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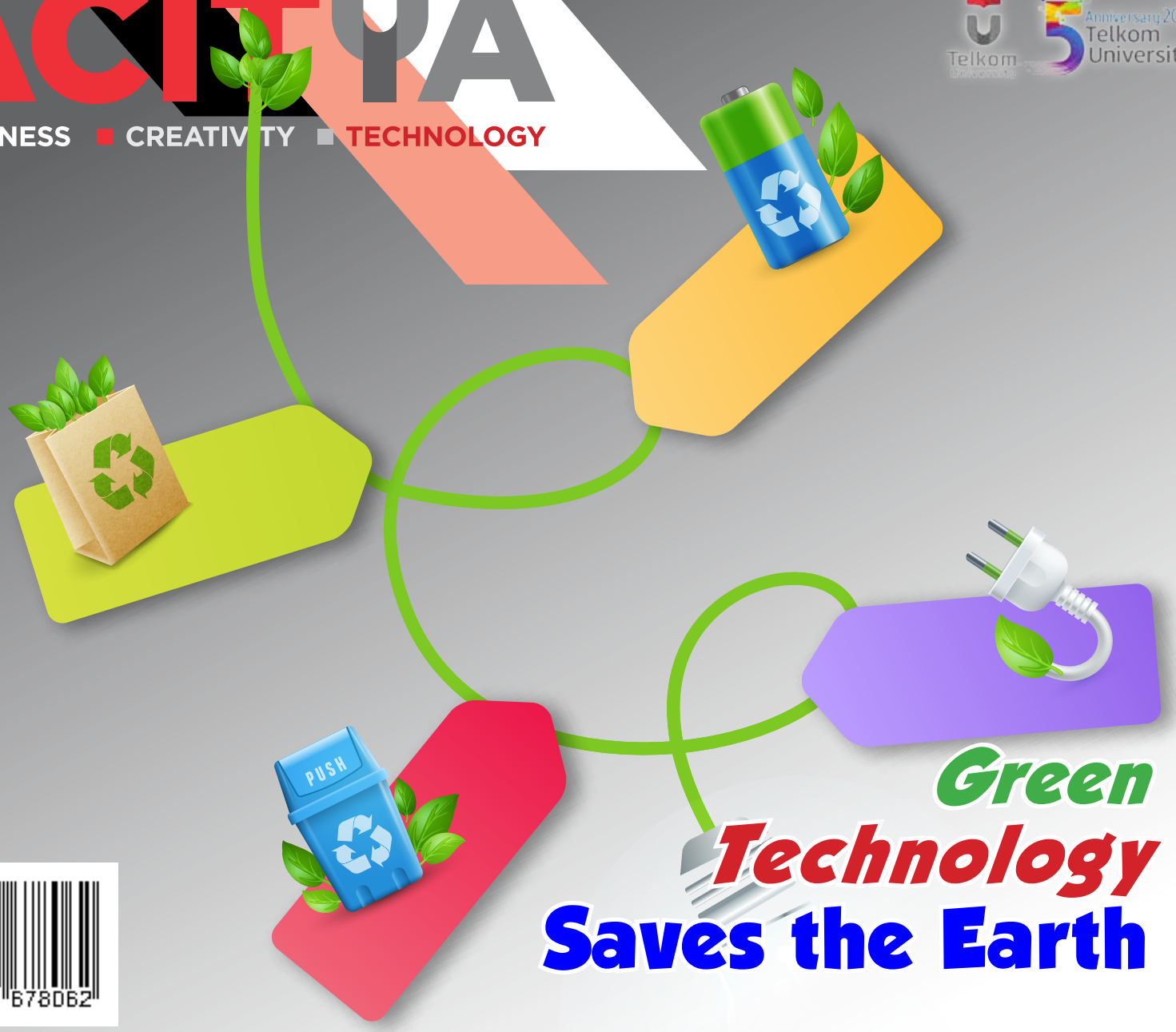

Green Technology Saves the Earth

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CONTENT

PROLOG

TAKE CARE THE ENVIRONMENT THE NATURE WILL NOT SHOW ITS WRATH

BEING the 9th Green Campuses in Indonesia by UI GreenMetric insists Telkom University (Tel-U) to take more responsibility for the environment. However, higher education institutions share the same responsibility with other elements to maintain the ecosystem and to prevent any environmental damage. The older the world, the more changes the environment has.

At the GreenMetric rankings by UI towards all universities in the world, there are some scoring indicators for a number of real contributions given by higher education institutions in maintaining the environment. They include the greening of the campus, the use of space, energy efficiency, water use management, waste management, and eco transportation system. Through this ranking, campuses are required to play an active role in any preventive and curative efforts as mitigation of the climate change impact.

Environmental damage is indeed caused much by human beings, making the nature harmful. Pollution and low awareness in preventing environmental damage may affect the condition of the nature in the future. Therefore, Tel-U takes some intensive actions in maintaining the environment, particularly the one around the campus.

The consistency of Tel-U relates to the environment is also revealed by a number of researchers who are concerned on the studies on environment. One of them is the study by the School of Industrial Engineering or Fakultas Rekayasa Industri (FRI) on the management of liquid chromium sulphate on leather tanning industry in Garut, which has been quite worrying. In addition, a study is conducted by the School of Computing or Fakultas Informatika (FIF) on numerical modeling in defining the surface area of mangrove forest that may reduce the coastal erosion. On the other hand, the School of Creative Industry or so called Fakultas Industri Kreatif (FIK) takes economic, social, and environmental aspects into account in the production of recycle products. Besides the studies, a number of publications issued by Tel-U related to environment and sustainability also show some increase in the last three years. It is noted that there had been 44 publicationsin 2015, 33 publications in 2016, and 40 publications in 2017 that discuss the topic.

However, the awareness in maintaining the environment should be started from the smallest scope within a community. If there is some awareness, it will be easy to carry on.❖

PROJECTION

Towards the Independent Cluster

Optimism of an Institution Optimization of Researchers

Prof. Ir. Moch. Ashari, M.Eng., Ph.D

The establishment of Quality Research Excellent insists Telkom University (Tel-U) to be serious. The term shold be a strong stimulus for the university to be the best within a tight competition among national education institutions. Different issues related to the improvement in research are also developped by the campus. One of them is the short term target of 2019, i.e. to be one of the Independent Cluster universities of the Ministry of Research, Technology and Higher Education or Kementerian Riset, Teknologi, dan Pendidikan Tinggi (Kemenristekdikti).

FOR THE last four years, Tel-U was still consistent in being a part of the Main Cluster in terms of research performance. Moreover, within the last five years, the achievement of the university is very exponential, i.e. in terms of the number of research and publication. This condition brings a high optimism to be better. Even the campus has just been awarded as the most productive private university in publication by Science and Technology Index (SINTA), in July 2018. This will certainly encourage Tel-U academicians.

The Rector of Tel-U, Prof. Ir. Moch. Ashari, M.Eng., Ph.D, says that the Independent Cluster has become a future target for Tel-U. A number of strategies have also been carried out, including the increase towards the number of studies funded by the external parties, the improvement on the number of studies from external parties, and optimization of research sources (researcher, expert group or Kelompok Keahlian (KK), Research Center / RC and BTP). "In 2013, we were still in the Middle Cluster. In 2014, we went to the Main Cluster. Our target is that we want to become one of the Independent Cluster universities. The criteria are not too specific; but one of them is the amount of research grant received from external parties as well as the number of research lecturers. There are three strategies including the amalgamation of Bandung Techno Park (BTP) with Tel-U, building Research Center and extending the role of Expert Group," he said.

The amalgamation of BTP with Tel-U in the beginning of 2018 was indeed aimed at making the studies effective as well as increasing the amount of the fund received. "BTP and Tel-U were initially separated. However, a number of human resources, as well as projects and research funded by the national ministries and other external parties BTP,have actually came from and carried on by Tel-U academicians. Certainly, it cannot be said that the studies administratively belong to Tel-U, yet they may belong to BTP.


Angga Rusdinar, S.T., M.T., Ph.D

Therefore, it is not effective for Tel-U, and starting from 2018 BTP was amalgamated with Tel-U so that there will be some increase for Tel-U in terms of the amount of research fund. For instance, the annual external research fund of Tel-U before the amalgamation was only IDR 3.4 billion. However, after the amalgamation, it became around IDR 10 billion," he said

Second, since 2016, Research Center (RC) was also established in order to find some fund and research from external parties. There were initially only two RCs, namely ICT Business & Public Policy and Advanced Wireless Technology (AdWitech). The two RCs according to Ashari have been quite good. The ICT Business & Public Policy has made some agreement with Oxford Univeristy in committing some research in Cybersecurity in Indonesia. It is fully funded by Oxford University and involves a number of institutions. In addition, the AdWitech in 2017 received some fund from LPDP for the Disaster Mitigation System and Application-Patriot-Net and the one from Cranfield University of the United Kingdom for the research on Rhenium (the development of Patriot-Net).

"In 2018, we built two more RCs including IoT Research Center dan Business Ecosystem Research Center. The two RCs have been working well. It is planned that Business Ecosystem Research Center is going to have some cooperation with a Japanese research institution in having an international conference at the end of this year where Tel-U will be the host," he added.

The last strategy is to extend the role of Expert Group or Kelompok Keahlian (KK). As the smallest entity in the research development at Tel-U, the groups consisting of research lecturers are expected to be able to create a research culture as well as other novel research topics which are in line with the roadmap of the faculty and university.

In a lower level, the target to be an Independent Cluster university is supported by the Director of Research and Community Service or so called Penelitian dan Pengabdian kepada Masyarakat (PPM), Angga Rusdinar, S.T., M.T., Ph.D. The directorate carries out its duty in pursuing the target to go to the Independent Cluster in terms of technical terms, i.e. collecting all data and potentials of the university, which can improve the achievement in research performance as well as support the institution in encouraging the research lecturers to increase the number of research and publication.

"We gather all data and submit them to Simlitabmas of Kemenristekdikti. We also encourage research lecturers to do more research, particularly the one funded by external parties, and we also give some incentive fee to the lecturers who publish their studies. The fee certainly varies depending on the impact factor (Q) of the journal publishing the paper as well as the number of the publications," said Angga.

He admitted that there are a few Tel-U lecturers whose research and publication are still small in number. Therefore, he and his team have been cooperating with all faculties (schools) to encourage the lecturers. "There is certainly a warning system for them yet it may also depend on each individual. However, we encourage them to be better in the future," he added.

Kemenristekdikti suggests that Tel-U actually has a number of potentials which can be taken as the indicators of research performance assessment. However, it takes some efforts to do the documentation since it should also be conducted consistently; apart from the deadline of submission at the end

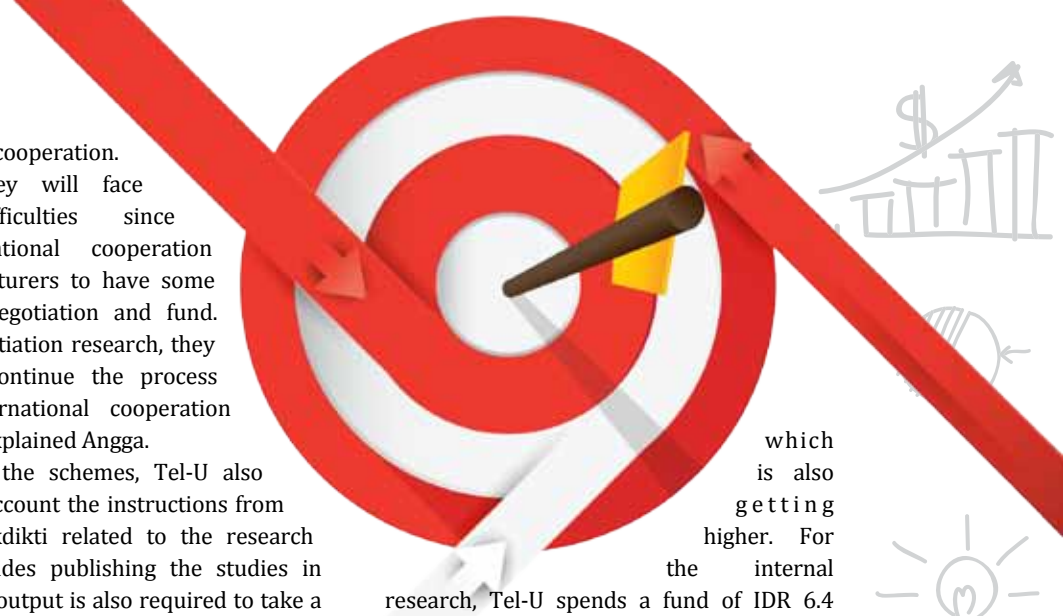
of August 2018. "The data entry period at Kemenristekditi is indeed ended at the end of August 2018, yet the documentation of the data will still be continued. We try to make it our habit. If there are some recent data, we will directly renew it," he said.

New Scheme, a Stimulus for Lecturers to Conduct Research

AFTER the establishment of Quality Research Excellent, Tel-U also established Global Research and Community Services Program (GRCS-Pro) aimed at increasing the number of studies to be synchronized with the community service program. It certainly requires other strategies for Tel-U pertaining to the research.

Angga said that GRCS-Pro is planned to encourage lecturers to accustomed themselves to researching. He has also added an internal research scheme in 2018 which is in line with the regulations from Dikti. The addition of the scheme is to encourage the research lecturers in conducting researches and making some publication including the internal and external research.

"There are indeed some recent internal research schemes this year, including the Initiation of International Cooperation Research Scheme and Collaboration on International Cooperation. It is to encourage the lecturers to do some research and propose some external research. Tel-U has now received the rank from Q-Star where one of the aspects to have is some collaboration on international cooperation. So, we give this stimulus (Initiation of International Cooperation Research – red), so that they are encouraged and have some ammunition to do some negotiation towards any international research cooperation. If not, they will face some difficulties since an international cooperation requires lecturers to have some initiation, negotiation and fund. After the initiation research, they can then continue the process to an international cooperation research," explained Angga.



Besides the schemes, Tel-U also takes into account the instructions from Kemenristekdikti related to the research output. Besides publishing the studies in journal, the output is also required to take a form of a product prototype and Intellectual Property in the form of patent or other forms. Therefore, Tel-U has also imposed any inter-faculty collaborative research. It is aimed at making the products more efficient in terms of technology, more interesting in terms of performance, and in line with the market needs. Thus, it will be easier for the products to be commercialized.

The recent research schemes that Tel-U established tightly relates to the efforts in improving the research performance. It includes community service aspect which ideally is an implementation of the research. Therefore, one of the given inputs is the way to propose some community service programs to external party so that they can be a plus point for Tel-U.

Tel-U is indeed getting better in terms of research and community service. One of the indications is SINTA Award by winning for the category of the highest number of publication, where there is also an increase in the number of internal and external studies. It can be seen from the amount of research fund, which is also getting higher. For the internal research, Tel-U spends a fund of IDR 6.4 billion a year while for the external one, it has already achieved the point of IDR 5.2 billion in the beginning of the year.

"We believe that the amount of external research fund will certainly be bigger than the internal one since the IDR 5.2 billion of the external fund does not include the fund for the whole year and some lecturers are still proposing for some external funding research. Our target is that the external research fund will be bigger than the internal one as it is one of the assessment aspects for having a higher level of cluster, besides the number of external research, researchers of the external research, and publication, "explained Angga.

He expects that the Directorate of PPM as one that may support the research at Tel-U can help the campus in improving the research and publication. "Through some supports given as incentive fee, the access for research proposal as well as different research workshop and publication, it is hoped that Tel-U will be better in the future," he said. ❖

Dr. Ir. Mustangimah, M.Si
The Head of Sub-Directorate of Research Capacity Improvement of DRPM of Dikti

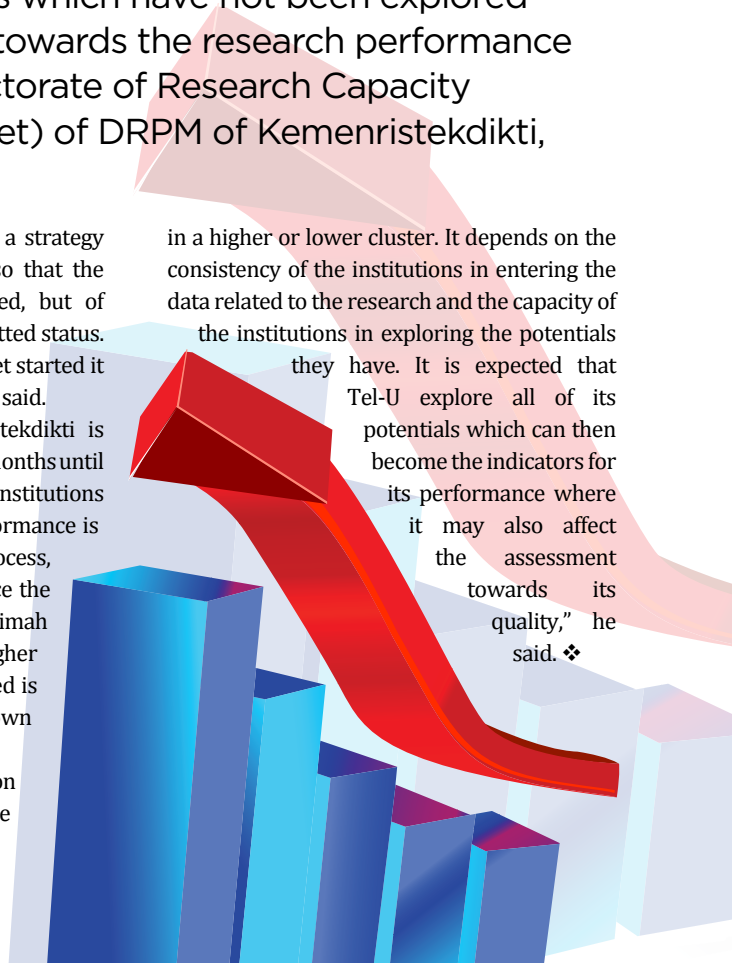
Tel-U has a Number of Potentials

The target of Tel-U to be a part of the Independence Cluster in 2019 is likely not impossible. This campus has a number of potentials which have not been explored and can be used as a plus point in the assessment towards the research performance by Dikti, as has been said by the Head of Sub-Directorate of Research Capacity Improvement (Kasubdit Peningkatan Kapasitas Riset) of DRPM of Kemenristekdikti, Dr. Ir. Mustangimah, M.Si.

"Tel-U already possesses some potential raw materials including some research outputs, publications, Intellectual Properties, cooperation, and scientific forums, which have not been recorded and listed for the assessment at Simlitabmas of Dikti. In fact, these data can still be explored considering that there is still time to the deadline for data entry. The publications which have been accepted waiting for the published status can be put into the list. There are also a number of manuscripts that have not been sent to publishers. It is the potency where it only needs some assistance in the form of workshops so that the papers are shortly accepted particularly those of international category. Related to KI, it is a must to encourage the researchers so that they are aware and they should also be assisted in the registration process. It can be a strategy for the data entry unit of Tel-U so that the accepted journals can be recorded, but of course it is not for the one in submitted status. For the assessment, Dikti has not yet started it and there can be some changes," he said.

The assessment by Kemenristekdikti is processed within approximately 6 months until the clustering of higher education institutions in reference to their research performance is announced. After the data entry process, there is a phase of verification since the data are high in number. Mustangimah said that the number of higher education institutions to be assessed is about 2,000. It will certainly slow down the data validation process.

"Each higher education institution has an opportunity to be in a higher or lower cluster. It depends on the consistency of the institutions in entering the data related to the research and the capacity of the institutions in exploring the potentials they have. It is expected that Tel-U explore all of its potentials which can then become the indicators for its performance where it may also affect the assessment towards its quality," he said. ❖



PROJECTION

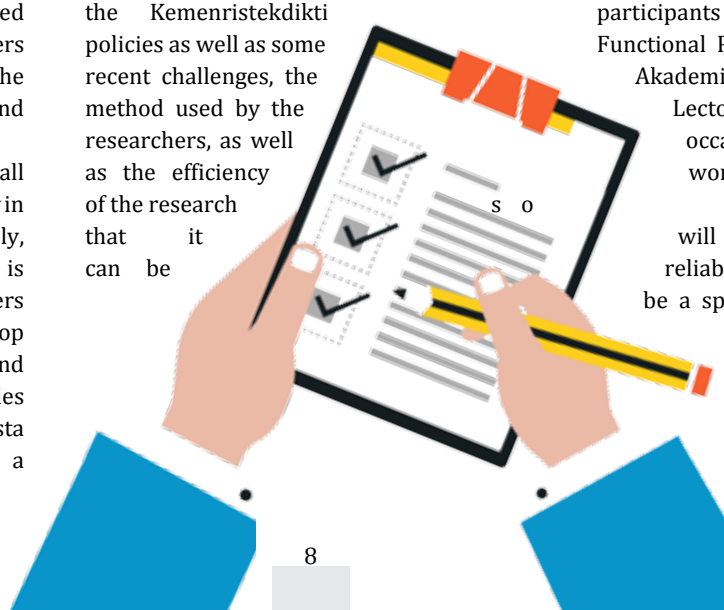
Prof. Dr. Uman Suherman AS. M.Pd
The Head of Kopertis IV

Control the Quality of Research through *Certified Reviewers*

ONE OF the determining aspects of the external research quality (Kemenristekdikti and other institutions) is certified reviewers. It can be taken as one of the targets for Tel-U after the establishment of Quality Research Excellent. The existence of certified reviewers determines the quality of externally funded research proposal since the reviewers should be able to evaluate not only the budget but also the plan, the process, and the output..

Unfortunately, there are still a small number of certified reviewers, particularly in a private higher education, as Tel-U. Luckily, Tel-U which is now in the Main Cluster is able to send some of its research lecturers to join Certified Reviewer Workshop held by Kemenritekdikti, Quantum and the Coordinator of Private Universities or Koordinator Perguruan Tinggi Swasta (Kopertis) IV. Furthermore, Tel-U has a target to be a part of the Independent Cluster that can give the university an opportunity to have more external research grant. By the existence of certified reviewers, the quality research proposals can be evaluated in advance.

The Head of Kopertis IV, Prof. Dr. Uman Suherman AS., M.Pd. said, "Reviewers should be able to see the structure of proposals, the contextuality of the plan in reference to the Kemenristekdikti policies as well as some recent challenges, the method used by the researchers, as well as the efficiency of the research so that it can be applied in the society. Reviewers should also have integrity so that the proposals accepted are indeed reliable."



The availability of certified reviewers is like a control that can be a plus point for Tel-U and other higher education institutions. The requirements are also difficult to fulfill since they are only aimed for higher education institutions in the Main and Independent Clusters. In addition, the participants should also have an Academic Functional Position or Jabatan Fungsional Akademik (JFA) of Lector, Head Lector, and Professor. Tel-U, in that occasion, sent 7 lecturers to the workshop.

It is hoped that the reviewers will have an ability to assess a reliable research proposal and to be a speaker for the future reviewer workshops so that there will be some regeneration," Uman Suherman expected. ❖

PROJECTION

Dr. Muh. Dimyati
General Director of the Strengthening for Research and Development Kemenristekdikti

Research Must be Industry-Oriented

One of the steps Tel-U should pass in Research Quality Excellent is going towards the Independent Cluster. However, within the process, Tel-U does not only improve its external research quantity, external research fund and publication, but also have some targets in producing some prototypes and possessing some Intellectual Properties as the output. "The reason is research tightly relates to the innovation, which is actually still low in number in Indonesia," said the General Director of the Strengthening for Research and Development (Penguatan Riset dan Pengembangan) of Kemenristekdikti, Dr. Muh. Dimyati.

"**AS MUCH** as 58% of the innovation found in this country comes from other countries. There are still a few local research products which have not been publicly used despite the fact that our researchers are able to do it. A number of researchers did not go to the final step as they felt that they have finished their research. It is because they do not understand what industry needs and wants," he said.

Dimyati and his team in Kemenristekdikti also support research in Indonesia, particularly in higher education institutions, to be more market-oriented. Besides, Kemenristekdikti also increases the number of consortium research for higher education institutions so that they can produce some products with some sense of art, making them interesting and marketable.

"Tel-U has become one of the higher education institutions involved in SmartCard research with ITB, Hasanudin University, UGM, and others. We hope that later, the product can be used by industries. There are also some other research involving the three elements of ABG (Academic, Business & Government). Industries have also been ready to share some budget since they can use the products. Unfortunately, a number of researchers are still not interested in the concept. Some researchers only do the research to fulfill their credit points and have some publication," he said. ❖

SCHOOL OF ELECTRICAL ENGINEERING

- **Major :**
  Master of Telecommunication Engineering
- **Research Group :**
  Telecommunication transmission (TRANS)
- **Title :**
  PATRIOT-Net: *Prevention and Recovery Networks for Indonesia Natural Disasters based on the Internet-of-Things* (IoT)
- **Researcher :**
  Dr.Eng Khoirul Anwar, S.T., M.Eng.
  Ir. Achmad Ali Muayyadi, M. Sc., Ph.D.
  Dr. Muhammad Ary Murti, S.T., M.T.
  Dr. Nachwan Mufti A., S.T., M.T.
  Dr. Ir. Sony Sumaryo, M.T.
  Ekki Kurniawan, S.T., M.T.
  Ramdhan Nugraha, S.Pd., M.T.
  Ratna Mayasari, S.T., M. T.
- **Scheme :**
  Grant RisPro Educational Fund Management Institution (LPDP)
- **Fund :**
  IDR 1,461,748,000.00

- **Major :**
  Bachelor of Electronic Engineering
- **Research Group :**
  Electronics System
- **Title :**
  Integration of Production Process Monitoring, Conveyor and Automated Guided Vehicle Systems Using Industrial IoT Systems
- **Researcher :**
  Angga Rusdinar, ST., MT., Ph.D
  Dr. Eng. Ahmad Sugiana
  Ramdhan Nugraha, M.T.
  Fakih Irsyadi, M.T.
  Hicary, S.T.

Liquid Chromium Sulphate at Leather Tanning Industry

Ir. Rosad Ma'ali El Hadi, M.Pd., M.T., IPU with miniature of IPAL for leather tanning industry

Indonesian leather industry aimed for fashion materials is an integrated industry, including the upstream and the downstream one. It also gives a quite big contribution of 0.27% out of 17.87% of non-oil and gas industry towards the national gross domestic product or Produk Domestik Bruto(PDB) in the year of 2014 where it also provides a wide chance for the workforce recruitment. Unfortunately, the industry, particularly the upstream one, still requires some attention, i.e. related to its impact towards the nature. It is the leather tanning industry that uses some harmful chemical substances.

TO THE present time, the artisans use imported Chromosal-B for the tanning. It is because the leather produced by the substance is believed to have a good quality, before it is then processed into different valuable commodities. Unfortunately, the substance is one of heavy metals which is not naturally degradable.

Therefore, the industry using the substance may produce some liquid waste with heavy metal ions which is harmful for plants, animals, and humans. It requires some treatment to prevent the condition, i.e. before it is disposed to the environment, to reduce or even eliminate the ions within the liquid waste.

It is this condition that leads the researchers to study chromium sulphate as the leather tanning process residue which is more eco-friendly and reusable. The study is conducted at the leather center of Sukaregang, Garut, by previously mapping the environmental condition of the area , i.e. the condition of the upper course used as the waste disposal area, including Babakan Abid, Cigulampeng River, Ciwalen River and Cimanuk River. However, the laboratory test is conducted at Chemistry Laboratory of Padjadjaran Univesity, Bandung, as well as at the Office of Leather, Rubber and Plastics or Balai Kulit, Karet dan Plastik (BKKP) of the Ministry of Industry of the Republic of Indonesia, Jogjakarta. The mapping covers the characteristics of the river water, sediments, plants, and the well water. The reason is the concentration of the heavy metal within the liquid waste may still potentially pollute the environment inspite of the waste management the artisans did. Liquid chromium sulphate produced from one turning drum can reach the level of 1,300 part per million (ppm) which is then processed by using the artisans' Waste Management Installation or Instalasi Pengolah Air Limbah (IPAL). However, it still varies in result and is not close to meet the quality standard the Minister of Environment has established, i.e. 2 ppm maximum.

The leather tanning process itself is divided into two, chromium tanning and rinsing. In the chromium tanning process, 7% liquid Chromosal-B will be absorbed by the leather as 60%, and the rest will be disposed. However, the rinsing process usually uses 5% Chromosal-B. In this study, the 40% chromium sulphate disposed from the chromium tanning process is tried to be recycled in laboratory scale so that it can be reused and can decrease the level of liquid waste. The study covers the use of IPAL prototype in laboratory scale as well as computer simulation that can produce two kinds of liquid waste which are ready to process, including supernatant (liquid waste) and coagulant (solid waste). The two kinds of wastes are treated differently.

First, supernatant will be filtrated using active carbon to remove the odor, then using glass shards as the metal ion absorbent. The use of glass shards is cheaper than buying imported resin. The glass contains

SCHOOL OF ELECTRICAL ENGINEERING

Muhammad Salakhudin
Bonifatius Yuniawan K

- **Scheme :**
  Industrial Technology Development Program II (New Proposal)
- **Fund :**
  IDR 350,000,000.00

- **Major :**
  Bachelor of Teleommunication Engineering
- **Research Group :**
  Information Signal Processing (PSI)
- **Title :**
  CholMe - Application of Measuring Cholesterol Levels From Eye Photos
- **Researcher :**
  I Nyoman Apraz Ramatryana, S.T., M.T.
  Ledya Novamizanti, S.Si., M.T
- **Scheme :**
  Prospective Technology-Based Beginner Company Phase I 2018
- **Fund :**
  IDR 189,942,000.00

- **Major :**
  Bachelor of Electrical Engineering
- **Research Group :**
  Instrumentation Engineering & Energy (RIE)
- **Title :**
  Synthesis and Model of Pore Structure in Nanopore Carbon from Coconut Shell as Supercapacitor Electrodes
- **Researcher :**
  Dr. Memoria Rosi, S.Si., M.Si.
  Dr. Sparisoma Viridi, S.Si, M.Si
- **Scheme :**
  Doctoral Dissertation Research

some silica and it is porous so that it can tie anion and cation (positive and negative ions in metal). After that, they are sieved by using foam that can produce 2 ppm chromium sulphate which is in line with the government quality standard. Meanwhile, the coagulant with a high concentration of chromium is treated by disposing the filtrate, which is then mixed by technical sulphate acid that is then stirred evenly to produce some chromic hydroxide so that it turns to be 5% liquid chromium sulphate.

As much as 5% chromium sulphate resulted from the recycle process can actually be used for the chromium tanning, yet the concentration is not able to fulfill the required concentration. Therefore, the chromium sulphate is then reprocessed to be in the level of 9%. It is to remove other metals which may probably be found. The chromium sulphate derived from the recycle process is then heated and condensed so that the other substances will be removed through the evaporation process. The process will make the chromium sulphate be more condensed, yet will be less in the amount. The process is conducted repeatedly to find the condensation level of the chromium sulphate in reference to the temperature, the time for heating process and the volume of water added.

Recycle process to produce high quality leather

THIS RESEARCH is not only focused on the recycle process of chrome sulfate liquid waste to make it environment-friendly, but also to use it to tan leather. The use of this recycle result is done in the experiment scale using turning drum, that belongs to one of the craftsmen in Garut, and apply it on raw leather. The testing process is performed by using five formulas to see the quality difference on the leather.

First, by putting leather in 100% recycled chrome sulfate, in finishing process. Second, by putting leather in chrome sulfate of 75% and 25% water. Third, by putting leather in recycled chrome sulfate of 75% and imported Chromosal-B of 25%, so it makes the composite more concentrated. Fourth, by adding leather in chrome sulfate of 75%, and roll the turning drum for an hour, after that, imported Chromosal-B 100% is added like what craftsmen usually do. Leather used for this experiment is goat leather. In point of fact, this experiment processes may give better and varying results if more formula are used in the process. The cost, however, will also increase.

After the ripening process, each leather has to undergo the drying, stretching, and painting process, similar to process done by leather craftsmen. After that, the leathers are brought to BKKP inYogyakarta for quality testing. Leather quality testing covers three characteristics: the natural character of leather, chemical, and physical elements contained in the leather. The testing of natural character is done by means of four experiment variables, physical elements is done by means of eight experiment variables, and chemical elements is done by thirteen experiment variables. Each variable has three other experiments. After all, the result is counted using statistical Analysis of Variant (ANOVA).

The time spent for conducting this experiment in Kabupaten Garut is one week, while in BKKP Yogyakarta is around 2 months. The experiment result shows that leather tanned using 100% recycled chrome sulfate has the best quality compared to standard tanning substance used by leather craftsman.

Things that can be implemented from

this research are: firstly, the solution of liquid waste of chrome sulfate meets the standard of the ministry of environment. Secondly, the recycled chrome sulfate can be re-used for leather tanning.

Unfortunately, the implementation of this research is not easy and absolutely not cheap, especially for leather industry center in Sukaregang, Garut, that is considered more complex compared to other region, such as Yogyakarta, Magetan, and Sidoarjo. This complexity is caused by the vast variety of leather industry in Garut, from small and medium enterprise to established enterprise. Not all craftsmen are capable and spare some fund to make IPAL (Water Waste Processing Installation) that meet the quality standard of the Ministry of Environment. The reason is the cost they have to expense can reach IDR 1 Billion.

The simulation of IPAL as the result of this research has already been exhibited at Bandung Techno Park (BTP) and received a response from the Governor of West Java, Ahmad Heryawan, and President of Republic of Indonesia, Joko Widodo. However, both are only interested in this model and there were no continuity to develop or implement this system.

The mission of this research is to open the related parties' mind, that are involved in leather industry, to concern more on environment aspect and ecosystem stability. It is quite a dilemma about how to keep the continuity of the business in leather industry and to keep the ecosystem clean and healthy. For that reason, the best solution is to build IPAL that meet the government qualitystandard. The existence of IPAL in leather industry is compulsory for every business to have, and it should be realized by business owners, people who live around, and the government. Moreover, the central government should be aware more and they should intervene to handle this problem, because leather industry is one of industries that support Indonesian economy. ❖

Taken from Doctoral Dissertation research entitled "A study on Composition of Chrome Sulfate resulted from Leather tanning's liquid waste recycle process to the quality of leather" Written by Ir. RosadMa'Ali El Hadi, M.Pd., M.T., IPU. dan team.

Profile of Research Team Leader

Ir. Rosad Ma'ali El Hadi, M.Pd., M.T., IPU is a fixed lecturer at School of Industrial Engineering (FRI), Telkom University (Tel-U). He finished his bachelor degree at Universitas Pasundan in 1988. Then, Rosad completed his master degree at a different university; Universitas Siliwangi Tasikmalaya in demography and environmental education in 2001,andUniversitasPasundanin Industrial Engineering in 2012.

Nowadays, Rosadis composing his Doctoral dissertation in management, and Operational Management is his concentration at Universitas Pasundan. Rosad has received Primary Professional Engineer Certificate (sertifikat Insinyur Profesional Utama (IPU)) in 2016 from Indonesian Engineer Association (Persatuan Insinyur Indonesia (PII)). ❖

SCHOOL OF ELECTRICAL ENGINEERING

- **Fund :**
  IDR 170,000,000.00

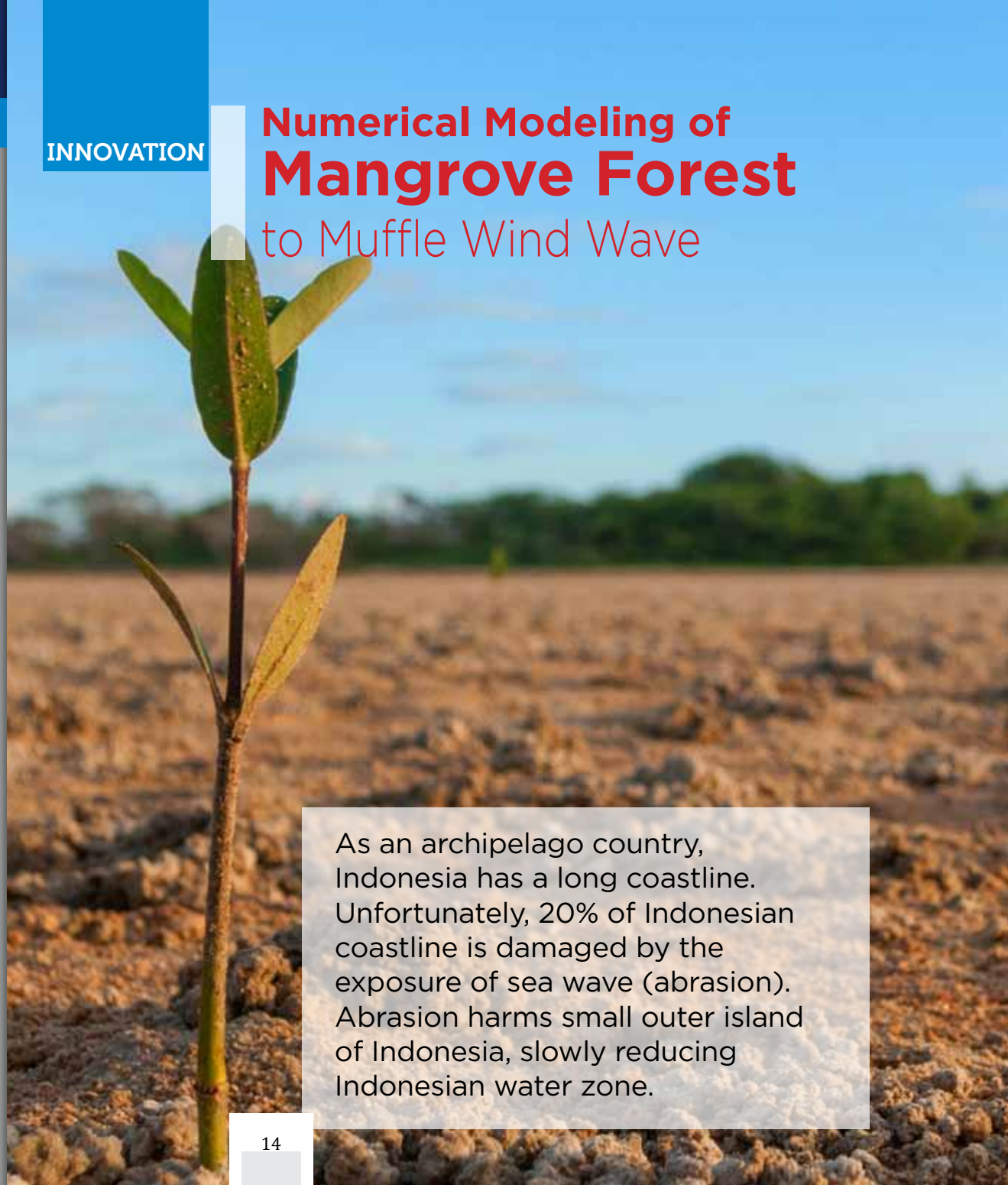
- **Major :**
  Bachelor of Electrical Engineering
- **Research Group :**
  Electronics System
- **Title :**
  Development of Signal Complexity Measurement Method Based on Entropy for Lung Sound Classification
- **Researcher :**
  Achmad Rizal, S.T., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 44,085,000.00

- **Major :**
  Bachelor of Electrical Engineering
- **Research Group :**
  Electronics System
- **Title :**
  Design and Testing of Power Supply Systems for Electrodialis of Sea Water Desalination to Pure Water with Solar Cell Energy Sources
- **Researcher :**
  Ekki Kurniawan, S.T., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 44,000,000.00

- **Major :**
  Bachelor of Computer System
- **Research Group :**
  Computer Engineering
- **Title :**
  Increasing the Value of Cost-Based Response with Sorted Collaborative Member Selection In Classification-

INNOVATION

Numerical Modeling of **Mangrove Forest** to Muffle Wind Wave



As an archipelago country, Indonesia has a long coastline. Unfortunately, 20% of Indonesian coastline is damaged by the exposure of sea wave (abrasion). Abrasion harms small outer island of Indonesia, slowly reducing Indonesian water zone.

THERE are two ways to handle beach damages, i.e. by physical and non-physical development. Physical development is conducted by building groin (perpendicular structure of coastline for sediment trap), sea wall, and giant sea wall, as planned in Jakarta bay at the moment. However, this physical development is very expensive though it is relatively fast to show results. On the other hand, non-physical development is done by nature, such as beach nourishment and planting mangrove and beach vegetation.

Natural beach recovery is considered beneficial, though it needs much time to complete. One of the ways to do beach recovery is by planting mangrove. The mangrove planting program was intensely campaigned by the government (one of them is done by Ministry of Marine Affairs and Fisheries of the Republic of Indonesia) and environment activists. However, the effectiveness of mangrove forest to prevent many kinds of sea waves over the beach is still scientifically questioned, for example: is it determined by the area of mangrove forest on the beach, length and height of the sea wave that moves toward the beach.

For those reason, it is important to investigate the effectiveness of mangrove forest as one of the efforts to reduce the impact of the beach damage. Besides physical experiment, wave reduction by using mangrove forest can be done by using numerical simulation. Aside from the fact that this procedure is more practical, fast, and cheap, this procedure that uses exact mathematics and effective numeric implementation can be counted on to represent physical phenomenon.

This research is done by expertise group of Modeling and Computational Experiment (KK-MCE) at School of Informatics Engineering, Telkom University (Tel-U) partnering with the Ministry of Marine Affairs and Fisheries (KKP). Furthermore, in developing mathematics and numerical model from wave equation, KK-MCE collaborates with Hydrodynamics Laboratory, Balai Pantai - Pusat Sumber Daya Air (PUSAIR) of Ministry of Public Work and Housing (PUPR) since 2017 where some of physical wave experiments were conducted. As one of the supporters of this research activity, this research used physical experiment data that is done in Hydrodynamics Laboratory in Leichtweiβ-Institute for Hydraulic Engineering and Water Resources (LWI) di TU-Braunschweig, Germany.

This research is conducted to find out the area of mangrove forest that should be planted on the beach to be able to muffle the short wave height caused by wind (wind waves) through math equation. Through numerical modeling, simulation can be easier, cheaper, and more accurate. Numerical modeling is done by developing a math wave model called Variational Boussinesq (VB).

There have been a couple of numerical simulation validation and physical experiments since 2008 until 2016. However, muffle-effect model (one of them is mangrove), particularly, is conducted since 2016. It is performed by changing numerical implementation scheme in the VB wave model. Previously, VB model was developed by Finite Element Method (FEM) in 2008-216, yet, it faced problem when it has to model wave run-up, breaking, and damping phenomenon. It was fixed by changing numerical implementation technique of VB model by using Staggered Grid (SG) Finite Volume Method (FVM) schemes. As a result, the model can represent wave run-up, breaking, and damping accurately and efficient computational time. The results of those numerical scheme developments are validated by many kinds of experiment data, both from hydrodynamic laboratory in LWI, TU-Brauschweig, Germany, or physical experiment in Netherlands.

One of the superiorities of the mathematical and numerical model developed in this research is the ability of the model in simulating irregular wave propagation or sea wave (stimulated by wind) efficiently and accurately. For your information, the biggest challenge in modeling/simulating irregular wave is dispersion wave characteristic that should be modeled accurately. Inaccuracy in simulated wave dispersion characteristic can result in very different outcome which is distinctive to physical experiment result. By using accurate and consistent numerical implementation, SG-FVM, model VB is able to simulate irregular wave propagation accurately. The development of this VB model is used to examine tsunami wave simulation, irregular wave propagation on harbor, wave simulation on the laboratory scale, and the latest is infra-gravity (IG) wave

SCHOOL OF ELECTRICAL ENGINEERING

Based Autonomous Response System

- **Researcher :**
  Yudha Purwanto, S.T., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 60,000,000.00

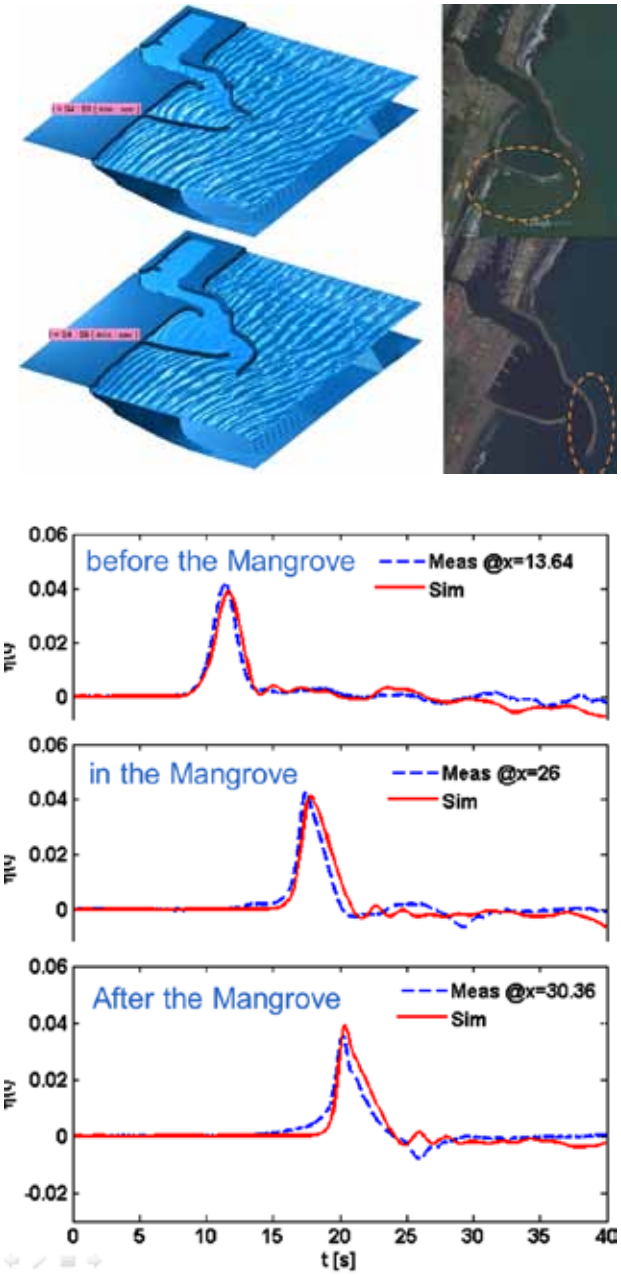
- **Major :**
  Bachelor of Physical Engineering
- **Research Group :**
  Instrumentation Engineering & Energy (RIE)
- **Title :**
  Development of Magnetic Field Induction Tomography Data Collection System Based on Multi Coil Transmitters to Detect Metal Material Content in Soil
- **Researcher :**
  Dr. Dudi Darmawan, S.Si., M.T.
  Dr. Suprijanto, S.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 150,000,000.00

- **Major :**
  Bachelor of Telecommunication Engineering
- **Research Group :**
  Telecommunication Transmission (TRANS)
- **Title :**
  Design of Microwave Absorbers That Can Be Used for Health Applications
- **Researcher :**
  Dr. Bambang Setia Nugroho, S.T., M.T.
  Dr.Eng Achmad Munir, S.T, M.Eng
  Dr. Levy Olivia Nur, S.T, M.T
- **Scheme :**

(very long wave) that can be used to help designing FSRU (Floating Storage Regasification Unit) construction.

Final result of this research are tools (software) that can be used by KKP to assess some applicative cases in Indonesia related to sea wave damping by mangrove forest and supports some regulations related to mangrove planting action as natural protection for beaches in Indonesia. So far, there are only some countries that develop commercial software to simulate sea wave, it can be tsunami, wind waves or extreme waves. In Denmark, they use MIKE21 software (developed by Danish Hydraulic Institute/DHI), Nederland using DELFT3D (developed by Deltares-Belanda), and United States using SMS-Surface Modeling System software (developed by Aquaveo-Amerika). This research gives opportunity to developing local wave simulation software for coastal engineering, both in Indonesia and other countries. Although the market for this software is very limited; government as decision maker, offshore construction company, and hydrodynamics laboratory, it is scientifically and applicably potential.

There are some research outputs that have been produced by this study. First, wave model that can simulate wind waves accurately can represent damping from mangrove forest and represent this wave breaking. Second, curve or relation between sea wave energy that are damped by mangrove forest and area of mangrove forest. This curve or relation is used by research partners in making regulation related to the planting of mangrove forest to protect beach. Third, the discussion related to comparison result between numerical simulation of non-breaking model and experiment result at di TU-Braunschweig,



The results of numerical modelling measurements before and after mangrove forests are present.. Photo : Private.

Germany, has been submitted to Scopus-indexed Journal on December 2016. Next, to simulate the wave movement (up and down), or run-up.When wave model is used to simulate damping by mangrove forest, run-up facility should be modeled accurately. The result of run-up facility on the wave model has already presented as proceeding in the International Conference on Mathematics and Natural Sciences (ICMNS) 2016 at ITB.

Fifth, the development of parallel technique for numerical implementation of wave model is developed. Techniques used are OpenMP and MPI. The implementation and comparison of these two techniques has already submitted as SCOPUS indexed International Journal in December 2016. Sixth, the discussion on model development of wave model with wave breaking effect and the comparison with laboratory experiment data which is already submitted as proceeding in Scopus-Indexed Journal that is presented in The International Conference on Computation in Science and Engineering (ICCSE) 2017, at ITB Bandung on 10-12 July 2017.

Seventh, complete discussion on wave model development using wave breaking effect and comparison with experiment data of TU-Braunschweig, Germany, will be published on Scopus-Indexed International Proceeding this year. Eight and ninth, numerical implementation of VB model using Staggered Grid Finite Volume scheme has already published on Scopus-Indexed International Proceeding at the beginning of 2018.

Lastly, the result of wave and numerical implementation model development software (commercial or non-commercial/open source) will be created to simulate wave propagation that can be used by coastal engineers in designing coastal or offshore structure.

All of scientific publication from this research summarizes some research result related to investigation on coastal damage reduction using mangrove forest through numerical modeling. In the software development, numerical modeling has just finished in scientific phase. It is expected that the collaboration on this research will be able to trigger some researches to produce local product with international quality standard. ❖

Taking from collaborative research entitled "Investigation on reduction of Beach Damage effect using Mangrove forest" by Didit Adytia, Ph.D and team.

Profile of Research Team Leader

DIDIT Adytia, Ph.D, was born in, Belitung, on 5 February 1983. He joined as a lecturer at School of Informatics, Telkom University (Tel-U) In 2016. Didit completed his bachelor and master degree in Mathematicsof FMIPA, ITB, in 2006 and 2008. For his doctoral degree, Didit continued his study to Dept. of Applied Mathematics in Universiteit Twente, Netherlands (2008-2012). He took water wave modeling & simulation as his specialization. After he graduated from his doctoral study, Didit continued his Post-Doctoral in the same research group in Universiteit Twente (2012-2016).

Nowadays, Didit develops wave model and numerical implementation for simulation of many kinds of wave, such as wind wave, tsunami, tropical cyclone-generated wave, and wave design for hydrodynamic wave tank. Besides, Didit also works with industrial party, especially MetOcean (Meteorology & Oceanography) company in oil and gas area in simulating extreme wave in some offshore locations of engineering design from platform offshore.

The research about extreme wind and climate simulation and tropical cyclone are conducted together with High Performance Computing (HPC) group - LIPI. Furthermore, Diditalso works for hilirisasi research grant, which build Wave Forecasting System (WFS).It is a system that count wave prediction of the next 10 days for ship navigation operational or offshore platform operational. ❖

SCHOOL OF ELECTRICAL ENGINEERING

National Strategic Institution Research

- **Fund :**
  IDR 72,000,000.00

- **Major :**
  Bachelor of Physical Engineering
- **Research Group :**
  Instrumentation Engineering & Energy (RIE)
- **Title :**
  Design of Image Processing Based Sound Tape Identification System as Sound Tape Abnormation Detection Tool
- **Researcher :**
  Drs. Suwandi, M.Si
  Dr. Dudi Darmawan, S.Si, M.T
  Hertiana Bethaningtyas Dyah K., S.T., M.T.
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 65,000,000.00

- **Major :**
  Bachelor of Telecommunication Engineering
- **Research Group :**
  Telecommunication Transmission (TRANS)
- **Title :**
  Energy Saving Based Resource Management Schemes on Green Technology Broadband Wireless Communication Systems
- **Researcher :**
  Dr. Arfianto Fahmi, S.T., M.T.
  Nur Andini, S.T., M.T
  Dr. Nachwan Mufti Adriansyah, ST., MT
- **Scheme :**

SUSTAINABLE DESIGN

Three Advantages in One Hand

The massive use of plastic as packaging or container creates apprehensive environmental problem. One of them is the number of plastic waste that keeps increasing day by day. Nature cannot cope with this problem by itself, since it is not easy to decompose plastic waste. There are ways to reduce the use of plastic waste or to utilize plastic waste by 3R (Reduce, Reuse, Recycle).

Photo. Private

THE EFFORT of handling plastic waste is also applied in design world by using sustainable design concept. Sustainable design concept refers to smart mindset and action that is in harmony with nature. There are three major problems underlying sustainable design concept: environmental ecology, social and economy factors. This concept was initiated by environmentalist group who is concerned and would like to adapt consumption pattern to make it more environment-friendly and take responsibility for social and economy aspect in society.

This concern becomes one of the backgrounds of the research in School of Creative Industries Telkom University (Tel-U) in 2015 that is done in collaboration with recycle bag craftsman group "Kunarti" in Cibeunying area, Kota Bandung. This research is done by researchers from School of Creative Industries using observation method. It is aimed to find out and analyze the application of sustainable design concept runs by this group. Although there are many people recycle bags from plastic waste, Kunarti Group do it differently. They give a special impact, especially in the application of sustainable design concept.

Kunarti group consists of housewives who have plenty of free time. It was established by IbuKunarti, an ITB graduate who loves arts and concerns about environment. Aiming adult women as their market segment, Kunarti Group recycles plastic packaging into aesthetic bags. Observation result concludes that three factors of sustainable design concept have been applied in this group although it is still very simple.

Example of the bag from Plastic fusing method. Photo. Private

First, ecology aspect. There is willingness from society to recycle garbage, especially plastic, to become functional. The useless plastic waste packaging now is having second life that turns into useful bags. However, some weaknesses are found in the project of Kunarti Group, which is the method of waste management. So far, the one which is recycled is plastic packaging. Plastic bags are the most polluting waste to the environment and this kind of plastic has never been recycled. The reason is the plastic bags have no value when sold to collectors. The best way to recycle plastic bag is by melting it and recycling it into another plastic bag. However, the quality of this product is low and it needs a lot of energy indeed.

Second, social aspect. It is known that by the appearance of this project, it means that there is some understanding among society about the importance of managing and processing plastic waste from the very small scope, which is household. It is because the plastic waste, especially plastic bag, is produced by houses. Society, especially the member of Kunarti Group, is already aware about the knowledge related to waste recycle, especially packaging plastic, which is previously wasted but now it can be used to create something useful. Of course, the knowledge should be improved, especially for other kinds of waste.

Last, in economic aspect. People in general, and members of Kunarti Group, will be helped to get more income from plastic waste bag crafts. Unfortunately, there are some concepts inside of sustainable design that needs to be mended. The system of producing these bags is still by order from the pioneer (Ibu Kunarti). So, members of the group cannot be economically independent–since they are completely dependent to Kurniati's

SCHOOL OF ELECTRICAL ENGINEERING

Competence Based Research

- **Fund :**
  IDR 65,000,000.00

- **Major :**
  Bachelor of Telecommunication Engineering
- **Research Group :**
  Telecommunication Transmission (TRANS)
- **Title :**
  Zebra-Codes: Zigzag Decoding Based On Raptor Codes For Active Safety Transportation
- **Researcher :**
  Dr.Eng Khoirul Anwar, S.T., M.Eng.
  Ir. Bambang Sumajudin, M.T.
  Dr. Ir. Muhammad Ary Murti, M.T
  I Nyoman Apraz Ramatryana, S.T., M.T
- **Scheme :**
  Higher Education Basic Research
- **Fund :**
  IDR 57,050,000.00

- **Major :**
  Master of Electrical Engineering
- **Research Group :**
  Telecommunication Transmission (TRANS)
- **Title :**
  Detection of Brain Signal Configuration due to Sexual Violence in Children
- **Researcher :**
  Dr. Ir. RR Rina Pudji Astuti, MT
  Dr. Levy Olivia Nur, S.T, M.T
  Inung Wijayanto, S.T, M.T
  Raditiana Patmasari, ST., MT
  Sugondo Hadiyoso, S.T, M.T, A.Md
- **Scheme :**
  Individual Primary Insinas Research

order. It is, of course, should be improved so people can be fully independent. Furthermore, we live in digital era where all of the marketing processes can be done easily and cheaply through social media.

The method of plastic fusing can be done from a small scale using electric irons to large heating devices. Before being heated, plastic bag sheets are trimmed, stacked to a certain thickness as needed, and coated by linen

Develop the Plastic Fusing Method

AFTER observing the Kunarti Group, the concept of sustainable design research of the FIK Tel-U research team was resumed. The development of the research was carried out on the method of waste management, especially plastic bags, which has not been widely used.The waste management method used was plastic fusing. This method has been around for a long time, but not many people do it. This method is conducted by altering used plastic bags into stronger plastic by fusing all those used plastic bags through a heating process.

papers. Then, it is heated using an iron with a heat level for linen. As a result, plastic sheets will blend and become thicker and stronger. However, the level of thickness and strength of the plastic depends on the number of plastic bags that are stacked before heating process. Usually, plastic bags that have been processed through a plastic fusing method are not easily torn apart, except being cut.

However, not all types of plastic bags can be recycled using plastic fusing method, particularly biodegradable plastic bags type or plastic bags that can naturallydecompose. The reason is this type of plastic will be directly destroyed when it is heated. Used ordinary

plastic also cannot use this method because this type of plastic is usually recyclable. One of which plastic type that can use plastic fusing methods is Low Density Polyethylene (LDPE) type that has a color.

Plastics that have been processed by the method of plastic fusing can be used for various craft items, such as bags, mobile pouches, laptop bags, camera bag straps, and others. The plastics can also be combined with various materials for other crafts. For example, plastic straps made of plastic fusing are sewn with leather material or cloth for strap camera bags or other products. They can become fashion trends and accessories.

The development of this study targets home industry players from the smallest environmental level, namely neighborhood associations (RT). The reason is that most plastic waste is found in households, assuming one RT can collect plastic waste up to 4 kg to be recycled through plastic fusing method. Therefore, it can reduce pollution because plastic waste is not merely burned. As a pilot project for this study, researchers have also carried out community service activities (abdimas) in the form of socialization and training in plastic fusing methods and their use in the Mawar 15 Business Group located in Padalarang, West Bandung Regency.

The products produced from the plastic fusing method in the Mawar 15 Business Group will target middle-class consumers and young people who like trends, but are environmentally conscious to using recycled products. Meanwhile, home industry craftsmen who use recycled products are expected to apply the concept of sustainable design (ecological, social, economic) starting from the micro / home level. Thus, there is an awareness in the community that garbage can be recycled, managed, and made into something useful to make money. ❖

Summarized from the results of interviews and research development entitled "Sustainable Design Concepts on Plastic Garbage Recycling Bags (the Study of the Application of Sustainable Design Concepts on Bags Made from Recycled Plastic Garbage Bags, Kunarti Bag Crafts in Cibeunying Village, Bandung) written by Terbit Setya Pambudi, ST., M.Ds and team.

Profil Ketua Tim Peneliti

Photo : Private

ORIGINALLY from Banyuwangi, Terbit Setya Pambudi, S.T., M.Ds., has been a lecturer at the Creative Industry School (FIK) Telkom University (Tel-U) since 2015. He completed his undergraduate education at ITS Surabaya in the field of Product Design. Then he continued his master degree at ITB, still in the field of Design with the realm of Sustainable Design. Before joining Tel-U, he was a lecturer at the University of Surabaya (Ubaya).

Beginning from his thesis on the Community related to the concept of Sustainable Design, Terbit was increasingly interested in research on the concept of Sustainable Design. While working on a thesis located in one of the Kampung Bersih models in Surabaya, Terbit learned many things. One of them was the necessity to build awareness of each individual to create a clean village.

He continued his studies and research on the concept of Sustainable Design once he joined Tel-U. Terbit claims that he is very concerned about research on society because there are still many people in this level who do not get the government's attention. One of the examples is the lack of government involvement in facilitating waste management, especially in remote areas. For this reason, in addition to conducting research, as an academic, Terbit helps the community to self-manage waste, starting from the smallest environment. At present, Terbit joined the Lifestyle and Design Environment (KK) Expertise Group in FIK Tel-U. ❖

EXTERNAL FUNDING RESEARCH 2018

SCHOOL OF ELECTRICAL ENGINEERING

- **Fund :**
  IDR 100,000,000.00

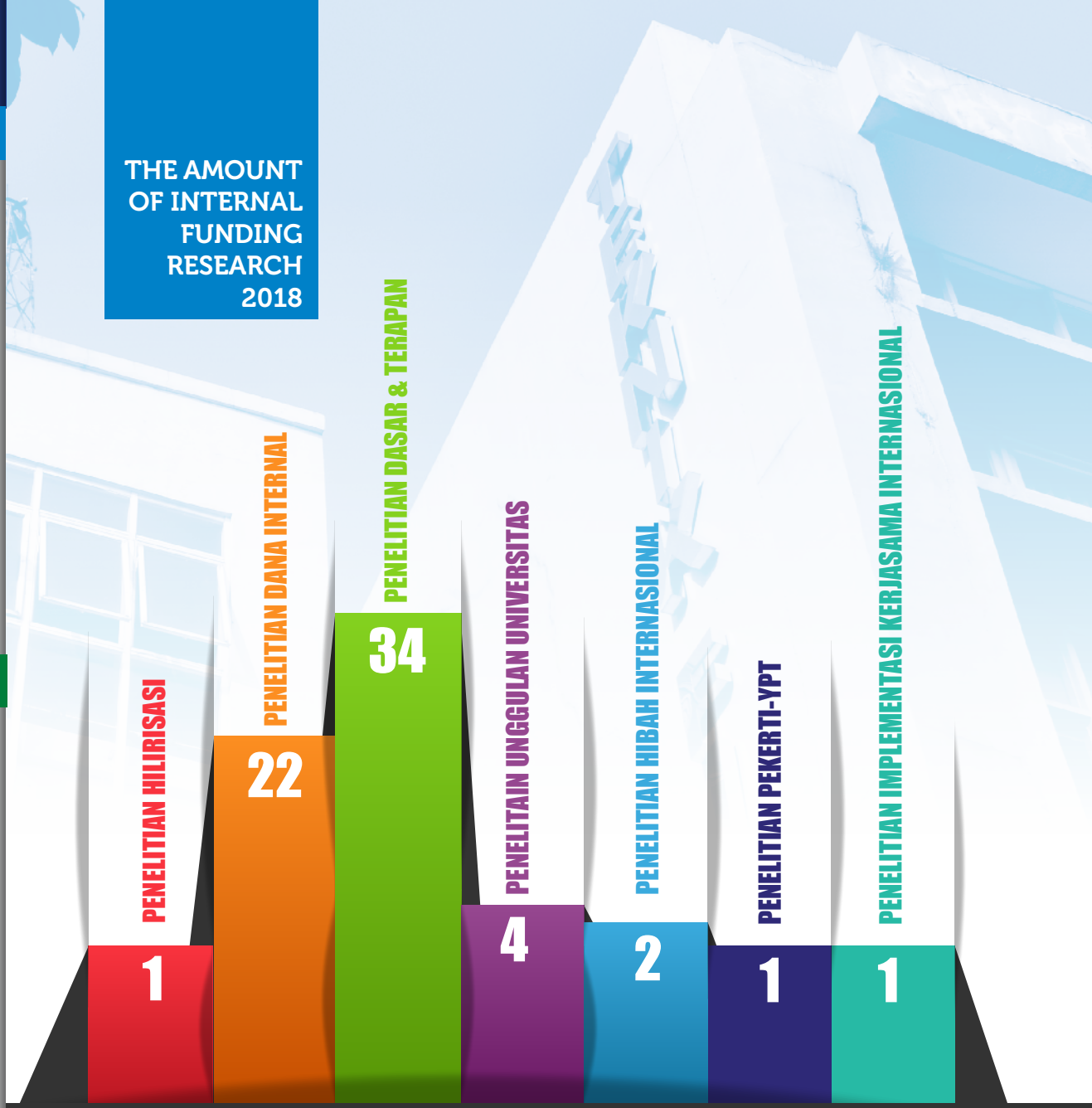
- **Major :**
  Master of Electrical Engineering
- **Research Group :**
  Telecommunication Transmission (TRANS)
- **Title :**
  5G-Point: *Preparing Optimal 5G Indonesia Networks*
- **Researcher :**
  Dr.Eng Khoirul Anwar, S.T, M.Eng
  Dr. Reza Firsandaya Malik, S.T, M.T
  Dr. Levy Olivia Nur, S.T, M.T
- **Scheme :**
  Insinas Riset Pratama Individu
- **Fund :**
  IDR 83,900,000.00

SCHOOL OF INDUSTRIAL ENGINEERING

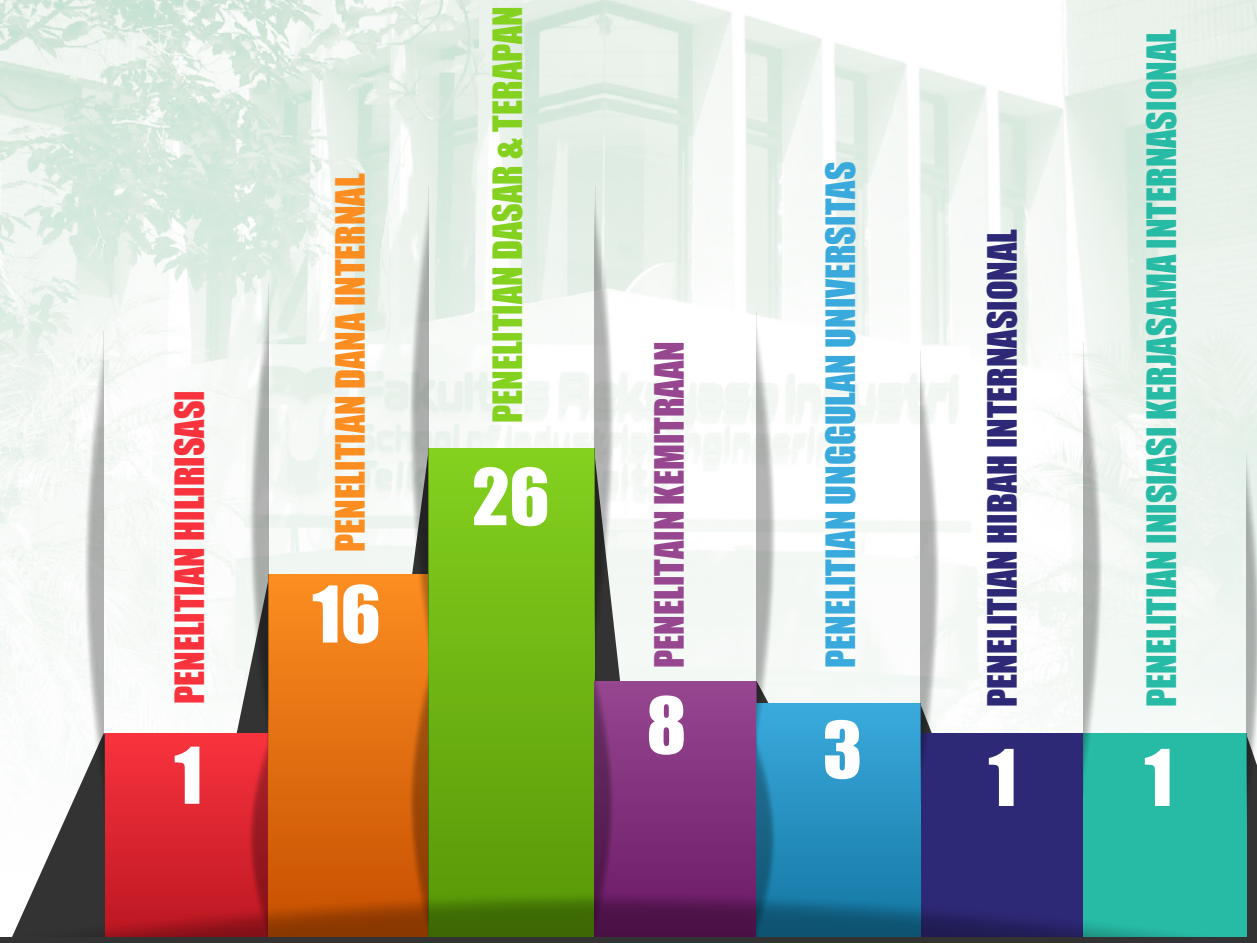
- **Major :**
  Bachelor of Industrial Engineering
- **Research Group :**
  Electronic based Process and Work System Optimization (ePromize)
- **Title :**
  Development of Design and Development of a Prototype of Automatic and Independent Bayu-Surya Hybrid Power Plants
- **Researcher :**
  Drs. Tatang Mulyana, M.T., Ph.D
  Dr. Ir. Darwin Sebayang
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 138,500,000.00

- **Major :**
  Bachelor of Informatics System

THE AMOUNT OF INTERNAL FUNDING RESEARCH 2018



THE AMOUNT OF INTERNAL FUNDING RESEARCH 2018



SCHOOL OF INDUSTRIAL ENGINEERING

EXTERNAL FUNDING RESEARCH 2018

SCHOOL OF INDUSTRIAL ENGINEERING

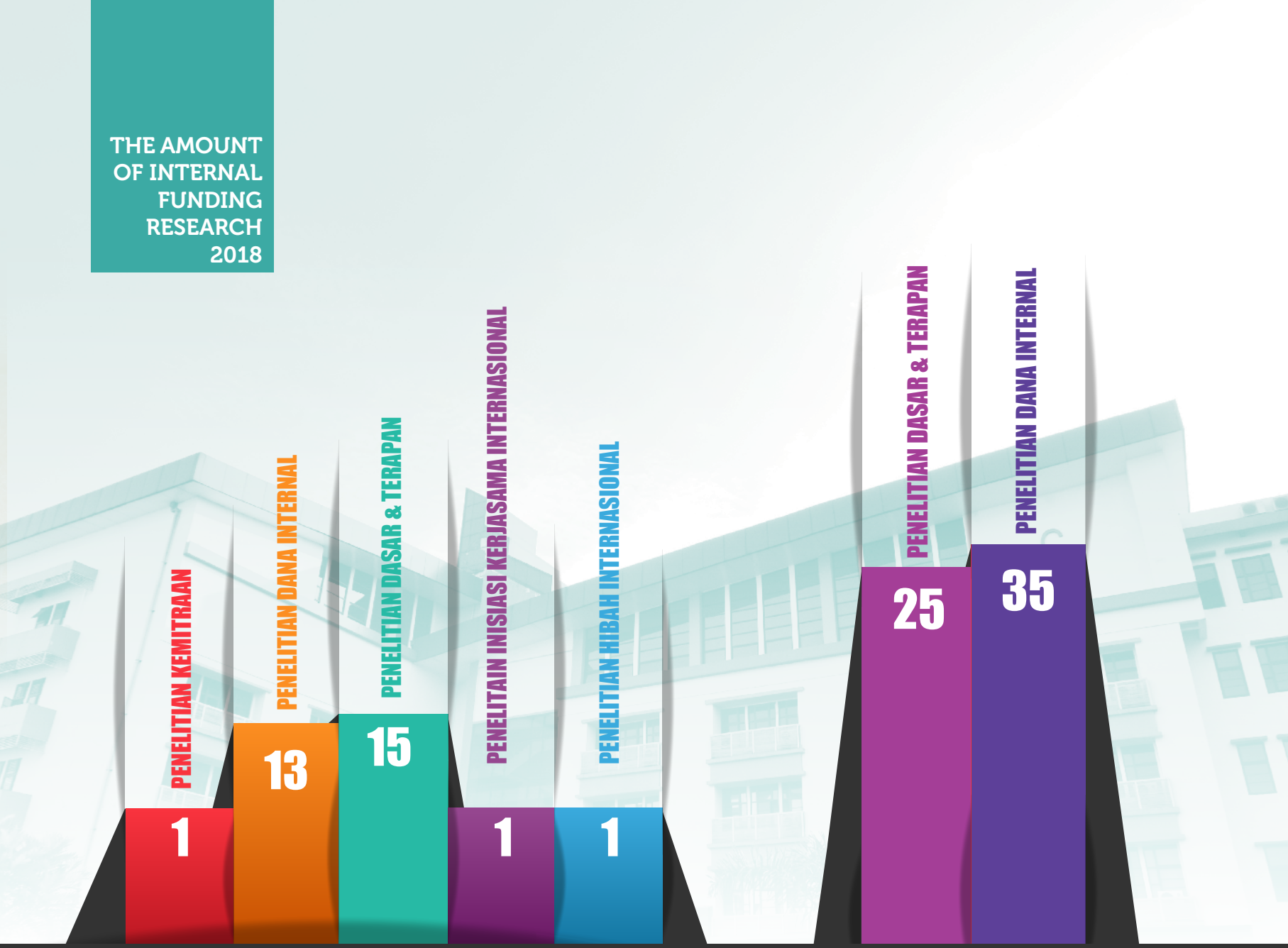
- **Research Group :**
  Enterprise System Development (ESD)
- **Title :**
  Developer Team Collaboration Model to Support the Success of Competency-Based Application Projects
- **Researcher :**
  Dr. Tien Fabrianti Kusumasari, S.T., M.T.
  Dr. Ir. Bambang Riyanto Trilaksono
- **Scheme :**
  Doctoral Dissertation Research
- **Fund** :
  IDR 120,000,000.00

- **Major :**
  Bachelor of Informatics System
- **Research Group :**
  Enterprise Solution and Assurance (ESA)
- **Title :**
  Platform User / Group Management for Community Activity Needs
- **Researcher :**
  Yuli Adam Prasetyo, S.T., M.T
  Ir. Wiyono, M.T
  Mochamad Teguh Kurniawan, S.T, M.T
  Muhammad Azani Hasibuan, S.Kom, M.T.I
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 65,000,000.00

- **Major :**
  Bachelor of Industrial Engineering
- **Research Group :**
  Electronic based Process and Work System Optimization (ePromize)
- **Title :**
  Development of Business Intelligence Applications Data Warehouse Based on Rice Logistics Systems to Support the National Food Security System
- **Researcher :**

THE AMOUNT OF INTERNAL FUNDING RESEARCH 2018

THE AMOUNT OF INTERNAL FUNDING RESEARCH 2018



EXTERNAL FUNDING RESEARCH 2018

SCHOOL OF INDUSTRIAL ENGINEERING

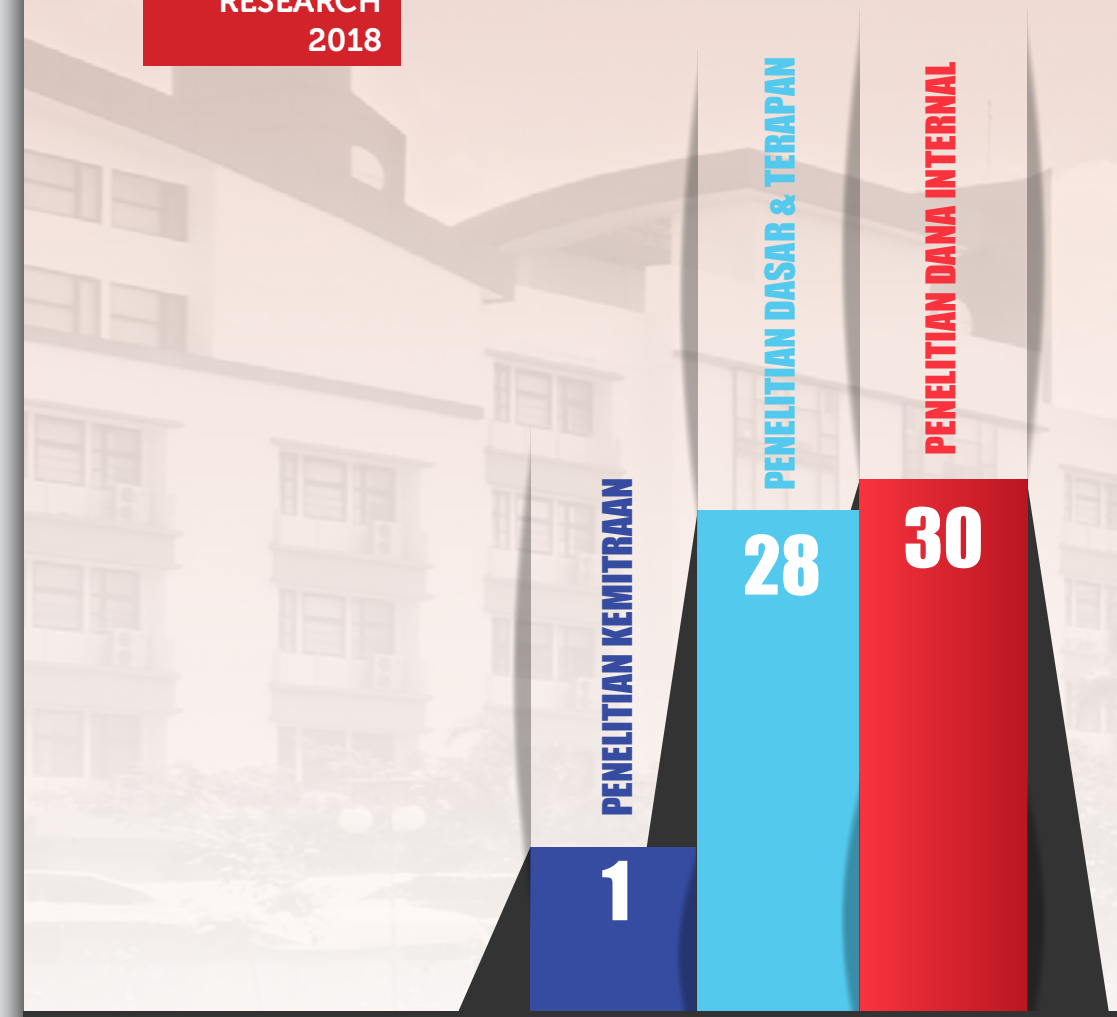
Ari Yanuar Ridwan, S.T., M.T.
Ir. Rosad Ma'Ali El Hadi, M.Pd., M.T.
Teddy Sjafrizal, B. Eng., M. Sc.

- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 65,000,000.00

- **Major :**
  Bachelor of Industrial Engineering
- **Research Group :**
  Engineering Management
- **Title :**
  Study of Business Development of Binongjati Knitting Industry Centers Based on Cluster Analysis
- **Researcher :**
  Dr. Ir. Endang Chumaidiyah, M.T.
  Dr. Ir. Husni Amani, M.Sc.
  Rio Aurachman, S.T., M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 85,000,000.00

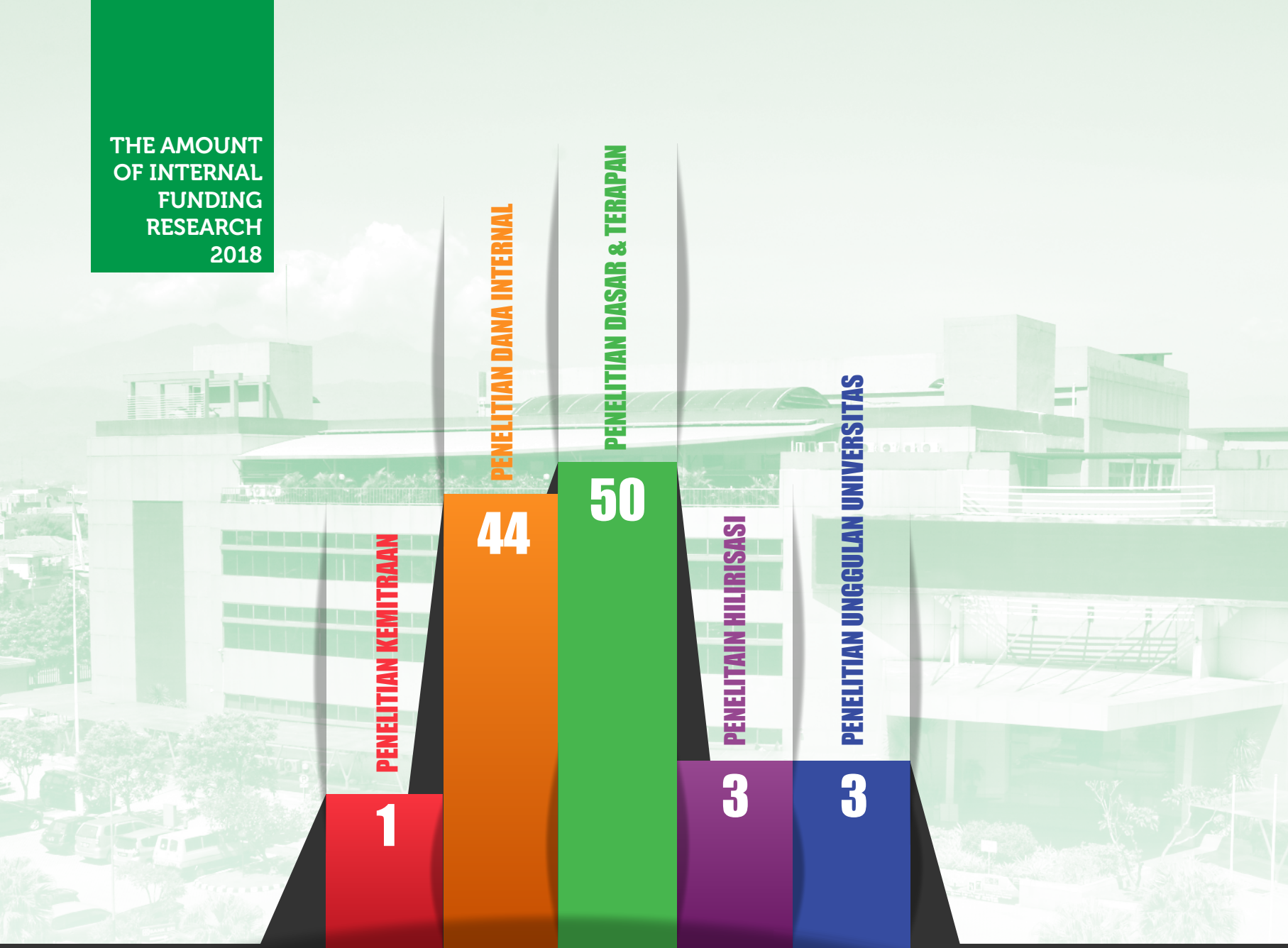
- **Major :**
  Bachelor of Industrial Engineering
- **Research Group :**
  Electronic based Process and Work System Optimization (ePromize)
- **Title :**
  Maintenance Policy and Spare Parts Planning for Reliability Data-Based Printing Machines
- **Researcher :**
  Drs. Judi Alhilman, M.Si.E
  Ir. Marina Yustiana Lubis, M.Si
  Fransiskus Tatas Dwi Atmaji, S.T, M.Eng
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 72,000,000.00

THE AMOUNT OF INTERNAL FUNDING RESEARCH 2018



SCHOOL OF CREATIVE INDUSTRIES

THE AMOUNT OF INTERNAL FUNDING RESEARCH 2018



SCHOOL OF APPLIED SCIENCE

SCHOOL OF COMPUTING

- **Major :**
  Bachelor of Informatics
- **Research Group :**
  Telematics (Tele)
- **Title :**
  Implementation of Smart Card Reader in iGracias Academic Information System which is Integrated with Higher Education Consortium
- **Researcher :**
  Dr. Maman Abdurohman, MT
  Junartho Halomoan, MT
  Dr. Helni Mutiarsih Jumhur
  Sidik Prabowo, S.T., M.T.
  Aji Gautama Putrada Satwiko
  Andrew Brian Osmond, S.T. M.Eng.
  Siti Amatullah Karimah, MT.
  Dahliar Ananda, MT.
  Dawam Dwi Jatmiko, MT.
  Non Dosen Tel-U:
  Dr. I Gusti Bagus Baskara Nugraha
  Dr. Wahyu Catur Wibowo
  Zendy Agung Permana, S.T.
  Dr. Elyas Palantei
  Parwito
  Bayu Aditia
  Eko Sulistiyono
  Randy
- **Scheme :**
  Industrial Technology Development Program II (New Proposal)
- **Fund :**
  IDR 411,000,000.00

- **Major :**
  Bachelor of Informatics
- **Research Group :**
  Telematics (Tele)
- **Title :**
  PPG-based prototype for Early Stroke Prevention

INSPIRATION

Prof. Ir. Mochammad Ashari, M.Eng., Ph.D

Tel-U must keep being Eksponensial!

For a private university, the achievement of Telkom University (Tel-U) within five years is worthy of appreciation. Surely Tel-U's success in the educational field for five years cannot be separated from the figure of Prof. Ir. Mochammad Ashari, M.Eng., Ph.D. Under the leadership of the Chancellor who served since 31 August 2013, Tel-U was able to align itself with other universities in the national tertiary education arena.

WHEN Telkom Foundation (YPT) combined four institutions (IT Telkom, IM Telkom, Telkom Polytechnic, and Telkom STISI) in 2013 became Tel-U, Ashari, who was an active professor from the Sepuluh November Institute of Technology (ITS Surabaya), became one of the Tel-U Chancellor candidate. The reason is the Ministry of National Education require the chancellor official of a university be an active professor. After obtaining permission from ITS and passing the selection, Ashari and two other candidates presented their visions and missions in front of the PT Telkom Tbk and YPT commissioners. Finally, he was elected to be a Chancellor of Tel-U.

"At the beginning of my tenure, I conducted a review to see the initial conditions of Tel-U resulting from the merger of these 4 institutions. The result, frankly, was not so

encouraging. The ratio of students to lecturers, human resources -- this was the hardest--, the Academic Functional Position (JFA), as well as research were still far from their capacity. However, I was sure, this can still be improved. This condition was terrible for educational institutions, because the business process aim was to produce high quality human resources, yet the formation of HR itself was not good, " said Ashari.

Tel-U conditions in 2013 were not yet stable. The existence of fundamental differences in the four merged institutions made the condition slightly unbalanced. The ratio of students to lecturers was not ideal. Then HR, especially the qualifications of S3 lecturers, was still low. From 600 lecturers, only 38 were S3 and increased to 50 or 7% at the end of 2013. At that time, 50% of Tel-U lecturers did not have a JFA. The number of Head Lecturers was only 24 people and there were no professors as required by the Higher Education Directorate.

Consequently, Ashari and his staff immediately made improvements which essentially focused on the Tridharma activities of Higher Education. Teaching and education were improved to excellent levels and research capacity was increased to improve academic, human resources, and revenue quality. Thus, reformation was focused on HR, the creation of a research culture and improvement in overall system management based on the strategic plan (renstra) that has been established.

"At that time, the Tel-U Strategic Plan from PT Telkom through YPT was only up to 2017, which was to be a World Class University (WCU). However, due to Tel-U conditions that were still not the same, we finally made fundamental changes. The rector office term was changed to five years referring to the Dikti rules for Legal Entity State Universities (PTNBH), the statute was in the form of a Presidential Decree. At that time, there were

Photo. Univ. Secretary of Tel-U

SCHOOL OF COMPUTING

- **Researcher :**
  Satria Mandala, S.T., M.Sc., Ph.D.
  Dr. Nachwan Mufti Adriansyah, S.T., M.T.
  dr. Ardian Rizal, Sp.JP
- **Scheme :**
  Prospective Technology-Based Beginner Company Phase I 2018
- **Fund :**
  IDR 245,138,000.00

- **Major :**
  Bachelor of Computational Science
- **Research Group :**
  Modeling and Computational Experiment (MCE)
- **Title :**
  Development of Relational Scientific Papers Based on Rhetorical Citation
- **Researcher :**
  Yuliant Sibaroni, S.Si., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 48,820,000.00

- **Major :**
  Bachelor of Computational Science
- **Research Group :**
  Modeling and Computational Experiment (MCE)
- **Title :**
  Development of a Reliability Model for Sources in Online Social Networks
- **Researcher :**
  Erwin Budi Setiawan, S.Si., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 56,500,000.00

- **Major :**
  Bachelor of Informatics
- **Research Group :**
  Telematics (Tele)

11 PTNBH regulated by this Presidential Decree, as for the rector period was 5 years. So, YPT also adjusted Tel-U strategic plan, which initially became WCU in 2017, added with Excellent Research Quality in 2018, " he explained.

Ashari also mentioned that the stages in the Tel-U strategic plan began with the consolidation in 2013, when he just joined this institution. Furthermore, in 2014 there was adjustment phase for all rules in Tel-U to be in line with the assessment standards of the Ministry of Research and Technology, including accreditation to the National Higher Education Accreditation Board (BAN PT) and ISO 9001: 2008 for quality management.In 2014, Tel-U began a large-scale recruitment for lecturers until 2015. The number reached 214 people. Currently, Tel-U already has 760 permanent lecturers. The next stage, in 2015, Tel-U management was changed into IT-based (ICT based) systems. All business processes, from finance, student grades, submission of final assignments to submission of lecturer leave were computerized. Finally, Tel-U won ISO 9001: 2008 for quality management.

In 2016, Tel-U headed for excellent resources, marked by the addition of lecturers with doctoral degrees and additional facilities. One of them was the 10-storey General Lecture Building (GKU). In 2017, Tel-U had excelled in academic (academic excellent) with the achievement of "A" accreditation of higher education institutions (AIPT, "A" for 50% of the study programs of BAN PT. Currently there have been 21 accredited study programs " A " out of a total of 31 study programs (68%).

In 2018, Tel-U is already a world class university, thus the next target is to gain excellent research. The indicator is ranked 19th for the national indexing of the Science and Technology Index (SINTA) of the Higher Education. Significant changes also occur in Scopus indexed publications. In 2013, there were only 64 papers indexed by Scopus. While in June 2018, the number increased to 1,170 papers indexed by Scopus.

However, this achievement does not make Tel-U stagnant. According to Ashari, WCU serves as recognition and equality in the international community. This recognition has been obtained by Tel-U through the cooperation of double degree education programs for students at Tel-U and partner universities abroad such as the Netherlands, South Korea, Malaysia, and others. Other recognition was obtained from the international ranking agency, Q-Star, which gave Tel-U a three star along with 10 other universities in Indonesia. As for the five-star acquisition from Q-Star, Tel-U won the following aspects: teaching, innovation, graduate employability, inclusiveness, social responsibility, and facility.

Another recognition in the form of international accreditation obtained from ABEST 21 for Master of Management study programs as well as S1 Telecommunication Engineering and Industrial Engineering S1 from Japan's IABI. Tel-U has also received accreditation visitation from ASIC UK for 6 study programs from the Communications & Business School, Economics & Business School, and Creative Industry School. Finally, Tel-U has re-submitted for the accreditation of engineering study programs to IABI.

"For the long term, Tel-U will aim for Global Entrepreneurial University in 2038. However, but will start in 2023 with the target of becoming a Research and Entrepreneurial

University, 2028 in national level, 2033 in regional level (ASEAN), and 2038 in global level. The parameter is the number of Tel-U products, both human resources and spin off companies that are expected to work globally, like Uber," he added.

Webometrics Best Researchers

LONG before holding his office as The Rector of Tel-U, Ashari had already been of service in education and research since 1990. In fact, until now he was still actively teaching at his campus, Sepuluh Nopember Institute of Technology (ITS) Surabaya. Not surprisingly, Ashari strongly encouraged Tel-U to improve its research quality.The reason is, research is the key factor of a college's quality. The better the research culture at the university builds up, the more qualified the quality of the university becomes.

"The output of research is the root of all the potential increases in Tel-U up to optimum," said the man born in Sidoarjo, October 12, 1965.

Ashari himself has been recognized as one of the professors in the field of Electrical Engineering in Indonesia. He completed his undergraduate education in Electrical Engineering in 1989 at ITS Surabaya. After that, he immediately joined his almamater as a young lecturer in the Department of Electrical Engineering. To improve his competence, Ashari continued his S2 and S3 education in Curtin University, Australia. In 1997 he obtained a Master of Engineering and then a Ph.D in 2002. On December 2, 2009, Ashari was inaugurated as professor in the field of Power Electronics and Renewable Energy Applications for ITS with a scientific speech entitled "Application of Power Electronics Development Prospects for the Energy, Industry and Transportation Sector."

Not merely encourages Tel-U to improve the quality of research, Ashari himself is fairly active in research activities ranging from local to international levels. During 2004-2007, Ashari was involved in the Implementation Boards of PREDICTS (Project of Research and Education Development on ICT) which was funded by Japan International Cooperation Agency (JICA), Japan. His number of publications have also been heavily cited with h-index = 19 and number of citations - 1,119 that he was ranked the 65th best researcher in Indonesia, version of Webometrics, 2017.

Ashari's work in education and research for 28 years is worthy of being reclaimed. He had various responsibilities, including as the Head of the Department of Electrical Engineering, ITS Surabaya in 2004 - 2007 with a total of 2,200 students and the founder of the Indonesian Electrical Engineering College Association in 2005. In 2008 to 2013, Ashari was appointed as an assessor of the Higher Education National Accreditation Body (BAN PT) and a member of the Electric Power System Reliability Committee of the Ministry of Energy and Mineral Resources (ESDM) RI. In 2015, Ashari also obtained the title of "Professional Engineer" (IPU) from the Indonesian Engineers Association.

Boarding meeting and ICT-Minded Traditions

DURING the five years leading, Ashari saw great potential that could bring Tel-U to a great progress. He was also impressed by the militant attitude of the entire academic community to move forward together. This is indicated by the highly exponential achievement of Tel-U. "Friends of all components in Tel-U are extraordinary militants, so their achievements tend to be exponential. This will not be achieved if each element has no awareness to change or still maintain sectoral ego," continued the man from Sidoarjo.

Before becoming the Rector of Tel-U, Ashari was still listed as an active lecturer at ITS. Even today, he is still teaching and has to mentor 10 students from undergraduate to doctoral level at his campus. For this reason, Ashari did not have the opportunity to teach at Tel-U. Even so, Ashari has colored Tel-U with his leadership style.One of the activities is the Board Meeting (Rapim) which should not be missed by all Tel-U leaders e v e r y

EXTERNAL FUNDING RESEARCH 2018

SCHOOL OF COMPUTING

- **Title :**
  Trust-Based Security Framework (Trust) on Internet of Things (IOT)
- **Researcher :**
  Vera Suryani, S.T., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 51,500,000.00

- **Major :**
  Bachelor of Computational Science
- **Research Group :**
  Modeling and Computational Experiment (MCE)
- **Title :**
  Travel-Crs: Travel Planning Application Based on Conversational Recommender System on Mobile Devices
- **Researcher :**
  Dr. Z K Abdurahman Baizal, S.Si., M.Kom.
  Aniq Atiqi Rohmawati, S.Si., M.Si
  Dr. Kemas Muslim Lhaksmana
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 85,000,000.00

- **Major :**
  Bachelor of Computational Science
- **Research Group :**
  Modeling and Computational Experiment (MCE)
- **Title :**
  Development of Cancer Detection Applications Based on Microarray DNA Data Classification Using Evolving Neural Network

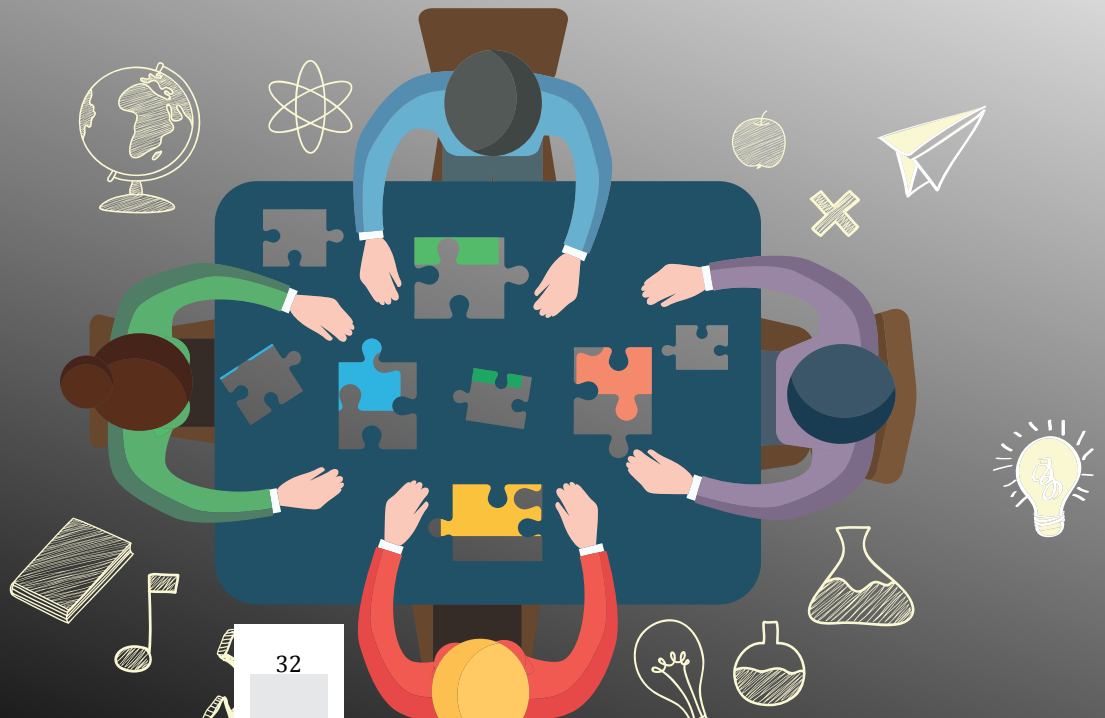
INSPIRATION

Tuesday since 2013. This activity aims to evaluate all work programs of each directorate to achieve the strategic plan that has been set. Another distinctive style of Ashari leadership is the use of ICT backbone to improve the entire system.

"For all improvement, I like to use ICT backbone. Absenteeism, finance, to student information free of loans from the library were already based on IT. This is to quicken the work process and to avoid hindrance for students. Today, it's not a manual era anymore, because it will make things difficult. So long as I am here, I always ask the Director of Information Systems, are you ready?" said the Professor of Electrical Engineering.

Ashari hopes, after his term of office ends, Tel-U can continue to grow with a more exponential level of progress, so that the strategic plan and master plan (Renip) can be achieved.

"It is enough for me to hold the term for five years, then Tel-U people must be the next to sit as Rectors. Nevertheless, for the rector nomination, the requirements must be a professor and a minimum of five. Meanwhile, there is only one professor here. Thus, the professor from Tel-U will be appointed for a year to lead, while waiting for new professors.If the requirement is not met, external candidates will be searched. I myself have been a lecturer since 1990. So, after finishing my job here, I will return to my habitat: teaching, researching, and conducting community service. I hope Tel-U is more advanced and must be exponential. It can't be linear, so that I can observe and feel grateful from Surabaya," Ashari hoped. ❖



The Achievement of Prof. Ir. Moch. Ashari, M.Eng., Ph.D

Posisi

- Rector of Telkom University (2013 - 2018)
- "Primary Professional Engineer" (IPU) from Indonesian Engineer Association (persatuan Insinyur Indonesia (2015)
- General secretary of University Council of ITS (2011 - 2013)
- Head for Forum of Electrical Engineering Higher Education of Indonesia - FORTEI (2010 - 2010)
- Acessor board of the Higher Education National Accreditation Agency (BAN PT). (2008-2013)
- Committe member of Electric Power System Reliability, the Ministry of Energy and Mineral Resources of Indonesia (2008 - 2013)
- Founder of Indonesia Electrical Engineering Higher Education Association - FORTEI (2005)
- Head of Electrical Engineering Department of ITS (2003 - 2007), (2007 - 2011)
- *Implementation Board of* PREDICTS (Project of Research and Education Development on ICT) *Funded by* JICA- Japan (2004 - 2007)

Penghargaan

- Ranks 65 of best scientists in Indonesia- versi Webometrics (2017)
- Australia Alumni *Award in Excellent Education* (2011)
- The best researcher of ITS (2010)
- The best Head of Department of Indonesia, competition was held by the Minister of National Education, Indonesia (2009)
- Award of "Satya Lancana Satyakarya" (best achievement in services and integrity) from the President of Republic Indonesia (2006), (2011)

Photo. Univ. Secretary of Tel-U

- **Researcher :**
  Prof. Dr. Adiwijaya, S.Si., M.Si.
  Dana Sulistiyo Kusumo, S.T., M.T., Ph.D
  Annisa Aditsania, S.Si., M.Si
  Untari Novia Wisesty, S.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 77,500,000.00

- **Major :**
  Bachelor of Computational Science
- **Research Group :**
  Modeling and Computational Experiment (MCE)
- **Title :**
  Development of Automatic Follicle Detection Application to Support PCOS Detection Based on Ultrasound Images
- **Researcher :**
  Jondri, S.Si., M.Si.
  Dr. Deni Saepudin, S.Si., M.Si.
  Prof. Dr. Adiwijaya, S.Si, M.Si
  Untari Novia Wisesty, S.T, M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 85,000,000.00

- **Major :**
  Bachelor of Informatics
- **Research Group** :
  Telematics (Tele)
- **Title :**
  Vehicle Data Recorder Berbasis Obd-Ii Untuk *Accident Forensic*
- **Researcher :**
  Dr. Bayu Erfianto, S.Si., M.Sc.
  Sidik Prabowo, S.T, MT
  Andrian Rakhmatsyah, S.T, MT

KK *Embedded & Network Systems* (ENS)

Stay Productive

Upholding Applicative Research

The efforts of Telkom University (Tel-U) in creating a Research Quality Excellent have been carried out to the level of units related to research. One of them is the Expertise Group (KK). The unit, which has become the extension of the Directorate of Research and Community Service (PPM), has been running in each faculty, even since Tel-U was established. One of them is KK Embedded & Network Systems (ENS) located in the Applied Sciences School (FIT).

SINCE 2015, KK ENS has carried out the functions of research and community service with members of lecturers who have research interest in the field of Embedded & Network Systems. "Each KK must have a strategy, so that all research targets of the faculties and the university can be achieved," said the Chairperson of KK ENS, Gita Indah Hapsari, S.T., M.T.

There are several areas of expertise in KK ENS which are supporting lecturers in research and community service activities. For the field of Embedded Systems, there are several sub-fields of research, namely the microcontroller (for controlling things that are electronic), sensors that include remote sensing (relating to systems and devices to conduct sensors that can be detected remotely), biomedicine (electronic fields related to the health sector), as well as biometrics (related to human authentication systems such as fingerprints, face recognition or eye retinas As for the Network Systems field, the Internet of Things (IoT) research is currently a trend among lecturers.

"In addition to the member lecturers, we also involve students who are working on the Final Project (PA) for research activities at ENS KK. Currently, there are 19 members of KK ENS, most of whom come from the

Gita Indah Hapsari, S.T., M.T.

For research, we try to always get research grants from the Ministry of Research, Technology and Higher Education. According to the faculty targets, each KK must submit a minimum of 2-3 research proposals per quarter. Then there are publication that we target in international journals or Scopus indexed conferences.

Computer Engineering D3 Study Program. However, there are also some members who are not from this study program, because the KK is divided according to the specialization of research and lecturer expertise," she explained.

Each KK in Tel-U has a different research roadmap that is adjusted to the strategic plan of the faculty and university. KK ENS has a roadmap to realize "Smart Campus on Smart City" through its researches. However, because it is based on vocational education, the research at KK ENS is more applicable for industry. So, Gita and her colleagues at KK ENS are not worried if there is a research field that intersects with other Expertise experts, as long as the roadmap is different.

"The research slice with other KKs must exist and that is not a problem, because we are vocational. So, our studies are more directed at how to apply it in the industry or more applicable. Indeed, research must find something, and one of our difficulties with research involving students is that it rarely produces novelty. In contrast to S1 education, there may be more theories. Nonetheless, our research was also formed to support the teaching and learning activities of study programs, so the applicability was prioritized," said Gita.

Regarding the roadmap to go to "Smart Campus on Smart City", KK ENS shares a number of research activities and community services in the fields of expertise. For example, research on IoT technology is implemented to build smart classes on campus by providing smart devices to support the learning process. Other research conducted by KK ENS is green computing to support energy savings and global farming in the form of a system to help farmers and farmers in automating fertilizer,

SCHOOL OF COMPUTING

- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 60,000,000.00

- **Major :**
  Master of Informatics
- **Research Group :**
  Intelligence, Computing and Multimedia (ICM)
- **Title :**
  Overcoming the Weaknesses of ID-Based Authentication Schemes on Smart Cards
- **Researcher :**
  Ir. Ari Moesriami Barmawi, M.Sc., Ph.D.
  Dr. Fiky Yosef Suratman, S.T, M.T
- **Scheme :**
  Competence Based Research
- **Fund :**
  IDR 140,000,000.00

- **Major :**
  Bachelor of Informatics
- **Research Group :**
  Telematics (Tele)
- **Title :**
  Prototipe Monitoring Aritmia (Clinically Tested Phase 1)
- **Researcher :**
  Satria Mandala, S.T., M.Sc., Ph.D.
  Prof. Dr. Adiwijaya, S.Si., M.Si.
  Dr. Eng. Asep Suhendi, S.Si., M.Si.
  Anditya Arifianto, S.T., M.T.
  Aniq Atiqi Rohmawati, S.Si., M.Si.
  Junartho Halomoan, S.T., M.T.
- **Scheme :**
  Industrial Technology Development Program I
- **Fund :**
  IDR 654,120,000.00

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animal feed to irrigation. To support its research activities, KK ENS is supported by several laboratories in FIT. Among others, Lab. Basic Physics, Lab. Network, Lab. Microcontroller, Lab. PLC, and Lab specifically for research. There is also a Robotic SAS unit that supports robotic research activities conducted by KK ENS.

Always Submit a Grant Proposal to Kemristekdikti

THE RESEARCH conducted by KK ENS deals more with hardware issues that require a considerable amount of research funding. For this reason, one of the strategies implemented by the KK is to always submit internal and external research grant proposals. According to Gita, this concerns the continuity of research by ENS member lecturers until the targets set by the faculty and university are achieved.

"We do this for research activities and community service. For research, we try to always get research grants from the Ministry of Research, Technology and Higher Education. According to the faculty target, each KK must submit a minimum of 2-3 research proposals per quarter. Then there are publication targets in international journals or Scopus indexed conferences.The reason is that the research in KK ENS focused more on hardware and the effort is also quite huge. Thus, it would be a pity if the results of his research would only be targeted to be published in

national journals or even non-accreditation journals. Therefore, we encourage member lecturers to be able to publish in international journals, especially Scopus indexed. Alhamdulillah, we can achieve every target," she explained.

Besides KK ENS, Gita acknowledged that community service sectors also face difficulties in obtaining grants from the Ministry. Community service activities require a target audience (community) who need help to overcome the problem. So, KK must first conduct a survey to the community to find out the needs of the target audience, then do the research and make a product to provide solutions to the problems encountered in the community.

"For the community service, the minimum amount of the grant we are trying to get is from internal Tel-U. For external grants, currently Tel-U encountered difficulties. To meet the target of KK and school, also for the needs of the lecturers, community service is often held in the form of training. However, some KK ENS researches have been implemented in community service activities, such as the Wireless Queue System that has been used for three years by the Baleendah Community Health Center (Puskesmas). In fact, we have developed this Wireless Queue System several times to the latest using thermal printers. This tool is to regulate the queues in the Puskesmas that were previously manual and somewhat messy. Because we are vocational, we can make in-line between research and community service," she said.

Several studies with external grants have been and are being done by KK ENS. First, Smart Cane (aids for the blind) is running in the second year. Second, Smart Parking (parking system and parking lot reservation) that has been completed. Finally, the ROV (Underwater Robot) study is still running in the first year.

Numerous achievements have been obtained by KK ENS. One of them was won by a member lecturer who was also the coach of the Robotic SAS Unit and his student who had just won the 1st place in the Category D1 Semi Presentation Autonomous Quadcopter Best Presentation Award in Singapore.

Gita hopes that in the future KK ENS will be able to achieve more research grants and community service. "Why do we diligently seek grants? Because more research in our field is in hardware, it requires substantial funds. In addition, hopefully all ENS KK members can still maintain cohesiveness, work together well, conduct research and dedication wholeheartedly, and always be able to achieve the targets that have been set," she concluded. ❖

EXTERNAL FUNDING RESEARCH 2018

SCHOOL OF ECONOMICS & BUSINESS

- **Major :**
  Master of Management
- **Research Group :**
  ICT *Based Management* (IBM)
- **Title :**
  Index for Measuring Smart City Readiness: A Study in the City of Bandung
- **Researcher :**
  Dra. Indrawati, M.M., Ph.D
  Dr. Ir. Husni Amani, M.Sc.
- **Scheme :**
  Graduate Team Research
- **Fund :**
  IDR 174,450,000.00

- **Major :**
  Bachelor of Accounting
- **Research Group :**
  Finance & Accounting Studies (FAS)
- **Title :**
  Tax Amnesty and Aggressive Financial, Social and Tax Reporting
- **Researcher :**
  Cahyaningsih, S.E., Ak., M.Si.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 57,500,000.00

- **Major :**
  Bachelor of Accounting
- **Research Group :**
  Finance & Accounting Studies (FAS)
- **Title :**
  Financial Distress Prediction Model in Indonesia
- **Researcher :**
  Dr. Farida Titik Kristanti, S.E., M.Si
  Sri Rahayu, S.E., M.Ak., Ak., Ca
  Deannes Isynuwardhana, S.E., M.M

Dr. Putu Harry Gunawan, S.Si., M.Si., M.Sc

Indonesian Journal on Computing (Indo-JC)

Accreditation Develops the Expansion

When the Research and Technology and Higher Education Ministry (KemenristekDikti) issued a policy No. 152/E/T/2012, there were pros and cons about the obligations of university graduates to publish scientific papers in journals. This debate appears since most of undergraduate students are considered as not fully prepared to become researchers who are familiar with scientific publications. Based on that, it becomes fair to say that this policy cannot yet be fully implemented in universities.

REFERENCE

Yet, School of Informatics, Telkom University (Tel-U), turned out to have tried to accommodate the students who were taking the final project (Tugas Akhir), in terms of their scientific publications as required by the Higher Education. This has been facilitated by Indonesian Journal on Computing (Indo-JC) which is not only filled with papers from internal and external lecturers. This was revealed by Editor-in Chief of Indo-JC, Dr. Putu Harry Gunawan, S.Si., M.Si., M.Sc..

"So, this Indo-JC is filled with papers from both internal and external lecturers, as well as students who are now working on their final project. Generally, they get assignments from their supervisors so that their final project is published on Indo-JC. For students whose papers are published on Indo-JC, they will immediately get an 'A' for the final project and they are not asked to do any thesis defence," he said.

The Indo-JC Journal has been published since 2016. It is published twice a year, on March and September. Indo-JC has been paperless since it was first published and has used the format of Open Journal System (OJS) and a Digital Object Identifier (DOI). This journal also has been minimally indexed by Garuda, Google Scholar and DOAJ, and others. The minimum number of pages is in accordance with the accreditation requirements of as many as 100 pages and has papers from external authors. In mid-March 2018, the process of the accreditation proposal has been carried out by Indo-JC to ARJUNA. Several files for the accreditation proposal have also been submitted to ARJUNA.

"For the accreditation process, they (ARJUNA-ed) open it twice a year. We already have submitted the file before the deadline, which is 30 March. Fortunately, we are already paperless, in the form of OJS, so we just need to provide a username and password for the team from ARJUNA to enter. Thus, there is no need to attach the old publications in the form of hardcopy," he continued.

Before being accredited, Harry and his staff were serious about managing Indo-JC. One of them directly registered the Indo-JC website to have a DOI. Although it was not free, according to Harry, DOI is important as an accreditation requirement and as a permanent link for Indo-JC. The DOI itself is a unique alpha-numerical arrangement established by The International DOI Foundation and serves to identify content and provide links that are permanent on the internet, even if one day the name of the website is changed. Publisher sets a DOI when articles are published and made electronically.

Early July 2018 is the most fascinating gift for the Indo-JC team. With the Decree of the Director General of Research and Development, the Research, Technology, and Higher Education Ministry of the Republic of Indonesia, No. 21/E/KPT/2018 concerning the accreditation rating of scientific journal for period I of 2018, Indo-JC is officially accredited with rank 4 of SINTA version. Please note that the Research, Technology, and Higher Education Ministry through the SINTA website (http://sinta2.ristekdikti.go.id/journals) issues accredited journal that has ranks from S1 to S6.With the entry of Indo-JC ranked S4, it can be said that Indo-JC has managed to enter the ranks of accredited national journals with good status.

In general, Indo-JC's field of study is in computing. There are several fields that are included in the Indo-JC study. First, networks, security and computer systems (network architectures, network protocols, network services, cryptography, formal methods, network security, systems security, and embedded systems). Second, software engineering (software system structure, contextual software domains, software creation and management, software notations and tools, and software functional properties). Furthermore, there is a theory of computation and computing methodologies (models of computation, computational complexity, game theory, symbolic and algebraic manipulation, parallel computing methodologies, artificial intelligence, machine learning, modelling and simulation, computer vision, and mathematics of computing).Fourth, information systems (data management systems, information storage systems, information systems applications, web technology, and information retrieval). Finally, there is human-centered computing and applied computing (human computer interaction (HCI), collaborative and social computing, ubiquitous and mobile computing, visualization and accessibility and applied computing).

SCHOOL OF ECONOMICS & BUSINESS

- **Scheme :**
  Higher Education Basic Research
- **Fund :**
  IDR 120,000,000.00

- **Major :**
  Master of Management
- **Research Group :**
  Finance & Accounting Studies (FAS)
- **Title :**
  Business Model Sustainbility for SMEs Using Business Model Canvas and Communities Of Knowledge Approaches
- **Researcher :**
  Dr. Palti Maruli Tua Sitorus, M.M.
  Dr. Anisah Firli, M.M.
  Sri Widiyanesti, S.T., M.M.
  Dr. Ir. Gadang Ramantoko, MT
- **Scheme :**
  Higher Education Basic Research
- **Fund :**
  IDR 124,250,000.00

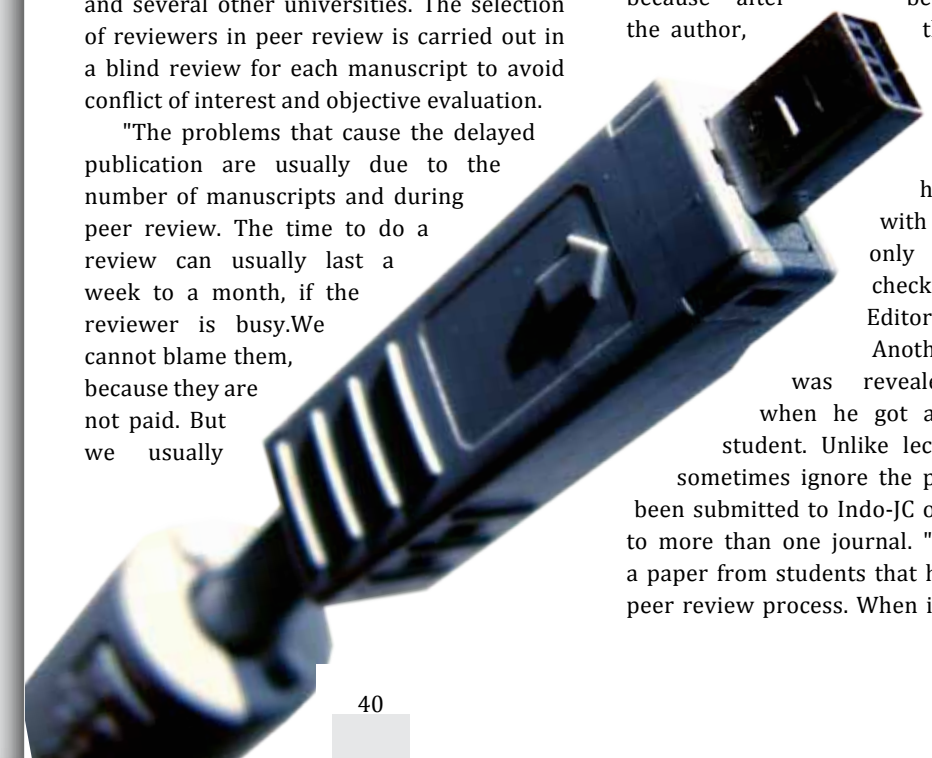
Peer Review Still Takes Time

ONE OF the hardest parts of managing a journal is to be consistent in every publication. This was acknowledged by Harry, who became Indo-JC's Editor in Chief since the end of 2017. He admitted that the delay in publishing was a classic problem in managing the journal. The cause usually comes from the peer review paper process that is delayed on the reviewer or when the revision process is at the author.

The paper screening process that enters Indo-JC begins with fast screening by the editor in chief to assess the feasibility of the script from the scientific field. After that, the paper goes to the editor section and is forwarded to the reviewer to undergo peer review. According to Harry, this process often results in delays.The peer review process was conducted by the reviewers from Tel-U and several other universities. The selection of reviewers in peer review is carried out in a blind review for each manuscript to avoid conflict of interest and objective evaluation.

"The problems that cause the delayed publication are usually due to the number of manuscripts and during peer review. The time to do a review can usually last a week to a month, if the reviewer is busy.We cannot blame them, because they are not paid. But we usually remind them either through the system or more personal way by WhatsApp chat to complete a review. We also usually provide two to three reviewers for one paper, just in case if the first reviewer cannot review the script that we provide," Harry said.

After reviewing, the reviewer will provide four recommendations related to the paper examined.First, the paper is accepted without revision.Second, the paper is accepted but with minor revisions (for minor errors such as typography, location of images and others). Third, the paper is accepted with a major revision (for substantial errors that raise questions for reviewers). Finally, the paper is rejected for non-quality papers or indicated by plagiarism. According to Harry, the results of the recommendations given will determine the length of time for the next process. Papers with major revisions will usually take longer because after being revised by the author, the script must be returned to the reviewer for review. On the other hand, the paper with minor revisions only needs to be checked by Indo-JC Editor in Chief.



Another difficulty was revealed by Harry, when he got a paper from a student. Unlike lecturers, students sometimes ignore the papers that have been submitted to Indo-JC or submit papers to more than one journal. "There was once a paper from students that had undergone a peer review process. When it was confirmed

to revise, it turned out that the manuscript had been received in another journal. Finally, the manuscript must be revoked, and we must start from the beginning with another script," he explained.

Currently, Indo-JC has 18 reviewers from various universities. One of the requirements of the reviewer is in accordance with the requirements of ARJUNA, which is to have a Doctorate level of education and has published papers in international journals at least once. According to Harry, currently the management of Indo-JC is still under the Faculty of Informatics, although there are plans to merge administrative management for all journals in Tel-U under the Directorate of Research and Community Service (PPM).

"For the management of this journal, it is quite time-consuming especially for all administrators to be active lecturers. So, when the Rector had a plan to unify the management of the administrative matters of all Tel-U journals with special resources, we got insight. So, each journal will have the one who is responsible to monitor its condition. The Editor in Chief and managers in the faculty only need to get reports and take actions that must be done related to the papers and matters related to the academic side such as receipt of paper submitting, review process, and others. While for matters related to administration such as making a Letter of Acceptance (LoA) or a letter to the DOI Foundation, it can be done by special staff," he added.

Harry hopes Indo-JC will immediately make improvements so that they can obtain accreditation with a higher rating (the minimum target is to increase one rank in 2 years) and to increase Indo-JC promotion to other universities. During this time, Indo-JC was only introduced through the means of Call for Paper (CfP) information to other universities or by exchanging papers and reviewers in other journals. With the promotion, in the future it is expected that there will be many citations conducted by researchers/lecturers within and outside Tel-U so that the accredited position of national journals in SINTA will rapidly rise.

"Because Indo-JC has been accredited, it is better to maintain the quality of the papers that come in and focus on the number of citation papers that have been published in Indo-JC. In addition, with this accreditation there will certainly be more papers that want to enter Indo-JC so that we will have more bargaining positions. For example, if there are authors or reviewers who are too long in revising or reviewing, we can give a warning. We also contacted colleagues from other universities and were able to exchange manuscripts or reviewers. But this position must be parallel, meaning that all journals have been accredited. If there is a manuscript originating from an accredited journal exchanged with a paper from a non-accreditation journal, it will be unfair for the author," he concluded.❖

SCHOOL OF CREATIVE INDUSTRIES

- **Major :**
  Bachelor of Visual Communication Design
- **Research Group :**
  Visual Marketing & Design Management (VMDM)
- **Title :**
  The Effectiveness of the Use of Social Media in Building Market Leaders in MSMEs West Java Muslim Fashion As a Form of Innovation Management Implementation
- **Researcher :**
  Maria Apsari Sugiat, S.E., M.M., Ak.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 41,500,000.00

- **Major :**
  Bachelor of Craft Textills & Fashion
- **Research Group :**
  Art Aesthetic and Practice (AAP)
- **Title :**
  Phenical Design Phenomenon in the Middle Scale Fashion Industry in Bal
- **Researcher :**
  Arini Arumsari, S.Ds., M.Ds.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 58,000,000.00

INACOS Laboratory

Collaborative Research with Industry and the Target Towards FSAE

The discussion about the research at Telkom University (Tel-U) is an endless conversation because it is one of the business processes that must be done. One important resource to keep the research activities running and deeply rooted in the institution is the existence of a laboratory. So, since its establishment, Tel-U has been continuously improving its laboratory facilities.

Fakih Irsyadi, S.T., M.T.

LABORATORY

ONE OF them is the Laboratory of Information Autonomous Control System (INACOS Laboratory) from the School of Electrical Engineering (FTE). This laboratory occupies two standard size rooms, namely in Building N315 and a small building next to Building N.

Established in 2012, INACOS Laboratory originally only has two research topics, namely industrial robot or Autonomous Guided Vehicle (AGV) and renewable energy. AGV research is in the form of making an automated robot product that is used by industry. One of the functions of AGV is to replace the fork lift which is usually manually operated by humans.In addition, renewable energy research is more focused on researching the use of solar panels as an alternative energy source specifically applied to street lighting (PJU).

"For AGV research, in 2018 Tel-U has received grants from the Research, Technology and Higher Education Ministry (KemenristekDikti) with the INSINAS research scheme.For its progress, by the end of this year we have completed the AGV design, Conveyor and inter-device integration mechanism and the research is targeted to be completed in 2 years at the end of next year. We have also made miniature industrial processes such as monitoring systems, conveyors, and AGV, which will later be integrated using the Internet of Things (IoT) system which is currently booming," said the Supervisor of the INACOS Laboratory, Fakih Irsyadi, S.T., M.T.

In 2014, the topic of research in the laboratory increased, in line with the trends in the fields of electrical, control, and embedded systems,namely, research into the manufacture of electric cars for the Indonesian Electric Car Contest (KMLI) and towards the Formula Society of Automotive Engineers (FSAE) in Japan or Australia. In 2017, INACOS Laboratory participated in KMLI and succeeded in becoming a runner-up.

Currently, INACOS Laboratory has two electric cars that continue to be developed for the next KMLI and preparation for FSAE in 2020. In addition, INACOS Laboratory also participated in the procurement of electric cars that will be used by the Tel-U security unit. For the latest research, INACOS Laboratory is involved in energy sections, electrical systems and batteries.

"Our target is to procure Tel-U security electric cars launched in August 2018 by the Rector. Currently the progress is in the making of chassis and body, while other parts already exist. So, the assembly will be left for the body, chassis and electrical parts," he continued.

Headed by Angga Rusdinar, S.T., M.T., Ph.D., the laboratory is specifically used for the student research and assisted by lecturers, both for the purposes of competitions and final assignments (TA). Currently, there are 34 students who are active in the INACOS Laboratory. Members of this laboratory are still dominated by FTE, but INACOS Laboratory has opened recruitment from all faculties outside FTE. The reason is to help the research process in designing AGV products and electric cars that are more in line with market needs in the industry.

"In the past, for designing product designs like AGV, we designed their own 3D shapes on computers. As for the manufacture of frames, body, and as a mechanical system consultant, we work with several manufacturing companies in Bandung and Bekasi. But, after Tel-U had the School of Creative Industry (FIK), we decided to work together with the Product Design Study Program. Because, in terms of cost, it is more efficient, and they also have better competence in design. So, since 2017, we opened assistant recruitment for all faculties," he explained.

According to Fakih, there are differences in focus on the three main research topics at the INACOS Laboratory. For AGV, research is emphasized on developing algorithms and embedded systems so that robots can carry out their mission automatically (autonomous) and more effectively. While in electric cars, research is carried out to develop mechanical design and electronic systems in electric vehicles in general, to produce vehicles with high performance and energy efficient use. As for renewable energy research, research is still focused on

SCHOOL OF CREATIVE INDUSTRIES

- **Major :**
  Bachelor of Visual Communication Design
- **Research Group :**
  Visual Marketing & Design Management (VMDM)
- **Title :**
  Revitalizing Good morality (Akhlak Mulia) for Young Citizens in the Digital Age
- **Researcher :**
  Runik Machfiroh, S.Pd., M.Pd.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 55,000,000.00

increasing effectiveness in the use of energy from solar panels, especially for street lighting (PJU). So, research in this laboratory is not only oriented towards student competitions, but also aims to produce products that can be used in the industry.

"This laboratory is quite exceptional, because not only it does research that is still in the form of scientific studies and concepts, but also it has made finished products that are in accordance with industry needs and can be directly used," said Fakih.

This laboratory has indeed been in contact with the industry several times regarding AGV products they make, starting from the collaboration of AGV product design to selling research products to the industry.

"One of the INACOS Laboratory products have been sold to the industry, namely the production process monitoring system used by PT Johnson in Cikarang, Bekasi. In the past, this research was the result of collaborating with INACOS Laboratory with CV Narutindo Tech. At present, we have 5 AGVs which are stored in Bandung Techno Park (BTP) for the development process, due to laboratory conditions that do not allow for experiments. Then, we are also developing a Wireless Charging System for AGV, so that when AGV is almost out of power, it can go directly to the place where Wireless Charging is positioned below it, and AGV immediately fills the battery," Fakih said.

Electric Cars for FSAE

THE RESEARCH of INACOS Laboratory about electric cars is the most favoured by students. The reason is electric cars are trending and several campuses are competing to be the best at KLMI. In fact, some of them have included their electric cars in the FSAE international competition. This is one reason that Tel-U doesnot want to be left behind, and INACOS Laboratory tries to make it happen.

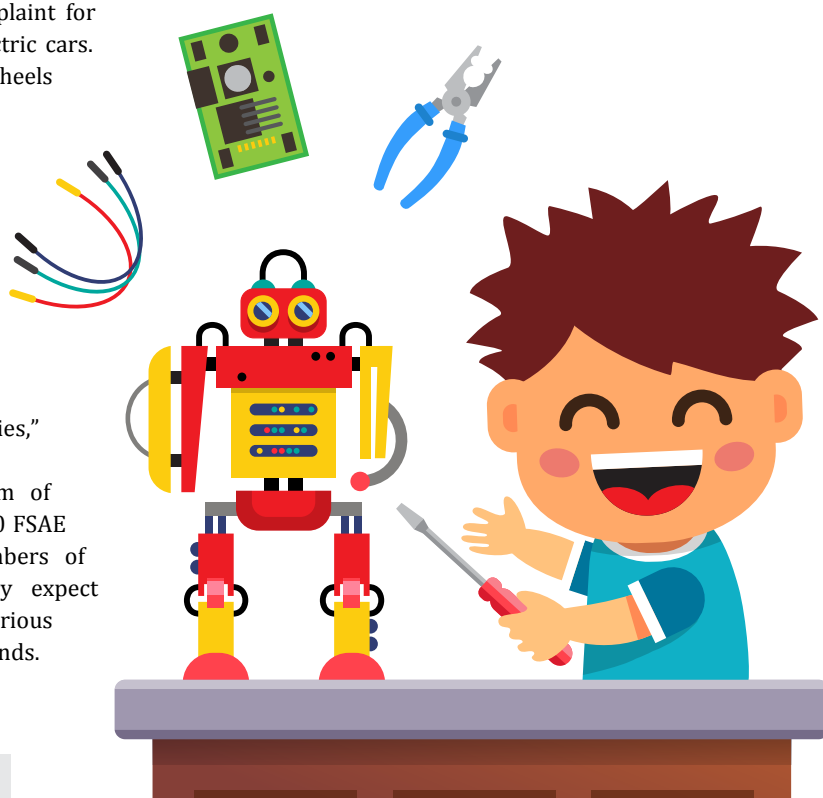
"Our target is that by 2020, Tel-U can join FSAE in Japan or Australia. Apparently, several public and private campuses in Central Java, East Java, and Yogyakarta have followed it. This is what makes us challenged. In fact, Tel-U in terms of environment should be more supportive and capable. It's just that, all of this requires substantial funds. This is one of our obstacles. Therefore, we are only able to join FSAE in 2020. To take part in this competition, we need around IDR 1.2 billion. So, from now on we have formed committees and timelines for the development of electric car research and fund search," said Fakih.

The dream of INACOS Laboratory and Tel-U to fight in FSAE is not as easy as turning a hand. Fund constraints, inadequate laboratory facilities, limited resources, and coordination difficulties still overshadow INACOS Laboratory. Even so, there are several strategies implemented by INACOS Laboratory. Among other things, they began to start research for parts of electric cars. Of the two units of electric cars that have been made, INACOS Laboratory develops several parts to make it better, such as the battery, frame and axle that connects the motor to the wheel.

"For FSAE preparation, we developed an existing electric car. So, when an electric car was included in KMLI, we tried to build this car so that it would not only meet KMLI requirements, but also be endeavoured to have international standards. This also takes care of the costs to meet the FSAE standard. Then for the battery system, all this time we use a dry battery from the car with an hour's power and a 4-hour refill process. There was a battery offer from a Chinese company that lasted 3 hours and refilled it for more than three hours. But the price is very expensive, almost 5 times the manufacture of 1 unit of electric car. We also try to develop batteries like some large electric car manufacturers do, which combines small 1.5-volt batteries that can be recharged into a battery module to supply electric cars. The problem of battery effectiveness and efficiency is still a complaint for the development of electric cars. Finally, to move the wheels from the motorbike, we are developing an axle (gear circuit) like a car mechanism in general, no longer using a chain. While for the fundraising, we try to submit proposals to many state-owned companies," explained Fakih.

To reach the dream of participating in the 2020 FSAE event, Fakih and members of the INACOS Laboratory expect supports from various parties, especially funds.

He also hopes Lab.INACOS is increasingly productive in conducting research for products applicable by industries. "Hopefully this laboratory will become a representative student residency when doing research or working on final assignment, so they feel at home. We hope that students can do research here like people work, so INACOS Laboratory is more productive and can produce products that are applicable and can be sold to industries. We also hope that this laboratory facility can be improved so that it can accommodate the development of AGV research and electric cars that require more space. Hopefully, with the large number of publications, it can help us expand information regarding our dreams towards FSAE," he said.❖



SCHOOL OF APPLIED SCIENCE

- **Major :**
  D3 Manajemen Informatika
- **Research Group** :
  IT *Governance and Enterprise System*
- **Title :**
  Multiclass Classification Method on Quality of Electronic Nose-Based Beef
- **Researcher :**
  Dedy Rahman Wijaya, S.T., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 78,000,000.00

- **Major :**
  Diploma of Informatics Management
- **Research Group :**
  IT *Governance and Enterprise System*
- **Title :**
  Implementation of a New Global Technique to Support Minimal Diagnosis in Incoherent Mapping Repair
- **Researcher :**
  Inne Gartina Husein, S.Kom., M.T.
- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 57,500,000.00

- **Major :**
  Diploma of Informatics Management
- **Research Group :**
  Embedded and Network System (ENS)
- **Title :**
  Object-Based Slam Implementation For Robots Moves Using Room Structure and Object Categories
- **Researcher :**
  Ismail, S.Si., M.T.

6th ICOICT 2018

Connecting The Technology to The Community

A Technology development never stops. In addition to bringing out various conveniences, the technology has changed a trend of an industrial world. The technology has touched almost all industries today.

Rector of Tel-U giving speech on 6th ICOICT 2018

Prof. Robin Ram Mohan Doss presenting about IoT.

Nowadays, changes in industry trends have hit industry 4.0, which is marked by the emergence of supercomputers, smart robots, driverless vehicles, genetic editing, and the development of neurotechnology that allows humans to further optimize brain function. The changes also occurred in research on Information Technology (IT). For example, currently there is a boom in research on the Internet of Things (IoT), which is comprehensively utilized.

IoT also became the main discussion of Prof. Robin Ram Mohan Doss from Deakin University's School of Information Technology, Australia, in the 6th International Conference on Information and Communication Technology (ICOICT) 2018. Entitled "Connecting Sensors, Machines and Societies", this annual activity took place in Damar Building and Grha Cacuk Sudarijanto, Telkom University (Tel-U), Thursday - Saturday (3-5/5).

The IoT research includes hardware consisting of devices (sensors, smartphones, wearable devices) and the networks (4G, LTE, Wi-Fi, bluetooth) with the software that consists of data storage platforms and analytics programs. One of the researches cundented by Robin is the Cyber Physical System (CPS) at the Center for Cyber Security Research (CSSR). He also outlined several challenges in IoT research, especially regarding to the security system. "Some IoT research challenges including shortage skills, security & trust issues, privacy, business risks, lack of standards, few establish business models and innovations," he said.

According to Robin, in terms of security, the IoT still has many risks. For

SCHOOL OF APPLIED SCIENCE

- **Scheme :**
  Doctoral Dissertation Research
- **Fund :**
  IDR 35,000,000.00

- **Major :**
  Diploma of Computer Engineering
- **Research Group :**
  Embedded and Network System (ENS)
- **Title :**
  Smart Guide Cane For The Blind
- **Researcher :**
  Giva Andriana Mutiara, S.T., M.T.
  Gita Indah Hapsari, S.T, M.T
  Agus Pratondo, S.T, M.T, Ph.D
  Periyadi, S.T, M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 85,000,000.00

- **Major :**
  Diploma of Informatics Engineering
- **Research Group :**
  Programming and Interactive Multimedia (PIM)
- **Title :**
  Design of Collaboration System for Scheduling Khatib Friday Mosque in South of Bandung
- **Researcher :**
  Hariandi Maulid, S.T., M.Sc.
  Parman Sukarno, S.T, M.Sc., Ph.D
  Indra Azimi, S.T, M.T
  Amir Hasanudin Fauzi, S.T, M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 70,000,000.00

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example, in 2014, the World Economic Forum reported that about $ 3 trillion of economic potential was lost from cyber security issues by 2020. In 2014 itself, a number of hackers managed to access no less than 195 million identities including institutional records and their uses, medical equipment, transportations, and others. However, the business investment in IoT is reported to increase. Gartner predicted more than 20% of companies will invest in security for business initiatives using the IoT devices in 2017.

Meanwhile the second keynote speaker, namely Prof. Voo-Chet Koo from Malaysia Multimedia University (MMU), delivered a presentation entitled "Improving Quality Through Smart Sensing". Koo, who is also the Director of Digital Lifestyle Research (DLR) Institute, has been researching in the fields of remote sensing technologies, signal processing, and embedded systems that are used to produce high-tech products in improving the quality of human life.

"Indonesia as well as Malaysia has a lot of potentials if you see the size of the population. Nonetheless, there are also numerous challenges such as health management, energy availability, transportation, garbage, etc., so that the quality of life of the community increases. A quality of life itself is a standard of health and life comfort for individuals or groups. There are several indicators that show quality life, one of them by asking ourselves, how happy are we? The quality of life is indicated by a better, happier and sustainable life," he explained.

Koo continued, the technology must be implemented not only as a solution in an effort to improve the quality of life and profitable, but also an idea. Along with DLR and iRadar, a start-up that was built, Koo has also made a number of remote sensing and IoT technology products that can help a mapping in the environment and a vegetation growth in oil palm farming. There are also drones that can map the condition of oil palm plants, water conditions, and others.

"We are making technology to map environmental conditions, which cost mostly from funding. However, this does not conflict with the economic side, as long as we are able to generate it into products that can be sold. Our technology development is done by revenue from several research projects. We can still sustain it until now, because the projects that we do are basically commercial projects. The difficulties in the implementation of research projects, maybe, are found not only in Indonesia, but also in Malaysia. In Malaysia, it is also rather difficult if you want to implement technology research on a large scale. However, we started working on this project from the smallest, closest community, and eager to commit," he said.

Highest Rejection Rate Intending Scopus Indexed

DIBANDING to previous years, the 6th ICOICT 2018 had the highest rejection rate, amounting to 61% of the 242 submitted papers. The 94 papers were recorded as coming from Indonesia, Malaysia, Pakistan, and Saudi Arabia. The 6th Chairman of ICOICT 208, Parman Sukarno, Ph.D stated, "With a high rejection rate, the quality of the paper can be seen. We hope that Scopus can be indexed and published in IEEE. Through this event, Tel-U's reputation is expected to be even higher, especially since it was first held on campus. So, we all introduce Tel-U campus environment.*Chairman* 6th ICOICT 208, "Hopefully, more and more will attract researchers to send papers and the quality of the paper is getting better," Parman said.

From the theme presented in the 6th ICOICT 2018, there were six major topics that became the track paper of the participants. First is Connecting Sensors with several sub-topics, such as multi-sensor data fusion, algorithms for distributed sensor networks, mobile sensor networks and network management sensors. Second is Connecting Machines with its sub-topics such as internet of things, cyber-physical systems, network infrastructures and protocols, and human machine communications. Third is Connection Societies with sub-topics such as network sciences, social sensing and networking, hyperconnected society and algorithm, and its application.

Fourth is Connecting with Confidence which include cybersecurity sub-topics, privacy preservation, malicious software, and offensive & defensive security. Furthermore is Connecting Data with sub-topics includes sourcing, storing data in heterogeneous database systems, pre-processing data, big data analytics, social network analytics and data mining. Finally, the last is an ambient Intelligence for Smart Living which includes ambient intelligence, context-aware applications; affective computing, adaptive systems, ubiquitous computing; smart solutions, smart city applications, digital living; machine learning, evolutionary algorithms; and intelligent agents, embedded systems. ❖

All of participants of 6th ICOICT 2018

SCHOOL OF APPLIED SCIENCE

- **Major :**
  Diploma of Telecommunication Engineering
- **Research Group :**
  Installation, Operation and Maintenance of Telecommunication (IOMT)
- **Title :**
  Internet Of Things: Modeling and Implementation of Vital Sign Monitors
- **Researcher :**
  Sugondo Hadiyoso, S.T., M.T.
  Dr. Erwin Susanto, S.T, M.T
  Yuyun Siti Rohmah, S.T, M.T
  Rohmat Tulloh, S.T, M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 85,000,000.00

- **Major :**
  Diploma of Telecommunication Engineering
- **Research Group :**
  Installation, Operation and Maintenance of Telecommunication (IOMT)
- **Title :**
  Multi Site Implementation of USRP (Universal Peripheral Radio Software) with Independent Power Supply for Remote Area Communication
- **Researcher :**
  Hafidudin, S.T., M.T.
  Radial Anwar, S.Si, M.Sc., Ph.D
  Mochammad Fahru Rizal, S.T., M.T.
  Dadan Nur Ramadan, S.Pd., M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 70,000,000.00

ACTUALIZATION

Edy Hashimi from BPBD Padang, presenting about mitigation.

AdWiTech
Developing a Disaster Mitigation System

Along with the improvement of research programs and community service through GRCS - Pro, the activities in each Telkom University (Tel-U) Research Center (RC) were even more stretched. Each RC has carried out research activities, especially those from external funds. The reason is each RC is required to get research funding from the outside parties.

Dr. Eng. Khoirul Anwar

ONE OF them is RC Advanced Wireless Technology (AdWiTech) which since 2016 has submitted several research proposals to a number of institutions, including research on the Patriot-Net. To discuss and to introduce their research to the academic community, government and industry, RC AdWiTech held a Reliable Heterogenous IoT Networks Workshop for Indonesia Natural Disaster Monitoring & Recovery System (Rhenium) Project Dissemination and Future Research Collaboration, Monday - Tuesday (26-27 / 2), in the Multimedia Room, Tokong Nanas Building.

This activity connects three elements, namely academics, government, and industry that was represented by Tel-U and Cranfield University, the Regional Disaster Management Agency (BPBD) of West Sumatra Province, and PT Fusi which will produce the hardware from this research. Patriot-Net itself is an application and hardware that is prepared to mitigate natural disasters, such as earthquakes, landslides, floods, and fires. Padang City, West Sumatra, became a research pilot project. Rhenium is an advanced research from Patriot-Net with wider funding scale and wider research area.

"A disaster mitigation in Indonesia is still very low. There needs to be a tool to detect early disasters, so that it can help increasing public awareness, so they know the potential dangers of a disaster. In Padang, there is a disaster response movement. There, we also held disaster simulations to schools, tourist attractions, and hotels," explained the representative of Padang's BPBD, Edy Hashimi.

An unexpected handling of disasters, in addition to focusing on handling victims, also requires a lot of money. This was revealed by researchers from Cranfield University who were involved in the RC AdWiTech project, Dr. Taufik Asyhari. For this reason, a reliable and damage-resistant disaster mitigation tool is needed. "So, the tools made later must be tested before its use. To support this research, we think it is necessary to make a disaster laboratory. The tools that are made may be low cost, but they must be useful," said The researcher from the Defense & Security Dept. of The Research Group at Cranfield University.

Meanwhile, The Director of RC AdWiTech, Dr. Eng. Khoirul Anwar, revealed Rhenium as a continuation of the Patriot-Net involved six researchers from Tel-U, Cranfield University, and the industry represented by PT Fusi. Khoirul himself was involved in this Rhenium research especially in the development of his telecommunication network system called Coded Random Access. The concept offered in Rhenium research is heterogeneous, so that the system and data can be made in the form of voice, video and audio data.

"In 2016, we have received research funding for Patriot-Net from the Education Fund Management Agency (LPDP), but we are still waiting the signing for the disbursement of funds. While waiting, we also submitted this proposal to Cranfield University in the UK, but with a larger scale of research in the Massive MIMO (Multiple Input and Multiple Output) section. They finally funded and contributed to their MIMO research. So, we got two fundings for this research," Khoirul said.

According to Khoirul, the research project has been running for 30-35%, even though the funds have not fully dropped. "Actually, there are some materials that we have to buy, but principally, what is important is how this research can work first. For the first year, we tried with the tools on the market, in the following years we tried to develop it ourselves," he continued.

In the future, Khoirul is preparing a proposal for developing this research into a funding scheme larger than the Newton Fund in Europe. Certainly, with the more advanced research scale, and the more funds, the more researchers involved. "We hope that this research will contribute to the country by creating a sophisticated disaster system, because after all human affairs must be prioritized. Also through this research, Tel-U will be introduced to the international world," He hoped. ❖

EXTERNAL FUNDING RESEARCH 2018

SCHOOL OF APPLIED SCIENCE

- **Major :**
  Diploma of Informatics Management
- **Research Group :**
  Programming and Interactive Multimedia (PIM)
- **Title :**
  Making Virtual Reality (VR) Game Plots for Preserving Traditional Indonesian Games
- **Researcher :**
  Tri Brotoharsono, S.T., M.T.
  Rahmadi Wijaya, S.Si, M.T
  Bambang Pudjoatmodjo, S.Si, M.T
  Fat'hah Noor Prawita, S.T, M.T
- **Scheme :**
  National Strategic Institution Research
- **Fund :**
  IDR 65,000,000.00

- **Major :**
  Diploma of Computer Engineering
- **Research Group :**
  Embedded and Network System (ENS)
- **Title :**
  Development of the Remotely Operated Underwater Vehicle (ROV) Class of Explorer for Monitoring Underwater Natural Resources
- **Researcher :**
  Simon Siregar, S.Si., M.T.
  Gita Indah Hapsari, S.T, M.T
  Muhammad Ikhsan Sani, S.T, M.T
  Giva Andriana Mutiara, S.T, M.T
- **Scheme :**
  Higher Education Applied Research
- **Fund :**
  IDR 50,000,000.00

Reviewer of Research Quality Control

Dr. Muh. Dimyati giving speech.

AFTER the Ministry of Research Technology and Higher Education (Kemenristekdikti) issued a policy on output-based research, research schemes in universities also changed. After that, the Minister of Research, Technology and Higher Education issued the Regulation (Permenristekdikti) No. 69 of 2016 concerning Guidelines for Establishment of Assessment Committees and / or Reviewers and Procedures for Implementing Assessment Using Output Costs Standards (SBK). The establishment of this assessment committee (reviewer) is to assess research proposals that use the State Budget (APBN) or Regional Budget (APBD).

Unfortunately, the number of nationally certified reviewers, especially in private universities, can still be counted on fingers. For this reason, the Coordinator of the West Java IV Private University (Kopertis) and the

West Java Kopertis Communication Forum held a "Research Reviewer Training". The activity took place from Tuesday - Friday (20-23 / 2) at IBIS Ballroom Hotel.

According to the Chairperson of the Committee, Dr. Palti Sitorus, MM., all participants were S3-educated lecturers, with a minimum academic functional position as a Lecturer, a Head Lecturer, and a Professor who had received multi-year research grants from the Higher Education and came from universities of Independent and Primary Clusters.

"This is why it is very difficult to get participants to reach a quorum of 100 people, because the requirements are also heavy. There were 80 participants who took part in this training from members of Kopertis IV colleges and outside Kopertis IV," He explained.

Meanwhile, the Chairman of Kopertis IV, Prof. Dr. Uman Suherman AS., M.Pd., stated, "The reviewer is a research quality control. He must be able to assess not only in terms of budget, but also starting from the process plan to the output of a study. Especially in output, it could be in the form of prototypes, or in the form of intellectual property or publications. It is impossible to have a good output if we do not have a good process and plan. To determine whether a research proposal is good or not, we need people who know three things. First, it is related to the requirement of the proposal structure. Second, it is related to the contextual plan arranged by the Kemristekdikti policy, including the challenges to what is happening now. Last, it is related to the scientific method used by researchers."

All of partcipants of Reviewer Training.

Participants in the Research Reviewer Training must go through a number of materials presented by Kemristekdikti, then take the test, and only then pass and get a certificate. In addition to understanding the material, certified research reviewers must understand the content, structure and output as well as the usefulness of research through a proposal. In addition, the reviewer must have integrity and commitment, so that the proposals that have been reviewed by the reviewer can truly be accounted for. The number of certified reviewers from Kemristekdikti in the Kopertis IV region is not many. This is because the number of tertiary institutions is in the category of 41 new Independent Clusters, while the new Main Cluster is 38. According to Uman, there are still 322 reviewers who have not been certified.

In addition to conducting training in collaboration with the Ministry of Research and Technology, Kopertis has also organized reviewer training, but has not led to certification, especially for those from PT Cluster Madya and Binaan. “Our target, if one private university has at least 2 reviewers and in the Kopertis IV region there are 478 private universities, then there will be at least 1,000 reviewers, so that they can be more competitive at the national level, " He said.

According to the Secretary of the Directorate General of Research and Development of Research and Development of Higher Education, Ir. Prakoso, MM., the department has held reviewer training for 19-20 batches since the government policy No. 69 of 2016 was issued. "Reviewers who will examine the research proposals are eligible to receive research grants sourced from the state budget. So, government funds for research can be used transparently, accountably, fairness, and can be accounted for," he said.

Prakoso added, since 2017, the research has been based on output where research entering the Kemristekdikti has been reviewed by reviewers who have been certified beforehand. "The results look real. There is an increase in the number of publications in Indonesia. This output-based research also results in product prototypes or intellectual property (KI). Evidently, Indonesia has been able to overtake Thailand for the number of international publications. However, we cannot satisfy, because it is still under Malaysia and Singapore policies. We want to pursue this," he said. ❖

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Institutional Performance Potential Improving Clustering Assessment

Dr. Ir. Mustangimah, M.Si

IN 2019, the Ministry of Research Technology and Higher Education (Kemristekdikti) classified (clustered) the research performance of universities into four categories: Independent, Main, Intermediate, and Patronage. At present, Telkom University (Tel-U) is in the Main Cluster. It is surely not easy to get to the Independent Cluster. For this reason, the Directorate of Research and Community Service (PPM) invited the Head of the Sub-directorate for Research Capacity Building at the Directorate of Research & Community Service (DRPM) of the Ministry of Research, Technology and Higher Education, Dr. Ir. Mustangimah, M.Sc, for sharing some inputs.

Held on Monday (26/2) at Bangkit Building the 5th Floor, the workshop discussed various things that Tel-U could do when sending data to Kemristekdikti. According to Mustangimah, Tel-U still has a lot of potentials that can improve its institutional performance. "Tel-U already has very potential raw materials, which can be included in the assessment data," she said.

According to Mustangimah, there are many ways that Tel-U can use to help increase the institution's performance appraisal points from the Ministry of Research, Technology and Higher Education. Among other things are optimizing the number of publications, Intellectual Property (KI), the implementation of internal scientific forums and cooperation, and others.

"Tel-U must explore a number of scientific articles so that they can be upgraded to manuscripts to be sent to publishers, for example by holding a special workshop for mentors to accelerate the receipt of these articles in the publisher. For KI, Tel-U should not only focus on one type of KI. Just list the results of the research produced such as copyrights, brands, industrial designs, and simple patents. Moreover,

the research output in the form of a model or prototype can be registered with the KI. For simple KI such as copyrights that are in the registration process, we can just list it, do not wait for certificates. Who knows, while it is on the process of verification, it has already been granted. Usually, KI for copyright time is not long. Even Tel-U through the KI Clinic can help lecturers to be more aware and know how to register their KI," Mustangimah continued.

The institutional performance assessment process will lead to the announcement of the research performance clusters of each university. In the previous assessment, Tel-U was in the Main Cluster, a level below the Independent Cluster. The next cluster announcement will be in 2019 by the Ministry of Research, Technology and Higher Education. Previously, there were still 6 months for universities to complete reports to the Ministry of Research and Technology. At this time, universities are given the freedom to explore various potentials and report them to the Research and Community Service Information System (Simlitabmas) Kemenristekdikti.

"After the data entry process, there will be a verification stage to check the validity of the data, because the amount of data is very large. Moreover, currently the participation rate of tertiary institutions has increased from around 1,400 to 2,000 colleges. Thus, for universities that were previously in the higher cluster, there is a possibility of going down the lower cluster. "It is very likely, if there is not any disciplines in the data entry process or ignorance or a number of research results, that should be reported," she said.

Mustangimah also highlighted the merger between research and community service which is now being promoted by Tel-U. According to him, this must still be in accordance with the direction of the Ministry of Research, Technology and Higher Education. The reason is that the scheme for evaluating community service is slightly different from research, which is categorized as superior, very satisfying, satisfying, and unsatisfactory. So, the configuration will be different, even though the data used as the assessment indicator is the same.

One of Tel-U's proposals for Kemenristekdikti submitted to Mustangimah related to performance assessment. This proposal was also conveyed by the Private University Coordinator (Kopertis). Therefore, to avoid double data entry by the officers, Tel-U provides input to the Directorate of Higher Education to give access to the Ministry of Research, Technology and Higher Education Simlitabmas.

"This became an input for us at the Ministry of Research, Technology and Higher Education's Ministry of Education and Culture. This will be a consideration for the Ministry of Research, Technology, and Higher Education's DRPM and coordinate and communicate with Kopertis. Whereas for the data mining process related to the 2016 data entry and community service data entry requirements that have not been included yet, Tel-U can send a request letter to be reopened in 2016. The letter can be submitted through us at DRPM. We will then forward it to the information system section," added Mustangimah.

He suggested Tel-U's Directorate of Research and Community Service (PPM) as the spearhead in the data entry process to be more active in exploring all available potential. "Hopefully with this workshop and planning some things that must be optimized, Tel-U can run everything. In addition, all potentials of Tel-U will be extracted and can be included as performance indicators, thus improving the quality of this campus," she confirmed. ❖

Mustangimah checking the data for research performances assessment of Tel-U.

Research Quality Excellence Keeps Tel-U Sustain

Towards the Research Quality Excellence, Telkom University (Tel-U) concerns not onlyto improve the quality of research but also to give a high concern to the community service as the realization of Tri Dharma of Higher Education. Even though the national and international recognition of the good teaching and learning aspect has been received by Tel-U, thus for the betterment of Tel-U development and without attempting to put aside its good teaching and learning aspect, Tel-U directs its strategy in 2018 towards research and community service.

Dr. Eng. Khoirul Anwar giving motivational sharing

ALONG with the evaluation of the Research and Community Service in 2017, Telkom University Directorate of Research and Community Service (Direktorat Penelitian dan Pengabdian kepada Masyarakat, PPM) has socialized Global Research and Community Services Program (GRCS-Pro) held in the Ballroom of IBIS Hotel Bandung on February 15, 2017. This event was attended by Rector of Telkom University, Prof. Ir. Moch. Ashari., M.Eng., Ph.D and Vice Rector IV for Research and Students Affairs, Dr. Rina Pudji Astuti, MT.

Agus Pratondo, Ph.D

"We do understand that currently, the academic community faces more workloads, starting from the Lecturer Workload (Beban Kerja Dosen, BKD), research and publication targets, and many others. However, we believe that these workloads results will lead to a number of achievements. Some prestigious achievements that we have received due to our hard workwere the National and International Accreditation, Q-Star Recognition, etc. These achievements fulfill the stakeholders' satisfaction and keep the existence of Telkom University. The existence of an institution divided into three categories, those are Sustain, Survive, and Desperate. Instead of being able to survive and avoid the desperate, it will be great if we work hard to be able to keep Telkom University sustain," he said.

Ashari also stated that in 2018 Tel-U's investments declined slightly due to the

All of Participants of GRCS-Pro Socialization.

planning of a new building construction. In spite of this condition, Ashari and his team will conceive their highest effort on the lecturers' welfare. Some programs which have been implemented in 2018 were raising the welfare, creating an online learning, conducting an industrial partnership, G-Pro (for academics), GRCS-Pro, Tel-U Point (for BKD other than the Managerial Performance), and entrepreneurship program.

The event which has been attended by more than 115 lecturers from Group Expertise (Kelompok Keahlian, KK), Research Center (RC), and Bandung Techno Park (BTP) evaluated the implementation of the research and community service in 2017 and discussed the strategic plans of PPM in the future. The strategic plans are the Non-Tuition Fee (NTF) increase and Doctoral Lecture or Assistant Professor (Lektor) and Associate Professor (Lektor Kepala) Contribution.

In that occasion, the Director of PPM, Angga Rusdinar, S.T., M.T., Ph.D, delivered that the lecturer's activities in research and community service need to be improved. Therefore, as an attempt of realizing the improvement, a particular strategy needs to be implemented. The strategy that is going to be implemented for 2018 is increasing the old and new scheme research products and increasing the proportion of the research budget around Rp. 30.4 billion.

In addition, the Manager of Tel-U Community Service, Agus Pratondo, Ph.D. stated that the result of the community service in 2018 has reached approximately 229 results. He stated "The NTF distribution came from several activities such as consultation (33%), international conferences (14%), training (11%), scholarships (13%), and RC (29%). All this time, the community service activities have always been identified with training and charity contribution, whereas the community service activities have been identified wider by the public that the activities might include the governmental and industrial community. The academics could contribute more through selling their own competencies to the projects that can produce NTF. As for the target of NTF in 2018 is amounted to Rp. 7 billion.

In this event, PPM also held a Motivational Sharing delivered by Dr. Eng Khoirul Anwar and Dr. Fajar Ciptandi, M.Ds. Khoirul said that the researchers should choose one specific competence from many expertise they have in order to be able to conduct a more comprehensive and deeper research. " The depth of a particular field competence is needed in order to be recognized by the world. Besides, based on my own experience staying in Japan, I believe that Tel-U has to be more intense in making the ranking of downloaded paper in author version, not in the published real version. So it won't violate the rules of publication. This ranking system like in JAIST is considered as a bonus ranking for researchers" he said.

Khoirul also stated that there are several things should be considered in making a research, those are Knowing and understanding individual competencies, science, story, and history; Recognizing the biggest asset; Focusing and concerning to the scientific knowledge; and not being disturbed by the structural position or standard rules.

Meanwhile, Fajar, the speaker from School of Creative Industries, revealed that the concept of research in art and design field relies more on the sense of feeling as well as on the divergent, creative, and effective way of thinking. "For the creative art field, our research may not be Scopus oriented. However, it comes from simple things around us. The example of the research that has been conducted was the use of burlap sacks fiber for the material of a more valuable fashion. The reason for conducting this research was because, near my house in Cicadas Bandung, I often pass by some citizen houses with the unused burlap sacks that are going to be in a trash. Therefore, I think of making these beneficial" he said.

This full-day event was ended by the question and answer session as well as delivering the expectation from Vice Rector IV for Research and Students Affair, Dr. Rina Pudji Astuti, MT related to the research and community service in the future. "By conducting this event, we feel that the responsibilities on our hand are getting lighter due to the existence of the high motivation of Tel-U academics who are ready to contribute for reaching the Research Quality Excellence," She said. ❖

A Long-Term Investment through A Track Record

Dr. Adi Pancoro

ANNUALLY The Ministry of Research Technology and Higher Education (Kementerian Riset Teknologi dan Pendidikan Tinggi, Kemenristekdikti) creates an update to the guidelines of research and community service every year. The guidelines cover the research that uses the grants from Kemenristekdikti. In 2018, Kemenristekdikti republished the 100-page Guidebook, XII Edition. This Guidebook Edition XII revises edition XI which is almost 600 pages thick.

To socialize the guidebook to the researchers, Telkom University conducted "The Book Review of Ristekdikti Guidebook Edition XII" on Thursday, April 26 in Multimedia Room, Bangkit Building. According to the drafting team of the Guidebook Edition XII, Dr. Adi Pancoro, a research must refer to the National Research Master Plan (Rencana Induk Riset Nasional, RIRN). It has been listed in the guidebook that there are two categories of research, namely National Competitive Research and Decentralization Research.

There are six schemes for the National Competitive Research category, those are Basic Research Scheme, Applied Research, Development Research, Junior Lecturer Research, Collaborative Research between Universities, and Postgraduate Research. In addition, there are three schemes for the decentralization Research, those are the Excellent Basic Research for Higher Education, Excellent Applied Research of Higher Education, and Research on the Development of Excellent Universities.

"It is started from now on that the contract for the multi-year research is only done once. The researchers only need to determine their competence, whether they want to submit a

research proposal in a National Competitive Research or Decentralization research or Assignment (consortium). For this reason, the type of research taken must be carefully defined," he said.

One of the contents in the Guidebook Edition XII that causes many various different arguments is the requirement for the inclusion of the chair person's track record of the research proposal. Adi delivered that it might be burdensome for many researchers in a particular short-term aspect due to the eligibility of the chair proposers that is being limited to the senior lecturers. However, Dikti mentioned that this requirement is considered to be a long-term investment that would give benefits to the universities.

"In the previous edition, it was only required that the Chairperson of the proposal had to have a minimum position of the Assistant Professor or Associate Professor. On the other hand, this year, the requirement for the inclusion of chairperson's track record such as the experience of publishing international journal has been added. This addition is as an aim to increase the competitiveness of every lecturer in order to conduct research better. This guide also provides feedback related to what has been done by the previous researchers which might be turned out to be very useful for current research and will also get value. This also applies to junior lecturers in order to try better in research and strategy, so that the next 2-3 years they have the chance to become the chair proposer," he said.

The research proposal based on the Guidebook Edition XII has been proposed in the form of online with a limitation of word number started from the research background to the research stage methods. Besides, there is a revision included in the guidebook related to the Output Cost Unit (Satuan Biaya Keluaran, SBK) and Managerial Cost Unit (Satuan Biaya Manajerial, SBM).

Adi believed that these two costs have already been realistic. Even though every researcher is allowed to set their own Budget Plan but the government has also set the research budget platform based on their research field.

However, the great point that differs this Guidebook Edition XII from the previous edition is the existence of the incentives. These incentives are given to the researchers who are able to produce compulsory research outcomes (for example in the form of Scientific Work), then it turns out that the researchers are able to produce additional outputs from their research (for example there are publications in the international journals indexed by Scopus).

The submission of the number of research proposals has also been arranged based on the achievement of h(i) Scopus index. That is 4 proposals for the technical field with h(i) index Scopus 3 and 4 proposals for the social field with h(i) index Scopus 2.

Never do "Hit & Run" in the Community Service!

MEANWHILE, the description of the community service has been presented by Prof. Yuwono. He stated the proposals that could be categorized into the community service should be in the form of Scientific knowledge and Technology Applications useful for the community. The scientific knowledge and technology consist of exact, social, art, and technology field.

"In proposing the community service proposals, the lecturer team should conduct an in-depth observation related to the problems in the community (as the object). The problems must not be made up for its existence. The team should give the beneficial solution for the problems and empower the community for both their hard and soft skills," Yuwono said.

Yuwono also mentioned that the team should not only conduct a community service in one time. "Please, do not ever conduct the community service once, just like the boxing technique of a well-known boxer, Muh. Ali, who practiced the 'Hit & Run' technique. The problems in the society won't be able to be solved directly only by one to two times training for two hours. The Guidebook Edition XII also covers the issue related to the content of the community service. The content of the community service should cover 'GESI' (Gender, Equality, and Social Inclusion). The community service practice is prohibited from discriminating particular groups. Besides, the distance of the object for the community service should be no more than 200 kilometers from the campus,".

Even though in 2018, Telkom University has not been able to obtain the grants from Kemenristekdikti for the community service programs, yet Telkom University has already carried out the community service to the industrial community. According to Yuwono, the industrial community is more appropriate to be a partner and has the potential to produce the Non-Tuition Fee (NTF) for the university with PPUPIK and PPUD schemes.

Yuwono also allows the lecturers to carry out the research resulted from the community service programs, "As long as the writing in the proposal is not a trial, but it is applicable. So, there must be a strategy in the writing process so that the publication is not being rejected. For the publication, try to look for the journals that receive research publications on the applied technology or community," he explained. ❖

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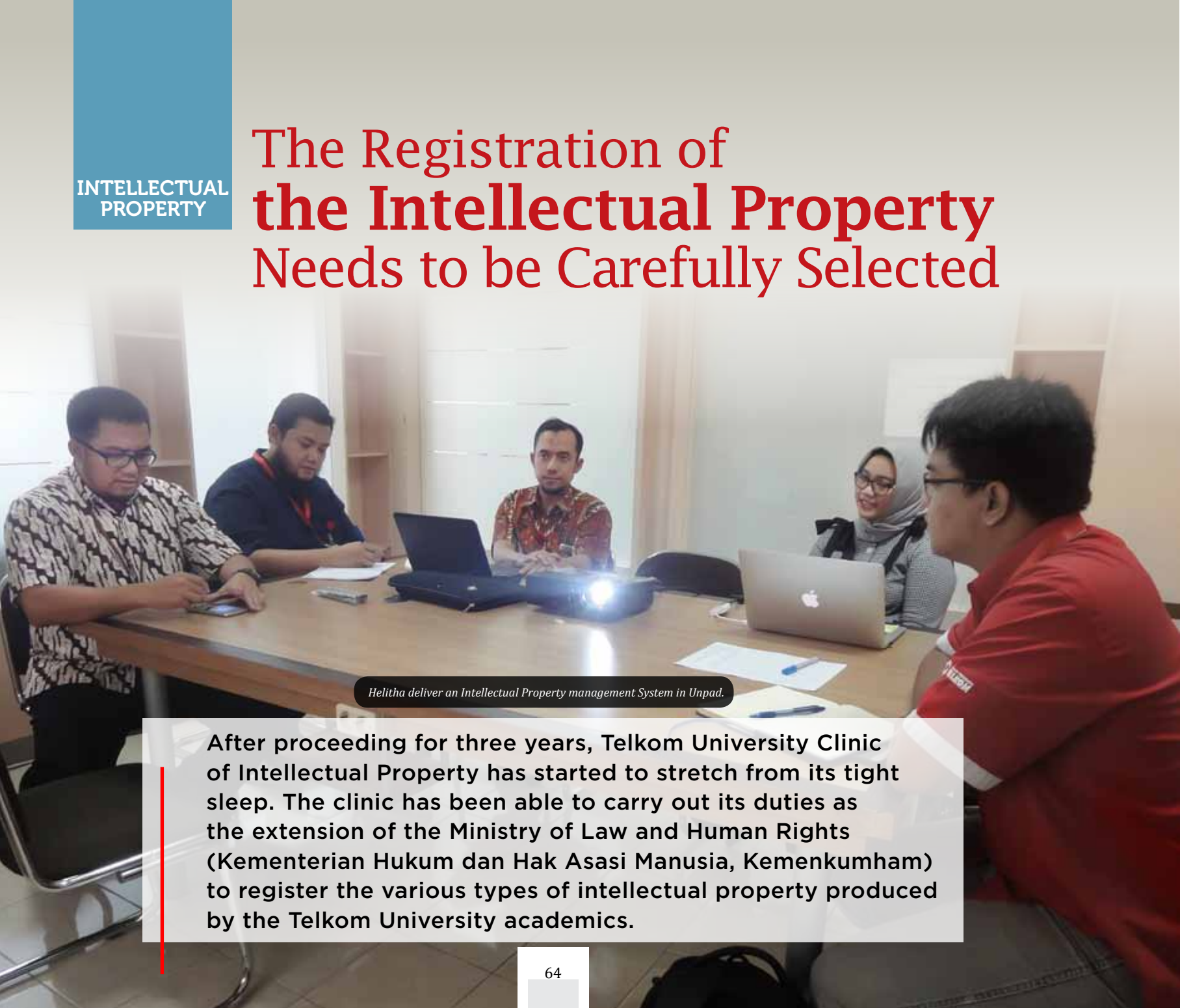
2. Naskah ditulis dalam bahasa Indonesia atau bahasa Inggris, diketik satu setengah spasi pada kertas ukuran A4 potrait (21 x 28 cm). Panjang tulisan maksimal 7000 kata (atau 15 halaman), minimal 4000 kata (atau 8 halaman), dengan jenis huruf Calibri ukuran 11, ukuran kertas A4, dan margin atas 3 cm bawah 4 cm kiri 4 cm, dan kanan 3 cm .
3. Naskah terdiri dari judul, nama penulis, abstrak, kata kunci (*keywords*), pendahuluan, kajian pustaka, metodologi (metode), hasil dan pembahasan, kesimpulan dan daftar pustaka. Kutipan menggunakan *bodynote*.
4. Abstrak ditulis dalam 2 (dua) bahasa yaitu, bahasa Indonesia atau bahasa Inggris, abstrak memuat 150 – 200 kata, ditulis dalam satu alinea, dibawah abstrak dicantumkan 3 (tiga) hingga 5 (lima) kata kunci.
5. Naskah harus disertai dengan identitas lengkap penulisnya yang terdiri dari: nama (tanpa gelar), nama perguruan tinggi atau instansi, dan email.
6. Dewan redaksi berhak melakukan penilaian, koreksi, penambahan, pengurangan dan perbaikan lainnya terhadap naskah yang akan diterbitkan.

http://journals.telkomuniversity.ac.id/index.php/liski

Deadline per Mei dan Oktober

INTELLECTUAL PROPERTY

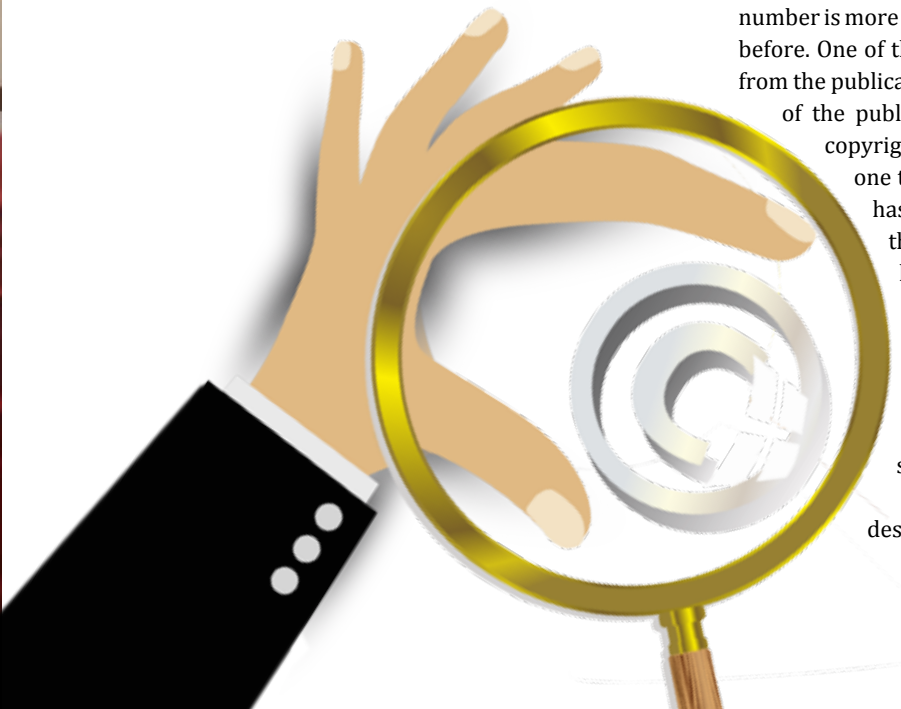
The Registration of **the Intellectual Property** Needs to be Carefully Selected



Helitha deliver an Intellectual Property management System in Unpad.

After proceeding for three years, Telkom University Clinic of Intellectual Property has started to stretch from its tight sleep. The clinic has been able to carry out its duties as the extension of the Ministry of Law and Human Rights (Kementerian Hukum dan Hak Asasi Manusia, Kemenkumham) to register the various types of intellectual property produced by the Telkom University academics.

EVEN SO, the activities to strengthen the Intellectual Property Clinic are still conducted every year. Not only the socialization of the importance of registering intellectual property for the academic community but the clinic management is also continued to be improved. An attempt to improve the management is by concerning to the process of selecting the intellectual properties that are eligible to be registered to the Ministry of Law and Human Rights. The biggest reason to conduct a careful selection process is due to the rapid growth of the academics awareness on the importance of the intellectual property. Therefore, this condition causes the increase to the number of the intellectual property registrations, especially the types of Copyright, every year. The workshop of Intellectual Property selection was conducted only for the managementoftheclinic under the Directorate of Research and Community Service. This event was held in Bangkit Building Telkom University on Thursday, June 7. The event was attended by the Director of Research and Community Service, Angga Rusdinar, S.T., M.T., Ph.D. and the manager of Research and Publication, Eka Widhi Yunarso, S.T., M.T. This event was held in two days and invited two well-known managers of the Intellectual Property Center from Padjadjaran University and Bogor Agricultural University.



The first speaker from Padjadjaran University who is also the Secretary of the Center of Intellectual Property Management and Development, Helitha Novianty Muchtar, S.H., M.H., revealed that the number of the intellectual property registration, more specifically the type of copyright, continued to increase, thus needs to be selected carefully. “Currently, Padjadjaran University has 478 copyrights which this number is more than what has been targeted before. One of the copyright sources comes from the publication. Therefore, the number of the publication with the registered copyright is being limited to the one that has been published and has its ISSN. On the other hand, the number of Patent in 2018 has not reached the target, that from 20 registered patents, there were only 3 that has been accepted and most of them come from the Faculty of Medicine,” she said.

Furthermore, Helitha described a number of intellectual property products produced by Unpad academic community, among other things are, Fruit’s Up, Kost-Hunt, E Drug Game, Kreasia.ID, Loak.co, Mina Indonesia and others. All products that have been registered with their intellectual property are in the form of applications and product designs and are managed by the Center for Innovation and Business because they can create profits.

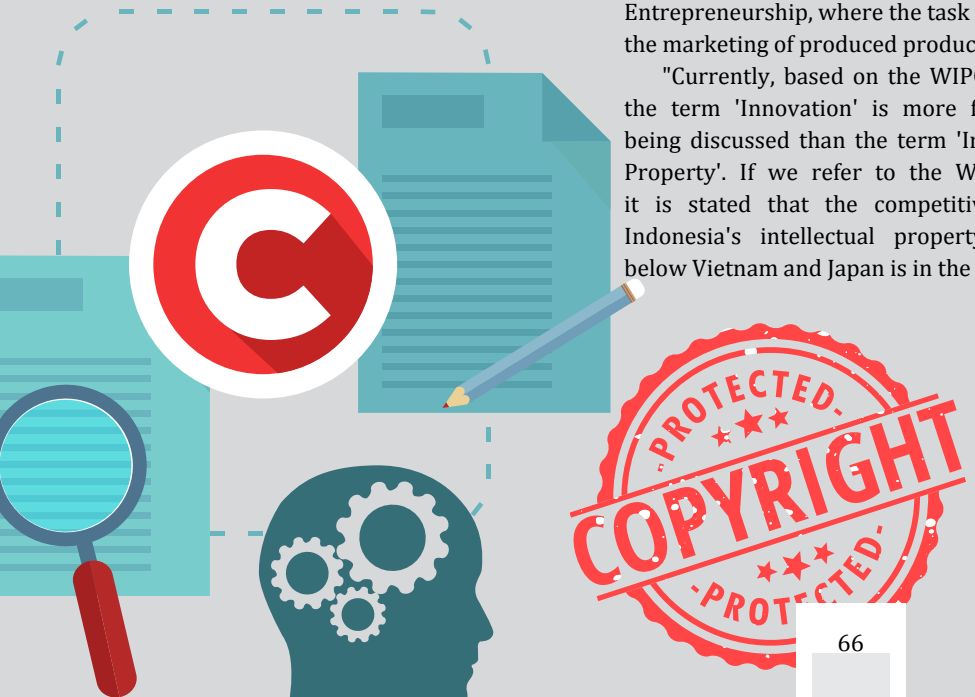
"For the intellectual property management, we implement a Sharing Profit system with a percentage of profits for the researchers by 60%, research work units by 20%, and Unpad by 20%. Sharing this profit can be done based on the results of the sale. We also have a kind of incentive with a point system. When the researchers have reached up to 5000 points, the incentives will be paid by the university. The points that are going to be paid by the university is different for each lecturer depends on their Academic Functional Position (Jabatan Fungsional Akademik, JFA)," he said.

In that golden occasion, the Manager of Telkom University Intellectual Property Clinic, J. Catur Prasetiawan, M.T., discussed the way in which copyright selection was deemed not too urgent to be registered, so as not to suck up the institutional budget. According to Helitha, one of the efforts to work around this is by collecting the intellectual property products into a book as well as by waiting for the more number of the products.

"As an example, it would be very inconvenient to register many copyrights one by one at a time, when there are cases of researchers who want to register copyright

for one piece of poetry or one motif of art. Therefore, the solution that can be offered to the inventors is by requiring them to collect the products in a book form or bundle it, " Helitha said.

Furthermore, Helitha said, "Actually it is a declarative thing when we discuss copyright. Although when an intellectual property has not been registered to the Ministry of Law and Human Rights, then when the intellectual property has been made and published, it will automatically be attached to the inventor. So, when a plagiarism occurs, the inventors can be legally protected. However, the need for a copyright certificate as a requirement of the Ministry of Research Technology and Higher Education makes the obligatory of registering the copyright inevitable,"



Adversity in the Requirement, Easiness in the Patent Selection

IN THE next session, there was Muhammad Hendra Wibowo, the Representative of Bogor Agricultural University (Institut Pertanian Bogor, IPB) Directorate of Innovation and Entrepreneurship, who manages the Intellectual Property Center in IPB. Due to the number of patents that belong to this university, IPB becomes a good example for other universities in terms of managing the intellectual property in Patent type. According to Hendra, IPB's Directorate of Innovation & Entrepreneurship is not under the Institute for Research and Community Service (Lembaga Penelitian dan Pengabdian kepada Masyarakat, LPPM). The Directorate has two sub-directorates, namely Management of Innovation (Intellectual Property) and Management of Entrepreneurship, where the task is more to the marketing of produced products.

"Currently, based on the WIPO themes, the term 'Innovation' is more frequently being discussed than the term 'Intellectual Property'. If we refer to the WIPO data, it is stated that the competitiveness of Indonesia's intellectual property is still below Vietnam and Japan is in the first place as the biggest patent application," he said.

While in IPB, the patent for the maintaining of plant varieties has more in number compared to other types of intellectual properties. These patents are produced by the Agricultural and Fisheries Technology. Even so, as admitted by Hendra, that with this huge number of the patent in IPB, it is still considered had not reached the commercialization stage.

There are some challenges in reaching the commercialization stage of the intellectual property, especially in the patent aspect. “First of all, we still have many lecturers who conduct their research that still not in line with the research roadmap or do it as their wish. Second, the level of research carried out is limited to the laboratory scale, so it is still difficult to be applied in the real world. For this reason, the Technology Readiness Level (TRL) of the products is becoming one of the consideration aspects. Even though there are still many struggles in increasing the number of registration, the Intellectual property must not only highlight a matter of legal protection but it is also must be a business instrument and innovation, "he said.

IPB has some strategies in increasing the number of patent registration that this strategy might be replicated by Telkom University. First, carrying out the socialization of intellectual property through print media, electronic media, training, seminars, and introductory lectures on the Intellectual Property topic. Second, conducting a one gateway coordination for every intensive program related to the intellectual property and innovation. This one gateway system has been conducted in

IPB including to facilitate various intensive programs on the intellectual property and innovation conducted by other universities.

The next step is carrying out a consultation and facilitating the preparation of patent drafting and patent searching. Fourth, registering and assisting the patent substantive examination. Finally, increasing the capacity of HR Intellectual Property managers.

Hendra also continued, that the consultations were still carried out by the internal parties, with the minimum requirement that the consultant had undergone training from several institutions. There are two patent ownership in IPB, if the fee for proposing the patent came from the university then the patent belongs to the university while if the patent is the result of research by the consortium then the patent becomes the joint ownership.

In the future, IPB Intellectual Property managers have an additional task, which is to calculate the patent value of the intangible assets because all the intellectual property products in the form of patents are directed to the commercialization and innovation.

"For this intellectual property (patent), the government (Kemenristekdikti) seems to give more demand to the aspect of quantity rather than to the aspect of its commercial/ economy. Although the most important thing to do for this moment is to register the intellectual property, in the near future, the aspect of the commercial/ economy should also be taken into account. Therefore, in supporting this aspect, IPB has created an android application named IPB Innovation that contains the promotion of the innovations as well as PT Bogor Life Science & Technology (BLST). There are 415 patents from 1.045 innovations that have been recognized in 2008-2017. However, the number of granted patent has reached 123 patent with 10% of it has been commercialized," he said.

Muhammad Hendra Wibowo deliver the amount of patent in IPB.

Eka Widhi Yunarso, S.T., M.MT (left) and Helitha Novianty Muchtar, S.H., M.H.

The aspect of commercialization for a patent is very essential due to the cost of patent maintenance is considered high. Moreover, prior to the latest Patent Law in 2016, patent maintenance costs were borne by the university (IPB). "Since the existence of the Patent Law 2016, we are willing to boost the patents as our debts become lighter. There are free maintenance costs for the first 5 years, and if the maintenance costs are not being continued, then the patent will automatically off and not considered as debts, "he added.

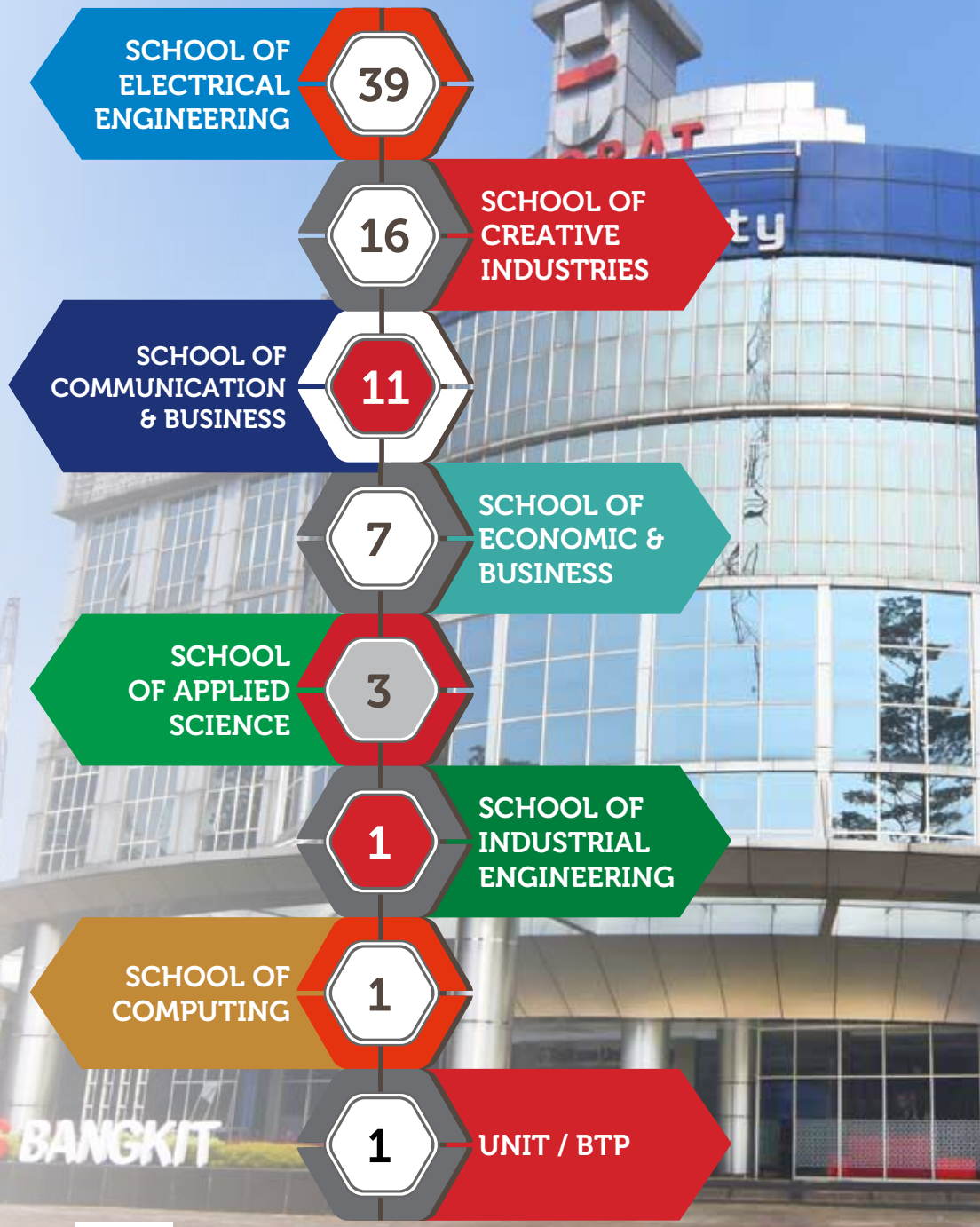
At the end of his presentation, Hendra suggested that the patents which are registered in Indonesia should be commercialized in Indonesia as well. "To create the technology transfer in Indonesia, the patents that have been registered in Indonesia should be produced in Indonesia as well. It is not expected to happen that the registration is conducted in Indonesia while the production is conducted abroad and then the products are sold in Indonesia, " he said. ❖

AMOUNT OF INTELLECTUAL PROPERTY (IP) UNTIL JULY 2018

Tel-U IP Has 100% Increase

THE ACHIEVEMENT of Telkom University for Intelectual Property (IP) in the second quarter of 2018 has increased by 100% compared to Quarter 1. Initially there are 78 pieces, then it rises to 156. There are 79 Intellectual Properties that received the certificate from the Ministry of Law and Human Rights (Kemenhumkam), 63 proposals, and on process 14 pieces.

Several types of IP registered by Tel-U include patents, simple patents, industrial designs, and copyrights. Starting this year, Tel-U has been selecting the IP registration proposals, especially the types of Copyrights. The reason is Tel-U wants to achieve the IP evenly for all types. Infogram shows the total acquisition of IP from each faculty and the IP types from Copyrights. ❖



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Product Design Must Be More Compact

Achieving success of 2017, a number of Telkom University (Tel-U) researchers have received again the research funding through the scheme of Prospective Technology-Based Beginner Company (CPPBT) from the Ministry of Research, Technology and Higher Education (Kemenristekdikti) in 2018.

Peter try the Digital Vena Locator hardware.

IT IS, recorded that there are 12 Tel-U research proposals that pass and obtain the research grant from Higher Education (Dikti). After delivering a presentation in Jakarta, several teams of the 2018 PTBBC research have the site visit from one of the Kemenristekdikti reviewers.

On Monday (26/2) this site visit presented the reviewer, Peter S. who was appointed by the Ministry of Research, Technology and Higher Education. This young entrepreneur in the field of IT, trading, and logistics visited three teams to see the prototype of research products and condition of a number of research support facilities, such as laboratories. There were three teams visited, namely the Digital Vena Locator team, OCholme team, and the team of Photoplethysmograph-Based Atrial Fibrillation Watch Detection for Early Stroke Prevention.

Peter concluded that of the three teams visited and demonstrating their product prototypes, they still needed the development in terms of design and compatibility. "We see that the community is currently visually oriented. They are used to being spoiled by an attractive and visual appearance. Speaking of compact, this is closely related to the convenience of the user to be able to use the tool anywhere and anytime. For that, there are still some products that need developing further, because not everyone will feel comfortable using it," he said.

Peter continued, the CPPBT is not only research but it must also be considered about the continuity of products made when they would be used in the community. In addition, the products must be useful and have a positive impact on the community.

The atmosphere of site visit asesor CPPBT 2018.

"The suggestion is that researchers should consider more the other side so that when this product is made, it can be used by many people and can have a tremendous impact on society" he added.

On the other hand, each team visited by Peter received input for further development and presentation in monitoring the evaluation (monev) of the next CPPBT research. For Digital Vein Locator, market validation to relevant agency (hospital) must be multiplied and the results are included in the advanced presentation material in monitoring the evaluation (monev). In addition, the display design is still too large. If it is reduced, the quality of the camera must be increased so that the picture is clearer.

As for Ocholme application that is used to check cholesterol disease through iris, Peter gives input that the process of analyzing the application to the exit of the value of the shooting results is strongly influenced by the level of light. In addition, if there can be automatic cropping addition, its application is not only in Android but also in I-phone OS (IOS). Then, the application must be tried on smartphone devices that have higher accuracy with photo quality above 13 MP.

Furthermore, for the Prototype Team of the Photoplethysmograph-Based Atrial Fibrillation Detection for Early Stroke Prevention from the Faculty of Informatics, he gives input, there must be additional user experience in testing the prototype of this product. The design is good but the shape is still too large. If possible, it should be made more attractive and adapted to the average style and age of stroke patients. ❖

AMIKOM Jogjakarta *Benchmarking*

Directorate of Research and Community Service (PPM) of Telkom University (Tel-U) received a visit from AMIKOM Jogjakarta on Monday (29/1).

THIS activity took place in Multimedia room, Bangkit Building. Aiming to transform into a university, AMIKOM Jogjakarta conducted comparative study related to the improvement of research in Tel-U. According to the Research and Publication Manager of PPM, Eka Widhi Yunarso, ST, M.MT., Tel-U accelerated in terms of research and publications over the past 5 years.

"We are actively following the research schemes offered by the Ministry of Research, Technology and Higher Education (Kemenristekdikti). Tel-U achievements up to 2017 for research are 628 titles accumulated from various schemes. Apart from Dikti, we encourage lecturers to increase the number of research, especially for international grant research, as obtained from Indonesia Toray Science Foundation (ITSF). This year we have approximately 40 titles ready to be submitted. For publication, we direct to Scopus indexed international journals. Initially it was quite complicated for publication funding schemes, because Tel-U originated from a merger of different cultural institutions. The effort for this matter is very large, one of them is by budgeting funds that are not small," said Eka.

In addition to boosting research and publications, Tel-U is also aligning researches for community service through Global Research and Community Services Program (GRCS-Pro). Moreover, currently Tel-U has been supported by many Expert Groups and 4 Research Centers which focus on researching that use external funds, both for the needs of researches, projects, and community services. ❖

Introduction to Field IV

THE Vice Rector IV for Research and Student Affairs, Dr. Rina Pudji Astuti, M.T., held a meeting entitled "Inspiring Change" with all units under Field IV. The units consist of Directorate of Research and Community Services (PPM), Directorate of Student Affairs (Dirmawa), Endowment Directorate, Research Center (RC) of Advanced Wireless Technology (Adwitech), RC of ICT Business & Public Policy, RC of Business Ecosystem dan RC of IoT (Internet of Things), as well as Bandung Techno Park (BTP).

Each unit introduced all its staff and presents programs implemented in its unit. To add enthusiasm and motivation to work, each unit issued slogans.

Field IV also distributed a number of doorprizes for lucky staff from all units.❖

Minister of Industry Inaugurated
BTP Building

To develop electronic technology solutions, Bandung Techno Park (BTP) inaugurated the building of the Center for Electronics Innovation & Telematics Innovation, Tuesday (16/1). The inauguration was conducted by the Minister of Industry Airlangga Hartanto, accompanied by the Rector of Telkom University (Tel-U), Prof. Ir. Moch. Ashari, M.Eng., Ph.D. and Director of BTP, Prof. Adiwijaya, M.Sc. The construction was carried out by Tel-U and the Directorate General of Metal, Machine, Transportation and Electronics Industries (ILMATE) under the Ministry of Industry of the Republic of Indonesia since 2016.

Ministry of Industry (green Batik) inaugurate one of the building at BTP. Photo : www.btp.or.id

BOTH buildings are functioned to develop electronic and telematics technology solutions that would be marketed commercially, both directly and through industry. This building can also be used as a virtual office for start-ups trained by BTP.

Airlangga hopes that the facilities owned by Tel-U can be utilized by the entire academic community. "The hope is that these two facilities will be able to bring higher education into a research and science center with industry as a commercial center," he said.

BTP has been a research development unit under Tel-U since early 2018. Previously, this unit was under the Telkom Foundation (YPT). BTP was established in 2010 as the part of the development plan of 100 Science and Techno Parks in Indonesia which was fully supported by the Ministry of Industry of the Republic of Indonesia.

This unit tasked with downstreaming research results from internal and external Tel-U and developing the ICT industrial area and the ICT-based startup incubation. Currently there are three buildings in BTP area, namely one main building and two other buildings that were just inaugurated.

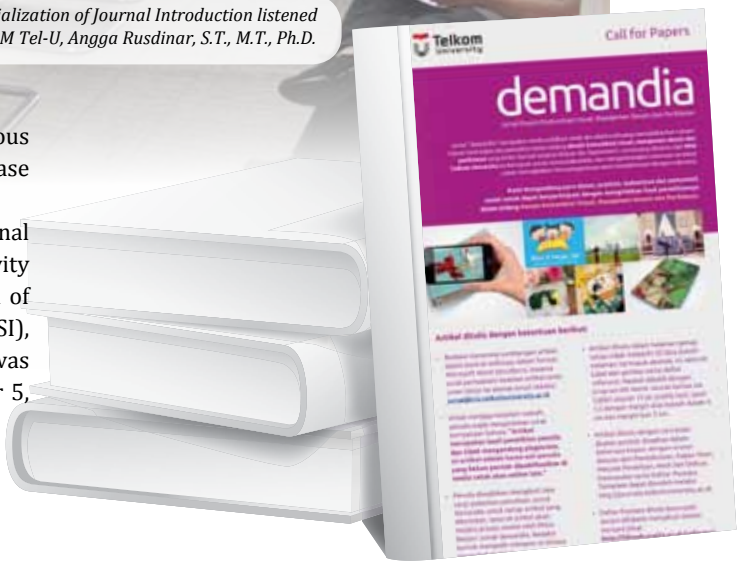
The main building functions as a BTP office area, gallery space, and virtual office for BTP-assisted tenants. No less than 15 tenants are currently being guided by BTP. As for the incubation process, BTP assists tenants with facilities and infrastructure such as legal support for start-ups, marketing promotions, training events, laboratory tools, 3D printing, laser cut machine, virtual reality laboratory, programmable logic control laboratory, and many more. ❖

Diligent Socialization to Raise Achievement

Participants of Socialization of Journal Introduction listened to speech of Dir. PPM Tel-U, Angga Rusdinar, S.T., M.T., Ph.D.

ALTHOUGH the acquisition of Scorpus Telkom University indexed paper has exceeded 1,000 papers, it does not mean that the academic community has relaxed their work ethic. In order to achieve the Excellent Research Quality, one of the indicators is shown by the number of publications, Tel-U is intensively building a culture of research. Various things related to efforts to increase publications are carried out.

One of them is through the Journal Knowledge Accreditation Sharing activity that presents the manager of Journal of Information System Engineering (JRSI), Dr. Irfan Darmawan. This activity was taken place in Bangkit Building Floor 5,



All of participants of Socialization of Journal Introduction

Wednesday (31/3). The event was held to make the journals owned by Tel-U could be indexable Scopus: Thomson Reuter, and others. The socialization was conducted considering the number of updates related to the registration of international journals. Tel-U itself has no less than 20 national and international journals.

On that occasion, the Director of Research and Community Service (PPM) of Tel-U Angga Rusdinar, S.T., M.T., Ph.D, was accompanied by the Manager of Research and Publication Eka Widhi Yunarso, S.T., M.MT. A total of 20 research lecturers and several journal managers in Tel-U participated in the socialization activity.

"Responding to many updates of international journals so that Tel-U lecturers are not confused when they want to register their international journals, PPM accommodates these activities, so that all lecturers understand and comprehend the procedures and stages of registering their journals," Angga said as the speaker.

Angga Rusdinar, S.T., M.T., Ph.D (left) and Eka Widhi Yunarsho, S.T., M.MT.

On the other hand, Tel-U is indeed increasing the indexed journals. This is related to the goal of Tel-U in 2019 to reach the top 5 universities with the most indexed international journals in Indonesia.

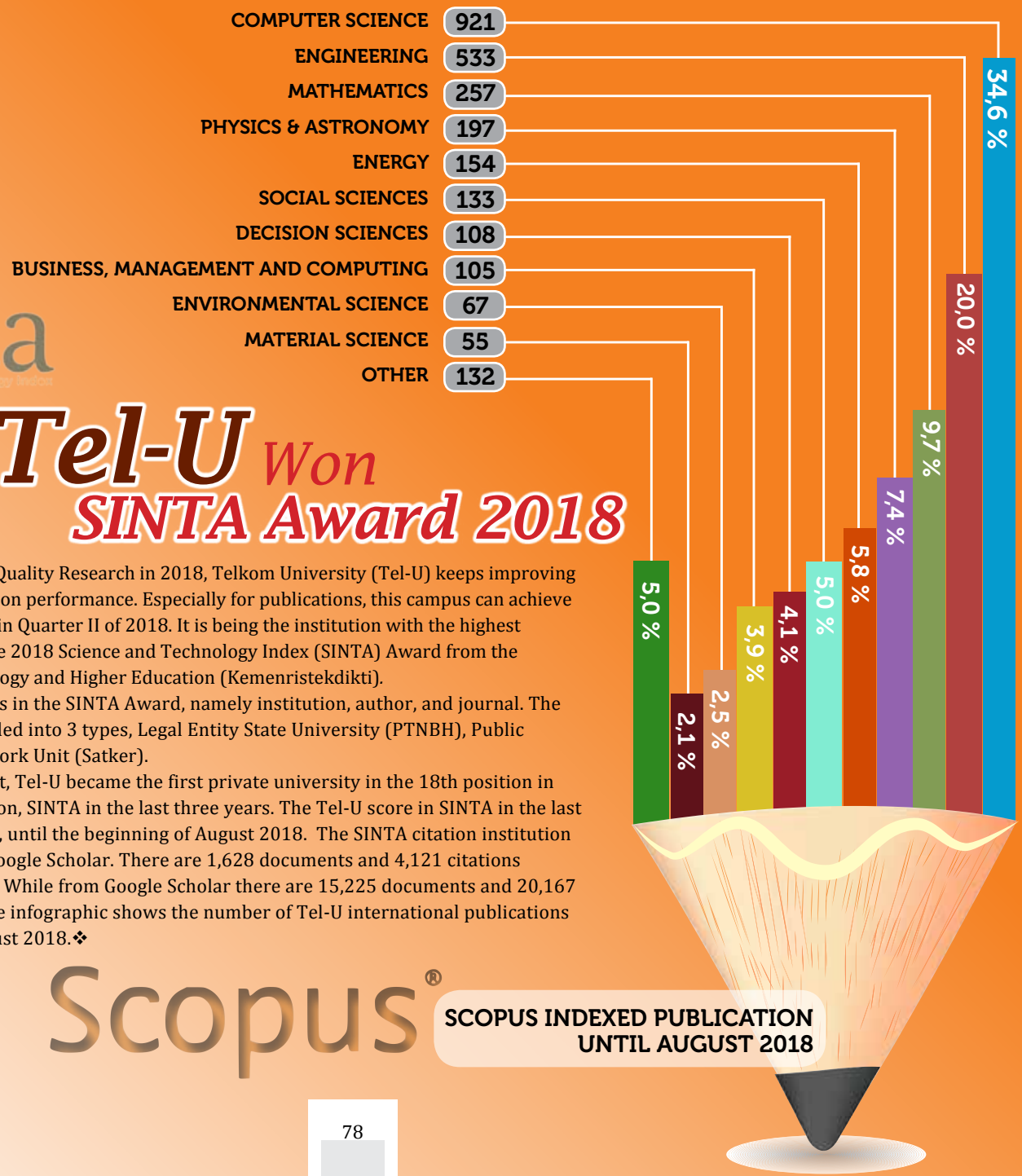
Angga also explained that the background of this research index plan is under the auspices of the Ministry of Research, Technology and Higher Education of the Republic of Indonesia. The aim is to create superior researches for the universities in Indonesia. "In addition, it also increases the competitiveness of doing research among universities in Indonesia. Under the direct instruction of the Rector of Tel-U, with the aim of placing Tel-U in the top 5 universities with the most indexed journals," he explained.

Tel-U is increasing the productivity of its journal achievements with great intense. In addition to the increasing number of research lecturers who are able to produce papers in indexed international journals, there are also many international conference activities organized by Tel-U itself. There are more than 10 international conferences from various fields held by Tel-U annually.

Among other things are ICoICT, ICoDIS, ISCLO, SCBTII, ICoTIC, ICSEB, ICCEREC, APWiMob, BCM, GTAR, and others.

Besides inviting academics and practitioners from several universities in Indonesia, in all the activities of the international conference Tel-U also always invites academics from foreign universities and practitioners regarding the fields to be referenced. ❖

INDEXED SCOPUS PUBLICATION 2018



Tel-U Won SINTA Award 2018

TOWARDS the Excellent Quality Research in 2018, Telkom University (Tel-U) keeps improving its research and publication performance. Especially for publications, this campus can achieve the exponential achievement in Quarter II of 2018. It is being the institution with the highest publication productivity in the 2018 Science and Technology Index (SINTA) Award from the Ministry of Research, Technology and Higher Education (Kemenristekdikti).

There are three categories in the SINTA Award, namely institution, author, and journal. The Institutional category is divided into 3 types, Legal Entity State University (PTNBH), Public Service Agency (BLU), and Work Unit (Satker).

Through this achievement, Tel-U became the first private university in the 18th position in the national citation institution, SINTA in the last three years. The Tel-U score in SINTA in the last three years amounted to 662, until the beginning of August 2018. The SINTA citation institution took data from Scopus and Google Scholar. There are 1,628 documents and 4,121 citations belonging to Tel-U in Scopus. While from Google Scholar there are 15,225 documents and 20,167 citations owned by Tel-U. The infographic shows the number of Tel-U international publications indexed by Scopus until August 2018.❖

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Make Citarum To Be Fragrant

The existence of Telkom University campus which is close to the Citarum River in the South Bandung area has its own problems. It is because every year the river overflows in the rainy season, causing flooding to the surrounding area. Although the campus area has never been flooded, some points and access roads around the campus have been disrupted. The condition of Citarum River from upstream to downstream seems very alarming. In fact, the river was once named the dirtiest river in the world by the environment activist from makechange.world, Gary Bencheghib.

Dr. Rina Pudji Astuti, M.T. deliver speech in the opening of KKN Tematik Citarum Harum.

FINALLY all elements immediately intervened to make the river fragrant again. In fact, the President of Indonesia, Joko Widodo, launched the Fragrant Citarum River in the upperstream in Cisanti area in February. Slowly the Citarum River was cleaned from plastic waste, domestic waste, to textile industry waste that were dumped directly into the river.

Keeping upwith the program, Tel-U together with Airlangga University (Unair) and The Indonesian Army (TNI), Siliwangi Division, Sector 7 participated in fixing the Citarum River through the Thematic Community Service Program (KKN), that is The Fragrant Citarum (Citarum Harum). This activity was funded by Directorate General of Belmawa of Kemenristekdikti and supported by Kopertis IV.

"We have done a great deal of time and efforts to reduce the pollution levels in the Citarum River, because the problems in this river are very complex. Among other things are the conversion of the upstream area of the river into the plantations, so that the discharge of water falls, also domestic waste, plastic waste, to textile industry waste that are still dumped directly into the river. Then, the sedimentation problem has caused siltation, so the river recedes in the dry season, but it immediately floods in the rainy season. We have tried to fix illegal buildings along the river. Improvements are made starting from the upstream, including reforestation, law enforcement for the disposal of textile factory waste, socialization to the community in the Citarum watershed, terracing, conversion of plantation farmers into forest guards, and many more," said the Sector 7 Commander of Siliwangi Division, Cavalry Colonel Purwadi at the opening of the Thematic KKN of the Fragrant Citarum (CitarumHarum), Monday (9/7) in Tel-U, K Building.

The activity of the Thematic Community Service Program (KKN) of the Fragrant Citarumtook place onsite for 2 weeks (July 9 – 20, 2018), involving 100 students of Tel-U and Unair who were accompanied by the team of Sector 7 Task Force of Siliwangi Division III.

Dr. Rina Pudji Astuti, M.T.

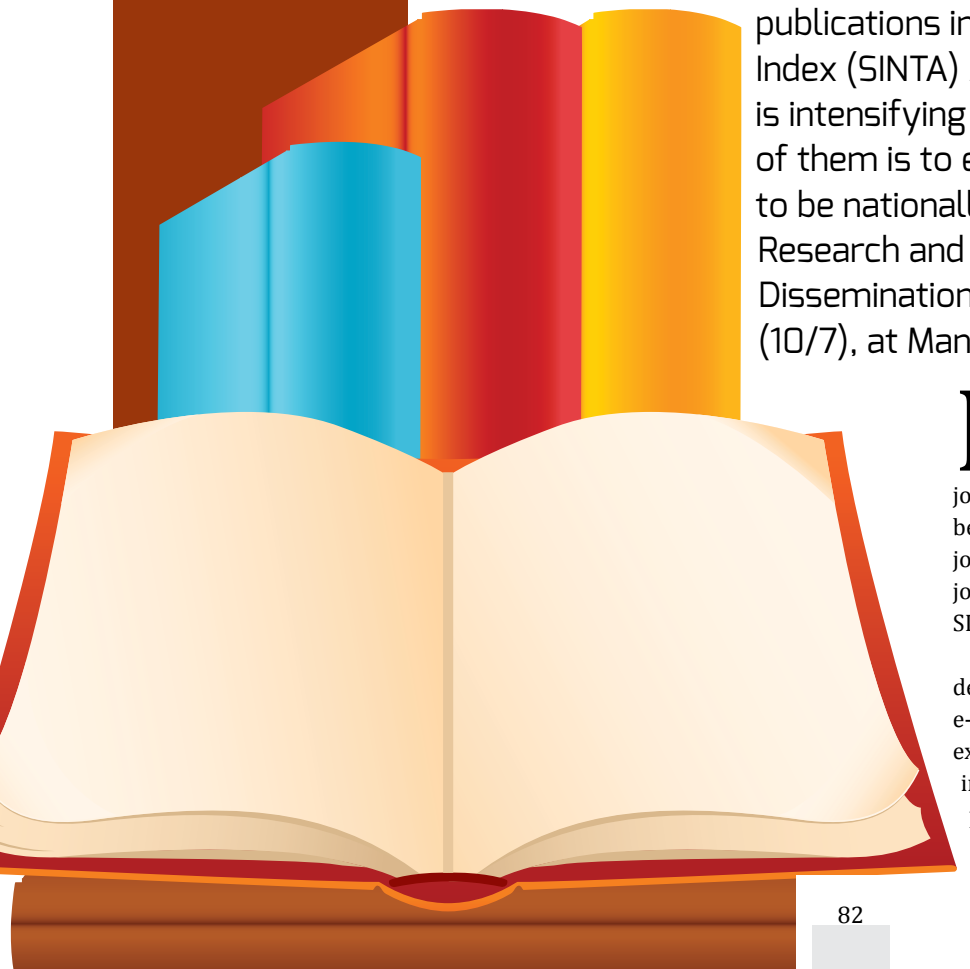
The Vice Rector IV in Research and Student Affairs, Dr. Rina Pudji Astuti, M.T., explained, "In this activity, students identify problems in community, then design the solutions to overcome the problems assisted by their supervisor. The essence of this activity is 3R (Reduce, Reuse, Recycle). This thematic KKN does not only stop for 20 days. This program already has its roadmap until 2020. We hope that the students can run the thematic KKN in accordance with the roadmap to completion. In fact, we have initiated such program since 2014 through the Program of Engineering Community Services in collaboration with Hanbat University from South Korea and several domestic universities. Through the identification of the problems in the community, this program conducts observation and research to find out the solutions and create something that is needed in community," said Rina.

The opening of Thematic KKN of the Fragrant Citarum was officially opened by the Rector of Tel-U,Prof. Ir. Moch. Ashari, M.Eng., Ph.D. with the Director of Learning of Directorate General of Belmawa Kemenristekdikti, Dr. Ir. Paristiyanti Nurwardani, MP, and symbolically marked with the handover of two tree seeds to students to be planted in the upper reaches of the Citarum River. ❖

Symbolic delivery of tree seeds to the student by Rector of Tel-U

Dr. Lukman S.T., M.Hum.

"Don't Improvise Writing in a Journal!"



Following the achievements of Telkom University (Tel-U) as the most productive university producing publications in the 2018 Science and Technology Index (SINTA) Award Kemenristekdikti, this campus is intensifying matters related to publication. One of them is to encourage 18 journals owned by Tel-U to be nationally accredited. Thus, Directorate of Research and Community Service (PPM) again held a Dissemination of Journal Accreditation Guide, Tuesday (10/7), at Manterawu Building, the 2nd Floor..

PRESENTING one of the national journal assessors who is also the LIPI researcher, Dr. Lukman S.T., M.Hum., this activity discusses various issues in managing journal to the requirements that must be fulfilled in order to be accredited. "One of elements of the SINTA assessment is the journal. Because of that reason, now you must know that the journal position that has been registered in ARJUNA is in the SINTA position," Lukman explained.

Lukman said that the aspects of journal evaluation were determined by the quality of publication and the related e-management of journal. For journal e-management, Lukman explained several mandatory elements that must have been included in the journal website display and in the papers published in the journal. Among other things were scope and

Participants of Socialization take photo with Rector Tel-U.

Dr. Lukman, S.T., M.Hum.

focus journals that were sometimes still not specific and misused. Secondly, there were still journals that did not have a unique style guide or style house in article writing rules. Then, the elements of journal, such as e-issn, guidelines, writing etiquette, editorial board, etc., must be easy to trace, the elements does not make difficult for the assessors.

"Before starting to publish or manage journals, a journal manager should visit websites and article displays that have been published on the established international journals, e.g. Elsavier, ScienceDirect, etc. So that the journal manager can see the writing rules in journals that must be available, like silahan title, genesis article (list of articles whose titles are same), to the procedures for citing (reference manager) and writing a bibliography. It is whether to apply APA Style, Chicago Style, Vancouver, IEEE, and many more. So, when there is an author who improvises and turns out to be misguided, the journal manager can at least tell the author to write according to the specified rules. Remember, don't improvise when writing an article in the journal, try to be consistent. This will affect the journal in the accreditation assessment proses," he continued.

Then, Lukman highlighted the composition of reviewers in several journals in Tel-U which were quite numerous and paid attention to the performance of the journal. "For the inclusion of qualifications of editors and reviewers, please do not just mention them to be a lot. But the listed reviewers must be able to be traced directly to their track record and primarily have a working performance in the journal in question. Then for the performance of the journal, it is currently seen from the statistics of visits and citations through the flag counter. When it is clicked, it must immediately show the statistics of visits and citation that can be seen up to per day," he said.

In the next session, Lukman entered the discussion of policies and general problems in journal. In this session, he conducted a case study on one of the Tel-U journals that hadn't applied for accreditation. As a result, there are still a few mistakes found and may affect the assessment of assessors while in the accreditation process. "All requirements for accreditation must be kept in a clear link, not to be hidden, such as e-issn placement on the Website front page, so it won't make the assessors confused and have to search again. Then, do a self-evaluation carefully, because the score on the self-evaluation will show the position of the journal in SINTA," he explained.

Lukman also advised the journals managers always to refer to official pages related to journals originating from the government, namely Rumah Jurnal Keilmuan (RUJUKAN), GARUDA, ARJUNA, and SINTA.

Meanwhile the Rector of Tel-U, Prof. Ir. Moch. Ashari, M.Eng., Ph.D., who was present with the Vice Rector IV for Research and Student Affairs, Dr. Rina Pudji Astuti, M.T., revealed, "Research and its output are the root of all potential increases in Tel-U to be more optimal. Hopefully this activity becomes the motivation for all journal managers in Tel-U," he hoped.❖

Congratulation for
Telkom University

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- As a Private University with Highest Institutional and Technological Innovation Strengthening in Indonesia and Received Widyapadhi Cup 2018 from Ministry of Research, Technology and Higher Education.
- As an Institution with Highest Publication productivity in category of Private University on Science and Technology Index (SINTA) Award 2018
- As The Best University version of Scimagoir, Webometrics & UniRank

SCIMAGO INSTITUTIONS RANKINGS

UniRank

Webometrics RANKING WEB OF UNIVERSITIES

Hopefully The Achievement and Existence of Telkom University Will Shine to The international Scale and Give Benefit to the Community!