



SUSTAINABLE DEVELOPMENT GOALS REPORT

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2023

© Universiti Teknikal Malaysia Melaka

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Preface

This report stands as a distinguished testament to Universiti Teknikal Malaysia Melaka (UTeM)'s unwavering dedication to advancing sustainable development through education, innovation, and strategic collaboration. Anchored in the principles of the Sustainable Development Goals (SDGs), UTeM continues to exemplify its role as a transformative institution, committed to creating impactful solutions that empower individuals, strengthen communities, and inspire progress on a global scale.

Through its groundbreaking initiatives, UTeM has championed equitable access to education, gender equality, and green technology while forging robust international partnerships. Notable efforts, such as the establishment of rainwater harvesting systems, industry collaborations on clean energy solutions, and targeted programs to uplift underprivileged groups, reflect a holistic approach to addressing societal challenges. These endeavors not only benefit local communities but also position UTeM as a global leader in sustainable innovation and excellence.

This report is intended for stakeholders, policymakers, and collaborators who share the vision of a more inclusive and resilient world. As the accomplishments presented herein are considered, the immense potential of collaboration and innovation becomes evident in shaping a better future. UTeM's steadfast commitment to integrating academic rigor with real-world impact sets a benchmark for institutions worldwide, affirming that education and sustainability are indispensable pillars of a prosperous and equitable global society.

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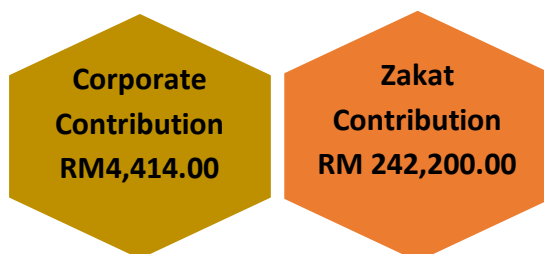
1 NO POVERTY



SDG 1: No Poverty

Yayasan Tun Canselor UTeM

Yayasan Tun Canselor (YTC) at Universiti Teknikal Malaysia Melaka (UTeM) is a foundation dedicated to supporting students in need while promoting educational, research, and community development initiatives. Established in honor of UTeM's Chancellor, YTC aims to provide scholarships, financial aid, and resources for students facing financial difficulties, as well as to fund a variety of academic and social programs.



At UTeM, a variety of scholarships and financial aid programs are offered to support students in their academic pursuits. These include:

NO.	SCHOLARSHIP / AID	AMOUNT (RM)
1.	Program Anak Emas	94,000.00
2.	Program SULUNG	2,161,000.00
3.	Biasiswa Dalaman KESIDANG	10,000,000.00

NO.	SCHOLARSHIP / AID	AMOUNT (RM)
4.	Program Dermasiswa TVET B40	23,424.00
5.	Zakat	1,190,000.00
6.	Bantuan Awal Pengajian	427,000.00
7.	Food Bank Siswa	40,298.00

Anak Emas UTeM



On 6 August 2023, Nur Nabilah Binti Zainuddin received vital support from UTeM through the Yayasan Tun Canselor UTeM, as part of the Anak Emas UTeM sponsorship program. This

initiative targets students who face financial hardships yet demonstrate exceptional academic achievement. Nabilah was awarded full funding for her first-semester tuition fees, totaling RM914, along with a monthly living allowance of RM500 to ease her transition into university life. This program not only empowers students like Nabilah but also creates meaningful opportunities for deserving individuals to pursue their educational dreams.

UTeM has allocated RM10 million in Kesidang Scholarships for local students and those from conflict-affected countries

UTeM PERUNTUK BIASISWA KESIDANG RM10 JUTA UNTUK PELAJAR TEMPATAN DAN NEGARA BERGOLAK



Universiti Teknikal Malaysia Melaka (UTeM) has proudly allocated RM10 million over the next five years for the Kesidang

Scholarship, aimed at empowering students to pursue their studies at UTeM, including those from conflict-affected countries like Palestine. This scholarship covers tuition fees for Diploma, Bachelor's, Master's, and Doctor of Philosophy (PhD) programs, making higher education more accessible to those in need. The initiative was launched with the new student intake for the 2023/2024 academic year in early October 2023, and UTeM has already received two applications for the Kesidang Scholarship from Palestinian students, demonstrating its commitment to supporting deserving individuals in their educational journeys.

UTeM Prihatin



On 27 October 2023, two new students at UTeM, Nurul Anis binti Nazari from the Faculty of Technology Management and Technopreneurship (FPTT) and Nurul Syazarina Binti Zulkifli from the Diploma in Manufacturing Engineering (FKP), received laptops to enhance their learning experience. This generous support not only equips them with essential tools for their studies but also reflects UTeM's commitment to student success. Additionally, they benefited from the Tuah Care Food@Campus program, which provides free meals at the UTeM cafeteria, further easing their transition into university life and ensuring they have the resources they need to thrive.

Additionally, the Student Affairs and Alumni Division (HEPA) has tirelessly worked to support students in securing scholarship funding, including PTPTN loans, allowing them to focus on their studies at UTeM without the stress of financial burdens. Furthermore, these students have been nominated to the Yayasan Canselor UTeM as potential recipients of the prestigious Anak Emas program, showcasing their outstanding potential and commitment to their education.

UTeM provides RM1 million in assistance to fully cover the tuition fees for students from B40 households

UTeM sediakan RM1 juta bantu tanggung sepenuhnya yuran pengajian pelajar keluarga B40

Oleh ilah Hafiz Aziz - Mei 25, 2023 @ 6:39pm
ilahhafiz.abdulaziz@bh.com.my



KUALA LUMPUR: Universiti Teknikal Malaysia Melaka (UTeM) akan menanggung yuran pengajian untuk pelajar pertama daripada keluarga kumpulan B40 yang menyambung pengajian di peringkat Ijazah Sarjana Muda di institusi itu.

Universiti Teknikal Malaysia Melaka (UTeM) will cover the tuition fees for the first student from B40 households who enrolls in a Bachelor's degree program at UTeM.

This program allocates RM1 million to empower eligible students enrolling at UTeM, making their educational journey more accessible and providing vital support as they pursue their academic goals.

Zakat contributions to support B40 students at UTeM



The Zakat Contribution Ceremony for B40 Students at UTeM aims to distribute RM650,000.00 to support 2,250 students from low-income families. Our heartfelt appreciation to Tabung Haji and Yayasan Bank Rakyat for their generous zakat contributions, which make this initiative possible.

2 ZERO HUNGER



SDG 2: Zero Hunger

UTeM introduces the Siswa Rahmah Menu at RM3.50



Menu Siswa RAHMAH
TENGHAARI RM 3.50
NASI PUTIH
AYAM/IKAN
SAYUR
KUAH/SUP KOSONG
AIS KORDIAL

MALAM RM 3.50
NASI/BIHUN/MI/KUETIAU
GORENG + TELUR
KORDIAL/TEH O/
KOPI O AIS

UTeM
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

HEPA
HIMPUNAN PERUSAHAAN
MELAKA

TUAH
TUMBUH BERSAMA-SAMA MELAKA

myHEPAUTeM

UTeM is deeply committed to uplifting underprivileged students, particularly those from B40 households, to ensure that financial difficulties do not hinder their educational journeys. In line with this mission and national aspirations, we proudly launched the Siswa Rahmah Menu, offering nutritious meals for just RM3.50 at seven cafeterias across campus. This initiative, effective from 20 March 2023, embodies our dedication to the well-being of our students and our belief that everyone deserves access to affordable, healthy food.

More than 62 percent of UTeM students classified as B40, out of a total of 11,000 students, are eligible to enjoy the Siswa Rahmah menu at the affordable price of RM3.50.

TUAH CARE FOOD@CAMPUS



TUAH CARE FOOD@CAMPUS
BANTUAN MAKANAN B40 BERSASAR

Muat turun dan semak melalui aplikasi
myUTeM

Pilih menu
TUAH CARE FOOD@CAMPUS

Imbas Kod QR ketika membuat bayaran

RM 3.50
Sekali Sehari

**ISNIN
RABU
JUMAAT**

HEPA
HIMPUNAN PERUSAHAAN
MELAKA

TUAH
TUMBUH BERSAMA-SAMA MELAKA

myHEPAUTeM

KOD QR
FOOD@CAMPUS
IMBAS
DI SINI

Through an initiative dedicated to supporting the welfare of B40 students at UTeM, selected students will receive food assistance vouchers. This compassionate effort aims to alleviate the financial pressures they face, empowering them to focus on their studies and thrive during their academic journey. By providing this support, we are not only addressing immediate needs but also fostering a sense of community and care within our university.

Students receiving these food assistance vouchers are from the targeted B40 category, with family incomes of RM1,500 or below. A total of 1,500 students have been identified as eligible for this assistance.

Through the TUAH CARE FOOD@CAMPUS food assistance vouchers, eligible students can receive RM3.50 per day for three days a week (Monday, Wednesday, and Friday). Food purchases can be made at the UTeM cafeterias.

Food Bank



UTeM is proud to announce the receipt of a generous donation from the Food Bank, comprising 200 packages of dry food, 200 bags of rice, and 200 bottles of cooking oil from the Islamic Economic Development Foundation of Malaysia (YAPEIM) in Melaka and Negeri Sembilan. This significant contribution, presented by En. Azharry bin Gimam, the State Manager of YAPEIM, to the Deputy Vice-Chancellor of Student Affairs and

Alumni (HEPA), exemplifies a strong commitment to supporting our community and enhancing the well-being of our students during challenging times.

YAPIEM has also agreed to strengthen collaboration with UTeM for the delivery of food donations through the Ready to Eat program, aimed at assisting students in need.

Sharing Blessings of Iftar Meals



On 11 April 2024, eight student cafeteria operators united to share their blessings through the Iftar Meal Donation Program for UTeM students. This inspiring initiative provided over 3,000 food packages, distributed across two key locations: the Technology Campus Student Cafeteria and the Satria Residence College Student Cafeteria. This effort not only supported Muslim students during Ramadan but also extended to non-

Muslim students, fostering a spirit of inclusivity and community solidarity during this special time. Together, they demonstrated the power of compassion and generosity in uplifting all members of the UTeM family.

Kg Sayang, Kg Perpat, and surrounding areas. This effort highlights the spirit of solidarity and support for those in need during challenging times.

Flood Relief Mission in Kota Tinggi, Johor



The UTeM-KPT Post-Flood Volunteer Assistance Mission to Kota Tinggi, Johor, involved the distribution of 215 food packages (Bakul Rahmah UTeM-KPT) through contributions from various parties, including UTeM Holdings Sdn Bhd, HEPA, the Islamic Centre, and RICE. All donations were centralized at the Kota Tinggi Community College for delivery to several areas affected by the recent floods, including Kg Mawai, Kg Gembur,

3 GOOD HEALTH AND WELL-BEING



SDG 3: Good Health and Well-Being

Sea Games in Cambodia 2023



The TUAH UTeM athletes made an impressive mark at the 2023 SEA Games in Cambodia, proudly bringing home one silver medal and three bronze medals in Sepak Takraw Chinlone and Esports (Mobile Legends). Among the standout performers was Mohd Zarlizan bin Zakaria from the Student Affairs and Alumni (HEPA) Office, who secured a silver medal in the Men's Chinlone - Same Stroke category, along with two bronze medals in the Men's Chinlone - Non-Repetition Primary and Linking categories. Their remarkable achievements not only showcase their exceptional talent and hard work but also highlight

UTeM's commitment to excellence and the spirit of determination that drives our students to succeed on the international stage.

In the Esports (Mobile Legends) event, Muhammad Farhan Bin Ibrahim from the Faculty of Manufacturing Engineering (FKP) secured a bronze medal. This achievement highlights the commitment of both UTeM staff and students to maintaining their health and well-being through active participation in sports at the international level.

It underscores the vibrant spirit of our community as they represent UTeM on the global stage.

Baseball Championship - East Asia Cup



Two TUAH UTeM students have been selected to represent Malaysia in the Baseball Championship - East Asia Cup, taking place in Bangkok, Thailand, from 29 April to 5 May 2023. The talented participants, Sadiy Syahmi Rabbani bin Jamaludin and Muhammad Afiq Fahmi bin Saad, are both third-year students from the Faculty of Computer Science and Information Technology (FTMK). Their selection not only highlights their dedication and skill in the sport but also brings pride to UTeM as they represent the university on an international stage.

Al-Quran Recital Ceremony



As Ramadan draws to a close, a heartfelt Quran Completion Ceremony took place, led by Associate Professor Datuk Dr.

Sabri Mohamad Sharif. This significant event aimed to nurture noble character and inspire participants to deepen their connection with the Divine, cultivating a profound love for the Quran and encouraging its integration into daily life. The Quran calls upon us to seek knowledge and elevate its importance in our lives. This ceremony powerfully underscores that the UTeM community is not only dedicated to physical well-being but also firmly committed to fostering spiritual health, reflecting a holistic approach to personal development.

Festival Musabaqah Al-Quran 2023



Congratulations to Basyiratul Ulfa binti Baharuddin from the Bachelor of Computer Science (Computer Security) program, Year 2, Faculty of Information and Communication Technology (FTMK), for achieving

the runner-up position in the women's Quran Recitation Competition at the 2023 Al-Quran Musabaqah Festival. This event took place over three days at the Al-Malik Al-Khalid Mosque, Universiti Sains Malaysia (USM).

This victory demonstrates that UTeM can produce students who are spiritually healthy and can excel in national Quran recitation competitions, despite being a technical public university.

4 QUALITY EDUCATION



SDG 4: Quality Education

KPT-PACE Professional Certification



UTeM has successfully coordinated 27 programs under KPT-PACE (Phases 1-3), securing a substantial allocation of RM 5,896,680.00 from the Ministry of Higher Education (KPT). This initiative has empowered 2,047 students to achieve professional certification, demonstrating UTeM's commitment to enhancing employability and equipping graduates with essential skills for the workforce. This achievement not only reflects the university's dedication to quality education but also contributes significantly to the professional development of its students.

UK-Malaysia Student Conference 2023



A postgraduate student, Mohd Iskandar Dzulkarnain from the Faculty of Electronic and Computer Engineering (FKEKK), UTeM, participated in the UK-Malaysia Student Conference 2023, held from 17 to 21 July 2023, with sponsorship from the British Council. During the conference, he won the second prize for the best presentation related to Sustainable Development Goal (SDG) 1, focusing on Child Poverty. His participation and success highlight the courage of UTeM students to take on challenges and compete alongside peers from international universities.

Pioneering Graduates of the TVET Work-Based Learning (WBL) Program



During the 2023 convocation session, 38 pioneering graduates of the Work-Based Learning (WBL) Program at Universiti Teknikal Malaysia Melaka (UTeM) will proudly receive their degrees in two vital fields: Industrial Machining Technology and Welding Technology. Throughout their studies, these students gained invaluable hands-on experience by being placed in 12 companies across Malaysia, including Sabah and Sarawak. This achievement not only marks a significant milestone for the graduates but also underscores UTeM's commitment to

fostering industry-ready professionals equipped to meet the demands of the workforce.

They have engaged in learning through practical work experiences in the industrial field across Malaysia. Nearly all of them have secured employment, and two graduates have received premium salaries from Foresight Asia Pacific Sdn Bhd and UWM Industrial Sdn Bhd.

Global SULAM – Global Service-Learning Malaysia Program

SISWA

UTeM jayakan Program SULAM di Riau

Oleh admin - 1 August 2023



UTeM's remarkable success in expanding its services for the Global Service-Learning Malaysia (Global SULAM) program is a testament to its commitment to community engagement and educational excellence. Recently, the program took place at Universitas Muhammadiyah Riau, where 10 undergraduate

students and 4 postgraduate students had the invaluable opportunity to participate.

This initiative not only empowers UTeM students but also aims to enrich the local community by sharing essential knowledge about Small and Medium Enterprises (SMEs). Through hands-on learning activities focused on electrical energy audits and air conditioning maintenance, the participants engaged directly with 33 local students and teachers, fostering a collaborative spirit of learning and knowledge transfer.

This impactful exchange highlights UTeM's dedication to creating meaningful connections between academia and the community, paving the way for sustainable development and equipping both students and community members with vital skills for the future.

WorldSkills Asia in Abu Dhabi 2023



Stephen Sim Shan Siong, a student from the Faculty of Information and Communication Technology (FTMK) at UTeM, has made a remarkable achievement by winning a Bronze Medal in the IT Software Solution for Business category at WorldSkills Asia Abu Dhabi 2023. This success not only brings pride to himself but also enhances the reputation of UTeM and reflects positively on Malaysia as a whole. Stephen's accomplishment showcases the talent and dedication of students at UTeM and highlights their potential to excel on the global stage.

National Training Week 2023



On 27 May 2023, UTeM was honoured to receive the Top Course Provider award for National Training Week at the National Training Week (NTW) Summit, which took place at the Putrajaya International Convention Centre (PICC).

During NTW, numerous of institutions and training providers came together to offer free skills courses throughout Malaysia. This initiative aims to broaden access to training and enhance the skills of the workforce in the country. The primary objective of NTW is to ensure that more Malaysians can engage in training programmes that cover both technical and soft skills, meeting the constantly changing demands of the industry.

5 GENDER EQUALITY



SDG 5: Gender Equality

Launch of the JELITA Program



The JELITA or known as Job Empowerment by Learning and Inclusive Technical Advancement program, was inaugurated at the Merdeka Hall, World Trade Centre, by YAB Dato' Seri Dr. Ahmad Zahid Hamidi, the Deputy Prime Minister of Malaysia. JELITA is a transformative initiative under the Special Women's TVET Program, designed to empower women by enhancing their economic opportunities. By focusing on six key target groups, this program supports women in developing essential talent, skills, competencies, and knowledge, paving the way for greater financial independence and personal growth.

The JELITA Program is an initiative aimed at empowering Malaysian women through vocational and technical training. It offers exclusive study packages created in collaboration with industry partners. This initiative is a joint effort between Universiti Teknikal Malaysia Melaka (UTeM) and Kolej Universiti Agrosains Malaysia (UCAM), highlighting a commitment to enhancing the skills and opportunities available to women in the workforce.

6 CLEAN WATER AND SANITATION



SDG 6: Clean Water and Sanitation

Water Management

1) Reservoir Lake

UTeM has three (3) water catchment reservoirs designed to collect and direct rainwater into Tasik Gemilang, Tasik Cemerlang, and Tasik Terbilang. To ensure the safety of the water for any activities, annual laboratory tests for *Leptospira* bacteria are carried out regularly. The water stored in UTeM's reservoirs will be channeled into the river once the reservoirs reach their maximum capacity.

Water Catchment Area



2) Rainwater Harvesting System (RHS)

The Rainwater Harvesting System (RHS) is designed to collect and reuse rainwater that falls on building rooftops. This water is channelled into storage tanks and then used for specific purposes. It's an excellent way to reduce reliance on treated or clean water produced by water treatment plants.

At UTeM, the implementation of the RHS is in line with the Melaka Green Seal (MGS), a green building rating system in the state of Melaka. The MGS guidelines were developed by a committee under the Melaka Green Development Organization (MGDO) and Green Earth Design Solutions (GEDS) to promote sustainability in buildings across the state. In keeping with these guidelines, the RHS has been installed in various UTeM buildings, including the Vehicle Depot, the Faculty of Manufacturing Engineering (FKP), the Faculty of Technology Management and Technopreneurship (FPTT), and the Lecture Hall Complex. The water collected in the RHS tanks is used for toilet flushing and landscape irrigation.

The Rainwater Harvesting System (RHS) at the Faculty of Manufacturing Engineering (FKP), Transport Engineering, and the Lecture Hall Complex



RHS at the Vehicle Depot



3) Treated Water from Melaka Water Corporation (SAMB)

Treated water is supplied by Melaka Water Corporation (SAMB) to meet the needs of the UTeM community. The treated water is stored in tanks located on the main campus before being distributed to the various faculties and buildings, as shown in Figure below. To help monitor and control water usage efficiently, an online monitoring system (IoT water) is currently being developed by UTeM's water management department.

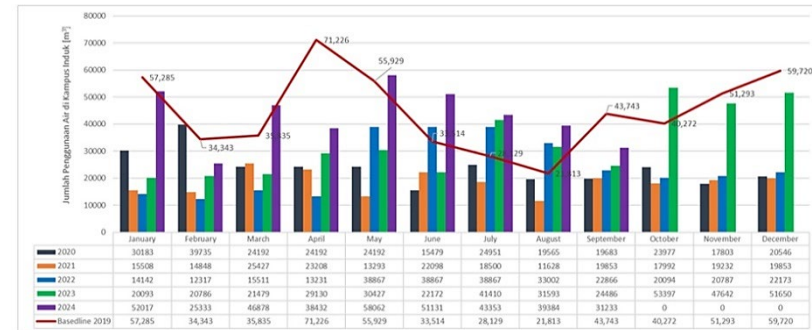
Treated water storage tank



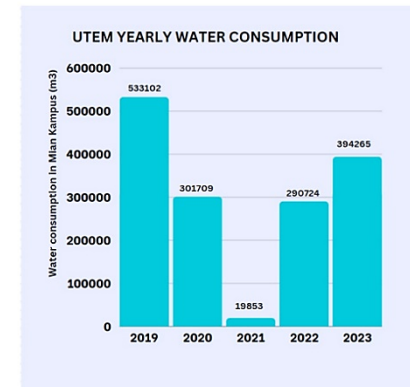


The use of treated water on the UTeM campus

The treated water used at UTeM is supplied by Melaka Water Corporation (SAMB). Water consumption has been recorded monthly since 2019 and continues to be tracked. Every month, the water usage data is analyzed and presented at departmental meetings to ensure that UTeM's water consumption is kept under control. The figure below shows the recorded water usage at UTeM. The red line on the graph represents the total monthly water usage in 2019, which is used as a reference point for comparing current water consumption.



UTeM yearly water consumption is as follows:



Jumlah warga kampus mengikut kategori pada tahun 2023

Pelajar Diploma dan Sarjana Muda	16659
Pelajar Sarjana	1235
Staff	871
Jumlah	18765

Penggunaan air bagi setiap warga UTeM bagi tahun 2023 adalah

$$\text{Jumlah penggunaan air per kapita} = \frac{394265}{18765} = 21.01 \text{ m}^3 \text{ per kapita}$$

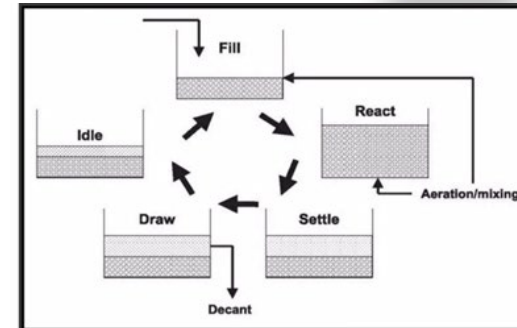
Sewage Treatment

UTeM has built a Centralized Sewage Treatment Plant to manage wastewater from university buildings before it is discharged into a nearby river. To comply with the regulations set by the Department of Environment (DOE) Malaysia, all necessary procedures in the sewage treatment process are followed and regularly audited by the DOE.

Sewage Treatment Area



Sewage Treatment Process



Availability of Free Drinking Water

UTeM has installed treated water tanks around campus for drinking. These tanks are available for free use by all staff and students. The water is automatically refilled when the tank runs low.



7 AFFORDABLE AND CLEAN ENERGY



SDG 7: Affordable and Clean Energy

Energy Saving

UTeM is committed to practicing energy efficiently in all buildings to reduce energy consumption. The energy policy was endorsed by top management and circulated to all stakeholders with the clear objective of utilizing energy efficiently with minimum reduction of 3% a year as compared to baseline.

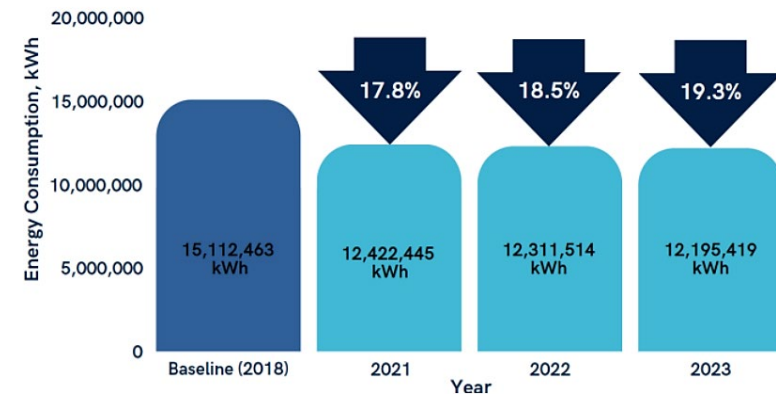
For the last 3 years (2021- 2023), UTeM had carried out Sustainable Energy Management System (SEMS) with commitment from top management to all levels of staff and students.

Energy consumption in UTeM shows a downward trend from 2021 to 2023. The reduction of energy usage in the particular year is aligned with the committed investment in energy saving measures (ESMs) and risk investment level on those years.

The total energy consumption and saving percentage from 2021 to 2023 as compared to energy baseline in 2018. The energy consumption in 2021, 2022 and 2023 reduced by 17.8%, 18.5% and 19.3% respectively. It is equivalent to energy reduction of 2,690,018 kWh (2021) 2,800,949 kWh (2022) and

2,917,044 kWh (2023). Cumulatively, in the past 3 years, the energy saving is 8,408,011.01 kWh (55.64 %).

Energy Consumption and Saving Percentage



The significant energy cost savings in 2021, 2022 and 2023 are MYR 981,857 (USD205,388), RM 1,022,346 (USD213,858) and MYR 1,064,721 (USD 222,722), respectively. Note: USD 1 = MYR 4.7855. Cumulatively, in the past 3 years, the energy saving is MYR 3,068,924.02 (USD 642,437.81). These energy and cost savings are much greater if compared to baseline consumption of the year 2014/2015 (actual setting baseline of SEMS in UTeM).

The figure below shows evidence of ESM has been conducted in UTeM for the last 3 years.

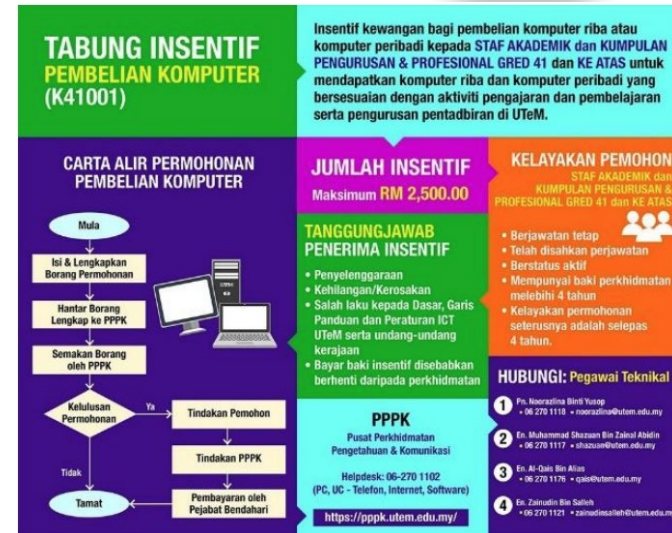
Building Management System in UTeM



Chiller Retrofitting from Conventional Water-Cooled Chiller to Variable Speed Drive (VSD) Type in UTeM



UTeM Desktop to Laptop Incentive Program Advertisement



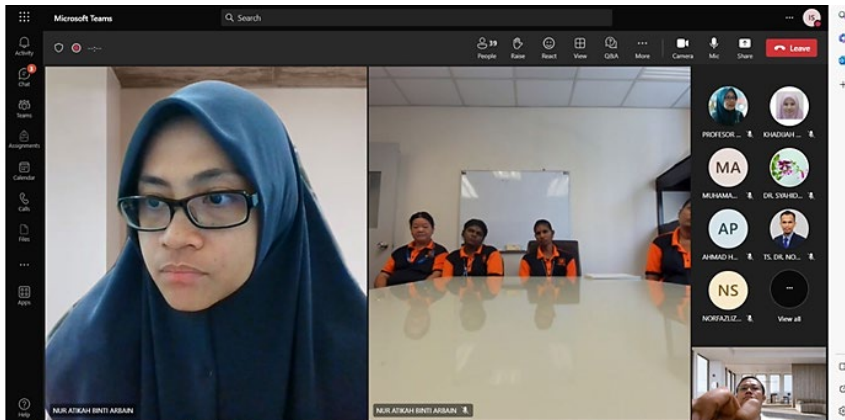
Energy Awareness Talk to Staff



Energy Awareness Talk to Students



Energy Awareness Talk to Community



UTeM has an Energy Management Policy aimed at promoting clean energy use across the campus.

The commitment for clean energy stated in UTeM energy policy

The commitment is stated under the Energy Management Policy and Guidelines of Universiti Teknikal Malaysia 2019 such as



8 DECENT WORK AND ECONOMIC GROWTH



SDG 8: Decent Work and Economic Growth

Commercialization Initiative at Universiti Teknikal Malaysia Melaka

(i) Spin-Off Company of Universiti Teknikal Malaysia Melaka

01



IIOTSME SDN. BHD.
(En. Mazran bin Esro)



02



INGENIOUS CITY ENGINEERING SOLUTIONS SDN. BHD.
(Ir. Ts. Dr. Anuar bin Mohamed Kassim)



03



ERADA SOLUTION SDN. BHD.

E-Research And Development Accelerator

ERADA SOLUTION SDN. BHD.

(Profesor Madya Ts. Dr. Haslinda binti Musa)

No.	Spin-Off Company at UTeM	IP Name / Product	License Fee Charges Paid for the Second Year (2023)
1.	IIOTSME SDN. BHD.	IoT Flood Observatory System (iFOS)	RM10,000.00
2.	INGENIOUSCITY ENGINEERING SOLUTIONS SDN. BHD.	a) Intelligent Fire Alarm System (i-FAST) b) Intelligent Soil and Environment Monitoring System using IoT	RM20,000.00
3.	ERADA SOLUTION SDN. BHD.	Operations Management in Edutourism: A Framework For Tour Packages and Services	RM10,000.00

(ii) Commercialization of Innovation

Recognizing the need for revenue generation for the University, UTeM has targeted this opportunity by commercializing several innovations identified as capable of competing and penetrating the market such as

- KESIDANG CNC 3D ROUTER



Product's Progress

Previous Status (Product Launching)

The launching ceremony took place at Dewan Canselor UTeM on 26th Jan 2023 during the initiation of Duta TVET program. It was initiated by CM Melaka.

Current Status (Commercialization)

Discussion between researcher, CIC/UTeM, PUU and UTeM Holdings Sdn Bhd is on going, pertaining issues on the IP, royalty, appointment of sole distributor & reseller, MoA and contracts and product pricing.

Implementation Status

- Design improvement – Product Design Specifications will be upgraded according to latest findings.
- Production engineering – To set up an assembly line for the product in a joint effort/collaboration between Tf/UTeM and UMSB. The facility is expected to provide opportunities for experiential learning, practical project, and collaborative problem solving to both students and industrial personnel.

Functional Prototype of Kesidang CNC 3D Router.

The KESIDANG CNC 3D Router delivers exceptional precision, advanced automation, and increased productivity, making it the perfect solution for industries that require high-quality with detailed 3D routing.

(iii) An outright sale of Intellectual Property (IP) related to People Relationship Information Management (PRIM) has been executed to Myltqan Solutions Sdn. Bhd. for a total value of RM10,000.00.



PRIM

Name of company : MYITQAN SOLUTIONS SDN. BHD.

PRODUCT DESCRIPTION

Parental Relationship Information Management (PRIM)" technology is a product to connect schools with parents. This system is built to focus on allowing various types of fees such as membership of a club, school and donations to be managed systematically. This system provides greater benefits to various organizations facing difficulties in collecting and managing various types of fee collections where users and parties who manage various fees can still conduct business online.

The special features of "PRIM" are:

- use of cheap local technology;
- reduce operating time;
- reduce the risk to the school in receiving a lot of money;
- the generation and analysis of data related to transactions carried out.
- Information monitoring for school management, especially for fee payment.

myITQAN

(iv) A comprehensive proposal for the ecosystem, policies, and guidelines to support the establishment of start-up companies at Universiti Teknikal Malaysia Melaka.



High-Impact Projects

In 2023, UTeM identified several high-impact innovation projects with strong potential for commercialization. These projects are helping UTeM researchers share their groundbreaking products with the State of Melaka, Community and Industry, while also driving the university's efforts to boost commercialization. By inspiring researchers, these initiatives are sparking more research and innovation at UTeM, and ultimately contributing to the university's revenue through research-based products.

(i) Pilot Plant of High-Performance Lithium-ion Battery in UTeM





Pilot Plant of High Performance Lithium-ion Battery in UTeM
Hayatech Sdn. Bhd., Shibaura IT, Graphjet, Panasonic Energy



Product's Development Progress

This is our novelty and originality: **In-house produced graphene material for anode in LIB**

WEEK GRAPHENE??

POTENTIAL & POC

BUSINESS PLANS & FUTURE DEVELOPMENT

This proposal consists of ALL elements including proof of concept, detail planning and project costing, future R&D planning, environmental concerns, safety, etc.




POC + Prototype: Done, 2011 – 2021
Very strong fundamentals + team in nanomaterials and energy storage technologies

Implementation Status

Item	Details	Status
Man	32 UTeM researchers, 6 contract staffs	
Machines	20% in-house, 80% purchase	
Materials	Ongoing of purchase	
Method	Patented processes	
Budget	RM 3.7 mils: UH, RM 400K: UTeM, RM 2 mils: State Govt	
Business	In the pipeline of developing "millions" of business and ROI (after 5-years of operation)	

(ii) Electrical Vehicle Developed by Autotronic Laboratory





Electrical Vehicle Developed by Autotronic Laboratory
Collaboration with UPNM











Product's Progress

Previous Status

The vehicle has been successfully tested experimentally. The standard test used are:

- J1666, 200210: Electric Vehicle Acceleration, Gradeability and Deceleration Test Procedure.
- SAE J866: Acceleration and braking test.
- SAE J1455: Slalom and double lane change test

Youtube link experimental test: https://www.youtube.com/watch?v=z0F00PP_RY

Current Status

Our intention on this EV project are to design a totally electric vehicle, which mean all the system in the vehicle will be changed to electronic actuated mechanism, such as brake by wire and steer by wire.

On that basis, a steer by wire system with torque feedback has been design and tested. the video of the experimental test is shown in the youtube link below: <https://youtu.be/ymGsk0Y18>

The brake by wire also have been developed and tested. The video of the system is shown youtube: <https://www.youtube.com/watch?v=bfmnaBnRvRE>

Implementation Status

Item	Details	Status
Man	32 UTeM researchers, 6 contract staffs	
Machines	20% in-house, 80% purchase	
Materials	Ongoing of purchase	
Method	Patented processes	
Budget	RM 3.7 mils: UH, RM 400K: UTeM, RM 2 mils: State Govt	
Business	In the pipeline of developing "millions" of business and ROI (after 5-years of operation)	

EV Performance :

- Max speed on level pavement: ≤ 40km/h
- Max speed on Gradient pavement: ≤ 20 km/h
- Max road Gradient slope: ≤ 10°



(iii) Empowering the Involvement of the State of Melaka in the Food Industry, Both Domestically and Internationally, from 2022 to 2030





MEMPERKASA PENGUBATAN NEGERI MELAKA DALAM INDUSTRI MAKANAN NEGERI MELAKA DALAM DAN LUAR NEGARA TAHUN 2022 HINGGA 2030
UTeM, YAYASAN DMDI & YAYASAN CANSOLOR UTeM



Product's Progress

Previous Status

Perbincangan dengan agensi kerajaan di Hotel Muzaffar



Current Status

Perbincangan Bersama Tuan Yang Terutama Tun Seri Setia (Dr) Haji Mohd Ali Bin Mohd Rustam Pada 21/12/2022



Implementation Status

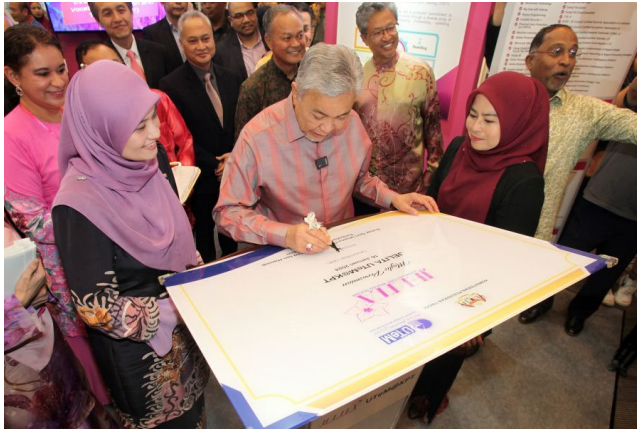
Paperwork has been approved to organize few workshop as below

- 3rd Feb 2023
- 10th Feb 2023
- 13th Feb 2023
- 17th Feb 2023
- 23rd Feb 2023

Objectives :

- to collect and verify the data from agencies and stakeholders
- To produce coffee tables books

TVET Place & Train UTeM@KPT



The TVET Place & Train UTeM@KPT initiative is a true reflection of Universiti Teknikal Malaysia Melaka's dedication to leading the charge in TVET in Malaysia. This effort is in line with the vision of our country's 'TVET Icon,' the Honorable Deputy Prime Minister. The title 'TVET Icon' is not just a symbolic gesture; it is evident in actions like the development of the National TVET Policy, the establishment of the National TVET Secretariat, the increase in minimum wages for TVET graduates, international collaborations like the Malaysia-China MoU, and support for the JELITA Program — a special TVET initiative for women, spearheaded by UCAM and UTeM, which recently took on the role of training supervisors and facilitators. TVET Place & Train UTeM@KPT serves as a gateway to enhancing graduate

employability, which can be described as a 'special approach' because it involves four key pillars, namely:

1. JELITA UTeM@KPT
2. UTeM-Industrial Playground
3. Industry-MTUN Cybersecurity Consortium
4. National Industrial Career Expo (NICE@UTeM)

These four pillars represent a holistic, integrated effort to enhance graduate employability (GE) with premium salaries. Indirectly, the TVET Place & Train UTeM@KPT initiative will contribute to addressing unemployment issues and supporting the overall economic development of the community and the country. UTeM has partnered with major multinational companies offering premium salaries to set up booths, providing job placement opportunities with companies such as Petronas, Micron, Hartalega, and others.

The TVET Place & Train UTeM@KPT program is set to offer an impressive 25,000 premium salary job placements, providing valuable career opportunities through key platforms such as JELITA UTeM@KPT, the UTeM-Industrial Playground, and the National Industrial Career Expo (NICE@UTeM). This initiative plays a vital role in bridging the gap between academic training and high-quality employment, empowering graduates with the skills and opportunities to thrive in today's competitive job market.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



SDG 9: Industry, Innovation and Infrastructure

UTeM's Research Collaboration with OnSemi



UTeM has secured an international grant worth nearly RM500,000 (USD100,420) through a Collaborative Research Agreement (CRA) with Semiconductor Components Industries, LLC, USA, and On Semiconductor Malaysia Sdn. Bhd. The funding will support a research collaboration focused on the development and testing of Silicon Carbide Power Devices for IC fabrication, spanning one year from April 1, 2023, to March 31, 2024.

Securing an International SATREPS Grant Worth Nearly RM5 Million



UTeM has secured an international SATREPS (Science and Technology Research Partnership for Sustainable Development) grant, valued at nearly RM5 million, for a five-year period from April 1, 2023, to March 31, 2028. This project sees UTeM partnering with Kindai University (KINDAI) in Japan and Universiti Tenaga Nasional (UNITEN) to lead research under Japan's International Technical Cooperation Program. The focus is on the 'Real-Time Lightning 3D Imaging and Forecasting Project', aimed at ensuring a sustainable and reliable energy supply, as well as advancing early warning systems for storm-related disasters.

Establishment of the Centre of Technology for Disaster Risk Reduction



The establishment of the Centre of Technology for Disaster Risk Reduction (CDR), at UTeM represents a pioneering initiative in the field of disaster management. This centre is dedicated to leading global research and innovation in disaster mitigation technologies, with a special focus on Malaysia's needs. By collaborating with key disaster management agencies such as the National Disaster Management Agency (NADMA), MetMalaysia, and the Department of Irrigation and Drainage (JPS), the CDR plays a crucial role in advancing technological solutions that enhance the country's ability to manage and reduce disaster risks, ensuring a safer and more resilient future for all.

In addition, the CDR also serves as a national and international reference centre for providing technical solutions related to disaster management efforts.

UTeM Researchers Listed in the World's Top 2% Scientists for the Year 2022 by Stanford University

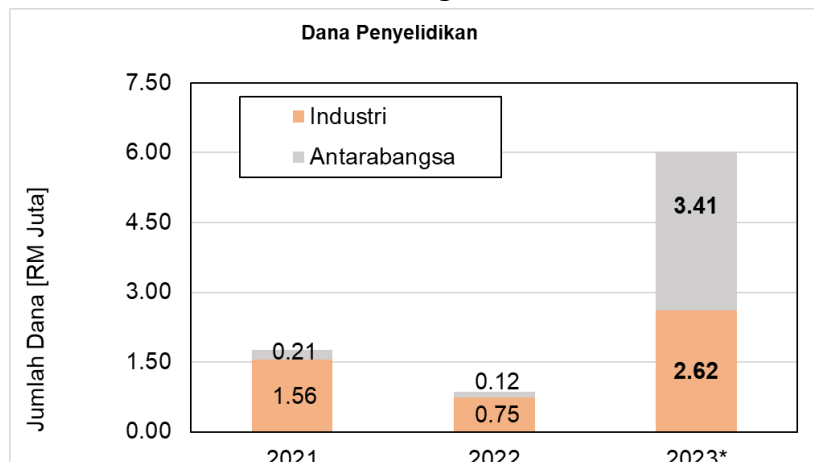


Five UTeM researchers have successfully been listed in the World's Top 2% Scientists for the Year 2022 by Stanford University. This world-class recognition highlights the outstanding performance of UTeM researchers in research and innovation.

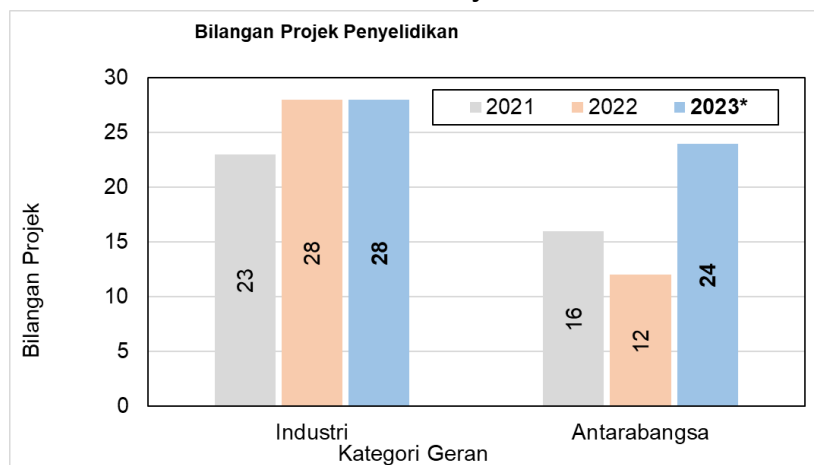
Research Grants

In 2023, there has been a remarkable increase in funding through research grants from both industry and international sources.

UTeM Research Funding from 2021 to 2023



Comparison of UTeM's Industry and International Research Projects



Through this research collaboration, UTeM has successfully established strategic partnerships with both industry and

international organizations, resulting in a significant impact on improving the quality of its research outputs and elevating UTeM's standing on the global stage.

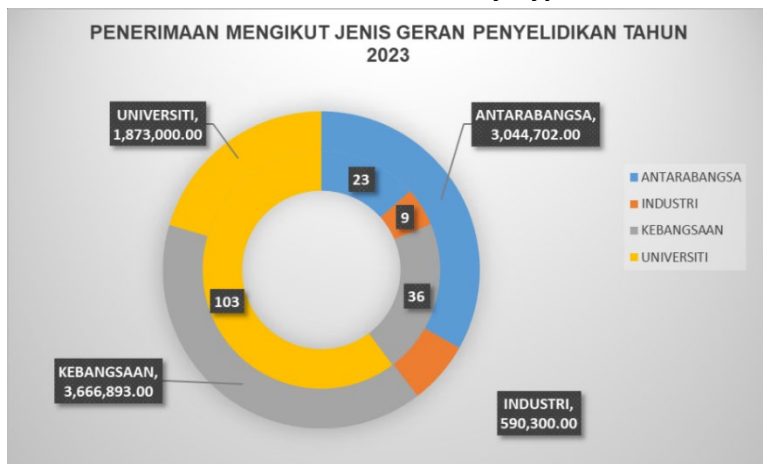
To date, UTeM has formed collaborations with over 100 corporate and international institutions. This number continues to grow each year, reflecting UTeM's increasing recognition and high credibility.

In 2023, the total research grants received exceeded RM9 million, marking an increase of nearly 40 percent compared to the amount received in 2022.

Total Research Grants for the Year 2023

Category	Total	Total Allocation (RM)
International	23	3,044,702.00
Industry	9	590,300.00
National	36	3,666,893.00
University	103	1,873,000.00
Total Amount	171	9,174,895.00

Research Grant Distributions by Type for 2023



Research Commercialization and Innovation Activities

Research and innovation are essential drivers of a dynamic and competitive university, playing a key role in supporting the growth of a prosperous and advanced nation. These elements are crucial in fulfilling the university's vision and mission, fostering creativity, and encouraging the exploration of new ideas. They help create an environment that equips us to navigate a borderless, high-tech world, while developing groundbreaking solutions for the future.

The emphasis on quality and intellectual property protection for research and innovation outputs at UTeM has created a more effective platform for researchers to increase returns on research funding.

The year 2023 has highlighted UTeM's commitment and efforts in strengthening intellectual property and commercialization, yielding impressive results with a total of 4 patents granted, 3 patents filed, 4 trademarks, and 20 copyrights. The table below shows the intellectual property statistics for 2023 at UTeM, while the chart below illustrates the number of intellectual property filings in 2023 by faculty.

UTeM Intellectual Property (IPR) Statistics for 2023

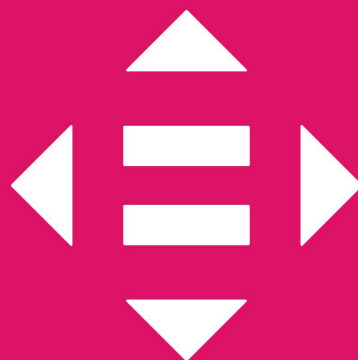
Perkara	FKE	FKM	FKP	FKEKK	FTMK	FTKEE	FTKMP	FPTT	PBPI	Lain-lain	Jumlah
Patent	0	0	2	0	0	0	1	0	0	0	3
Utility Innovation	0	0	0	0	0	0	0	0	0	0	0
Copyright	1	2	2	1	7	2	4	0	0	1	20
Trademark	0	0	0	0	2	2	0	0	0	0	4
Industrial Design	0	0	0	0	0	0	0	0	0	0	0
Paten Granted	0	0	2	1	1	0	0	0	0	0	4

Intellectual Property Filings by Faculty in 2023



INDICATORS	
FKE	Fakulti Kejuruteraan Elektrik
FKM	Fakulti Kejuruteraan Mekanikal
FKP	Fakulti Kejuruteraan Pembuatan
FKEKK	Fakulti Kejuruteraan Elektronik & Kejuruteraan Komputer
FTMK	Fakulti Teknologi Maklumat & Komunikasi
FTKEE	Fakulti Teknologi Kejuruteraan Elektrik & Elektronik
FTKMP	Fakulti Teknologi Kejuruteraan Mekanikal & Pembuatan
FPTT	Fakulti Pengurusan Teknologi & Teknousahawanan
PPB	Pusat Pembelajaran Bahasa
LAIN	Selain dari senarai Fakulti/Pusat di atas

10 REDUCED INEQUALITIES



SDG 10: Reduced Inequalities

Facilities for People with Disabilities (OKU)

Universiti Teknikal Malaysia Melaka (UTeM) is dedicated to creating an inclusive and accessible campus by providing various facilities for people with disabilities (OKU). This includes installation of automatic glass doors, ramps, handrails, tactile tiles, stairlifts, designated parking and signage for people with disabilities (PWD), ensuring that individuals with physical limitations can navigate and enjoy campus life comfortably. UTeM's initiative supports a welcoming environment where all students and staff, regardless of physical abilities, have equal access to educational resources and opportunities. This commitment underlines UTeM's dedication to fostering inclusivity and accessibility in higher education.

Installations of Automatic Glass Doors



Installations of Ramps



Installations of Handrails and Tactile Tiles



Installations of Stairlifts



Designated Parking and Signage for People with Disabilities



11 SUSTAINABLE CITIES AND COMMUNITIES



SDG 11: Sustainable Cities and Communities

UTeM has upgraded the internet speed to 13 Gbps for both the Main Campus and Technology Campus



UTeM began upgrading its internet speed from 3 Gbps to 13 Gbps starting October 1, 2023, for both of its campuses: the Main Campus in Durian Tunggal and the Technology Campus in Ayer Keroh. This initiative is a full collaboration with TIME dotCom Berhad, running until September 2025, and is part of the broader digital transformation agenda across all Public Universities.

The aim is to ensure affordable, reliable, sustainable, and integrated access to digital infrastructure and information systems for everyone, including students, staff, and stakeholders. This effort will also drive a comprehensive digital

transformation, positively impacting all aspects of university administration and teaching & learning (PdP) activities, enabling online access anytime and anywhere. UTeM is committed to advancing digital transformation in its PdP operations and overall activities, creating significant impacts, challenges, and opportunities to facilitate online operations in everyday life.

Physical Development and Infrastructure Management at UTeM

Numerous upgrades and improvements have been made to the infrastructure to create a more supportive and vibrant campus environment.

Among the key facilities offered are:

Construction of an Open Pedestrian Pathway



Construction of a sheltered pedestrian pathway



The creation of pedestrian pathways will greatly benefit the UTeM community, especially students, by providing a safer and more efficient way to get to their classes. This initiative is crucial for improving pedestrian safety while also helping to ease traffic flow on campus roads. Ultimately, it will make it more convenient and comfortable for everyone, particularly students, to move around campus.

The construction of an additional building at the University Health Centre, specifically the Pest Control Room



The Pest Control Room serves the following functions:

1. Medical instruments/equipment:
 - a. Disinfection of dirty or contaminated equipment/instruments
 - b. Sterilization of these instruments
 - c. Storage – packaging and storing clean instruments
2. Storage of clean linen.

Upgrading the student lounge and the open court at the Faculty of Information and Communication Technology (FTMK)



The open sports court and rest area are designed to encourage student activities and provide valuable benefits to the entire FTMK community.

Installation of a Kayak Dock



The installation of this kayak dock aims to promote recreational activities at the UTeM lake by providing a safe and comfortable facility.

Upgrade of the drainage system at the UTeM Main Campus



This upgrade is being implemented to ensure the drainage system at the UTeM Main Campus operates effectively. A malfunctioning drainage system could result in flooding, potentially damaging other facilities and assets across the campus.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

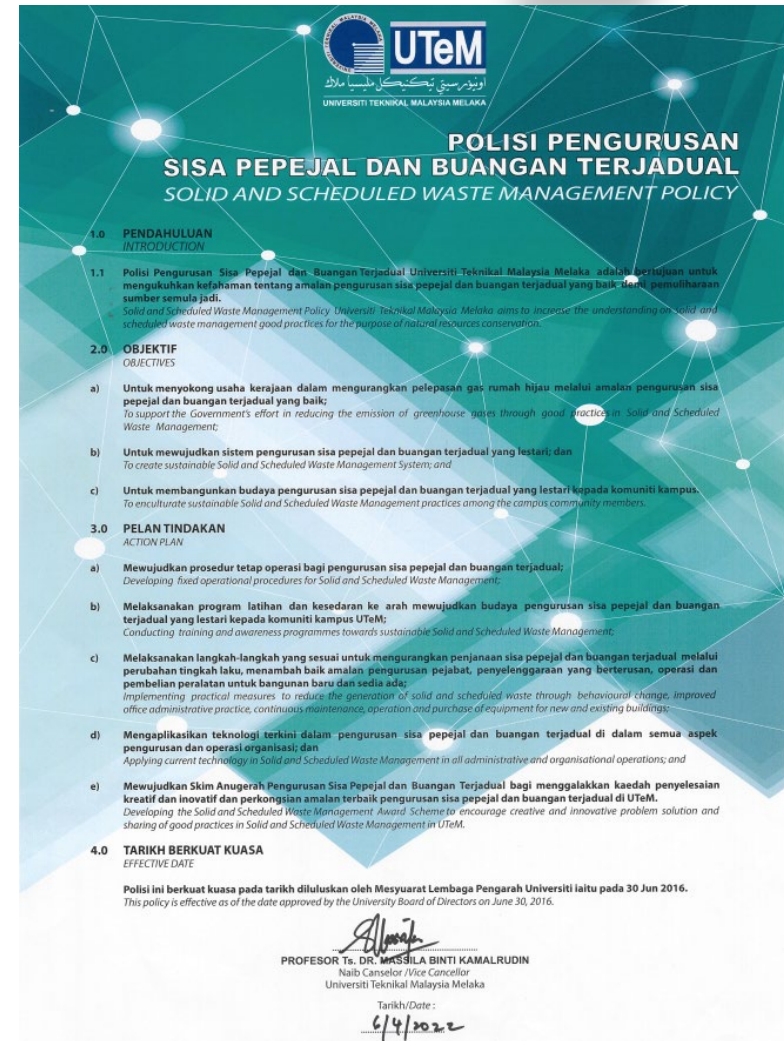


SDG 12: Responsible Consumption and Production

Waste management

Waste management is thoughtfully managed by UTeM to help reduce the impact on the environment. UTeM has Solid and Scheduled Waste Management Policy to drive towards proper waste management throughout campus. Wastes managed in UTeM can be classified into 2 categories which are inorganic and organic wastes. All the recyclable wastes are properly managed with university's upcycling initiatives and recycling companies.

Solid and Scheduled Waste Management Policy



Integrated Recycling Program (BeKaS)



Integrated Recycling Program (BeKaS) has been officially launched in 2022 during the Karnival Penghayatan Alam Sekitar (Environmental Appreciation Carnival) in Jun 2022 at Universiti Teknikal Malaysia Melaka. BeKaS offers continuous initiative to facilitate staff, students, visitors and contractor performing the continuous practice of 3R activities. BeKaS program has committed to offer:

1. Continuous and Systematic Programs of recycling activities at the registered Recycling Centres in campus and through Policies/Guideline Enforcement.
2. Programs/Events (more than 4 Programs/Events) every year related to Hari Kitar Semula (Recycle Day).
3. Every Friday (Weekly Program) as 'open day' at the Centre for Smart Environment (previously known as KPKA) for staff & students to send any type of recycle materials especially for the waste cooking oil (WCO) with the change of cash.

Continuous and Systematic Programs of recycling activities at the registered Recycling Centres in campus and through Policies/Guideline Enforcement.

- 1.1) Continuous Program Implementation through the Enforcement of Policies/Guideline. Digital Document Management System-DDMS, Policy of Waste Management in UTeM, eCourseFile and E-Waste University Asset and Inventory Disposal Management.

No. Dokumen: UTeM 100-135 (1)



SURAT PEKEKULING KEWANGAN
BILANGAN 18 TAHUN 2021

**SYARIKAT PANEL PELUPUSAN ASET BAGI
KAEDAH JUALAN SISA DAN eWASTE**

Pejabat Bendahan
12 November 2021

Ditandatangani
Nah: Canselor

Tindakan Nah: Canselor (Akademik & Antarabangsa)
Tindakan Nah: Canselor (Persekitaran & Inovasi)
Tindakan Nah: Canselor (Kualiti & Inovasi)
Pencapaian Nah: Canselor (Kualiti & Inovasi)
Pencapaian Nah: Canselor (Kualiti & Inovasi)

No	HAUDYCAM	UNIT	2.00
18	MESIN SHREDDER	UNIT	10.00
19	ELECTRIC PUNCHER	UNIT	15.00
20	VIDEO CAMERA	UNIT	2.00
21	LCD TELEVISION	UNIT	15.00
22	TELEVISION - SMALL	UNIT	4.00
23	TELEVISION - MEDIUM	UNIT	10.00
24	TELEVISION - BIG	UNIT	15.00
25	SERVER	UNIT	40.00
26	REFRIGERATOR	UNIT	15.00
27	FREEZER	UNIT	30.00
28	WASHING MACHINE	UNIT	15.00
29	STAND FAN	UNIT	5.00

OTHER ITEM NOT ON THE LIST **THE PRICE DEPENDS ON THE SIZE OF THE PRODUCT**

No	SMALL PRODUCT	UNIT	1.00 To 3.00
30 <td>MEDIUM PRODUCT <td>UNIT <td>5.00 To 10.00</td> </td></td>	MEDIUM PRODUCT <td>UNIT <td>5.00 To 10.00</td> </td>	UNIT <td>5.00 To 10.00</td>	5.00 To 10.00
31 <td>BIG PRODUCT <td>UNIT <td>30.00 To 50.00</td> </td></td>	BIG PRODUCT <td>UNIT <td>30.00 To 50.00</td> </td>	UNIT <td>30.00 To 50.00</td>	30.00 To 50.00

Tindakan Nah: Canselor

Tindakan Nah: Canselor

Alamat Syarikat & Cop : No.18, Jalan Perumahan 1, Kawasan Perumahan Pili Hala, Jeram Baik, 84200 Muar, Johor.

Nama : HONG WEI CARRY SERVICE

No. Telefon : 016-555 2402

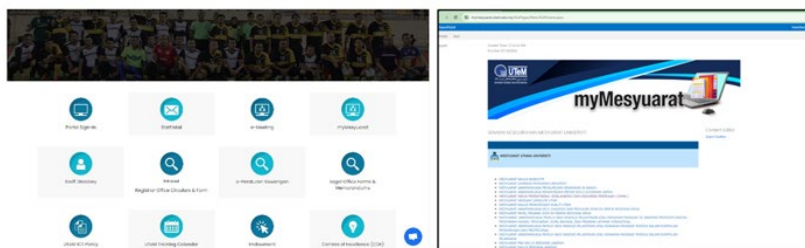
Policy: E-Waste University Asset and Inventory Disposal Management
(Recycling-Recover Enforcement: A continuous program practices by every office/faculty)

- 1.2) Continuous Program of E-Waste Management in University: Policies and Regulation related to E-Waste Recycle Management in Universiti Teknikal Malaysia Melaka. (Universiti Teknikal Malaysia Melaka has fully implemented all the management mechanisms for E-Waste to all staff and student towards sustainable waste management through the policy of E-Waste University Asset and Inventory Disposal Management).

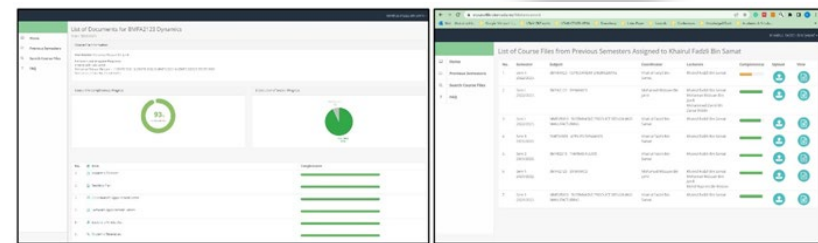


Example one of the Management Mechanisms for E-Waste Disposal for Recovery Process (Recycle Enforcement: Continuous Program)

- 1.3) Continuous Program of myMesyuarat: The use of papers has been reduced significantly by using only the soft copy documents for more than 100 official meetings in university.



- 1.4) Continuous Program of eCourseFile: Reduce the use of paper for academic course file
<https://ecoursefile.utem.edu.my/>

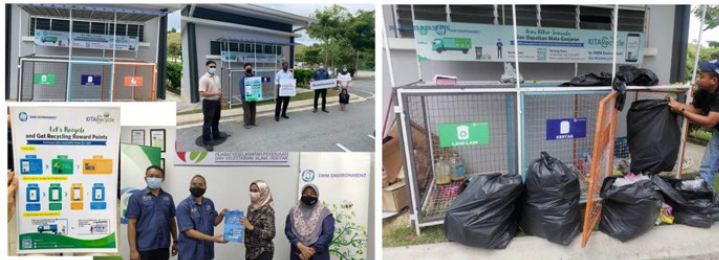


- 1.5) Continuous Program of Waste Cooking Oil Collection Vending Machine: Waste Cooking Oil Collection Vending Machine Pilot Project.



- 1.6) In 2021, Melaka State's solid waste collection company, SWM Environment company has given a Recycling Cage to UTeM for use at the student's hostel area. This initiative has a significant impact on recycling practice among the students and staff. With the company collaboration, the management of recycling wastes at

all Recycling Centres can be sustained in a very systematic process. (Cage Type Recycling Centre)



- 1.7) A Recycling Centre with systematic collection and management by SWM Environment company is also located at the centre of the university campus. (Cage Type Recycling Centre)



- 1.8) Another Recycling Centre with enlargement of capacity has been provided to accommodate an increasing demand for the user to place the recycled material (Colours indicator: Blue for Paper, Orange for Plastic and Chocolate for Others (E-Waste, Metal & Waste Cooking Oil)). (Cage Type Recycling Centre)



- 1.9) Continuous program and encouragement by providing an appropriate facility of Recycling Centres at faculty building. (Bin Type Recycling Centre)



- 1.10) A Fabric Recycling Centre has been setup at the centre of campus with a collaboration between a government corporation (SWCorp Malaysia-Solid Waste and Public Cleansing Management Corporation), Kloth Malaysia Sdn. Bhd. and Lifeline Clothing Malaysia (LLCM) companies. This program allows plenty of types of fabric

to be gathered in a specially provided container
(Container Type Recycling Centre)



- 1.11) The continuous program for organic waste compost: A group of students that enrolled in Environmentally Sustainable subject manages the process of compost production through the Takakura Composting Method.



Programs/Events (more than 4 Programs/Events) every year related to Recycle Day

- 2.1) Plastic, Paper, Waste Cooking Oil and Electric-Electronic Equipment Wastes Collection at the Trash-To-Cash Recycling Program (1st Trash-To-Cash Program in a year-until Oct 2023).



- 2.2) Plastic, Paper, Waste Cooking Oil and Electric-Electronic Equipment Wastes Collection at the Trash-To-Cash Recycling Program (2nd Trash-To-Cash Program in a year-until Oct 2023).



- 2.3) Plastic, Paper, Waste Cooking Oil and Electric-Electronic Equipment Wastes Collection at the Trash-To-Cash Recycling Program (3rd Trash-To-Cash Program in a year-until Oct 2023).



- 2.5) The Best Practice of Recycling Program: This program focuses on guiding and teaching directly to students and staff how to determine what they can and cannot recycle, especially for paper, paper box, beverage can and plastics during a university event.



- 2.4) Open Booth Recycling Program: A booth to promote recycling activities has been organized at a university event with JICA-Japan International Cooperation Agency volunteer, Ms. Yuka (attached about 1 year at UTeM).



- 2.6) Recycling Program at University Lakes-World Cleanup Day: Picking up trash and sorting for recycling materials such as plastic bottles around university's lakes.



- 2.7) Awareness Recycling Program: A short course program to the UTeM staf about the recycling management and green practice activities.



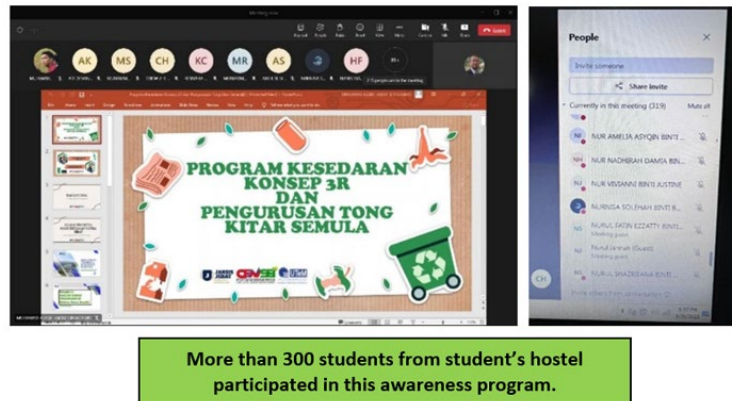
- 2.8) Awareness Recycling Program: Awareness talk (in hybrid mode) about recycling to office/faculty at UTeM and providing an appropriate Recycle Waste Bin to increase the practice of recycling activity.



- 2.9) Awareness Recycling Program: Awareness talks about recycling management to office/faculty at UTeM conducted by SWM Environment company as a Melaka State's solid waste collection company to increase the practice of recycling activity.



- 2.10) Awareness Recycling Program: Online awareness talks to students about 3R practice & management.



recycling activities such as performing Recycling Food Waste into Compost through the Takakura Composting Method.



- 2.11) Awareness-Demonstration Recycling Program: Awareness talk and a demonstration of organic recycling initiative (Recycling Waste Cooking Oil into Soap and Creative Candle).



- 2.12) Demonstration Recycling Program: UTeM offers Co-curricular Courses about environment preservation. One of the programs in the course is to demonstrate and teach the students how to conduct organic

- 2.13) Awareness Recycling Program: The recycling and green practices awareness program has reached out to several schools near to UTeM campus. This fruitful program was performed with JICA-Japan International Cooperation Agency volunteer, Ms. Yuka (attached about 1 year at UTeM).



- 2.14) Awareness Recycling Program: The recycling and green practices awareness program has reached out to several schools near to UTeM campus. This program demonstrates an initiative for organic recycling activity

(Recycling Food Waste into Compost through the Takakura Composting Method).



2.15) Recycling Program from Office/Faculty: Recycling program organized by Advance Manufacturing Centre, UTeM.



2.16) Recycling Program from Office/Faculty: Recycling program organized by Internal Audit Office, UTeM.



2.17) Recycling Program from Office/Faculty: Recycling program organized by University Treasurer's Office.



2.18) Recycling Program from Office/Faculty: Recycling program organized by Centre of Language Learning-CELL.



2.19) Recycling Program from Office/Faculty: Recycling program organized by Faculty of Technology Management (papers & E&E equipment).



2.20) Recycling Program from Office/Faculty: Chancellery Office (papers & WCO).



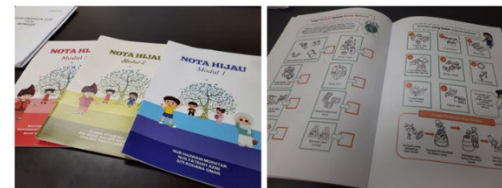
2.21) Recycling Program from Office/Faculty: Recycling program organized by Faculty of Mechanical Technology and Engineering.



Recycling Program from Office/Faculty: Recycle paper management from the Centre for Smart Environment, UTeM.



2.22) Recycling Program through the Development of Modules.



- 2.23) Recycling Program through the Awareness Talk and Demonstration of Waste Cooking Oil (WCO) Recycling Process (WCO into Creative Candle).



- 2.24) Recycling Program through the Awareness Talk and Demonstration of Waste Cooking Oil (WCO) Recycling Process (WCO into Soup and Insect Repellent).



- 2.25) Recycling Program through the Awareness Talk and Demonstration of Waste Cooking Oil (WCO) Recycling Process (WCO into Soup and Creative Candle).



- 2.26) Recycling Program through Innovations: Smart Sorting IoT-System for Inorganic Recycling Bin.



- 2.27) Recycling Program through the Innovations: Smart Compost IoT-System for Organic Recycling Containers



Every Friday (Weekly Program) as 'open day' at the Centre for Smart Environment (previously known as KPKA) for staff & students to send any type of recycle materials especially for the waste cooking oil (WCO) with the change of cash.

- 3.1) Every Friday (Weekly Program) as 'open day' at the Centre for Smart Environment (previously known as KPKA). This program allows staff & students to send any type of recycle materials especially for the papers, plastic and waste cooking oil (WCO) with the change of cash.



- 3.2) Collection of waste cooking oil (WCO) especially on every Friday (Weekly Program). The WCO will be stored in the university central store before being collected by a company.

13 CLIMATE ACTION



SDG 13: Climate Action

Low Carbon City Awards Ceremony 2022



On February 20, 2023, the 2022 Low Carbon City Award Ceremony was held at Mardhiyyah Hotel & Suites in Shah Alam, where UTeM was honoured with the 2022 Low Carbon City Diamond Recognition Award. The event was aimed at recognizing the efforts of Local Authorities (PBT), government agencies, and private organizations in reducing greenhouse gas (GHG) emissions through the Low Carbon Cities 2030 Challenge (LCC2030C) program.

The ceremony was officiated by YB Nik Nazmi Nik Ahmad, the Minister of Natural Resources, Environment, and Climate Change (NRECC). A total of 30 PBTs and organizations received

recognition, with more than 80 awards presented throughout the event. Schools from across the State of Melaka were also celebrated for their contributions and were among the award recipients.

Heat Stroke Awareness



Due to the unpredictable changes in climate, there has been a rise in cases of heat stroke. In response, the Ministry of Health Malaysia has issued an advisory to raise awareness about heat stroke among the public.

UTeM has also shared this important information with the entire university community to ensure that everyone is

informed about heat stroke and knows how to prevent and respond to it effectively.

Here are some important tips to be aware of regarding heat stroke:

☀ Prolonged exposure to hot weather while engaging in physical activity can lead to HEAT EXHAUSTION and HEAT STROKE.

💧 Stay hydrated by drinking plenty of water, no matter your activity level. Do not wait until you are thirsty.

🏠 Try to stay in a shaded or cooler area whenever possible.

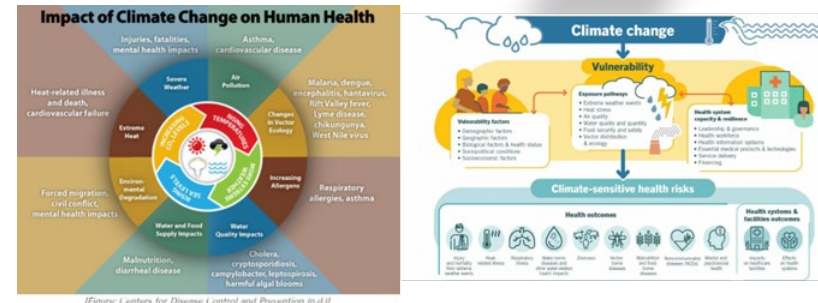
👁 Keep an eye out for the signs and symptoms of heat exhaustion and heat stroke and seek medical help if needed.

Climate Change Awareness at UTeM

Climate change refers to long-term changes in temperature patterns, rainfall, and other climate phenomena around the world. This term is often used to describe global warming caused by human activities, although climate change can also include natural changes that occur over longer time scales.

The impacts of climate change affect both humans and the environment, including:

- Effects on weather patterns;
- Effects on global temperatures;
- Effects on ecosystems;
- Effects on human health; and other related impacts.



Climate change should be included in the university's risk register, where relevant, to ensure that proper mitigation measures are put in place. Other examples of risks related to climate change at the university include:

i. Operational Risk – Disruption of student activities, preventing them from being fully carried out due to restrictions on outdoor activities.

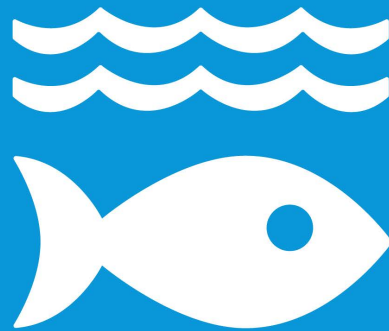
Cause: Climate change resulting in extreme heat.

ii. Financial Risk – A rise in financial needs to support students affected by disasters such as flash floods, landslides, fires, and other calamities.

Cause: Climate change leading to natural disasters.

UTeM, through the University Health Centre, the Office of the Deputy Vice-Chancellor (Student Affairs & Alumni), and the Governance & Organizational Management Division at the Office of the Registrar, has shared information on climate change through Info UTeM for the awareness and action of both staff and students.

14 LIFE BELOW WATER



SDG 14: Life Below Water

Smart Hydro-Bike: Sustaining Melaka River



The Smart Hydro-Bike is an initiative and concept introduced by UTeM to raise awareness about river conservation and improve the quality of life for the community and the environment. In addition to being used for recreational activities, this unique hydro-bike concept helps in cleaning floating waste from the water's surface. The bike is also equipped with safety features, such as a device to track the bike's location for data collection based on the "Internet of Things" (IoT).

The implementation of the Smart Hydro-Bike program for the cleaning of the Malacca River has received strong collaboration from the Malacca River and Beach Development Corporation (PPSPM). This innovation is a significant achievement under KPI Flagship 8: Technology and Digital Communication in the Strategic Plan *Melakaku Maju Jaya (PSMJ 2035)*. Moreover, the Smart Hydro-Bike aligns with the 6th Sustainable Development Goal (SDG), which focuses on protecting and restoring water-related ecosystems.

The organization of this program is also in line with the Melaka Smart City initiative, promoting collaborative efforts from various parties towards the development of Melaka. The program has been well-received, particularly by PPSPM, the Malacca State Education Department, and schools across the state. The official launch of the Smart Hydro-Bike for Sustaining the Malacca River, in collaboration with PPSPM, was officiated by YB Datuk Fairul Nizam bin Roslan, the State Executive Councillor for Science, Technology, Innovation, and Communication, representing YAB Datuk Seri Utama Ab Rauf bin Yusoh, the Chief Minister of Melaka, on December 11, 2023, at Dataran Pengkalan Rama, Melaka.

The launch event is a continuation of the *Smart Hydro-Bike Workshop for River Conservation*, held on June 14, 2023, and the *Robotics Competition for River Sustainability*, which took place from August to November 2023. The program involves

the Knowledge Transfer Program (KTP) and Training of Trainer (ToT), engaging UTeM staff and students, school students, and PPSPM staff.

These programs also aim to test participants' creativity and problem-solving skills in addressing river cleanliness issues, particularly concerning rivers in Melaka. Additionally, they serve as a strategy to nurture technologists and engineers who can compete internationally and face the challenges of the Fourth Industrial Revolution (IR 4.0). The Smart Hydro-Bike has garnered support from the State Government of Melaka and has been incorporated into the *Visit Melaka Year 2024 & New Year's Eve 2024* celebrations, officiated by TYT Tun Seri Setia Dr. Haji Mohd Ali bin Mohd Rustam, the Governor of Melaka, at Dataran Pengkalan Rama, Melaka.

Workshop on Using Smart Hydro-Bikes to Preserve Melaka River



Robotics Competition for the Preservation of Melaka River



The Launch of the Smart Hydro-Bike for the Sustainability of Melaka River



15 LIFE ON LAND



SDG 15: Life on Land

The "Fostering Shared Responsibility" Program



On December 16, 2023, a group of students from the Bachelor of Mechanical Engineering Technology (BMKV), FTKM, UTeM, led by Dr. Mahanum Mohd Zamberi, collaborated with the Centre for International Students & Mobility (CISMo), led by Dr. Mohd Nur Azmi Nordin, Director, to carry out the "Fostering Shared Responsibility" program at Tanjung Tuan, Alor Gajah.

The program involved 81 students and lecturers, aimed to raise awareness about environmental conservation while also offering students the chance to engage in community activities. It provided a positive mental boost and helped foster a sense of well-being among the participants. The program also received strong support from the Melaka Wildlife Department, the Melaka Forestry Department, Majlis Perbandaran Alor Gajah and Majlis Perbandaran Port Dickson.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



SDG 16: Peace, Justice and Strong Institutions

Overview of the 2024-2025 New Financial Sustainability Plan



The Board of Directors' Retreat Workshop was held at Geo Resort & Hotel, Genting, from December 15-17, 2023. This workshop included sessions on the Presentation of the 2024-2025 New Financial Sustainability Initiative Plan and the Progress of UTeM's 2023-2025 Strategic Plan, with the participation of all leaders and co-owners of UTeM's five (5) Strategic Pillars.

The presentation sessions were aimed at raising awareness and understanding of the initiatives proposed by the Office of the Treasurer, gathering feedback from stakeholders, and securing support for the implementation of the plan. Through these sessions, the goal was to foster collaboration and commitment

from all parties involved, ensuring that financial sustainability is achieved effectively and efficiently.

The 227th Meeting of the Secretariat of Deputy Vice-Chancellors/Deputy Rectors (Student Affairs and Alumni) of Public Universities, Series 2/2023 & the Meeting of Chief Administrators (Student Affairs and Alumni) of Public Universities, Series 2/2023



On September 24, 2023, a meeting of the Secretariat of Deputy Vice-Chancellors/Deputy Rectors (Student Affairs and Alumni) of Public Universities, as well as the Chief Administrators (Student Affairs and Alumni) of Public Universities, was held at the Grand Renai Hotel in Kota Bharu, Kelantan.

During the meeting, the Deputy Vice-Chancellor of HEPA, Associate Professor Datuk Dr. Sabri Mohamad Sharif, and the Deputy Registrar of HEPA, En. Muhamad Sopian bin Baharom, along with all the Deputy Vice-Chancellors/Deputy Rectors and Chief Administrators from the public universities, gathered for

discussions. This was followed by a message from YBhg. Prof. Dr. Azlinda Azman, the Director-General of Higher Education. The focus of the meeting was on the empowerment and welfare of students, with the aim of ensuring the continued excellence of students across the country.

The Graduate Employability and Career Forum of Malaysian Public Universities (MyGRAD) Series 1/2023



From August 6 to 8, 2023, the first meeting of the Graduate Employability and Career Forum of Malaysian Public Universities (MyGRAD) was held at the University of Malaysia Terengganu, which hosted the event.

The meeting focused on discussing the planning and implementation of strategic programs aimed at enhancing graduate employability and career development, with a strong emphasis on high-impact initiatives.

The committee members unanimously agreed to launch MyGRAD Month in October, a large-scale event that will involve all public universities in Malaysia throughout the month.

MyGRAD was privileged to have the Director-General of Higher Education (DGHE), YBrs. Prof. Dr. Azlinda binti Azman, along with the Director of the Holistic Student Affairs Division (BMH), En. Hirman bin Awang @ Semail, and other KPT officers, who graciously attended the meeting.

During the session, YBrs. Prof. Dr. Azlinda also delivered an important message to the MyGRAD committee and the Council of Public University Counselling (MAKUMA), emphasizing the significance of their roles in shaping the future of Malaysia's graduates.

Seminar on Strengthening Personal Integrity and the Jihad Against Corruption



UTeM
اوتيم
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

SEMINAR

INTEGRITI DAN RASUAH

.....

14 JUN , 2023 / 8 AM - 5PM
DEWAN AUDITORIUM,
PUSAT PENGAJIAN SISWAZAH

.....

AKTIVITI

- Slot 1: "Pemantapan Integriti Kendiri, Sudah Terlambat Kah?"
- Slot 2: "Sejauh mana penghayatan Kita dalam Jihad Memerangi Jenayah Rasuah?"
- Slot 3: "Kelestarian Integriti dari Makna Mahasiwa"

Untuk maklumat lanjut, sila hubungi : 011-1989 4377 (Iffah)
011-1611 6691 (Anchana)

- smp, makanan dan surat pengecualian kelas disediakan

AMAR UTeM AMAR UTeM AMAR UTeM AMAR UTeM AMAR UTeM

The Anti-Corruption Student Movement (AMAR) at UTeM, in collaboration with the Malaysian Anti-Corruption Commission (MACC), recently organized the Seminar on Strengthening Personal Integrity and the Jihad Against Corruption. This initiative plays a vital role in raising awareness among students about the importance of integrity and the cultivation of good values as they prepare to enter the workforce.

17 PARTNERSHIPS FOR THE GOALS



SDG 17: Partnerships for the Goals

International Collaborations: Memoranda of Understanding (MoU) and Agreements (MoA)

In 2023, UTeM signed 22 MoUs and 2 MoAs with International Institutions. The list of these signed MoUs and MoAs is shown in the table below:

List of UTeM's International MoU and MoA Partnerships

No	Type	Institution	Duration	Faculty
1	MoU	Universitas Balikpapan (UNIBA)	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Elektrik dan Elektronik (FTKEE)
2	MoU	Universitas Ahmad Dahlan	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP)
3	MoU	Universitas Bangka Belitung	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP)

No	Type	Institution	Duration	Faculty
4	MoU	Universitas Islam Negeri Sunan Kalijaga Yogyakarta	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP)
5	MoU	Universitas Muhammadiyah Surakarta	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP)
6	MoU	Institut Sains & Teknologi Akprind	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP)
7	MoU	Universitas Sumatera Utara (USU)	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Elektrik dan Elektronik (FTKEE)
8	MoU	Universitas Muhammadiyah Magelang (UMM)	2023 – 2028 (5 years)	Fakulti Pengurusan Teknologi dan Teknousahawanan (FPTT)

No	Type	Institution	Duration	Faculty
9	MoU	Sekolah Tinggi Manajemen Informatika dan Komputer Dumai, Indonesia	2023 – 2028 (5 years)	Fakulti Teknologi Maklumat dan Komunikasi (FTMK)
10	MoU	Universitas Hasanuddin Makassar, Indonesia	2023 – 2028 (5 years)	Fakulti Teknologi Maklumat dan Komunikasi (FTMK)
11	MoU	Liuzhou Jiatong School	2023 – 2028 (5 years)	Fakulti Teknologi Kejuruteraan Mekanikal dan Pembuatan (FTKMP)
12	MoA	Zhongxing Education Management Co. Ltd (ZEM)	2023 – 2033 (10 years)	Pusat Pengurusan Kolaborasi RICE UTeM-Melaka

No	Type	Institution	Duration	Faculty
13	MoU	University of Plymouth	2023 – 2025 (2 years)	Fakulti Teknologi Maklumat dan Komunikasi (FTMK)
14	MoU	Universitas Bandar Lampung	2023 – 2026 (3 years)	Fakulti Teknologi Maklumat dan Komunikasi (FTMK)
15	MoU	Universitas Alma Atta	2023 – 2026 (3 years)	Fakulti Teknologi Maklumat dan Komunikasi (FTMK)
16	MoU	Ataturk University	2023 – 2028 (5 years)	Fakulti Teknologi Dan Kejuruteraan Elektronik Dan Komputer (FTKEK)
17	MoU	Japan Advanced Institute of Science &	2023 – 2028 (5 years)	Fakulti Teknologi Dan Kejuruteraan Industri Dan Pembuatan (FTKIP)

No	Type	Institution	Duration	Faculty
		Technology (JAIST)		
18	MoU	Kasem Bundit University, Thailand	2023 – 2028 (5 years)	Fakulti Pengurusan Teknologi dan Teknousahawanan (FPTT)
19	MoU	International University of Sarajevo	2023 – 2028 (5 years)	Fakulti Teknologi Dan Kejuruteraan Elektronik Dan Komputer (FTKEK)
20	MoU	Islamic University of Technology, Gazipur Bangladesh	2023 – 2028 (5 years)	Fakulti Teknologi Dan Kejuruteraan Industri Dan Pembuatan (FTKIP)
21	MoU	Alibaba (China) Education & Technology Co., Ltd.	2023 – 2028 (5 years)	Fakulti Pengurusan Teknologi dan Teknousahawanan (FPTT)

No	Type	Institution	Duration	Faculty
22	MoA	Heilong Jiang Agricultural Economy Vocational College	2023 – 2026 (3 years)	Fakulti Pengurusan Teknologi dan Teknousahawanan (FPTT)
23	MoU	Zhengzhou Youth Vocational Secondary Professional School	2023 – 2028 (5 years)	Pusat Hubungan Strategik Korporat & Global (UGlobe)
24	MoU	“Dunarea de Jos” University of Galati (DJUG)	2023-2027 (4 years)	Pusat Hubungan Strategik Korporat & Global (UGlobe)

Strategic Partnership Activities

In 2023, a range of strategic partnership activities were carried out to strengthen UTeM's ties with international partners. These efforts in internationalization have helped raise UTeM's profile on the global stage. Some of the key activities conducted include:

1. UTeM's official visit, alongside His Excellency the Chancellor, to the 21st World Malay World Islamic Convention in Phnom Penh, Cambodia.
2. UTeM's official visit to educational institutions in Eastern Europe and Germany.
3. UTeM's official visit to Yunnan, Hainan, and Hangzhou, China.
4. A courtesy visit and MoU signing ceremony with the delegation from Hadhramout University, Yemen.
5. A courtesy visit from the delegation of the Guizhou Provincial Department of Education, China.
6. A courtesy visit to the Embassy of the Republic of Turkey in Kuala Lumpur.
7. A courtesy visit from the delegation of the Chamber of Commerce Chile and Malaysia AG (CAMCHIMAL AG) in Santiago, Chile.
8. UTeM's working visit, alongside a delegation from Malaysian higher education institutions, to Guiyang, China, in conjunction with the China-ASEAN Education Cooperation Week (CAECW) 2023.
9. A courtesy visit from the delegation of Mindanao State University - Tawi-Tawi College of Technology and Oceanography, Philippines.
10. A courtesy visit from the Director of the German Academic Exchange Service (DAAD).
11. A courtesy visit from the delegation of Peking University, China.

12. A courtesy visit from the delegation of Jingdezhen University, China.

UTeM has signed a Memorandum of Understanding (MOU) with 'Dunarea De Jos' University of Galati (DJUG), Romania.



On October 16, 2023, UTeM proudly signed a Memorandum of Understanding (MoU) with 'Dunarea de Jos' University of Galati (DJUG), the largest and most influential university in southeastern Romania. This partnership marks a significant milestone as DJUG becomes UTeM's first strategic partner from Romania. With this collaboration, UTeM opens doors to an exciting new chapter, enhancing not only joint research efforts but also expanding student mobility opportunities. DJUG's

status as an Erasmus+ funding partner further strengthens the potential for student exchanges, allowing UTeM students to gain valuable international exposure and experience. This MoU is set to drive greater academic excellence, foster global partnerships, and contribute to the growth of both universities on the international stage.

The MoU document was signed by Professor Datuk Ts. Dr. Massila Kamalrudin, the Vice Chancellor of UTeM, and Professor Puiu Lucian Georgescu, the Rector of DJUG.

UTeM has signed a Memorandum of Agreement (MoA) with Heilongjiang Agricultural Economy Vocational College (HAEVC) in China.



The Memorandum of Agreement (MoA) signing ceremony between UTeM and Heilongjiang Agricultural Economy Vocational College (HAEVC), China, was held virtually on November 20, 2023. This three-year agreement marks a significant milestone for UTeM, offering an exciting opportunity to collaborate with HAEVC on sharing best practices in vocational education and skill development. The focus will be particularly on digital business and e-commerce, with an emphasis on the proposed Malaysia Luban Workshop initiative.

This partnership will not only provide valuable insights into China's vocational education model but also create pathways for students to gain in-demand skills needed for today's digital economy. The collaboration promises to have a profound impact, equipping students with the expertise to thrive in the fast-paced, technology-driven business world. Through this partnership, both institutions aim to develop a robust framework for vocational training that supports students in becoming highly skilled professionals, ready to contribute meaningfully to the digital economy.

UTeM was represented by its Vice-Chancellor, Professor Datuk Ts. Dr. Massila Kamalrudin, along with the Deputy Vice-Chancellor for Academic and International Affairs, Professor Dr. Zulkifilie bin Ibrahim. Heilongjiang Agricultural Economy Vocational College (HAEVC) was represented by its President, Zhang Jizhong, and Vice President, Jiang Guijuan.

