthamyothin	Faculty of Information Technology
41	369427	3D touch pegboard display control program	Copyright	Assist. Prof. Dr. Orachat Jitsopak	Faculty of Information Technology
42	369428	Mobile application for rehabilitation of paralyzed patients	Copyright	Dr. Anantaphat Anantachai	Faculty of Information Technology
43	369429	Concentration measurement and automatic alert application	Copyright	Dr. Pikulkaew Tangtisanon	Faculty of Engineering
44	1802003985	Specimen tube	Design patent	Assist. Prof. Dr. Orachat Jitsopak	Faculty of Engineering
45	1802003986	3D touch pegboard	Design patent	Assist. Prof. Dr. Orachat Jitsopak	Faculty of Engineering
46	1802003987	Bar chart	Design patent	Assist. Prof. Dr. Orachat Jitsopak	Faculty of Engineering
47	1802004181	Chair	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
48	1802004182	Chair	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
49	1802004183	Wet waste to artificial soil converter	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
50	1802004184	Wet waste to compost converter	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
51	1802004185	Wet waste compost tank	Design patent	Assoc. Prof. Dr. Songwut Ekkawutwongsa	Faculty of Industrial Education and Technology
52	369839	MAYURA	Copyright	Assoc. Prof. Dr. Jirapa Wittayaphirak	Faculty of Liberal Arts
53	1803002251	Compact Mobile rice mill	Petty patent	Dr. Sudaporn Soamuang	Faculty of Administration and Management



# **ACADEMIC SERVICES**

# ACADEMIC SERVICES



Today, Thailand has become a society of technology and innovation, which are the basic tools for effective economic and social development. KMITL is committed to supporting and contributing to sustainable social development. It has continued to develop research and innovation to meet the needs of the community and society. In 2018, KMITL produced 68 training and educational projects with a total project value of 13,603,055.94 baht to train and educate students, staff, and the general public to help them apply knowledge for the maximum benefit. It has also provided academic and research services to external agencies in the government, state enterprise, private, and industrial sectors. In 2018, KMITL secured academic and research service contracts with the total value of 785,018,507.60 baht, including consulting services worth 387,236,521.40 baht, research projects worth 391,211,152.20 baht, and analysis, commissioning, and testing services worth 6,570,834.00 baht. KMITL mainly provides consulting services to government agencies. It receives more than 90 percent of its research funding from the government, with the remaining 5 percent coming from state enterprises and 4 percent from private organizations. The analysis, commissioning, and testing services mainly come from private organizations. The goal of KMITL's academic and research services is to contribute to the development of business and the Thai people so that they have knowledge, ability, and skills to succeed in their career and life. KMITL has provided advice on and cooperated in national development projects as the following:



# CAPACITY BUILDING

KMITL has established the Inclusive Designed Environment and Research Unit (IDEaR) to improve the quality of life and create an equal environment for all, focusing mainly on people with disabilities. The unit aims to promote a better quality of life and happiness for everyone living together in the society. After getting the official operations started in 2014, the unit had managed to begin with learning processes, followed by brainstorming sessions in 2015 to be concluded in 2016, while sustainability development was scheduled to be continued in 2017 and 2018. In addition to organizing training, the unit has established a service center for the disabled and public spaces for all people across the country, following the successful model implemented previously in Nakhon Sawan province.

In addition, KMITL has organized events or activities that allow the general public and public and private sectors to participate in, such as:

1. Thai Labor Productivity Improvement Project, in collaboration with the Institute for Skills Development, Ministry of Labor. The project was open for the general public and aimed to improve labor productivity in production and services to increase production or service cycles, as well as reduce losses, by developing a STEM workforce.

2. The International Seminar on Technology for Sustainability 2018 (ISTS 2018), in collaboration with KOSEN Institute, Japan, with over 150 students from five countries participated to compete in organizing innovative business activities.

3. Research Cluster Support Project 2019 has academic staff including lecturers, researchers, students at all levels, and entrepreneurs who participated to learn about guidelines and perspectives on research funding and knowledge exchange, also build a network to create opportunities to develop research and innovation together.



# YOUTH

1. The Young STEM Entrepreneur & Student Exchange Program was open for the third batch of youth aged 9-14 years old. STEM education is believed to be the answer to human development at the present time. The program is a collaboration between the Faculty of Liberal Arts, King Mongkut's Institute of Technology Ladkrabang, Penang Tech Center Bdh, Malaysia and Thailand Global Entrepreneurship. It aims to build a STEM and digital marketing foundation for young people to improve their knowledge and skills that will enable them to develop innovation for international entrepreneurs in the future.



2. Training program to develop math skills and knowledge for secondary school students at Municipal School 1 (Ban Tha Taphao), Prince of Chumphon Campus.

3. Training program to improve presentation skills in English for students of Assumption Convent Silom and Assumption Convent to enable them to apply presentation skills to compete internationally. The program is a collaboration between the Faculty of Liberal Arts, King Mongkut's Institute of Technology Ladkrabang and Assumption Convent

# AGRICULTURE AND FOOD



1. Nanotechnology for Agriculture Training 2018: "Nanotechnology Controls Plant Diseases, Increases Productivity, Increases Income for Farmers."



2. Academic Service Project on Product Processing from Red Lotus and Rice "Red Lotus Stem Cake, Lotus Root Jelly, Red Lotus Stem Jam, Caramelized Shredded Red Lotus Stem, Lotus Root Krayasat."

### 3. KMITL Street Food Chumphon

Chumphon Tourism Development Project: Gateway to the South was held on 6 September 2018 at the Chumphon City Pillar Plaza, Mueang District, Chumphon Province.

Street food is a part of the unique Thai food culture that has attracted much attention from tourists all over the world. Thailand was ranked by CNNGO in 2012 as one of the world's best countries for street food and the world's best street food country by CNN in 2016.



The objective of the project was to give advice to street food vendors about business location, methods of preparing food, and risk associated with different food, to ensure food safety practices and hygiene. Store design should take hygiene into consideration but maintain appropriate layout for quick and convenient cooking. Furthermore, brand design should reflect the store's identity, with beautiful food signage images showing the store's highlights. Packaging design should be distinctive and appropriate. Following this advice will make the store stand out and attract the attention of customers.

## COMMUNITY AND SOCIETY

1. Innovations developed by KMITL for the benefit of society and natural disaster response planning include:

"iAmbulance" is an application to locate emergency ambulances, with a notification system and road direction function. "Road Surface" is an application that reports road surface conditions and warns drivers about the road surface conditions in real time. These projects are a collaboration between King Mongkut's Institute of Technology Ladkrabang and Ramkhamhaeng University. Dr. Kriangsak Khaoniam is the Road Surface research team leader and Dr. Wiboon Piyawattanametha is the iAmbulance development team leader. Both applications can be downloaded from the Google Play Store.



### "WMA" (World Meteorology Application) and [www.worldmeteorology.com](http://www.worldmeteorology.com)

were developed by Assistant Professor Dr. Chinnawat Surasawadi, Department of Telecommunications Engineering, Faculty of Engineering, who oversees the establishment of the College of Space and Earth Systems Engineering (SESE). The application and website provide highly accurate and detailed weather forecasting for Southeast Asia and Europe. They deliver high-resolution weather forecast five to six days in advance and connect to Google Maps. They will be very useful not only for everyday life but also for the agricultural, tourism, and industrial sectors, including the renewable energy industry, fishery, marine transportation, and ASEAN tourism.

Moreover, they can help tourists make their travel plans and can be used to warn of natural disasters in advance to minimize economic and social damage. The application is easy to use via Android and iOS, as well as website.

The Underground Downtown Bangkok Monkey Cheek Model Project is being developed by the Smart City Innovative Research Academy (SciRa) under the supervision of Professor Dr. Suchatvee Suwansawat, President of KMITL. It is a pilot project aiming to construct an underground reservoir with a capacity of 100,000 cubic meters covering an area of over 130 rai (208,000 square meters) of Benchakitti Park in Yannawa, Khlong Toei, Wattana, and Sathorn Districts. In addition, a monkey cheek area has also been designed for alleys, such as Soi Mahad Lek Luang, Ratchadamri Road. The monkey cheek project requires a small investment but can manage flood problems effectively. This project will be submitted to the government for further consideration

2. KMITL has conducted projects in collaboration with officials in the planning and development of housing for the local community. KMITL collaborated with the National Housing Authority in a research project to study a housing design with energy, water, and waste management for low and middle income families. Another project is the study to develop energy efficiency standards for housing, which is a collaboration between KMITL and the Department of Alternative Energy Development and Efficiency, Ministry of Energy, to develop energy consumption criteria in houses to be used as references for promoting energy efficient housing suitable for Thailand.

3. Projects that have large impact on society and communities include "A Study on the Social Impact of High-Speed Railway Bangkok-Nong Khai." The railway is capable of handling speeds of up to 250 km/h to connect to the railway projects in the Lao People's Democratic Republic and China, which will greatly benefit Thailand's transportation, economy, and tourism. Under this project, KMITL, together with five other educational institutions, will serve as a central administration to manage the technological transfer, industrial development, research and development, standards and commissioning, and personnel development.

Also, there is a project called "A Study and Analysis of Procedures and Design of Information System to Support the Operation of the State Railway of Thailand" for the State Railway of Thailand.



4. Projects with climate change action plans conducted with external organizations or communities include:

- "The Development of Air Quality Measurement and Management under Smart City Concept: A Case Study of Open and Public Spaces in Bangkok" in collaboration with Bangkok Metropolitan Administration.

- "The Development of Automated Surface Water Quality Monitoring and Database Systems to Solve Saltwater Intrusion Problems in Bang Kachao, Samut Prakan" in collaboration with PTT Digital Solutions Co., Ltd. and the Faculty of Economics,



# **ART AND CULTURAL SUPPORTS**

# ARTS AND CULTURE SUPPORTS

## Almsgiving on the Auspicious Occasion of the King's Birthday

Prof. Dr. Suchatvee Suwansawat, President of KMITL, presided over the almsgiving ceremony on the occasion of King Vajiralongkorn's 66th Birthday Anniversary (28 July) at the multi-purpose plaza, Naradhiwas Rajanagarindra Building, KMITL on 26 July 2018.



## 2017 Annual Royal Kathina Ceremony

Prof. Dr. Suchatvee Suwansawat, President of KMITL, presided over the 2017 Royal Kathina Robe Offering Ceremony and gave scholarships to students at Wat Thammikaram, Mueang District, Prachuap Khiri Khan Province on Friday 20 October 2017.

## Homage to Institution's Sacred Statue and Benefactors

KMITL executives paid homage to the institution's sacred statues, the Nirantarai Buddha Statue enshrined in the Buddha Image Hall, King Mongkut Monument at the King Mongkut's Park, and Brahma Shrine at the Faculty of Architecture.

In addition, executives also performed a ceremony to pay homage to benefactors to the institution and faculties, including:

1. Monument of Chao Phraya Surawong Waiyawat (Won Boonnak) at the Faculty of Agricultural Technology and the portrait bust given to the Institute by his descendants on 15 February 2011 and enshrined in the Central Library Building.
2. Monument of Professor Dr. Phongsak Worasuntharosot, former Director-General of the Department of Vocational Education and the first president of KMITL, in front of the Memorial Hall, KMITL.
3. Monument of Professor Phichai Angchanpen, the first director of Nonthaburi Institute of Telecommunications, which later became the Faculty of Engineering, and former vice president of KMITL.
4. Monument of Professor Prasom Rangsiroj, the first dean of the Faculty of Architecture, in front of Prasom Rangsiroj Auditorium.

## Wreath-Laying Ceremony

1. Wreath-laying ceremony at the King Mongkut Statue on the occasion of King Mongkut's Day on 18 October 2017 at the King Mongkut's Park in front of Naradhiwas Rajanagarindra Building.
2. Wreath-laying ceremony in commemoration of King Prajadhipok on the occasion of Constitution Day on 10 December 2017 in front of the Parliament Building, U Thong Nai Road, Dusit, Bangkok.
3. Wreath-laying ceremony on the occasion of the KMITL Foundation Day and National Science Day at the King Mongkut's Park in front of Naradhiwas Rajanagarindra Building.



## 2018 New Year Almsgiving Ceremony

King Mongkut's Institute of Technology Ladkrabang held an almsgiving ceremony on the occasion of New Year 2018 on 8 January 2018 at Naradhiwas Rajanagarindra Building.

## Water Blessing Ceremony, Songkran Festival

King Mongkut's Institute of Technology Ladkrabang held a ceremony to show respect for and seek blessings from elders during the Soangkran festival on 11 April 2018 at Chalermprakiet Innovation Building and King Rama IV Hall



## Kathina Ceremony

Prof. Dr. Suchatvee Suwansawat presided over the Kathina Ceremony on 22 July 2018 to provide funding support for the construction of Wat Wachira Dhamavat (King Rama IV Bicentennial Temple) in Ladkrabang, Bangkok, and on the occasion of King Vajiralongkorn's Birthday Anniversary. The ceremony was also attended by Somdej Phra Wannarat, head of the Dhammyuttika and abbot of Wat Bowonniwet Vihara, and Phra Wibun Dhammaphan, abbot of Wat Wachira Dhamavat.

# MANAGEMENT



# MANAGEMENT

The Nonthaburi Telecommunications Training Center was established on 24 August 1960. It later become King Mongkut's Institute of Technology under the King Mongkut's Institute of Technology Ladkrabang, King Mongkut's University of Technology Thonburi, and King Mongkut's Institute of Technology North Bangkok Act B.E. 2528. The institute was a juristic entity that acted as a department under the Ministry of University Affairs. On 8 March 2008, King Mongkut's Institute of Technology Ladkrabang became a state university.

At the heart of being a sustainable development organization is to create a unified society and culture for effective development. There must be adherence with Policy Step 1: Good Governance and Management and Step 5: Quality of Life and Harmony that focus on organizational management, human resource management, and financial management which emphasizes on organization administration while also taking into an account consideration of the community, society, and the well-being of students and personnel.

## ORGANIZATIONAL MANAGEMENT

### •Principles of Corporate Governance

In managing the institute, KMITL complies with the principles of corporate governance as follows:

- Effectiveness

- Improve the institutional management structure to ensure clear and flexible management. Divide the management structure into two areas: academic and students, and finance and resources. Both senior vice presidents who are in charge of these two areas are authorized to act as if they were a president, resulting in more comprehensive and timely management within the area.

- Prepare the President Action Plan 2018.

- Prepare the Strategic Plan 2017–2027 and Institute Management Plan.

- Prepare the Annual Performance Certification.

- Monitor and evaluate performance on a monthly basis and report the results to the institute's Board of Directors, Council Committee, and KMITL Council every 6, 9, and 12 months. Use the comments and suggestions to improve the performance in next year.

### Evaluation of the Implementation of the Annual Strategic Plan/Action Plan Fiscal Year 2018 (12-month cycle)

Strategy	Number of Indicators	Evaluation Result			%		
		Below Average	Average	Above Average	Pass	Fail	W/R
<b>Overall Evaluation of King Mongkut's Institute of Technology Ladkrabang</b>	<b>13</b>	<b>4</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>4</b>	<b>0</b>
		<b>30.77</b>	<b>15.38</b>	<b>53.85</b>	<b>69.23</b>	<b>30.77</b>	<b>0.00</b>
Strategy 1 Sustainable development of research and innovation	3	0	0	3	3	0	0
		0.00	0.00	100.00	100.00	0.00	0.00
Strategy 2 Capacity Building and production of manpower to meet the needs of the country and world	3	1	0	2	2	1	0
		50.00	0.00	66.67	66.67	33.33	0.00
Strategy 3 Promote academic services and build a foundation of knowledge	2	1	0	1	1	1	0
		50.00	0.00	50.00	50.00	50.00	0.00
Strategy 4 KMITL ONE	4	1	2	1	3	1	0
		25.00	50.00	25.00	75.00	25.00	0.00
Strategy 5 Advance toward Top 10 ASEAN (KMITL New S-Curve)	1	1	0	0	0	1	0
		100.00	0.00	0.00	0.00	100.00	0.00

- **Efficiency**

- Develop resource efficiency policies, such as office supply purchases, two-sided paper campaign, and security, cleaning, and vehicle rental service procurement.

- Calculate unit product cost and subject cost to analyze the break even point of income and expenses.

- **Responsiveness**

- KMITL participates in solving community and social problems, such as establishing the KMITL Police Station, providing academic services to communities, opening a smart surveillance research center, developing ecotourism, and promoting clean farm products in Mueang Lang Suan Municipality, Chumphon.

- Use the information obtained from the survey of entrepreneurs, students, staff, and surrounding communities to develop a service development plan aligned with stakeholder needs, such as integrated services and online services.

- **Accountability**

- Announce and communicate policies, vision, strategies, and a procurement plan for the institute to the public through [www.kmitl.ac.th](http://www.kmitl.ac.th).

- Prepare the annual action plan to set targets and responsible persons for projects and/or activities.

- Disclose the action plan implementation report to the public.

- Conduct a survey of stakeholder satisfaction and/or needs, including entrepreneurs, current students, and alumni to obtain information for developing the institute development plan and/or service plan, such as determining the desired characteristics of graduates.

- **Transparency**

- Disclose the financial statements in the annual report.

- Disclose the procurement and investment report in accordance with the principles of Integrity and Transparency Assessment (ITA).

- Request for quotations and bids in strict compliance with the rules through relevant agencies, such as the Government Public Relations Department, Business News Center Company Limited, Mass Communication Organization of Thailand, and State Audit Office of the Kingdom of Thailand.

- Open opportunity for third parties to inspect the operation as appropriate.

- Recruit executives in a transparent and accountable manner according to the procedures and regulations of the institute. Evaluate the performance of executives every year.

- **Participation**

- KMITL listens to opinions of staff regarding matters such as regulations on the selection of members of the KMITL Council and management of welfare, environment, and quality of life at the institute.

- Invite external qualified persons to participate in the curriculum development process.

- Invite representatives of organizations around the institute to participate in important activities, such as the Memorial Day (the Death Anniversary) of King Mongkut, KMITL Anniversary, and Science Day.

- The President and the executives meeting with staffs from departments and other units to listen to their opinions and suggestions about development of the institute and departments.

- Promote more coordination and cooperation between the central administration and academic division, such as procurement and mentoring.

- **Decentralization**

- Redistribute authority and administrative power among different levels of administrators, such as Vice Presidents, Assistants to the President, Deans, and Directors, to allow them to oversee the management of their line of work.

- The President communicates vision and policies to executives at all levels to ensure that operational planning is in the same direction. The President and the Office of Strategy Management visit every faculty annually to listen to problems and obstacles in operation in order to find solutions.

- Produce a new generation leaders with good governance practices. Develop and prepare personnel to advance to management positions or management positions at higher levels through leadership programs, such as Talent Management for Excellence, Lower Intermediate, and Higher-Level Executive Programs, and Dean Training on Budget, Accounting, and Finance Program.

- **Rule of law**

- Revise and improve regulations, rules, and notifications, such as the KMITL Notification on Annual Budget Allocation Policy and Rules (No. 2) B.E. 2559, Notification on Education Fee Rates, and Notification on Rules and Rates of Compensation, Travel Allowance, and Accommodation Allowance for Internal Education Quality Assessment.

- Appeal and complaint channels.

- **Equity**

- KMITL provides equal opportunities for the general public to receive services from the institute, such as students with disabilities, underprivileged students, expansion of educational services to Chumphon province, and employment of disabled employees. It also provides facilities to facilitate campus life.

- **Consensus Oriented**

- KMITL adheres to consensus principles, allowing both internal and external parties to participate in its operations to ensure mutual agreement. It has established committees to consider matters at meetings, such as a workshop on performance-based budgeting system (PBBS), executive meetings, and council committee meetings to discuss with and listen to the opinions of the executives from the institute and academic division and propose an agenda to the KMITL Council to pass a resolution to be complied with by all units within the institute.

# RISK MANAGEMENT

In Fiscal Year 2018, KMITL managed risks and set an internal control system in place in accordance with the Royal Decree on the Principle and Procedure for Good Governance B.E. 2546. The risk management policy was required to be complied with by every division and personnel. A committee was set up to drive risk management operations through coordination, regulation, supervision, reporting, and evaluation. The COSO Enterprise Risk Management Committee was responsible for developing a risk management plan covering all corporate governance risks to efficiently and effectively reduce risk factors to the acceptable level. The enterprise risk management plan covered risk events in five areas, including strategy, finance, operation, health, and the environment.

It was found that, of the 31 risk events, the level of strategic, financial, and operational risks decreased in 18 events, accounting for 58.06 percent. The units with remaining risky events needed to continue to manage the risk or improve the control activities to keep the risk events at the acceptable level or eliminated them. Internal control in the strategic, financial, operational, health and environmental areas were at the acceptable risk level.

# EDUCATIONAL QUALITY ASSURANCE

KMITL has continued to manage its educational quality assurance since 1999 in accordance with the National Education Act B.E. 2542 and amendment (Second Edition) B.E. 2545, which required educational institutions to put in place an educational quality assurance system and for educational quality assurance to be a part of the continuing educational administration process.

In 2017, KMITL assessed its educational quality and presented the results in a self-assessment report in accordance with CUPT QA standard (Council of the University Presidents of Thailand Quality Assurance). This self-assessment consisted of 13 core indicators (C.1 to C.13) and three selective indicators (S.1 to S.3), relating to the AUN QA assessment criteria at the program level and covering seven areas of educational quality assurance, including student quality, teaching quality, administration and governance, community/societal relations, support of arts and culture, identity, and support measures

## EDUCATIONAL QUALITY SELF-ASSESSMENT 2017 CUPT QA AT INSTITUTIONAL LEVEL

Core Indicator	Score
C.1 Acceptance and graduation of students	4
C.2 Graduate employment and profession	4
C.3 Graduate quality	3
C.4 Student achievement	3
C.5 Teacher qualification	3
C.6 Teacher and researcher achievement	3
C.7 Curriculum standard	3
C.8 Performance of institution's executives	
C.8.1 Performance of the KMITL Council	4
C.8.2 Performance of executives	5
C.9 Administration and management of institution's executives	4
C.10 Personnel development	3
C.11 Stakeholder feedback	3
C.12 Academic service	3
C.13 Support of arts and culture	3
Selective Indicator	
S.1 Funding for research and innovation	4
S.2 Student mobility	3
S.3 Green university	3

# HUMAN RESOURCES

In addition to academic management, "human resources" are the key to drive the institute to achieve its vision. KMITL has therefore enhanced the quality of life for staffs by improving the following rules/benefits:

- Set/improve human resource management rules, such as employee welfare (budget and revenue).
- Regulation on Welfare Fund, Remuneration, and Benefits for Revenue-Based Employees B.E. 2560 to use the money from the fund to pay for wages, remuneration, compensation and other expenses for revenue-based employees.
- Performance-based payment (PBP) to increase work efficiency and ensure fairness in pay raises for academic staff.
- Core competency and functional competency to develop and evaluate support staffs. Core competency includes integrity, being outcome-oriented, responsibility, teamwork, and systematic planning. Functional competency includes good service, continuous learning, attention to details, coordination, problem solving, and decision making.
- Require support staff to prepare a job description.
- Improve a division head assessment system. The President acts as a chairman of the assessment committee and division heads prepare an operating agreement to establish an assessment framework and good faculty report (GFR).

## PROCUREMENT

- Analyze and identify risks more clearly, such as a conflict of interest in procurement, as part of preventive risk management and set KPIs for evaluating integrity and transparency.
- Projects with large investment budgets, such as a strategic project, will be managed by the central administration.
- Collaborate between the central administration and academic division.
- Organize training sessions for project directors and relevant officials to ensure speed, accuracy, and completeness in disbursement and prevent delays.
- Conduct an assessment according to a plan and set KPIs for a dean assessment.
- Develop a professional auditing system by hiring an internal audit specialist as a consultant and requiring personnel to receive training in the Certified Government Internal Auditor Program (CGIA) offered by the Comptroller General's Department and Institute of Internal Auditors of Thailand.

# FINANCE AND BUDGET

A performance-based budgeting system (PBBS) is one of the instruments for the institute's technological reform. KMITL has improved the existing budgeting system to be more appropriate and consistent with the KMITL Strategic Plan (2017-2027) and increase the management efficiency, quality, transparency, and fairness.

- Appoint a financial and accounting consultant to provide advice. Improve the online financial audit and set clear procedures.
- Prepare a long-term budget plan.
- Request approval of the 1+3 (Mid-term) plan and appoint an external committee to participate in project consideration.
- Improve relevant regulations.
- A faculty must revise its plan to be aligned with the KMITL Strategic Plan.
- Focus on strategies.
- Create revenue and value-add from assets, such as the student dormitory renovation project, sports center service improvement project, and appointment of a fund-raising committee.
- Generate additional income from fund raising to support student and institute development.

# FINANCIAL MANAGEMENT

In the fiscal year 2018, King Mongkut's Institute of Technology Ladkrabang's financial management can be summarized as follows:

**King Mongkut's Institute of Technology Ladkrabang**  
**Statement of Financial Position**  
**Fiscal Year 2018**

.....

Unit: Baht

**Assets**

**Current assets**

Cash and cash equivalents	2,937,414,428.64
Short-term receivables	15,320,592.41
Accrued income	3,520,452.40
Short-term investments	2,689,447,994.48
Inventories	2,344,899.07
Other current assets	<u>9,561,867.41</u>
<b>Total</b>	<b><u>5,657,610,234.41</u></b>

**Non-current assets**

Long-term receivables	44,590,965.35
Long-term investments	2,500,000.00
Property, plant and equipment	3,382,911,229.96
Intangible assets	12,440,428.50
<b>Total</b>	<b><u>3,442,442,623.81</u></b>

**Total assets**

**9,100,052,858.22**



**King Mongkut's Institute of Technology Ladkrabang**  
**Statement of Financial Performance**  
**Fiscal Year 2018**

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**Unit: Baht**

**Revenues**

Budget income	2,791,383,878.82
Sales and service income	1,744,496,018.83
Subsidy and donation	21,271,090.34
Other income	<u>64,228,474.75</u>

**Total revenues**

**4,621,379,462.74**

**Expenses**

Personnel costs	1,357,319,785.66
Pension	280,926,888.92
Compensation	94,765,345.86
Expenditure	212,781,054.23
Supply costs	86,357,713.95
Utility costs	168,247,447.47
Depreciation and amortization	453,862,140.07
Subsidy and donation expenses	696,672,695.26
Other expenses	<u>724,409,097.87</u>

**Total expenses**

**4,275,342,169.29**

**Revenue higher (lower) than expenses before financial cost**

**546,037,293.45**

Financial cost

**Revenue higher (lower) than net expenses**

**546,037,293.45**



**Report of the Audit Committee**  
**King Mongkut's Institute of Technology Ladkrabang**  
**Fiscal Year 2018**

The Audit Committee of King Mongkut's Institute of Technology Ladkrabang consists of four directors, three of whom are members of the KMITL Council and one is an external auditor.

At present, the Audit Committee consists of:

- |                              |                                 |
|------------------------------|---------------------------------|
| 1. Mr. Siva Saengmanee       | Chairman of the Audit Committee |
| 2. Mr. Plew Trivisavavet     | Audit Director                  |
| 3. Mr. Wanat Taephaisitphong | Audit Director                  |
| 4. Mrs. Wilai Chathanrasami  | Audit Director                  |

**1. Qualifications of the Audit Committee**

1.1 The audit committee must be independent and impartial, free of any conflict of interest, whether direct or indirect, perform assigned duties with independence and fairness, and devote sufficient time to perform the duties of the audit committee.

1.2 The secretary must possess accounting, financial, or internal audit knowledge. The audit committee shall perform its assigned duties according to the Audit Committee Charter.

**2. Duties and Responsibilities**

2.1 Review the institution's financial report to ensure accuracy, completeness, and reliability.

2.2 Review the institution's internal control system and internal audit system to ensure appropriateness and efficiency.

2.3 Review the institution's compliance with relevant policies, resolutions, laws, rules, and regulations.

2.4 Select and nominate an independent person to perform auditor functions for the institution, propose remuneration of the auditor, and hold a meeting with the auditor without the presence of management at least once a year.

2.5 Consider connected transactions or transactions with potential conflicts of interest to ensure compliance with relevant policies, resolutions, laws, rules, and regulations.

2.6 Have the power to invite institution's executives or a related person to give statements or information, or attend the meeting.

2.7 Prepare the report of the audit committee and publish it in the annual report.

2.8 Revise and improve the Audit Committee Charter on an annual basis. Changes to the Audit Committee Charter must be approved by the KMITL Council.

In Fiscal Year 2018, the Audit Committee held four meetings and performed the following duties:

**1. Express an opinion on the accuracy, completeness, and reliability of the institute's financial reports**

1.1 KMITL Financial Statement Audit Report (bank deposit, depreciation, corporate payables, student payables, personnel payables, education fees, accounts receivables, student damage insurance fees, electricity-water bills, property tax) Fiscal Year 2016.

1.2 KMITL Financial Statement Audit Report (bank deposit and student dormitory fee income) Fiscal Year 2018.

## **2. Express an opinion on the adequacy of the institution's internal control system**

2.1 Human Resources Management Audit Report (human resource development planning performance appraisal) Fiscal Year 2016.

2.2 Asset Management Audit Report (state property rental income and store rental income) Fiscal Year 2017.

2.3 King Mongkut's International Demonstration School Management System Audit Report (petty cash management, cash advance management, supply control list) Fiscal Year 2018.

2.4 Cash Advance Receivable Audit Report Fiscal Year 2018.

2.5 Audit Report of Exercise of Power Authorized by the President Fiscal Year 2018.

2.6 Procurement and Payment Audit Report Fiscal Year 2018.

2.7 Research and Project Management Audit Report Fiscal Year 2017.

## **3. Review of the Audit Committee Charter**

The Audit Committee reviewed the Audit Committee Charter to ensure consistency with the qualifications and scope of work of the Audit Committee. The Audit Committee was of the opinion that the Audit Committee Charter approved by the KMITL Council Meeting No. 3/2561 was still appropriate.

## **4. Audit Committee Performance Report to the KMITL Council**

The Audit Committee reported its quarterly performance results to the KMITL Council as follows:

1. KMITL Council Meeting No. 5/2561 on 30 May 2018.
2. KMITL Council Meeting No. 9/2561 on 26 September 2018.
3. KMITL Council Meeting No. 10/2561 on 31 October 2018.
4. KMITL Council Meeting No. 1/2562 on 30 January 2019.

Based on the performance of the Audit Committee in Fiscal Year 2018 as reported above, it is believed that King Mongkut's Institute of Technology Ladkrabang has adequate and appropriate corporate governance and internal control system and effective risk management, and complies with relevant laws, rules, and regulations.

The Audit Committee would like to thank all executives and relevant personnel for their cooperation in our operations during Fiscal Year 2018.

On behalf of the Audit Committee

Mr. Siva Saengmanee

Chairman of the Audit Committee



# **INSTITUTIONAL INFORMATION**

## Courses

Number of Courses, Academic year 2018, classified by Faculty, Degree Level

Faculty/College	Number of courses			Total
	Bachelor's Degree	Master's Degree	Doctor's Degree	
Engineering	29	19	8	56
Architecture	11	6	1	18
Industrial Education and Technology	7	9	6	22
Science	9	9	5	23
Agricultural Technology	6	6	1	13
Information Technology	3	1	1	5
Argo Industry	3	3	1	7
Administration and Management	3	1	1	5
Liberal Arts	2	1	-	3
Medicine	1	-	-	1
KMITL Prince of Chumphon Campus	9	3	-	12
International College	2	3	1	6
College of Nanotechnology	1	1	1	3
College of Advanced Manufacturing Innovation	1	1	1	3
International Academy of Aviation Industry	2	-	-	2
College of Educational Innovation Research	-	-	1	1
Institute of Music Science and Engineering	1	-	-	1
<b>Grand Total</b>	<b>90</b>	<b>63</b>	<b>28</b>	<b>181</b>

## Students

Number of Freshmen students in Academic year 2018, classified by Faculty, Degree Level

Faculty/College	Number of courses			Total
	Bachelor's Degree	Master's Degree	Doctor's Degree	
Engineering	1,495	1,311	23	1,649
Architecture	533	43	1	577
Industrial Education and Technology	322	121	21	464
Science	1,068	74	17	1,159
Agricultural Technology	515	32	6	553
Information Technology	369	53	-	422
Argo Industry	238	19	2	259
Administration and Management	618	78	4	700
Liberal Arts	278	8	-	286
Medicine	27	-	-	27
KMITL Prince of Chumphon Campus	323	23	-	346
International College	51	18	7	76
College of Nanotechnology	117	3	3	123
College of Advanced Manufacturing Innovation	68	8	4	80
International Academy of Aviation Industry	98	-	-	98
College of Educational Innovation Research	-	-	13	13
Institute of Music Science and Engineering	36	-	-	36
<b>Grand Total</b>	<b>6,156</b>	<b>611</b>	<b>101</b>	<b>6,868</b>

Number of students in Academic year 2018, classified by Faculty, Degree Level

Faculty/College	Number of courses			Total
	Bachelor's Degree	Master's Degree	Bachelor's Degree	
Engineering	5,365	589	310	6,294
Architecture	2,313	199	24	2,536
Industrial Education and Technology	1,633	388	133	2,154
Science	4,285	232	97	4,614
Agricultural Technology	2,115	127	32	2,274
Information Technology	859	238	23	1,120
Argo Industry	837	113	15	965
Administration and Management	1,342	259	52	1,653
Liberal Arts	649	15	-	664
Medicine	27	-	-	27
KMITL Prince of Chumphon Campus	1,569	46	-	1,615
International College	200	75	16	291
College of Nanotechnology	330	26	20	376
College of Advanced Manufacturing Innovation	210	44	20	274
International Academy of Aviation Industry	198	-	-	198
College of Educational Innovation Research	-	-	13	13
Institute of Music Science and Engineering	116	-	-	116
<b>Grand Total</b>	<b>22,048</b>	<b>2,351</b>	<b>755</b>	<b>25,154</b>

Number of Graduates in Academic year 2017, classified by Faculty, Degree Level

Faculty/College	Number of courses			Total
	Bachelor's Degree	Bachelor's Degree	Bachelor's Degree	
Engineering	1,372	152	39	1,563
Architecture	495	43	17	555
Industrial Education and Technology	349	90	22	461
Science	955	56	14	1,025
Agricultural Technology	437	17	6	460
Information Technology	122	58	6	186
Argo Industry	179	29	2	210
KMITL Prince of Chumphon Campus	367	12	-	379
International College	28	38	-	66
College of Nanotechnology	49	8	5	62
College of Advanced Manufacturing Innovation	49	5	-	54
Administration and Management	178	39	19	236
Liberal Arts	118	-	-	118
<b>Grand Total</b>	<b>4,698</b>	<b>547</b>	<b>130</b>	<b>5,375</b>

# PERSONNEL

## Number of Academic and Support Units in 2018

Faculty/ College/ Agency	Academic								Support Lines				
	Education Level			Academic Title				Total	Education Level				
	B.	M.	D.	Lect.	Asst. Prof.	Assoc. Prof.	Prof.		Dip.	B	M	D	Total
Engineering	-	58	246	84	129	83	8	304	18	96	24	1	139
Architecture	3	104	42	63	61	23	2	149	9	38	6	-	53
Industrial Education and Technonology	1	32	55	29	34	25	-	88	3	33	11	-	47
Science	-	37	120	62	65	29	1	157	12	71	18	1	102
Agricultural Technology	1	11	63	25	31	19	-	75	2	28	14	-	44
Information Technology	-	5	29	13	14	7	-	34	1	25	5	-	31
Agro Industry	-	1	31	11	14	6	1	32	1	15	3	-	19
Administration and Management	-	10	31	17	15	9	-	41	-	17	3	-	20
Liberal Arts	-	33	15	36	7	5	-	48	-	8	2	-	10
Medicine	-	4	21	22	2	2	1	27	-	10	3	-	13
KMITL Prince of Chumpon Campus	-	32	47	51	25	3	-	79	8	32	24	1	65
International College	-	2	16	11	6	1	-	18	-	6	1	-	7
College of Nanotechnology	-	1	25	8	13	4	1	26	-	10	-	-	10
College of Advance Manufacturing Innovation	-	1	13	5	6	2	1	14	-	4	4	-	8
International Academy of Aviation Industry	-	3	9	6	1	1	4	12	-	7	-	-	7
College of Education Innovation Reserach	-	1	3	4	-	-	-	4	-	2	-	-	2
Institute of Music Science and Engineering	-	2	3	4	1	-	-	5	-	2	1	-	2
Computer Service Center	-	-	-	-	-	-	-	-	2	21	16	-	3
Central Library	-	-	-	-	-	-	-	-	8	34	13	-	39
Office of the Registrar	-	-	-	-	-	-	-	-	-	25	11	-	55
Kmitl Reserch Innovation Services	-	-	-	-	-	-	-	-	3	10	10	-	36
Office of General Education	-	-	-	-	-	-	-	-	-	5	3	-	8
Council Institute	-	-	-	-	-	-	-	-	-	7	5	-	12
Office of the President	-	1	-	-	-	1	-	1	37	154	80	-	271
<b>Grand Total</b>	<b>7</b>	<b>769</b>	<b>451</b>	<b>424</b>	<b>220</b>	<b>19</b>	<b>1,114</b>	<b>104</b>	<b>660</b>	<b>257</b>	<b>3</b>	<b>1,024</b>	

# BUDGET

## Budget Allocation for Department in 2018

Faculty/Agency	National budget	Income budget	Total
Office of the President	1,922,139,000	1,922,139,000	2,498,928,800
Engineering	20,123,700	216,981,300	237,105,000
Architecture	7,566,000	58,807,400	66,373,400
Industrial Education and Technology	10,318,500	68,693,500	79,012,000
Science	18,506,400	126,000,000	144,506,400
Agricultural Technology	7,865,900	40,799,200	48,665,100
Information Technology	7,468,300	44,520,200	51,988,500
Argo Industry	9,641,000	26,484,500	36,125,500
Administration and management	1,574,400	46,895,400	48,469,800
Liberal Arts	968,600	20,250,000	21,218,600
International College	3,234,300	41,836,900	45,071,200
College of Nanotechnology	1,433,600	10,882,200	12,315,800
College of Advanced Manufacturing Innovation	1,260,300	18,787,500	20,047,800
KMITL Research Innovation Services	156,744,100	1,136,022,900	1,292,767,000
International Academy of Aviation Industry	56,400	31,239,000	31,295,400
KMITL Prince of Chumphon Campus	16,744,400	78,540,900	95,285,300
Office of General Education	382,500	16,233,800	16,616,300
<b>Grand Total</b>	<b>2,186,027,400</b>	<b>2,559,764,500</b>	<b>4,745,791,900</b>

### Budget allocation in year 2018 Classified by expenditures

Expense	Personnel budget	Operating statements	Subsidy budget	Other expenses	Investment budget	Reserve fund	Total
<b>National budget</b>	157,374,500	202,353,300	1,585,493,100	0	240,624,500	0	2,186,027,400
<b>Income budget</b>	230,484,300	414,589,700	404,726,500	924,615,100	49,953,900	535,395,000	2,559,764,500

### National budget and income budget in year 2018 classified by framework

Framework	National budget	Income budget	Total
Higher Education Development Plan	1,874,576,700	1,494,102,300	3,368,679,000
Academic service plans for society	5,923,000	877,748,500	883,671,500
Religious Plan Art and Culture	2,300,000	4,989,900	7,289,900
Research Plan (Integrated)	156,744,100	182,923,800	399,667,900
Integrated Plan	146,483,600	0	146,483,600
<b>Grand Total</b>	<b>2,186,027,400</b>	<b>2,559,764,500</b>	<b>4,745,791,900</b>



# ANNUAL EVENTS & ACTIVITIES



# ANNUAL EVENTS AND ACTIVITIES



## Graduation Ceremony Class of 2016

HRH Princess Maha Chakri Sirindhorn presided over the graduation ceremony to confer diplomas upon graduates of King Mongkut's Institute of Technology Ladkrabang (KMITL) Class of 2016 on 7 November 2017 at King Mongkut's Institute of Technology Ladkrabang.

## TELETHON

King Mongkut's Institute of Technology Ladkrabang organized the TELETHON to raise funds to support scholarship and development of KMITL. The team "Love KMITL Giving with Love" was led by Professor Dr. Suchatvee Suwansawat, President of KMITL, together with executives from all faculties, colleges, and offices, teachers, and officials, to answer the phone at the event, held at the Khaesad Conference Room, Naradhiwas Rajanagarindra Building, on 15 December 2017.



## Launching the CMKL University

Theerakiat Charoensethasil, MD, Minister of Education, presided over the press conference to launch the CMKL University under the collaboration agreement between Carnegie Mellon University and King Mongkut's Institute of Technology Ladkrabang. The event was held at Athenee Hotel, Bangkok, on 14 December 2017 and was attended by executives, professors, and officials from both institutions.

## The 14th Asian Urbanization Conference "Sustainable Development Goals in Asia"

Professor Dr. Suchatvee Suwansawat, President of KMITL, presided over the opening of the 14th Asian Urbanization Conference, "Sustainable Development Goals in Asia" between 11-13 January 2018, organized by King Mongkut's Institute of Technology Ladkrabang, Khon Kaen University, and Asian Urban Research Association (AURA).



### Community Volunteer Project

King Mongkut's Institute of Technology Ladkrabang and Ladkrabang District Office organized a community volunteer project on 17 February 2018 to carry out activities such as road cleaning in Soi Chalong Krung 1, footpath painting on the Prawet Canal Bridge, motorcycle oil change, and removing water hyacinth from river.

### Open House

King Mongkut's Institute of Technology Ladkrabang and Sirindhorn Hospital, Medical Service Department, organized the Faculty of Medicine (International Program) Open House on 1 March 2018 at the Auditorium, 5th Floor, Bangkok Art and Culture Center (BACC). The faculty was the recently-founded faculty of medicine in Thailand to offer high-tech medical education program.



### Community Volunteer Project 2

Professor Dr. Suchatvee Suwansawat, President of KMITL, presided over the opening of "the 2nd KMITL Community Volunteer" on 21 March 2018 at Luang Prot Community, Talad Takhe, Ladkrabang District, Bangkok. KMITL executives, personnel, and students, as well as the Ladkrabang community participated in the project. The project applied the King's Model to improve the quality of community life. Activities included designing a wooden bridge pier, basic health check-up, storytelling, and teaching how to make a model plane, grease trap, and lotus stem cake.

## KMITL Engineering Project Day 2018

Professor Dr. Suchatvee Suwansawat, President of KMITL, presided over the opening of KMITL Engineering Project Day 2018 between 24-25 April 2018 at the Chao Phraya Surawong Waiyawat Auditorium, King Mongkut's Institute of Technology Ladkrabang. The event was organized to encourage students to showcase their projects, analyze, communicate, and develop an engineering invention.

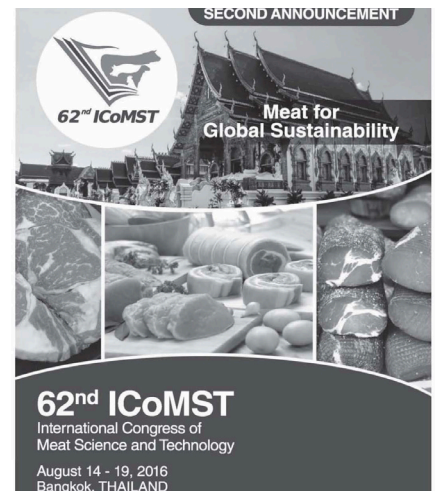


## Community of Practice in Arts and Culture between 14 institutions

King Mongkut's Institute of Technology Ladkrabang hosted the MoU signing ceremony for the Community of Practice in Arts and Culture between 14 educational institutions, Sukhothai, Khampangphet, and Princess Maha Chakri Sirindhorn Anthropology Center (Public Organization) on 1 June 2018 at Chalermphrakiat Innovation Building, King Mongkut's Institute of Technology Ladkrabang.

## Meat Technology Innovation Conference

The Meat Technology Research Center, Faculty of Agricultural Technology, KMITL, in collaboration with the Institute of Agricultural Technology, Suranaree University of Technology, organized the 6th Meat Science and Technology Conference 2018: "Meat Production and Technological Innovation" between 18-19 June 2018 at Rama Gardens Hotel.



## The 11th World Seminar on People with Disabilities

Associate Professor Dr. Somyot Kiatwanichwilai, Vice President for Research and Innovation, and Assistant Professor Dr. Unthika Sawatsi, Dean of the Faculty of Architecture, represented the institution to accept the flag to host the 11th World Seminar on People with Disabilities in 2019, "Moving Towards a Sustainable Society for All" on 9 July 2018 at the Vayupak Convention Center, Centra by Centara Government Complex Hotel & Convention Center.



## Meet the President

Professor Dr. Suchatvee Suwansawat, President of KMITL, held the Meet the President to explain the "Road to Top-ten ASEAN" policy and guidelines and listen to comments from personnel in January 2018.



## KMITL Tie & Pin Decoration Ceremony

General Surayut Chulanon, President of the KMITL Council, presided over the KMITL Tie & Pin Decoration Ceremony on 3 September 2018 at the Chao Phraya Surawong Waiyawat Auditorium. The ceremony was attended by all new undergraduate students.



# Production Team

## Consultant

Professor Dr. Suchatvee Suwansawat

Associate Professor Dr. Surin Khomfoi

President of KMITL

Executive Vice President for Planning

## Created by: Annual Report Committee

Assistant Professor Dr. Ronnachai Tiyarattanachai

Mrs. Natthapani Sairattanain

Mr. Komon Vadkean

Vice President for Planning

Director of the Office of Strategic Management

Director of General Administration  
and Corporate Division

Assistant Professor Dr. Chodchanok Attaphong

Mrs. Khanittha Sakhon

Ms. Thananchanok Joiraksa

Department of Civil Engineering

Policy and Planning Analyst

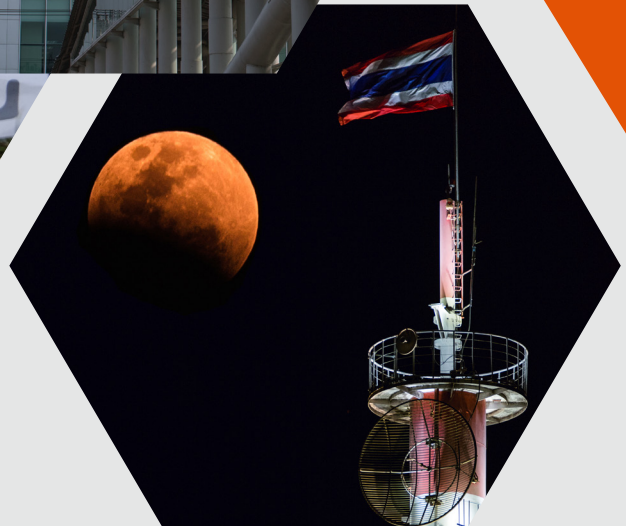
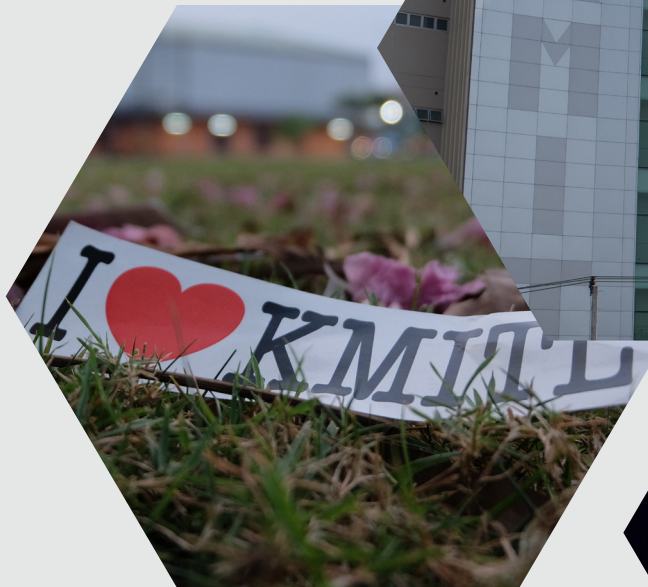
Policy and Planning Analyst

## Illustration: Office of General Administration and Public Relations

Thanks to all faculties and units for their assistance in information and illustration.







# KMITL

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