



# STRATEGIC PLAN

FACULTY OF ENGINEERING  
BRAWIJAYA UNIVERSITY

**2021 – 2025**

Together, We Do The Best

# TEAM ORGANIZER

Director

1. Senate of the Faculty of Engineering
2. Dean of the Faculty of Engineering
3. Vice Dean for General & Finance
4. Vice Dean for Student Affairs
5. Quality Assurance Cluster Chair
6. Chair of Journal Publishing Board
7. Head of Information System & Public Relations
8. Head of Research & Community Service
9. Head of Administration

Person in Charge

Vice Dean for Academic

Chairman

Affairs Aris Subagiyo, ST,

Secretary

MT.

Member

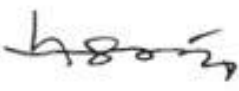
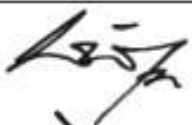


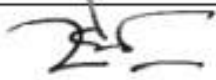
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# Endorsement Sheet

	BRAWIJAYA UNIVERSITY	UN10/F07/PR.01.02.d
		November 23, 2020
	Strategic Plan of the Faculty of Engineering, Universitas Brawijaya	0-th Revision
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## STRATEGIC PLAN FACULTY OF ENGINEERING BRAWIJAYA UNIVERSITY

Process	Person in Charge			Date
	Name	Position	Signature	
1. Formulation	Aris Subagiyo, ST, MT.	Head of FTUB RENSTRA Preparation Team		23-11-2020
2. Inspection	Ir. Rinawati P. Handajani, M.T., IPM	Secretary of the Senate		23-11-2020
3. Approval	Ir. Achmad Wicaksono, M.Eng., Ph.D.	Senate Chair		23-11-2020
4. Designation	Prof. Dr. Ir. Pitojo Tri Juwono, M.T., IPU.	Dean		23-11-2020
5. Control	Ir. Ishardita Pambu- di Tama, ST, MT, Ph.D.	Vice Dean for Academic Affairs		23-11-2020





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# Dean's Foreword

Praise Allah SWT, the Almighty God, for His grace and guidance so that we can complete the preparation of the Strategic Plan (RENSTRA) of the Faculty of Engineering, Universitas Brawijaya (FTUB) 2021-2025. The preparation of RENSTRA for every 5 (five) years is a mandate to the Dean as stipulated in the Rector Regulation of Universitas Brawijaya Number 53 of 2019 and the Strategic Plan of Universitas Brawijaya Year 2020-2024.

The Strategic Plan is a development plan related to preparing institutional strategies by taking into account internal strengths and weaknesses as well as external opportunities and threats that the Faculty of Engineering will face in the future. Based on this principle, the FTUB RENSTRA is prepared to face and win the competition in implementing service activities, especially engineering education.

RENSTRA FTUB begins by discussing and evaluating general conditions for achieving performance in previous years. This analysis is the main foundation for preparing institutional planning elements. This discussion is then followed by an analysis of several strategic issues that will or are affecting the future development of the institution's development process.

As a whole, this RENSTRA describes FTUB's general condition, evaluates its previous period's achievements accompanied by internal and external analysis, and provides the vision, mission, goals, and objectives that will determine FTUB's policy strategy in the next five years. It also includes excellent work programs to support FTUB's achievement of its reputation at the global level.

The vision and mission of FTUB for the 2021-2025 period were prepared by taking into account various internal and external dynamics of the Faculty, including the Performance Contract assigned by the Ministry of Education and Culture and the Rector of UB, as well as developments in the international environment which are an integral part of efforts to achieve world-class quality standards with sound governance principles.

With the preparation of this RENSTRA, the development of the Faculty, all departments, and study programs has a clear and measurable direction. The benchmark of success for FTUB's performance will be achieved if all academicians support each other and collaborate to realize the planned programs.

We want to thank the FTUB Senate for providing input and endorsement of this RENSTRA. We also express our gratitude and appreciation to all parties for their participation and role in preparing this RENSTRA. We hope that this RENSTRA will guide the steps of all FTUB academicians to jointly improve FTUB's reputation and contribute to the development of the nation and country that we love.

Malang, November 2020  
Prof. Dr. Ir. Pitojo Tri Juwono, MT, IPU.



# Chapter 1

# Introduction

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The Strategic Plan of the Faculty of Engineering, Universitas Brawijaya 2021-2025 is the result of collaborative thinking from the FTUB academic community in the Tri Dharma of Higher Education and institutional governance to realize a road map for the development of FTUB in the next five years. Periodically, the Dean of FTUB prepares RENSTRA through a process involving various parties' roles to realize a policy direction representing multiple thoughts from the academic community. This involvement is a form of positive collaboration that the organization must carry out to face the challenges of an increasingly complex world.

The preparation of the FT UB 2021-2025 Strategic Plan is based on:

1. Law of the Republic of Indonesia Number 12 the Year 2012 on Higher Education;
2. National Medium-Term Development Plan (RPJMN) IV 2020-2024;
3. Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 3 of 2020 concerning National Higher Education Standards;
4. Permendikbud 5 of 2020 concerning Accreditation of Study Programs and Higher Education;
5. Permendikbud 7 of 2020 concerning the Establishment, Change, and Dissolution of State Universities, and
6. Establishment, Change, and Revocation of Private Higher Education License;
7. Ministry of Education and Culture number 83 of 2020 concerning International Accreditation Bodies;
8. SE Director General of Higher Education number 529/E.E3/PJ/2020 concerning Clustering of Higher Education in 2020;
9. Decree of the Minister of Education and Culture of the Republic of Indonesia Number 754/P/2020 concerning Key Performance Indicators of State Universities and Higher Education Service Institutions within the Ministry of Education and Culture in 2020;
10. Regulation of the National Accreditation Board for Higher Education Number 3 of 2019 concerning Higher Education Accreditation Instruments;
11. Regulation of the National Accreditation Board for Higher Education Number 5 of 2019 concerning the Accreditation Instruments Study Program;
12. International Ranking Criteria by QS, THE, and Webometrics;
13. Regulation of the Rector of Universitas Brawijaya Number 25 of 2020 concerning Organizational Structure and work procedures;
14. Strategic Plan of Universitas Brawijaya 2020-2024;
15. Strategic Plan of Faculty of Engineering Universitas Brawijaya 2011-2020; 1s. Performance Contract of the Dean of FTUB with the Rector of UB, as well as
16. Self-evaluation results describing FTUB's strengths, weaknesses, opportunities, and threats.

The preparation of the RENSTRA begins with the formation of the RENSTRA Team, which represents the academic community of the Faculty of Engineering with the hope of finding problems, challenges, and opportunities in each work unit. Furthermore, armed with data and evaluation of the previous period's performance, it can be known how the current position is as a starting point for building the next five years. Referring to the development policies set by the Ministry of Education and Culture, the RENSTRA of Universitas Brawijaya, and discussions with the leadership of the Faculty of Engineering, the FTUB RENSTRA was prepared. A series of meetings were held with faculty leaders, department leaders, institutions, alums, and working partners, which became the basis for determining the RENSTRA of the Faculty of Engineering.





This RENSTRA was prepared to serve as a guideline for realizing FTUB's Vision and Mission and increasing FTUB's reputation globally through its role in producing superior human resources (HR). FTUB has created thousands of alumni who have spread in various sectors, supporting the development of the nation and state. In addition, this RENSTRA is an answer to the challenges of the dynamics of the world of education at the national and international levels. The rapid development of engineering science, the need for various job sectors for competent graduates, and the Industry 4.0 era must be prepared by preparing a resilient, flexible, and agile system, which is summarized in the policy strategies contained in this RENSTRA.

# General Conditions

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Faculty of Engineering Universitas Brawijaya (FTUB), located in Malang City, East Java Province, is one of the A-qualified faculties on the campus of Universitas Brawijaya. FTUB was officially established on October 23, 1963, based on Minister of PTIP Decree No. 67 Year 1963. Currently, FTUB holds 9 Departments (Civil Engineering, Mechanical Engineering, Irrigation Engineering, Electrical Engineering, Architecture, Urban and Regional Planning, Industrial Engineering, Chemical Engineering, and Engineering Profession) that oversee 8 Undergraduate Study Programs, 1 Diploma IV Study Program, 6 Master Study Program, 3 Doctoral Study Programs, and 1 Professional Engineer Study Program (PS PPI).

FTUB is supported by 274 lecturers, including civil servants and non-civil servants. Meanwhile, 129 teaching staff members are both civil servants and non-civil servants. Supporting elements in FTUB consist of the Research and Community Service Agency (BPPM), Journal Publishing Agency (BPJ), and Information System and Public Relations Manager (PSIK). The Quality Assurance and Quality Inter Audit elements consist of the Quality Assurance Group (GJM) at the Faculty level and the Quality Assurance Unit (UJM) at the Department level.

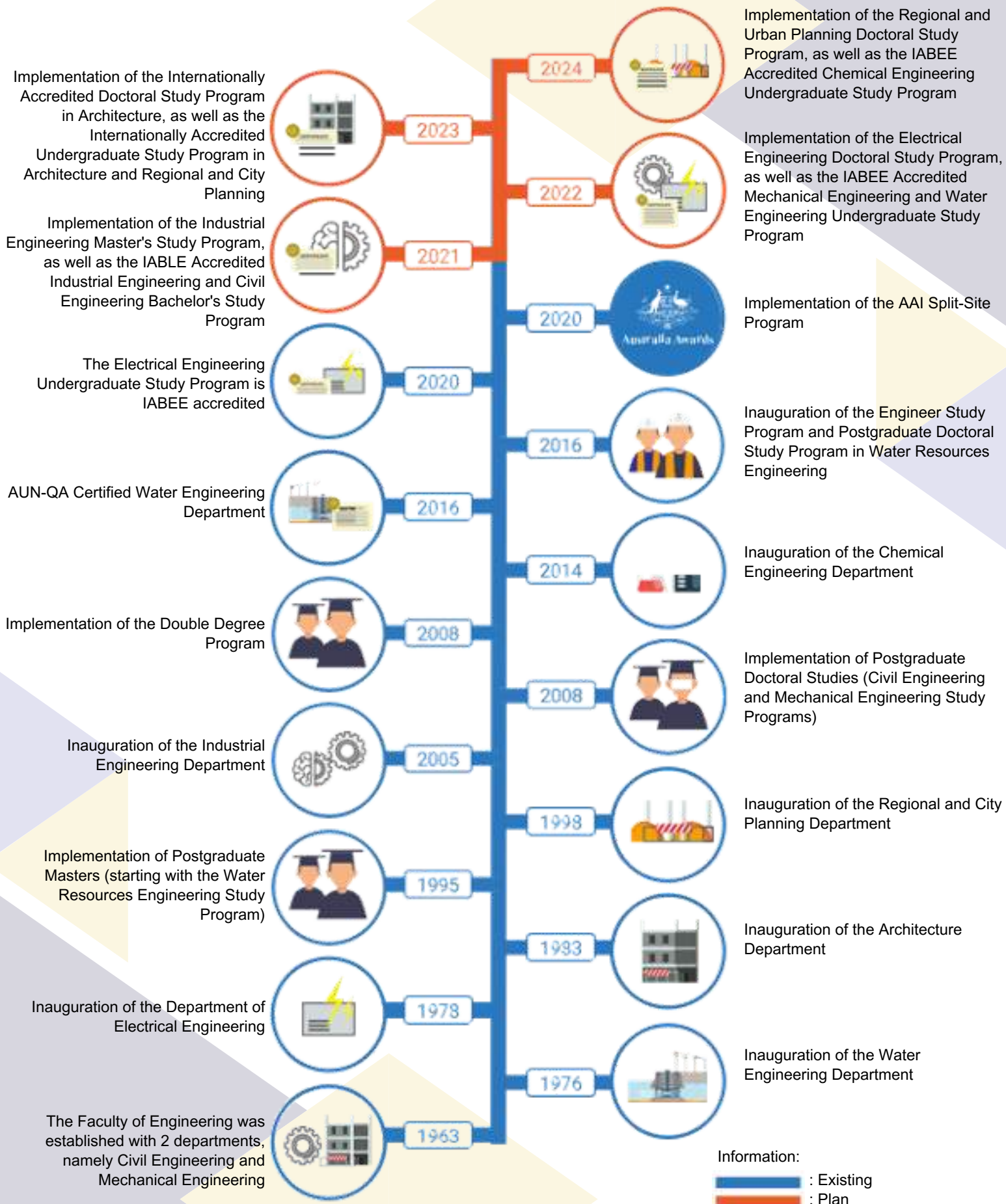
Since its establishment, FTUB has always been committed to organizing a quality education process and producing excellent graduates. Every process, from input to output, is designed according to higher education quality standards and evaluated continuously. Through the synergy between the Study Program, as the education organizer, and the Quality Assurance Group (GJM), as a quality control institution, the quality of education is improved to achieve the target of national and international accreditation standards.

FTUB also plays an active role in developing science in engineering and helps solve community problems through research and community service activities. Together with the Research and Community Service Agency (BPPM) and in collaboration with partners, FTUB academicians carry out these activities regularly. Various works of FTUB academicians in the form of designs, constructions, and patents have been produced and applied to overcome multiple engineering problems at the national and international levels.

On October 23, 2012, the FTUB Deanery building was inaugurated as a service center for administrative activities within FTUB. Establishing this building provides added value to the institution's governance to realize fair, transparent, accountable, responsible, and credible governance. In addition, each field in the FTUB organizational structure, which includes the Academic Division, General and Financial Division, and Student Affairs Division, carries out its duties supported by Standard Operational Procedure (SOP), which has been socialized to all academicians so that the implementation of governance can be realized according to the expected quality standards.

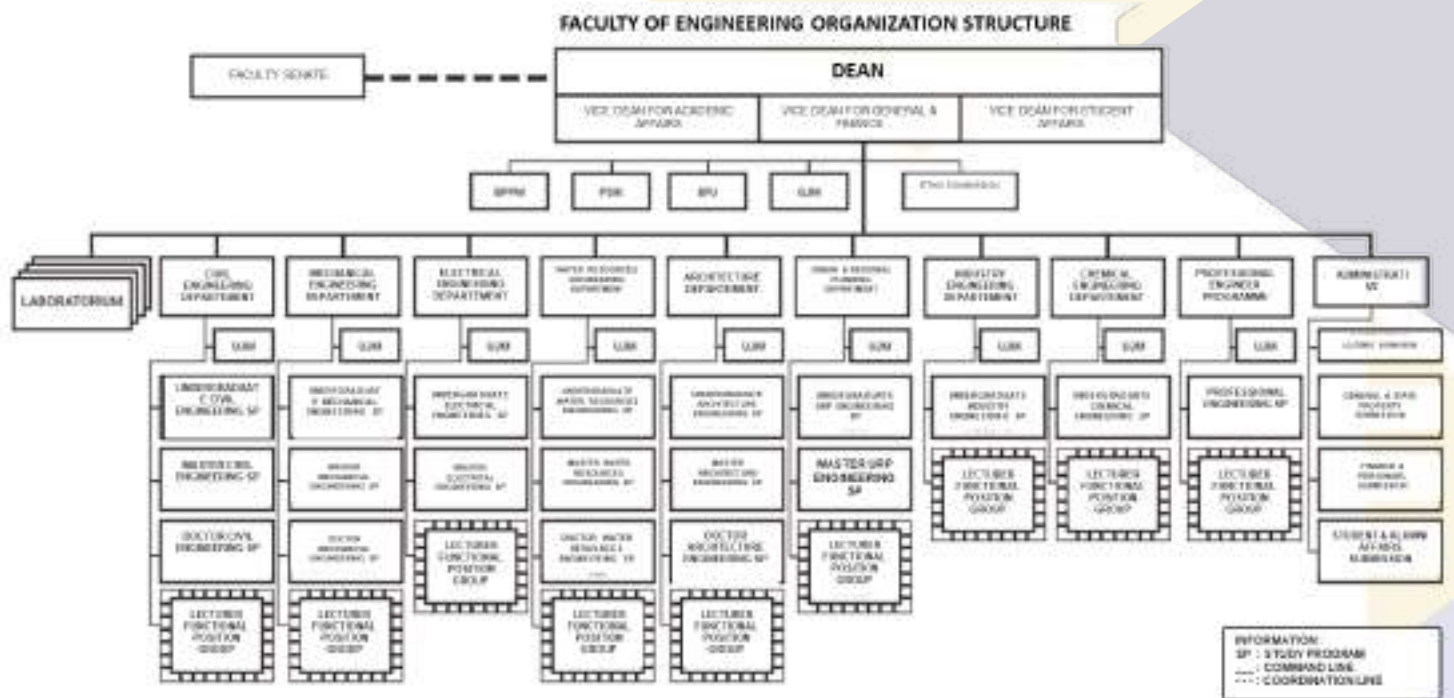
FTUB continues to improve itself in terms of systems and human resources to realize the next generation of a qualified, superior, and competitive nation and make scientific contributions, especially in the field of engineering, to support the development of the nation and state in accordance with the law's mandate.

# Milestone FTUB





# Organization Structure



The organizational structure at the Faculty of Engineering of Universitas Brawijaya has been adjusted by the Regulation of the Minister of Research, Technology and Higher Education of the Republic of Indonesia Number 4 of 2016 on the Organization and Work Procedure of Universitas Brawijaya and the Regulation of the Rector of Universitas Brawijaya Number 25 of 2020 on the Organization and Work Procedure.

The main tasks and functions at the Faculty of Engineering refer to the Regulation of the Chancellor of Universitas Brawijaya Number 25 of 2020 concerning Organizational Structure and Work Procedures. The Faculty is tasked with organizing Tri Dharma Perguruan Tinggi and other supporting activities and organizing and managing academic and professional education in one or several trees/groups of engineering sciences.

In carrying out its duties, the Faculty of Engineering organizes functions: a) implementation and development of education within the Faculty of Engineering; b) implementation of research for the development of Engineering; c) implementation of community service; d) implementation of academic community development; and e) implementation of administrative affairs. The Faculty is led by the Dean and accompanied by 3 (three) Vice Deans, namely the Vice Dean for Academic Affairs, the Vice Dean for General Affairs and Finance, and the Vice Dean for Student Affairs.

The Administration Department assists the Faculty's leadership, which carries out planning, finance, academics, student affairs, staffing, management, housekeeping, state property, and reporting within the Faculty. The main task of the Head of Department is to plan and evaluate the implementation of education carried out by lecturers in the department. The Quality Assurance Unit (UJM) is tasked with monitoring and assessing the quality of teaching, research, and community service and managing Faculty and study program quality assurance.

# Chapter 2

## Evaluation of Work Achievements

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The Faculty of Engineering Strategic Plan for the 2011-2020 period sets out five strategic issues, namely (1) improving the quality of inputs, processes, and outputs; (2) organizational restructuring; (3) increasing competitiveness at the international level; (4) resource management; and (5) funding, accountability and transparency. Based on these five strategic issues, the program is elaborated, and its success is assessed based on the performance index targeted each year. There are 26 program targets that were launched to realize the vision and mission of the previous period by considering the five strategic issues. These programs have been implemented in general, and there are still opportunities to continue relevant programs and improve performance through new programs.

On the issue of improving the quality of inputs, processes, and outputs, supporting programs have been implemented, such as establishing a balanced ratio between students admitted through national selection and self-selection, optimizing lecturer performance evaluation, implementing an OBE-based curriculum (Outcome Based Education), increasing the role of laboratories from practicum laboratories to research support laboratories, improving the quality and quantity of infrastructure facilities in the context of implementing synchronous and asynchronous learning, increasing the number of reputable scientific publications both at national and international levels in the form of journals and books.

Organizational restructuring is carried out through the implementation of a comprehensive Internal Quality Assurance System (SPMI) in all Faculty of Engineering work units, periodic implementation of Quality Internal Audits (AIM) in all Faculty of Engineering work units according to UB quality standards, implementation and supervision of an integrated document system, and budget independence to support the achievement of performance contracts, national and international accreditation, and university rankings.

The entire Faculty of Engineering academic community is increasingly competitive at the international level. Every faculty member at the Faculty of Engineering has implemented the 3inONE Program, which involves foreign lecturers as visiting professors for one semester at Brawijaya University. In addition, the trend of student mobility (inbound and outbound) is also increasing. Support to lecturers is carried out through the role of BPPM to manage research and community service activities and BPJ to help lecturers produce reputable journal publications. Faculty of Engineering's support to students is carried out by providing funding assistance for student participation in international scientific competitions.

Faculty of Engineering continues to manage resources by encouraging Faculty of Engineering lecturers to obtain the highest level of education, namely a Doctoral degree, and accelerating the Head Lecturer and Professor program. Lecturer performance evaluation continues to be carried out and communicated so that lecturers, as the core of the system, play an active role in improving their competence. In addition, Faculty of Engineering also encourages educational staff to enhance their expertise to provide excellent service.

Funding, accountability, and transparency at FTUB are carried out systematically through planning, implementation, reporting, and supervision. Fund management is carried out with discipline, and reporting is carried out on time. BPK findings can be followed up 100%, and the findings are not repeated in the following period.

# Internal & External Analysis

Institutional performance can be measured through the achievement of plans prepared in the previous period. The performance indicators of the Faculty of Engineering, Universitas Brawijaya, can be measured through (1) 26 strategic goals/program goals/activity goals contained in the 2011-2020 Strategic Plan, which are derived from the Vision, Mission and Strategic Goals and (2) 40 performance indicators which are the Performance Contract between the Dean and the Rector.

## PERFORMANCE AGAINST THE 2011-2020 STRATEGIC PLAN

In the Strategic Plan document for the 2011-2020 period, 26 strategic targets/program targets/activity targets are described, followed by 26 IKSS/LKP/IKK. Each indicator has a performance target and budget allocation per year. At the end of 2020, 22 out of 26 (84%) IKSS/LKP/IKK have been successfully achieved. The following table shows the results of FTUB's performance achievements in 2020 against the Strategic Plan for the 2011-2020 period. The indicators that have not been achieved are:

1. 8th IKSS/LKP/IKK about the number of PKM proposals that passed PIMNAS
2. 11th IKSS/LKP/IKK on improving lecturer qualifications (percentage of lecturers with Doctoral academic degrees)
3. 21st IKSS/LKP/IKK about the number of journals in Faculty of Engineering
4. 24th IKSS/LKP/IKK about the number of research groups (RG) in Faculty of Engineering

Table of Performance Achievements against STRATEGIC PLANNING FTUB 2011-2020

No.	Strategic Goal/Program Objective / Target Activity	IKSS/ LKP/IKK	2020 Target	2020 Outcomes
	Has a very clear and very realistic Vision, Mission, Goals and Objectives	Increase website capacity to better explain Vision, Mission and Goals	0,1	>0,1
2.	Socialization of Vision, Mission, Goals and Objectives can reach alumni and service users abroad	Development of a multilingual website equipped with a comment/suggestion facility	Other languages required	Bilingual
3.	Healthy, dynamic, and change-responsive organizational structures and systems are in place	Improved organizational governance	Improvements	Implemented
	The Internal Quality Assurance System has been running effectively	Improved implementation of the Internal Quality Assurance System (SPMI) in all FTUB work units	100%	100%
5.	All old study programs are accredited A, and the new ones are accredited B	Improved monitoring and evaluation of the FTUB work unit document system to support BAN-PT Accreditation	2x per year	2x per year
6.	The realization of good organizational, operational and public leadership in FTUB	Periodic implementation of Internal Quality Audit (AIM) in all FTUB work units according to UB quality standards	1x per year	1x per year
7.	Increased number of scholarship recipients for outstanding and underprivileged students for each year	Facilitate students to improve soft skills in accordance with the demands of life needs	8 activities or each set 1x per set	>8 activities
8.	The fulfillment of a competency-based learning process consistently and consequently	Increased student involvement in preparing PKM proposals, passing funded, passing PIMNAS	375 proposals, 75 funded, 10 passed pimnas	404 proposals, 19 funded, 7 passed pimnas
9.	The availability of a database system based on knowledge management and ICT, as well as professional management so as to realize an effective and efficient communication network between FT, alumni, and other stakeholders	Integrating student activity data and graduate competencies into the FTUB database	100%	100%
10.	Established various collaborations with alumni in the field of Tri Dharma Perguruan Tinggi	Cooperation with the profession to monitor the Learning Outcomes of the Study Program	1 cooperation per study program	1 cooperation per study program
11.	Having human resources Lecturers who have good performance, high dedication and loyalty to their institutions	Improved lecturer qualifications	ratio of S3 lecturers: total lecturers >50%	ratio of doctoral lecturers: total lecturers 47%
12.	Having Education Personnel human resources who are capable and highly skilled and loyal to their institutions	Improving the quality of training for Education Personnel to support Excellent Service	1x	1x



No.	Strategic Goal/Program Objective / Target Activity	IKSS/ IKP/IKK	2020 Target	2020 Achievements
13.	Having a competency-based curriculum that produces highly competitive graduates.	Develop learning plans and conduct continuous monitoring and evaluation	LO Updating	Implemented
14.	Have efficient and effective learning tools.	Supervision and improvement of device quality	1x per semester	>1x per semester according to department submission
15.	Increased patents, scientific publications and book writings	Provision of incentives for writing research proposals to external bodies, journals and patents	60 prop research; 10 patent proposals	Achieved
16.	The Study Program has a plan for the allocation and management of funds in accordance with the proportionality of their respective budget revenues.	Evaluation of funding allocation needs of each Study Program	1x meeting per semester	Meeting >1x per semester
17.	Operational funds for standardized education, research, and community service activities	Increased promotion of the Faculty, Study Programs, human resources, research results and community service, and laboratories through the website and in the form of printed media (souvenir brochures)	Updating	Implemented
18.	Availability of facilities, space, facilities and infrastructure for educational activities, research, community service that meet standards	Periodic evaluation and maintenance of equipment that supports education, research and community service.	1x per year	>1 x per year
19.	Increased student achievement	Facilitating students to improve the field of reasoning to support academic achievement through participating in national competitions organized by DIKTI and universities in Indonesia.	Assistance	Implemented
20.	Increased number and quality of infrastructure for the learning process (including library materials, learning facilities) and research in accordance with the provisions of various standards	Reorganize and develop infrastructure	1 x per year	>1 x per year
21.	Producing service/community service activities of study program lecturers and students that benefit stakeholders (cooperation, work, research, and utilization of expertise services/products)	Optimizing the role of the Publishing Agency	22 journals	9 journals
22.	Increased operational funds for the maintenance of educational facilities and infrastructure, research and community service.	The realization of ICT-based information systems for various fields (finance, facilities and infrastructure, research, community service, regulations related to the management of the education system)	Updating	Implemented
23.	Increasing information systems, e-learning facilities for education, research and community service.	Realization of learning space & media e-learning or v-learning to support international learning system	100%	100%
24.	Produce high productivity and quality of research results of lecturers in research activities, service / community service, and cooperation, and student involvement in these activities.	Develop a PKM roadmap that fulfills the Faculty Vision.	2 RG per yrs/program	7 RG
25.	Producing service/community service activities of study program lecturers and students that benefit stakeholders (cooperation, work, research, and utilization of expertise services/products).	Optimizing the role of the Publishing Agency	22 journals	10 journal
26.	Produce the number and quality of effective collaborations that support the implementation of the mission of the Study Program and institution and the impact of cooperation for the implementation and development of the Study Program.	Increase research funded by FT external funding sources	52 titles	198 titles (internal and external funding)

## PERFORMANCE AGAINST PERFORMANCE CONTRACT 2020

At the end of 2020, the Faculty of Engineering of Brawijaya University (FTUB) successfully fulfilled 37 out of 40 (93%) performance indicators that became the performance contract between the Dean of the Faculty of Engineering and the Brawijaya University Chancellor. FTUB also ranked first as the largest contributor to FTUB's performance achievement to UB's performance achievement of 12.7% to support higher education ranking. The indicators that have not been achieved are:

1. A7 on the Percentage of Lecturers with the Position of Head Lecturer
2. A15 on Number of Nationally Indexed Reputable Journals
3. C12 on Number of "A" Accredited Study Programs

FTUB Performance Achievement Table 2020

Code	Work Indicators	Unit	Target	Outcomes
<b>A</b> Derivative Contract of Brawijaya University Contract-KemenristekDIKTI				
1	Number of students who are entrepreneurs	student	29	221
2	Percentage of Graduates with Professional Competency Certificate	%	90	91
3	Percentage of A Accredited Study Programs	%	5	58
4	Number of Outstanding Students	student	40	211
5	Percentage of Graduates who are Employed	%	26	36
6	Percentage of S3 Qualified Lecturers	%	43	46
7	Percentage of Lecturers with the Position of Head Lecturer	%	24	23
8	Percentage of Lecturers with Professor Position	%	5	5,5
9	Number of International Publications	article	80	227
10	Number of IPRs registered	IPR	4	48
11	Number of R&D ProtoGes	prototype	1	18
12	Number of Industrial Prototypes	prototype	1	4
13	Number of Citations of Scientific Works	Citation	2605	4978
14	Number of Nationally Indexed Reputable Journals	journal	9	8
15	Number of Reputable Journals Indexed by Glcöal	journal	0	0
16	Number of Innovation Products	prototype	0	0
17	Percentage of Quantity of Follow-up on BPK Findings	%	100	100
18	Percentage of Follow-Up on Rupiah Value of BPK Findings	%	100	100
<b>B</b> Derivative Contract of Brawijaya University Contract-BLU				
1	Ratio of PNBP Revenue to Operating Costs	%	85	100
2	Total BLU revenue from education services	Rp.M	50	51
3	Total BLU Revenue from Cooperation	Rp.M	20	27
<b>C</b> Derivative Contracts from Brawijaya University's Strategic Plan				
1	International Seminar	activities	4	4
2	OutLound Student	student	7	143
3	InLound Student	student	3	9
4	International Journal Publishing Faculty	journal	1	1
5	Number of Foreign Lecturers(V/öting Professorj	people	3	12
6	Number of publications deh Professor	article	14	32
7	Number of Doctoral Publications - Head Lector (GB Acceleration)	article	18	50
8	Number of Doctoral PuMications	article	28	77
9	International Research Cooperation	faculty	1	3
10	Number of Internationally Accredited Study Programs	Study Program	1	1
11	Number of Lecturers who participated in International Conferences	lecturer	17	100
12	Number of A Accredited Program Study	Study Program	12	11
13	Number of National Cooperations	unit	53	65
14	Number of International Cooperations	unit	6	18

# Situation Analysis

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FTUB's achievements until the end of 2020 illustrate the current condition of FTUB's development in implementing the Tri Dharma of Higher Education and institutional governance. These conditions are used to develop a situation analysis that serves as a reference for defining problems, determining strategies, and developing future programs. The accuracy and depth of a situation analysis are essential for deciding problem priorities as the first step in planning FTUB's strategy and policy direction for the next five years.

## Internal Situation

### 1. Strenghts

- FTUB guarantees the quality of education: 92% of Undergraduate Study Programs have been accredited A from BAN-PT, AUN-QA and IABEE have internationally accredited 2 Undergraduate Study Programs, and 70% of Master's Study Programs have been accredited A from BAN-PT.
- FTUB has the autonomy to manage the education system so that curriculum, infrastructure, and student interests and talents are developed dynamically to anticipate changes that occur. Currently, the Study Program at FTUB has implemented the OBE curriculum to ensure the achievement of Learning Outcomes in graduates.
- FTUB has implemented Internal Quality Audits and institutional governance processes that are fair, transparent, accountable, responsible, and credible. These processes involve all stakeholders in providing input for continuous improvement.
- FTUB's human resources consist of 274 lecturers and 129 education staff who are competent, loyal, highly motivated, and uphold the Professional Code of Ethics.
- FTUB admits students with a strict and structured selection method to maintain the quality of the incoming students. The ratio of students enrolled and accepted each year reaches an average of 1 9, indicating that FTUB has a high demand. The distribution of FTUB students comes from various parts of the country, meaning the community widely recognizes it.
- FTUB builds graduate competencies through the Professional Engineer Program and certification of expertise by building cooperation with professional associations in each Department.
- FTUB students actively participate in and win national and international competitions. The number of student achievements has increased by 5% every year.
- FTUB has strong ties with the Alumni of the faculty of engineering association, Universitas Brawijaya Association; this has resulted in a quick recruitment process for graduates and continued support for FTUB's progress.
- FTUB is committed to continuing to conduct innovative, valuable, internationally reputable research in engineering that has the potential to be developed into patents and Intellectual Property Rights. This is shown by accepting FTUB lecturers' research in national and international competition grant schemes. FTUB has produced innovative products, including 21 lecturer product innovations, 42 lecturer book innovations, and 36 student innovations.



- At the end of 2020 the number of international collaborations between FTUB and foreign universities increased and was accompanied by the implementation of this collaboration in the form of student exchange and international research collaboration.
- Community service activities are carried out annually in the context of one field and across fields. FTUB has 25 assisted villages that still have the potential to improve their welfare.
- Well-established cooperation with district/city, provincial and state-owned enterprises, providing space for lecturers to be active in the industrial world.

## 2. Weaknesses

- The percentage of lecturers with Doctoral academic degrees (47%) and functional titles of Head Lecturer and Professor (6%) is still not ideal, so it becomes an obstacle in balancing the Tri Dharma assignment.
- The curriculum at FTUB has just started to accommodate the Merdeka Belajar Kampus Merdeka (MBKM) policy, allowing students to choose courses across departments or scientific fields.
- Only 10% of FTUB laboratories have become research laboratories, serving collaborative research and research on external requests (industry and government).
- Lecturers at FTUB have yet to utilize information technology to conduct online learning comprehensively and still need assistance understanding the use of UB's Virtual Learning Management (VLM).
- Postgraduate Study Programs still need accreditation from BAN-PT, the number of enthusiasts in the Postgraduate Study Program has not increased significantly, and one journal in the SI study program has not been nationally accredited.
- The number of international students at FTUB is relatively tiny. The student exchange program was only actively implemented in 2018, and the global class program has yet to be fully implemented in each department.
- FTUB's laboratories have yet to entirely meet the standards for research laboratories and receive external cooperation because most of them are still utilized as practicum laboratories.
- Revenue management still relies on public funds, so it needs to be optimized from other sources of income.
- The data transfer process in administration and finance has yet to be fully integrated by utilizing information technology, so there is still a risk of lost and inappropriate data.
- Most of the research results at FTUB have yet to reach the innovation product criteria, namely having an Innovation Readiness Level (KATSINOV) 6.
- The research roadmap must remain clear on the scientific clusters and the development direction. Hence, research's contribution to society still needs to be significant.
- There is still a lack of linkage and match between campus activities (research and service) and the needs of the community.

# External Situation

## 1. Opportunities

- Educational autonomy and advances in information technology allow the Faculty of Engineering, Brawijaya University, to develop a world-class curriculum and learning systems based on information technology, especially in leading scientific fields.
- The 3in0NE program launched by UB is a starting point to increase international cooperation in research, produce internationally reputable publications, and improve the image of Faculty of Engineering, Brawijaya University lecturers.
- The Faculty of Engineering, Brawijaya University's good credibility in the eyes of the community provides the potential for community service activities carried out by lecturers and students.
- The industrial sector needs competent university graduates and lecturers, which can be obtained from the internship program launched by the Ministry of Education and Culture through Kampus Merdeka.
- The transition of UB's status to PTNBH allows the Faculty of Engineering, Brawijaya University, to make institutional and management improvements faster.
- The dynamics of society are constantly evolving, and the nation's problems are increasingly complex.
- It opens a challenge to provide engineering solutions through the role and results of scientific thinking of Faculty of Engineering, Brawijaya University lecturers.
- There is a broader potential and opportunity to obtain research through international grants and to publish in reputable international journals.
- Information technology has great potential for inviting foreign lecturers and practitioners to improve the quality of learning and research collaboration.
- The Faculty of Engineering can take many scholarship schemes, and Brawijaya University lecturers to do further studies and get a Doctoral degree.
- The alumni network spread across the world and industry sectors is an excellent opportunity for collaboration to develop advanced learning and research implementation that is mutually beneficial for both parties.

## 2. Threat

- The era of globalization, which has led to the entry of foreign universities into Indonesia that are more modern in curriculum and management, is a challenge for the Faculty of Engineering, Brawijaya University, to compete openly.
- The demand for university graduates to be certified in the field of engineering before entering the world of work must be met by preparing a suitable scheme that responds to the Faculty of Engineering, Brawijaya University.
- Higher education ranking indicators have changed with a more significant proportion of international performance output achievements, such as international students, foreign lecturers, and reputable international publications.

- Excellent universities can innovate in managerial and curriculum restructuring, creating study programs that are more relevant to the world of work.
- The massive development of technology and the digital world makes it challenging for the entire academic community to utilize this technology productively for curriculum, learning media, and institutional governance.
- The decline in the nation's next generation's interest in becoming lecturers and true learners is due to the offer of other more promising jobs.
- Changes in the community's way of life, values, and ethics make conducting a more modern social risk assessment challenging, especially during and after a pandemic.

The analysis of internal and external conditions describes the current condition of the Faculty of Engineering, Brawijaya University and its achievements based on data and facts that have been categorized into strengths, weaknesses, opportunities, and challenges. Based on this information, the Faculty of Engineering, Brawijaya University, develops strategies and policy directions that will be used as the basis for implementing work programs for the next five years.

In education, the national policy of the Merdeka Campus significantly influences innovative engineering education. Restructuring the curriculum into the Merdeka Belajar curriculum is a significant concern, in addition to strengthening the curriculum to achieve superior national and international accreditation criteria. Information technology provides a new colour to the knowledge transfer process, which has so far more often used offline methods. Internationalization is still a serious concern due to increasing follow-up cooperation in Tri Dharma activities such as student mobility, joint research, visiting professors, etc.

Improving the quality of research and community service is directed at producing innovative research topics. To achieve this target, collaboration is one of the essential strategies to increase the quality and number of research and community service activities. Innovation based on local wisdom is the soul of the Faculty of Engineering, Brawijaya University researchers, to produce scientific work that is not only superior but also has a positive impact on society. As a researcher in the engineering field, the output target of research and community service must continue to be improved into a tangible form through certified and patented innovation products. This can be realized if the laboratory becomes a research centre. There is a directed research and community service roadmap and an increase in the quality of human resources to become agents of innovation.

In its journey, the Faculty of Engineering at Brawijaya University has continuously improved to realize effective and efficient institutional governance. The organization has implemented a structured managerial process by the P-P-E-P-P cycle. However, effectiveness and efficiency continue to be carried out by utilizing information technology to process data and information and assist the performance of human resources.

Furthermore, the Faculty of Engineering, Brawijaya University, developed a Vision, Mission, Goals, and Strategic Objectives, which are the result of thoughts from various stakeholders in the Faculty of Engineering, Brawijaya University, by considering these facts. ENGINEERING, an acronym for Outstanding, Effective and Efficient, Collaborative, National and International, Innovative, and Local Wisdom, became the motto to achieve the targets in the next five years.



## Situation Analysis Table

<p><b>Internal</b></p> <p><b>External</b></p>	<p><b>STRENGTH</b></p> <ol style="list-style-type: none"> <li>1. Undergraduate PSs are A accredited (92%) and internationally accredited (2 PSs).</li> <li>2. Has implemented the CBE Curriculum.</li> <li>3. AIM is conducted periodically and ensures good governance of the institution.</li> <li>4. Quality human resources (lecturers and staff).</li> <li>5. High freshman tightness ratio (1.9).</li> <li>6. Has a Professional Engineer Program.</li> <li>7. Students excel academically and non-academically.</li> <li>8. iKA FTUB is solid and helps graduate recruitment.</li> <li>9. Widely involved in national - and international research grants and innovations.</li> <li>10. The number of international collaborations increased.</li> <li>11. Active community service activities carried out in the same field and across fields. Cooperation with the government and SOEs is well-established.</li> <li>12. Carried out in the same field and across fields. Cooperation with the government and SOEs is well established.</li> </ol>	<p><b>WEAKNESSES</b></p> <ol style="list-style-type: none"> <li>1. The percentage of doctorates and professors is not ideal.</li> <li>2. The curriculum has not accommodated the Merdeka Learning Campus Merdeka (MBKM) policy.</li> <li>3. Have a research laboratory (10%).</li> <li>4. Requires assistance in using VLM or online classes.</li> <li>5. There are still Postgraduate Study Programs that have not been accredited A.</li> <li>6. There are relatively few international students and no international classes.</li> <li>7. Most of the laboratories are still educational laboratories.</li> <li>8. Revenue management still relies on public funds.</li> <li>9. Integration of administrative data has not been implemented in all fields.</li> <li>10. The research results have not yet reached KATSINOV 6.</li> <li>11. The research roadmap is not yet clear on scientific clusters and development directions.</li> <li>12. Need to improve the link and match between the curriculum and the needs of the world of work.</li> </ol>
<p><b>OPPORTUNITIES</b></p> <ol style="list-style-type: none"> <li>1. Educational autonomy and technological advancement.</li> <li>2. The 3inONE program supports international cooperation.</li> <li>3. UB's good credibility in the community.</li> <li>4. The internship program helps accelerate the link and match between education and industry.</li> <li>5. UB's transition to PTNBH status.</li> <li>6. The dynamics of Indonesian society's complex problems that require engineering solutions.</li> <li>7. Opportunities for research grant schemes and international publications are increasing.</li> <li>8. Information technology supports cross-border collaboration.</li> <li>9. There are many scholarship schemes for lecturers.</li> <li>10. Alumni network in various sectors.</li> </ol>	<p><b>STRENGTH-OPPORTUNITY STRATEGY</b></p> <ul style="list-style-type: none"> <li>- Education system towards excellent accreditation criteria.</li> <li>- Quality education system that reaches national and international standards.</li> <li>- Education curriculum innovation. Implementation of the Kampus Merdeka program through collaboration with alumni, educational institutions, and the industrial world.</li> <li>- An academic atmosphere that supports the spirit.</li> <li>- Entrepreneurship based on local potential. Quality certified graduates. Collaborative research and service across fields.</li> <li>- National and international reputable research outputs.</li> <li>- Creation of certified innovative products.</li> <li>- Accountable management of funding for institutional activities.</li> <li>- Empowerment of local wisdom to support the implementation of Tri Dharma.</li> </ul>	<p><b>WEAKNESS-OPPORTUNITY STRATEGY</b></p> <ul style="list-style-type: none"> <li>- Education system towards excellent accreditation criteria.</li> <li>- Implementation of the Kampus Merdeka program through collaboration with alumni, educational institutions, and the industrial world.</li> <li>- Collaborative research and service across fields.</li> <li>- National and international reputable research outputs.</li> <li>- Integrated effective and efficient institutional governance.</li> </ul>
<p><b>THREAT</b></p> <ol style="list-style-type: none"> <li>1. Entry of foreign HEIs into Indonesia.</li> <li>2. Demand for engineering certification for graduates.</li> <li>3. Dynamic changes in HEI performance indicators.</li> <li>4. New PS that are more relevant to the world of work.</li> <li>5. The massive development of technology and the digital world.</li> <li>6. The decline in the interest of the younger generation to become lecturers and true learners.</li> <li>7. Changes in society's way of life, values and ethics.</li> </ol>	<p><b>STRENGTH-THREAT STRATEGY</b></p> <ul style="list-style-type: none"> <li>- Education curriculum innovation.</li> <li>- Quality of certified graduates.</li> <li>- National and international reputable research outputs.</li> <li>- Effective and efficient integration of institutional governance.</li> </ul>	

The situation analysis table formulated the FTUB Flagship Program based on the analysis of strength-opportunity, weakness-opportunity, and strength-threat strategies.

# Chapter 3

# Vision, Mission, and Strategic Objectives

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## Vision

To Become an Innovative, Collaborative, and Internationally Competitive Faculty of Engineering in Implementing the Tri Dharma of Higher Education for Community Welfare.

## Mision

- Organising and focusing on the quality of education that is internationally competitive to produce graduates who are superior, entrepreneurial, and have noble character.
- Organising innovative and collaborative research and community service to support sustainable development for the welfare of society support.
- Organising institutional governance that is independent, fair, transparent, accountable, responsible, and credible.

## Objectives

- The realisation of a quality educational process and realising graduates in the field of engineering who are able to compete at the global level, professional and have an entrepreneurial spirit.
- The realisation of collaboration to produce innovative technological works in order to support sustainable development based on local wisdom.
- The realisation of an institutional governance system and resources with integrity and optimal performance.

## Strategic Objectives

- Education system towards excellent accreditation criteria.
- Quality education system with international standards.
- Education curriculum innovation.
- Implementation of the Freedom of Learning Independent Campus (Merdeka Belajar Kampus Merdeka (MBKM)) programme through collaboration with alumni, educational institutions, and the industrial world.
- Academic development that supports the entrepreneurial spirit.
- The quality of certified graduates.
- Collaborative research and service across fields.
- Research outputs with national and international reputations.
- Creation of certified innovative products.
- Empowerment of local wisdom in supporting the implementation of Tri Dharma.
- Accountable management of institutional activity funding.
- Effective and efficient integration of institutional governance.

# Featured Program

- Study Programme Assistance towards Superior Accreditation.
- Improving FTUB Image through Rebranding.
- Acceleration of S3 Study for Lecturers.
- Acceleration of Head Lecturer / Professor.
- Improving the Quality of Lecturers in Tridharma PT.
- Improvement of Student Services (Reasoning, Interest and Talent, Counselling Guidance, Career Guidance, and Entrepreneurship).
- Assistance for PS towards International Accreditation.
- Increased International Cooperation (QS Top 100 WCU Engineering and Industry).
- Organisation of 3inONE Programme.
- Increased Student Mobility.
- Development of Masters and Doctoral Study Programmes.
- Strengthening the Education Curriculum towards Merdeka Learning Independent Campus (MBKM).
- Strengthening Online Education.
- Increased Collaboration with Stakeholders to Support Independent Learning for Students.
- Entrepreneurship and Startup Grants for Students.
- Cooperation Programme with Certification Institution for Undergraduate Graduates.
- Rebranding the Professional Engineer Programme.
- Strengthening Research Group.
- Development of Research and Community Service Roadmap.
- Laboratory Accreditation Programme.
- Improving the Quality of Research and Community Service DIPA and Non DIPA FT.
- Assistance for Reputable Scientific Publications.
- Professor Research Grants.
- Research Grants for Rector Head Doctor and Non-Rector Head Doctor.
- Strengthening Journal Publishing of the Faculty of Engineering.
- Development of Innovation Centre at Faculty Level.
- Innovative Entrepreneur Programme with Social Impact based on Local Wisdom.
- Financial Report Accountability.
- Increased Financial Independence of the Faculty.
- Increased National Cooperation (Industry, Government, HEIs, and Community Groups).
- Data Integration of Academic (A), Personnel (P), Finance (U), and Student Affairs (M).
- TEKNIK Award.

## Motto

*Together, We Do The Best*

## Service Promise

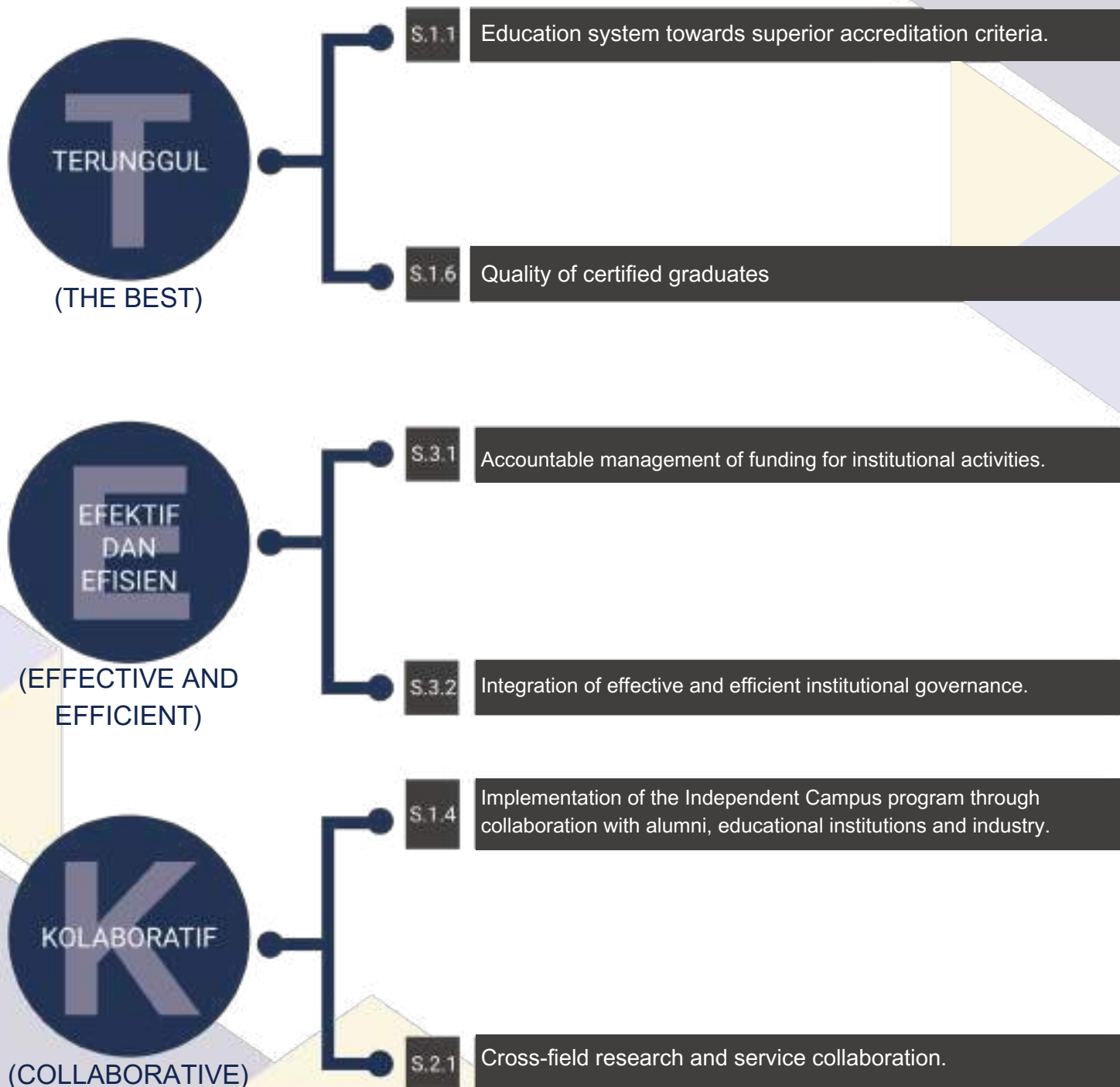
Due Diligence with Integrity



# Chapter 4

## Strategic Framework In TEKNIK

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(NATIONAL AND  
INTERNATIONAL)

S.1.2

Quality of the education system with international standards.

S.2.2

Research output with national and international reputation.



(INNOVATIVE)

S.1.3

Educational curriculum innovation.

S.2.3

Creation of certified innovative products.



(LOCAL WISDOM)

S.1.5

Academic development that supports an entrepreneurial spirit based on local potential.


S.2.4


Empowerment of local wisdom in supporting the implementation of Tri Dharma.




- 
- P1.2.1 PS (Study Program) assistance towards international accreditation.
  - P1.2.2 Increased international cooperation (QS Top 100 WCU Engineering and Industry).
  - P1.2.3 Organizing the 3inONE program.
  - P1.2.4 Increased student mobility.
  - P1.2.5 Development of Masters and Doctoral Study Programs.

- 
- P2.2.1 Assistance with reputable scientific publications.
  - P2.2.2 Professor research grant.
  - P2.2.3 Research grants for Associate Professors and Non-Lector Professors.
  - P2.2.4 Strengthening the publication of Faculty of Engineering journals.

- 
- P1.3.1 Strengthening the educational curriculum towards the Independent Learning Campus (MBKM).
  - P1.3.2 Strengthening online education.
  - P2.3.1 Development of an innovation center at the Faculty level.

- 
- P1.5.1 Entrepreneurship and Start Up Grants for Students.

- 
- P2.4.1 The innovative entrepreneurship program has a social impact based on local wisdom.

# Chapter 5

## Performance Targets and Flagship Programs

Code	Mission	Code	Strategic Objectives	Code	Featured Program	Code
M.1	Organizing and improving the quality of education that is internationally competitive to produce graduates who are superior, entrepreneurial, and have noble character.	S.1.1	Education system towards excellent accreditation criteria  Minimum budget allocation limit of 2%	P.1.1.1	Study Program Assistance towards Superior Accreditation	IK.1.1.1.1
						IK.1.1.1.2
						IK.1.1.1.3
						IK.1.1.1.4
						IK.1.1.1.5
						IK.1.1.1.6
						IK.1.1.1.7
				P.1.1.2	Improving FT UB's Image Through Rebranding	IK.1.1.2.1
						IK.1.1.2.2
				P.1.1.3	Acceleration of Doctoral Studies for Lecturers	IK.1.1.3.1
				P.1.1.4	Acceleration of Senior Lecturer/Professor	IK.1.1.4.1
						IK.1.1.4.2
				P.1.1.5	Improving the Quality of Lecturers in Tridharma of Higher Education	IK.1.1.5.1
						IK.1.1.5.2
						IK.1.1.5.3
				P.1.1.6	Improved Student Services (Reasoning, Interest and Talent, Counseling Guidance, Career Guidance, and Entrepreneurship)	IK.1.1.6.1
						IK.1.1.6.2
						IK.1.1.6.3
						IK.1.1.6.4
						IK.1.1.6.5
						IK.1.1.6.6
		S.1.2	Quality education system with international standards  Minimum budget allocation limit of 3%	P.1.2.1	PS Assistance towards International Accreditation	IK.1.2.1.1
				P.1.2.2	Increased International Cooperation (QS Top 100 WCU Engineering and Industry)	IK.1.2.2.1
						IK.1.2.2.2
						IK.1.2.2.3
				P.1.2.3	Implementation of the 3inONE	IK.1.2.3.1
				P.1.2.4	Increased Student Mobility	IK.1.2.4.1
						IK.1.2.4.2

Performance Indicators	Reference	Baseline	Unit	Performance Target				
				2021	2022	2023	2024	2025
Percentage of PS Accredited with Excellence	Performance Contract	58	% (PS)	60 (Doctoral TS)	67 (Master URP, Doctoral TM)	71 (Master TP)	77 (DIV DG, Doctoral TP)	74
Average GPA of Undergraduate Students	BAN-PT Accreditation	3,29	-	3,3	3,31	3,32	3,33	3,34
Average GPA of Master Students	BAN-PT Accreditation	3,68	-	3,68	3,69	3,69	3,7	3,7
Average GPA of Doctoral Students	BAN-PT Accreditation	3,86	-	3,86	3,87	3,87	3,88	3,88
Average Study Period of Undergraduate Students	BAN-PT Accreditation	4,6	Year	4,6	4,5	4,5	4,4	4,4
Average Study Period of Master Students	BAN-PT Accreditation	3,1	Year	2,9	2,9	2,7	2,7	2,5
Average Study Period of PhD students	BAN-PT Accreditation	5,2	Year	5	4,5	4,5	3,5	3,5
New Student Admission Selection Rigor Value	BAN-PT Accreditation	1:9		1:11	1:13	1:15	1:17	1:19
Lecturer : Student Ratio	BAN-PT Accreditation, DIKTI Ranking	1:19		1:19	1:19	1:19	1:19	1:19
Percentage of Lecturers with Doctoral Qualifications	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	46	%	50	52	54	56	58
Percentage of Lecturers with Head Position	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	24	%	27	29	31	33	35
Percentage of Lecturers with Professor Position	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	6	%	8	9	10	11	12
Percentage of Lecturers with Tridharma Activities at Iain Campus / QS100 by Subject / as practitioners / fostering outstanding students	IKU PTN (Public universities) 2020	15%	%	16%	18%	20%	22%	24%
Percentage of Lecturers with Certificates of Competence / Profession (recognized by industry and the world of work)	IKU PTN (Public universities) 2020	15%	%	20%	25%	30%	35	40%
Percentage of Lecturers from Professional Practitioners, Industry, or the World of Work	IKU PTN (Public universities) 2020	15%	%	3%	6%	8%	10%	12%
Number of Outstanding Students	DIKTI Ranking, Performance Contract	211	Student	215	220	225	230	235
Percentage of Graduates who are Directly Employed	DIKTI Ranking, Performance Contract	60	%	40	42	44	46	48
Percentage of Graduates who Continue Their Studies	IKU PTN (Public universities) 2020	5	%	6	7	8	9	10
Percentage of Graduates who Become Entrepreneurs	IKU PTN (Public universities) 2020		%	6	7	8	9	10
Number of Student Training Activities (Reasoning, Interest Talent, Entrepreneurship)	FT Program	8	Activities	10	12	14	16	18
Number of Students Receiving Scholarships	FT Program	434	Student	450	455	460	465	470
Number (Percentage) Study Program International Accreditation	PTN KPI Performance Contract 2020	2(11) TP, TE	Ps(%)	4 (20) TS, TI	6 (30) TP, TM	8 (35) Ars, URP	9 (38) TK	9 (38)
Number of International Cooperations	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	18	MoU	20	22	24	26	28
National Seminar	Performance Contract	4	Activities	4	4	4	4	4
International Research Cooperation	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	3	MoU	3	4	5	6	7
Number of Foreign Lecturers / Visiting Professor	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	12	Lecturer	12	14	15	16	18
Student Outbound	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	too	Student	100	100	120	120	120
Inbound Students	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	9	Student	16	24	32	40	48



Code	Mission	Code	Strategic Objectives	Code	Featured Program	Code
		S.1.3	Education curriculum innovation  Minimum budget allocation limit of 0.25%	P.1.2.5	Development of Master and Doctoral Study Programs	IK.1.2.5.1
				P.1.3.1	Strengthening the Education Curriculum towards Merdeka Learning Independent Campus (MBKM)	IK.1.3.1.1 IK.1.3.1.2
				P.1.3.2	Strengthening Online Education	IK.1.3.2.1
		S.1.4	Implementation of the Independent Campus Program through Collaboration with Alumni, Educational Institutions, and Industry  Minimum budget allocation limit of 0.25%	P.1.4.1	Increased Collaboration with Stakeholders to Support Independent Learning for Students	IK.1.4.1.1 IK.1.4.1.2 IK.1.4.1.3 IK.1.4.1.4 IK.1.4.1.5 IK.1.4.1.6
		S.1.5	Academic development that supports entrepreneurial spirit based on local potential  Minimum budget allocation limit of 2%	P.1.5.1	Entrepreneurship and Start Up Grants for Students	IK.1.5.1.1
		S.1.6	Quality of certified graduates  Minimum budget allocation limit 0.25%	P.1.6.1	Cooperation Program with Certification Institution for Undergraduate Graduates	IK.1.6.1.1
				P.1.6.2	Rebranding Professional Engineer Program	IK.1.6.2.1
M.2	Organizing innovative and collaborative research and community service to support sustainable development for the welfare of the community based on local wisdom values.	S.2.1	Collaborative research and service across fields  Minimum budget allocation limit 4.5% <sup>4</sup>	P.2.1.1	Strengthening Research Group	IK.2.1.1.1
				P.2.1.2	Development of Research and Community Service Roadmap	IK.2.1.2.1
				P.2.1.3	Laboratorium Accreditation Program	IK.2.1.3.1 IK.2.1.3.2
				P.2.1.4	Improving the Quality of Research and Community Service DIPAs and Non DIPAs FT	IK.2.1.4.1 IK.2.1.4.2 IK.2.1.4.3
		S.2.2	National and international reputable research outputs  Minimum budget allocation limit 0.5%	P.2.2.1	Mentoring for Reputable Scientific Publications	IK.2.2.1.1 IK.2.2.1.2 IK.2.2.1.3 IK.2.2.1.4
				P.2.2.2	Professor Research Grant	IK.2.2.2.1
				P.2.2.3	Head Lecturer Doctoral and Non-Head Lecturer Doctoral Research Grants	IK.2.2.3.1 IK.2.2.3.2

Performance Indicators	Reference	Baseline	Unit	Performance Target				
				2021	2022	2023	2024	2025
Number of Master and Doctoral Studies	FT Program	9	Study Program	10 (Master)	11 (PhD TE)	12 (PhD Ars)	13 (PhD URP)	13
Number of CBE-based Curriculum	FT Program	18	Curriculum	19	20	20	21	22
Percentage of Lecturers with Online Courses	FT Program	5	%	20	25	30	40	60
Online MK Percentage (VLM2 UB)	DIKTI Ranking	25	%	30	35	40	45	60
Number of Collaborations to Support Merdeka Belajar	FT Program	-	MoU	16	18	20	22	24
Percentage of Undergraduate Study Programs that Implement Cooperation with Partners	2020 PTN KPIS	100	%	100	100	100	100	100
Percentage of Undergraduate Courses that Use Case-Solving Learning Methods or Project-Based Group Learning as Evaluation Weights	2020 PTN KPIS	0	%	10	10	10	10	10
Number of Students Participating in Independent Learning Activities	Performance Contract	385	Student	400	450	500	550	600
Percentage of students who spend at least 20 credits off campus	2020 PTN KPIS	0	%	0.5%	0.6%	0.7%	0.8%	0.9%
Number of Study Programs that Implement Independent Campus Learning	Performance Contract	6	Study Program	6	8	8	8	8
Number of Students who are Entrepreneurs	DIKTI Ranking, Performance Contract	221	Student	225	230	235	240	245
Percentage of Graduates with Competency and Professional Certificates	Performance Contract	91	%	100	100	100	100	100
Number of Professional Engineer Program Students	FT Program	100	Engineer	100	120	140	160	180
Number of Research Groups	FT Program	6	RG	6	7	8	9	10
Availability of BPPM and Department Research and Community Service Roadmap Documents	FT Program	1	Document	9	9	9	9	9
Number of Accredited Laboratories	PT Ranking Form	0	Lab	2	4	6	6	8
Modernization of Laboratory Equipment Through Grant Scheme	DIKTI Ranking	11	Lab	12	12	12	12	12
Total Research	DIKTI Ranking	198	Research	200	210	220	230	240
Number of Community Service	DIKTI Ranking	70	Community service	70	80	90	110	130
Number of Assisted Villages	FT Program	20	Village	22	24	26	28	30
Number of Reputable International Publications	DIKTI Ranking, Performance Contract	227	Article	230	230	240	260	270
Number of Citations of Scientific Work	DIKTI ranking, Performance Contract	4978	-	6000	6500	7000	7500	8000
Number of Lecturers Participating in Conferences	DIKTI Ranking, Performance Contract	100	Lecturer	105	110	115	120	125
The number of research and community service results that have successfully received international recognition or have been applied by the community per number of lecturers	2020 PTN KPIS	-	Ratio	8.272	8.272	8.272	8.272	8.272
Number of Publications by Professors	Performance Contract	32	Article	35	40	45	50	65
Number of Publications by Doctoral Head Lectors	Performance Contract	50	Article	50	55	60	65	70
Number of Publications by Non-Head Lecturer Doctorates	Performance Contract	77	Article	80	85	90	95	100

Code	Mission	Code	Strategic Objectives	Code	Featured Program	Code		
				P.2.2.4	Strengthening the Publishing of the Faculty of Engineering Journal	IK.2.2.4.1		
						IK.2.2.4.2		
		S.2.3	Creation of certified innovative products  Minimum budget allocation limit of 0.5°4	P.2.3.1	Development of Innovation Center at Faculty Level	IK.2.3.1.1		
						IK.2.3.1.2		
						IK.2.3.1.3		
						IK.2.3.1.4		
						IK.2.3.1.5		
						IK.2.3.1.6		
		S.2.4	Empowerment of local wisdom in supporting the implementation of Tri Dharma  Minimum budget allocation limit of 0.25°4	P.2.4.1	The Innovative Entrepreneur Program has a social impact on society based on local wisdom	IK.2.4.1.1		
M3	Organizing fair, transparent, accountable, responsible and credible institutional governance.	S.3.1	Accountable management of institutional activity funding  Minimum budget allocation limit of 1.25%	P.3.1.1	Financial report accountability	IK.3.1.1.1		
						IK.3.1.1.2		
						IK.3.1.1.3		
				P.3.1.2	Increased faculty financial independence	IK.3.1.2.1		
		S.3.2	Effective and efficient integration of institutional governance  Minimum budget allocation limit 0.25%	P.3.1.3	Enhanced National Cooperation (Industry, Government, Limited Liability Company (PT), and Community Groups)	IK.3.1.3.1		
				P.3.2.1	Integration of data of academic (A), personnel (P), financial (U), and student (M)	IK.3.2.1.1		
						IK.3.2.1.2		
						P.3.2.2	TEKNIK Award	IK.3.2.2.1
				Total budget allocation for Flagship Programs is a minimum of 15%				

Performance Indicators	Reference	Baseline	Unit	Performance Target				
				2021	2022	2023	2024	2025
Number of Nationally Indexed Reputable Journals	Performance Contract	8	Journal	9	10	10	10	11
Number of Globally Indexed Reputable Journals	Performance Contract	0	Journal	0	0	1	1	1
Number of Lecturer Innovations	DIKTI Ranking	63	Innovation	63	65	67	69	71
Number of Student Innovations	DIKTI Ranking	36	Innovation	36	38	40	42	44
Number of IPRs registered	DIKTI Ranking, Performance Contract	48	IPR	50	52	54	56	58
Number of Patents	DIKTI Ranking, Performance Contract	6	Patents	6	7	8	9	10
Number of R&D Prototypes	Performance Contract	18	Prototype	20	22	24	26	28
Number of Industrial Prototypes	Performance Contract	4	Prototype	4	5	6	7	8
Number of Innovative Entrepreneur Activities based on local wisdom	FT Program	0	Activities	8	8	8	8	8
Percentage of quantity of follow-up on BPK findings	Performance Contract	100	%	100	100	100	100	100
Percentage of follow-up on dollar value of BPK findings	Performance Contract	100	%	100	100	100	100	100
Ratio of Operating Expenses to PNBP Revenue	Performance Contract	100	%	100	100	100	100	100
Total PNBP proportional income (Non-Cooperation)	FT Program	51	Rp.M	55	57,5	60	62,5	65
Number of National Cooperations	BAN-PT Accreditation, DIKTI Ranking, Performance Contracts	40	MoU	40	45	50	55	60
Percentage of integrated information system implementation	FT Program	-	Application	A-M	A-M, A-P	P-U	A-P-U-M	DSS
Increased mitigation efforts against natural disasters and disease outbreaks	FT Program	-	Unit	1	1	1	1	
Improved achievement of departmental performance indicators	FT Program	-	assessment indicators	10	15	15	15	15



# Chapter 6

## CLOSING

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RENSTRA FTUB 2021-2025 includes a strategic planning document that aims to provide direction for the development of the Faculty of Engineering, Universitas Brawijaya, for the next 5 (five) years and strengthen the character of FTUB as a provider of higher education in the field of engineering that is innovative, collaborative, and internationally competitive. The realization of this RENSTRA is expected to be a reference in:

- Preparation of the FTUB Dean's Work Program.
- Preparation of RENSTRA and Department Work Programs within FTUB.
- Implementation of SPMI FTUB in order to support study program accreditation.
- Preparation of Government Institution Performance Accountability Report (LAKIP) FTUB.

The success of this RENSTRA will be achieved if all academicians together realize the planning that has been prepared to achieve the target indicators set, and run with the aim of the success of FTUB in the future.

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WE DO THE BEST  
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Brawijaya University  
2020